ATTACHMENT 6

CHARACTERIZATION DATA SUMMARIES FOR REMOVAL OF THE PILE FAN SUMP

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Characterization Data Summaries for Removal of the Pile Fan Sump

The information provided here are examples of the characterization data that was collected and evaluated to determine the path forward for the Pile Fan Sump remediation. Characterization information, along with system operations, was used to determine the methodology to be used for removal of the system and was part of the initial waste profiling in preparation for disposal of the contaminated soils and components.

Contaminates Detected Under PFS/14" Pipe

Contaminate	PFS Soil Under 14" Line (North)*	PFS Soils Under 14" Line (South)*	Duplicate PFS Soils Under 14" Line (South)*	TAGM* / DCGL	MW Threshold
Methylene Chloride	0.00371	0.00445	0.00453	0.1	
Benzo(a) Pyrene	0.132	0.16	ND	0.014	
Chloroform	ND	0.000617	ND	0.03	6
Benzo(ghi)perylene	ND	0.0774	ND	50	
Pyrene	ND	0.0748	ND	50	
Mercury	0.0417	0.0601	0.0401	0.15	0.2
Silver	0.271	ND	ND	2	5
Aluminum	2350	2790	2380	16,491	
Arsenic	0.958	0.74	0.586	7.5	5
Barium	9.18	7.58	6.61	300	100
Beryllium	NA	0.109	0.106	0.43	
Calcium	**513**	**674**	**522**	**434**	
Cadmium	0.369	0.131	0.116	1.5	1
Cobalt	3.59	1.06	0.988	30	
Chromium	1.01	***4.99***	4.09	14.2	5
Copper	4.88	4.07	3.49	25	
Iron	2420	2960	2540	14,429	
Potassium	193	188	168	628	
Magnesium	277	444	401	2122	
Manganese	**427**	**459**	**40.5**	**148**	
Sodium	141	196	177	196	
Nickel	5.1	6.36	5.36	13	
Lead	***12.7***	***6.72***	***5.8***	15.8	5
Vanadium	4.415	5.44	4.38	150	
Zinc	**43**	**24.1**	**20.4**	**22.4**	
Gross Alpha	12.5	10.9	7.36	NA	
Gross Beta	105	352	380	NA	
Uranium 235	ND	0.217	ND	9	
Pu 239/240	0.772	ND	ND	65/40	
Cs-137	**178**	**697**	**824**	**23**	
Co-60	0.0332	0.0258	0.0366	1100	
Sr-90	ND	3.43	6.19	15	
H-3	121	20.5	7.76	1010	

* Chemical Contaminates listed in ppm, Radiological reported in pCi/gram.

PFS SOILS UNDER 14" LINE

	Contaminate	PFS Soil Under 14" Line (North)*	PFS Soils Under 14" Line (South)*	Duplicate PFS Soils Under 14" Line (South)*	TAGM* / DCGL
Chemical	Calcium	513	674	522	434
	Manganese	427	459	40.5	148
	Zinc	43	24.1	20.4	22.4
Radiological	Gross Alpha	12.5	10.9	7.36	NA
	Gross Beta	105	352	380	NA
	Cs-137	178	697	824	23

PFS SLUDGE

	Contaminate	Sludge Concentration*	DL / MDA*
Radiological	U-234	178	47.9
	U-235	4.44	47.9
	U-238	93.2	47.9
	Am-241	1210	48.4
	Pu-238	134	70.8
	Pu-239/240	7670	43.6
	Pu-241	1050	120
	Sr-90	57000	43.9
	Co-60	28.2	15.3
	Cs-137	222000	181
Chemical	Aluminum	3220	
	Barium	115	
	Cadmium	7.7	
	Calcium	6880	
	Chromium	328	
	Cobalt	8.21	
	Copper	736	
	Iron	28500	
	Lead	1450	
	Magnesium	2350	
	Manganese	236	
	Nickel	313	
	Potassium	753	
	Sodium	271	
	Vanadium	39.1	
	Zinc	1250	
	Mercury	18.1	

ASPHALT AT 704 BUILDING & PFS

Contaminate	Asphalt @704 Fanhouse*	Asphalt/Soil @ 704 Fanhouse*	Asphalt at PFS*
K-40	2.8	2.5	7.2
Co-60	0.05	0.089	ND
Cs-137	0.21	0.15	0.25
Am-241	ND	ND	0.25

* Chemical Contaminates listed in ppm, Radiological reported in pCi/gram.

Date of Sample	Sample ID No.	Analysis Requested	Results Rec'd.	Date Analyzed	Comments
3/28/91	Z9103129	Gamma	----------	3/29/91	
		G. Alpha	8.368E-8 uCi/ml	3/29/91	<1.3E-7
		G. Beta	8.231E-5 uCi/ml	3/29/91	
4/23/91	Z9104143	Sr-90	----------		Sent out for processing and lost.
			8.29E-8 uCi/ml	4/24/91	G. Alpha counted in-house.
			4.83E-5 uCi/ml	4/24/91	G. Beta counted in-house.
5/20/91	Z9105093	Sr-90	1338 pCi/l	9/19/91	
12/19/96	BGSW-08	Gamma	See Comments	3/7/97	Sent out for processing at IT Corp
		G. Alpha	N-D		Am-241-A @ 0.009 pCi/l
		G. Beta	5,760 pCi/l		Th-228 @ 0.007 pCi/l
		Tritium	340,000 pCi/l		Th-230 @ 0.2 pCi/l
		Sr-90	2,270 pCi/l		Th-232 @ 0.03 pCi/l
3/11/97	Water	G. Alpha	66 pCi/l		
		G. Beta	6640 pCi/l		
		Tritium	259,000 pCi/l		
		Cs-137	1970 pCi/l		
		Ra-226	2300 pCi/l		
3/12/97	Sludge	G. Alpha	0.086 pCi/ml		
		G. Beta	15.2 pCi/ml		
		Tritium	272,000 pCi/l		
		Na-22	0.89 pCi/gm		
		K-40	4.4 pCi/gm		
		Co-60	3.1 pCi/gm		
		Cs-137	15,700 pCi/gm		
		Ra-226	365 pCi/gm		
		Am-241	71 pCi/gm		
3/19/97	Dewatered	Tritium	< 0.5 pCi/ml		
	Sludge				