

FIELD SCREENING FINAL DATA DELIVERABLE COVER SHEET

Date: Wednesday, September 05, 2007

Sample Authorization Form (SAF) Number: F02-001

SDG Number (assigned by Sample Management): FP0528 *Raynes*

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

5/6/08

- Test Results
- Narrative Summary
- Chain of Custody(s)
- Logbook Pages
- Anomaly Report

Total number of pages (including cover sheet): 8

Comments:

200-ZP-1 Process Sampling and Analysis- VOA - Water

THESE TESTS WERE CONDUCTED USING QC-2

Amaze Hansen
Analyst Signature

9/5/07
Date

M.G. [Signature]
Reviewer's Signature

7/2/07
Date

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

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

200-ZP-1 Phase III Pump and Treat System
Process Monitoring Field Screening Results
Advanced Data Copy, SAF F02-001/F02-002

9/4/07 - Monthly						SAMPLE RESULTS					
Sample Location	HEIS Number	Well Number	Pump Intake Depth (ft)	Sample/Analysis Date	Sample Time	WATER ANALYSES			AIR ANALYSES		
						TCM (µg/L)	CCI ₄ (µg/L)	TCE (µg/L)	TCM (ppmv)	CCI ₄ (ppmv)	TCE (ppmv)
Field Blank	B1PK28	N/A	N/A	08/21/2007 09/04/07	8:00	<2.0	<2.0	<2.0			
Post Tank T-02-01	B1PK29	N/A	N/A	08/21/2007 09/04/07	8:00	<2.0	<2.0	<2.0			
Post Valve V-01-01	B1PK30	N/A	N/A	08/21/2007 09/04/07	8:07	<2.0	<2.0	<2.0			
Post Tank T-01-01	B1PK31	N/A	N/A	08/21/2007 09/04/07	8:12	12	1300	5.5			
Extraction Well #1	B1PK32	299-W15-45	280.6	08/21/2007 09/04/07	8:15	6.4	800	<2.0			
Extraction Well #2	B1PK33	299-W15-34	258.51	08/21/2007 09/04/07	8:20	17	2200	4.7			
Extraction Well #3	B1PK34	299-W15-35	249.4	08/21/2007 09/04/07	9:25	13	1600	6.7			
Extraction Well #4	B1PK35	299-W15-47	278	08/21/2007 09/04/07	9:30	12	940	4.3			
Extraction Well #5	B1PK36	299-W15-36	254.45	08/21/2007 09/04/07	9:44	11	330	<2.0			
Extraction Well #6	B1PK37	299-W15-36	254.45	08/21/2007 09/04/07	9:38	14	1600	8.2			
Extraction Well #6 Duplicate	B1PK38	299-W15-6	390	08/21/2007 09/04/07	9:38	14	1700	8.5			
Extraction Well #7	B1PK39	299-W15-40	390	08/21/2007 09/04/07	8:24	15	2200	14			
Extraction Well #8	B1PK40	299-W15-43	250.22	08/21/2007 09/04/07	8:30	9.9	1300	3.5			
Extraction Well #9	B1PK41	299-W15-44	258.15	08/21/2007 09/04/07	8:35	15	2300	14			
Extraction Well #10	B1PK42	299-W15-765	251.97	08/21/2007 09/04/07	8:40	15	2300	13			
Stack Effluent (Z-A3-01)	B1PK43	N/A	N/A	08/21/07	8:46		B&K 1302		<1.0	<1.0	Not Analyzed
Post Chiller Air (Z-A2-01)	B1PK44	N/A	N/A	08/21/07	8:50		B&K 1302		<1.0	8.98	Not Analyzed

00000002

200-ZP-1 Monthly / C5585-274175
Well Installation

D. TODAK / GS
[Signature]

MOBILE LABORATORY DATA/LOG SHEET (Logbook HNF-N-293 1, SAF F02-001/F02-002)
Site Name: 200-ZP-1 Phase III (Monthly/Quarterly) Analyzed: 09-04-07

Sample Number	HEIS Number	Sample Time	Sample Type	Sampler (Initials)	Analysis Time	Analytical Results			Comments
						TCM µg/L	CCl4 µg/L	TCE µg/L	
DI Blank	---	1040	Water	DT	1323	<2.0	<2.0	<2.0	hs010.d
100µg/L Cal. Check	---	1256	Water	DT	1334	107.4 107%	109.3 109%	109.0 109%	hs011.d; Acceptable recoveries.
DI Blank	---	1040	Water	DT	1345	<2.0	<2.0	<2.0	hs012.d
C5585, I-56	B1PK10 8/24/07	1325	Water	JM	1406	6.80	2.63	<2.0	hs014.d
C5585, I-57	B1PK11 8/29/07	0810	Water	JM	1417	<2.0	<2.0	<2.0	hs015.d
Field Blank	B1PK28	0800*	Water	RTP/MDW	1428	<2.0	<2.0	<2.0	hs016.d
Z-T2-01	B1PK29	0800*	Water	RTP/MDW	1439	<2.0	<2.0	<2.0	hs017.d
Z-T2-02 MS	---	0800*	Water	RTP/MDW	1450	10.7 107%	10.9 109%	10.7 107%	hs018.d
Z-T2-03 MSD	---	0800*	Water	RTP/MDW	1501	10.8 108%	10.9 109%	10.8 108%	hs019.d; (RPD=0.1%)
Z-V1-01	B1PK30	0807*	Water	RTP/MDW	1512	<2.0	<2.0	<2.0	hs020.d
Z-T1-01	B1PK31	0812*	Water	RTP/MDW	1534	12	1300	5.5	hs021.d
Z-W1-01	B1PK32	0815*	Water	RTP/MDW	1554	6.4	800	<2.0	hs022.d
Z-W2-01	B1PK33	0820*	Water	RTP/MDW	1545	3.2	240	<2.0	hs023.d; unusually low, see log and W2-02 below
Z-W3-01	B1PK34	0925*	Water	RTP/MDW	1555	13	1600	6.7	hs024.d; Manifold Bldg. 1
Z-W4-01	B1PK35	0930*	Water	RTP/MDW	1606	12	940	4.3	hs025.d; Manifold Bldg. 1
Z-W5-01	B1PK36	0944*	Water	RTP/MDW	1617	11	330	<2.0	hs026.d; Manifold Bldg. 2
Z-W6-01	B1PK37	0938*	Water	RTP/MDW	1628	14	1600	8.2	hs027.d; Manifold Bldg. 2
Z-W6-02 Dupl.	B1PK38	0938*	Water	RTP/MDW	1639	14	1700	8.5	hs028.d; Manifold Bldg. 2 (RPD=5.9%)
Z-W7-01	B1PK39	0824*	Water	RTP/MDW	1650	15	2200	14	hs029.d
Z-W8-01	B1PK40	0830*	Water	RTP/MDW	1701	9.9	1300	3.5	hs030.d
Z-W9-01	B1PK41	0835*	Water	RTP/MDW	1712	15	2300	14	hs031.d
Z-W10-01	B1PK42	0840*	Water	RTP/MDW	1723	15	2300	13	hs032.d
Z-W2-02	B1PK33	0820*	Water	RTP/MDW	1734	17	2200	4.7	hs033.d
DI Blank	---	1040	Water	DT	1744	<2.0	<2.0	<2.0	hs034.d
3000µg/L Cal. Check	---	1715	Water	DT	1755	3105 104%	3191 106%	3186 106%	hs035.d; Acceptable recoveries.
DI Blank	---	1040	Water	DT	1817	<2.0	<2.0	<2.0	hs037.d
Blank	---	---	Air	DJA	1045*	0.20	2.0	NA	B&K 1302
25.37 ppm Cal. Check	---	---	Air	DJA	1049*	NA	21.2 83%	NA	B&K 1302 Acceptable recovery.
Z-A3-01	B1PK43	0846*	Air	RTP/MDW	1051*	0.20	2.0	NA	B&K 1302
Z-A2-01	B1PK44	0850*	Air	RTP/MDW	1055*	0.20	8.98	NA	B&K 1302
Blank	---	---	Air	DJA	1101*	0.20	2.0	NA	B&K 1302

D. TODAK
SEP 05 2007
[Signature]

* Times with asterisks are from 08-21-07 sampling and analysis. All other dates are either noted or are from second date of analysis - 09-04-07. Data recorded in real-time on GC computer in MO-612. For instrument operation information, please refer to logbook HNF-N-292-2, page 22.

① <1.0 ppm
TMS 9/4/07

D. TODAK
SEP 05 2007
[Signature]

Reviewed by: mshansen/
mshansen 9/4/07

200-ZP-1 monthly

[Signature]
D. TODAK /GS

**200-ZP-1 Daily Activity Log
(Logbook HNF-N-294 1, F02-002)**

Date: 07/23/07

1100	Vapor samples B1P7W2 (AS-3) and B1P7W3 (AS-2) delivered by JL Mokler and received by J. Hocking.
1110	DJ Alexander on-site at MO-612 field laboratory trailer located at 200-ZP-1 to perform VOA sampling and analysis of the 200-ZP-1 pump and treat.
1116	Turned on B&K 1302 FTIR gas analyzer, serial number 1715232 to warm up instrument prior to analysis. The B&K 1302 is set up using cross compensation factory calibrations.
1117	Placed instrument into automatic sampling mode (ambient air).
1135	Analyzed blank air sample: TCM = <1.0 ppm, CCl ₄ = <1.0 ppm, TCE = NAF.
1137	Analyzed 25.37 ppm calibration standard. CCl ₄ = 20.2 ppm (80%). Acceptable recovery.
1139	Started analysis of 200-ZP-1 samples.
1141	Completed analysis of 200-ZP-1 samples.
1145	Turned instrument off.

D. TODAK

SEP 05 2007

**200-ZP-1 Daily Activity Log
(Logbook HNF-N-294 1, F02-002)**

Date: ~~08/21/07~~ ~~9/4/07~~ 8/21/07

1013	Vapor samples B1PK43 (AS-3) and B1PK44 (AS-2) delivered by RT Pfister and MD White, received by Trailer MO-612.
1030	DJ Alexander on-site at MO-612 field laboratory trailer located at 200-ZP-1 to perform VOA sampling and analysis of the 200-ZP-1 pump and treat.
1035	Turned on B&K 1302 FTIR gas analyzer, serial number 1715232 to warm up instrument prior to analysis. The B&K 1302 is set up using cross compensation factory calibrations.
1036	Placed instrument into automatic sampling mode (ambient air).
1045	Analyzed blank air sample: TCM = <1.0 ppm, CCl ₄ = <1.0 ppm, TCE = NAF.
1047	Analyzed 25.37 ppm calibration standard. CCl ₄ = 21.1 ppm (83%). Acceptable recovery.
1051	Started analysis of 200-ZP-1 samples.
1057	Completed analysis of 200-ZP-1 samples.
1105	Turned instrument off.

D. TODAK

SEP 05 2007

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OTMS 9/4/07

Reviewed by: *[Signature]*
9/4/07

D. TODAK

SEP 05 2007

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200-ZP-1 monthly / T4/T5 Analysis

D. TODAK / CS

MO-612 Field GC Daily Activity Log

(Logbook HNF-N-292 2, SAFs F02-001/F02-002)

Date: 09/04/07 (~~SAF F07-000~~)

0955	D. Todak arrived on-site at MO-612 laboratory trailer located at 200-ZP-1 to perform analysis of monthly 200-ZP-1 pump and treat samples and C5585 samples. Turned on HP 6890N gas chromatograph S/N US10437002 and HP G1888 headspace autosampler S/N IT00430023. Opened inside and outside hydrogen and breathing air valves. Loaded method HSECFID.M.
1010	Split / splitless inlet vent = 42.3 mL/min. Septum purge vent = 2.26 mL/min.
1015	Created sample sequence "Z070904.S".
1040	Prepared calibration standards of 5, 100, 200, 2000, 4000, and 8000 µg/L.
1132	Started sequence. ECD signal = 204.3.
1206	Started calibration of HP 6890N gas chromatograph.
1256	Prepared 100 µg/L LCS calibration check standard.
1301	Completed calibration.
1314	D. Todak started preparing water samples for analysis. Noted significant air bubbles in B1PK10 and B1PK11 (C5585 intervals 56 and 57). Of the three vials for each sample, none were closed with zero headspace. NO CHAIN OF CUSTODY WITH SAMPLE B1PK11.
1334	100 µg/L calibration check: DCM = 104.6(105%), TCM = 107.4(107%), CCl ₄ = 109.3(109%), TCE = 109.0(109%), PCE = 108.9 (109%). Acceptable recoveries.
1400	Prepared matrix spike and matrix spike duplicate. Added 2 µL of 50 µg/mL of LCS parent stock to 10 mL of T2-02MS and T2-03MSD for a total of 10 µg/L per sample.
1406	Started analysis of water samples.
1450	Matrix spike recovery for T2-02MS = 109%
1501	Matrix spike duplicate recovery for T2-03MSD = 109%. Relative Percent Difference (RPD) = 0.1%.
1615	Noticed results on W2-01 (sample B1PK33) were unusually low, 240 µg/L CCl ₄ versus 2300 µg/L in July. Prepared a lab duplicate from a different vial of B1PK33 and added it to the end of the run.
1715	Prepared 3000 µg/L calibration check standard.
1734	Completed analysis of process water samples. Second analysis of B1PK33 returned normally trending results, including 2200 µg/L CCl ₄ , therefore these will be the reported results.
1755	3000 µg/L calibration check: DCM = 3046 (102%), TCM = 3105 (104%), CCl ₄ = 3191 (106%), TCE = 3186 (106%), PCE = 3164 (105%). Acceptable recoveries.
1828	Sequence run completed. Saved sequence "Z070904.S". Saved method HSECFID.M with annotation "ZP-1 Monthly - 09-04-07".
1835	Disposed of liquid and solid waste.
1840	Turned off inside hydrogen and breathing air supply valves. Turned off outside hydrogen and breathing air gas bottle valves.
1845	Loaded standby method, shut down computer equipment, and left trailer

Data recorded in real time using the GC computer in MO-612.

D. TODAK
SEP 05 2007

Reviewed by: J. Johnson /
M. Johnson 9/4/07

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Fluor Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F02-001-087	PAGE 1 OF 3
COLLECTOR Pope/Pfister/Mokler/Parchen/Connolly		COMPANY CONTACT BYRNES, ME		TELEPHONE NO. 373-3996	PROJECT COORDINATOR TRENT, SJ	PRICE CODE	FIELD
SAMPLING LOCATION 200-ZP-1		PROJECT DESIGNATION 200-ZP-1 Pump & Treat Bi-Weekly and Quarterly Process Monitoring			SAF NO. F02-001	AIR QUALITY	<input type="checkbox"/>
ICE CHEST NO.		FIELD LOGBOOK NO. HNF-N-575-2	COA 122598ES10		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=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS N/A	PRESERVATION HCl to pH <2/Cool~-4C	TYPE OF CONTAINER aGs*	NO. OF CONTAINER(S) 3	VOLUME 40mL	SPECIAL HANDLING AND/OR STORAGE N/A	
SPECIAL ANALYSIS		SEE ITEM (1) IN SPECIAL INSTRUCTIONS					

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME						
B1PK28	WATER	8/21/07	0800	✓					
B1PK29	WATER		0800	✓					
B1PK30	WATER		0807	✓					
B1PK31	WATER		0812	✓					
B1PK32	WATER		0815	✓					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	(1)VOLATILE ORGANICS BY FIELD GC {Carbon tetrachloride, Chloroform, Trichloroethene}	
R. PFISTER/Connolly	8/21/07 1013	MO 612 FRIG	8/21/07 1013		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
MO 612 FRIG	9/04/07 1245	D. TODAK	9/04/07 1245		
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
	Returned to Project	DTODAK	9/4/07 1835

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Fluor Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F02-001-087	PAGE 2 OF 3			
COLLECTOR Pope/Pfister/Mokler/Parchen/Connolly/ <i>white</i>		COMPANY CONTACT BYRNES, ME		TELEPHONE NO. 373-3996		PROJECT COORDINATOR TRENT, SJ		PRICE CODE	FIELD	DATA TURNAROUND 0 Days / 0 Days
SAMPLING LOCATION 200-ZP-1		PROJECT DESIGNATION 200-ZP-1 Pump & Treat Bi-Weekly and Quarterly Process Monitoring			SAF NO. F02-001		AIR QUALITY <input type="checkbox"/>			
ICE CHEST NO.		FIELD LOGBOOK NO. HNF-N-575-2		COA 122598ES10		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=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS N/A		PRESERVATION HCl to pH <2/Cool~4C							
			TYPE OF CONTAINER aGs*							
			NO. OF CONTAINER(S) 3							
			VOLUME 40mL							
SPECIAL HANDLING AND/OR STORAGE N/A		SAMPLE ANALYSIS		SEE ITEM (1) IN SPECIAL INSTRUCTIONS						
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME							
B1PK33	WATER	8/21/07	0820	✓						
B1PK34	WATER	↓	0925	✓						
B1PK35	WATER		0930	✓						
B1PK36	WATER		0944	✓						
B1PK37	WATER		0938	✓						
CHAIN OF POSSESSION			SIGN/ PRINT NAMES				SPECIAL INSTRUCTIONS			
RELINQUISHED BY/REMOVED FROM		DATE/TIME	RECEIVED BY/STORED IN		DATE/TIME	(1)VOLATILE ORGANICS BY FIELD GC {Carbon tetrachloride, Chloroform, Trichloroethene}				
<i>M. White</i>		8-21-07 1013	<i>MO 612 Frig</i>		8-21-07 1013					
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 <i>Return to Project</i>				DISPOSED BY <i>D. TODAYK</i>	DATE/TIME <i>9/4/07 1835</i>				

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