

Analytical Data Package Prepared For  
**Fluor Hanford Inc.**

Radiochemical Analysis By

**TAL Richland**

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

Assigned Laboratory Code: STLRL

Data Package Contains 20 Pages

Report No.: 37799

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
W05259	F08-001	B1PYF4	J7K010330-1	KAC2D1AA	9KAC2D10	7306311
		B1PYF5	J7K010330-2	KAC2R1AA	9KAC2R10	7306311

**RECEIVED**  
MAY 22 2008  
EDMC

DEC 2007  
**RECEIVED**

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## Certificate of Analysis

Fluor Hanford  
1200 Jadwin Ave.  
Richland, WA 99352

December 17, 2007

Attention: Steve Trent

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SAF Number	:	F08-001
Date SDG Closed	:	November 1, 2007
Number of Samples	:	Two (2)
Sample Type	:	Soil
SDG Number	:	W05259
Data Deliverable	:	45/45 Day

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### CASE NARRATIVE

#### I. Introduction

On November 1, 2007 two samples were received at TestAmerica Laboratories Richland (TALR) for chemical analysis. Upon receipt, the samples were assigned to lot J7K010330 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>
B1PYF4	KAC2D	SOIL	11/01/07
B1PYF5	KAC2R	SOIL	11/01/07

#### II. Sample Receipt

The samples were 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

December 17, 2007

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**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**

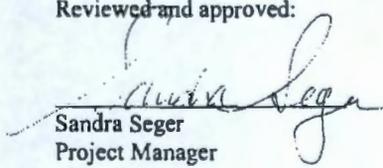
**Chemical Analysis**

Hexavalent Chromium by EPA method 7196A

The matrix spike recovery is low. Except as noted, the LCS, batch blank, samples, sample duplicate (B1PYF4) and sample matrix spike (B1PYF4) 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:

  
Sandra Seger  
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 00-02	Gross Alpha (Coprecipitation)	RICH-RC-5021
EPA 903.0	Total Alpha Radium (Ra-226)	RICH-RC-5027
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr-89/90	RICH-RC-5006
ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007

### Uncertainty Estimation

Test America 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

<b>Action Lev</b>	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.
<b>Batch</b>	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
<b>Bias</b>	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
<b>COC No</b>	Chain of Custody Number assigned by the Client or STL Richland.
<b>Count Error (#s)</b>	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.
<b>Total Uncert (#s) <i>u<sub>c</sub> Combined Uncertainty.</i></b>	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<sub>c</sub> the combined uncertainty.</i> The uncertainty is absolute and in the same units as the result.
<b>(#s), Coverage Factor CRDL (RL)</b>	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.  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)
<b>Lc</b>	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.
<b>Lot-Sample No</b>	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.
<b>MDC MDA</b>	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.
<b>Primary Detector</b>	The instrument identifier associated with the analysis of the sample aliquot.
<b>Ratio U-234/U-238</b>	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.
<b>Rst/MDC</b>	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.
<b>Rst/TotUcert</b>	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.
<b>Report DB No</b>	Sample Identifier used by the report system. The number is based upon the first five digits of the Work Order Number.
<b>RER</b>	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.
<b>SDG</b>	Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt.
<b>Sum Rpt Alpha Spec Rst(s)</b>	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.
<b>Work Order</b>	The LIMS software assign test specific identifier.
<b>Yield</b>	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: 17-Dec-07

**TAL Richland STLRL**

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

Report No. : 37799

SDG No: W05259

Batch	Client Id Work Order	Parameter	Result +- Uncertainty ( 2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
7306311	7196_CR6								
	B1PYF4								
	KAC2D1AA	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A	3.50E-01	3.50E-01	
	B1PYF4 DUP								
	KAC2D1AD	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A	3.50E-01	3.50E-01	0.0
	B1PYF5								
	KAC2R1AA	HEXCHROME	3.50E-01 +- 0.00E+00	U	mg/kg	N/A	3.50E-01	3.50E-01	
	No. of Results: 3								

TAL Richland  
rptSTLRchSaSum  
mary2 V5.1.4  
A2002

RPD - Relative Percent Difference.

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.

**QC Results Summary**

Date: 17-Dec-07

**TAL Richland STLRL**

Ordered by Method, Batch No, QC Type,.

Report No. : 37799

SDG No.: W05259

Batch	Work Order	Parameter	Result +/- Uncertainty ( 2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC MDA
<b>7196_CR6</b>									
7306311	MATRIX SPIKE, B1PYF4 MS								
	KAC2D1AC	HEXCHROME	8.79E+00 +/- 0.00E+00		mg/kg	N/A	86%	-0.1	3.50E-01
7306311	LCS,								
	KAEK81AC	HEXCHROME	1.84E+01 +/- 0.00E+00		mg/kg	N/A	92%	-0.1	3.50E-01
7306311	BLANK QC,								
	KAEK81AA	HEXCHROME	3.50E-01 +/- 0.00E+00	U	mg/kg	N/A			3.50E-01

No. of Results: 3

TAL Richland Bias - (Result/Expected)-1 as defined by ANSI N13.30.  
 rptSTLRchQcSummary V5.1.4 A2002 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.

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**FORM I**  
**SAMPLE RESULTS**

Date: 17-Dec-07

Lab Name: TA Richland  
Lot-Sample No.: J7K010330-1  
Client Sample ID: B1PYF4

SDG: W05259  
Report No.: 37799  
COC No.: F08-001-003

Collection Date: 11/1/2007 8:43:00 AM  
Received Date: 11/1/2007 11:45:00 AM  
Matrix: SOIL

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/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 7306311	7196_CR6				Work Order: KAC2D1AA		Report DB ID: 9KAC2D10					
HEXCHROME	<b>3.50E-01</b>	U		0.0E+00	3.50E-01	mg/kg	N/A	(1.)	12/4/07		2.5	
							3.50E-01	N/A			G	

No. of Results: 1      Comments:

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**FORM I**  
**SAMPLE RESULTS**

Date: 17-Dec-07

Lab Name: TA Richland  
Lot-Sample No.: J7K010330-2  
Client Sample ID: B1PYF5

SDG: W05259  
Report No. : 37799  
COC No. : F08-001-004

Collection Date: 11/1/2007 10:20:00 AM  
Received Date: 11/1/2007 11:45:00 AM  
Matrix: SOIL

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	Primary Detector
Batch: 7306311	7196_CR6				Work Order: KAC2R1AA		Report DB ID: 9KAC2R10					
HEXCHROME	<b>3.50E-01</b>	U		0.0E+00	3.50E-01	mg/kg	N/A	(1.)	12/4/07		2.5	
							3.50E-01	N/A			G	

No. of Results: 1      Comments:

TAL Richland      MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
rpt\$TLRchSample      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.  
V5.1.4 A2002

FORM II

Date: 17-Dec-07

DUPLICATE RESULTS

Lab Name: TA Richland  
 Lot-Sample No.: J7K010330-1  
 Client Sample ID: B1PYF4 DUP

SDG: W05259  
 Report No. : 37799  
 COC No. : F08-001-003

Collection Date: 11/1/2007 8:43:00 AM  
 Received Date: 11/1/2007 11:45:00 AM  
 Matrix: SOIL

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	Primary Detector
Batch: 7306311	7196_CR6				Work Order: KAC2D1AD	Report DB ID: KAC2D1DR			Orig Sa DB ID: 9KAC2D10			
HEXCHROME	3.50E-01	U		0.0E+00	3.50E-01	mg/kg	N/A	(1.)	12/4/07		2.5	
	3.50E-01	U	RPD 0.0			3.50E-01		N/A			G	

No. of Results: 1    Comments:

TAL Richland    RPD - Relative Percent Difference.  
 rptSTLrchDupV5.1    MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.  
 .4 A2002    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  
BLANK RESULTS

Date: 17-Dec-07

Lab Name: TA Richland  
Matrix: SOIL

SDG: W05259  
Report No. : 37799

Parameter	Result	Qual	Count Error ( 2 s)	Total Uncert( 2 s)	MDC MDA	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 7306311	7196_CR6				Work Order: KAEK81AA			Report DB ID: KAEK81AB				
HEXCHROME	3.50E-01	U		0.0E+00	3.50E-01	mg/kg	N/A	(1.)	12/4/07		2.5	
						3.50E-01		N/A			G	

No. of Results: 1      Comments:

FORM II  
LCS RESULTS

Date: 17-Dec-07

Lab Name: TA Richland

SDG: W05259

Matrix: SOIL

Report No. : 37799

Parameter	Result	Qual	Count 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: 7306311	7196_CR6			Work Order: KAEK81AC			Report DB ID: KAEK81AS						
HEXCHROME	1.84E+01			0.0E+00	3.50E-01	mg/kg	N/A	2.00E+01		92%	12/4/07	2.5	
							Rec Limits:	80	120	-0.1		G	

No. of Results: 1      Comments:

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FORM II  
MATRIX SPIKE RESULTS

Date: 17-Dec-07

Lab Name: TA Richland

SDG: W05259

Lot-Sample No.: J7K010330-1, B1PYF4 MS

Report No. : 37799

Matrix: SOIL

Parameter	SpikeResult, 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	Allquot Size	Analy Method, Primary Detector
Batch: 7306311	Work Order: KAC2D1AC	Report DB ID: KAC2D1CW	Orig Sa DB ID: 9KAC2D10									
HEXCHROME	8.79E+00	0.0E+00	3.50E-01	mg/kg	N/A	86.43%	1.02E+01	12/4/07			2.5	7196_CR6
	3.50E-01										G	

Number of Results: 1

Comments:

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TAL Richland  
rptSTLRchMs  
V5.1.4 A2002

RER - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.  
Bias - (Result/Expected)-1 as defined by ANSI N13.30.



**STL**

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

Batch Number(s): 7306311				
Lab Sample Numbers or SDG: W05259				
Method/Test/Parameter: Cr+6 in SOLID / RICH-WC-5005, Rev 8				
Review Item	Yes (✓)	No (✓)	N/A (✓)	2 <sup>nd</sup> Level Review (✓)
<b>A. Initial Calibration</b>				
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>B. Continuing Calibration</b>				
1. CCV analyzed at required frequency and all parameters within QC limits?	✓			✓
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			✓
<b>C. Sample Analysis</b>				
1. Were any samples with concentrations above the linear range for any parameter diluted and reanalyzed?	✓			✓
2. Were all sample holding times met?	✓			✓
<b>D. QC Samples</b>				
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 <sup>nd</sup> Level Review (✓)
<b>E. Other</b>	✓			
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: Low matrix spike yield.

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Analyst: *[Signature]*  
 Second-Level Review: *[Signature]*

Date: 12/6/07  
 Date: 12/17/07

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Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F08-001-003

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COLLECTOR  
NCO Sampler J MOKLER  
SAMPLING LOCATION  
C5364, I-1  
ICE CHEST NO.

COMPANY CONTACT  
TRENT, SJ  
TELEPHONE NO.  
373 5869  
PROJECT DESIGNATION  
100-KR-4 Pump & Treat Expansion - Soil  
FIELD LOGBOOK NO.  
COA  
122636E510

PROJECT COORDINATOR  
TRENT, SJ  
SAF NO.  
F08-001  
METHOD OF SHIPMENT  
GOVERNMENT VEHICLE  
BILL OF LADING/AIR BILL NO.  
N/A

PRICE CODE 8N  
AIR QUALITY  
JTK010330  
W05259  
DATA  
TURNAROUND  
45 Days /  
45 Days

SHIPPED TO  
TestAmerica Incorporated, Richland

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  
Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)  
SPECIAL HANDLING AND/OR STORAGE

OFFSITE PROPERTY NO.  
N/A  
PRESERVATION  
Cool-4C  
TYPE OF CONTAINER  
G/P  
NO. OF CONTAINER(S)  
1  
VOLUME  
60mL  
SAMPLE ANALYSIS  
Chromium Hex -  
7196

Due 12/17/07  
01-09-08  
12/17/07  
12/17/07

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	LABORATORY
B1PYF4	SOIL	11-1-7	0843	KAC2D

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CHAIN OF POSSESSION SIGN/ PRINT NAMES SPECIAL INSTRUCTIONS

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
J MOKLER	11/17 1145	RJRWLANE TAL-R	11/17/07 1145
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
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

TESTAMERICA RICHLAND

17

Fluor Manford Inc.

COLLECTOR

NCO Sampler - *S. Newell*

SAMPLING LOCATION

CS364, I-2

ICE CHEST NO.

SHIPPED TO

TestAmerica Incorporated, Richland

MATRIX\*

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

POSSIBLE SAMPLE HAZARDS/ REMARKS

Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

COMPANY CONTACT

TRENT, SJ

TELEPHONE NO.

373 5869

PROJECT COORDINATOR

TRENT, SJ

PROJECT DESIGNATION

100-KR-4 Pump & Treat Expansion - Soil

SAF NO.

F08-001

FIELD LOGBOOK NO.

COA

122636ES10

METHOD OF SHIPMENT

GOVERNMENT VEHICLE

OFFSITE PROPERTY NO.

N/A

BILL OF LADING/AIR BILL NO.

N/A

PRESERVATION

Cool-4C

TYPE OF CONTAINER

G/P

NO. OF CONTAINER(S)

1

VOLUME

60mL

SAMPLE ANALYSIS

Chromium Hex - 7196;

F08-001-004

PAGE 1 OF 1

PRICE CODE 8N

DATA TURNAROUND

AIR QUALITY

45 Days / 45 Days

*JJK010330*

*W05259*

*Due 07 09 08*

SAMPLE NO.

B1PYF5

MATRIX\*

SOIL

SAMPLE DATE SAMPLE TIME

*11/17 1020*

*KACJR*

CHAIN OF POSSESSION

*025305*

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS

RELINQUISHED BY/REMOVED FROM

*S. Newell*

DATE/TIME

*11/17 1145*

RECEIVED BY/STORED IN

*RK LILANE TAL-R*

DATE/TIME

*11/17 1145*

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

### Sample Check-in List

Date/Time Received: 11/01/07 1145

Client: FLH SDG #: W05259 NA  SAF #: F08-001 NA

Work Order Number: J7K010330 Chain of Custody # F08-001-003,004

Shipping Container ID: \_\_\_\_\_ Air Bill # \_\_\_\_\_

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? NA  Yes  No
4. Cooler Temperature: \_\_\_\_\_ NA  5. Vermiculite/packing materials is NA  Wet  Dry
6. Number of samples in shipping container: 2-COG
7. Sample holding times exceeded? NA  Yes  No
8. Samples have:
 

<input checked="" type="checkbox"/> Tape <input checked="" type="checkbox"/> Custody Seals	<input checked="" type="checkbox"/> Hazard Labels <input checked="" type="checkbox"/> Appropriate Sample Labels
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9. Samples are:
 

<input checked="" type="checkbox"/> In Good Condition <input type="checkbox"/> Broken	<input type="checkbox"/> Leaking <input type="checkbox"/> Have Air Bubbles <small>(Only for samples requiring no head space.)</small>
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10. Sample pH taken? SOIL NA  pH < 2  pH > 2  pH > 9
11. Sample Location, Sample Collector Listed? \*  
\*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: [Signature] Date: 11/01/07

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on \_\_\_\_\_ by \_\_\_\_\_ Person Contacted \_\_\_\_\_

No action necessary; process as is.

Project Manager \_\_\_\_\_ Date \_\_\_\_\_

TESTAMERICA RICHLAND

11/12/2007 8:11:06 AM

**Sample Preparation/Analysis**

Balance Id: \_\_\_\_\_

108302, Fluor Hanford Inc  
Hanford Inc

Flour

DW Alkaline Digestion by method 3060A  
EA Chromium, Hexavalent (7196A)

Pipet #: \_\_\_\_\_

AnalyDueDate: 12/17/2007 **W05259**

SI CLIENT: HANFORD

Sep1 DT/Tm Tech: \_\_\_\_\_

Batch: 7306311 SOIL mg/kg

PM, Quote: SA, 50639

Sep2 DT/Tm Tech: \_\_\_\_\_

SEQ Batch, Test: None All Tests: 7306311 DWEA,

Prep Tech: \_\_\_\_\_



Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Inil/Date	Comments:
1 KAC2D-1-AA	2.442g									
J7K010330-1-SAMP										
11/01/2007 08:43										
			AmtRec: 60ML							#Containers: 1 Scr: Alpha: Beta:
2 KAC2D-1-AC-S	2.524g									
J7K010330-1-MS										
11/01/2007 08:43										
			AmtRec: 60ML							#Containers: 1 Scr: Alpha: Beta:
3 KAC2D-1-AD-X	2.640g									
J7K010330-1-DUP										
11/01/2007 08:43										
			AmtRec: 60ML							#Containers: 1 Scr: Alpha: Beta:
4 KAC2D-1-AE-S	2.516g			13.3						
J7K010330-1-MS										
11/01/2007 08:43										
			AmtRec: 60ML							#Containers: 1 Scr: Alpha: Beta:
5 KAC2R-1-AA	2.598g									
J7K010330-2-SAMP										
11/01/2007 10:20										
			AmtRec: 60ML							#Containers: 1 Scr: Alpha: Beta:
6 KAEK8-1-AA-B										
J7K020000-311-BLK										
11/01/2007 08:43										
			AmtRec:							#Containers: 1 Scr: Alpha: Beta:
7 KAEK8-1-AC-C										
J7K020000-311-LCS										
11/01/2007 08:43										
			AmtRec:							#Containers: 1 Scr: Alpha: Beta:

11/12/2007 8:11:07 AM

Sample Preparation/Analysis

Balance Id:

DW Alkaline Digestion by method 3060A  
EA Chromium, Hexavalent (7196A)

Pipet #:

AnalyDueDate: 12/17/2007

51 CLIENT: HANFORD

Sep1 DT/Tm Tech:

Batch: 7306311  
SEO Batch, Test: None

mg/kg

Sep2 DT/Tm Tech:

Prep Tech:



Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	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 Inc

Flour Hanford Inc

, SA , 50639

KAC2D1AA-SAMP Constituent List:

KAC2D1AC-MS Constituent List:

KAC2D1AE-MS:

KAEK81AA-BLK:

KAEK81AC-LCS:

KAC2D1AA-SAMP Calc Info:

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

KAC2D1AC-MS Calc Info:

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

KAC2D1AE-MS:

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

KAEK81AA-BLK:

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

KAEK81AC-LCS:

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

Approved By

Date:

TA Richland

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

ISV - Insufficient Volume for Analysis

WO Cnt: 7

Richland Wa.

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

ICOC v4 8.2

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