0072474

FIELD SCREENING
FINAL DATA DELIVERABLE COVER SHEET

Date: Monday, November 13, 2006

Sample Authorization Form (SAF) Number: F05-016

SDG Number (assigned by Sample Management): FP0358 Dayes 11/22/06

Attachments (check all that apply or N/A):

X	Test Results
N/A	Narrative Summary
X	Chain of Custody(s)
X	Logbook Pages
N/A	Anomaly Report

Total number of pages (including cover sheet): 7

Comments:
100-KR-4 Treatability Test - Hexavalent Chromium/Sulfate - Water

THESE TESTS WERE CONDUCTED USING QC-1

DEC 2006 RECEIVED

Analyst Signature — Date 11/13/06

Reviewer's Signature — Date DEC 11 2006

Distribution: CPP Sample Management A0-21
Project (Specify)

Requires distribution to listed project personnel by Sample Management (check if applicable)

RECEIVED MAR 21 2007 EDMC

00000001

On-Site Measurement of Cr +6

199-K-126 / K Treatability Test (Phase 2)

SAF: F05-016
Procedures: GRP-EE-05-3.4, GRP-EE-05-1.18
Logbook: HNF-N-296 7 Page 33 & 34

10/10/2006

HEIS Number	Location	Valve Number	SAF	Date Sampled	Date Analyzed	Time Collected	Cr+6 (mg/L)	Time Cr+6 Analyzed	Sulfate (mg/L)	Time SO_4 Analyzed	Analyst	pH	Temp. (^{0}C)	Conductivity (µs/cm)	ORP (mv)	DO (mg/L)
B1KV72	199-K-126	Bailed	F05-016	10/10/2006	10/10/2006	13:03	0.051	12:55	57	13:55	LCP	8.55	19.3	363	129.2	6.39
B1KV73	199-K-133	Bailed	F05-016	10/10/2006	10/10/2006	13:17	<0.005	12:55	74	13:55	LCP	9.43	19.7	540	-347.5	0.36
B1KV74	199-K-134	Bailed	F05-016	10/10/2006	10/10/2006	13:33	<0.005	12:55	114	13:55	LCP	9.35	19.7	510	-357.8	0.64
B1KV75	199-K-135	Bailed	F05-016	10/10/2006	10/10/2006	13:45	0.009	12:55	98	13:55	LCP	8.89	19.7	594	-326.0	1.00
B1KV76	199-K-136	Bailed	F05-016	10/10/2006	10/10/2006	13:58	0.006	12:55	118	13:55	LCP	7.43	19.1	746	-323.2	2.02

Note: Samples from the the four injection wells (199-K-133, -134, -135, and -136) and the extraction well (199-K-126) were all prepared for analysis. 199-K-126 - water clear, with no visible oil sheen; 199-K-133 - water clear, yellow, no visible oil sheen; 199-K-134 - water clear, pale yellow, no visible oil sheen; 199-K-135 - water clear, pale yellow, visible oil sheen; 199-K-136 - water clear, very pale yellow, visiable slight oil sheen.

Analyst(s): LC Petersen

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100-KR-4 Groundwater
Treatability Test-Phase 2

Field Instrument Readings
10-10-06

Logbook No. HNF-N-576-1
SAF F05-016

TIME	DESCRIPTION OF FIELD ACTIVITIES
1230	Samplers KD Hughes, WM Wise, and LL Lanman arrived at the treatability test site at 199-K-126 to perform 100-KR-4 Groundwater Treatability Test monthly sampling (SAF F05-016).
1230	Scientist DJ Alexander arrived on site to standardize field parameter pH, conductivity, dissolved oxygen, and oxidation-reduction potential meters to support 100-KR-4 Groundwater Treatability Test monthly sampling (SAF F05-016).
1235	Standardized HACH HQ40d meter, SN: 060600001324 with pH (pHC101, SN 061802560016) probe and conductivity (CDC401, SN 061042580001) probe. First standardization point pH 4.00 buffer, lot number 050915, expires 09/15/07. Meter reading 4.00, Second standardization point pH 7.00 buffer, lot number 3075, expires 3/31/07. Meter reading 7.01. Third standardization point with pH 10.00 buffer, lot number 6085, expires 3/31/07. Meter reading 10.05. Slope 97%. Standardized conductivity probe with One-Shot™ Conductivity calibrator (1419 µS/cm). Lot number: 3616, expires 06/09/2007. Meter reads 1419 µS/cm.
1245	Verified operation of HACH Model HQ30d Meter, SN 060600001717, with LDO Dissolved Oxygen probe (LDO101, SN 061712591247). Instrument passed self-test check - Ready for use - YES.
1250	Performed standard check of ORP electrode. Orion Model 290A meter, SN 008326 with VWR Symphony Platinum KCl/AgCl ORP electrode, SN RJT43. Meter should read Zobell's Standard Solution at 244.0 at 15°C, 237.3 at 20°C, 231.0 at 25°C, and 224.5 mV at 30 °C. Actual reading: 238.1 mV at ~19-20°C. Instrument within operating parameters.
Sampling Notes:	126 - water clear, with no visible oil sheen; 133 - water clear, yellow, no visible oil sheen; 134- water clear, pale yellow, no visible oil sheen; 135- water clear, pale yellow, visible oil sheen; 136 - water clear, very pale yellow, visible slight oil sheen.

Sample Location	Sample Type	Time	Date	FS HEIS Number	WSCF	pH	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)
199-K-126	Bailed	13:03	10/10/2006	B1KV72	B1KV77	8.55	19.3	363	+129.2	6.39
199-K-133	Bailed	13:17	10/10/2006	B1KV73	B1KV78	9.43	19.7	540	-347.5	0.36
199-K-134	Bailed	13:33	10/10/2006	B1KV74	B1KV79	9.35	19.7	510	-357.8	0.64
199-K-135	Bailed	13:45	10/10/2006	B1KV75	B1KV80	8.89	19.7	594	-326.0	1.00
199-K-136	Bailed	13:58	10/10/2006	B1KV76	B1KV81	7.43	19.1	746	-323.2	2.02

Sample Bottle Lot Numbers: 500 mL Poly - 016263; 250-L Poly - 3223020; 125-mL P - 017166; 250-mL aG - 013268; 120-mL aG - N/A; 60 mL aG - 017611.

WSCF Analysis:							
Chromium Hex - 7196	Bottle Size	500 mL Poly	IC Anions - 300.0{Br,Cl,N/NO3,N/NO2,SO4	Bottle Size	120 mL P		
	Preservative	Cool 4°C		Preservative	None		
ICP/MS - 200.8 (TAL){HexCr};	Bottle Size	250 mL Poly	Alkalinity - 310.1	Bottle Size	120 mL P		
				Preservative	None		
ICP/MS - 200.8 (Add-On){As,Pb,Mn}; ICP Metals - 6010B (TAL){Ca,Fe,Mg,K,Na}	Preservative	HN03 to pH <2	Field Screening Analysis:	Chromium Hex - 7196	Bottle Size / Preservative	60 mL aG/Cool 4°C	
TOC - 9060	Bottle Size	250 mL aG		Sulfate	Bottle Size / Preservative	250 mL P / None	
	Preservative	HCl to pH <2		Nitrate/Nitrite			
Lionville Analysis:	Hardness - 130.2	Bottle Size	250 mL P	Lionville Analysis:	TIC - 415.1M	Bottle Size	125 mL aG
		Preservative	H2SO4 to pH <2			Preservative	Cool 4°C

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K Treatability Test - Cr^{+6} 10-28-06

L.C. Petersen/EE
LPetersen

Hexavalent Chromium Daily Activity Log
K Treatability Test – Phase 2
Logbook HNF-N-296 7 / SAF F05-016
Date: 10/11/06

LPetersen 10-28-06

12:25	LC Petersen arrived on site at 200W, MO-612 field laboratory. Set up to analyze samples for hexavalent chromium using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 951, low range hexavalent chromium.
12:45	Prepared 0.100 mg/L standard by adding 240 µL of 12.5 mg/L HACH hexavalent chromium standard, lot # A2361, no expiration, to 29.76 mL of deionized water.
12:55	Analyzed samples.

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Conductivity µS/cm
Blank	---	---	0.005	---	---	---	---
0.10 mg/L std.	---	---	0.106	---	---	---	---
B1KV72	199-K-126	F05-016	0.051	10/10/06	13:03	LLL	363
B1KV73	199-K-133	F05-016	<0.005	10/10/06	13:17	LLL	540
B1KV74	199-K-134	F05-016	<0.005	10/10/06	13:33	LLL	510
B1KV75	199-K-135	F05-016	0.009	10/10/06	13:45	LLL	594
B1KV76	199-K-136	F05-016	0.006	10/10/06	13:58	LLL	746
0.10 mg/L std.	---	---	0.105	---	---	---	---
Blank	---	---	<0.005	---	---	---	---

Notes: Samples from the four injection wells (199-K-133, -134, -135, and -136) and the extraction well (199-K-126), were all prepared for analysis. All samples were analyzed filtered (0.45µ).

LCP 10-28-06

L.C. PETERSEN 102806
LPetersen

Reviewed NOV 07 2006
By: M.A. Baechler
M.A. Baechler

34 K Treatability Test-SO4
10-28-06

L.C. Petersen-EE
LPeterson

Sulfate Daily Activity Log
KR4 Treatability Test – Phase 2
Logbook HNF-N-296-7 / SAF F05-016
Date: 10/11/06

12:25	LC Petersen arrived on-site at 200W, MO-612 field laboratory. Set up to analyze samples for sulfate using a HACH DR 2010 spectrophotometer, S/N 980600009425, Method 952, sulfate.
13:15	Prepared 50 mg/L standard by adding 1.5 mL of 1000 mg/L HACH sulfate standard, lot # N7108, no expiration, to 28.50 mL of deionized water.
13:35	Diluted samples B1KV72, B1KV73, B1KV74, B1KV75, and B1KV76 2X by adding 10-mL sample to 10-mL deionized water. Analyzed samples.
13:55	Sample B1KV72 under range. Analyzed sample B1KV72 undiluted.

LPeterson 10-28-06

Sample #	Well #	SAF #	Concentration (mg/L)	Date Sampled	Time Sampled	Sampler	Dilution
Blank	---	---	0	---	---	---	---
50.0 mg/L std.	---	---	48	---	---	---	---
B1KV72	199-K-126	F05-016	57	10/10/06	13:03	LLL	None
B1KV73	199-K-133	F05-016	74	10/10/06	13:17	LLL	2X
B1KV74	199-K-134	F05-016	114	10/10/06	13:33	LLL	2X
B1KV75	199-K-135	F05-016	98	10/10/06	13:45	LLL	2X
B1KV76	199-K-136	F05-016	118	10/10/06	13:58	LLL	2X
50.0 mg/L std.	---	---	48	---	---	---	---
Blank	---	---	0	---	---	---	---

LPeterson 10-28-06

L.C. PETERSEN 102806
LPeterson 102806

Reviewed
By: M.A. Baechler NOV 07 2006
M.A. Baechler

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Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F05-016-094	PAGE 1 OF 1
COLLECTOR: Pope/Pfister/Hughes/Lanman/Wise	COMPANY CONTACT: PETERSEN, SW	TELEPHONE NO.: 372-9160	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE / FIELD / DATA TURNAROUND
SAMPLING LOCATION: 100-KR-4	PROJECT DESIGNATION: 100-KR-4 Groundwater Treatability Test		SAF NO.: F05-016	AIR QUALITY ☐ / 0 Days / 0 Days
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-1/ N-296-7	COA: 119321ES10	METHOD OF SHIPMENT: Government Vehicle	
SHIPPED TO: Field Analysis Activities	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A	

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	~~None~~	~~None~~							
TYPE OF CONTAINER	aG	None	~~None~~	~~None~~							
NO. OF CONTAINER(S)	1	1	~~1~~	~~1~~							
VOLUME	60mL	125mL	~~50mL~~	~~50mL~~							
SAMPLE ANALYSIS	Chromium - Hex (Hexavalent Chromium)	DISSOLVED OXYGEN;	CONDUCTIVITY; pH ANALYSIS (pH Measurement)	OXIDATION-REDUCTION POTENTIAL;							

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B1KV72	WATER	10-10-06	1303	✓	✓	—	
B1KV73	WATER	10-10-06	1317	✓	✓	—	
B1KV74	WATER	10-10-06	1333	✓	✓	—	
B1KV75	WATER	10-10-06	1345	✓	✓	—	
B1KV76	WATER	10-10-06	1358	✓	✓	—	

N/A 10/10/06

CHAIN OF POSSESSION — SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
L.L. Lanman / L.L. Lanman	1505 10/10/06	L.C. Petersen / L.C. Petersen	1505 10-10-06

SPECIAL INSTRUCTIONS

** Cr VI holding times MUST BE MET. Sample Management must be contacted immediately if there is a problem.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD: RETURNED TO OU	DISPOSED BY: L.C. PETERSEN / L.C. Petersen	DATE/TIME: 10-10-06 1300

A-6003-618(01/06)