

W 03609

Analytical Data Package Prepared For

Bechtel Hanford

0056216

Radiochemical Analysis By

STL Richland

2800 G.W. Way, Richland, Wa 99352, (509) 375-3131

Assigned Laboratory Code: STLRL

Data Package Contains 18 Pages

Report No.: 17994

| SDG No. | Order No. | Client Sample ID (List Order) | Lot-Sa No. | Work Order | Report DB ID | Batch No. |
|---------|-----------|-------------------------------|------------|------------|--------------|-----------|
| W03609 | B01-114 | B12XY3 | J1J050196- | ELMVW1AA | 9ELMVW10 | 1281526 |

RECEIVED
JAN 24 2002

EDMC





CERTIFICATE OF ANALYSIS

Bechtel Hanford, Inc.
3350 George Washington Way
Richland, WA 99352

STL Richland
2800 George Washington Way
Richland, WA 99352-1613

Tel: 509 375 3131
Fax: 509 375 5590
www.stl-inc.com

October 25, 2001

Attention: Joan Kessner

| | | |
|-------------------|---|------------------|
| SAF Number | : | B01-114 |
| Date SDG Closed | : | October 19, 2001 |
| Number of Samples | : | One (1) |
| Sample Type | : | Water |
| SDG Number | : | W03609 |
| Data Deliverable | : | 45-Day |

I. Introduction

On October 19, 2001, one water sample was received at STL Richland (STLR) for chemical analysis. Upon receipt, the sample was assigned the following laboratory ID number to correspond with the Bechtel Hanford, Inc. (BHI) specific ID:

| | | | |
|-----------------|----------------|---------------|------------------------|
| <u>STLR ID#</u> | <u>BHI ID#</u> | <u>MATRIX</u> | <u>DATE OF RECEIPT</u> |
| ELMVM | B12XY3 | WATER | 10/05/01 |

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analysis was: **Chemical Analysis**
Chromium Hex by EPA method 7196

Bechtel Hanford, Inc.
October 25, 2001
Page 2

III. Quality Control

The analytical results for each analysis performed under SDG W03609 include a minimum of one Laboratory Control Sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

Quality control sample results are reported in mg/L.

IV. Comments

Chemical Analyses

Chromium Hex by EPA method 7196:

The LCS, batch blank, sample, sample duplicate (B12XY3) and sample matrix spike/matrix spike duplicate (B12MP3) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:



Jackie Waddell
Project Manager

Drinking Water Method Cross References

| DRINKING WATER ASTM METHOD CROSS REFERENCES | | |
|--|---------------|---------------------------|
| Referenced Method | Isotope(s) | STL Richland's SOP number |
| EPA 901.1 | Cs-134, I-131 | RICH-RC-5017 |
| EPA 900.0 | Alpha & Beta | RICH-RC-5014 |
| EPA 903.1 | Ra-226 | RICH-RC-5005 |
| EPA 904.0 | Ra-228 | RICH-RC-5005 |
| EPA 905.0 | Sr89/90 | RICH-RC-5006 |
| ASTM D2460 | Total Radium | RICH-RC-5027 |
| Standard Method 7500-U-C & ASTM D57174 | Uranium | RICH-RC-5058 |
| EPA 906.0 | Tritium | RICH-RC-5007 |
| | | |
| | | |
| | | |
| | | |
| NOTE: | | |
| The Gross Alpha LCS is prepared with Am-241 (unless otherwise specified in the case narrative) | | |
| The Gross Beta LCS is prepared with Sr/Y-90 (unless otherwise specified in the case narrative) | | |

Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, $R = \text{constants} * f(x,y,z,\dots)$. The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/\sqrt{n}), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

| | |
|---|---|
| Action Lev | An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit. |
| Batch | The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together. |
| Bias | Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30. |
| COC No | Chain of Custody Number assigned by the Client or STL Richland. |
| Count Error (#s) | Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background. |
| Total Uncert (#s) <i>u_c - Combined Uncertainty.</i> | All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, <i>u_c the combined uncertainty</i> . The uncertainty is absolute and in the same units as the result. |
| (#s), Coverage Factor | The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations. |
| CRDL (RL) | Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL) |
| Lc | Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. $Lc = (1.645 * \text{Sqrt}(2 * (\text{BkgndCnt} / \text{BkgndCntMin}) / \text{SCntMin})) * (\text{ConvFct} / (\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$. For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero. |
| Lot-Sample No | The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot. |
| MDC MDA | Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. $MDC = (4.65 * \text{Sqrt}((\text{BkgndCnt} / \text{BkgndCntMin}) / \text{SCntMin}) + 2.71 / \text{SCntMin}) * (\text{ConvFct} / (\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$. For LSC methods the batch blank is used as a measure of the background variability. |
| Primary Detector | The instrument identifier associated with the analysis of the sample aliquot. |
| Ratio U-234/U-238 | The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038. |
| Rst/MDC | Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result. |
| Rst/TotUcert | Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result. |
| Report DB No | Sample Identifier used by the report system. The number is based upon the first five digits of the Work Order Number. |
| RER | The equation Replicate Error Ratio = $(S-D) / [\text{sqrt}(\text{TPUs}^2 + \text{TPUd}^2)]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample. |
| SDG | Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt. |
| Sum Rpt Alpha Spec Rst(s) | The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units. |
| Work Order | The LIMS software assign test specific identifier. |
| Yield | The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method. |

Sample Results Summary

Date: 26-Oct-01

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Report No. : 17994

SDG No: W03609

| Client ID | Work Order Number | Parameter | Result +- Uncertainty | Qual | Units | Yield | MDC MDA | RER |
|--------------------|-------------------|-----------|----------------------------|------|-------|-------|----------|-----|
| B12XY3 | ELMVW1AA | HEXCHROME | 2.00E-03 +- 0.0E+00 (2s) U | | mg/L | N/A | 2.00E-03 | |
| B12XY3 DUP | ELMVW1AE | HEXCHROME | 2.00E-03 +- 0.0E+00 (2s) U | | mg/L | N/A | 2.00E-03 | |
| Number of Results: | | 2 | | | | | | |

QC Results Summary
STL Richland STLRL
 Ordered by QC Type, Batch No.

Date: 26-Oct-01

Report No. : 17994

SDG No.: W03609

| QC Type | Work Order Number | Parameter | Result +- Uncertainty | Qual | Units | Yield | Recovery | Bias | MDC MDA |
|------------|-------------------|-----------|--------------------------|------|-------|-------|----------|------|----------|
| MATRIX SPI | ELMVW1AC | HEXCHROME | 5.28E-01 +- 0.0E+00 (2s) | | mg/L | N/A | 100.38% | 0.0 | 2.00E-03 |
| MATRIX SPI | ELMVW1AD | HEXCHROME | 5.27E-01 +- 0.0E+00 (2s) | | mg/L | N/A | 100.19% | 0.0 | 2.00E-03 |
| BLANK QC | ELRNQ1AA | HEXCHROME | 2.00E-03 +- 0.0E+00 (2s) | U | mg/L | N/A | | | 2.00E-03 |
| LCS | ELRNQ1AC | HEXCHROME | 5.00E-01 +- 0.0E+00 (2s) | | mg/L | N/A | 100.00% | 0.0 | 2.00E-03 |

Number of Results: 4

FORM I

Date: 26-Oct-01

SAMPLE RESULTS

Lab Name: STL Richland

SDG: W03609

Collection Date: 10/5/01 9:05:00 AM

Lot-Sample No.: J1J050196-

Report No. : 17994

Received Date: 10/5/01 10:45:00 AM

Client Sample ID: B12XY3

COC No. : B01-114

Matrix: WATER LIQUID

Ordered by Client Sample ID, Batch No.

| Parameter | Result | Count Qual | Count Error (2 s) | Total Uncert(2 s) | MDC MDA, Action Lev | Rpt Unit, Lc | Yield CRDL(RL) | Rst/MDC, Rst/TotUncert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Analy Method, Primary Detector |
|----------------|----------------------|------------|--------------------|------------------------|---------------------|--------------|----------------|------------------------|---------------------|---------------|--------------|--------------------------------|
| Batch: 1281526 | Work Order: ELMVW1AA | | | Report DB ID: 9ELMVW10 | | | | | | | | |
| HEXCHROME | 2.00E-03 | U | | 0.0E+00 | 2.00E-03 | mg/L | N/A | 1. N/A | 10/5/01 | | 100.0 ML | EPA7196 |

Number of Results: 1

Comments:

8000

FORM I

Date: 26-Oct-01

SAMPLE RESULTS

Lab Name: STL Richland

SDG: W03609

Collection Date: 10/5/01 9:05:00 AM

Lot-Sample No.: J1J050196-

Report No. : 17994

Received Date: 10/5/01 10:45:00 AM

Client Sample ID: B12XY3

COC No. : B01-114

Matrix: WATER LIQUID

Ordered by Client Sample ID, Batch No.

| Parameter | Result | Qual | Count Error (2 s) | Total Uncert(2 s) | MDC MDA, Action Lev | Rpt Unit, Lc | Yield CRDL(RL) | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Analy Method, Primary Detector |
|-----------|--------|------|--------------------|--------------------|---------------------|--------------|----------------|-----------------------|---------------------|---------------|--------------|--------------------------------|
|-----------|--------|------|--------------------|--------------------|---------------------|--------------|----------------|-----------------------|---------------------|---------------|--------------|--------------------------------|

6000

FORM II

Date: 26-Oct-01

DUPLICATE RESULTS

Lab Name: STL Richland

SDG: W03609

Collection Date: 10/5/01 9:05:00 AM

Lot-Sample No.: J1J050196-

Report No. : 17994

Received Date: 10/5/01 10:45:00 AM

Client Sample ID: B12XY3 DUP

COC No. : B01-114

Matrix: WATER LIQUID

| Parameter | Result, Orig Rst | Qual | Count Error (2 s) | Total Uncert(2 s) | MDC MDA, Action Lev | Rpt Unit, CRDL | Yield | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Analy Method, Primary Detector |
|----------------|----------------------|------|-----------------------|------------------------|------------------------|-------------------------|-------|--------------------------|------------------------|------------------|-----------------|-----------------------------------|
| Batch: 1281526 | Work Order: ELMVW1AE | | | Report DB ID: ELMVW1ER | | Orig Sa DB ID: 9ELMVW10 | | | | | | |
| HEXCHROME | 2.00E-03 | U | | 0.0E+00 | 2.00E-03 | mg/L | N/A | 1. | 10/5/01 | | 100.0 | EPA7196 |
| | 2.00E-03 | RPD | 0.0 | | | | | N/A | | | ML | |

Number of Results: 1

Comments:

0010

FORM II
BLANK RESULTS

Date: 26-Oct-01

Lab Name: STL Richland

SDG: W03609

Lot-Sample No.: J1J080000-

Report No. : 17994

Matrix: WATER

| Parameter | Result | Qual | Count Error (2 s) | Total Uncert(2 s) | MDC MD A, | Rpt Unit, CRDL | Yield | Rst/MDC, Rst/TotUncert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Analy Method, Primary Detector |
|----------------|----------------------|------|-----------------------|------------------------|--------------|-------------------|-------|---------------------------|------------------------|------------------|-----------------|-----------------------------------|
| Batch: 1281526 | Work Order: ELRNQ1AA | | | Report DB ID: ELRNQ1AB | | | | | | | | |
| HEXCHROME | 2.00E-03 | U | | 0.0E+00 | 2.00E-03 | mg/L | N/A | 1. N/A | 10/5/01 | | 100.0 ML | EPA7196 |

Number of Results: 1

Comments:

1100

FORM II

Date: 26-Oct-01

LCS RESULTS

Lab Name: STL Richland

SDG: W03609

Lot-Sample No.: J1J080000-

Report No. : 17994

Matrix: WATER

| Parameter | Result | Count Qual Error (2 s) | Total Uncert(2 s) | MDC MD | Report Unit | Yield | Expected | Expected Uncert | Recovery, Bias | Analysis, Prep Date | Allquot Size | Analy Method, Primary Detector |
|----------------|----------------------|----------------------------|------------------------|----------|----------------|-------------|----------|--------------------|-------------------|------------------------|-----------------|-----------------------------------|
| Batch: 1281526 | Work Order: ELRNQ1AC | | Report DB ID: ELRNQ1CS | | | | | | | | | |
| HEXCHROME | 5.00E-01 | | 0.0E+00 | 2.00E-03 | mg/L | N/A | 5.00E-01 | | 100.00% | 10/5/01 | 100.0 | EPA7196 |
| | | | | | | Rec Limits: | | | 0.0 | | ML | |

Number of Results: 1

Comments:

0012

FORM II

Date: 26-Oct-01

MATRIX SPIKE RESULTS

Lab Name: STL Richland

SDG: W03609

Lot-Sample No.: J1J050196-

Report No. : 17994

Matrix: WATER LIQUID

| Parameter | Spike Result, Orig Rst | Qual | Count Error (2 s) | Total Uncert(2 s) | MDC MD | Rpt Unit, CRDL | Yield | Rec- overy | Exp- ected | Exp Uncert | Analysis, Prep Date | Allquot Size | Analy Method, Primary Detector |
|-----------------------------|--|------|-----------------------|-----------------------------------|----------|-------------------|--------------------------------|---------------|---------------|---------------|------------------------|-----------------|-----------------------------------|
| Batch: 1281526 HEXCHROME | Work Order: ELMVW1AC 5.28E-01 2.00E-03 | RPD | 2.0 | Report DB ID: ELMVW1CW 0.0E+00 | 2.00E-03 | mg/L | Orig Sa DB ID: 9ELMVW10 N/A | 100.38% | 5.26E-01 | | 10/5/01 | 100.0 ML | EPA7196 |
| Batch: 1281526 HEXCHROME | Work Order: ELMVW1AD 5.27E-01 2.00E-03 | RPD | 2.0 | Report DB ID: ELMVW1DW 0.0E+00 | 2.00E-03 | mg/L | Orig Sa DB ID: 9ELMVW10 N/A | 100.19% | 5.26E-01 | | 10/5/01 | 100.0 ML | EPA7196 |

Number of Results: 2

Comments:

0013



Richland Laboratory
Data Review Check List
METALS

| <u>Work Order Number(s):</u> ELMVW | | <u>BATCH #</u> 1281524 | | |
|--|---------|------------------------|---------|----------------------------------|
| <u>Lab Sample Numbers or SDG:</u> WD3609 | | <u>LOT #</u> JIJ050196 | | |
| <u>Method/Test/Parameter:</u> CR+6 IN WATER | | <u>RICHWC 5003 R4</u> | | |
| Review Item | Yes (✓) | No (✓) | N/A (✓) | 2 nd Level Review (✓) |
| A. Initial Calibration | | | | |
| 1. Performed at required frequency with required number of levels? | ✓ | | | ✓ |
| 2. Correlation coefficient within QC limits? | ✓ | | | ✓ |
| 3. Initial calibration verification (ICV) analyzed immediately after calibration and results within QC limits? | ✓ | | | ✓ |
| 4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters \leq reporting limit? | ✓ | | | ✓ |
| B. Continuing Calibration | | | | |
| 1. CCV analyzed at required frequency and all parameters within QC limits? | ✓ | | | ✓ |
| 2. CCB analyzed at required frequency and all results \leq reporting limit? | ✓ | | | ✓ |
| C. Sample Analysis | | | | |
| 1. Were any samples with concentrations above the linear range for any parameter diluted and reanalyzed? | | | ✓ | ✓ |
| 2. Were all sample holding times met? | ✓ | | | ✓ |
| D. QC Samples | | | | |
| 1. All results for the preparation blank below limits? | ✓ | | | ✓ |
| 2. MS or MS/MSD recoveries within QC limits and %RPD (for MSD) acceptable? | ✓ | | | ✓ |
| 3. LCS percent recovery within QC limits and %RPD (for LCSD) acceptable? | ✓ | | | ✓ |
| 4. Analytical spikes within QC limits where applicable? | | | ✓ | ✓ |
| 5. ICP only: One serial dilution performed per SDG? | | | ✓ | ✓ |
| 6. ICP only: CRDL standard (CRI or CRA) analyzed at required frequency? | | | ✓ | ✓ |
| 7. ICP only: Interference check samples (ICSA, ICSAB) and HICAL analyzed at the required frequencies and within QC limits? | | | ✓ | ✓ |

| Review Item | Yes S | No S | N/A S | 2 nd Level Review S |
|--|----------|---------|----------|--------------------------------------|
| E. Other | | | ✓ | ✓ |
| 1. Are all nonconformances included and noted? | | | ✓ | ✓ |
| 2. Is the correct date and time of analysis shown? | ✓ | | | ✓ |
| 3. Did the analyst sign and date the front page of the analytical run? | ✓ | | | ✓ |
| 4. Correct methodology used? | ✓ | | | ✓ |
| 5. Transcriptions checked? | ✓ | | | ✓ |
| 6. Calculations checked at minimum frequency? | ✓ | | | ✓ |
| 7. Units checked? | ✓ | | | ✓ |

Comments on any "No" response:

Analyst: Martha Fabi

Date: 10/12/01

Second-Level Review: Roxie Ross

Date: 10/15/01

RQC050

Severn Trent Laboratories, Inc.
WET CHEM BATCHSHEET

Run Date: 10/08/01
Time: 15:34:55

STL Richland

PRODUCTION FIGURES - WET CHEM

| TOTAL NUMBER | SAMPLE NUMBER | QC | RS-RUN MATRIX | RE-RUN OTHER | MISC NUMBER | TOTAL HOURS | EXPANDED DELIVERABLE |
|--------------|---------------|----|---------------|--------------|-------------|-------------|----------------------|
|--------------|---------------|----|---------------|--------------|-------------|-------------|----------------------|

| | | | | | | | |
|-------------|------------------------|-----------|--|--|--|-------------|--|
| METHOD: | EA Hexavalent Chromium | 6A) | | | | | |
| QC BATCH #: | 1281526 | INITIALS: | | | | DATA ENTRY: | |
| PREP DATE: | 10/08/01 | PREP | | | | INITIALS | |
| COMP DATE: | 10/08/01 | ANAL | | | | DATE | |
| USER: | WAGARR | | | | | | |

| Work Order | Lab Number | Structured Analysis | Exp. Del. | Analysis Date | Sample ID: |
|------------|------------------|---------------------|-----------|---------------|-----------------|
| ELMVW-1-AA | J-1J050196-001 | XX I 88 EA 5I | E | | B12XY3 |
| ELMVW-1-AD | J-1J050196-001-D | XX I 88 EA 5I | E | | B12XY3 |
| ELMVW-1-AC | J-1J050196-001-S | XX I 88 EA 5I | E | | B12XY3 |
| ELMVW-1-AE | J-1J050196-001-X | XX I 88 EA 5I | E | | B12XY3 DUP |
| ELRNQ-1-AA | J-1J080000-526-B | XX I 88 EA 5I | | | INTRA-LAB BLANK |
| ELRNQ-1-AC | J-1J080000-526-C | XX I 88 EA 5I | | | INTRA-LAB CHECK |

Control Limits

(85-115)
(85-115)
(85-115)

0016

0-21020

| | | | | | | |
|--|------------------------------|---|---------------------------|--|--------------------------------------|----------------------------|
| Bechtel Hanford Inc. | | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | | | B01-114-15 | Page 1 of 1 |
| Collector Renee Nielson | Fahlgren | Company Contact Virginia Rohay | Telephone No. 372-9100 | Project Coordinator TRENT, SJ | Price Code 7N | Data Turnaround 45 Days |
| Project Designation PFP Well Installation Sampling and Analysis - Water | | Sampling Location 200 West; Well 299-W15-764 | | SAF No. B01-114 | Air Quality <input type="checkbox"/> | 45 Days |
| Ice Chest No. ERC 97-079 | Field Logbook No. EL 1562 | COA T20ZP1D722 | | Method of Shipment Federal Express <u>RG 10-5-01 Government Vehicle</u> | | |
| Shipped To Severn Trent Incorporated | | Offsite Property No. NA | | Bill of Lading/Air Bill No. NA | | |

| | | | | | | | | | | | | | | | | | | | | | |
|--|---------------------|-------------------------------|-------------|---------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage Samples did not originate in radiological controlled area. No total activity associated with sample/samples. | Preservation | Cool 4C | | | | | | | | | | | | | | | | | | | |
| | Type of Container | P | | | | | | | | | | | | | | | | | | | |
| | No. of Container(s) | 1 | | | | | | | | | | | | | | | | | | | |
| | Volume | 500mL | | | | | | | | | | | | | | | | | | | |
| SDG W03609 | | SAMPLE ANALYSIS J110520196 | | Chromium Hex - 7196 | | | | | | | | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | | | | | | | | | | | |
| B12XY3 ELMVM | WATER | 10-5-01 | 0905 | X | | | | | | | | | | | | | | | | | |

| | | | | | | | | | |
|------------------------------|--|-----------|--|-----------------------------|--|---------------|--|--|--|
| CHAIN OF POSSESSION | | | | SPECIAL INSTRUCTIONS | | | | Matrix * S=Soil SB=Sediment SU=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Trace WI=Wipe L=Liquid V=Vegetation X=Other | |
| Relinquished By/Removed From | | Date/Time | | Received By/Stored In | | Date/Time | | | ** All requests for Cr VI at the Severn Trent Laboratory, MUST BE routed to Richland |
| R. Fahlgren | | 10-5-01 | | A. Rhindart | | 10-5-01 10:45 | | | |
| Relinquished By/Removed From | | Date/Time | | Received By/Stored In | | Date/Time | | | |
| Relinquished By/Removed From | | Date/Time | | Received By/Stored In | | Date/Time | | | |
| Relinquished By/Removed From | | Date/Time | | Received By/Stored In | | Date/Time | | | |
| Relinquished By/Removed From | | Date/Time | | Received By/Stored In | | Date/Time | | | |

| | | | |
|---------------------------------|-----------------|-------------|-----------|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

0017

Sample Check-in List

Date/Time Received: 10/05/01 10:45
 Client: BHT SDG #: W03609 NA SAF #: B01-114 NA
 Work Order Number: J10050196 Chain of Custody #: B01-114-15
 Shipping Container ID: ERC 97-079 Air Bill #: N/A

1. Custody Seals on shipping container intact? NA Yes No
2. Custody Seals dated and signed? NA Yes No
3. Chain of Custody record present? Yes No
4. Cooler temperature: 0°C NA 5. Vermiculite/packing materials is NA Wet Dry
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA Yes No
8. Samples have:
 tape hazard labels
 X custody seals appropriate samples labels
9. Samples are:
 X in good condition leaking
 broken have air bubbles
 (Only for samples requiring head space)
10. Sample pH taken? NA pH < 2 pH > 2
11. Sample Location, Sample Collector Listed? * Yes No
 *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes No
13. Description of anomalies (include sample numbers): _____

Sample Custodian: Alexis Rhutao / Rich Lat Date: 10/05/01

| Client Sample ID | Analysis Requested | Condition | Comments/Action |
|------------------|--------------------|-----------|-----------------|
| | | | |
| | | | |
| | | | |

Client Informed on _____ by _____ Person contacted _____

[] No action necessary; process as is.

Project Manager _____ Date _____