0078522

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Analytical Data Package Prepared For

Fluor Hanford

Radiochemical Analysis By

TestAmerica

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

Assigned Laboratory Code: TARL

Data Package Contains _____ Pages

Report No.: 38955

Results in this report relate only to the sample(s) analyzed.

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
W05395	I08-031	B1TVV5	J8E060302-1	KMM191AA	9KMM1910	8127605
		B1TVV6	J8E060302-2	KMM2A1AA	9KMM2A10	8127605
	I08-036	B1VC61	J8E060299-1	KMM141AA	9KMM1410	8127605

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Certificate of Analysis

Fluor Hanford
1200 Jadwin Ave.
Richland, WA 99352

May 7, 2008

Attention: Steve Trent

SAF Number	:	I08-031, I08-036
Date SDG Closed	:	May 6, 2008
Number of Samples	:	Three (3)
Sample Type	:	Water
SDG Number	:	W05395
Data Deliverable	:	24-Hour / Summary

CASE NARRATIVE

I. Introduction

On May 6, 2008 three water samples were received at STL Richland (STLR) for chemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Fluor Hanford specific IDs:

PGW ID#	STLR ID#	DATE OF RECEIPT	MATRIX
B1TVV5	KMM19	5/06/08	WATER
B1TVV6	KMM2A	5/06/08	WATER
B1VC61	KMM14	5/06/08	WATER

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

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, samples, sample duplicate (B1VC61), sample matrix spike (B1VC61), and matrix spike duplicate (B1VC61) 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

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TA Richland
Hexavalent Chromium - Water

Analyst:	D. Petty	Calibration Curve Information				SOP Information		BATCH #	8127605
Start Date:	5/6/2008		Amount	Conc.(mg/L)	ABS.	RICH-WC-5003		SDG #	W05395
Start Time:		Blank	0.000	0.000	0.000	Revision 7		Matrix	Water
End Date:	5/6/2008	Std. 1	0.100	0.050	0.091				
End Time		Std. 2	0.500	0.250	0.464			Instrument Information	
		Std. 3	0.750	0.375	0.701	MDL (mg/L)	0.002	Instrument:	Hach DR2010
Analyst Signature:	CMJ	Std. 4	1.500	0.750	1.384			Wavelength:	540
		Std 5	2.000	1.000	1.838			R Squared	0.99996
Date:	5/6/08	Standard Volume (mL):			100.000			Slope:	1.83950
		Date of Curve:			5/6/2008			Intercept:	0.00287

	Calibration Information:	ICV Information:		LCS Information:		Matrix Spike Information:	
Dilution ID #	Cr-08-00091	Cr-08-00092		Cr-08-00091		Cr-08-00091	
Prep Date:	05/06/08	05/06/08		05/06/08		05/06/08	
Concentration (mg/L)	50	50		50		50	
Expiration Date:	05/07/08	05/07/08		05/07/08		05/07/08	
Pipettor(s)	70,190	190		190		190	
Volume Used (Expected Value		1.000	0.50000	1.00	0.50000	0.50	0.26316

Expected values are only amounts added in mg and not final concentrations

Sample ID	Client ID	Type	Sample Volume (mL)	Sample ABS.	Blank ABS.	Corrected ABS.	Dilution Factor	Curve Conc. (mg/L)	Final Conc. (mg/L)	% Rec.
n/a	n/a	ICV	100.000	0.950	0.000	0.950	1	0.5149	0.515	102.98%
n/a	n/a	ICB	100.000	0.000	0.000	0.000	1	<MDL	<MDL	
KMM3F1AA	n/a	Prep Blank	100.000	0.001		0.001	1	-0.0010	<MDL	
KMM3F1AC	n/a	LCS	100.000	0.934		0.934	1	0.5062	0.506	101.24%
KMM141AA	B1VC61'	Sample	100.000	0.018		0.018	1	0.0082	0.008	
KMM141AC-S	B1VC61'-MS	MS	100.000	0.501		0.501	1	0.2708	~~0.271~~ 0.263	99.78%
KMM141AD-D	B1VC61'-MSD	MSD	100.000	0.499		0.499	1	0.2697	~~0.270~~ 0.262	99.36%
KMM141AE-X	B1VC61'-DUP	Duplicate	100.000	0.009		0.009	1	0.0033	0.003	SKS 5/7/08
KMM191AA	B1TVV5'	Sample	100.000	0.178		0.178	1	0.0952	0.095	
KMM2A1AA	B1TVV6'	Sample	100.000	0.002		0.002	1	-0.0005	<MDL	
			100.000				1			
			100.000				1			
n/a	n/a	CCV	100.000	0.947		0.947	1	0.5133	0.513	102.65%
n/a	n/a	CCB	100.000	0.001		0.001	1	-0.0010	<MDL	
			100.000				1			
			100.000				1			
			100.000				1			
			100.000				1			
			100.000				1			

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Richland Laboratory
Data Review Check List
Hexavalent Chromium

Batch Number(s): **8127605**				
Lab Sample Numbers or				
Method/Test/Parameter: **Cr+6 in Water / RICH-WC-5003**				
Review Item	**Yes (✓)**	**No (✓)**	**N/A (✓)**	**2nd 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 (✓)	2nd 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: [signature] Date: 5/7/08

Second-Level Review: [signature] Date: 05/07/08

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FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

J8E060302 W05395 DUE 5 7 08 KMM19

C.O.C. # **I08-031-47**

Page 1 of 1

Collector Roy Sickle	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. I08-031	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title 100HR3IAM(1/2), APRIL 2008	HNF-N-506-14	**Ice Chest No.** GW-1 **Temp.**
Shipped To (Lab) TestAmerica Incorporated, Richland	**Method of Shipment** Govt. Vehicle	**Bill of Lading/Air Bill No.**
Protocol CERCLA	**Priority:** 24 Hours **PRIORITY**	**Offsite Property No.**

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 INSTRUCTIONS **Hold Time**
100 Area Generator Knowledge Information Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1TVV5 F		W	5-6-08	1336	1x500-mL aG	7196_CR6: Hexavalent Chromium (1)	Cool~4C
B1TVV5 F		W	↓	↓	1x20-mL P	Activity Scan	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Roy Sickle			MAY 0 6 2008 1515		TAL		MAY 0 6 2008 1515
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S	= Soil	DS	= Drum Solid
SE	= Sediment	DL	= Drum Liquid
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wine
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

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FLUOR HANFORD	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # I08-031-51
	J8E060302 W05395 DUE 5 7 08 KMM2A	Page 1 of 1

Collector: Roy Sickle	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: I08-031	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 100HR3IAM(1/2), APRIL 2008	HWF W-506-14	Ice Chest No.: GW-1 Temp.
Shipped To (Lab): TestAmerica Incorporated Richland	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: CERCLA	Priority: 24 Hours PRIORITY	Offsite Property No.

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 INSTRUCTIONS Hold Time
100 Area Generator Knowledge Information Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1TVV6 F		W	5-6-08	1327	1x500-mL aG	7196_CR6: Hexavalent Chromium (1)	Cool~4C
B1TVV6 F		W	↓	↓	1x20-mL P	Activity Scan	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Roy Sickle			MAY 0 6 2008 1515		LWLANE	THL	MAY 0 6 2008 1515
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liqui	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

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Sample Check-in List

Date/Time Received: 5 6 08 1515 GM Screen Result 0, 1 K

Client: PGW SDG #: W05395 NA[ ] SAF #: I08-031 NA [ ]

Work Order Number: J8E060302 Chain of Custody # I08-031-47,-51

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
7. Sample holding times exceeded? NA [✓] Yes [ ] No [ ]
8. Samples have:
   - ____ Tape
   - ✓ Custody Seals
   - ____ Hazard Lables
   - ✓ Appropriate Sample Lables
9. Samples are:
   - ✓ In Good Condition
   - ____ Broken
   - ____ Leaking
   - ____ Have Air Bubbles
   - (Only for samples requiring no head space.)
10. Sample pH taken? NA [ ] pH<2 [ ] pH>2 [✓] pH>9 [ ] Amount HNO_3 Added _____
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: _____ Date: 5 6 08

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

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FLUOR HANFORD	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # I08-036-88
	J8E060299 W05395 DUE 5708 . KMM14	Page 1 of 1

Collector Roy Sickle	Contact/Requester Steve Trent	Telephone No. 509-373-5869 MSIN FAX
SAF No. I08-036	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title 100KR4IAM(1/2), MAY 2008	HNF-N-566-14	Ice Chest No. GW-1 Temp.
Shipped To (Lab) TestAmerica Incorporated, Richland	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol CERCLA	Priority: 24 Hours PRIORITY	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
100 Area Generator Knowledge Information Form applies.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VC61		W	5-6-08	1246	1x500-mL aG	7196_CR6: Hexavalent Chromium (1)	Cool~4C
B1VC61		W	"	"	1x20-mL P	Activity Scan	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Roy Sickle			1515 5/6/08 1315 MAY 0 6 2008		R L LANE	TAL	1515 5/6/08 1315 MAY 0 6 2008
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

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Sample Check-in List

Date/Time Received: 5 6 08 1515 GM Screen Result 0, 1 K

Client: PGW SDG #: W05395 NA[ ] SAF #: I08-036 NA [ ]

Work Order Number: J8E060299 Chain of Custody # I08-036-88

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: 1
7. Sample holding times exceeded? NA [✓] Yes [ ] No [ ]
8. Samples have:
   - ____ Tape
   - ✓ Custody Seals
   - ____ Hazard Lables
   - ✓ Appropriate Sample Lables
9. Samples are:
   - ✓ In Good Condition
   - ____ Broken
   - ____ Leaking
   - ____ Have Air Bubbles
   - (Only for samples requiring no head space.)
10. Sample pH taken? NA [ ] pH<2 [ ] pH>2 [✓] pH>9 [ ] Amount HNO_3 Added _____
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: 5 6 08

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

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5/6/2008 5:21:02 PM

384868, Pacific Northwest National Laboratory
Pacific Northwest National Lab

AnalyDueDate: 05/07/2008

Sample Preparation/Analysis

88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
EA Chromium, Hexavalent (7196A)
5I CLIENT: HANFORD

Balance Id:
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech:

Batch: 8127605 WATER mg/L
SEQ Batch, Test: None All Tests: 8127605 88EA,

PM, Quote: SS , 57671

Work Order, Lot, Sample DateTime	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:
1 KMM14-1-AA J8E060299-1-SAMP 05/06/2008 12:46	AmtRec: VIAL20,500G	#Containers: 2				Scr:	Alpha:	Beta:
2 KMM14-1-AC-S J8E060299-1-MS 05/06/2008 12:46	AmtRec: VIAL20,500G	#Containers: 2				Scr:	Alpha:	Beta:
3 KMM14-1-AD-D J8E060299-1-MSD 05/06/2008 12:46	AmtRec: VIAL20,500G	#Containers: 2				Scr:	Alpha:	Beta:
4 KMM14-1-AE-X J8E060299-1-DUP 05/06/2008 12:46	AmtRec: VIAL20,500G	#Containers: 2				Scr:	Alpha:	Beta:
5 KMM19-1-AA J8E060302-1-SAMP 05/06/2008 13:30	AmtRec: VIAL20,500G	#Containers: 2				Scr:	Alpha:	Beta:
6 KMM2A-1-AA J8E060302-2-SAMP 05/06/2008 13:27	AmtRec: VIAL20,500G	#Containers: 2				Scr:	Alpha:	Beta:
7 KMM3F-1-AA-B J8E060000-605-BLK 05/06/2008 12:46	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:

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5/6/2008 5:21:03 PM

Sample Preparation/Analysis

88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
EA Chromium, Hexavalent (7196A)
5I CLIENT: HANFORD

Balance Id:
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech:

AnalyDueDate: 05/07/2008

Batch: 8127605 mg/L
SEQ Batch, Test: None

Work Order, Lot, Sample DateTime	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:

8 KMM3F-1-AC-C

J8E060000-605-LCS

05/06/2008 12:46 AmtRec: #Containers: 1 Scr: Alpha: Beta:

Comments:

All Clients for Batch:
384868, Pacific Northwest National Laboratory Pacific Northwest National Lab, SS , 57671

KMM141AA-SAMP Constituent List:

KMM141AC-MS Constituent List:

KMM141AD-MSD:

KMM3F1AA-BLK:

KMM3F1AC-LCS:

KMM141AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KMM141AC-MS Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KMM141AD-MSD:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KMM3F1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
KMM3F1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By Date:

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