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WSCF Analytical Chemistry
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FLUOR

Memorandum

M8141-SLF-06-080

To: D. L. Klages H8-40 Date: April 26, 2006

From: S. L. Fitzgerald, Manager
WSCF Analytical Chemistry

cc:

S. J. Trent (FH)	A0-21
T. F. Dale	S3-30
H. K. Meznarich	S3-30
P. D. Mix	S3-30
J. E. Trechter	S3-30
File/LB	
(Above w/attachments)	

Subject: FINAL RESULTS FOR 200-UW-1 OPERABLE UNIT TRENCH – SAMPLE DELIVERY GROUP WSCF20060299 – SAF NUMBER R06-019

Reference:
(1) 200-UW-1 Operable Unit Support Activities Sampling – Letter of Instruction, D&D-27876, Rev. 0, dated December 14, 2005

(2) HNF-SD-CD-QAPP-017, Rev. 7, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains a narrative (Attachment 1) for sample delivery group WSCF20060299, the analytical results (Attachment 2), and the sample receipt information (Attachment 3).

SLF/grf

Attachments 3

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ATTACHMENT 1

NARRATIVE

Consisting of 3 pages
Including cover page

Sample Delivery Group	**WSCF20060299**
Sample Matrix	**SOLID**
Sample Visual	**N/A**
SAF Number	**R06-019**
Data Deliverable	**Summary Report**

Introduction

One (1) soil sample (B1J2T5) from the 200-UW-1 Operable Unit Clean Soil was received at the WSCF Laboratory on April 12, 2006. The sample was received in a cool condition with ice present in the coolers. The sample was analyzed for the analyte indicated on the attached copy of the chain of custody (COC) form in accordance with the *200-UW-1 Operable Unit Letter of Instruction*, referenced in the cover letter.

The sample was taken using the Multi-Increment Sampling Program, which requires the entire sample submitted to be analyzed. This does not allow for laboratory sample duplicates or matrix spikes, so a Replicate of the sample extract and Post Digestion Spike were run instead.

The narrative (Attachment 1) will address sample characteristics, analyses requested and general information in performance of the analytical method. A Data Summary Report (Attachment 2) includes analytical results, a comment report detailing method abnormalities, method references, and Laboratory QC information. Copies of the chain of custody and sample receipt are included as Attachment 3.

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report,* page 10, for a complete listing of approved analytical methods used.

Radiochemistry Comments

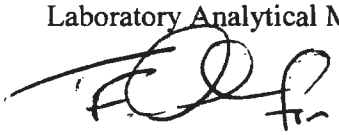
There are no holding times associated with WSCF radiochemical methods.

Tecnicium-99 - A Blank, Laboratory Control Sample, Post Digestion Matrix Spike and Post Digestion Sample Replicate were analyzed with this delivery group of less than 20 samples. See page 11 for QC details. Analytical notes:

- Post Digestion Matrix Spike recovery was low at 60%.

All other QC controls are within the established limits.

This Summary Report is in compliance with the SOW, both technically and for completeness. Release of the data contained in this hard copy report has been authorized by the WSCF Laboratory Analytical Manager and Client Services, as verified by the following signature.



John E. Trechter
WSCF Client Services

Abbreviations

Hg – mercury
IC – ion chromatography
ICP – inductively coupled plasma
ICP/AES – ICP/atomic emission spectroscopy
ICP/MS – ICP/mass spectrometry
Total U – total uranium
AT/TB – total alpha/total beta
AEA – Alpha Energy Analysis
WTPH-G – Total Hydrocarbons-Gasoline
Am – americium
Cm - curium
Pu – plutonium
Np – neptunium
GEA – gamma energy analysis
H3 – Tritium
Sr – Strontium 89, 90
WTPH-D – Total Hydrocarbons-Diesel
TSS – Total Suspended Solids

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ATTACHMENT 2

ANALYTICAL RESULTS

Consisting of 8 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

PROJECT HANFORD MANAGEMENT COMPANY
RICHLAND, WA 99354

Attention: DL KLAGES

Analytical: S. Fitzgerald

Client Services: John Troechter

All results are reported on an "as received" basis unless otherwise noted in the comment section.

Report#: 20060299
Report Date: 25-apr-2006
Report W005/ver. 1.2
PROJECT HANFORD MANAGEMENT COMPANY

WSCF
ANALYTICAL RESULTS REPORT

Attention: DL KLAGES **Group #:** 20060299

Sample #	Client ID		CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
Radiochemistry														
W060000734	B1J2T5	K	14133-76-7	Tc-99 by Liquid Scin.	SOLID	LA-508-421	U	-0.200	pCi/g	1.00	0.30	04/18/06	04/11/06	04/12/06
W060000734	B1J2T5	K	E,T,C	Tc-99 Counting Error	SOLID	LA-508-421		100	%	1.00	0.0	04/18/06	04/11/06	04/12/06

MDL = Minimum Detection Limit U - Analyzed for but not detected above limiting criteria.
RQ = Result Qualifier

DF = Dilution Factor

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

WSCF
ANALYTICAL COMMENT REPORT

Attention: DL KLAGES **Group #:** 20060299

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		Tc-99 Matrix spike is low. Since all other QC checks came out fine, this batch has been accepted. lmh

Lab Areas: VALGROUP - Group Validation
LOGSAMP - Login for Sample
VALTEST - Test Validation
LOGTEST - Login for Tests
TESTDATA - Test Data Entry

WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention:
Project Number :

Group #: 20060299

Sample #	Client ID	Test Name	Peak Name	CAS#	RT	RQ	Result	Units

RQ=Result Qualifier

WSCF
METHOD REFERENCES REPORT

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory or industry methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though the WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

LA-508-421 LA-508-421: OPERATION OF THE TRI-CARB MODEL 2500TR LIQUID SCINTILLATION ANALYZER

None	No reference to any industry method.

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at \\ap006\aspdocs\WSCF\Sample Mgmt\ProcedureMethodCrossReference.pdf. This document includes on-line links to full-text versions of the procedures and methods, where available.

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20060299
Matrix: SOLID
Test: TC99 by Liquid Scin.

SAF Number: R06-019
Sample Date: 04/11/06
Receive Date:04/12/06

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
Lab ID: W060000734									
BATCH QC ASSOCIATED WITH SAMPLE									
DUP	Tc-99 by Liquid Scin.	14133-76-7	U-0.2	n/a	RPD	04/18/06	0.000	20.000	
MS	Tc-99 by Liquid Scin.	14133-76-7	60	60.000	% Recov	04/18/06	75.000	125.000	*
BATCH QC									
BLANK	Tc-99 by Liquid Scin.	14133-76-7	-0.3	-0.300	pCi/g	04/18/06	-10.000	1000.000	
LCS	Tc-99 by Liquid Scin.	14133-76-7	10.8	95.575	% Recov	04/18/06	75.000	125.000	

w13qlog v1 25-apr-2006 15:49:48

W13q Worklist/Batch/QC Report for Group# 20060299

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
28460	1	28834	32667	BLANK		TC99 by Liquid Scin.
28460	4	28834	32667	LCS		TC99 by Liquid Scin.
28460	3	28834	32667	DUP	W060000734	TC99 by Liquid Scin.
28460	2	28834	32667	MS	W060000734	TC99 by Liquid Scin.
28460	5	28834	32667	SAMPLE	W060000734	TC99 by Liquid Scin.

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ATTACHMENT 3

SAMPLE RECEIPT INFORMATION

Consisting of 4 pages
Including cover page

Waste Sampling and Characterization Facility
P.O. BOX 1970 S3-30, Richland, WA 99352
PHONE: (509) 373-7004/FAX: (509) 373-7134

F16
4/22/06
TAF

ACKNOWLEDGMENT OF SAMPLES RECEIVED

PROJECT HANFORD MANAGEMENT COMPANY
Customer Code: PHMC-MISC
RICHLAND, WA 99354 PO#: 121595/ES20
Attn: DL KLAGES Group#: 20060299

The following samples were received from you on 04/12/06. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Waste Sampling and Characterization Facility.

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W060000734	B1J2T5	KLAGES @TC99-30	Solid, or handle as if solid	04/11/06

Test Acronym Description

Test Acronym	Description
@TC99-30	TC99 by Liquid Scin.

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		R06-019-002	PAGE 1 OF 1
COLLECTOR: HOGAN, JG 04/27/06	COMPANY CONTACT: KLAGES, DL	TELEPHONE NO.: 373-6312	PROJECT COORDINATOR: TRECHTER, JE	PRICE CODE: 8C
SAMPLING LOCATION: U-8 Spoils Pile	PROJECT DESIGNATION: 200-UW-1 Operable Unit, Clean Soil from Trench between 216-U-8 and 21		SAF NO.: R06-019	AIR QUALITY: ☐
ICE CHEST NO.: TJ-9	FIELD LOGBOOK NO.: DTS-SAWS-H100	COA: 121595ES20	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	DATA TURNAROUND: 15 Days / 15 Days
SHIPPED TO: Waste Sampling & Characterization	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A	

MATRIX*
OL = OTHER LIQUID
OS = OTHER SOLID
S = SOIL
W = WATER

SPECIAL HANDLING AND/OR STORAGE: 20060299

POSSIBLE SAMPLE HAZARDS/ REMARKS

SAMPLE NO.	LAB ID	MATRIX*	SAMPLE DATE	SAMPLE TIME	NO./TYPE CONTAINER(S)	ANALYSIS	PRESERVATION
B1J2T5	W0600073 4	S	04-11-06	1330	1X60mL G/P	Technetium-99 {Tc-99} 21.2 gr	None

CHAIN OF POSSESSION

SIGN/ PRINT NAMES			
RELINQUISHED BY/REMOVED FROM: DURATEK J. G. HOGAN	DATE/TIME: 1335 APR 12 2006	RECEIVED BY/STORED IN: TA FRAZIER	DATE/TIME: 4/12/06 1335
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

SPECIAL INSTRUCTIONS

Sample will been taken using the multiple-increment sampling program. This requires the entire sample provided in each bottle to be used in analysis. Reporting format the same as GPP, including QC.

LABORATORY SECTION	RECEIVED BY		TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD		DISPOSED BY	DATE/TIME

GENERATOR KNOWLEDGE INFORMATION

1. Chain of Custody Number R06-019-002 CACN/COA 121595/E520 Customer Identification Number R06-019

2. List generator knowledge or description of process that produced sample. Or list description of sample source:
Samples were generated per SAP for the W-42 pipeline removal at U Waste Sites

MSDS Available? (•) No ( ) Yes Hanford MSDS No. N/A

3. List all waste codes and constituents associated with the waste or media that was sampled, regardless of CERCLA status.

a) Does the sample contain any of the following listed waste codes?
By checking "unknown" the customer understands that no knowledge is available following a careful search.

	List Federal Waste Code(s):	List Constituent(s):			
P Codes:			( ) Yes	( ) No	(•) Unknown
U Codes:			( ) Yes	( ) No	(•) Unknown
K Codes:			( ) Yes	( ) No	(•) Unknown
F Codes:			( ) Yes	( ) No	(•) Unknown

b) List applicable characteristic waste codes, flash point, pH, constituents, and concentrations as appropriate.

D001:	☐ FP <100°F	☐ FP ≥100 <140°F	☐ DOT Oxidizer	( ) Yes	(•) No	( ) Unknown
D002:	☐ pH ≤2	☐ pH ≥12.5	☐ Solid Corrosive (WSC2)	( ) Yes	(•) No	( ) Unknown
D003:	☐ Cyanide	☐ Sulfide	☐ Water Reactive ☐ Other _____ (i.e., peroxide former, explosive, air reactive)	( ) Yes	(•) No	( ) Unknown
D004-D043 (Identify applicable waste codes and concentrations):				( ) Yes	(•) No	( ) Unknown

N/A

c) If characteristic, list any known underlying hazardous constituents (UHCs) reasonably expected to be present, and their concentrations that may be present above the LDR treatment standard (40 CFR 268.48):
N/A

d) List any known Land Disposal Restrictions (LDR) subcategories, if applicable (40 CFR 268.40):
N/A

e) List any applicable Washington State dangerous waste codes: (not required if federally regulated)

WT01:	( ) Yes	( ) No	(•) Unknown		WP01:	( ) Yes	( ) No	(•) Unknown
WT02:	( ) Yes	( ) No	(•) Unknown		WP02:	( ) Yes	( ) No	(•) Unknown
W001:	( ) Yes	( ) No	(•) Unknown		WP03:	( ) Yes	( ) No	(•) Unknown
List constituents and concentrations:					F003:*	( ) Yes	( ) No	(•) Unknown

(*State mixture rule for ignitability)

4. Is this material TSCA regulated for PCBs? ( ) Yes (•) No ( ) Unknown ( ) Analysis Requested

List concentration if applicable: None

If yes, what is the source of the PCBs? (see TSCA PCB Hanford Site User Guide, DOE/RL-2001-50)

☐ PCB Liquid Waste ☐ PCB Bulk Product Waste ☐ PCB Transformer ≥500 ppm ☐ Unknown
☐ PCB Remediation Waste ☐ PCB R&D Waste ☐ PCB contaminated electrical equipment (capacitor/ballast) <500 ppm
☐ PCB Spill Material ☐ PCB Item ☐ Other PCB Waste (list) _____

5. Is this material TRU? ( ) Yes (•) No ( ) Unknown

6. ACCURACY OF INFORMATION

Based on my inquiry of those individuals immediately responsible for obtaining this information, that to the best of my knowledge, the information entered in this document is true, accurate, and complete.

Print & Sign John Hasson Date 4-11-06

A-6002-990 (08/03)