IAL
Integrated Analytical Laboratories LLC

# *ANALYTICAL DATA REPORT*

ESI, INC.
111 Howard Blvd
Suite 108
Mount Arlington, NJ 07856

Project Name: **ST. JOSEPH'S HOSPITAL**
IAL Case Number: **E07-06898**

These data have been reviewed and accepted by:

Michael H. Lefkin, Ph.D.
Laboratory Director

**273 Franklin Road**
**Randolph, NJ 07869**
**Phone: 973 361 4252**
**Fax: 973 989 5288**

IAL is a NELAC New Jersey Certified Lab (14751) and maintains certification in Connecticut (PH-0699), New York (11402), Rhode Island (00126), Pennsylvania (68-00773) and in the Department of Navy IR QA Program

# Sample Summary

**IAL Case No.**

**E07-06898**

**Client** ESI, INC.

**Project** ST. JOSEPH'S HOSPITAL

**Received On** 7/ 6/2007@16:00

| Lab ID | Client Sample ID | Depth Top/Bottom | Sampling Time | Matrix | # of Container |
|---|---|---|---|---|---|
| 06898-001 | STJ-0707 | n/a | 7/ 6/2007@11:20 | Aqueous | 11 |



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# INTEGRATED ANALYTICAL LABORATORIES, LLC.

## TABLE OF CONTENTS


| | Page |
|---|---|
| Qualifiers | 1 |
| Conformance / NonConformance Summary | 2 |
| Laboratory Deliverables Check List | 3 |
| Metal NonConformance Summary | 4 |
| PHC NonConformance Summary | 5 |
| Summary Report | 6 |
| Analytical Results | |
| Metals | 7 |
| General Analytical | 8 |
| Ammonia | |
| Biochemical Oxygen Demand (BOD) | |
| Chemical Oxygen Demand (COD) | |
| Cyanide, Total | |
| Oil & Grease | |
| pH/Corrosivity | |
| Total Organic Carbons (TOC) | |
| Total Recoverable Phenols | |
| Total Solids | |
| Total Suspended Solids (TSS) | |
| Total Volatile Solids (TVS) | |
| Volatile Suspended Solids (VSS) | |
| Total Petroleum Hydrocarbons | |
| Methodology Summary * | |
| Quality Control | |
| Metals | 9 |
| Method Blank Results Summary | |
| Calibration Summary | |
| Spike Sample Results Summary | |
| Duplicate Sample Results Summary | |
| General Analytical | 17 |
| Blank Results Summary | |
| Spike Sample Results Summary | |
| Duplicate Sample Results Summary | |
| Petroleum Hydrocarbons | 29 |
| Blank Results Summary | |
| Spike Sample Results Summary | |
| Duplicate Sample Results Summary | |
| Calibration Curve | |
| Sample Tracking | |
| Chains of Custody | 33 |
| Laboratory Chronicle | 38 |


* Methodology is included in the IAL Project Information Page

# INTEGRATED ANALYTICAL LABORATORIES, LLC.

## MATRIX QUALIFIERS

**A -** Indicates the sample is an Aqueous matrix.

**O -** Indicates the sample is an Oil matrix.

**S -** Indicates the sample is a Soil, Sludge or Sediment matrix.

**X -** Indicates the sample is an Other matrix as indicated by Client Chain of Custody.

## DATA QUALIFIERS

**B -** Indicates the analyte was found in the Blank and in the sample. It indicates possible sample contamination and warns the data user to use caution when applying the results of the analyte.

**C -** Common Laboratory Contaminant.

**D -** The compound was reported from the Diluted analysis.

**D.F. -** Dilution Factor.

**E -** Estimated concentration, reported results are outside the calibrated range of the instrument.

**J -** Indicates an estimated value. The compound was detected at a value below the method detection limit but greater than zero. For GC/MS procedures, the mass spectral data meets the criteria required to identify the target compound.

**MDL -** Method Detection Limit.

**MI -** Indicates compound concentration could not be determined due to Matrix Interferences.

**NA -** Not Applicable.

**ND -** Indicates the compound was analyzed for but Not Detected at the MDL.

## REPORT QUALIFIERS

All solid sample analyses are reported on a dry weight basis.

All solid sample values are corrected for original sample size and percent solids.

**Q -** Qualifier

# INTEGRATED ANALYTICAL LABORATORIES, LLC.

## CONFORMANCE / NONCONFORMANCE SUMMARY

Integrated Analytical Laboratories, LLC. received one (1) aqueous sample(s) from ESI, INC. (Project: ST. JOSEPH'S HOSPITAL) on July 6, 2007 for the analysis of:

(1) Metal - Cadmium
(1) Metal - Copper
(1) Metal - Iron
(1) Metal - Lead
(1) Metal - Mercury
(1) Metal - Nickel
(1) Metal - Zinc
(1) Ammonia (NH3)
(1) BOD
(1) COD
(1) Cyanide, Total
(1) Oil & Grease
(1) pH/Corrosivity
(1) TOC
(1) Total Recoverable Phenols
(1) Total Solids
(1) TSS (Suspended)
(1) TVS (Total Volatile Solids)
(1) VSS (Volatile Suspended Solids)
(1) TPHC

A review of the QA/QC measures for the analysis of the sample(s) contained in this report has been performed by:

Reviewed by

7/20/07
Date

# INTEGRATED ANALYTICAL LABORATORIES, LLC.

## LABORATORY DELIVERABLES CHECK LIST

Lab Case Number: E07-06898

| | | Check If Complete |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name & address and date of report preparation. | ✓ |
| 2. | Table of Contents. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds. | ✓ |
| 4. | Summary Table cross-referencing Field ID's vs. Lab ID's. | ✓ |
| 5. | Document bound, paginated and legible. | ✓ |
| 6. | Chain of Custody. | ✓ |
| 7. | Methodology Summary. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check. | ✓ |
| 9. | Results submitted on a dry weight basis (if applicable). | ✓ |
| 10. | Method Detection Limits. | ✓ |
| 11. | Lab certified by NJDEP for parameters or appropriate category of parameters or a member of the USEPA CLP. | ✓ |
| 12. | NonConformance Summary. | ✓ |

QC Reviewed by

7/20/07
Date

# INTEGRATED ANALYTICAL LABORATORIES
## CONFORMANCE/NONCONFORMANCE SUMMARY
## METAL ANALYSIS

Lab Case Number: E07-06898

| | | No | Yes |
|---|---|---|---|
| 1. | Calibration Summary Meet Criteria. | | ✓ |
| 2. | ICP Interference Check Sample Results Meets Criteria (if applicable) | | ✓ |
| 3. | Serial Dilution/Post Spike Summary Submitted (if applicable) / Meets Criteria | | ✓ |
| 4. | Internal Standards Meet Criteria (if applicable) | | ✓ |
| 5. | Laboratory Control Sample Summary Submitted (if applicable) / Meets Criteria | | ✓ |
| 6. | Blank Contamination: If yes, list compounds and concentrations in each blank: | ✓ | |
| 7. | Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria. (If not, list those compounds and their recoveries which fall outside the acceptable range). | | ✓ |
| 8. | Extraction Holding Time Met. If not, list number of days exceeded for each sample: | | ✓ |
| 9. | Analysis Holding Time Met. If not, list number of days exceeded for each sample: | | ✓ |

Additional Comments:

Sample(s) used for aqueous metals analyses contained varying levels of sediment. Precautions were taken to use an aqueous representative of the sample. However, our experience has demonstrated that samples of this nature are very difficult to duplicate because the metals numbers are basically tied into the level of sediment present in the original sample. Additionally, as the remainder of the sample is stored under acidic conditions, some of the metals may continue to leach out into the water making any reproduction of the original number impossible. The rough amount of sediment present in the samples is as follows:

06898-001: 0.2%

H. Falek-Pergamer
Inorganic Manager

July 12, 2007
Date

**INTEGRATED ANALYTICAL LABORATORIES**
**CONFORMANCE/NONCONFORMANCE SUMMARY**
**PHC ANALYSIS**

Lab Case Number: E07-06898

| | | No | Yes |
|---|---|---|---|
| 1. | Blank Contamination<br>If yes, list the sample and the concentration in each blanks: | ✓ | |
| 2. | Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list the samples and corresponding recovery which falls outside the acceptable range) | | ✓ |
| 3. | IR spectra submitted for all standards, blanks & samples (as required). | | ✓ |
| 4. | Chromatograms submitted for all standards, blanks & samples if GC fingerprinting was conducted. | | NA |
| 5. | Extraction Holding Time Met<br>If not met, list number of days exceeded for each sample: | | ✓ |
| 6. | Analysis Holding Time Met<br>If not met, list number of days exceeded for each sample: | | ✓ |

Additional Comments:

Dept. Supervisor

7/11/2007
Date

# INTEGRATED ANALYTICAL LABORATORIES, LLC.

**SUMMARY REPORT**
**Client: ESI, INC.**
**Project: ST. JOSEPH'S HOSPITAL**
**Lab Case No.: E07-06898**

| | | | |
|---|---|---|---|
| **Lab ID:** | **06898-001** | | |
| **Client ID:** | **STJ-0707** | | |
| **Matrix:** | **Aqueous** | | |
| **Sampled Date** | **7/6/07** | | |
| **PARAMETER(Units)** | Conc | Q | MDL |
| **Metals (Units)** | *(mg/L-ppm)* | | |
| Cadmium | ND | | 0.001 |
| Copper | 0.042 | | 0.008 |
| Iron | 0.519 | | 0.100 |
| Lead | 0.00204 | | 0.002 |
| Mercury | ND | | 0.0005 |
| Nickel | ND | | 0.004 |
| Zinc | 0.086 | | 0.008 |
| **General Analytical (Units)** | | | |
| Biochemical Oxygen Demand (BOD)(mg/L-ppm) | 148 | | 2.00 |
| Chemical Oxygen Demand (COD)(mg/L-ppm) | 208 | | 5.00 |
| Cyanide, Total(mg/L-ppm) | ND | | 0.020 |
| Ammonia(mg/L-ppm) | 17.2 | | 1.00 |
| pH/Corrosivity(SU) | 7.03 | | NA |
| Total Recoverable Phenols(mg/L-ppm) | ND | | 0.050 |
| Total Organic Carbons (TOC)(mg/L-ppm) | 62.3 | | 5.00 |
| Total Solids(mg/L-ppm) | 517 | | 10 |
| Total Volatile Solids (TVS)(mg/L-ppm) | 183 | | 10 |
| Total Suspended Solids (TSS)(mg/L-ppm) | 44.0 | | 20.0 |
| Volatile Suspended Solids (VSS)(mg/L-ppm) | 42.0 | | 20.0 |
| Oil & Grease(mg/L-ppm) | 10.1 | | 5.15 |
| Total Petroleum Hydrocarbons(mg/L-ppm) | 4.49 | | 0.500 |

ND = Analyzed for but Not Detected at the MDL

# INTEGRATED ANALYTICAL LABORATORIES, LLC.

## METALS

Client/Project: ESI/ST. JOSEPH'S HOSPITAL

Lab ID: E07-06898-001
Client ID: STJ-0707
Date Received: 07/06/07 16:00
Matrix-Units: Aqueous-mg/L (ppm)
% Moisture: 100
Batch #: 320

| Compound | Result | Q | DF | MDL | Date Analyzed | Method |
|---|---|---|---|---|---|---|
| Cadmium | ND | | 1 | 0.001 | 07/10/07 | 200.8 |
| Copper | 0.042 | | 1 | 0.008 | 07/10/07 | 200.8 |
| Iron | 0.519 | | 1 | 0.100 | 07/10/07 | 200.7 |
| Lead | 0.00204 | | 1 | 0.002 | 07/10/07 | 200.8 |
| Mercury | ND | | 1 | 0.0005 | 07/10/07 | 245.1 |
| Nickel | ND | | 1 | 0.004 | 07/10/07 | 200.8 |
| Zinc | 0.086 | | 1 | 0.008 | 07/10/07 | 200.8 |

# INTEGRATED ANALYTICAL LABORATORIES, LLC.

## GENERAL ANALYTICAL

Client/Project: ESI/ST. JOSEPH'S HOSPITAL

Lab ID: 06898-001
Client ID: STJ-0707
Date Received: 7/6/2007
% Solid: 0

| Compound | Result | Q | Matrix-Unit | DF | MDL | Date Analyzed |
|---|---|---|---|---|---|---|
| Biochemical Oxygen Demand (BOD) | 148 | | Aqueous-mg/L | 1 | 2.00 | 07/06/07 17:00 |
| Chemical Oxygen Demand (COD) | 208 | | Aqueous-mg/L | 1 | 5.00 | 07/17/07 10:00 |
| Cyanide, Total | ND | | Aqueous-mg/L | 1 | 0.020 | 07/10/07 11:25 |
| Ammonia | 17.2 | | Aqueous-mg/L | 5 | 1.00 | 07/09/07 10:31 |
| pH/Corrosivity | 7.03 | | Aqueous-SU | 0 | NA | 07/09/07 10:00 |
| Total Recoverable Phenols | ND | | Aqueous-mg/L | 1 | 0.050 | 07/10/07 14:22 |
| Total Organic Carbons (TOC) | 62.3 | | Aqueous-mg/L | 5 | 5.00 | 07/11/07 09:15 |
| Total Solids | 517 | | Aqueous-mg/L | 1 | 10.0 | 07/10/07 10:00 |
| Total Volatile Solids (TVS) | 183 | | Aqueous-mg/L | 1 | 10.0 | 07/13/07 11:00 |
| Total Suspended Solids (TSS) | 44.0 | | Aqueous-mg/L | 4 | 20.0 | 07/09/07 16:00 |
| Volatile Suspended Solids (VSS) | 42.0 | | Aqueous-mg/L | 4 | 20.0 | 07/10/07 10:30 |
| Oil & Grease | 10.1 | | Aqueous-mg/L | 1 | 5.15 | 07/17/07 15:45 |
| Total Petroleum Hydrocarbons | 4.49 | | Aqueous-mg/L | 1 | 0.500 | 07/11/07 10:40 |

E07-06898 INTEGRATED ANALYTICAL LABORATORIES, LLC.

# METALS QUALITY CONTROL

## BLANK 1 RESULTS SUMMARY

Batch (Page) #: 320
Lab Case: 06833, 06834, 06848, 06897, 06898, 06938, 06953, 06954, 06831, 06832
06867, 06868, 06869, 06870, 06871, 06876, 06877
Fe: 06880-001~003
Matrix: Aqueous Concentration/Units: ppb (µg/L)

| ANALYTE | INITIAL CALIBRATION | CONTINUING CALIBRATION 1 | CONTINUING CALIBRATION 2 | INST. MDL | REAGENT BLANK | SAMPLE MDL |
|---|---|---|---|---|---|---|
| Arsenic | ND | ND | ND | 0.500 | ND | 2.00 |
| Cadmium | ND | ND | ND | 0.250 | ND | 1.00 |
| Chromium | ND | ND | ND | 2.00 | ND | 8.00 |
| Copper | ND | ND | ND | 2.00 | ND | 8.00 |
| Iron | ND | ND | ND | 25.0 | ND | 50.0 |
| Lead | ND | ND | ND | 0.500 | ND | 2.00 |
| Magnesium | ND | ND | ND | 50.0 | ND | 100 |
| Manganese | ND | ND | ND | 1.00 | ND | 4.00 |
| Mercury | ND | ND | ND | 0.250 | ND | 0.500 |
| Nickel | ND | ND | ND | 1.00 | ND | 4.00 |
| Silver | ND | ND | ND | 0.500 | ND | 2.00 |
| Sodium | ND | ND | ND | 100 | ND | 200 |
| Zinc | ND | ND | ND | 2.00 | ND | 8.00 |

This QC Blank applies to the following samples:
06833-001; 06834-001; 06848-001; 06897-001
06898-001; 06938-001~003; 06953-001; 06954-001; 06831-001
06832-001; 06867-002; 06868-002; 06869-002
06870-001; 06871-002~003; 06876-001; 06877-001
Fe: 06880-001~003

E07-06898 INTEGRATED ANALYTICAL LABORATORIES, LLC.

# METALS QUALITY CONTROL

## INITIAL & CONTINUING CALIBRATION VERIFICATION

Batch (Page) #: 320
Lab Case: 06831, 06832, 06833, 06834, 06848, 06867, 06868, 06869, 06870, 06871, 06876, 06877
06880, 06885, 06897, 06898, 06938, 06947, 06951, 06953, 06954

Concentration/Units: ppb (µg/L)

| ANALYTE | INITIAL CALIBRATION | | | CONTINUING CALIBRATION | | | | | INST. MDL |
|---|---|---|---|---|---|---|---|---|---|
| | TRUE | FOUND | %R (1) | TRUE | FOUND | %R (1) | FOUND | %R (1) | |
| Arsenic | 20.0 | 20.9 | 105 | 20.0 | 20.6 | 103 | 20.4 | 102 | 0.500 |
| Cadmium | 10.0 | 9.98 | 99.8 | 10.0 | 9.74 | 97.4 | 9.41 | 94.1 | 0.250 |
| Chromium | 20.0 | 18.4 | 92.0 | 20.0 | 18.5 | 92.5 | 18.2 | 91.0 | 2.00 |
| Copper | 50.0 | 51.0 | 102 | 50.0 | 50.2 | 100 | 49.1 | 98.2 | 2.00 |
| Iron | 10000 | 9950 | 99.5 | 10000 | 9580 | 95.8 | 9680 | 96.8 | 50.0 |
| Lead | 10.0 | 10.3 | 103 | 10.0 | 9.90 | 99.0 | 9.32 | 93.2 | 0.500 |
| Magnesium | 10000 | 9390 | 93.9 | 10000 | 9470 | 94.7 | 9810 | 98.1 | 100 |
| Manganese | 30.0 | 28.3 | 94.3 | 30.0 | 28.3 | 94.3 | 29.5 | 98.3 | 1.00 |
| Mercury | 5.00 | 5.10 | 102 | 5.00 | 5.05 | 101 | 5.08 | 102 | 0.250 |
| Nickel | 80.0 | 79.8 | 99.8 | 80.0 | 79.0 | 98.8 | 77.1 | 96.4 | 1.00 |
| Silver | 20.0 | 19.3 | 96.5 | 20.0 | 19.0 | 95.0 | 18.8 | 94.0 | 0.500 |
| Sodium | 10000 | 10000 | 100 | 10000 | 10100 | 101 | 10100 | 101 | 200 |
| Zinc | 40.0 | 41.1 | 103 | 40.0 | 40.7 | 102 | 40.4 | 101 | 2.00 |

(1) Control Limits: Mercury 80-120, Other Metals 90-110

E07-06898 INTEGRATED ANALYTICAL LABORATORIES, LLC.

# METALS QUALITY CONTROL

## ICP ICSAB RESULTS SUMMARY

Batch (Page) #: 320
Lab Case: 06831, 06832, 06833, 06834, 06848, 06867, 06868, 06869, 06870, 06871, 06876, 06877
06880, 06885, 06897, 06898, 06938, 06947, 06951, 06953, 06954

Matrix: Aqueous Concentration/Units: ppb (µg/L)

| ANALYTE | TRUE | | INITIAL FOUND | | | FINAL FOUND | | |
|---|---|---|---|---|---|---|---|---|
| | SOL A | SOL B | SOL A | SOL A+B | %R | SOL A | SOL A+B | %R |
| Aluminum | 500 | - | 490 | 483 | 96.6 | 490 | 492 | 98.4 |
| Calcium | 500 | - | 459 | 474 | 94.8 | 483 | 479 | 95.8 |
| Iron | 200 | - | 198 | 197 | 98.5 | 199 | 196 | 98.0 |
| Magnesium | 500 | - | 497 | 491 | 98.2 | 488 | 485 | 97.0 |

Control Limits: 80-120

0011

E07-06898 INTEGRATED ANALYTICAL LABORATORIES, LLC.

# METALS QUALITY CONTROL

## SPIKE SAMPLE RECOVERY

Batch (Page) #: 320
Lab Case: 06833, 06834, 06848, 06897, 06898, 06938, 06953, 06954, 06831, 06832
06867, 06868, 06869, 06870, 06871, 06876, 06877
Fe: 06880-001~003
Matrix: Aqueous Concentration/Units: ppb (µg/L)

| ANALYTE | SSR1 | SR1 | %R1 | SA1 | SSR2 | SR2 | %R2 | SA2 | CONTROL LIMIT %R |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 411 | ND | 103 | 400 | 396 | ND | 99.0 | 400 | 75-125 |
| Cadmium | 391 | ND | 97.8 | 400 | 389 | 18.9 | 92.5 | 400 | 75-125 |
| Chromium | 360 | ND | 90.0 | 400 | 388 | 33.1 | 88.7 | 400 | 75-125 |
| Copper | 393 | ND | 98.3 | 400 | 413 | 23.5 | 97.4 | 400 | 75-125 |
| Iron | 7940 | ND | 99.3 | 8000 | | | | | 75-125 |
| Lead | 395 | ND | 98.8 | 400 | 379 | ND | 94.8 | 400 | 75-125 |
| Magnesium | 25800 | 17700 | 101 | 8000 | | | | | 75-125 |
| Manganese | 366 | ND | 91.5 | 400 | 373 | 10.9 | 90.5 | 400 | 75-125 |
| Mercury | 9.74 | ND | 97.4 | 10.0 | | | | | 75-125 |
| Nickel | 391 | ND | 97.8 | 400 | 485 | 104 | 95.3 | 400 | 75-125 |
| Silver | 392 | ND | 98.0 | 400 | 392 | 2.18 | 97.5 | 400 | 75-125 |
| Sodium | 55700 | 53400 | NC | 8000 | | | | | 75-125 |
| Zinc | 423 | 22.1 | 100 | 400 | 683 | 303 | 95.0 | 400 | 75-125 |

SSR = Spike Sample Result
SA = Spike Added
SR = Sample Result
%R = Percent Recovery
NC = Non-calculable % R; Sample concentration > 4 x Spike Concentration.

QC Sample 1 06938-001
QC Sample 1 for following samples:
06833-001; 06834-001; 06848-001; 06897-001
06898-001; 06938-001~003; 06953-001; 06954-001
Fe: 06880-001~003

QC Sample 2 06868-002
QC Sample 2 for following samples:
06831-001; 06832-001; 06867-002; 06868-002
06869-002; 06870-001; 06871-002~003; 06876-001
06877-001

E07-06898

INTEGRATED ANALYTICAL LABORATORIES, LLC.

# METALS QUALITY CONTROL

## DUPLICATE SAMPLE RECOVERY

Batch (Page) #: 320
Lab Case: 06833, 06834, 06848, 06897, 06898, 06938, 06953, 06954, 06831, 06832
06867, 06868, 06869, 06870, 06871, 06876, 06877
Fe: 06980-001~003
Matrix: Aqueous Concentration/Units: ppb (µg/L)

| ANALYTE | CONTROL LIMIT 1 | S1 | D1 | RPD1 | CONTROL LIMIT 2 | S2 | D2 | RPD2 |
|---|---|---|---|---|---|---|---|---|
| Arsenic | NA | ND | ND | NC | NA | ND | ND | NC |
| Cadmium | NA | ND | ND | NC | 20 | 18.9 | 18.5 | 2.14 |
| Chromium | NA | ND | ND | NC | 20 | 33.1 | 32.6 | 1.52 |
| Copper | NA | ND | ND | NC | 20 | 23.5 | 23.3 | 0.855 |
| Iron | NA | ND | ND | NC | | | | |
| Lead | NA | ND | ND | NC | NA | ND | ND | NC |
| Magnesium | 20 | 17700 | 17400 | 1.71 | | | | |
| Manganese | NA | ND | ND | NC | 20 | 10.9 | 10.8 | 0.922 |
| Mercury | NA | ND | ND | NC | | | | |
| Nickel | NA | ND | ND | NC | 20 | 104 | 104 | 0 |
| Silver | NA | ND | ND | NC | 20 | 2.18 | 2.06 | 5.66 |
| Sodium | 20 | 53400 | 53400 | 0 | | | | |
| Zinc | 20 | 22.1 | 22.5 | 1.79 | 20 | 303 | 301 | 0.662 |

S1 = Sample 1
D1 = Duplicate 1
NA = Not Applicable
NC = Non-calculable RPD due to result (s) less than the detection limit.

S2 = Sample 2
D2 = Duplicate 2

QC Sample 1 06938-001
QC Sample 1 for following samples:
06833-001; 06834-001; 06848-001; 06897-001
06898-001; 06938-001~003; 06953-001; 06954-001
Fe: 06980-001~003

QC Sample 2 06868-002
QC Sample 2 for following samples:
06831-001; 06832-001; 06867-002; 06868-002
06869-002; 06870-001; 06871-002~003; 06876-001
06877-001

0013

E07-06898 INTEGRATED ANALYTICAL LABORATORIES, LLC.

# METALS QUALITY CONTROL

## LABORATORY CONTROL SAMPLE

Batch (Page) #: 320
Lab Case: 06831, 06832, 06833, 06834, 06848, 06867, 06868, 06869, 06870, 06871, 06876, 06877
06880, 06885, 06897, 06898, 06938, 06947, 06951, 06953, 06954

Matrix: Aqueous Unit: ppb (µg/L)

| ANALYTE | BSW1 | | | BSW2 | | |
|---|---|---|---|---|---|---|
| | TRUE | FOUND | %R(1) | TRUE | FOUND | %R(1) |
| Arsenic | 400 | 400 | 100 | 400 | 401 | 100 |
| Cadmium | 400 | 391 | 97.8 | 400 | 377 | 94.3 |
| Chromium | 400 | 355 | 88.8 | 400 | 359 | 89.8 |
| Copper | 400 | 395 | 98.8 | 400 | 392 | 98.0 |
| Iron | 8000 | 7930 | 99.1 | | | |
| Lead | 400 | 383 | 95.8 | 400 | 364 | 91.0 |
| Magnesium | 8000 | 7560 | 94.5 | | | |
| Manganese | 400 | 366 | 91.5 | 400 | 374 | 93.5 |
| Mercury | 10.0 | 10.3 | 103 | | | |
| Nickel | 400 | 393 | 98.3 | 400 | 388 | 97.0 |
| Silver | 400 | 393 | 98.3 | 400 | 401 | 100 |
| Sodium | 8000 | 7890 | 98.6 | | | |
| Zinc | 400 | 399 | 99.8 | 400 | 402 | 101 |

(1) Control Limits % Recovery = 85-115%

BSW1

06833-001; 06834-001; 06848-001; 06897-001
06898-001; 06938-001~003; 06953-001; 06954-001; 06831-001
06832-001; 06867-002; 06868-002; 06869-002
06870-001; 06871-002~003; 06876-001; 06877-001

BSW2

06880-001~003; 06885-001~002; 06947-001,004,007; 06951-001
06951-002; 06880-003

0014

E07-06898 INTEGRATED ANALYTICAL LABORATORIES, LLC.

# METALS QUALITY CONTROL

## SERIAL DILUTIONS & POST SPIKES 1

Batch (Page) #: 320
Lab Case: 06833, 06834, 06848, 06897, 06898, 06938, 06953, 06954

Fe: 06880-001~003

Matrix: Aqueous Concentration/Units: ppb (µg/L)

| ANALYTE | SERIAL DILUTION | | % | POST SPIKE | | % |
|---|---|---|---|---|---|---|
| | SR | SDR | Difference | SPR | SA | Recovery |
| Arsenic | ND | | | 407 | 400 | 102 |
| Cadmium | ND | | | 389 | 400 | 97.3 |
| Chromium | ND | | | 358 | 400 | 89.5 |
| Copper | ND | | | 390 | 400 | 97.5 |
| Iron | ND | | | 7990 | 8000 | 99.9 |
| Lead | ND | | | 392 | 400 | 98.0 |
| Magnesium | 17700 | 17800 | 0.563 | | | |
| Manganese | ND | | | 365 | 400 | 91.3 |
| Nickel | ND | | | 389 | 400 | 97.3 |
| Silver | ND | | | 389 | 400 | 97.3 |
| Sodium | 53400 | 52400 | 1.89 | | | |
| Zinc | 22.1 | | | 423 | 400 | 100.0 |

SR = Sample Result
SDR = Sample Dilution Result
SPR = Sample Post Spike Result
SA = Spike Added

Control Limits: (+) or (-) 10% Difference or 75 - 125% Recovery

QC Sample1 : 06938-001
QC Sample 1 for following samples:
06833-001; 06834-001; 06848-001; 06897-001
06898-001; 06938-001~003; 06953-001; 06954-001
Fe: 06880-001~003

0015

E07-06898 INTEGRATED ANALYTICAL LABORATORIES, LLC.

# METALS QUALITY CONTROL

## IPC

Batch (Page) #: 320
Lab Case: 06831, 06832, 06833, 06834, 06848, 06867, 06868, 06869, 06870, 06871, 06876, 06877
06880, 06885, 06897, 06898, 06938, 06947, 06951, 06953, 06954

Matrix: Aqueous Unit: ppb (µg/L)

| ANALYTE | BSW1 | | |
|---|---|---|---|
| | TRUE | FOUND | %R(1) |
| Arsenic | 50.0 | 50.1 | 100 |
| Cadmium | 50.0 | 49.7 | 99.4 |
| Chromium | 50.0 | 49.3 | 98.6 |
| Copper | 50.0 | 50.4 | 101 |
| Iron | 5000 | 5030 | 101 |
| Lead | 50.0 | 49.6 | 99.2 |
| Magnesium | 5000 | 5040 | 101 |
| Manganese | 50.0 | 50.4 | 101 |
| Mercury | 2.50 | 2.59 | 104 |
| Nickel | 50.0 | 50.2 | 100 |
| Silver | 50.0 | 49.2 | 98.4 |
| Sodium | 5000 | 4980 | 99.6 |
| Zinc | 50.0 | 49.5 | 99.0 |

(1) Control Limits = 95-105%

Integrated Analytical Labs
273 Franklin Road
Randolph, NJ 07869
7/11/2007

Certified for NJDEP, NY(DOH)
NJ ID#14751
NY ID#11402

# General Chemistry Quality Control

**Matrix: Aqueous**
**Unit: µg/L (ppb)**

**Batch ID: AP006-0066**

## Blank

| Parameter | Method Blank | MDL | Analysis Date |
|---|---|---|---|
| Biochemical Oxygen Demand (BOD) | ND | 2000 | 07/06/07 |

## Duplicate Recovery

| Parameter | QC Sample | Result | Duplicate Result | RPD | RPD Limits |
|---|---|---|---|---|---|
| Biochemical Oxygen Demand (BOD) | 06848-001D | 1330000 | 1300000 | 2 | 20.0 |

## Spike Recovery

| Parameter | QC Sample | Result | Spike Added | Spike Result | %Spike Recovery | %Rec. Limits |
|---|---|---|---|---|---|---|
| Biochemical Oxygen Demand (BOD) | NA | NA | NA | NA | NA | 75 - 125 |

**The above blank result applies to the follow samples:**

E07-06848-001
E07-06848-001D
E07-06867-002
E07-06869-002
E07-06911-001
E07-06860-002
E07-06868-002
E07-06870-001
E07-06871-003
E07-06885-001
E07-06885-002
E07-06897-001
E07-06898-001
E07-06905-001

++ = No Flash - Sample boiled at 100C
NA = Not Applicable
ND = Not Detected
NC = Non calculable RPD due to value less than the detection limit
No = Does Not Ignite
Yes = Sample Ignites

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7/17/2007

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NY ID#11402

# General Chemistry Quality Control

**Matrix: Aqueous**
**Unit: µg/L (ppb)**

**Batch ID: AP007-0025**

## Blank

| Parameter | Method Blank | MDL | Analysis Date |
|---|---|---|---|
| Chemical Oxygen Demand (COD) | ND | 5000 | 07/17/07 |

## Duplicate Recovery

| Parameter | QC Sample | Result | Duplicate Result | RPD | RPD Limits |
|---|---|---|---|---|---|
| Chemical Oxygen Demand (COD) | 06758-001S | 1390000 | 1390000 | 0 | 20.0 |

## Spike Recovery

| Parameter | QC Sample | Result | Spike Added | Spike Result | %Spike Recovery | %Rec. Limits |
|---|---|---|---|---|---|---|
| Chemical Oxygen Demand (COD) | 06758-001 | 402000 | 0 | 1390000 | 98.8 | 75 - 125 |

**The above blank result applies to the follow samples:**

E07-06665-001
E07-06665-002
E07-06665-003
E07-06665-004
E07-06666-001
E07-06666-003
E07-06758-001
E07-06758-001D
E07-06758-001S
E07-06758-001SD
E07-07036-001
E07-07036-002
E07-07036-003
E07-07036-004
E07-06897-001
E07-06898-001

++ = No Flash - Sample boiled at 100C
NA = Not Applicable
ND = Not Detected
NC = Non calculable RPD due to value less than the detection limit
No = Does Not Ignite
Yes = Sample Ignites

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NY ID#11402

# General Chemistry Quality Control

**Matrix: Aqueous**
**Units: µg/L**

**Batch ID: AP013-0075**

## Blank

| Parameter | Method Blank | MDL | Analysis Date |
|---|---|---|---|
| Cyanide, Total | ND | 20.0 | 07/10/07 |

## Duplicate Recovery

| Parameter | QC Sample | Result | Duplicate Result | RPD | RPD Limits |
|---|---|---|---|---|---|
| Cyanide, Total | 06867-001S | 257 | 261 | 2 | 20 |

## Spike Recovery

| Parameter | QC Sample | Result | Spike Added | Spike Result | %Spike Recovery | %Rec. Limits |
|---|---|---|---|---|---|---|
| Cyanide, Total | 06867-001 | ND | 250 | 257 | 103 | 75 - 125 |

The above blank result applies to the follow samples:

E07-06867-001
E07-06867-001D
E07-06867-001S
E07-06867-001SD
E07-06868-001
E07-06897-001
E07-06898-001
E07-06954-001
E07-06623-001
E07-06623-002
E07-06623-003
E07-06623-004
E07-06623-005
E07-06748-001

++ = No Flash - Sample boiled at 100C
NA = Not Applicable
ND = Not Detected
NC = Non calculable RPD due to value less than the detection limit
No = Does Not Ignite
Yes = Sample Ignites

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NY ID#11402

# General Chemistry Quality Control

**Matrix: Aqueous**
**Units: µg/L**

**Batch ID: AP015-0037**

## Blank

| Parameter | Method Blank | MDL | Analysis Date |
|---|---|---|---|
| Ammonia (NH3) | ND | 200 | 07/09/07 |

## Duplicate Recovery

| Parameter | QC Sample | Result | Duplicate Result | RPD | RPD Limits |
|---|---|---|---|---|---|
| Ammonia (NH3) | 06697-001S | 5230 | 5230 | 0 | 20 |

## Spike Recovery

| Parameter | QC Sample | Result | Spike Added | Spike Result | %Spike Recovery | %Rec. Limits |
|---|---|---|---|---|---|---|
| Ammonia (NH3) | 06697-001 | ND | 5000 | 5230 | 105 | 75 - 125 |

The above blank result applies to the follow samples:

E07-06697-001
E07-06697-001D
E07-06697-001S
E07-06697-001SD
E07-06697-002
E07-06697-003
E07-06460-001
E07-06898-001
E07-06897-001
E07-06759-002
E07-06758-003
E07-06860-002
E07-06236-013

++ = No Flash - Sample boiled at 100C
NA = Not Applicable
ND = Not Detected
NC = Non calculable RPD due to value less than the detection limit
No = Does Not Ignite
Yes = Sample Ignites

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# General Chemistry Quality Control

**Matrix: Aqueous**
**Unit: SU**

**Batch ID: AP023-0086**

## Blank

| Parameter | Method Blank | MDL | Analysis Date |
|---|---|---|---|
| pH/Corrosivity | NA | NA | 07/05/07 |

## Duplicate Recovery

| Parameter | QC Sample | Result | Duplicate Result | RPD | RPD Limits |
|---|---|---|---|---|---|
| pH/Corrosivity | 06574-002 | 7.91 | 7.87 | 1 | 20.0 |

## Spike Recovery

| Parameter | QC Sample | Result | Spike Added | Spike Result | %Spike Recovery | %Rec. Limits |
|---|---|---|---|---|---|---|
| pH/Corrosivity | NA | NA | NA | NA | NA | 75 - 125 |

**The above blank result applies to the follow samples:**

E07-06574-001
E07-06574-002
E07-06574-002D
E07-06574-003
E07-06574-004
E07-06574-005
E07-06574-006
E07-06574-007
E07-06574-008
E07-06574-009
E07-06581-002
E07-06681-001
E07-06681-002
E07-06684-001
E07-06741-001
E07-06897-001
E07-06898-001

++ = No Flash - Sample boiled at 100C
NA = Not Applicable
ND = Not Detected
NC = Non calculable RPD due to value less than the detection limit
No = Does Not Ignite
Yes = Sample Ignites

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# General Chemistry Quality Control

**Matrix: Aqueous**
**Units: µg/L**

**Batch ID: AP024-0057**

## Blank

| Parameter | Method Blank | MDL | Analysis Date |
|---|---|---|---|
| Total Recoverable Phenols | ND | 50.0 | 07/10/07 |

## Duplicate Recovery

| Parameter | QC Sample | Result | Duplicate Result | RPD | RPD Limits |
|---|---|---|---|---|---|
| Total Recoverable Phenols | 06898-001S | 995 | 988 | 1 | 20 |

## Spike Recovery

| Parameter | QC Sample | Result | Spike Added | Spike Result | %Spike Recovery | %Rec. Limits |
|---|---|---|---|---|---|---|
| Total Recoverable Phenols | 06898-001 | ND | 1000 | 995 | 99.5 | 75 - 125 |

The above blank result applies to the follow samples:

E07-06898-001
E07-06898-001D
E07-06898-001S
E07-06898-001SD
E07-06759-001
E07-06897-001

++ = No Flash - Sample boiled at 100C
NA = Not Applicable
ND = Not Detected
NC = Non calculable RPD due to value less than the detection limit
No = Does Not Ignite
Yes = Sample Ignites

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# General Chemistry Quality Control

**Matrix: Aqueous**
**Unit: µg/L (ppb)**

**Batch ID: AP030-0038**

## Blank

| Parameter | Method Blank | MDL | Analysis Date |
|---|---|---|---|
| Total Organic Carbon (TOC) | ND | 1000 | 07/11/07 |

## Duplicate Recovery

| Parameter | QC Sample | Result | Duplicate Result | RPD | RPD Limits |
|---|---|---|---|---|---|
| Total Organic Carbon (TOC) | 06718-002S | 8860 | 9020 | 2 | 20.0 |

## Spike Recovery

| Parameter | QC Sample | Result | Spike Added | Spike Result | %Spike Recovery | %Rec. Limits |
|---|---|---|---|---|---|---|
| Total Organic Carbon (TOC) | 06718-002 | ND | 10000 | 8860 | 88.6 | 75 - 125 |

**The above blank result applies to the follow samples:**

E07-06718-002
E07-06718-002D
E07-06718-002S
E07-06718-002SD
E07-06718-003
E07-06741-001
E07-06754-001
E07-06760-001
E07-06811-001
E07-06811-002
E07-06811-003
E07-06862-001
E07-06883-001
E07-06884-001
E07-06897-001
E07-06976-001
E07-06977-001
E07-07026-001
E07-07026-002
E07-06898-001

++ = No Flash - Sample boiled at 100C
NA = Not Applicable
ND = Not Detected
NC = Non calculable RPD due to value less than the detection limit
No = Does Not Ignite
Yes = Sample Ignites

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# General Chemistry Quality Control

**Matrix: Aqueous**
**Unit: µg/L (ppb)**

**Batch ID: AP039-0028**

## Blank

| Parameter | Method Blank | MDL | Analysis Date |
|---|---|---|---|
| Oil & Grease | ND | 5000 | 07/17/07 |

## Duplicate Recovery

| Parameter | QC Sample | Result | Duplicate Result | RPD | RPD Limits |
|---|---|---|---|---|---|
| Oil & Grease | BLANKS-0717 | 38900 | 39200 | 1 | 20.0 |

## Spike Recovery

| Parameter | QC Sample | Result | Spike Added | Spike Result | %Spike Recovery | %Rec. Limits |
|---|---|---|---|---|---|---|
| Oil & Grease | BLANK | ND | 40000 | 38900 | 97 | 75 - 125 |

**The above blank result applies to the follow samples:**

| | |
|---|---|
| BLANKS-0717 | E07-06236-001 |
| BLANKSD-0717 | E07-06860-001 |
| E07-06759-001 | E07-06897-001 |
| E07-07035-002 | E07-06898-001 |

++ = No Flash - Sample boiled at 100C
NA = Not Applicable
ND = Not Detected
NC = Non calculable RPD due to value less than the detection limit
No = Does Not Ignite
Yes = Sample Ignites

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# General Chemistry Quality Control

**Matrix: Aqueous**
**Unit: µg/L (ppb)**

**Batch ID: AP034-0052**

## Blank

| Parameter | Method Blank | MDL | Analysis Date |
|---|---|---|---|
| Total Suspended Solids (TSS) | ND | 5000 | 07/09/07 |

## Duplicate Recovery

| Parameter | QC Sample | Result | Duplicate Result | RPD | RPD Limits |
|---|---|---|---|---|---|
| Total Suspended Solids (TSS) | 06898-001D | 44000 | 48000 | 9 | 20.0 |

## Spike Recovery

| Parameter | QC Sample | Result | Spike Added | Spike Result | %Spike Recovery | %Rec. Limits |
|---|---|---|---|---|---|---|
| Total Suspended Solids (TSS) | NA | NA | NA | NA | NA | 75 - 125 |

**The above blank result applies to the follow samples:**

E07-06898-001
E07-06898-001D
E07-06897-001
E07-06867-002
E07-06821-002
E07-06822-002
E07-06877-001
E07-06825-001
E07-06848-001
E07-06862-001
E07-06869-002
E07-06911-001
E07-06860-002
E07-06868-002
E07-06870-001
E07-06871-003
E07-06883-001
E07-06884-001
E07-06885-001
E07-06885-002
E07-06905-001

++ = No Flash - Sample boiled at 100C
NA = Not Applicable
ND = Not Detected
NC = Non calculable RPD due to value less than the detection limit
No = Does Not Ignite
Yes = Sample Ignites

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# General Chemistry Quality Control

**Matrix: Aqueous**
**Unit: µg/L (ppb)**

**Batch ID: AP035-0005**

## Blank

| Parameter | Method Blank | MDL | Analysis Date |
|---|---|---|---|
| Volatile Suspended Solids (VSS) | ND | 5000 | 07/10/07 |

## Duplicate Recovery

| Parameter | QC Sample | Result | Duplicate Result | RPD | RPD Limits |
|---|---|---|---|---|---|
| Volatile Suspended Solids (VSS) | 06898-001D | 42000 | 44000 | 5 | 20.0 |

## Spike Recovery

| Parameter | QC Sample | Result | Spike Added | Spike Result | %Spike Recovery | %Rec. Limits |
|---|---|---|---|---|---|---|
| Volatile Suspended Solids (VSS) | NA | NA | NA | NA | NA | 75 - 125 |

**The above blank result applies to the follow samples:**

E07-06898-001

E07-06898-001D
E07-06897-001

++ = No Flash - Sample boiled at 100C
NA = Not Applicable
ND = Not Detected
NC = Non calculable RPD due to value less than the detection limit
No = Does Not Ignite
Yes = Sample Ignites

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# General Chemistry Quality Control

**Matrix: Aqueous**
**Unit: µg/L (ppb)**

**Batch ID: AP031-0015**

## Blank

| Parameter | Method Blank | MDL | Analysis Date |
|---|---|---|---|
| Total Solids | ND | 10000 | 07/10/07 |

## Duplicate Recovery

| Parameter | QC Sample | Result | Duplicate Result | RPD | RPD Limits |
|---|---|---|---|---|---|
| Total Solids | 06898-001 | 517000 | 517000 | 0 | 20.0 |

## Spike Recovery

| Parameter | QC Sample | Result | Spike Added | Spike Result | %Spike Recovery | %Rec. Limits |
|---|---|---|---|---|---|---|
| Total Solids | NA | NA | NA | NA | NA | 75 - 125 |

**The above blank result applies to the follow samples:**

E07-06897-001

E07-06898-001
E07-06898-001D

++ = No Flash - Sample boiled at 100C
NA = Not Applicable
ND = Not Detected
NC = Non calculable RPD due to value less than the detection limit
No = Does Not Ignite
Yes = Sample Ignites

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NY ID#11402

# General Chemistry Quality Control

**Matrix: Aqueous**
**Unit: µg/L (ppb)**

**Batch ID: AP032-0006**

## Blank

| Parameter | Method Blank | MDL | Analysis Date |
|---|---|---|---|
| Total Volatile Solids (TVS) | ND | 10000 | 07/13/07 |

## Duplicate Recovery

| Parameter | QC Sample | Result | Duplicate Result | RPD | RPD Limits |
|---|---|---|---|---|---|
| Total Volatile Solids (TVS) | 06898-001D | 183000 | 190000 | 4 | 20.0 |

## Spike Recovery

| Parameter | QC Sample | Result | Spike Added | Spike Result | %Spike Recovery | %Rec. Limits |
|---|---|---|---|---|---|---|
| Total Volatile Solids (TVS) | NA | NA | NA | NA | NA | 75 - 125 |

**The above blank result applies to the follow samples:**

E07-06897-001

E07-06898-001
E07-06898-001D

++ = No Flash - Sample boiled at 100C
NA = Not Applicable
ND = Not Detected
NC = Non calculable RPD due to value less than the detection limit
No = Does Not Ignite
Yes = Sample Ignites

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# General Chemistry Quality Control

**Matrix: Aqueous**
**Unit: ug/L (ppb)**

**Batch ID: AP040-0531**

## Blank

| Parameter | Method Blank | MDL | Analysis Date |
|---|---|---|---|
| TPHC | ND | 500 | 07/11/07 |

## Duplicate Recovery

| Parameter | QC Sample | Result | Duplicate Result | RPD | RPD Limits |
|---|---|---|---|---|---|
| TPHC | TBW-004S-0709 | 3930 | 3970 | 1.01 | 20.0 |

## Spike Recovery

| Parameter | QC Sample | Result | Spike Added | Spike Result | %Spike Recovery | %Rec. Limits |
|---|---|---|---|---|---|---|
| TPHC | TBW-004-0709 | ND | 4000 | 3930 | 98.3 | 75 - 125 |

The above blank results applies to the following samples

TBW-004S-0709
TBW-004SD-0709
LCW-004-0709
E07-06883-001
E07-06884-001
E07-06913-008
E07-06873-025
LCW-001-0711
E07-06877-001
E07-06897-001
E07-06898-001
E07-06976-001
E07-06977-001
E07-07005-007

++ = No Flash - Sample boiled at 100C
NA = Not Applicable
ND = Not Detected
NC = Non calculable RPD due to value less than the detection limit
No = Does Not Ignite
Yes = Sample Ignites

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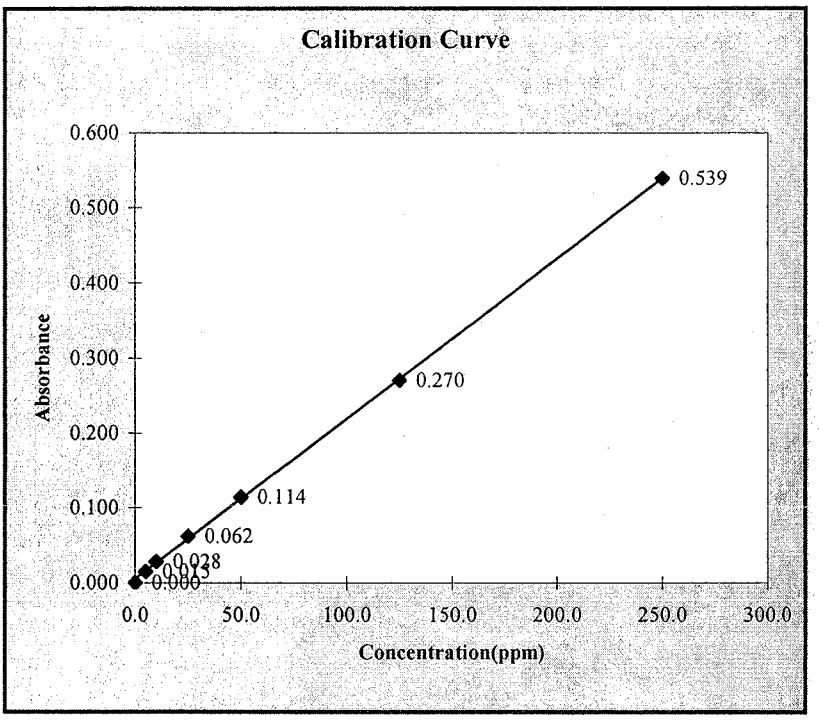
**Integrated Analytical Laboratories**

# TPH

| | |
|---|---|
| Date: | 14-May-07 |
| Method: | 418.1 |
| Matrix: | S/A |
| Analyst: | ED |

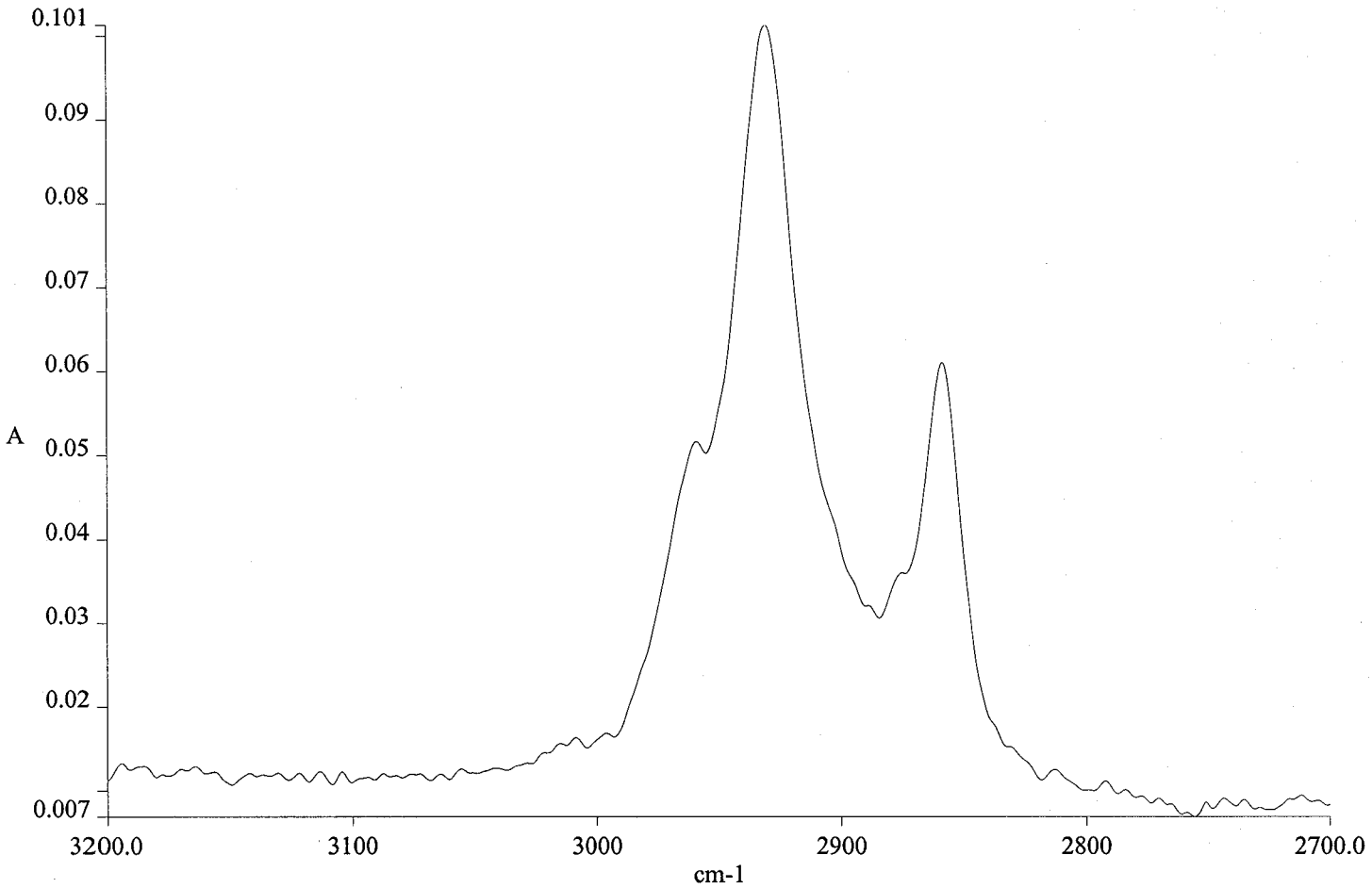
| Conc. | Abs. |
|---|---|
| 0.000 | 0.000 |
| 5.000 | 0.015 |
| 10.000 | 0.028 |
| 25.000 | 0.062 |
| 50.000 | 0.114 |
| 125.000 | 0.270 |
| 250.000 | 0.539 |
| | |
| | |
| | |

| | |
|---|---|
| $R^2$= | 0.999891582 |
| Slope= | 0.00214 |
| Intercept= | 0.00499 |

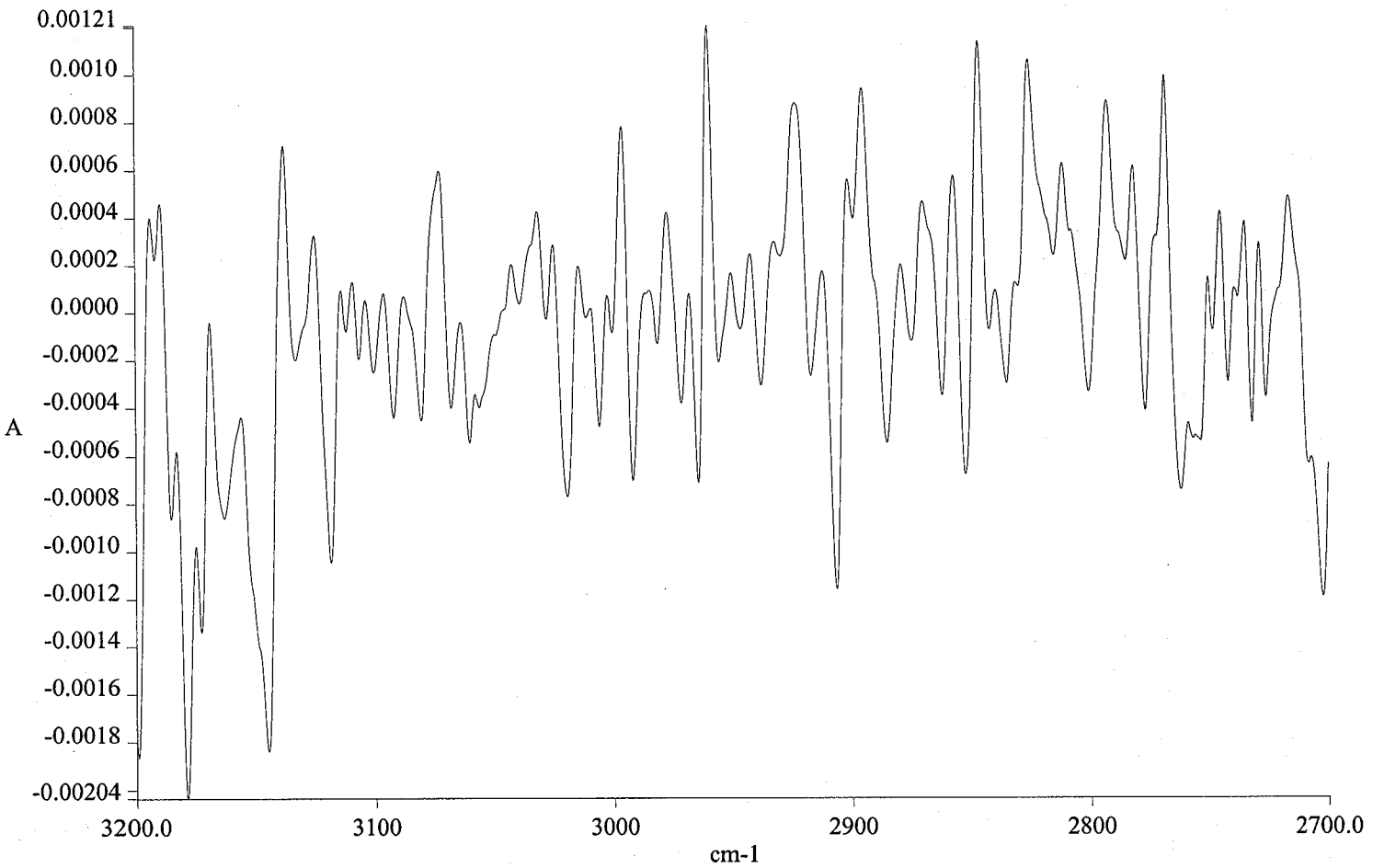



**Comments:**

y= 0.00214x + 0.00499




Wednesday, July 11, 2007; 10:44:50 AM,
C:\PEL_DATA\SPECTRA\6898-001.SP, 2 scans, 4 cm-1
B-0711-1.sp




Wednesday, July 11, 2007; 10:40:29 AM,
C:\PEL_DATA\SPECTRA\BLANK\B-0711-1.SP, 2 scans, 4 cm-1

Phone # (973) 361-4252
Fax # (973) 989-5288

# INTEGRATED ANALYTICAL LABORATORIES
## CHAIN OF CUSTODY

273 Franklin Rd
Randolph, NJ 07869

| CUSTOMER | |
|---|---|
| Company: | ESI |
| Address: | 111 HOWARD BLVD |
| | Mt. ARLINGTON NJ |
| Telephone #: | 973-398-8183 x 256 |
| Fax #: | " " 8037 |
| Project Manager: | J. PILEWSKI |
| Sampler: | R. LAWRENCE |
| Project Name: | St. JOSEPH'S HOSPITAL |
| Project Location (State): | NJ |
| Bottle Order #: | |
| Quote # : | |

| REPORTING INFO | |
|---|---|
| REPORT TO: | R. LAWRENCE |
| Address: | |
| | same |
| Attn: | |
| FAX # | |
| INVOICE TO: | |
| Address: | |
| | same |
| Attn: | |
| PO # | |

Turnaround Time (starts the following day if samples rec'd at lab > 5PM)

Lab notification is required for RUSH TAT prior to sample arrival. RUSH TAT IS NOT GUARANTEED WITHOUT LAB APPROVAL. RUSH SURCHARGES WILL APPLY IF ABLE TO ACCOMMODATE**

| Conditional TPHC | Results needed by: | Rush TAT Charge ** | Report Format | DISKETTE |
|---|---|---|---|---|
| 24 hr* 48 hr 72 hr NA | | 24 hr - 100%.... | Results Only | SRP. dbf format |
| Verbal/Fax 2 wk/Std | | 48 hr - 75%.... | Reduced | SRP.wk1 format |
| 24 hr* 48 hr* 72 hr* 1 wk* | | 72 hr - 50%.... | Regulatory | lab approved custom EDD |
| Hard Copy 3 wk/Std | | 96 hr - 35%.... | Other (describe) | NO DISK/CD REQ'D |
| 2 wk* call for price | | 5 day - 25%.... 6-9 day 10% | | |

Cooler Temp ✓ °C

**Sample Matrix**
DW - Drinking Water AQ - Aqueous WW - Waste Water
OI - Oil LIQ - Liquid (Specify) OT - Other (Specify)
S - Soil SL - Sludge SOL - Solid W - Wipe

### SAMPLE INFORMATION

### ANALYTICAL PARAMETERS

| Client ID | Depth | Sampling Date | Sampling Time | Matrix | # container | IAL # | TOTAL SOLIDS | VOLATILE SOLIDS | TOTAL SUSPENDED SOLIDS | VOLATILE SUSPENDED SOLIDS | TPHC | BOD | CYANIDE | CHEMICAL O2 DEMAND | TOTAL ORGANIC CARBON | HCl | NaOH | HNO3 | H2SO4 | MeOH | Other | None | Encore |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STJ-0707 | — | 7/6/07 | 1620 | WW | 1 | 1 | X | X | X | X | X | X | X | X | X | | 1 | 1 | 2 | | | 2 | |

**# BOTTLES & PRESERVATIVES**

Known Hazard: Yes or No Describe:

Conc. Expected: Low Med High

*Please print legibly and fill out completely. Samples cannot be processed and the turnaround time will not start until any ambiguities have been resolved.*

MDL Req: Old GWQS - 11/05 GWQS - SCC - OTHER (SEE COMMENTS)

| Signature/Company | Date | Time | Signature/Company |
|---|---|---|---|
| Relinquished by: R. Lawrence | 7/6/07 | 1600 | Received by: |
| Relinquished by: | | | Received by: |
| Relinquished by: | | | Received by: |
| Relinquished by: | | | Received by: |
| Relinquished by: | | | Received by: |

Comments:

Lab Case # 6888

PAGE: 1 of 3

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05/2006 Ref. No: G 020900900

EPA Request #: III.B.1.f.
PVSC39 - 00002288
Industrial Department

Phone # (973) 361-4252
Fax # (973) 989-5288

# INTEGRATED ANALYTICAL LABORATORIES
## CHAIN OF CUSTODY

273 Franklin Rd
Randolph, NJ 07869

| CUSTOMER | |
|---|---|
| Company: | ESI |
| Address: | |
| | |
| Telephone #: | |
| Fax #: | |
| Project Manager: | |
| Sampler: | |
| Project Name: | ST. JOSEPH'S HOSPITAL |
| Project Location (State): | NJ |
| Bottle Order #: | |
| Quote # : | |

| REPORTING INFO | |
|---|---|
| REPORT TO: | |
| Address: | |
| | |
| Attn: | |
| FAX # | |
| INVOICE TO: | |
| Address: | |
| | |
| | |
| Attn: | |
| PO # | |

Turnaround Time (starts the following day if samples rec'd at lab > 5PM)

Lab notification is required for RUSH TAT prior to sample arrival. RUSH TAT IS NOT GUARANTEED WITHOUT LAB APPROVAL. RUSH SURCHARGES WILL APPLY IF ABLE TO ACCOMMODATE**

| Conditional TPHC | Results needed by: | Rush TAT Charge ** | Report Format | DISKETTE |
|---|---|---|---|---|
| 24 hr* 48 hr 72 hr NA | | 24 hr - 100%... | Results Only | SRP. dbf format |
| Verbal/Fax 2 wk/Std | | 48 hr - 75%.... | Reduced | SRP.wk1 format |
| 24 hr* 48 hr* 72 hr* 1 wk* | | 72 hr - 50%.... | Regulatory | lab approved custom EDD |
| Hard Copy 3 wk/Std | | 96 hr - 35%.... | Other (describe) | NO DISK/CD REQ'D |
| 2 wk* call for price | | 5 day - 25%.... 6-9 day 10% | | |

Cooler Temp 5 °C

**Sample Matrix**

DW - Drinking Water AQ - Aqueous WW - Waste Water
OI - Oil LIQ - Liquid (Specify) OT - Other (Specify)
S - Soil SL - Sludge SOL - Solid W - Wipe

## SAMPLE INFORMATION

| Client ID | Depth | Sampling Date | Sampling Time | Matrix | # container | IAL # | AMMONIA AS N2 | TOTAL OIL & GREASE | CADMIUM | COPPER | IRON | LEAD | MERCURY | NICKEL | ZINC | HCl | NaOH | HNO3 | H2SO4 | MeOH | Other | None | Encore |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STJ-0707 | — | 7/6/07 | 1120 | WW | 1 | 1 | X | X | X | X | X | X | X | X | X | | | | | | | | |

**ANALYTICAL PARAMETERS** / **# BOTTLES & PRESERVATIVES**

Known Hazard: Yes or No Describe:

Conc. Expected: Low Med High

*Please print legibly and fill out completely. Samples cannot be processed and the turnaround time will not start until any ambiguities have been resolved.*

MDL Req: Old GWQS - 11/05 GWQS - SCC - OTHER (SEE COMMENTS)

| Signature/Company | Date | Time | Signature/Company |
|---|---|---|---|
| Relinquished by: [signature] | 7/6/07 | 1600 | Received by: [signature] |
| Relinquished by: | | | Received by: |
| Relinquished by: | | | Received by: |
| Relinquished by: | | | Received by: |
| Relinquished by: | | | Received by: |

Comments:

Lab Case # 6888

PAGE: 2 of 3

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05/2006 Ref. No: G 020900900

EPA Request #: III.B.1.f.

PVSC39 - 00002289

Industrial Department

Phone # (973) 361-4252
Fax # (973) 989-5288

# INTEGRATED ANALYTICAL LABORATORIES
# CHAIN OF CUSTODY

273 Franklin Rd
Randolph, NJ 07869

| CUSTOMER | |
|---|---|
| Company: | ESI |
| Address: | |
| | |
| Telephone #: | |
| Fax #: | |
| Project Manager: | |
| Sampler: | |
| Project Name: | St. JOSEPH'S HOSPITAL |
| Project Location (State): | NJ |
| Bottle Order #: | |
| Quote # : | |

| REPORTING INFO | |
|---|---|
| REPORT TO: | |
| Address: | |
| | |
| Attn: | |
| FAX # | |
| INVOICE TO: | |
| Address: | |
| | |
| | |
| Attn: | |
| PO # | |

Turnaround Time (starts the following day if samples rec'd at lab > 5PM)

Lab notification is required for RUSH TAT prior to sample arrival. RUSH TAT IS NOT GUARANTEED WITHOUT LAB APPROVAL. RUSH SURCHARGES WILL APPLY IF ABLE TO ACCOMMODATE**

| Conditional TPHC | Results needed by: | Rush TAT Charge ** | Report Format | DISKETTE |
|---|---|---|---|---|
| 24 hr* 48 hr 72 hr NA | | 24 hr - 100%.... | Results Only | SRP. dbf format |
| Verbal/Fax 2 wk/Std | | 48 hr - 75%.... | Reduced | SRP.wk1 format |
| 24 hr* 48 hr* 72 hr* 1 wk* | | 72 hr - 50%.... | Regulatory | lab approved custom EDD |
| Hard Copy 3 wk/Std | | 96 hr - 35%.... | Other (describe) | NO DISK/CD REQ'D |
| 2 wk* call for price | | 5 day - 25%.... 6-9 day 10% | | |

Cooler Temp 5 °C

Sample Matrix

DW - Drinking Water AQ - Aqueous WW - Waste Water
OI - Oil LIQ - Liquid (Specify) OT - Other (Specify)
S - Soil SL - Sludge SOL - Solid W - Wipe

## SAMPLE INFORMATION

## ANALYTICAL PARAMETERS

| Client ID | Depth | Sampling Date | Sampling Time | Matrix | # container | IAL # | PHENOLS | pH | HCl | NaOH | HNO3 | H2SO4 | MeOH | Other | None | Encore |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STJ-0707 | — | 7/6/07 | 1120 | WW | 1 | 1 | X | X | | | | | | | | |

## # BOTTLES & PRESERVATIVES

Known Hazard: Yes or No Describe:

Conc. Expected: Low Med High

MDL Req: Old GWQS - 11/05 GWQS - SCC - OTHER (SEE COMMENTS)

*Please print legibly and fill out completely. Samples cannot be processed and the turnaround time will not start until any ambiguities have been resolved.*

| Signature/Company | Date | Time | Signature/Company |
|---|---|---|---|
| Relinquished by: [signature] | 7/6/07 | 1600 | Received by: [signature] |
| Relinquished by: | | | Received by: |
| Relinquished by: | | | Received by: |
| Relinquished by: | | | Received by: |
| Relinquished by: | | | Received by: |

Comments:

Lab Case # 6888

PAGE: 3 of 3

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05/2006 Ref. No: G 020900900

EPA Request #: III.B.1.f.
PVSC39 - 00002290
Industrial Department

# PROJECT INFORMATION

E07-06898

**Case No.** E07-06898 **Project** ST. JOSEPH'S HOSPITAL

**Customer** ESI, INC.

**P.O. #**

**Contact** Bob Lawrence

**Received** 7/6/2007 16:00

**EMail** rlawrenc@enviro-sciences.com ☑ EMail EDDs

**Verbal Due** 7/20/2007

**Phone** (973) 398-8183 **Fax** 1(973) 398-8037

**Report Due** 7/27/2007

**Report To**

111 Howard Blvd
Suite 108
Mount Arlington, NJ 07856
Attn: Bob Lawrence

**Bill To**

111 Howard Blvd
Suite 108
Mount Arlington, NJ 07856
Attn: Bob Lawrence

**Report Format** Reduced

**Additional Info** ☐ State Form ☐ Field Sampling ☐ Conditional VOA

| Lab ID | Client Sample ID | Depth Top / Bottom | Sampling Time | Matrix | Unit | # of Containers |
|---|---|---|---|---|---|---|
| 06898-001 | STJ-0707 | n/a | 7/6/2007@11:20 | Aqueous | mg/L | 11 |

| Sample # | Tests | Status | QA Method |
|---|---|---|---|
| 001 | Cadmium - Cd | Run | 200.8 |
| " | Copper - Cu | Run | 200.8 |
| " | Iron - Fe | Run | 200.7 |
| " | Lead - Pb | Run | 200.8 |
| " | Mercury - Hg | Run | 245.1 |
| " | Nickel - Ni | Run | 200.8 |
| " | Zinc - Zn | Run | 200.8 |
| " | Ammonia (NH3) | Complete | 350.1 |
| " | BOD | Run | 405.1 |
| " | COD | Run | HACH 8000 |
| " | Cyanide, Total | Run | 335.2 |
| " | Oil _Grease | Run | 413.1 |
| " | pH/Corrosivity | Complete | 150.1 |
| " | TOC | Run | 415.1 |
| " | Total Recoverable Phenols | Run | 420.2 |
| " | Total Solids | Run | 160.3 |
| " | TPHC | Run | 418.1 |
| " | TSS (Suspended) | Run | 160.2 |
| " | TVS (Total Volatile Solids) | Run | 2540G |
| " | VSS (Volatile Suspended Solids) | Run | 2540G |



Integrated Analytical Labs ~ 273 Franklin Road, Randolph, NJ 07869 ~ (973) 361-4252 ~ Fax (973) 989-5288

# INTEGRATED ANALYTICAL LABORATORIES, LLC

## SAMPLE RECEIPT VERIFICATION

CASE NO: **E 07** **06898** CLIENT: FJI

COOLER TEMPERATURE: 2° - 6°C: ✓ ( See Chain of Custody)

COC: COMPLETE / INCOMPLETE

**Comments**

**KEY**

✓ = YES/NA
✗ = NO

- ✓ Bottles Intact
- ✓ no-Missing Bottles
- ✓ no-Extra Bottles

- ✓ Sufficient Sample Volume
- ✓ no-headspace/bubbles in VOs
- ✓ Labels intact/correct
- ✓ pH Check (exclude VOs)[1]
- ✓ Correct bottles/preservative
- ✓ Sufficient Holding/Prep Time[1]
- [ ] Sample to be Subcontracted

[1] All samples with "Analyze Immediately" holding times will be analyzed by this laboratory past the holding time. This includes but is not limited to the following tests: pH, Temperature, Free Residual Chlorine, Total Residual Chlorine, Dissolved Oxygen, Sulfite.

ADDITIONAL COMMENTS:

SAMPLE(S) VERIFIED BY: INITIAL [illegible] DATE 7/6/07

**CORRECTIVE ACTION REQUIRED:** **YES** [ ] (SEE BELOW) **NO** [ ]

CLIENT NOTIFIED: YES [ ] Date/ Time: _____ NO [ ]

PROJECT CONTACT:

SUBCONTRACTED LAB:

DATE SHIPPED:

ADDITIONAL COMMENTS:

VERIFIED/TAKEN BY: INITIAL MB DATE 7.9.07 REV 02/05 0037

# Laboratory Custody Chronicle

**IAL Case No.**
**E07-06898**

**Client** ESI, INC.

**Project** ST. JOSEPH'S HOSPITAL

**Received On** 7/ 6/2007@16:00

| Department: Metals | | | Prep. Date | Analyst | Analysis Date | Analyst |
|---|---|---|---|---|---|---|
| Cadmium - Cd | 06898-001 | Aqueous | 7/10/07 | Lisa | 7/10/07 | Helge |
| Copper - Cu | -001 | Aqueous | 7/10/07 | Lisa | 7/10/07 | Helge |
| Iron - Fe | -001 | Aqueous | 7/10/07 | Lisa | 7/10/07 | Helge |
| Lead - Pb | -001 | Aqueous | 7/10/07 | Lisa | 7/10/07 | Helge |
| Mercury - Hg | -001 | Aqueous | 7/10/07 | Lisa | 7/10/07 | Helge |
| Nickel - Ni | -001 | Aqueous | 7/10/07 | Lisa | 7/10/07 | Helge |
| Zinc - Zn | -001 | Aqueous | 7/10/07 | Lisa | 7/10/07 | Helge |

| Department: Wet Chemistry | | | Prep. Date | Analyst | Analysis Date | Analyst |
|---|---|---|---|---|---|---|
| Ammonia (NH3) | -001 | Aqueous | n/a | n/a | 7/ 9/07 | Jackie |
| BOD | -001 | Aqueous | n/a | n/a | 7/ 6/07@17:00 | Kris |
| COD | -001 | Aqueous | n/a | n/a | 7/17/07 | Kris |
| Cyanide, Total | -001 | Aqueous | n/a | n/a | 7/10/07 | Jackie |
| Oil & Grease | -001 | Aqueous | n/a | n/a | 7/17/07 | Robert |
| TOC | -001 | Aqueous | n/a | n/a | 7/11/07 | Elma |
| TPHC | -001 | Aqueous | n/a | n/a | 7/11/07 | Elma |
| TSS (Suspended) | -001 | Aqueous | n/a | n/a | 7/ 9/07 | Kam |
| TVS (Total Volatile Solids) | -001 | Aqueous | n/a | n/a | 7/13/07 | Hala |
| Total Recoverable Phenols | -001 | Aqueous | n/a | n/a | 7/10/07 | Debbie |
| Total Solids | -001 | Aqueous | n/a | n/a | 7/10/07 | Hala |
| VSS (Volatile Suspended Solids) | -001 | Aqueous | n/a | n/a | 7/10/07 | Kam |
| pH/Corrosivity | -001 | Aqueous | n/a | n/a | 7/ 9/07@10:00 | Hala |

***Review and Approval:***



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