

0069062



STL

STL Richland
2800 George Washington Way
Richland, WA 99354

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

January 3, 2006

Windy Fetterly, A.P.P
2430 Stevens Drive, Room 192
Richland, WA 99354

Reference: Contract 615

Dear Ms. Fetterly:

Accompanying this letter are the Data Package(s) and Invoice(s) for the radiochemical analyses for the following Fluor Sample Delivery Groups:

SDG NUMBER

SAF NUMBER

W04834

F04-034

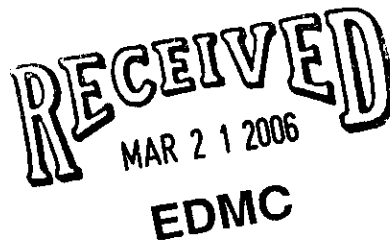
If you have any questions regarding this data package or require any additional information please contact Hans Carman at 375-3131.

Receipt of this letter and the packages are acknowledged by:

Windy Fetterly
Name

January 5, 2006
Date

XC: File



Analytical Data Package Prepared For
Fluor Hanford Inc.

Radiochemical Analysis By

STL Richland

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Assigned Laboratory Code: STLRL

Data Package Contains 19 Pages

Report No.: 30960

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
W04834	F04-034	B1H3F3	J5L190138-1	HTEE71AA	9HTEE710	5364131



Certificate of Analysis

Fluor Hanford
P.O. Box 1000, T6-03
Richland, WA 99352

January 3, 2006

Attention: Steve Trent



SAF Number : F04-034
Date SDG Closed : December 16, 2005
Number of Samples : One (1)
Sample Type : Water
SDG Number : W04834
Data Deliverable : 15 / 45-Day Summary

CASE NARRATIVE

I. Introduction

On December 16, 2005, one water sample was received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the sample was assigned to lot J5L190138 and assigned the following laboratory ID number to correspond with the Fluor Hanford (FH) specific ID:

<u>FH ID#</u>	<u>STLR ID#</u>	<u>MATRIX</u>	<u>DATE OF RECEIPT</u>
B1H3F3	HTEE7	WATER	12/16/05

II. Sample Receipt

The sample was received in good condition and no anomalies were noted during check-in.

III. 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 analyses were: **Chemical Analysis**
Hexavalent Chromium by EPA method 7196A

Fluor Hanford
January 3, 2006

IV. Quality Control

The analytical results for each analysis performed includes 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.

QC and sample results are reported in the same units.

V. Comments

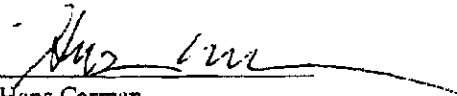
Chemical Analysis

Hexavalent Chromium by EPA method 7196A:

The LCS, batch blank, sample, sample matrix spike (B1H3F3), matrix spike duplicate (B1H3F3) and sample duplicate (B1H3F3) 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:



Hans Carman
Project Manager

Drinking Water Method Cross References

DRINKING WATER ASTM METHOD CROSS REFERENCES		
Referencad 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 D5174	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 $(\text{Result}/\text{Expected}) - 1$ 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) u_c - Combined Uncertainty.	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, u_c , the combined uncertainty. 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, TPU _s is the total uncertainty of the original sample and TPU _d 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: 03-Jan-06

STL Richland STLR

Ordered by Method, Batch No., Client Sample ID.

Report No. : 30960

SDG No: W04834

Batch	Client Id Work Order	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RPD
5364131	7196_CR6								
	B1H3F3								
	HTEE71AA	HEXCHROME	3.90E-03 +/- 0.00E+00		mg/L	N/A	2.00E-03		
	HTEE71AE	HEXCHROME	3.90E-03 +/- 0.00E+00		mg/L	N/A	2.00E-03	1.00E+01	0.0

No. of Results: 2

STL Richland RPD - Relative Percent Difference.

rptSTLRchSeSum
mary2 V4.14.4 A97

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

Date: 03-Jan-06

Report No. : 30960

SDG No.: W04834

Batch	Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC MDA
7196_CR6									
5364131 MATRIX SPIKE									
	HTEE71AC	HEXCHROME	5.47E-01 +- 0.00E+00		mg/L	N/A	104%	0.0	2.00E-03
	HTEE71AD	HEXCHROME	5.37E-01 +- 0.00E+00		mg/L	N/A	102%	0.0	2.00E-03
5364131 LCS									
	HT0NR1AC	HEXCHROME	5.28E-01 +- 0.00E+00		mg/L	N/A	106%	0.1	2.00E-03
5364131 BLANK QC									
	HT0NR1AA	HEXCHROME	2.00E-03 +- 0.00E+00	U	mg/L	N/A			2.00E-03
No. of Results: 4									

STL Richland Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 rptSTLRchQcSummary V4.14.4 A97 U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I
SAMPLE RESULTS

Date: 03-Jan-06

Lab Name: STL Richland

SDG: W04834

Collection Date: 12/16/2005 9:40:00 AM

Lot-Sample No.: J5L190138-1

Report No.: 30960

Received Date: 12/16/2005 11:05:00 AM

Client Sample ID: B1H3F3

COC No.: F04-034-053

Matrix: WATER

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	Primary Detector
Batch: 5364131	7196_CR6			Work Order: HTEE71AA			Report DB ID: 9HTEE710					
HEXCHROME	3.90E-03			0.00E+00	2.00E-03	mg/L	N/A	(1.9)	12/16/05		100.0	
								N/A			ML	

No. of Results: 1

Comments:

FORM II

Date: 03-Jan-06

DUPLICATE RESULTS

Lab Name: STL Richland

SDG: W04834

Collection Date: 12/16/2005 9:40:00 AM

Lot-Sample No.: J5L190138-1

Report No.: 30960

Received Date: 12/16/2005 11:05:00 AM

Client Sample ID: B1H3F3

COC No.: F04-034-053

Matrix: WATER

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 5364131	7196_CR6				Work Order: HTEE71AE	Report DB ID: HTEE71ER			Orig Sa DB ID: 9HTEE710			
HEXCHROME	3.90E-03			0.00E+00	2.00E-03	mg/L	N/A	(1.9)	12/16/05		100.0	
	3.90E-03		RPD 0.0			1.00E+01		N/A			ML	

No. of Results: 1 Comments:

STL Richland RPD - Relative Percent Difference.

rptSTLRchDupV4.1 MDC|MDA,Le - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
4.4 A97

FORM II
BLANK RESULTS

Date: 03-Jan-06

Lab Name: STL Richland
Matrix: WATER

SDG: W04834
Report No.: 30960

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primary Detector
Batch: 5364131	7196_CR6											
HEXCHROME	2.00E-03	U		0.00E+00	2.00E-03	mg/L	N/A	1. N/A	12/16/05		100.0 ML	

No. of Results: 1 Comments:

STL Richland
rptSTLRchBlank
V4.14.4 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II
LCS RESULTS

Date: 03-Jan-06

Lab Name: STL Richland

SDG: W04834

Matrix: WATER

Report No.: 30960

Parameter	Result	Count Qual Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 5364131	7196_CR6				Work Order: HT0NR1AC		Report DB ID: HT0NR1AS					
HEXCHROME	5.28E-01		0.00E+00	2.00E-03	mg/L	N/A	5.00E-01		106%	12/16/05	100.0	
						Rec Limits:	85	115	0.1		ML	
No. of Results: 1	Comments:											

STL Richland Bias - (Result/Expected)-1 as defined by ANSI N13.39.
rptSTLRchLcs
V4.14.4 A97

FORM II
MATRIX SPIKE RESULTS

Date: 03-Jan-06

Lab Name: STL Richland

SDG: W04834

Lot-Sample No.: J5L190138-1

Report No. : 30960

Matrix: WATER

Parameter	Spike Result, Orig Rst	Count Qual Error (2 s)	Total Uncert(2 s)	MDC MDA	Rpt Unit, CRDL	Yield	Rec- overy	Exp- ected	Exp Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 5364131	Work Order: HTEE71AC	Report DB ID: HTEE71CW	Orig Sa DB ID: 9HTEE710									
HEXCHROME	5.47E-01	0.00E+00	2.00E-03	mg/L	N/A	104.05%	5.26E-01	12/16/05	100.0	7196_CR6	ML	
	3.90E-03											
Batch: 5364131	Work Order: HTEE71AD	Report DB ID: HTEE71DW	Orig Sa DB ID: 9HTEE710									
HEXCHROME	5.37E-01	0.00E+00	2.00E-03	mg/L	N/A	102.13%	5.26E-01	12/16/05	100.0	7196_CR6	ML	
	3.90E-03											

Number of Results: 2

Comments:

STL Richland RER - Replicate Error Ratio = $(S-D)/[\text{sqrt}(\text{sq}(TPUs)+\text{sq}(TPUd))]$ as defined by ICPT BOA.
 rptSTLRchMs Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 V4.14.4 A97

FORM II

Date: 03-Jan-06

MATRIX SPIKE DUPLICATE RESULTS

Lab Name: STL Richland

SDG: W04834

Lot-Sample No.: J5L190138-1

Report No.: 30960

Matrix: WATER

Parameter	SpikeResult, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC ADA	Rpt Unit, CRDL	Yield	Rec- overy	Exp- ected	Exp Uncert	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 5364131	7196_CR6			Work Order: HTEE71AC		Report DB ID: HTEE71CW		Orig Sa DB ID: HTEE71DW					
HEXCHROME	5.47E-01			0.00E+00	2.00E-03	mg/L	N/A	104.05%	5.26E-01		12/16/05	100.0	
	5.37E-01	RPD	1.9									ML	
Batch: 5364131	7196_CR6			Work Order: HTEE71AD		Report DB ID: HTEE71DW		Orig Sa DB ID: HTEE71CW					
HEXCHROME	5.37E-01			0.00E+00	2.00E-03	mg/L	N/A	102.13%	5.26E-01		12/16/05	100.0	
	5.47E-01	RPD	1.9									ML	
No. of Results: 2	Comments:												

STL Richland RER - Replicate Error Ratio = $(S-D)/[\sqrt{(sq(TPUs)+sq(TPUD))}]$ as defined by ICPT BOA.
 rptSTLRchMsDup2 Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 V4.14.4 A97



STL

**Richland Laboratory
Data Review Check List
Hexavalent Chromium**

Work Order Number(s): HTEE7				
Lab Sample Numbers or SDG: W04834				
Method/Test/Parameter: Cr+6 in Water / RICH-WC-5003, Rev 7				
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 ≤ 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 ≤ 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 (✓)	No (✓)	N/A (✓)	2 nd Level Review (✓)
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: *Thomas E. Whelan*
 Second-Level Review: *[Signature]*

Date: *12/30/05*
 Date: *1-3-06*

STL RICHLAND

Floor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F04-034-053

PAGE 1 OF 1

COLLECTOR

Hughes/Deroos

COMPANY CONTACT

TRENT, SJ

TELEPHONE NO.

373-5869

PROJECT COORDINATOR

TRENT, SJ

PRICE CODE 7K

DATA TURNAROUND

SAMPLING LOCATION

DR-5

PROJECT DESIGNATION

DR-5 GW Treatment Facility Regen Waste Characterization - Waste Stream

SAF NO.

F04-034

AIR QUALITY

15 Days / 45 Days

ICE CHEST NO.

GRP-05-002

FIELD LOGBOOK NO.

AUF-12-428-1

COA

120533ES10

METHOD OF SHIPMENT

GOVERNMENT VEHICLE

SHIPPED TO

Waste Sampling & Characterization

sevin
Trent

BILL OF LADING/AIR BILL NO.

MATRIX*

- A=Air
- DL=Drum
- Liquids
- DS=Drum
- Solids
- L=Liquid
- O=Oil
- S=Soil
- SE=Sediment
- T=Tissue
- V=Vegetation
- W=Water
- WI=Wipe
- X=Other

POSSIBLE SAMPLE HAZARDS/REMARKS

FLH 29754
SDA W09834
JSL190138
One 02 03 06

PRESERVATION

Cool 4C None Cool 4C None

TYPE OF CONTAINER

P G/P G/P G/P

NO. OF CONTAINER(S)

1 1 1 1

VOLUME

60ml 125ml 500ml 125ml

SAMPLE ANALYSIS

IC Anions - 300.0 (Chloride, Sulfate) ICP Metals - 60.0 (AL) (Chromium, Cadmium) Chromium Hex - 7.96; pH - 50.1;

Cool 4C None Cool 4C None
 P G/P G/P G/P
 1 1 1 1
 60ml 125ml 500ml 125ml
 IC Anions - 300.0 (Chloride, Sulfate) ICP Metals - 60.0 (AL) (Chromium, Cadmium) Chromium Hex - 7.96; pH - 50.1;

SAMPLE NO.

MATRIX*

SAMPLE DATE

SAMPLE TIME

B1H3F3

HTEET

WATER

12-16-05

09:40

X

CHAIN OF POSSESSION

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS

RELINQUISHED BY/REMOVED FROM

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

** The laboratory is requested to filter all samples with a 0.45 micron filter and to preserve the metals with HNO3 to a pH less than 2.

RELINQUISHED BY/REMOVED FROM

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

Vessel 3

RELINQUISHED BY/REMOVED FROM

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

Regen 48

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

12/30/2005 8:32:08 AM

Sample Preparation/Analysis

Balance Id:

108302, FLUOR HANFORD IC
Management Federal Servi

Waste 88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
EA Chromium, Hexavalent (7196A)
01 STANDARD TEST SET

Pipet #:

Report Due: 01/03/2006

Sep1 DT/Tm Tech:

Batch: 5364131 WATER ug/L PM, Quote: HC , 29754
SEQ Batch, Test: None All Tests: 88EA, 5364131 88EA,

Sep2 DT/Tm Tech:

Prep Tech:

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, In/Date	Comments:
1 HTEE7-1-AA J5L190138-1-SAMP [REDACTED] 12/16/2005 09:40								
2 HTEE7-1-AC-S J5L190138-1-MS [REDACTED] 12/16/2005 09:40								
3 HTEE7-1-AD-D J5L190138-1-MSD [REDACTED] 12/16/2005 09:40								
4 HTEE7-1-AE-X J5L190138-1-DUP [REDACTED] 12/16/2005 09:40								
6 HT0NR-1-AA-B J5L300000-131-BLK [REDACTED] 12/16/2005 09:40								
6 HT0NR-1-AC-C J5L300000-131-LCS [REDACTED] 12/16/2005 09:40								

2/30/2005 8:32:09 AM

Sample Preparation/Analysis

Balance Id:

88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
EA Chromium, Hexavalent (7196A)
01 STANDARD TEST SET

Pipet #:

Report Due: 01/03/2006

Sep1 DT/Tm Tech:

Batch: 5364131

ug/L

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech:

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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Comments:

All Clients for Batch:

108302, FLUOR HANFORD IC

Waste Management Federal Servi, HC , 29754

HTEE71AA-SAMP Constituent List:

HEXCHROME RDL: ug/L LCL:85 UCL:115 RPD:20

HTEE71AC-MS Constituent List:

HEXCHROME RDL:10 ug/L LCL:85 UCL:115 RPD:20

HTEE71AD-MSD:

HEXCHROME RDL:10 ug/L LCL:85 UCL:115 RPD:20

HTONR1AA-BLK:

HEXCHROME RDL: ug/L LCL: UCL: RPD:

HTONR1AC-LCS:

HEXCHROME RDL:10 ug/L LCL:85 UCL:115 RPD:20

HTEE71AA-SAMP Calc Info:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

HTEE71AC-MS Calc Info:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

HTEE71AD-MSD:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

HTONR1AA-BLK:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

HTONR1AC-LCS:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By

Date:

STL Richland

Koy: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2

ISV - Insufficient Volume for Analysis

WO Cnt: 6

Richland Wa.

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ICOC v4.8.16