

DOE/OR/22012--79

STANDARD REPORT FORM

STATIC RENEWAL TESTS USING ANODONTA IMBECILLIS
(FRESHWATER MUSSELS)

Test Title: Anodonta imbecillis QA Test 1, Clinch River - Environmental
Restoration Program (CR-ERP)

Principle Investigator: Damien J. Simbeck

Starting Date: July 21, 1993

Ending Date: July 30, 1993

1.0 EXECUTIVE SUMMARY

Toxicity testing of split whole sediment samples using juvenile freshwater mussels (Anodonta imbecillis) was conducted by TVA and CR-ERP personnel as part of the CR-ERP biomonitoring study of Clinch River sediments to provide a quality assurance mechanism for test organism quality and overall performance of the test. [1] In addition, testing included procedures comparing daily renewal versus non-renewal of test sediments.

Testing of sediment samples collected July 15 from Poplar Creek Miles 6.0 and 5.1 was conducted from July 21-30, 1993. Results from this test showed no toxicity (survival effects) to fresh-water mussels during a 9-day exposure to the sediments. Side by side testing of sediments with daily sediment renewal and no sediment renewal showed no differences between methods. This may be due to the absence of toxicity in both samples and may not reflect true differences between the two methods for toxic sediment.

2.0 SAMPLE COLLECTION/TREATMENTS

- 2.1 Test Sample Identification (Chemical/Effluent/Elutriate, etc.):
The samples used for biomonitoring were whole sediments collected from Poplar Creek Miles 6.0 and 5.1.
- 2.2 Control and/or Dilution Sediment: Poplar Creek Mile (PCM) 6.0.
- 2.3 Sample Dates and Times: July 15, 1993
- 2.4 Sampling Method: Samples were collected by TVA Field Engineering personnel. An Eckman dredge was used to obtain the upper fine sediments (5-10 cm) at each location. Sediment samples from numerous dredge collections were composited in a large container, then split into two samples. One set of samples was sent to TVA's Aquatic Research Laboratory (ARL) at the Browns Ferry Nuclear Plant site near Athens, Alabama, and the other to ORNL for comparative testing.

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- 2.5 Sample Storage/Handling: All samples were stored in a refrigerator at $4^{\circ}\text{C} \pm 1^{\circ}\text{C}$ prior to and during the test.
- 2.6 Sample Transport: All samples were placed in coolers on ice and shipped to ARL by TVA mail.
- 2.7 Sample Pretreatment: Samples were mixed thoroughly on July 20 with a stainless steel spoon. Sufficient 50 percent sample (V:V from each station) was prepared to last throughout the testing period. Eight crystallizing dishes per treatment were set up by adding 25 mL of sediment and 100 mL moderately hard water to each dish. The dishes were placed in the test incubator 24-hr prior to test initiation to allow settling and temperature equilibration.
- 2.7.1 Renewed Sediment Test: Samples were mixed each day. Four crystallizing dishes per treatment were set up each day, 24-hr prior to renewal. The dishes were placed in the test incubator to allow settling and temperature equilibration.
- 2.7.2 Non-renewed Sediment Test: No additional pretreatment was needed following the initial set-up on July 20.
- 2.8 Test Treatments: Three treatments, PCM 6.0 (Control), PCM 5.1-100% and PCM 5.1-50% (diluted with PCM 6.0 sediment), were tested using two procedures. One series had daily sediment renewal while the other series had no sediment renewal throughout the test. 100 μm filtered non-toxic sediment (approximately 800 mg/L dry weight) from the same source used for culture maintenance was also included as a laboratory reference. Moderately hard reconstituted water served as overlying water for all sediment treatments.

3.0 TEST ORGANISMS/CULTURING CONDITIONS

- 3.1 Species: Anodonta imbecillis, freshwater mussel
- 3.2 Source: In vitro culture, July 5 and 6-July 12 and 13, 1993, TVA Aquatic Research Laboratory. The gravid adult from which glochidia were extracted was obtained from Taylor's Catfish ponds, Town Creek, Alabama, on June 22, 1993. Adults were maintained in a 40-L aquarium with approximately 5 L non-toxic sediment from Taylor's ponds and 20 L Tennessee River water. Water was changed at least once per week with bloomed phytoplankton water and sediment was changed monthly.
- 3.3 Culture medium: Mussel culture medium used to transform larvae (glochidia) into juveniles consisted of a 2:1 mixture of cell culture medium (MEM) and 0.22 μm filtered catfish plasma. Antibiotics and antimycotics were added in small concentrations to prevent bacterial and fungal contamination. [3]

- 3.4 Temperature of Culture: $24^{\circ}\text{C} \pm 1^{\circ}\text{C}$
- 3.5 Culture water: After transformation of larval mussels, the free-living juveniles were placed in 100 μm filtered TR water with bloomed indigenous algae (phytoplankton). Non-toxic sediment (100 μm filtered) were added to provide additional food and substrate for healthy growth of the juvenile mussels. [4]
- 3.6 Temperature of Culture: $24^{\circ}\text{C} \pm 1^{\circ}\text{C}$
- 3.7 General Maintenance: Cultures were maintained in 1000-mL Nalgene® trays in 24-h dark incubators for 6-10 days after transformation. Cultures were fed 10 mL/L bloomed phytoplankton concentrate daily. Water and sediment were changed a minimum of once every two days. Health and survival of the culture were checked by microscopic examination of animals when culture water was changed.
- 3.8 Food Preparation:
- 3.8.1 Phytoplankton preparation: Phytoplankton was bloomed in 20-L glass aquaria 4-7 days (until dark green). Blooms were initiated by adding concentrated solids from ARL channel water to filtered (100 μm) TR water. Algal nutrients used for Selenastrum cultures were added (1 mL/L) to boost algal blooms. [5] Blooms were centrifuged to concentrate the algal cells into a dark green suspension, obtaining about 0.5 L per aquarium. Prepared phytoplankton concentrate was refrigerated until used.
- 3.8.2 YCT and Selenastrum preparation: YCT is made according to methods modified from EPA/600/4-89/001 with tropical fish food substituted for trout chow and alfalfa substituted for Cerophyll. [6] The alga Selenastrum capricornutum concentrated to 30×10^6 cells/mL is also fed as part of the test diet.
- 3.9 Sediment preparation: Whole, non-toxic sediment from Taylor's Catfish ponds, Town Creek, Alabama, was filtered through a 100- μm nylon mesh filter. Filtered sediment was stored at 4°C until used.

4.0 TEST METHODS

- 4.1 Mussels, Anodonta imbecillis, Survival Test, TVA Test Method, SOP-22, solid phase protocol. [5]
- 4.2 Modification/Deviations to SOP-22:
- 4.2.1 Mussels were fed 3 mL/L YCT and 3mL/L Selenastrum daily instead of concentrated phytoplankton.

- 4.2.2 Sediment was placed into dishes 24 hr before use and placed in the incubator to allow settling and temperature equilibration.
- 4.3 Date/Time Test Initiated: July 21, 1993/0900 CDT
- 4.4 Date/Time Test Terminated: July 30, 1993/0935 CDT
- 4.5 Age of test organisms: 8-9 days old
- 4.6 Test Chamber: 50 mm-diameter glass cylinder (75 mm tall) with 100- μ m nylon mesh bottom, placed in 250-mL crystallizing dish
- 4.7 Volume per Chamber: 100 mL water, 25 mL sediment
- 4.8 Number of organisms per replicate: 10
- 4.9 Number of Replicates per Treatment: 4
- 4.10 Dilution Sediment: PCM 6.0
- 4.11 Test Control: PCM 6.0
- 4.12 Overlying Water: Moderately hard synthetic water
- 4.13 Test Temperature: 24°C $\pm$ 1
- 4.14 Photoperiod: 24-h dark
- 4.15 Renewal Period: 24-h
- 4.16 Renewal Method
- 4.16.1 Renewed Sediment Test: Each test cylinder was removed from its crystallizing dish and placed in a petri dish containing moderately hard reconstituted water for microscopic examination. The cylinder was then placed into a crystallizing dish which had been set up the previous day (See Section 2.7.1). Overlying water (60 mL/replicate) was then saved for chemical analyses.
- 4.16.2 Non-renewed Sediment Test: Following removal of 60 mL of the overlying water for chemical analyses, each test cylinder was placed in a petri dish for microscopic examination. After examination, the cylinder was returned to the same crystallizing dish, and 60 mL fresh water was poured into the test vessel through the test cylinder.
- 4.17 Feeding Regime During Test: Following renewal, 0.45 mL each of YCT and Selenastrum were added to each test chamber.

- 4.18 Physical and Chemical Parameters Measured: Parameters measured daily ("initial") on fresh test solutions included only temperature. Parameters measured daily ("initial") on overlying and reference waters (following addition of silt and algae) were temperature (temperature adjusted to equal "final" temperature before renewal), DO, pH, conductivity, alkalinity and hardness.

"Final" measurements of temperature, DO, pH, conductivity, alkalinity, hardness and total ammonia were measured in a combination of overlying waters (60 mL/replicate/day) from all replicates per treatment following renewal. The test solutions (50 mL) were preserved with 1:4 H₂SO₄ and refrigerated until sent to TVA's Environmental Chemistry Laboratory in Chattanooga, Tennessee, for analysis using the automated alkaline phenate methodology.

- 4.19 Test Endpoint Determination:

- 4.19.1 Survival: Test animals were counted as dead when microscopic examination revealed valves gaped open and no observable internal movement or an empty shell.

- 4.20 Statistics: Revised statistical procedures contained in the fourth edition of EPA's acute toxicity methods require a decision process for testing statistical assumptions before selecting a specific statistical test to determine toxicity endpoints. [7] The decision process followed for testing survival effects is shown in Section 6.2.1. Statistical significance of results was determined following procedures for comparing single treatments versus control. Based on tests for normally distributed data and homogeneous variances, the statistical test used for endpoint determination was the T-Test.

5.0 QUALITY ASSURANCE

- 5.1 Toxicity Test Methods: All phases of the study including, but not limited to, sample collection, handling and storage; glassware preparation; test organism culturing/acquisition and acclimation; test organism handling during test; and maintaining appropriate test conditions were conducted according to the protocol as described in this report, the ARL Quality Assurance Plan and SOP Manual, and EPA/600/4-89/001. [5][7] Any known deviations were noted during the study and are reported herein.

- 5.2 Physical and Chemical Methods

- 5.2.1 Reagents, Titrants, Buffers, etc.: All chemicals were certified products used before expiration dates (where applicable). All ARL chemicals are recorded in a bound Laboratory Chemical Logbook and specific chemicals used were documented on a chemical record sheet contained in the study notebook.

- 5.2.2 Instruments: All identification, service, and calibration information pertaining to ARL laboratory instruments is contained in bound Laboratory Instrument Logbooks and specific instruments used were documented on an instrument record sheet, along with daily calibration record sheets, contained in the study notebook.
- 5.2.3 Temperature was measured using mercury thermometers. The instrument was standardized and inspected with readings made according to TVA procedure DS-42.11. [2]
- 5.2.4 Dissolved oxygen was measured using a YSI Model 57 oxygen meter. The instrument was standardized (using the Winkler method) and readings were taken according to TVA procedures DS-43.6 and DS-42.4, respectively. [2]
- 5.2.5 The pH was measured using an Orion Model SA250 meter equipped with an Orion Ross combination electrode. The instrument was standardized and readings were made according to TVA procedures DS-43.7 and DS-42.8, respectively. [2]
- 5.2.6 Conductance was measured using a YSI Model 32 SCT meter. The instrument was standardized and readings were taken according to TVA procedures DS-43.3 and DS-42.3, respectively. [2]
- 5.2.7 Alkalinity was measured by titration of 100 mL samples with 0.02 N H₂SO₄ to an end point of 4.5 according to TVA procedure DS-42.1. [2]
- 5.2.8 Hardness was determined by titration of 50 mL samples with EDTA to a colorimetric endpoint using an indicator (Instructions provided by Reagent Manufacturer [Calgon]), Schwarzenbach Method.
- 5.2.9 Total residual chlorine was determined using the DPD Titrimetric Method according to TVA procedure DS-42.9, Rev. 0. [2]

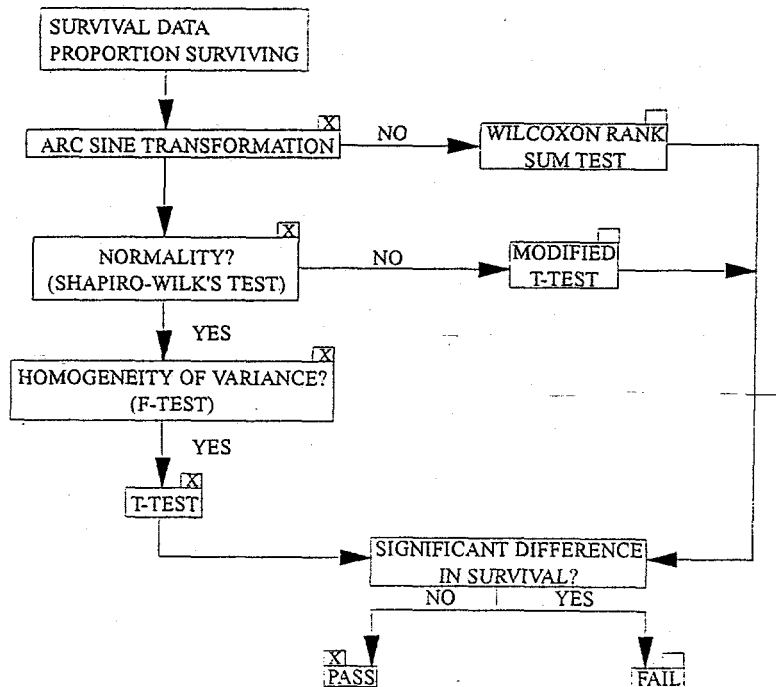
6.0 RESULTS

- 6.1 Summary of Results: Nine day exposure of juvenile freshwater mussels, Anodonta imbecillis, to whole sediments from Poplar Creek showed no toxicity at PCM 6.0 (100 percent) or PCM 5.1 (100 percent and 50 percent). Side by side testing of sediments with daily sediment renewal and no sediment renewal showed no differences between methods.

6.2 Results, Survival Data:

6.2.1 Statistical Decision Process for Determining Toxicity Endpoints for 9-Day Exposure of the Juvenile Mussel, Anodonta imbecillis, to Test Sediments, July 21-30, 1993.

DETERMINATION OF PASS OR FAIL FROM A
SINGLE-TREATMENT-CONCENTRATION ACUTE TOXICITY TEST



6.2.2 Daily Percent Survival Summary for Anodonta imbecillis, Whole Sediment QA Test 1, CR-ERP, July 21-30, 1993.

Treatment	Total Daily % Survival								
	1	2	3	4	5	6	7	8	9
PCM 6.0-Renewal	100	100	100	100	100	100	100	100	100
PCM 5.1-100% Renewal	100	100	100	98	98	98	98	98	98
PCM 5.1-50% Renewal	100	100	100	100	100	100	100	100	100
PCM 6.0-Static	100	100	100	100	100	100	100	100	100
PCM 5.1-100% Static	100	100	100	100	100	100	100	100	100
PCM 5.1-50% Static	100	100	100	98	98	98	98	98	98
Taylor's Silt Refer.	98	98	98	98	98	98	98	98	98

6.2.3 Nine-day Percent Survival Summary for Anodonta imbecillis, Whole Sediment QA Test 1, CR-ERP, July 21-30, 1993.

<u>Mussel Survival Data (% Survival)</u>											
<u>Treatment</u>	<u>Replicate</u>										<u>Mean S</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	
PCM 6.0-Renewal	100	100	100	100							100
PCM 5.1-100% Renewal	100	90	100	100							98
PCM 5.1-50% Renewal	100	100	100	100							100
PCM 6.0-Static	100	100	100	100							100
PCM 5.1-100% Static	100	100	100	100							100
PCM 5.1-50% Static	100	100	90	100							98
Taylor's Silt Refer.	100	100	100	90							98

S-Significant based on T-Test

6.3 Water chemistry summary for Anodonta imbecillis, Whole Sediment QA Test 1, CR-ERP, July 21-30, 1993.

6.3.1 Test Temperature: 23.9°C (23.2°-24.6°C)

6.3.2 See: Appendix A Water Chemistry Mean Values and Ranges for Anodonta imbecillis, Whole Sediment QA Test 1, CR-ERP, July 21-30, 1993.

7.0 CONCLUSION

Testing of sediment samples collected July 15 from Poplar Creek Miles 6.0 and 5.1 was conducted from July 21-30, 1993. Results from this test showed no toxicity (survival effects) to fresh-water mussels during a 9-day exposure to the sediments. Side by side testing of sediments with daily sediment renewal and no sediment renewal showed no differences between methods. This may be due to the absence of toxicity in both samples and may not reflect true differences between the two methods for toxic sediment.

1. Phipps, T. L., and L. A. Kszos, Statement of Work to Provide Assistance to Staff of the Clinch River-Environmental Restoration Program (CR-ERP) and to Evaluate Toxicity Tests of Water and Sediment Conducted by CR-ERP Staff, Environmental Sciences Division, Biomonitoring Group, Oak Ridge National Laboratory (April 1993).
2. Field Operations Natural Resource Engineering Procedures Manual, Vol. 1, Division of Natural Resource Operations, Tennessee Valley Authority.
3. Isom, B. G., and R. G. Hudson, "In Vitro Culture of Parasitic Freshwater Mussel Glochidia," The Nautilus, Vol. 96, No. 4, 1982, pp. 147-151.
4. Hudson, R. G., and B. G. Isom, "Rearing Juveniles of the Freshwater Mussels (Unionidae) in a Laboratory Setting," The Nautilus, Vol. 98, No. 4, 1984, pp. 129-135.
5. Aquatic Research Laboratory Quality Assurance Program and Standard Operating Procedures Manual, Division of Water Resources, Tennessee Valley Authority (October 1992).
6. Weber, C. I., W. H. Peltier, T. J. Norberg-King, W. B. Horning, F. A. Kessler, J. R. Menkdick, T. W. Neiheisel, P. A. Lewis, D. J. Klemm, Q. H. Pickering, F. L. Robinson, J. M. Lazorchak, L. J. Wymer, and R. W. Freyberg. Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-89/001 (March 1989) and EPA/600/4-89/001a (September 1989).
7. Weber, C. I. (ed.), Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, EPA/600/4-90/027 (September 1991).

PLARC501-1721

Appendix A

Water Chemistry Mean Values and Ranges for *Anadonta imbecillis*, Whole Sediment QA Test 1, CR-ERP, July 21-30, 1993

Source	Temperature		Dissolved Oxygen		pH		Conductivity		Alk		Hardness		Ammonia	
	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Final
	(°C)	(mg/L)	(mg/L)	(S.U.)	(S.U.)	(µmhos)	(µmhos)	*	*	*	*	*	(mg/L)	
PCM 6.0 Renewal	23.6 (23.2-24.1)	-	7.2 (6.9-8.2)	-	7.6 (7.6-7.7)	-	367 (353-385)	-	61 (55-68)	-	113.2 (100.9-119.7)	-	0.012 (0.008-0.015)	
PCM 5.1-100% Renewal	24.0 (23.7-24.3)	-	6.9 (6.7-7.7)	-	7.7 (7.7-7.8)	-	382 (373-394)	-	83 (73-92)	-	119.3 (116.3-123.1)	-	0.043 (0.025-0.059)	
PCM 5.1-50% Renewal	23.7 (23.3-24.5)	-	6.9 (6.6-7.8)	-	7.7 (7.6-7.7)	-	373 (361-393)	-	68 (59-73)	-	115.3 (109.4-119.7)	-	0.025 (0.012-0.032)	
PCM 6.0 Static	24.1 (23.8-24.6)	-	7.2 (6.9-7.8)	-	7.7 (7.6-7.8)	-	368 (357-379)	-	58 (53-64)	-	102.4 (99.2-109.4)	-	<0.002 (<0.001-0.006)	
PCM 5.1-100% Static	23.9 (23.4-24.4)	-	7.2 (6.9-7.8)	-	7.7 (7.7-7.8)	-	378 (362-390)	-	63 (60-70)	-	107.7 (102.6-114.6)	-	<0.004 (<0.001-0.027)	
PCM 5.1-50% Static	24.1 (23.8-24.6)	-	7.2 (6.9-7.8)	-	7.7 (7.7-7.7)	-	376 (360-395)	-	60 (56-65)	-	105.5 (100.9-119.7)	-	<0.002 (<0.001-0.012)	
Taylor's Silt Refer.	24.1 (23.6-24.5)	8.0 (7.9-8.1)	7.9 (7.7-8.0)	7.8 (7.8-7.9)	8.0 (7.9-8.1)	335 (328-344)	356 (341-370)	61 (57-64)	64 (60-69)	93.9 (90.6-97.5)	99.6 (95.8-106.0)	0.010 (0.002-0.021)		
Moderately Hard Water	-	8.1 (8.0-8.2)	-	8.3 (8.1-8.3)	-	336 (328-347)	-	61 (60-65)	-	94.1 (92.3-95.8)	-	-	-	

* mg/L as CaCO₃

PLARC501-1722

ATTACHMENT I

CHAIN OF CUSTODY RECORD - ORIGINAL

J. Steadman, 1777
* CCC. Acad.

FIELD CHAIN OF CUSTODY

FIELD CHAIN OF CUSTODY

FCOC Rev. 4 01JUL93

DOCUMENT ID:

ATTACHMENT II

TOXICITY TEST BENCH SHEETS AND STATISTICAL ANALYSES

ARL ACUTE TOXICITY TEST (MUSSEL) MASTER CHECKLIST Study: C.R. ERP QN Test 1

July 93

Date Issued: 7-20 To: QAS From: QAS

1. Test organism availability: T.L. QAS C.U.† QAS Date 7/12/93
2. Sample Collection Coordination: Date 7/1/93 By QAS With L. Guss
3. Glassware availability: T.L. QAS Tech QAS Date 7/12/93
4. Silt/Phytoplankton availability: Silt- By N/A Date N/A
Phytoplankton- By QAS Date 1/4
5. Glassware prep. complete: Date 7/17/93 By QAS
6. Data Sheet prep. complete: Date 7/17/93 By QAS
7. Test organism availability verification: T.L. QAS
8. Test Initiation: Date/Time 7/21/93, 0900

9. Test Renewal:	Day#:	0	1	2	3	4	5	6	7	8	9
Meter Calib.	T.L.	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>
	T.M.#	<u>N/A</u>	<u>N/A</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>
Log Samples	T.L.	<u>QAS</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
	T.M.	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Storage Temp.	<u>3.6</u>	<u>3.2</u>	<u>4.4</u>	<u>4.3</u>	<u>4.5</u>	<u>4.8</u>	<u>4.3</u>	<u>5.0</u>	<u>4.3</u>	<u>4.3</u>	<u>N/A</u>
	<u>3.7</u>	<u>3.4</u>	<u>4.3</u>	<u>4.4</u>	<u>4.5</u>	<u>4.8</u>	<u>4.3</u>	<u>5.0</u>	<u>4.3</u>	<u>4.3</u>	<u>N/A</u>
Initial Chem.	T.L.	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>N/A</u>
	T.M.	<u>QAS</u>	<u>N/A</u>	<u>TS</u>	<u>TS</u>	<u>TS</u>	<u>TS</u>	<u>N/A</u>	<u>TS</u>	<u>TS</u>	<u>N/A</u>
Renewal/Counts	T.L.	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>N/A</u>	<u>N/A</u>
	T.M.	<u>JIP</u>	<u>JIP</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>JIP</u>	<u>JIP</u>	<u>JIP</u>	<u>JIP</u>
Final Chem.	T.L.	<u>N/A</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>
	T.M.	<u>N/A</u>	<u>QAS</u>	<u>TS</u>	<u>TS</u>	<u>TS</u>	<u>TS</u>	<u>N/A</u>	<u>TS</u>	<u>TS</u>	<u>TS</u>
Meter Recal.	T.L.	<u>N/A</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>
	T.M.	<u>N/A</u>	<u>QAS</u>	<u>TS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>
Paperwork reviewed	T.L.	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>	<u>QAS</u>
	T.M.	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

10. Test Termination: Date/Time 7-30-93/0935

12. Run Stats: Date 8-5-93 By QAS

13. Report Prep.: Date 8-18-93 By QAS

14. Report Final: Date 8-27 By QAS Approved: QAS

*Team Leader

†Culture Unit

#Team Member

MUSSEL TEST RECORD SHEET
Anodonta imbecillis

Project CR-ERP QA Test 1 July 1993

Beginning Date/Time 07/21/93 1000 Ending Date/Time 07/30/93 1000⁵

Personnel Simbeck, Posey

Mussels placed in test vessels: Date 07/19/93 Time 0900-1100

Mussels per test vessel: 10

Test Treatments:

1	PCM 6.0 Control (Change-out)	11	
2	PCM 5.1 100% (Change-out)	12	
3	PCM 5.1 50% (Change-out)	13	
4	PCM 6.0 Control (Static)	14	
5	PCM 5.1 100% (Static)	15	
6	PCM 5.1 50% (Static)	16	
7	Taylor's Silt (Reference)	17	
8		18	
9		19	
10		20	

Control/Dilution Water: Fish Medium #'s 1401, 1402, 1403, 1404

Source ARL Prepared Date Collected/Prepared not

CULTURE HISTORY:

Culture ID	Date Started	Date Transformed	
<u>93-U</u>	<u>07/05/93</u>	<u>07/12/93</u>	YCT prepared
<u>93-V</u>	<u>07/06/93</u>	<u>07/13/93</u>	thawed: 7-8-93
<u>93-W</u>	<u>07/06/93</u>	<u>07/13/93</u>	Sediment prepared: 7-20-93

FOOD/SUBSTRATE PREPARATION:

Phytoplankton Started

Phytoplankton Concentrated

07/05/93
07/10/93

07/13/93
07/14-15/93

Silt Collected: Date/Location 07/09/93 / Taylor's Lower Pond

Silt Filtered (Date) 07/13/93 Silt Weighed (Date) 07/14/93

Volume Weighed 5 mL

	Wt. of pan	Wt. of pan and silt	Wt. of silt	
Replicate 1	<u>1.01769 mg</u>	<u>2.03727 mg</u>	<u>1.01958 mg</u>	$\bar{x} = 1.0302$
Replicate 2	<u>1.03718 mg</u>	<u>2.06697 mg</u>	<u>1.02979 mg</u>	
Replicate 3	<u>1.05961 mg</u>	<u>2.10102 mg</u>	<u>1.04141 mg</u>	
Average dry weight	<u>0.206</u>	<u>mg/mL</u>		PLARC501-130(5)

4 mL = 824 mg

TREATMENT: PCM 6.0 A/B (Change-out)

DAY:		0	1	2	3	4	5	6	7	8	9
DATE:		7/31	7/22	7/23	7/24	7/25	7/26	7/27	7/28	7/29	7/30
Rep 1:	# Alive	10	10	10	10	10	10	10	10	10	10
	# Stressed	0	0	0	0	0	0	0	0	0	0
	# Dead	0	0	0	0	0	0	0	0	0	0
Rep 2:	# Alive	10	10	10	10	10	10	10	10	10	10
	# Stressed	0	0	0	0	0	0	0	0	0	0
	# Dead	0	0	0	0	0	0	0	0	0	0
Rep 3:	# Alive	10	10	10	10	10	10	10	10	10	10
	# Stressed	0	0	0	0	0	0	0	0	0	0
	# Dead	0	0	0	0	0	0	0	0	0	0
Rep 4:	# Alive	10	10	10	10	10	10	10	10	10	10
	# Stressed	0	0	0	0	0	0	0	0	0	0
	# Dead	0	0	0	0	0	0	0	0	0	0

0.5/Ar 0.2 0.5 0.2 0.2 0.5 0.1 0.5 0.1 0.5 0.1 0.5 0.1 0.5

0.5/Ar 0.2 0.5 0.2 0.2 0.5 0.1 0.5 0.1 0.5 0.1 0.5 0.1 0.5

TREATMENT: PCM 5.1 100% A/B (Change-out)

[illegible]

TREATMENT: PCM 5.1 50% A/B (Change-out)

[illegible]

TREATMENT: PCM 6.0 C (Static)

[illegible]

TREATMENT: PCM 5.1 100% C (Static)

[illegible]

TREATMENT: PCM 5.1 50% C (Static)

[illegible]

TREATMENT: Taylor's Silt (Reference)

DAY:		0	1	2	3	4	5	6	7	8	9
DATE:		7/21	7/22	7/23	7/24	7/25	7/26	7/27	7/28	7/29	7/30
Rep 1:	# Alive	10	10	10	10	10	10	10	10	10	10
	# Stressed	0	0	0	0	0	0	0	0	0	0
	# Dead	0	0	0	0	0	0	0	0	0	0
Rep 2:	# Alive	10	10	10	10	10	10	10	10	10	10
	# Stressed	0	0	0	0	0	0	0	0	0	0
	# Dead	0	0	0	0	0	0	0	0	0	0
Rep 3:	# Alive	10	10	10	10	10	10	10	10	10	10
	# Stressed	0	0	0	0	0	0	0	0	0	0
	# Dead	0	0	0	0	0	0	0	0	0	0
Rep 4:	# Alive	10	9	9	9	9	9	9	9	9	9
	# Stressed	0	0	0	0	0	0	0	0	0	0
	# Dead	0	1	1	1	1	1	1	1	1	1
		25/100	2/2	2/2	2/2	2/2	2/2	25/100	25/100	50%	50%

TREATMENT: _____

[illegible]

8:38 Sunday, August 4, 1991

TTEST PROCEDURE

Variable: RESP

TRT	N	Mean	Std Dev	Std Error
PCM5.1 RENEWAL100	4	1.37127353	0.08148517	0.04074258
PCM6.0 RENEWAL	4	1.41201611	0.00000000	0.00000000

Variances	T	DF	Prob> T	
Unequal	-1.0000	3.0	0.3910	
Equal	-1.0000	6.0	0.3559	not sig. CL 0.05 95

NOTE: All values are the same for one CLASS level.

TEST FOR NORMAL DISTRIBUTION

8:29 Sunday, August 4, 1991

----- STUDY=CRERP QA 1 ST_DATE=072193 PARM=MI2S -----

UNIVARIATE PROCEDURE

Variable=CENTER

Moments

N	8	Sum Wgts	8
Mean	0	Sum	0
Std Dev	0.053345	Variance	0.002846
Skewness	-2.0367	Kurtosis	4.9
USS	0.019919	CSS	0.019919
CV	.	Std Mean	0.01886
T:Mean=0	0	Prob> T	1.0000
Sgn Rank	1	Prob> S	1.0000
Num ^= 0	4		
W:Normal	0.705561	Prob<W	0.0030

Quantiles (Def=5)

100% Max	0.040743	99%	0.040743
75% Q3	0.040743	95%	0.040743
50% Med	0	90%	0.040743
25% Q1	0	10%	-0.12223
0% Min	-0.12223	5%	-0.12223
		1%	-0.12223
Range	0.16297		
Q3-Q1	0.040743		
Mode	0		

Extremes

Lowest	Obs	Highest	Obs
-0.12223(	12)	0(	3)
0(	4)	0(	4)
0(	3)	0.040743(	11)
0(	2)	0.040743(	13)
0(	1)	0.040743(	14)

Missing Value .
 Count 12
 % Count/Nobs 60.00

TEST FOR NORMAL DISTRIBUTION

8:29 Sunday, August 4, 1991

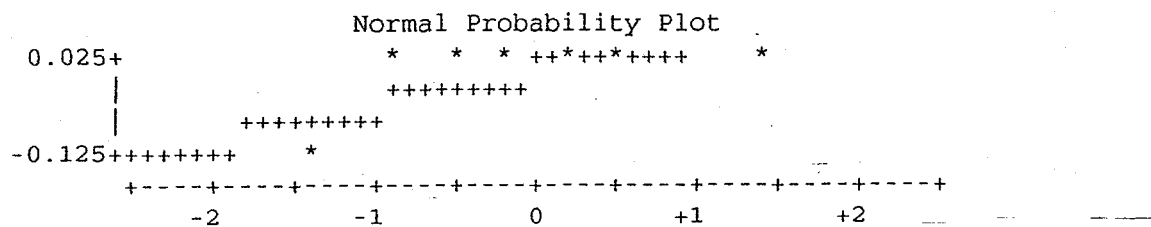
STUDY=CRERP QA 1 ST_DATE=072193 PARM=MI2S

UNIVARIATE PROCEDURE

Variable=CENTER

Stem Leaf	#	Boxplot
0 0000444	7	+++++
-0		
-0		
-1 2	1	0

-----+-----+-----+-----+
Multiply Stem.Leaf by 10**-1



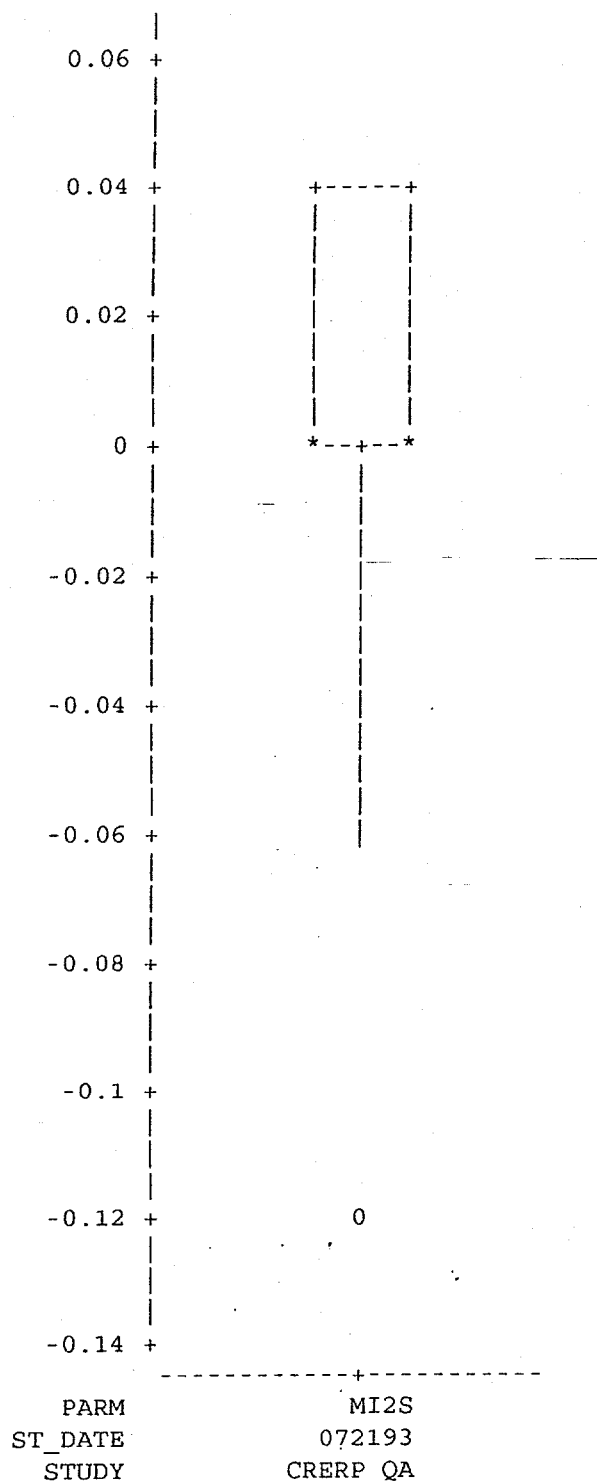
TEST FOR NORMAL DISTRIBUTION

8:29 Sunday, August 4, 1991

UNIVARIATE PROCEDURE

Schematic Plots

Variable=CENTER

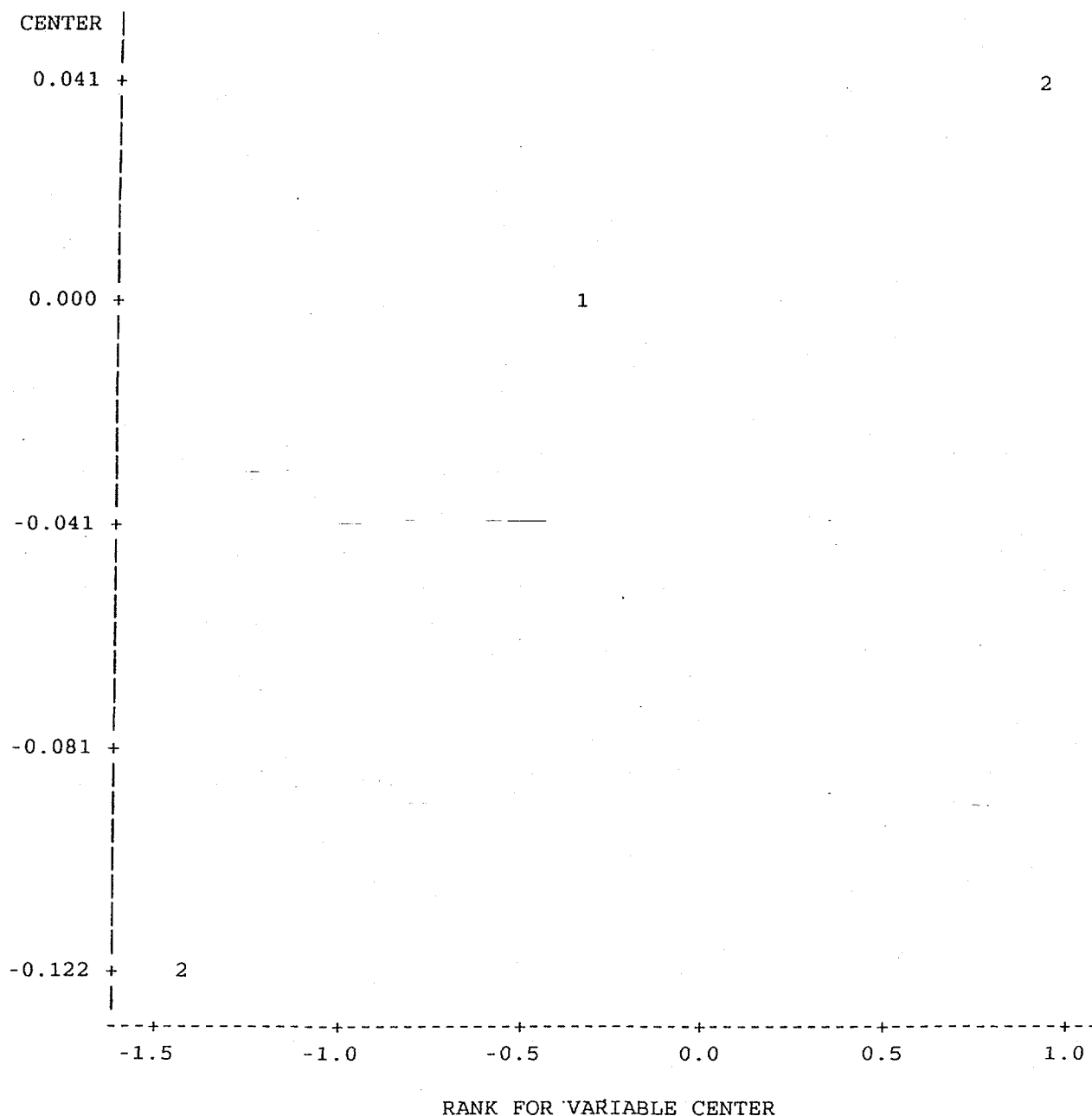


TEST FOR NORMAL DISTRIBUTION

8:29 Sunday, August 4, 1991

----- STUDY=CRERP QA 1 ST_DATE=072193 PARM=MI2S -----

Plot of CENTER*RANKIT. Symbol is value of TRT_NO.



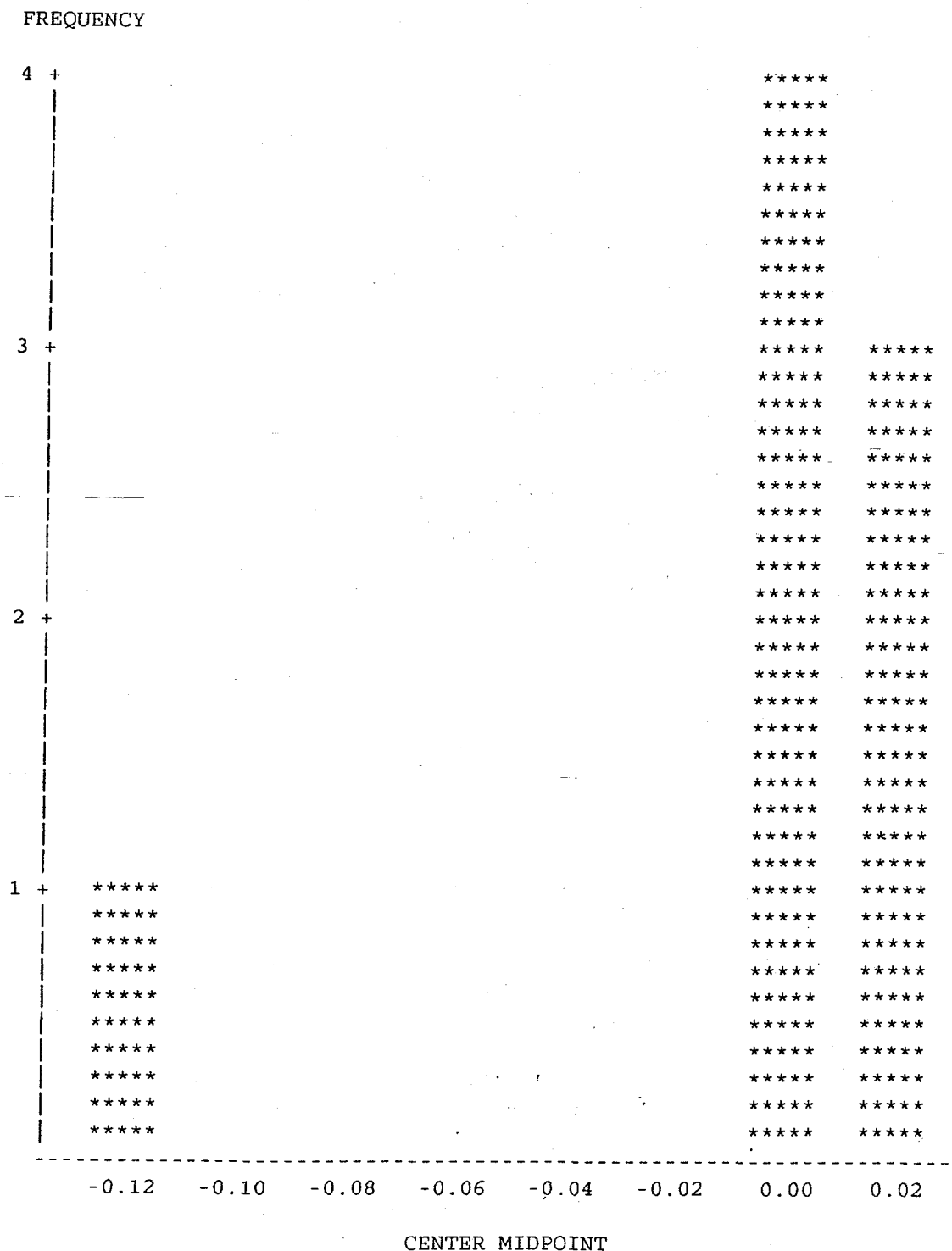
NOTE: 12 obs had missing values. 5 obs hidden.

TEST FOR NORMAL DISTRIBUTION

8:29 Sunday, August 4, 1991

STUDY=CRERP QA 1 ST_DATE=072193 PARM=MI2S

FREQUENCY OF CENTER



TEST FOR NORMAL DISTRIBUTION

8:29 Sunday, August 4, 1991

VARIANCE EQUAL TO ZERO FOR ONE OR MORE TREATMENTS
BARTLETT'S TEST CAN NOT BE CALCULATED

LEVENE'S TEST WILL BE USED

Tests of assumptions for survival data (arcsine transformed)

7

LEVENE'S TEST FOR HOMOGENEITY OF VARIANCE

8:29 Sunday, August 4, 1991

----- STUDY=CRERP QA 1 ST_DATE=072193 PARM=MI2S -----

General Linear Models Procedure

Class Level Information

Class	Levels	Values
TRT	2	PCM5.1 RENEWAL10 PCM6.0 RENEWAL

Number of observations in by group = 20

NOTE: Due to missing values, only 8 observations can be used in this analysis.

LEVENE'S TEST FOR HOMOGENEITY OF VARIANCE

8:29 Sunday, August 4, 1991

----- STUDY=CRERP QA 1 ST_DATE=072193 PARM=MI2S -----

General Linear Models Procedure

Dependent Variable: ABS_VAL

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	0.00746981	0.00746981	9.00	0.0240
Error	6	0.00497987	0.00082998		
Corrected Total	7	0.01244969			

R-Square	C.V.	Root MSE	ABS_VAL Mean
0.600000	94.28090	0.028809	0.03055694

Source	DF	Type I SS	Mean Square	F Value	Pr > F
TRT	1	0.00746981	0.00746981	9.00	0.0240

Source	DF	Type III SS	Mean Square	F Value	Pr > F
TRT	1	0.00746981	0.00746981	9.00	0.0240

MUSSEL CULTURE RECORD SHEET

Year: 1993

Species: Anadonta imbecillis

Culture I.D.: 93-0

Start Date: 7-5-93

Change-out Dates: 1) _____ 2) _____ 3) _____ 4) _____
5) _____ 6) _____ 7) _____ 8) _____

Set-up:

MEM-Fish plasma: Dishes 01 - 013

MEM-Rabbit serum: Dishes _____ - _____

Eagle's-Fish plasma: Dishes _____ - _____

Eagle's-Rabbit serum: Dishes _____ - _____

Change-out 1:

MEM-Fish plasma: Dishes _____ - _____

MEM-Rabbit serum: Dishes _____ - _____

Eagle's-Fish plasma: Dishes _____ - _____

Eagle's-Rabbit serum: Dishes _____ - _____

Change-out 2:

MEM-Fish plasma: Dishes _____ - _____

MEM-Rabbit serum: Dishes _____ - _____

Eagle's-Fish plasma: Dishes _____ - _____

Eagle's-Rabbit serum: Dishes _____ - _____

Change-out 3:

MEM-Fish plasma: Dishes _____ - _____

MEM-Rabbit serum: Dishes _____ - _____

Eagle's-Fish plasma: Dishes _____ - _____

Eagle's-Rabbit serum: Dishes _____ - _____

Change-out 4:

MEM-Fish plasma: Dishes _____ - _____

MEM-Rabbit serum: Dishes _____ - _____

Eagle's-Fish plasma: Dishes _____ - _____

Eagle's-Rabbit serum: Dishes _____ - _____

Change-out 5:

MEM-Fish plasma: Dishes _____ - _____

MEM-Rabbit serum: Dishes _____ - _____

Eagle's-Fish plasma: Dishes _____ - _____

Eagle's-Rabbit serum: Dishes _____ - _____

Change-out 6:

MEM-Fish plasma: Dishes _____ - _____

MEM-Rabbit serum: Dishes _____ - _____

Eagle's-Fish plasma: Dishes _____ - _____

Eagle's-Rabbit serum: Dishes _____ - _____

Change-out 7:

MEM-Fish plasma: Dishes _____ - _____

MEM-Rabbit serum: Dishes _____ - _____

Eagle's-Fish plasma: Dishes _____ - _____

Eagle's-Rabbit serum: Dishes _____ - _____

Change-out 8:

MEM-Fish plasma: Dishes _____ - _____

MEM-Rabbit serum: Dishes _____ - _____

Eagle's-Fish plasma: Dishes _____ - _____

Eagle's-Rabbit serum: Dishes _____ - _____

Development:

MEM-Fish-plasma:

Day 1)	Day 2)
Day 3) <i>look good!</i>	Day 4)
Day 5)	Day 6)
Day 7)	Day 8)
Day 9)	Day10)
Day11)	Day12)
Day13)	Day14)
Day15)	Day16)
Day17)	Day18)
Day19)	Day20)
Day21)	Day22)
Day23)	Day24)

MEM-Rabbit serum:

Day 1)	Day 2)
Day 3)	Day 4)
Day 5)	Day 6)
Day 7)	Day 8)
Day 9)	Day10)
Day11)	Day12)
Day13)	Day14)
Day15)	Day16)
Day17)	Day18)
Day19)	Day20)
Day21)	Day22)
Day23)	Day24)

Eagle's-Fish plasma:

Day 1)	Day 2)
Day 3)	Day 4)
Day 5)	Day 6)
Day 7)	Day 8)
Day 9)	Day10)
Day11)	Day12)
Day13)	Day14)
Day15)	Day16)
Day17)	Day18)
Day19)	Day20)
Day21)	Day22)
Day23)	Day24)

Eagle's-Rabbit serum:

Day 1)	Day 2)
Day 3)	Day 4)
Day 5)	Day 6)
Day 7)	Day 8)
Day 9)	Day10)
Day11)	Day12)
Day13)	Day14)
Day15)	Day16)
Day17)	Day18)
Day19)	Day20)
Day21)	Day22)
Day23)	Day24)

[illegible]

MEM-Fish plasma:	Date counted	By	Percent
MEM-Rabbit serum:	Date counted	By	Percent
Eagle's-Fish plasma:	Date counted	By	Percent
Eagle's-Rabbit serum:	Date counted	By	Percent
MEM-Fish plasma:	Date counted	By	Percent
MEM-Rabbit serum:	Date counted	By	Percent
Eagle's-Fish plasma:	Date counted	By	Percent
Eagle's-Rabbit serum:	Date counted	By	Percent

MEM-Fish plasma:	Date counted	By	Percent
MEM-Rabbit serum:	Date counted	By	Percent
Eagle's-Fish plasma:	Date counted	By	Percent
Eagle's-Rabbit serum:	Date counted	By	Percent
MEM-Fish plasma:	Date counted	By	Percent
MEM-Rabbit serum:	Date counted	By	Percent
Eagle's-Fish plasma:	Date counted	By	Percent
Eagle's-Rabbit serum:	Date counted	By	Percent
MEM-Fish plasma:	Date counted	By	Percent
MEM-Rabbit serum:	Date counted	By	Percent
Eagle's-Fish plasma:	Date counted	By	Percent
Eagle's-Rabbit serum:	Date counted	By	Percent
MEM-Fish plasma:	Date counted	By	Percent
MEM-Rabbit serum:	Date counted	By	Percent
Eagle's-Fish plasma:	Date counted	By	Percent
Eagle's-Rabbit serum:	Date counted	By	Percent

MUSSEL CULTURE RECORD SHEET

Year: 1993

Species: A. imbecillus

Culture I.D.: 4-3-V

Start Date: 7-6-93

Change-out Dates: 1) _____ 2) _____ 3) _____ 4) _____
5) _____ 6) _____ 7) _____ 8) _____

Set-up:

MEM-Fish plasma: Dishes VI - VII MEM-Rabbit serum: Dishes _____
Eagle's-Fish plasma: Dishes _____ Eagle's-Rabbit serum: Dishes _____

Change-out 1:

MEM-Fish plasma: Dishes _____ MEM-Rabbit serum: Dishes _____
Eagle's-Fish plasma: Dishes _____ Eagle's-Rabbit serum: Dishes _____

Change-out 2:

MEM-Fish plasma: Dishes _____ MEM-Rabbit serum: Dishes _____
Eagle's-Fish plasma: Dishes _____ Eagle's-Rabbit serum: Dishes _____

Change-out 3:

MEM-Fish plasma: Dishes _____ MEM-Rabbit serum: Dishes _____
Eagle's-Fish plasma: Dishes _____ Eagle's-Rabbit serum: Dishes _____

Change-out 4:

MEM-Fish plasma: Dishes _____ MEM-Rabbit serum: Dishes _____
Eagle's-Fish plasma: Dishes _____ Eagle's-Rabbit serum: Dishes _____

Change-out 5:

MEM-Fish plasma: Dishes _____ MEM-Rabbit serum: Dishes _____
Eagle's-Fish plasma: Dishes _____ Eagle's-Rabbit serum: Dishes _____

Change-out 6:

MEM-Fish plasma: Dishes _____ MEM-Rabbit serum: Dishes _____
Eagle's-Fish plasma: Dishes _____ Eagle's-Rabbit serum: Dishes _____

Change-out 7:

MEM-Fish plasma: Dishes _____ MEM-Rabbit serum: Dishes _____
Eagle's-Fish plasma: Dishes _____ Eagle's-Rabbit serum: Dishes _____

Change-out 8:

MEM-Fish plasma: Dishes _____ MEM-Rabbit serum: Dishes _____
Eagle's-Fish plasma: Dishes _____ Eagle's-Rabbit serum: Dishes _____

Development:

MEM-Fish-plasma:

Day 1)	Day 2)
Day 3) <i>look good!</i>	Day 4)
Day 5)	Day 6)
Day 7)	Day 8)
Day 9)	Day10)
Day11)	Day12)
Day13)	Day14)
Day15)	Day16)
Day17)	Day18)
Day19)	Day20)
Day21)	Day22)
Day23)	Day24)

MEM-Rabbit serum:

Day 1)	Day 2)
Day 3)	Day 4)
Day 5)	Day 6)
Day 7)	Day 8)
Day 9)	Day10)
Day11)	Day12)
Day13)	Day14)
Day15)	Day16)
Day17)	Day18)
Day19)	Day20)
Day21)	Day22)
Day23)	Day24)

Eagle's-Fish plasma:

Day 1)	Day 2)
Day 3)	Day 4)
Day 5)	Day 6)
Day 7)	Day 8)
Day 9)	Day10)
Day11)	Day12)
Day13)	Day14)
Day15)	Day16)
Day17)	Day18)
Day19)	Day20)
Day21)	Day22)
Day23)	Day24)

Eagle's-Rabbit serum:

Day 1)	Day 2)
Day 3)	Day 4)
Day 5)	Day 6)
Day 7)	Day 8)
Day 9)	Day10)
Day11)	Day12)
Day13)	Day14)
Day15)	Day16)
Day17)	Day18)
Day19)	Day20)
Day21)	Day22)
Day23)	Day24)

[illegible]

MEM-Fish plasma:	Date counted	By	Percent
MEM-Rabbit serum:	Date counted	By	Percent
Eagle's-Fish plasma:	Date counted	By	Percent
Eagle's-Rabbit serum:	Date counted	By	Percent
MEM-Fish plasma:	Date counted	By	Percent
MEM-Rabbit serum:	Date counted	By	Percent
Eagle's-Fish plasma:	Date counted	By	Percent
Eagle's-Rabbit serum:	Date counted	By	Percent

MEM-Fish plasma:	Date counted	By	Percent
MEM-Rabbit serum:	Date counted	By	Percent
Eagle's-Fish plasma:	Date counted	By	Percent
Eagle's-Rabbit serum:	Date counted	By	Percent
MEM-Fish plasma:	Date counted	By	Percent
MEM-Rabbit serum:	Date counted	By	Percent
Eagle's-Fish plasma:	Date counted	By	Percent
Eagle's-Rabbit serum:	Date counted	By	Percent
MEM-Fish plasma:	Date counted	By	Percent
MEM-Rabbit serum:	Date counted	By	Percent
Eagle's-Fish plasma:	Date counted	By	Percent
Eagle's-Rabbit serum:	Date counted	By	Percent
MEM-Fish plasma:	Date counted	By	Percent
MEM-Rabbit serum:	Date counted	By	Percent
Eagle's-Fish plasma:	Date counted	By	Percent
Eagle's-Rabbit serum:	Date counted	By	Percent

MUSSEL CULTURE RECORD SHEET

Year: 1993

Species: A. imbecillis

Culture I.D.: 93-W

Start Date: 7-6-93

Change-out Dates: 1) _____ 2) _____ 3) _____ 4) _____
5) _____ 6) _____ 7) _____ 8) _____

Set-up:

MEM-Fish plasma: Dishes 1 - 11 MEM-Rabbit serum: Dishes _____ - _____
Eagle's-Fish plasma: Dishes _____ - _____ Eagle's-Rabbit serum: Dishes _____ - _____

Change-out 1:

MEM-Fish plasma: Dishes _____ - _____ MEM-Rabbit serum: Dishes _____ - _____
Eagle's-Fish plasma: Dishes _____ - _____ Eagle's-Rabbit serum: Dishes _____ - _____

Change-out 2:

MEM-Fish plasma: Dishes _____ - _____ MEM-Rabbit serum: Dishes _____ - _____
Eagle's-Fish plasma: Dishes _____ - _____ Eagle's-Rabbit serum: Dishes _____ - _____

Change-out 3:

MEM-Fish plasma: Dishes _____ - _____ MEM-Rabbit serum: Dishes _____ - _____
Eagle's-Fish plasma: Dishes _____ - _____ Eagle's-Rabbit serum: Dishes _____ - _____

Change-out 4:

MEM-Fish plasma: Dishes _____ - _____ MEM-Rabbit serum: Dishes _____ - _____
Eagle's-Fish plasma: Dishes _____ - _____ Eagle's-Rabbit serum: Dishes _____ - _____

Change-out 5:

MEM-Fish plasma: Dishes _____ - _____ MEM-Rabbit serum: Dishes _____ - _____
Eagle's-Fish plasma: Dishes _____ - _____ Eagle's-Rabbit serum: Dishes _____ - _____

Change-out 6:

MEM-Fish plasma: Dishes _____ - _____ MEM-Rabbit serum: Dishes _____ - _____
Eagle's-Fish plasma: Dishes _____ - _____ Eagle's-Rabbit serum: Dishes _____ - _____

Change-out 7:

MEM-Fish plasma: Dishes _____ - _____ MEM-Rabbit serum: Dishes _____ - _____
Eagle's-Fish plasma: Dishes _____ - _____ Eagle's-Rabbit serum: Dishes _____ - _____

Change-out 8:

MEM-Fish plasma: Dishes _____ - _____ MEM-Rabbit serum: Dishes _____ - _____
Eagle's-Fish plasma: Dishes _____ - _____ Eagle's-Rabbit serum: Dishes _____ - _____

Development:

MEM-Fish-plasma:

Day 1)	Day 2)
Day 3) <i>look good!</i>	Day 4)
Day 5)	Day 6)
Day 7)	Day 8)
Day 9)	Day10)
Day11)	Day12)
Day13)	Day14)
Day15)	Day16)
Day17)	Day18)
Day19)	Day20)
Day21)	Day22)
Day23)	Day24)

MEM-Rabbit serum:

Day 1)	Day 2)
Day 3)	Day 4)
Day 5)	Day 6)
Day 7)	Day 8)
Day 9)	Day10)
Day11)	Day12)
Day13)	Day14)
Day15)	Day16)
Day17)	Day18)
Day19)	Day20)
Day21)	Day22)
Day23)	Day24)

Eagle's-Fish plasma:

Day 1)	Day 2)
Day 3)	Day 4)
Day 5)	Day 6)
Day 7)	Day 8)
Day 9)	Day10)
Day11)	Day12)
Day13)	Day14)
Day15)	Day16)
Day17)	Day18)
Day19)	Day20)
Day21)	Day22)
Day23)	Day24)

Eagle's-Rabbit serum:

Day 1)	Day 2)
Day 3)	Day 4)
Day 5)	Day 6)
Day 7)	Day 8)
Day 9)	Day10)
Day11)	Day12)
Day13)	Day14)
Day15)	Day16)
Day17)	Day18)
Day19)	Day20)
Day21)	Day22)
Day23)	Day24)

[illegible]

MEM-Fish plasma:	Date counted	By	Percent
MEM-Rabbit serum:	Date counted	By	Percent
Eagle's-Fish plasma:	Date counted	By	Percent
Eagle's-Rabbit serum:	Date counted	By	Percent
MEM-Fish plasma:	Date counted	By	Percent
MEM-Rabbit serum:	Date counted	By	Percent
Eagle's-Fish plasma:	Date counted	By	Percent
Eagle's-Rabbit serum:	Date counted	By	Percent

MEM-Fish plasma:	Date counted	By	Percent
MEM-Rabbit serum:	Date counted	By	Percent
Eagle's-Fish plasma:	Date counted	By	Percent
Eagle's-Rabbit serum:	Date counted	By	Percent
MEM-Fish plasma:	Date counted	By	Percent
MEM-Rabbit serum:	Date counted	By	Percent
Eagle's-Fish plasma:	Date counted	By	Percent
Eagle's-Rabbit serum:	Date counted	By	Percent
MEM-Fish plasma:	Date counted	By	Percent
MEM-Rabbit serum:	Date counted	By	Percent
Eagle's-Fish plasma:	Date counted	By	Percent
Eagle's-Rabbit serum:	Date counted	By	Percent
MEM-Fish plasma:	Date counted	By	Percent
MEM-Rabbit serum:	Date counted	By	Percent
Eagle's-Fish plasma:	Date counted	By	Percent
Eagle's-Rabbit serum:	Date counted	By	Percent

(PLARC501-412)

INITIAL CHEMISTRYProject: CR-ERP QA Test 1 July 1993Personnel: SimbeckBeginning Date: July 21, 1993PoseyEnding Date: July 30, 1993Date: 7-21-93

TREATMENT	F-Med /401	M6.0	M5.1 100%	M5.1 50%	M6.0C	M5.1C 100%	M5.1C 50%	Taylor Silt
Temperature -A-	24.6	23.7	23.5	23.4	23.7	23.7	23.6	24.6
D.O. (before air)	8.2							
(after air)								
(w/silt/algae)								8.0
pH (before air)	8.3							
(after air)								
(w/silt/algae)								7.9
(Aeration time)								
Conductivity	333							331
Hardness	6.5							5.5
x 17.1	94.1							94.1
Alkalinity	6.0							5.7
x 10	60							57
Chlorine								
Ammonia								

NOTES: _____

INITIAL CHEMISTRYProject: CR-ERP QA Test 1 July 1993Personnel: SimbeckBeginning Date: July 21, 1993PoseyEnding Date: July 30, 1993Date: 7-22-93

TREATMENT	F-Med	M6.0	M5.1	M5.1	M6.0C	M5.1C	M5.1C	Taylor
	140.3		100%	50%		100%	50%	Silt
Temperature	24.3	24.5	24.7	24.7	24.4			24.6
D.O. (before air)	8.1							
(after air)								
(w/silt/algae)								8.1
pH (before air)	8.3							
(after air)								
(w/silt/algae)								7.8
(Aeration time)								
Conductivity	331							330
Hardness	5.4							5.3
x 17.1	92.3							90.6
Alkalinity	6.0							6.0
x 10	60							60
Chlorine								
Ammonia								

NOTES: _____

INITIAL CHEMISTRYProject: CR-ERP QA Test 1 July 1993Personnel: SimbeckBeginning Date: July 21, 1993PoseyEnding Date: July 30, 1993Date: 7-22-93

TREATMENT	F-Med	M6.0	M5.1	M5.1	M6.0C	M5.1C	M5.1C	Taylor
	1403		100%	50%		100%	50%	Silt
Temperature	24.8	24.4	24.5	24.7	—	—	—	24.5
D.O. (before air)	8.0							
(after air)								
(w/silt/algae)								8.0
pH (before air)	8.2							
(after air)								
(w/silt/algae)								7.8
(Aeration time)								
Conductivity	331							329
Hardness	5.4							5.4
x 17.1								92.3
Alkalinity								5.8
x 10								58
Chlorine								
Ammonia								

NOTES: _____

INITIAL CHEMISTRYProject: CR-ERP QA Test 1 July 1993Personnel: SimbeckBeginning Date: July 21, 1993PoseyEnding Date: July 30, 1993Date: 7-24-93

TREATMENT	F-Med	M6.0	M5.1	M5.1	M6.0C	M5.1C	M5.1C	Taylor
	1403		100%	50%		100%	50%	Silt
Temperature	24.5	24.5	24.8	24.9	—	—	—	24.3
D.O. (before air)	8.1							
(after air)								
(w/silt/algae)								8.0
pH (before air)	8.2							
(after air)								
(w/silt/algae)								7.8
(Aeration time)								
Conductivity	331							328
Hardness								5.4
x 17.1								92.3
Alkalinity								5.8
x 10								58
Chlorine								
Ammonia								

NOTES: _____

INITIAL CHEMISTRYProject: CR-ERP QA Test 1 July 1993Personnel: SimbeckBeginning Date: July 21, 1993PoseyEnding Date: July 30, 1993Date: 7/25/93

TREATMENT	F-Med 1403	M6.0	M5.1 100%	M5.1 50%	M6.0C	M5.1C 100%	M5.1C 50%	Taylor Silt
Temperature	24.7	24.9	24.7	24.7	—	—	—	24.4
D.O. (before air)	8.2							
(after air)								
(w/silt/algae)								8.1
pH (before air)	8.3							
(after air)								
(w/silt/algae)								7.8
(Aeration time)								
Conductivity	328							328
Hardness								5.5
x 17.1								94.1
Alkalinity								58
x 10								58
Chlorine								
Ammonia								

NOTES: _____

INITIAL CHEMISTRYProject: CR-ERP QA Test 1 July 1993Personnel: SimbeckBeginning Date: July 21, 1993PoseyEnding Date: July 30, 1993Date: 7/26/93

TREATMENT	F-Med	M6.0	M5.1	M5.1	M6.0C	M5.1C	M5.1C	Taylor
	1407		100%	50%		100%	50%	Silt
Temperature	24.8	23.6	23.8	23.9	-	-	-	24.6
D.O. (before air)	8.2							
(after air)								
(w/silt/algae)								7.9
pH (before air)	8.3							
(after air)								
(w/silt/algae)								7.9
(Aeration time)								
Conductivity	344							344
Hardness	5.6							5.5
x 17.1	95.8							94.1
Alkalinity	6.5							6.4
x 10	65							64
Chlorine								
Ammonia								

NOTES: _____

INITIAL CHEMISTRYProject: CR-ERP QA Test 1 July 1993Personnel: SimbeckBeginning Date: July 21, 1993PoseyEnding Date: July 30, 1993Date: 7-27-93

TREATMENT	F-Med	M6.0	M5.1	M5.1	M6.0C	M5.1C	M5.1C	Taylor
	1407		100%	50%		100%	50%	Silt
Temperature	24.8	24.7	24.7	24.9				24.7
D.O. (before air)	8.0							
(after air)								
(w/silt/algae)								8.0
pH (before air)	8.3							
(after air)								
(w/silt/algae)								7.9
(Aeration time)								
Conductivity	347							344
Hardness								5.6
x 17.1								95.8
Alkalinity								6.4
x 10								64
Chlorine								
Ammonia								

NOTES: _____

INITIAL CHEMISTRYProject: CR-ERP QA Test 1 July 1993Personnel: SimbeckBeginning Date: July 21, 1993PoseyEnding Date: July 30, 1993Date: 7-28-93

TREATMENT	F-Med	M6.0	M5.1	M5.1	M6.0C	M5.1C	M5.1C	Taylor
	1407		100%	50%		100%	50%	Silt
Temperature	24.8	24.8	24.5	24.7	-	-	-	24.5
D.O. (before air)	8.2							
(after air)								
(w/silt/algae)								7.9
pH (before air)	8.3							
(after air)								
(w/silt/algae)								7.8
(Aeration time)								
Conductivity	344							344
Hardness								5.5
x 17.1								94.1
Alkalinity								6.4
x 10								64
Chlorine								
Ammonia								

NOTES: _____

INITIAL CHEMISTRYProject: CR-ERP QA Test 1 July 1993Personnel: SimbeckBeginning Date: July 21, 1993PoseyEnding Date: July 30, 1993Date: 7-29-93

TREATMENT	F-Med	M6.0	M5.1	M5.1	M6.0C	M5.1C	M5.1C	Taylor
	1410		100%	50%		100%	50%	Silt
Temperature	24.6	24.1 23.8	24.4	24.2	-	-	-	24.2
D.O. (before air)	8.2							
(after air)								
(w/silt/algae)								8.0
pH (before air)	8.1							
(after air)								
(w/silt/algae)								7.8
(Aeration time)								
Conductivity	339							336
Hardness	5.5							5.7
x 17.1	94.1							97.5
Alkalinity	6.0							6.2
x 10	60							62
Chlorine								
Ammonia								

NOTES: _____

FINAL CHEMISTRYProject: CR-ERP QA Test 1 July 1993Personnel: SimbeckBeginning Date: July 21, 1993PoseyEnding Date: July 30, 1993Date: 7-22-93Replicate: 15 1

TREATMENT	M6.0	M5.1A	M5.1A	M6.0C	M5.1C	M5.1C	Taylor
		100%B	50% B		100%	50%	Silt
Temperature	23.3	23.4	23.4	23.9	23.4	23.8	24.2
D.O.	6.9	6.9	6.9	6.9	6.9	6.4	7.9
pH	7.6	7.7	7.7	7.6	7.7	7.7	8.1
Conductivity	374	391	393	358	378	345	362
Hardness	7.0	6.8	7.0	6.4	6.7	7.0	6.0
x 17.1	119.7	116.3	119.7	109.4	114.6	119.7 ^{7.2}	102.6
Alkalinity	5.5	7.3	5.9	*	7.0	6.1	6.3
x 10	55	73	59	-	70	61	63
Chlorine							
Ammonia	0.008	0.025	0.012	0.006	0.027	0.012	0.021

NOTES: * 5.3 mL titrated with endpoint pH = 4.3. Not enough sample to re-titrate.

FINAL CHEMISTRYProject: CR-ERP QA Test 1 July 1993Personnel: SimbeckBeginning Date: July 21, 1993PoseyEnding Date: July 30, 1993Date: 7-23-93Replicate: 2

TREATMENT	M6.0A	M5.1A	M5.1A	M6.0C	M5.1C	M5.1C	Taylor
		100%B	50% B		100%	50%	Silt
Temperature	23.7	24.3	24.5	24.2	24.4	24.2	24.5
D.O.	7.0	6.8	6.8	7.0	6.9	7.0	7.9
pH	7.6	7.8	7.7	7.7	7.7	7.7	8.0
Conductivity	356	374	361	368	362	370	357
Hardness	6.4	6.9	6.6	6.0	6.3	6.0	5.8
x 17.1	109.4	118.0	112.9	102.6	107.7	102.6	99.2
Alkalinity	5.9	8.1	6.9	5.3	6.0	5.6	6.3
x 10	59	81	69	53	60	56	63
Chlorine							
Ammonia	0.011	0.037	0.028	0.001	0.002	0.001	0.009

NOTES: _____

FINAL CHEMISTRYProject: CR-ERP QA Test 1 July 1993Personnel: SimbeckBeginning Date: July 21, 1993PoseyEnding Date: July 30, 1993Date: 7-24-93Replicate: 3

TREATMENT	M6.0	M5.1A	M5.1A	M6.0C	M5.1C	M5.1C	Taylor
		100%B	50% B		100%	50%	Silt
Temperature	23.8	23.9	23.3	24.0	23.5	24.0	24.0
D.O.	8.2	7.7	7.8	7.8	7.8	7.8	8.0
pH	7.6	7.8	7.7	7.7	7.8	7.7	8.0
Conductivity	353	374	369	352 ³⁵⁷	365	360	343
Hardness	6.7	7.0	6.9	5.8	6.3	5.9	5.6
x 17.1	^{114.6} 353	^{119.7} 374	^{118.0} 369	99.2	107.7	100.9	95.8
Alkalinity	6.3	8.4	7.3	5.5	6.0	5.7	6.0
x 10	63	84	73	55	60	57	60
Chlorine							
Ammonia	0.012	0.059	^{0.028} 0.059	<0.001	0.001	<0.001	0.010

NOTES: _____

FINAL CHEMISTRYProject: CR-ERP QA Test 1 July 1993Personnel: SimbeckBeginning Date: July 21, 1993PoseyEnding Date: July 30, 1993Date: 7/25/93Replicate: 4

TREATMENT	M6.0	M5.1A	M5.1A	M6.0C	M5.1C	M5.1C	Taylor
	A	100%B	50% B		100%	50%	Silt
Temperature	23.4	23.7	23.4	24.6	24.4	24.2	24.2
D.O.	7.4	7.2	7.1	7.4	7.3	7.4	8.0
pH	7.6	7.8	7.7	7.7	7.7	7.7	8.0
Conductivity	356	377	368	365	370	378	341
Hardness	6.5	7.0	6.8	5.8	6.1	6.1	5.7
x 17.1	111.2	119.7	116.3	99.2	104.3	104.3	97.5
Alkalinity	6.0	8.4	7.2	5.5	6.0	5.8	6.0
x 10	60	84	72	55	60	58	60
Chlorine							
Ammonia	0.013	0.054	0.029	0.001	0.001	0.001	0.011

NOTES:

FINAL CHEMISTRYProject: CR-ERP QA Test 1 July 1993Personnel: SimbeckBeginning Date: July 21, 1993PoseyEnding Date: July 30, 1993Date: 7/26/93Replicate: 1

TREATMENT	M6.0	M5.1A	M5.1A	M6.0C	M5.1C	M5.1C	Taylor
		100%B	50% B		100%	50%	Silt
Temperature	23.5	24.3	23.4	24.3	24.3	24.6	24.0
D.O.	7.1	6.9	7.0	7.2	7.1	7.2	7.9
pH	7.6	7.7	7.7	7.7	7.7	7.7	7.9
Conductivity	360	373	372	379	378	378	349
Hardness	6.7	6.8	6.8	6.1	6.2	6.1	5.6
x 17.1	114.6	116.3	116.3	104.3	106.0	104.3	95.8
Alkalinity	6.0	8.5	7.1	5.6	6.0	5.7	6.1
x 10	60	85	71	56	60	57	61
Chlorine							
Ammonia	0.012	0.049	0.031	0.001	0.001	0.001	0.012

NOTES: _____

FINAL CHEMISTRYProject: CR-ERP QA Test 1 July 1993Personnel: SimbeckBeginning Date: July 21, 1993PoseyEnding Date: July 30, 1993Date: 7.27-93Replicate: 2

TREATMENT	M6.0	M5.1A	M5.1A	M6.0C	M5.1C	M5.1C	Taylor
		100%B	50% B		100%	50%	Silt
Temperature	23.7	24.2	24.0	24.1	24.1	24.3	24.2
D.O.	7.0	6.7	6.7	7.0	7.0	7.0	7.7
pH	7.6	7.7	7.7	7.7	7.7	7.7	8.0
Conductivity	373	387	377	375	388	384	362
Hardness	5.9	7.1	6.9	6.1	6.4	6.4	5.9
x 17.1	100.9	121.4	118.0	104.3	109.4	109.4	100.9
Alkalinity	5.6	7.7	6.5	5.8	6.2	6.0	6.6
x 10	56	77	65	58	62	60	66
Chlorine							
Ammonia	0.010	0.032	0.022	0.001	0.001	0.001	0.012

NOTES: _____

FINAL CHEMISTRYProject: CR-ERP QA Test 1 July 1993Personnel: SimbeckBeginning Date: July 21, 1993PoseyEnding Date: July 30, 1993Date: 7-28-93Replicate: 3

TREATMENT	M6.0	M5.1A	M5.1A	M6.0C	M5.1C	M5.1C	Taylor
	A	100%B	50% B		100%	50%	Silt
Temperature	23.2	24.0	24.1	23.8	24.1	24.0	24.3
D.O.	7.0	6.8	6.8	7.2	7.2	7.2	7.8
pH	7.6	7.7	7.7	7.7	7.7	7.7	8.0
Conductivity	385	393	367	370	390	374	361
Hardness	6.9	7.0	6.6	5.8	6.3	6.0	5.9
x 17.1	118.0	119.7	112.9	99.2	107.7	102.6	100.9
Alkalinity	6.8	8.8	7.0	6.1	6.5	6.3	6.7
x 10	68	88	70	61	65	63	67
Chlorine							
Ammonia	0.013	0.045	0.032	0.001	0.001	0.001	0.009

NOTES: _____

FINAL CHEMISTRYProject: CR-ERP QA Test 1 July 1993Personnel: SimbeckBeginning Date: July 21, 1993PoseyEnding Date: July 30, 1993Date: 7-29-93Replicate: 4

TREATMENT	M6.0 1	M5.1A 100%B	M5.1A 50% B	M6.0C	M5.1C 100%	M5.1C 50%	Taylor Silt
Temperature	23.9	23.8	23.8	23.8	23.8	23.8	23.8
D.O.	6.9	6.8	6.8	7.3	7.3	7.3	7.8
pH	7.7	7.7	7.7	7.8	7.7	7.7	8.0
Conductivity	363	394	383	382 370	382	376	362
Hardness	6.6	7.0	6.7	5.9	6.0	6.0	5.7
x 17.1	112.9	119.7	114.6	100.9	102.6	102.6	97.5
Alkalinity	6.1	9.2	7.1	6.4	6.6	6.5	6.9
x 10	61	92	71	64	66	65	69
Chlorine							
Ammonia	0.011	0.045	0.026	0.001	0.001	0.001	0.004

NOTES: _____

FINAL CHEMISTRYProject: CR-ERP QA Test 1 July 1993Personnel: SimbeckBeginning Date: July 21, 1993PoseyEnding Date: July 30, 1993Date: 7-30-93Replicate: 1

TREATMENT	M6.0	M5.1A	M5.1A	M6.0C	M5.1C	M5.1C	Taylor
		100%B	50% B		100%	50%	Silt
Temperature	24.1	24.0	23.8	23.8	23.5	23.9	23.6
D.O.	7.1	6.7	6.6	7.1	7.2	7.2	7.8
pH	7.6	7.7	7.6	7.7	7.7	7.7	8.0
Conductivity	380	376	363	369	390	371	370
Hardness	6.9	7.2	6.4	6.0	6.4	6.0	6.2
x 17.1	118.0	123.1	109.4	102.6	109.4	102.6	106.0
Alkalinity	6.4	8.2	6.6	6.4	6.5	6.4	6.8
x 10	64	82	66	64	65	64	68
Chlorine							
Ammonia	0.015	0.039	0.019	0.001	0.001	0.001	0.002

NOTES: _____

CR - ERP - QAI -- July 21-30, 1993 -- INITIAL AND FINAL CHEMISTRY

INITIAL CHEMISTRY

PCM 6.0-A CONTROL

DAY	TEMP	DO	pH	COND	HARD	ALK	CHLORINE
0	23.7	-	-	-	-	-	--
1	24.5	-	-	-	-	-	--
2	24.4	-	-	-	-	-	--
3	24.5	-	-	-	-	-	--
4	24.9	-	-	-	-	-	--
5	23.6	-	-	-	-	-	--
6	24.7	-	-	-	-	-	--
7	24.8	-	-	-	-	-	--
8	24.1	-	-	-	-	-	--

MEAN 24.4 0.0 0.0 0 0.0 0 --

MIN 23.6 0.0 0.0 0 0.0 0 --

MAX 24.9 0.0 0.0 0 0.0 0 --

TAYLOR'S SILT

DAY	TEMP	DO	pH	COND	HARD	ALK	CHLORI
0	24.6	8.0	7.9	331	94.1	57	-
1	24.6	8.1	7.8	330	90.6	60	-
2	24.5	8.0	7.8	329	92.3	58	-
3	24.3	8.0	7.8	328	92.3	58	-
4	24.4	8.1	7.8	328	94.1	58	-
5	24.6	7.9	7.9	344	94.1	64	-
6	24.7	8.0	7.9	344	95.8	64	-
7	24.5	7.9	7.8	344	94.1	64	-
8	24.2	8.0	7.8	336	97.5	62	-

MEAN 24.5 8.0 7.8 335 93.9 61 --

MIN 24.2 7.9 7.8 328 90.6 57 --

MAX 24.7 8.1 7.9 344 97.5 64 --

PCM 5.1 100-A

DAY	TEMP	DO	pH	COND	HARD	ALK	CHLORINE
0	23.5	-	-	-	-	-	-
1	24.7	-	-	-	-	-	-
2	24.5	-	-	-	-	-	-
3	24.8	-	-	-	-	-	-
4	24.7	-	-	-	-	-	-
5	23.8	-	-	-	-	-	-
6	24.7	-	-	-	-	-	-
7	24.5	-	-	-	-	-	-
8	24.4	-	-	-	-	-	-

MEAN 24.4 0.0 0.0 0 0.0 0 --

MIN 23.5 0.0 0.0 0 0.0 0 --

MAX 24.8 0.0 0.0 0 0.0 0 --

FISH MEDIUM

DAY	TEMP	DO	pH	COND	HARD	ALK	CHLORI
0	24.6	8.2	8.3	333	94.1	60	-
1	24.3	8.1	8.3	331	92.3	60	-
2	24.8	8.0	8.2	331	-	-	-
3	24.5	8.1	8.2	331	-	-	-
4	24.7	8.2	8.3	328	-	-	-
5	24.8	8.2	8.3	344	95.8	65	-
6	24.8	8.0	8.3	347	-	-	-
7	24.8	8.2	8.3	344	-	-	-
8	24.6	8.2	8.1	339	94.1	60	-

MEAN 24.7 8.1 8.3 336 94.1 61 --

MIN 24.3 8.0 8.1 328 92.3 60 --

MAX 24.8 8.2 8.3 347 95.8 65 --

PCM 5.1 50-A

DAY	TEMP	DO	pH	COND	HARD	ALK	CHLORINE
0	23.4	-	-	-	-	-	-
1	24.7	-	-	-	-	-	--
2	24.7	-	-	-	-	-	-
3	24.9	-	-	-	-	-	-
4	24.7	-	-	-	-	-	-
5	23.9	-	-	-	-	-	-
6	24.9	-	-	-	-	-	-
7	24.7	-	-	-	-	-	-
8	24.2	-	-	-	-	-	-

MEAN 24.5 0.0 0.0 0 0.0 0 --

MIN 23.4 0.0 0.0 0 0.0 0 --

MAX 24.9 0.0 0.0 0 0.0 0 --

===== FINAL CHEMISTRY =====

PCM 6.0-A CONTROL

DAY	TEMP	DO	pH	COND	HARD	ALK	AMMONIA
1	23.3	6.9	7.6	374	119.7	55	0.008
2	23.7	7.0	7.6	356	109.4	59	0.011
3	23.8	8.2	7.6	353	114.6	63	0.012
4	23.4	7.4	7.6	356	111.2	60	0.013
5	23.5	7.1	7.6	360	114.6	60	0.012
6	23.7	7.0	7.6	373	100.9	56	0.010
7	23.2	7.0	7.6	385	118.0	68	0.013
8	23.9	6.9	7.7	363	112.9	61	0.011
9	24.1	7.1	7.6	380	118.0	64	0.015

MEAN 23.6 7.2 7.6 367 113.2 61 0.012

MIN 23.2 6.9 7.6 353 100.9 55 0.008

MAX 24.1 8.2 7.7 385 119.7 68 0.015

PCM 6.0-C CONTROL

DAY	TEMP	DO	pH	COND	HARD	ALK	AMMONIA
1	23.9	6.9	7.6	358	109.4	-	0.006
2	24.2	7.0	7.7	368	102.6	53	0.001
3	24.0	7.8	7.7	357	99.2	55	0.001
4	24.6	7.4	7.7	365	99.2	55	0.001
5	24.3	7.2	7.7	379	104.3	56	0.001
6	24.1	7.0	7.7	375	104.3	58	0.001
7	23.8	7.2	7.7	370	99.2	61	0.001
8	23.8	7.3	7.8	370	100.9	64	0.001
9	23.8	7.1	7.7	369	102.6	64	0.001

MEAN 24.1 7.2 7.7 368 102.4 58 0.002

MIN 23.8 6.9 7.6 357 99.2 53 0.001

MAX 24.6 7.8 7.8 379 109.4 64 0.006

PCM 5.1-100-A

DAY	TEMP	DO	pH	COND	HARD	ALK	AMMONIA
1	23.9	6.9	7.7	391	116.3	73	0.025
2	24.3	6.8	7.8	374	118.0	81	0.037
3	23.9	7.7	7.8	374	119.7	84	0.059
4	23.7	7.2	7.8	377	119.7	84	0.054
5	24.3	6.9	7.7	373	116.3	85	0.049
6	24.2	6.7	7.7	387	121.4	77	0.032
7	24.0	6.8	7.7	393	119.7	88	0.045
8	23.8	6.8	7.7	394	119.7	92	0.045
9	24.0	6.7	7.7	376	123.1	82	0.039

MEAN 24.0 6.9 7.7 382 119.3 83 0.043

MIN 23.7 6.7 7.7 373 116.3 73 0.025

MAX 24.3 7.7 7.8 394 123.1 92 0.059

PCM 5.1 100-C

DAY	TEMP	DO	pH	COND	HARD	ALK	AMMONIA
1	23.4	6.9	7.7	378	114.6	70	0.027
2	24.4	6.9	7.7	362	107.7	60	0.002
3	23.5	7.8	7.8	365	107.7	60	0.001
4	24.4	7.3	7.7	370	104.3	60	0.001
5	24.3	7.1	7.7	378	106.0	60	0.001
6	24.1	7.0	7.7	388	109.4	62	0.001
7	24.1	7.2	7.7	390	107.7	65	0.001
8	23.8	7.3	7.7	382	102.6	66	0.001
9	23.5	7.2	7.7	390	109.4	65	0.001

MEAN 23.9 7.2 7.7 378 107.7 63 0.004

MIN 23.4 6.9 7.7 362 102.6 60 0.001

MAX 24.4 7.8 7.8 390 114.6 70 0.027

PCM 5.1 50-A

DAY	TEMP	DO	pH	COND	HARD	ALK	AMMONIA
1	23.4	6.9	7.7	393	119.7	59	0.012
2	24.5	6.8	7.7	361	112.9	69	0.028
3	23.3	7.8	7.7	369	118.0	73	0.028
4	23.4	7.1	7.7	368	116.3	72	0.029
5	23.4	7.0	7.7	372	116.3	71	0.031
6	24.0	6.7	7.7	377	118.0	65	0.022
7	24.1	6.8	7.7	367	112.9	70	0.032
8	23.8	6.8	7.7	383	114.6	71	0.026
9	23.8	6.6	7.6	363	109.4	66	0.019

MEAN 23.7 6.9 7.7 373 115.3 68 0.025

MIN 23.3 6.6 7.6 361 109.4 59 0.012

MAX 24.5 7.8 7.7 393 119.7 73 0.032

PCM 5.1 50-C

DAY	TEMP	DO	pH	COND	HARD	ALK	AMMONIA
1	23.8	6.9	7.7	395	119.7	61	0.012
2	24.2	7.0	7.7	370	102.6	56	0.001
3	24.0	7.8	7.7	360	100.9	57	0.001
4	24.2	7.4	7.7	378	104.3	58	0.001
5	24.6	7.2	7.7	378	104.3	57	0.001
6	24.3	7.0	7.7	384	109.4	60	0.001
7	24.0	7.2	7.7	374	102.6	63	0.001
8	23.8	7.3	7.7	376	102.6	65	0.001
9	23.9	7.2	7.7	371	102.6	64	0.001

MEAN 24.1 7.2 7.7 376 105.5 60 0.002

MIN 23.8 6.9 7.7 360 100.9 56 0.001

MAX 24.6 7.8 7.7 395 119.7 65 0.012

TAYLOR'S SILT

DAY	TEMP	DO	pH	COND	HARD	ALK	AMMONIA
1	24.2	7.9	8.1	362	102.6	63	0.021
2	24.5	7.9	8.0	357	99.2	63	0.009
3	24.0	8.0	8.0	343	95.8	60	0.010
4	24.2	8.0	8.0	341	97.5	60	0.011
5	24.0	7.9	7.9	349	95.8	61	0.012
6	24.2	7.7	8.0	362	100.9	66	0.012
7	24.3	7.8	8.0	361	100.9	67	0.009
8	23.8	7.8	8.0	362	97.5	69	0.004
9	23.6	7.8	8.0	370	106.0	68	0.002
MEAN	24.1	7.9	8.0	356	99.6	64	0.010
MIN	23.6	7.7	7.9	341	95.8	60	0.002
MAX	24.5	8.0	8.1	370	106.0	69	0.021

Test Temperature: 23.9

MIN 23.2
MAX 24.6

Reviewed by: DJS 8-20-93

Project Instrument Record Sheet

Project Study CR-ERP Model BA T55+I

Beginning Date 7-22-93

Ending Date 7-30-93

DO Meter

Model YSI Model 57

TVA Tag 557673

Calibration Date 4-28-93

pH Meter(s)

Model Orion Research Model SA250

TVA Tag SN 8147

Calibration Date 4-30-93

Model Orion Research Model 407A

TVA Tag 557674

Calibration Date 4-14-93

Conductivity Meter

Model YSI Model 32

TVA Tag 543389

Calibration Date 2-8-93

Thermometer(s)

Model ERTCO 4474

TVA Tag M-148

Calibration Date 12/8/92

Model ERTCO

TVA Tag M-253

Calibration Date 2-8-92

PROJECT REAGENT RECORD SHEET

Project/Study: CR-ERP QA Model Test
 Personnel: Simbeck, Jody

Beginning Date: 7-23-93
 Ending Date: 7-30-93

WINKLER TITRATION METHOD

Alkaline-Iodide-Azide:

Brand Fisher
 Lot # 910062-24
 Exp. 2-93

Manganous Sulfate:

Brand Fisher
 Lot # 910067-24
 Exp. 4-93

Sodium Thiosulfate:

Brand Ricca
 Lot # 11267
 Exp. 4-94

Sulfuric Acid:

Brand Fisher
 Lot # 354507
 Exp. NA

Thyodene:

Brand Fisher
 Lot # 912254
 Exp. NA

pH BUFFER SOLUTIONS

pH 4:

Brand Spectrum
 Lot # HA150
 Exp. 9-93

pH 7:

Brand Mallinckrodt
 Lot # 0098K1AN
 Exp. 6-94

pH 10:

Brand Mallinckrodt
 Lot # 0098K1KJ
 Exp. 12-63

pH _____:

Brand _____
 Lot # _____
 Exp. _____

CONDUCTIVITY STANDARD SOLUTIONS

200 μ mhos:

Brand Biochem
 Lot # 5302C
 Exp. 11-94

720 μ mhos:

Brand Biochem
 Lot # E052A
 Exp. 5-94

_____ μ mhos:

Brand _____
 Lot # _____
 Exp. _____

ALKALINITY TITRATION

Sulfuric Acid Solution N/50:

Brand Mallinckrodt
 Lot # 11366
 Exp. NA

HARDNESS TITRATION

Hardness Titrating Solution:

Brand Calgon
 Lot # R2037700
 Exp. NA

Hardness Indicator:

Brand Calgon
 Lot # 01598
 Exp. NA

Hardness Buffer Solution:

Brand Calgon
 Lot # 26C6B
 Exp. NA

CHLORINE TITRATION

DPD Powder Pillows:

Brand Hach
 Lot # 03Cm
 Exp. NA

Potassium Iodide:

Brand Fisher
 Lot # 863484A
 Exp. NA

FAS:

Brand Ricca
 Lot # E235
 Exp. 8-20-93

ATTACHMENT III

AMMONIA ANALYSIS REQUEST AND RESULTS

REQUEST FOR AND REPORT OF ANALYSIS

Date submitted 7-26-93

Laboratory No. _____

Date wanted _____

Date reported _____

Charge to account No. 4210-011200-85555GENERAL DESCRIPTION: Ammonia (CR-ERP test samples) from 7-22-93

Consignor's Number	Specific Description for Each Sample	P. 1
RD water	pH = 5.8 @ 24°C 50 ml sample preserved w/ 0.2 mL 1:4 H ₂ SO ₄	
Taylor's Si H	pH = 8.1 " "	
PCM 6.0-A	pH = 7.6 " "	
PCM 5.1 100-A	pH = 7.7 " "	
PCM 5.1 50-A	pH = 7.7 " "	
PCM 6.0-C	pH = 7.6 " "	
PCM 5.1 100-C	pH = 7.7 " "	
PCM 5.1 50-C	pH = 7.7 " "	
Remarks, method, etc.: <u>Same as Vital Signs samples</u>		

ANALYZE FOR

Lab. No.	Consignor's Number									

Requested by Damien J. Simbeck

Notebook page _____

Address ARL - 1A BFN

Analyzed by _____

Request approved by Randy Simbeck

Laboratory _____

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REQUEST FOR AND REPORT OF ANALYSIS

Date submitted 7-26-93 Laboratory No. _____

Date wanted _____

Date reported _____ Charge to account No. 4210-011200-85555GENERAL DESCRIPTION: Ammonia (CR-ERP test samples) from 7-23-93

Consignor's Number	Specific Description for Each Sample	p. 2
RD water	pH = 5.8 @ 24°C 50mL sample preserved w/0.2 mL 1:4 H ₂ SO ₄	
Taylor's Silt	pH = 8.0 "	
PCM 6.0-A	pH = 7.6 "	
PCM 5.1 100-A	pH = 7.8 "	
PCM 5.1 50-A	pH = 7.7 "	
PCM 6.0-C	pH = 7.7 "	
PCM 5.1 100-C	pH = 7.7 "	
PCM 5.1 50-C	pH = 7.7 "	
Remarks, method, etc.:		

ANALYZE FOR

Lab. No.	Consignor's Number									

Requested by Damien J. Simbeck

Notebook page _____

Address ARL-1A BEN

Analyzed by _____

Request approved by D. J. Simbeck

Laboratory _____

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REQUEST FOR AND REPORT OF ANALYSIS

Date submitted 7-26-93 Laboratory No. _____

Date wanted _____

Date reported _____ Charge to account No. 4210-011300-85555GENERAL DESCRIPTION: Ammonia (CR-ERP test samples) from 7-24-93

Consignor's Number	Specific Description for Each Sample	p.3
RO Blank	pH = 6.2 @ 24°C 50mL sample preserved w/ 0.2 mL 1:4 H ₂ SO ₄	
Taylor's S.H	pH = 8.0 "	
PCM 6.0-A	pH = 7.6 "	
PCM 5.1 100-A	pH = 7.8 "	
PCM 5.1 50-A	pH = 7.7 "	
PCM 6.0-C	pH = 7.7 "	
PCM 5.1 100-C	pH = 7.8 "	
PCM 5.1 50-C	pH = 7.7 "	
Remarks, method, etc.:		

ANALYZE FOR

Lab. No.	Consignor's Number									

Requested by Daniel J. Simbeck

Notebook page _____

Address ARL-1A BFN

Analyzed by _____

Request approved by D. J. Simbeck

Laboratory _____

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REQUEST FOR AND REPORT OF ANALYSIS

Date submitted 7-26-93

Laboratory No. _____

Date wanted _____

Date reported _____

Charge to account No. 4210-011200-85555, iGENERAL DESCRIPTION: Ammonia (CR-ERP test samples) from 7-25-98

Consignor's Number	Specific Description for Each Sample	P. 4
RD Blank	pH = 5.7 @ 24°C 50 mL Sample preserved w/0.2 mL 1M H ₂ SO ₄	
Taylor's S.H	pH = 8.0 "	
Pcm 6.0-A	pH = 7.6 "	
SCM 5.1 100-A	pH = 7.8 "	
Pcm 5.1 50-A	pH = 7.7 "	
Pcm 6.0-C	pH = 7.7 "	
Pcm 5.1 100-C	pH = 7.7 "	
Pcm 5.1 50-C	pH = 7.7 "	
Remarks, method, etc.:		

ANALYZE FOR

Lab. No.	Consignor's Number									

Requested by Daniel J. Sinbeck

Notebook page _____

Address ARL-1A BEN

Analyzed by _____

Request approved by [Signature]

Laboratory _____

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REQUEST FOR AND REPORT OF ANALYSIS

Date submitted 7-26-93 Laboratory No. _____

Date wanted _____

Date reported _____ Charge to account No. 4210-011200-75555GENERAL DESCRIPTION: Ammonia (CR-ERP test samples) from 7-26-93

Consignor's Number	Specific Description for Each Sample	p. 5
RD Blank	pH = 5.6 @ 24°C 50 mL sample preserved w/0.2 mL 1:4 H ₂ O	
Taylor's Si-H	pH = 7.9 "	"
PCM 6.0-A	pH = 7.6 "	"
PCM 5.1 100-A	pH = 7.7 "	"
PCM 5.1 50-A	pH = 7.7 "	"
PCM 6.0-C	pH = 7.7 "	"
PCM 5.1 100-C	pH = 7.7 "	"
PCM 5.1 50-C	pH = 7.7 "	"
Remarks, method, etc.:		

ANALYZE FOR

Lab. No.	Consignor's Number									

Requested by Danien J Sambeth

Notebook page _____

Address ARL-1A BEN

Analyzed by _____

Request approved by D. J. Silv

Laboratory _____

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=====
| TVA Environmental Chemistry                      Chattanooga, Tennessee |
| 08/07/93                      FINAL DATA REPORT with MEMO                |
===== Page 1 =====

```

Lab Sample Number :93/07744 Project Leader :Larry O Hill

Sample ID Information :ARL RO WATER
 Sample comments :CR-ERP
 Sample type/matrix :WATER
 Sample collected by :D.J.S.
 Sample collection date :930722
 Sample login date :930727 Sample received by Lab :930727
 Sample account number :4210-011200-85555,7.LOHARLDJS
 Laboratory comments :ARL:PH=5.8; TEMP=24

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.05	mg/L
00619	Calc Union NH3 in Water	< 0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.061	mg NH3/L
-00630	Nitrate-Nitrite Nitrogen	< 0.01	mg/L

```

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| TVA Environmental Chemistry                      Chattanooga, Tennessee |
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```

```

S'INFO      : TAYLOR'S SILT                      SAMPLE      : 93/07745
S'CMT       : CR-ERP                          LOGDATE     : 930727
S'TYPE      : WATER                          DUE DATE    : 08/03/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR      P'LEAD      : @LOH

```

Lab Sample Number :93/07745 Project Leader :Larry O. Hill

```

Sample ID Information :TAYLOR'S SILT
Sample comments       :CR-ERP
Sample type/matrix    :WATER
Sample collected by   :D.J.S.
Sample collection date :930722
Sample login date     :930727                      Sample received by lab :930727
Sample account number :4210-011200-85555,7.LOHARLDJS
Laboratory comments   :ARL:PH=8.1; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.24	mg/L
00619	Calc Union NH3 in Water	0.021	mg NH3/L
NH3NH4'U	Calc NH3+NH4-NH3 Water	0.29	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.01	mg/L

```

=====
| TVA Environmental Chemistry          Chattanooga, Tennessee |
| 08/07/93                          FINAL DATA REPORT          |
===== Page 1 =====

```

```

S'INFO   : PCM 6.0-A          SAMPLE   : 93/07746
S'CMT    : CR-ERP            LOGDATE   : 930727
S'TYPE   : WATER             DUEDATE   : 08/03/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD   : @LOH

```

Lab Sample Number : 93/07746 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 6.0-A
Sample comments       : CR-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930722
Sample login date     : 930727      Sample received by lab : 930727
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : ARL:PH=7.6; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.24	mg/L
00619	Calc Union NH3 in Water	0.008	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.29	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.56	mg/L

```

=====
| TVA Environmental Chemistry          Chattanooga, Tennessee |
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===== Page 1 =====

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```

S'INFO   : PCM 5.1 100-A          SAMPLE   : 93/07747
S'CMT    : CR-ERP                LOGDATE   : 930727
S'TYPE   : WATER                 DUEDATE  : 08/03/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD  : @LOH

```

Lab Sample Number : 93/07747 Project Leader : Larry O Hill

```

Sample ID Information : PCM 5.1 100-A
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930722
Sample login date    : 930727      Sample received by lab : 930727
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.60	mg/L
00619	Calc Union NH3 in Water	0.025	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.73	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.59	mg/L

```

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```

S'INFO   : PCM 5.1 50-A          SAMPLE   : 93/07748
S'CHT    : CR-ERP                LOGDATE  : 930727
S'TYPE   : WATER                 DUEDATE  : 08/03/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD  : @LOH

```

Lab Sample Number 93/07748 Project Leader Larry O Hill

```

Sample ID Information : PCM 5.1 50-A
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930722
Sample login date    : 930727      Sample received by lab : 930727
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.30	mg/L
00619	Calc Union NH3 in Water	0.012	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.37	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.60	mg/L

=====

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S'INFO : PCM 6.0-C	SAMPLE : 93/07749
S'CMT : CR-ERP	LOGDATE : 930727
S'TYPE : WATER	DUE DATE : 08/03/93
ACT'NUHB : 4210-011200-85555,7 LOHAR	P'LEAD : 0LOH

Lab Sample Number : 93/07749 Project Leader : Larry O. Hill

Sample ID Information : PCM 6.0-C
Sample comments : CR-ERP
Sample type/matrix : WATER
Sample collected by : D.J.S.
Sample collection date : 930722
Sample login date : 930727 Sample received by lab : 930727
Sample account number : 4210-011200-85555,7.LOHAR.DJS
Laboratory comments : ARL:PH=7.6; TEMP=24

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.18	mg/L
00619	Calc Union NH3 in Water	0.006	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.22	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.54	mg/L

```

=====
| TVA Environmental Chemistry          Chattanooga, Tennessee |
| 08/07/93                          FINAL DATA REPORT          |
===== Page 1 =====

```

```

S'INFO : PCM 5.1 100-C          SAMPLE : 93/07750
S'CMT  : CR-ERP                 LOGDATE : 930727
S'TYPE : WATER                 DUE DATE : 08/03/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD : @LOH

```

Lab Sample Number : 93/07750 Project Leader : Larry O Hill

```

Sample ID Information : PCM 5.1 100-C
Sample comments       : CR-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930722
Sample login date     : 930727      Sample received by Lab : 930727
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.66	mg/L
00619	Calc Union NH3 in Water	0.027	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.81	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.55	mg/L

=====

TVA Environmental Chemistry	Chattanooga, Tennessee
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===== Page 1 =====	

S'INFO : PCM 5.1 50-C	SAMPLE : 93/07751
S'CMT : CR-ERP	LOGDATE : 930727
S'TYPE : WATER	DUE DATE : 09/03/93
ACT'NUMB : 4210-011200-85555,7.LOHAR	P'LEAD : @LOH

Lab Sample Number : 93/07751 Project Leader : Larry O. Hill

Sample ID Information : PCM 5.1 50-C
Sample comments : CR-ERP
Sample type/matrix : WATER
Sample collected by : D.J.S.
Sample collection date : 930722
Sample login date : 930727 Sample received by lab : 930727
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments : ARL:PH=7.7; TEMP=24

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.30	mg/L
00619	Calc Union NH3 in Water	0.012	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.37	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.63	mg/L

=====

TVA Environmental Chemistry	Chattanooga, Tennessee
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===== Page 1 =====

S'INFO : PCM 5.1 50-C PRECISION	SAMPLE : 93/07752
S'CMT : CR-ERP	LOGDATE : 930727
S'TYPE : WATER	DUE DATE : 08/03/93
ACT'NUMB : 4210-011200-85555,7.LOHAR	P'LEAD : @LOH

Lab Sample Number : 93/07752 Project Leader : Larry O. Hill

Sample ID Information : PCM 5.1 50-C PRECISION
Sample comments : CR-ERP
Sample type/matrix : WATER
Sample collected by : D.J.S.
Sample collection date : 930722
Sample login date : 930727 Sample received by lab : 930727
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments : ARL:PH=7.7; TEMP=24

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.30	mg/L
00619	Calc Union NH3 in Water	0.012	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.37	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.63	mg/L

```

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| TVA Environmental Chemistry          Chattanooga, Tennessee |
| 08/07/93                          FINAL DATA REPORT        11:38 |
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```

```

S'INFO      : ARL RO WATER          SAMPLE      : 93/07753
S'CMT       : CR-ERP                LOGDATE     : 930727
S'TYPE      : WATER                 DUEDATE     : 08/03/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR P'LEAD    : @LOH

```

Lab Sample Number : 93/07753 Project Leader : Larry O. Hill

```

Sample ID Information : ARL RO WATER
Sample comments       : CR-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930723
Sample login date     : 930727      Sample received by lab : 930727
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : ARL:PH=5.8; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	< 0.01	mg/L
00619	Calc Union NH3 in Water	< 0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	< 0.012	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	< 0.01	mg/L

```

=====
| TVA Environmental Chemistry          Chattanooga, Tennessee |
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                                           Page      1
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S'INFO      : TAYLOR'S SILT          SAMPLE      : 93/07754
S'CMT       : CR-ERP                LOGDATE     : 930727
S'TYPE      : WATER                 DUEDATE     : 08/03/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR P'LEAD     : @LOH

```

Lab Sample Number : 93/07754 Project Leader : Larry O. Hill

```

Sample ID Information : TAYLOR'S SILT
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930723
Sample login date    : 930727      Sample received by lab : 930727
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=8.0; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.15	mg/L
00619	Calc Union NH3 in Water	0.009	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.18	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.01	mg/L

```
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```
S'INFO      : PCM 6.0-A          SAMPLE      : 93/07755
S'CMT       : CR-ERP            LOGDATE     : 930727
S'TYPE      : WATER            DUEDATE    : 08/03/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR P'LEAD   : @LOH
```

Lab Sample Number :93/07755 Project Leader :Larry O. Hill

```
Sample ID Information :PCM 6.0-A
Sample comments       :CR-ERP
Sample type/matrix    :WATER
Sample collected by   :D.J.S.
Sample collection date :930723
Sample login date     :930727      Sample received by lab :930727
Sample account number :4210-011200-85555,7.LOHARLDJS
Laboratory comments   :ARL:PH=7.6; TEMP=24
```

Alt	IDC	Analysis Performed	result	units
00610		Ammonia Nitrogen	0.34	mg/L
00619		Calc Union NH3 in Water	0.011	mg NH3/L
NH3NH4'W		Calc NH3+NH4-NH3 Water	0.41	mg NH3/L
00630		Nitrate-Nitrite Nitrogen	0.34	mg/L

```

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S'INFO      : PCM 5.1 100-A          SAMPLE      : 93/07756
S'CMT       : CR-ERP                LOGDATE     : 930727
S'TYPE      : WATER                 DUEDATE    : 08/05/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR P'LEAD    : BLOH

```

Lab Sample Number : 93/07756 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1 100-A
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930723
Sample login date    : 930727      Sample received by lab : 930727
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=7.8; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.76	mg/L
00619	Calc Union NH3 in Water	0.037	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.93	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.20	mg/L

```

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```

S'INFO   : PCM 5.1  50-A          SAMPLE   : 93/07757
S'CMT    : CR-ERP                LOGDATE   : 930727
S'TYPE   : WATER                DUEDATE   : 08/03/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD   : 0LOH

```

Lab Sample Number : 93/07757 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1  50-A
Sample comments       : CR-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930723
Sample login date     : 930727      Sample received by lab : 930727
Sample account number : 4210-011200-85555,7.LOHARLD:IS
Laboratory comments   : ARL:PH=7.7; TEMP=24

```

```

-----
| Alt. IDC | Analysis Performed | result | units |
-----
00610      Ammonia Nitrogen      0.69    mg/L
00619      Calc Union NH3 in Water 0.028   mg NH3/L
NH3NH4'W    Calc NH3+NH4-NH3 Water 0.84    mg NH3/L
00630      Nitrate-Nitrite Nitrogen 0.26    mg/L

```

```

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```

S'INFO   : PCM 5.1 50-A PRECISION      SAMPLE   : 93/07758
S'CMT    : CR-ERP                      LOGDATE  : 930727
S'TYPE   : WATER                      DUE DATE : 08/07/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD   : @LOH

```

Lab Sample Number : 93/07758 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1 50-A PRECISION
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930723
Sample login date    : 930727          Sample received by Lab : 930727
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.69	mg/L
00619	Calc Union NH3 in Water	0.028	mg NH3/L
NH3NH4'U	Calc NH3+NH4-NH3 Water	0.84	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.26	mg/L

```

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```

S'INFO      : PCM 6.0-C                      SAMPLE      : 93/07759
S'CMT       : CR-EPP                        LOGDATE     : 930727
S'TYPE      : WATER                        DUEDATE     : 08/03/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR  P'LEAD      : @LOH

```

Lab Sample Number : 93/07759 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 6.0-C
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930723
Sample login date    : 930727      Sample received by lab : 930727
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.03	mg/L
00619	Calc Union NH3 in Water	0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.037	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.38	mg/L

```

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```

S'INFO      : PCM 5.1 100-C          SAMPLE      : 93/07760
S'CMT       : CR-ERP                LOGDATE     : 930727
S'TYPE      : WATER                 DUEDATE    : 08/03/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR P'LEAD     : @LOH

```

Lab Sample Number : 93/07760 Project Leader : Larry G. Hill

```

Sample ID Information : PCM 5.1 100-C
Sample comments       : CR-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930723
Sample login date     : 930727      Sample received by lab : 930727
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : ARL:PH=7.7; TEMP=24

```

Alt	IDC	Analysis Performed	result	units
00610		Ammonia Nitrogen	0.05	mg/L
00619		Calc Union NH3 in Water	0.002	mg NH3/L
NH3NH4'U		Calc NH3+NH4-NH3 Water	0.061	mg NH3/L
00630		Nitrate-Nitrite Nitrogen	0.62	mg/L

=====

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S'INFO : PCM 5.1 50-C	SAMPLE : 93/07761
S'CMT : CR-ERP	LOGDATE : 930727
S'TYPE : WATER	DUE DATE : 08/03/93
ACT'NUMB : 4210-011200-85555,7.LOHAR	P'LEAD : @LOH

Lab Sample Number : 93/07761 Project Leader : Larry O Hill

Sample ID Information : PCM 5.1 50-C

Sample comments : CR-ERP

Sample type/matrix : WATER

Sample collected by : D.J.S.

Sample collection date : 930723

Sample login date : 930727 Sample received by lab : 930727

Sample account number : 4210-011200-85555,7.LOHARLDJS

Laboratory comments : ARL:PH=7.7; TEMP=24

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.02	mg/L
00619	Calc Union NH3 in Water	0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.024	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.38	mg/L

```

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```

S'INFO      : ARL RO-WATER          SAMPLE      : 93/07762
S'CMT       : CR-ERP                LOGDATE     : 930727
S'TYPE      : WATER                 DUEDATE    : 08/03/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR P'LEAD    : @LOH

```

Lab Sample Number : 93/07762 Project Leader : Larry O Hill

```

Sample ID Information : ARL RO-WATER
Sample comments       : CR-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930724
Sample login date     : 930727      Sample received by lab : 930727
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : ARL:PH=6.2; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	< 0.01	mg/L
00619	Calc Union NH3 in Water	< 0.001	mg NH3/L
NH3NH4'U	Calc NH3+NH4-NH3 Water	< 0.012	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	< 0.01	mg/L

=====

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S'INFO	: TAYLOR'S SILT	SAMPLE	: 93/07763
S'CMT	: CR-ERP	LOGDATE	: 930727
S'TYPE	: WATER	DUE DATE	: 09/03/93
ACT'NUHR	: 4210-011200-85555,7.LOHAR	P'LEAD	: @LOH

Lab Sample Number : 93/07763 Project Leader : Larry G. Hill

Sample ID Information : TAYLOR'S SILT

Sample comments : CR-ERP

Sample type/matrix : WATER

Sample collected by : D.J.S.

Sample collection date : 930724

Sample login date : 930727 Sample received by lab : 930727

Sample account number : 4210-011200-85555,7.LOHARLDJS

Laboratory comments : ARL:PH=2.0; TEMP=24

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.16	mg/L
00619	Calc Union NH3 in Water	0.010	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.20	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.02	mg/L

=====

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S'INFO	: TAYLOR'S SILT PRECISION	SAMPLE	: 9307764
S'CMT	: CR-ERP	LOGDATE	: 930727
S'TYPE	: WATER	DUE DATE	: 08/24/93
ACT'NUMB	: 4210-011200-85555,7.LOHAR	P'LEAD	: 42100

Lab Sample Number : 9307764 Project Leader : Larry D. Hill

Sample ID Information : TAYLOR'S SILT PRECISION

Sample comments : CR-ERP

Sample type/matrix : WATER

Sample collected by : D.J.S.

Sample collection date : 930724

Sample login date : 930727 Sample received by lab : 930727

Sample account number : 4210-011200-85555,7.LOHARLOIS

Laboratory comments : ARL:PH=8.0; TEMP=24

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.17	mg/L
00619	Calc Union NH3 in Water	0.011	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.21	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.02	mg/L

=====

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S'INFO : PCH 6.0-A	SAMPLE : 9307765
S'CHT : CR-ERP	LOGDATE : 930727
S'TYPE : WATER	DUE DATE : 09/03/93
ACT'NUMB : 4210-011200-85555,7.LOHAR	P'LEAD : BLON

Lab Sample Number : 93/07765 Project Leader : Larry O Hill

Sample ID Information : PCH 6.0-A

Sample comments : CR-ERP

Sample type/matrix : WATER

Sample collected by : D.J.S.

Sample collection date : 930724

Sample login date : 930727 Sample received by lab : 930727

Sample account number : 4210-011200-85555,7.LOHAR/DJS

Laboratory comments : ARL:PH=7.6; TEMP=24

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.39	mg/L
00619	Calc Union NH3 in Water	0.012	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.46	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.31	mg/L

```

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S'INFO      : PCM 5.1 100-A          SAMPLE      9307766
S'CHT       : CR-ERP                 LOGDATE     930727
S'TYPE      : WATER                 DUEDATE     980329
ACT'NUMR    : 4210-011200-85555,7.LOHAR P'LEAD     8000

```

Lab Sample Number : 9307766 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1 100-A
Sample comments       : CR-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930724
Sample login date     : 930727      Sample received by lab : 930727
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : APL:PH=7.8; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	1.2	mg/L
00619	Calc Union NH3 in Water	0.059	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	1.5	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.18	mg/L

```

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S'INFO      : PCN 5.1 100-A PRECISION      SAMPLE      : 9307767
S'CHT       : CR-EFF                      LOGDATE     : 930727
S'TYPE      : WATER                      DUEDATE     : 98-07/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR  P'LEAD      : RLOH

```

Lab Sample Number : 9307767 Project Leader : LARRY O. HILL

```

Sample ID information : PCN 5.1 100-A PRECISION
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930724
Sample login date    : 930727      Sample received by lab : 930727
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : APL:PH=7.8; TEMP=24

```

Alt	IDC	Analysis Performed	result	units
00610		Ammonia Nitrogen	1.2	mg/L
00612		Calc Union NH3 in Water	0.059	mg NH3/L
NH3NH4'W		Calc NH3+NH4-NH3 Water	1.5	mg NH3/L
00630		Nitrate-Nitrite Nitrogen	0.19	mg/L

=====

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S'INFO : PCM 5.1 50-A	SAMPLE : 93/07768
S'CMT : CR-ERP	LOGDATE : 930727
S'TYPE : WATER	DUE DATE : 08/03/93
ACT'NUMB : 4210-011200-85555,7.LOHAR	P'LEAD : @LOH

Lab Sample Number : 93/07768 Project Leader : Larry O Hill

Sample ID Information : PCM 5.1 50-A

Sample comments : CR-ERP

Sample type/matrix : WATER

Sample collected by : D.J.S.

Sample collection date : 930724

Sample login date : 930727 Sample received by lab : 930727

Sample account number : 4210-011200-85555,7.LOHARLDJS

Laboratory comments : ARL:PH=7.7; TEMP=24

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.68	mg/L
00619	Calc Union NH3 in Water	0.028	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.83	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.25	mg/L

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S'INFO      : PCM 6 0-C                      SAMPLE      : 9307769
S'CMT       : CR-ERP                          LOGDATE      : 930727
S'TYPE      : WATER                          DUE DATE     : 08-03-93
ACT'NUMB    : 4210-011200-85555,7.LOHAR    P'LEAD       : @LOH

```

Lab Sample Number : 9307769 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 6 0-C
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930724
Sample login date    : 930727      Sample received by lab 930727
Sample account number : 4210-011200-85555,7.LOHARLOJS
Laboratory comments  : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	< 0.01	mg/L
00619	Calc Union NH3 in Water	< 0.001	mg NH3/L
NH3NH4'U	Calc NH3+NH4-NH3 Water	< 0.012	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.26	mg/L

```

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S'INFO      : PCM 5.1 100-C          SAMPLE      : 93/07770
S'CMT       : CP-ERP                LOGDATE     : 930727
S'TYPE      : WATER                 DUEDATE    : 08/03/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR P'LEAD    : @LOH

```

Lab Sample Number : 93/07770 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1 100-C
Sample comments       : CP-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930724
Sample login date     : 930727      Sample received by lab : 930727
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : ARL:PH=7.8; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.02	mg/L
00619	Calc Union NH3 in Water	0.001	mg NH3/L
NH3NH4'U	Calc NH3+NH4-NH3 Water	0.024	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.38	mg/L

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S'INFO	: PCM 5.1 50-C	SAMPLE	: 9307771
S'CMT	: CR-ERP	LOGDATE	: 930727
S'TYPE	: WATER	DUE DATE	: 08/03/93
ACT'NUMB	: 4210-011200-85555,7.LOHAR	P'LEAD	: @LOH

Lab Sample Number :9307771 Project Leader :Larry O. Hill

Sample ID Information :PCM 5.1 50-C

Sample comments :CR-ERP

Sample type/matrix :WATER

Sample collected by :D.J.S.

Sample collection date :930724

Sample login date :930727 Sample received by lab :930727

Sample account number :4210-011200-85555,7.LOHARLDJS

Laboratory comments :ARL:PH=7.7; TEMP=24

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.01	mg/L
00619	Calc Union NH3 in Water	< 0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.012	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.26	mg/L

```

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```

S'INFO      : ARL RO WATER                      SAMPLE      : 93/07772
S'CMT       : CR-ERP                          LOGDATE     : 930727
S'TYPE      : WATER                          DUEDATE     : 08/03/93
ACT'NUHB    : 4210-011200-85555,7.LOHAR      P'LEAD      : @LOH

```

Lab Sample Number :93/07772 Project Leader :Larry O. Hill

```

Sample ID Information :ARL RO WATER
Sample comments       :CR-ERP
Sample type/matrix    :WATER
Sample collected by   :D.J.S.
Sample collection date :930725
Sample login date     :930727                      Sample received by lab :930727
Sample account number :4210-011200-85555,7.LOHARLDJS
Laboratory comments   :ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	< 0.01	mg/l
00619	Calc Union NH3 in Water	< 0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	< 0.012	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	< 0.01	mg/L

=====

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S'INFO	: TAYLOR'S SILT	SAMPLE	: 93/07773
S'CMT	: CR-ERP	LOGDATE	: 930727
S'TYPE	: WATER	DUE DATE	: 08/03/93
ACT'NUMB	: 4210-011200-85555,7 LOHAR	P'LEAD	: @LOH

Lab Sample Number : 93/07773 Project Leader : Larry O. Hill

Sample ID Information : TAYLOR'S SILT

Sample comments : CR-ERP

Sample type/matrix : WATER

Sample collected by : D.J.S.

Sample collection date : 930725

Sample login date : 930727 Sample received by lab : 930727

Sample account number : 4210-011200-85555,7.LOHARLOIS

Laboratory comments : ARL:PH=8.0; TEMP=24

Alt. ID	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.18	mg/L
00619	Calc Union NH3 in Water	0.011	mg NH3/L
NH3NH4'U	Calc NH3+NH4-NH3 Water	0.22	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.03	mg/L

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S'INFO : PCM 6.0-A	SAMPLE : 93/07774
S'CMT : CR-ERP	LOGDATE : 930727
S'TYPE : WATER	DUE DATE : 08/03/93
ACT'NUMB : 4210-011200-85555,7.LOHAR	P'LEAD : @LOH

Lab Sample Number : 93/07774 Project Leader : Larry O Hill

Sample ID Information : PCM 6.0-A

Sample comments : CR-ERP

Sample type/matrix : WATER

Sample collected by : D.J.S.

Sample collection date : 930725

Sample login date : 930727 Sample received by Lab : 930727

Sample account number : 4210-011200-85555,7.LOHARLDJS

Laboratory comments : ARL:PH=7.6; TEMP=24

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.42	mg/L
00619	Calc Union NH3 in Water	0.013	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.51	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.35	mg/L

```

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```

S'INFO      : PCM 6.0-A PRECISION      SAMPLE      : 93/07775
S'CMT       : CR-ERP                   LOGDATE     : 930727
S'TYPE      : WATER                     DUEDATE     : 09/03/93
ACT'NUMB    : 4210-011200-85555,7 LOHAR P'LEAD     : BLOH

```

Lab Sample Number : 93/07775 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 6.0-A PRECISION
Sample comments       : CR-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930725
Sample login date     : 930727          Sample received by lab : 930727
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : ARL:PH=7.6; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.42	mg/L
00619	Calc Union NH3 in Water	0.013	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.51	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.35	mg/L

```

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```

S'INFO      : PCM 5.1 100-A                      SAMPLE      : 93/07776
S'CMT       : CR-ERP                              LOGDATE     : 930727
S'TYPE      : WATER                              DUEDATE     : 08/03/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR        P'LEAD      : @LOH

```

Lab Sample Number : 93/07776 Project Leader : Larry D Hill

```

Sample ID Information : PCM 5.1 100-A
Sample comments       : CR-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930725
Sample login date     : 930727      Sample received by Lab : 930727
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : ARL:PH=7.8; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia-Nitrogen	1.1	mg/L
00619	Calc Union NH3 in Water	0.054	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	1.3	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.23	mg/L

=====

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S'INFO : PCM 5.1 50-A	SAMPLE : 93/07777
S'CMT : CR-ERP	LOGDATE : 930727
S'TYPE : WATER	DUE DATE : 08/03/93
ACT'NUMB : 4210-011200-85555,7.LOHAR	P'LEAD : @LOH

Lab Sample Number : 93/07777 Project Leader : Larry O Hill

Sample ID Information : PCM 5.1 50-A

Sample comments : CR-ERP

Sample type/matrix : WATER

Sample collected by : D.J.S.

Sample collection date : 930725

Sample login date : 930727 Sample received by lab : 930727

Sample account number : 4210-011200-85555,7.LOHARLDJS

Laboratory comments : ARL:PH=7.7; TEMP=24

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.70	mg/L
00619	Calc Union NH3 in Water	0.029	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.85	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.25	mg/L

=====

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S'INFO : PCM 6.0-C	SAMPLE : 93/07778
S'CMT : CR-ERP	LOGDATE : 930727
S'TYPE : WATER	DUE DATE : 08/03/93
ACT'NUMB : 4210-011200-85555,7 LOHAR	P'LEAD : @LOH

Lab Sample Number : 93/07778 Project Leader : Larry O Hill

Sample ID Information : PCM 6.0-C

Sample comments : CR-ERP

Sample type/matrix : WATER

Sample collected by : D.J.S.

Sample collection date : 930725

Sample login date : 930727 Sample received by Lab : 930727

Sample account number : 4210-011200-85555,7 LOHARLDJS

Laboratory comments : ARL:PH=7.7; TEMP=24

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.03	mg/L
00619	Calc Union NH3 in Water	0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.037	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.30	mg/L

=====

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S'INFO : PCN 100-C	SAMPLE : 93/07779
S'CMT : CR-ERP	LOGDATE : 930727
S'TYPE : WATER	DUE DATE : 08/03/93
ACT'NUMB : 4210-011200-85555,7.LOHAR	P'LEAD : @LOH

Lab Sample Number : 93/07779 Project Leader : Larry O Hill

Sample ID information : PCN 100-C

Sample comments : CR-ERP

Sample type/matrix : WATER

Sample collected by : D.J.S.

Sample collection date : 930725

Sample login date : 930727 Sample received by lab : 930727

Sample account number : 4210-011200-85555,7.LOHARLDJS

Laboratory comments : ARL:PH=7.7; TEMP=24

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.02	mg/L
00619	Calc Union NH3 in Water	0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.024	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.38	mg/L

```

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```

S'INFO      : PCM 50-C                      SAMPLE      : 93/07780
S'CMT       : CR-ERP                      LOGDATE     : 930727
S'TYPE      : WATER                      DUEDATE     : 08/03/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR  P'LEAD      : 01.01

```

Lab Sample Number : 93/07780 Project Leader : Larry O Hill

```

Sample ID Information : PCM 50-C
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930725
Sample login date    : 930727      Sample received by lab : 930727
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen ———	0.02	mg/L
00619	Calc Union NH3 in Water	0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.024	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.31	mg/L

```

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```

S'INFO      : ARL RO WATER                      SAMPLE      : 93/07781
S'CMT       : CR-ERP                          LOGDATE     : 930727
S'TYPE      : WATER                          DUEDATE     : 08/03/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR      P'LEAD      : 0100

```

Lab Sample Number :93/07781 Project Leader :Larry O. Hill

```

Sample ID Information :ARL RO WATER
Sample comments      :CR-ERP
Sample type/matrix   :WATER
Sample collected by  :O.J.S.
Sample collection date :930726
Sample login date    :930727                      Sample received by lab :930727
Sample account number :4210-011200-85555,7.LOHARLDJ5
Laboratory comments  :ARL:PH=5.6; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	< 0.01	mg/L
00619	Calc Union NH3 in Water	< 0.001	mg NH3/L
NH3NH4+D	Calc NH3+NH4-NH3 Water	< 0.012	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	< 0.01	mg/L

=====

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S'INFO : TAYLOR'S SILT	SAMPLE : 93/07782
S'CMT : CR-ERP	LOGDATE : 930727
S'TYPE : WATER	DUEDATE : 09/03/93
ACT'NUMB : 4210-011200-85555,7.LOHAR	P'LEAD : BLOH

Lab Sample Number : 93/07782 Project Leader : Larry O. Hill

Sample ID Information : TAYLOR'S SILT

Sample comments : CR-ERP

Sample type/matrix : WATER

Sample collected by : D.J.S.

Sample collection date : 930726

Sample login date : 930727 Sample received by Lab : 930727

Sample account number : 4210-011200-85555,7.LOHARLDJS

Laboratory comments : ARL:PH=7.9; TEMP=24

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.21	mg/L
00619	Calc Union NH3 in Water	0.012	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.26	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.05	mg/L

=====

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S'INFO : PCN 6 0 A	SAMPLE : 93/07783
S'CMT : CR-ERP	LOGDATE : 930727
S'TYPE : WATER	DUE DATE : 09/03/93
ACT'NUMB : 4210-011200-85555,7.LOHAR	P'LEAD : @LOH

Lab Sample Number : 93/07783 Project Leader : Larry D. Hill

Sample ID Information : PCN 6 0 A

Sample comments : CR-ERP

Sample type/matrix : WATER

Sample collected by : D.J.S.

Sample collection date : 930726

Sample login date : 930727 Sample received by lab : 930727

Sample account number : 4210-011200-85555,7.LOHARLDJS

Laboratory comments : ARL:PH=7.6; TEMP=24

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.38	mg/L
00619	Calc Union NH3 in Water	0.012	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.46	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.38	mg/L

=====

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S'INFO	: PCM 5.1 100-A	SAMPLE	: 9307784
S'CHT	: CR-ERP	LOGDATE	: 930727
S'TYPE	: WATER	DUE DATE	: 09/03/93
ACT'NUMB	: 4210-011200-95555,7.LOHAR	P'LEAD	: 00.00

Lab Sample Number : 9307784 Project Leader : Larry O. Hill

Sample ID Information : PCM 5.1 100-A

Sample comments : CR-ERP

Sample type/matrix : WATER

Sample collected by : D.J.S.

Sample collection date : 930726

Sample login date : 930727 Sample received by lab : 930727

Sample account number : 4210-011200-95555,7.LOHARLDJS

Laboratory comments : ARL:PH=7.7; TEMP=24

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	1.2	mg/L
00619	Calc Union NH3 in Water	0.049	mg NH3/L
NH3NH4'U	Calc NH3+NH4-NH3 Water	1.5	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.22	mg/L

S'INFO : PCM 5.1 50-A	SAMPLE : 93/07785
S'CMT : CR-ERP	LOGDATE : 930727
S'TYPE : WATER	DUE DATE : 08/03/93
ACT'NUMB : 4210-011200-85555.7 LOHAR	P'LEAD : @LOH

Lab Sample Number : 93/07785 Project Leader : Larry O. Hill

Sample ID information : PCM 5.1 50-A -

Sample comments : CR-ERP

Sample type/matrix : WATER

Sample collected by : D.J.S.

Sample collection date : 930726

Sample login date : 930727 Sample received by lab : 930727

Sample account number : 4210-011200-85555.7.LOHARLOJS

Laboratory comments : ARL:PH=7.7, TEMP=24

Alt	IDC	Analysis Performed	result	units
00610		Ammonia Nitrogen	0.76	mg/L
00619		Calc Union NH3 in Water	0.031	mg NH3/L
NH3NH4'U		Calc NH3+NH4-NH3 Water	0.93	mg NH3/L
00630		Nitrate-Nitrite Nitrogen	0.28	mg/L

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S'INFO	: PCM 6.0-C	SAMPLE	: 93/07786
S'CMT	: CR-ERP	LOGDATE	: 930727
S'TYPE	: WATER	DUE DATE	: 08/03/93
ACT'NUMB	: 4210-011200-85555,7 LOHAR	P'LEAD	: @LOH

Lab Sample Number : 93/07786 Project Leader : Larry D. Hill

Sample ID Information : PCM 6.0-C

Sample comments : CR-ERP

Sample type/matrix : WATER

Sample collected by : D.J.S.

Sample collection date : 930726

Sample login date : 930727 Sample received by lab : 930727

Sample account number : 4210-011200-85555,7.LOHARLOIS

Laboratory comments : ARL:PH=7.7; TEMP=24

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.02	mg/L
00619	Calc Union NH3 in Water	0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4--NH3 Water	0.024	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.36	mg/L

=====

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S'INFO : PCM 5.1 100-C	SAMPLE : 93/07787
S'CMT : CR-ERP	LOGDATE : 930727
S'TYPE : WATER	DUE DATE : 09/03/93
ACT'NUMB : 4210-011200-85555.7.LOHAR	P'LEAD : @LOH

Lab Sample Number : 93/07787 Project Leader : Larry O. Hill

Sample ID Information : PCM 5.1 100-C

Sample comments : CR-ERP

Sample type/matrix : WATER

Sample collected by : D.J.S.

Sample collection date : 930726

Sample login date : 930727 Sample received by lab : 930727

Sample account number : 4210-011200-85555.7.LOHARLOJS

Laboratory comments : ARL:PH=7.7; TEMP=24

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.03	mg/L
00619	Calc Union NH3 in Water	0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.037	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.41	mg/L

S'INFO	: PCM S.I 100-C PRECISION	SAMPLE	: 93/07788
S'CHT	: CR-ERP	LOGDATE	: 930727
S'TYPE	: WATER	DUE DATE	: 08/03/93
ACT'NUHE	: 4210-011200-85555.7.1 OHAR	P'LEAD	: @10H

Lab Sample Number : 93/07788 Project Leader : Larry O. Hill

Sample ID Information : PCM S.I 100-C PRECISION

Sample comments : CR-ERP

Sample type/matrix : WATER

Sample collected by : D.J.S.

Sample collection date : 930726

Sample login date : 930727 Sample received by lab : 930727

Sample account number : 4210-011200-85555.7.LOHARLOIS

Laboratory comments : ARL:PH=7.7; TEMP=24

Alt	IDC	Analysis Performed	result	units
00610		Ammonia Nitrogen	0.03	mg/L
00619		Calc Union NH3 in Water	0.001	mg NH3/L
NH3NH4'W		Calc NH3+NH4-NH3 Water	0.037	mg NH3/L
00630		Nitrate-Nitrite Nitrogen	0.41	mg/L

=====

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SCINUM	PCH 5.1 50-C	SAMPLE	93-07789
SICH	CR-ERP	LOGDATE	930727
SITYPE	WATER	BUEDATE	93-07-27
ACTHUBIP	4210-011200-9555.7.10HARLDIS	FILEAD	9307

Lab Sample Number: 93-07789 Project leader: J. J. J. J.

Sample ID information: PCH 5.1 50-C
 Sample comments: CR-ERP
 Sample type/matrix: WATER
 Sample collected by: D. J. S.
 Sample collection date: 930726
 Sample login date: 930727 Sample received by lab: 930727
 Sample account number: 4210-011200-9555.7.10HARLDIS
 Laboratory comments: ARL:PH=7.7; TEMP=24

	Alt	IDC		Analysis Performed		result		units	
--	-----	-----	--	--------------------	--	--------	--	-------	--

00610	Ammonia Nitrogen	0.02	mg/L
00619	Calc. Union NH3 in Water	0.001	mg NH3/L
NH3NH4 ⁺	Calc. NH3+NH4-NH3 Water	0.024	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.36	mg/L

REQUEST FOR AND REPORT OF ANALYSIS

Date submitted 8-2-93

Laboratory No. _____

Date wanted _____

Date reported _____

Charge to account No. 4210-011200-85555GENERAL DESCRIPTION: Ammonia (CR-ERP test samples) from 7-27-93

Consignor's Number	Specific Description for Each Sample
RD Water	pH = 5.6 @24°C 50 mL Sample preserved w/0.2 mL 1:4 H ₂ SO ₄ p. 1
Taylor's Silt	pH = 8.0 "
PCM 6.0-A	pH = 7.6 "
PCM 5.1 WD-A	pH = 7.7 "
PCM 5.1 SD-A	pH = 7.7 "
PCM 6.0-C	pH = 7.7 "
PCM 5.1 WD-C	pH = 7.7 "
PCM 5.1 SD-C	pH = 7.7 "
Remarks, method, etc.:	

ANALYZE FOR

Lab. No.	Consignor's Number									

Requested by Damien J. Simbeck

Notebook page _____

Address ARL 1A - BFN

Analyzed by _____

Request approved by [Signature]

Laboratory _____

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729-4549

Laboratory No. _____

.....

Charge to account No. 4210-011200-85555 ,7

GENERAL DESCRIPTION: Ammonia (CR-ERI Test Samples) from 7-28-93

Consignor's Number	Specific Description for Each Sample
RD Water	pH = 5.6 @ 24°C 50 mL Sample preserved w/ 0.2 mL 1:4 H ₂ SO ₄ p. 2
Taylor's Silt	pH = 8.0 " "
PCM 6.0-A	pH = 7.6 " "
PCM 5.1 100-A	pH = 7.7 " "
PCM 5.1 50-A	pH = 7.7 " "
PCM 6.0-C	pH = 7.7 " "
PCM 5.1 100-C	pH = 7.7 " "
PCM 6.1 50-C	pH = 7.7 " "
Remarks, method, etc.: Note: preserved w/ 0.02 mL Acid on 7/28. 0.18 mL added on 7/29	

ANALYZE FOR

[illegible]

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Analyzed by _____

Laboratory

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Laboratory No. _____

.....

Charge to account No. 4210-011200-85555, 7

GENERAL DESCRIPTION: Ammonia (CERP test samples) from 7-30-93

Consignor's Number	Specific Description for Each Sample
RD water	pH = 5.7 @ 24°C 50 mL Sample preserved w/ 0.2 mL 15% H ₂ SO ₄
Paylor's Site	pH = 8.0 " "
PCN 6.0-A	pH = 7.6 " "
PCN 5.1 100-A	pH = 7.7 " "
PCN 5.1 50-A	pH = 7.6 " "
PCN 6.0-C	pH = 7.7 " "
PCN ⁵¹ 100-C	pH = 7.7 " "
PCN 5.1 50-C	pH = 7.7 " "
Remarks, method, etc.:	

ANALYZE FOR

Lab. No.	Consignor's Number									

RECEIVED
LWB
22 AUG 3 411:23
LABORATORY BRANCH

Notebook page _____

Analyzed by _____

Laboratory

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```

S'INFO   : ARL RO WATER          SAMPLE   : 93/08339
S'CMT    : CR-ERP                LOGDATE  : 930803
S'TYPE   : WATER                 DUEDATE  : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD  : @LOH

```

Lab Sample Number : 93/08339 Project Leader : Larry O. Hill

```

Sample ID Information : ARL RO WATER
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by   : D.J.S.
Sample collection date : 930727
Sample login date    : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=5.6; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	< 0.01	mg/L
00619	Calc Union NH3 in Water	< 0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	< 0.012	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	< 0.01	mg/L

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```

S'INFO   : TAYLOR'S SILT          SAMPLE   : 93/08340
S'CMT    : CR-ERP                LOGDATE  : 930803
S'TYPE   : WATER                 DUE DATE : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD  : @LOH

```

Lab Sample Number : 93/08340 Project Leader : Larry O. Hill

```

Sample ID Information : TAYLOR'S SILT
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930727
Sample login date    : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=8.0; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.20	mg/L
00619	Calc Union NH3 in Water	0.012	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.24	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.08	mg/L

```

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```

S'INFO   : PCM 6.0-A          SAMPLE   : 93/08341
S'CMT    : CR-ERP            LOGDATE  : 930803
S'TYPE   : WATER             DUE DATE : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD : @LOH

```

Lab Sample Number : 93/08341 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 6.0-A
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930727
Sample login date    : 930803   Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=7.6; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.31	mg/L
00619	Calc Union NH3 in Water	0.010	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.38	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.57	mg/L

```

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```

S'INFO   : PCM 5.1 100-A          SAMPLE   : 93/08342
S'CMT    : CR-ERP                LOGDATE  : 930803
S'TYPE   : WATER                DUEDATE  : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD  : @LOH

```

Lab Sample Number : 93/08342 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1 100-A
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930727
Sample login date    : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.77	mg/L
00619	Calc Union NH3 in Water	0.032	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.94	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.58	mg/L

```

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```

S'INFO      : PCM 5.1 50-A                SAMPLE      : 93/08343
S'CMT       : CR-ERP                      LOGDATE     : 930803
S'TYPE      : WATER                      DUEDATE     : 08/10/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR P'LEAD      : @LOH

```

Lab Sample Number : 93/08343 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1 50-A
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930727
Sample login date    : 930803           Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.54	mg/L
00619	Calc Union NH3 in Water	0.022	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.66	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.48	mg/L

```

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```

```

S'INFO      : PCM 6.0-C          SAMPLE      : 93/08344
S'CMT       : CR-ERP            LOGDATE     : 930803
S'TYPE      : WATER             DUEDATE    : 08/10/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR P'LEAD   : @LOH

```

Lab Sample Number :93/08344 Project Leader :Larry O. Hill

```

Sample ID Information :PCM 6.0-C
Sample comments      :CR-ERP
Sample type/matrix   :WATER
Sample collected by  :D.J.S.
Sample collection date :930727
Sample login date    :930803      Sample received by lab :930803
Sample account number :4210-011200-85555,7.LOHARLDJS
Laboratory comments  :ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.02	mg/L
00619	Calc Union NH3 in Water	0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.024	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.32	mg/L

```

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```

```

S'INFO      : PCM 5.1 100-C          SAMPLE      : 93/08345
S'CMT       : CR-ERP                LOGDATE     : 930803
S'TYPE      : WATER                 DUEDATE    : 08/10/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR P'LEAD     : @LOH

```

Lab Sample Number : 93/08345 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1 100-C
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930727
Sample login date    : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.02	mg/L
00619	Calc Union NH3 in Water	0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.024	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.37	mg/L

```

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```

```

S'INFO   : PCM 5.1 50-C          SAMPLE   : 93/08346
S'CMT    : CR-ERP                LOGDATE  : 930803
S'TYPE   : WATER                 DUEDATE  : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD  : @LOH

```

Lab Sample Number : 93/08346 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1 50-C
Sample comments       : CR-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930727
Sample login date     : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.02	mg/L
00619	Calc Union NH3 in Water	0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.024	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.34	mg/L

```

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```

```

S'INFO   : PCM 5.1 50-C PRECISION      SAMPLE   : 93/08347
S'CMT    : CR-ERP                      LOGDATE  : 930803
S'TYPE   : WATER                      DUE DATE : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD   : @LOH

```

Lab Sample Number :93/08347 Project Leader :Larry O. Hill

```

Sample ID Information :PCM 5.1 50-C PRECISION
Sample comments      :CR-ERP
Sample type/matrix   :WATER
Sample collected by  :D.J.S.
Sample collection date :930727
Sample login date    :930803           Sample received by lab :930803
Sample account number :4210-011200-85555,7.LOHARLDJS
Laboratory comments  :ARL:PH=7.7; TEMP=24

```

```

-----
| Alt. IDC | Analysis Performed | result | units |
-----
00610      Ammonia Nitrogen      0.02    mg/L
00619      Calc Union NH3 in Water 0.001   mg NH3/L
NH3NH4'W    Calc NH3+NH4-NH3 Water 0.024   mg NH3/L
00630      Nitrate-Nitrite Nitrogen 0.34    mg/L

```

```

S'INFO   : ARL RO WATER          SAMPLE   : 93/08348
S'CMT    : CR-ERP                LOGDATE  : 930803
S'TYPE   : WATER                 DUEDATE  : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD  : @LOH

```

Lab Sample Number :93/08348 Project Leader :Larry O. Hill

```

Sample ID Information :ARL RO WATER
Sample comments      :CR-ERP
Sample type/matrix   :WATER
Sample collected by  :D.J.S.
Sample collection date :930728
Sample login date    :930803      Sample received by lab :930803
Sample account number :4210-011200-85555,7.LOHARLDJS
Laboratory comments  :ARL:PH=5.6; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	< 0.01	mg/L
00619	Calc Union NH3 in Water	< 0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.012	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	< 0.01	mg/L

```

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```

```

S'INFO      : TAYLOR'S SILT          SAMPLE      : 93/08349
S'CMT       : CR-ERP                LOGDATE     : 930803
S'TYPE      : WATER                 DUEDATE     : 08/10/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR P'LEAD     : @LOH

```

Lab Sample Number : 93/08349 Project Leader : Larry O. Hill

```

Sample ID Information : TAYLOR'S SILT
Sample comments       : CR-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930728
Sample login date     : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : ARL:PH=8.0; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.15	mg/L
00619	Calc Union NH3 in Water	0.009	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.18	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.13	mg/L

```

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```

```

S'INFO      : PCM 6.0-A                      SAMPLE      : 93/08350
S'CMT       : CR-ERP                        LOGDATE     : 930803
S'TYPE      : WATER                        DUEDATE     : 08/10/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR  P'LEAD      : @LOH

```

Lab Sample Number : 93/08350 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 6.0-A
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930728
Sample login date    : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=7.6; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.40	mg/L
00619	Calc Union NH3 in Water	0.013	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.49	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.41	mg/L

```

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```

```

S'INFO      : PCM 5.1 100-A          SAMPLE      : 93/08351
S'CMT       : CR-ERP                LOGDATE     : 930803
S'TYPE      : WATER                 DUEDATE     : 08/10/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR P'LEAD     : @LOH

```

Lab Sample Number : 93/08351 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1 100-A
Sample comments       : CR-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930728
Sample login date     : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	1.1	mg/L
00619	Calc Union NH3 in Water	0.045	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	1.3	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.29	mg/L

```

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```

```

S'INFO   : PCM 5.1 50-A          SAMPLE   : 93/08352
S'CMT    : CR-ERP                LOGDATE  : 930803
S'TYPE   : WATER                 DUEDATE  : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD  : @LOH

```

Lab Sample Number : 93/08352 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1 50-A
Sample comments       : CR-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930728
Sample login date     : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.77	mg/L
00619	Calc Union NH3 in Water	0.032	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.94	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.33	mg/L

```

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```

```

S'INFO   : PCM 5.1 50-A PRECISION      SAMPLE   : 93/08353
S'CMT    : CR-ERP                     LOGDATE  : 930803
S'TYPE   : WATER                      DUEDATE  : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD   : @LOH

```

Lab Sample Number : 93/08353 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1 50-A PRECISION
Sample comments       : CR-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930728
Sample login date     : 930803          Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : ARL:PH=7.7; TEMP=24

```

```

-----
| Alt. IDC | Analysis Performed | result | units |
-----
00610      Ammonia Nitrogen      0.76    mg/L
00619      Calc Union NH3 in Water 0.031   mg NH3/L
NH3NH4'W   Calc NH3+NH4-NH3 Water 0.93    mg NH3/L
00630      Nitrate-Nitrite Nitrogen 0.33    mg/L

```

```

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```

S'INFO      : PCM 6.0-C                      SAMPLE      : 93/08354
S'CMT       : CR-ERP                        LOGDATE     : 930803
S'TYPE      : WATER                        DUEDATE     : 08/10/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR  P'LEAD      : @LOH

```

Lab Sample Number : 93/08354 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 6.0-C
Sample comments       : CR-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930728
Sample login date     : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.02	mg/L
00619	Calc Union NH3 in Water	0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.024	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.32	mg/L

```

S'INFO   : PCM 5.1 100-C          SAMPLE   : 93/08355
S'CMT    : CR-ERP                LOGDATE  : 930803
S'TYPE   : WATER                 DUEDATE  : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD  : @LOH

```

Lab Sample Number : 93/08355 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1 100-C
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930728
Sample login date    : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.02	mg/L
00619	Calc Union NH3 in Water	0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.024	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.38	mg/L

```

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```

S'INFO   : PCM 5.1  50-C          SAMPLE   : 93/08356
S'CMT    : CR-ERP                LOGDATE   : 930803
S'TYPE   : WATER                DUE DATE  : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD   : @LOH

```

Lab Sample Number : 93/08356 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1  50-C
Sample comments       : CR-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930728
Sample login date     : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	< 0.01	mg/L
00619	Calc Union NH3 in Water	< 0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	< 0.012	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.32	mg/L

```

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```

```

S'INFO   : ARL RO WATER          SAMPLE   : 93/08357
S'CMT    : CR-ERP                LOGDATE  : 930803
S'TYPE   : WATER                DUEDATE  : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD  : @LOH

```

Lab Sample Number :93/08357 Project Leader :Larry O. Hill

```

Sample ID Information :ARL RO WATER
Sample comments      :CR-ERP
Sample type/matrix   :WATER
Sample collected by   :D.J.S.
Sample collection date :930729
Sample login date    :930803      Sample received by lab :930803
Sample account number :4210-011200-85555,7.LOHARLDJS
Laboratory comments  :ARL:PH=5.6; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	< 0.01	mg/L
00619	Calc Union NH3 in Water	< 0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	< 0.012	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	< 0.01	mg/L

```

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```

S'INFO      : TAYLOR'S SILT          SAMPLE      : 93/08358
S'CMT       : CR-ERP                 LOGDATE     : 930803
S'TYPE      : WATER                 DUEDATE     : 08/10/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR P'LEAD     : @LOH

```

Lab Sample Number : 93/08358 Project Leader : Larry O. Hill

```

Sample ID Information : TAYLOR'S SILT
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930729
Sample login date    : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=8.0; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.06	mg/L
00619	Calc Union NH3 in Water	0.004	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.073	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.20	mg/L

```

=====
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```

```

S'INFO   : TAYLOR'S SILT-PRECISION      SAMPLE   : 93/08359
S'CMT    : CR-ERP                      LOGDATE  : 930803
S'TYPE   : WATER                      DUE DATE : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR  P'LEAD   : @LOH

```

Lab Sample Number : 93/08359 Project Leader : Larry O. Hill

```

Sample ID Information : TAYLOR'S SILT-PRECISION
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930729
Sample login date    : 930803           Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=8.0; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.06	mg/L
00619	Calc Union NH3 in Water	0.004	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.073	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.20	mg/L

```

=====
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```

```

S'INFO      : PCM 6.0-A          SAMPLE      : 93/08360
S'CMT       : CR-ERP            LOGDATE     : 930803
S'TYPE      : WATER            DUEDATE     : 08/10/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR P'LEAD    : @LOH

```

Lab Sample Number :93/08360 Project Leader :Larry O. Hill

```

Sample ID Information :PCM 6.0-A
Sample comments      :CR-ERP
Sample type/matrix   :WATER
Sample collected by  :D.J.S.
Sample collection date :930729
Sample login date    :930803      Sample received by lab :930803
Sample account number :4210-011200-85555,7.LOHARLDJS
Laboratory comments  :ARL:PH=7.7; TEMP=24

```

```

-----
| Alt. IDC | Analysis Performed | result | units |
-----
00610      Ammonia Nitrogen      0.26    mg/L
00619      Calc Union NH3 in Water 0.011   mg NH3/L
NH3NH4'W   Calc NH3+NH4-NH3 Water 0.32    mg NH3/L
00630      Nitrate-Nitrite Nitrogen 0.51    mg/L

```

```

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```

```

S'INFO   : PCM 5.1 100-A          SAMPLE   : 93/08361
S'CMT    : CR-ERP                 LOGDATE  : 930803
S'TYPE   : WATER                 DUEDATE  : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD  : @LOH

```

Lab Sample Number : 93/08361 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1 100-A
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930729
Sample login date    : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	1.1	mg/L
00619	Calc Union NH3 in Water	0.045	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	1.3	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.35	mg/L

```

=====
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```

```

S'INFO   : PCM 5.1 100-A PRECISION      SAMPLE   : 93/08362
S'CMT    : CR-ERP                      LOGDATE  : 930803
S'TYPE   : WATER                      DUE DATE : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR  P'LEAD   : @LOH

```

Lab Sample Number : 93/08362 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1 100-A PRECISION
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930729
Sample login date    : 930803           Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	1.1	mg/L
00619	Calc Union NH3 in Water	0.045	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	1.3	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.35	mg/L

```

=====
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```

```

S'INFO   : PCM 5.1  50-A          SAMPLE   : 93/08363
S'CMT    : CR-ERP                LOGDATE   : 930803
S'TYPE   : WATER                DUEDATE   : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD   : @LOH

```

Lab Sample Number : 93/08363 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1  50-A
Sample comments       : CR-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930729
Sample login date     : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.64	mg/L
00619	Calc Union NH3 in Water	0.026	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.78	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.43	mg/L

```

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```

```

S'INFO      : PCM 6.0-C                      SAMPLE      : 93/08364
S'CMT       : CR-ERP                        LOGDATE     : 930803
S'TYPE      : WATER                        DUEDATE     : 08/10/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR    P'LEAD      : @LOH

```

Lab Sample Number : 93/08364 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 6.0-C
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by   : D.J.S.
Sample collection date : 930729
Sample login date     : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : ARL:PH=7.8; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.03	mg/L
00619	Calc Union NH3 in Water	0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.037	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.32	mg/L

```

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```

S'INFO   : PCM 5.1 100-C          SAMPLE   : 93/08365
S'CMT    : CR-ERP                 LOGDATE  : 930803
S'TYPE   : WATER                 DUEDATE  : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD  : @LOH

```

Lab Sample Number : 93/08365 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1 100-C
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930729
Sample login date    : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.03	mg/L
00619	Calc Union NH3 in Water	0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.037	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.39	mg/L

```

=====
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```

```

S'INFO   : PCM 5.1 50-C          SAMPLE   : 93/08366
S'CMT    : CR-ERP                LOGDATE  : 930803
S'TYPE   : WATER                DUEDATE  : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD : @LOH

```

Lab Sample Number : 93/08366 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1 50-C
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930729
Sample login date    : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.02	mg/L
00619	Calc Union NH3 in Water	0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.024	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.32	mg/L

```

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```

S'INFO      : ARL RO WATER           SAMPLE      : 93/08367
S'CMT       : CR-ERP                 LOGDATE     : 930803
S'TYPE      : WATER                 DUEDATE     : 08/10/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR P'LEAD     : @LOH

```

Lab Sample Number : 93/08367 Project Leader : Larry O. Hill

```

Sample ID Information : ARL RO WATER
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930730
Sample login date    : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=5.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	< 0.01	mg/L
00619	Calc Union NH3 in Water	< 0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	< 0.012	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	< 0.01	mg/L

```

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```

```

S'INFO      : TAYLOR'S SILT          SAMPLE      : 93/08368
S'CMT       : CR-ERP                 LOGDATE     : 930803
S'TYPE      : WATER                 DUEDATE     : 08/10/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR P'LEAD     : @LOH

```

Lab Sample Number : 93/08368 Project Leader : Larry O. Hill

```

Sample ID Information : TAYLOR'S SILT
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930730
Sample login date    : 930803        Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=8.0; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.03	mg/L
00619	Calc Union NH3 in Water	0.002	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.037	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.24	mg/L

```

S'INFO      : PCM 6.0-A          SAMPLE      : 93/08369
S'CMT       : CR-ERP            LOGDATE     : 930803
S'TYPE      : WATER             DUEDATE    : 08/10/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR P'LEAD   : @LOH

```

Lab Sample Number :93/08369 Project Leader :Larry O. Hill

```

Sample ID Information :PCM 6.0-A
Sample comments       :CR-ERP
Sample type/matrix    :WATER
Sample collected by   :D.J.S.
Sample collection date :930730
Sample login date     :930803      Sample received by lab :930803
Sample account number :4210-011200-85555,7.LOHARLDJS
Method of Analysis    :NH3-N SUSPECT! LIKELY INTERFERENCES
Laboratory comments   :ARL:PH=7.6; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.46 *	mg/L
00619	Calc Union NH3 in Water	0.015	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.56	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.65	mg/L

```

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```

```

S'INFO   : PCM 6.0-A PRECISION          SAMPLE   : 93/08370
S'CMT    : CR-ERP                      LOGDATE  : 930803
S'TYPE   : WATER                      DUEDATE  : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR  P'LEAD   : @LOH

```

Lab Sample Number : 93/08370 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 6.0-A PRECISION
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930730
Sample login date    : 930803           Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Method of Analysis   : NH3-N SUSPECT! LIKELY INTERFERENCES
Laboratory comments  : ARL:PH=7.6; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.46 *	mg/L
00619	Calc Union NH3 in Water	0.015	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.56	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.65	mg/L

```

=====
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```

```

S'INFO   : PCM 5.1 100-A          SAMPLE   : 93/08371
S'CMT    : CR-ERP                 LOGDATE  : 930803
S'TYPE   : WATER                  DUEDATE  : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD  : @LOH

```

Lab Sample Number : 93/08371 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1 100-A
Sample comments       : CR-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930730
Sample login date     : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.96	mg/L
00619	Calc Union NH3 in Water	0.039	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	1.2	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.74	mg/L

```

=====
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```

```

S'INFO   : PCM 5.1  50-A          SAMPLE   : 93/08372
S'CMT    : CR-ERP                LOGDATE  : 930803
S'TYPE   : WATER                DUEDATE  : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD  : @LOH

```

Lab Sample Number : 93/08372 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1  50-A
Sample comments      : CR-ERP
Sample type/matrix   : WATER
Sample collected by  : D.J.S.
Sample collection date : 930730
Sample login date    : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments  : ARL:PH=7.6; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.59	mg/L
00619	Calc Union NH3 in Water	0.019	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.72	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.58	mg/L

```

=====
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```

```

S'INFO   : PCM 6.0-C          SAMPLE   : 93/08373
S'CMT    : CR-ERP            LOGDATE   : 930803
S'TYPE   : WATER             DUE DATE  : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD : @LOH

```

Lab Sample Number : 93/08373 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 6.0-C
Sample comments       : CR-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930730
Sample login date     : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.03	mg/L
00619	Calc Union NH3 in Water	0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.037	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.37	mg/L

```

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```

```

S'INFO   : PCM 5.1 100-C          SAMPLE   : 93/08374
S'CMT    : CR-ERP                LOGDATE   : 930803
S'TYPE   : WATER                 DUEDATE  : 08/10/93
ACT'NUMB : 4210-011200-85555,7.LOHAR P'LEAD   : @LOH

```

Lab Sample Number : 93/08374 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1 100-C
Sample comments       : CR-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930730
Sample login date     : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.01	mg/L
00619	Calc Union NH3 in Water	< 0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.012	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.45	mg/L

```

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```

S'INFO      : PCM 5.1  50-C          SAMPLE      : 93/08375
S'CMT       : CR-ERP                LOGDATE     : 930803
S'TYPE      : WATER                 DUEDATE    : 08/10/93
ACT'NUMB    : 4210-011200-85555,7.LOHAR  P'LEAD     : @LOH

```

Lab Sample Number : 93/08375 Project Leader : Larry O. Hill

```

Sample ID Information : PCM 5.1  50-C
Sample comments       : CR-ERP
Sample type/matrix    : WATER
Sample collected by   : D.J.S.
Sample collection date : 930730
Sample login date     : 930803      Sample received by lab : 930803
Sample account number : 4210-011200-85555,7.LOHARLDJS
Laboratory comments   : ARL:PH=7.7; TEMP=24

```

Alt. IDC	Analysis Performed	result	units
00610	Ammonia Nitrogen	0.03	mg/L
00619	Calc Union NH3 in Water	0.001	mg NH3/L
NH3NH4'W	Calc NH3+NH4-NH3 Water	0.037	mg NH3/L
00630	Nitrate-Nitrite Nitrogen	0.39	mg/L