- Multiple data sets for C-400 Building have been identified for the time frame extending from approximately 1988 through May 21, 2018
- Due to the historic nature of the data, several limitations are acknowledged
    - DQOs and verification/validation packages not available for all data sets
    - Sample locations based on available information and (in some cases) are estimated
    - Data is of unknown quality
- Tanks/equipment and areas have undergone cleanout and changes over the years and existing data may not represent current conditions
- The existing data is primarily waste data from biased sampling and includes the following types of analysis:
    - Total Metals
    - RCRA TCLP Metals and VOCs
    - PCBs
    - Radionuclides
- Summary tables of the existing data (non-radiological and radiological) are included below

Summary of Detected Concentrations from the C-400 Cleaning Building Plenum Room

Analyte	Units	Minimum Concentration[a]	Maximum Concentration[a]	Number of Samples
SOLIDS[b]				
METALS				
Aluminum	mg/kg	1,080	6,310	13
Antimony	mg/kg	18.4 J	102	13
Barium	mg/kg	23.2 J	161	13
Boron	mg/kg	56.6 J	128 J	13
Cadmium	mg/kg	11.9 J	45.8	13
Calcium	mg/kg	17,800	17,800	1
Chromium	mg/kg	136	394	13
Chromium, hexavalent	mg/kg	0.788	28	13
Cobalt	mg/kg	8.16 J	27.3	13
Copper	mg/kg	493	2,400	13
Iron	mg/kg	236,000	542,000	13
Lead	mg/kg	43 J	1,370	13
Magnesium	mg/kg	578 J	2,040	12
Manganese	mg/kg	722	2,010	13
Molybdenum	mg/kg	20.5 J	48.4	13
Nickel	mg/kg	526	6,680	13
Phosphorous	mg/kg	262 J	797	13
Potassium	mg/kg	582 J	3,340	13
Silicon	mg/kg	616	3,490	13

Summary of Detected Concentrations from the C-400 Cleaning Building Plenum Room (Continued)

Analyte	Units	Minimum Concentration[a]	Maximum Concentration[a]	Number of Samples
Silver	mg/kg	5.97 J	9.42 J	13
Sodium	mg/kg	2,300	67,700	12
Strontium	mg/kg	15.9 J	79.1	13
Tin	mg/kg	16.6 J	109	13
Titanium	mg/kg	50.3	432	13
Uranium	mg/kg	263	19,700	19
Vanadium	mg/kg	11.4 J	29.4	13
Zinc	mg/kg	527	26,600	12
PCB				
Total PCBs	mg/kg	0.578	42.6	19
RADIONUCLIDES				
Americium-241	pCi/g	0.675	12	18
Cesium-137	pCi/g	0.209	5.21	18
Neptunium-237	pCi/g	4.88	169	18
Plutonium-238	pCi/g	0.74	2.42	18
Plutonium-239/240	pCi/g	3.26	57.7	18
Potassium-40	pCi/g	2.26	5.49	18
Protactinium-233	pCi/g	5.88	185	5
Strontium-90	pCi/g	15.1	15.1	18
Technetium-99	pCi/g	494	49,500	18
Thorium-230	pCi/g	19.3	282	18
Thorium-232	pCi/g	0.475	1.41	18
Uranium-235	mg/kg	1.13	70.1	18
Uranium-235	wt.%	0.311	0.561	18
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) METALS				
Antimony	mg/L	0.0505 J	0.299	17
Arsenic	mg/L	0.0601 J	0.128 J	17
Barium	mg/L	0.0121 J	0.446	17
Cadmium	mg/L	0.0111 J	0.951	17
Chromium	mg/L	0.016 J	1.01	17
Lead	mg/L	0.11	4.83	17
Mercury	mg/L	0.0228	0.0228	17
Nickel	mg/L	0.849	16.9	17
Silver	mg/L	0.0183 J	0.0638 J	17
Zinc	mg/L	0.622	389	17
TCLP SVOCS				
Nitrobenzene	mg/L	0.0856	0.0856	12
WASTEWATER[c]				
METALS				
Antimony	mg/L	0.00872 J	0.027	3
Arsenic	mg/L	0.00551 J	0.00551 J	3
Barium	mg/L	0.0146	0.0342	3
Cadmium	mg/L	0.00183 J	0.00185 J	3
Chromium	mg/L	0.00447 J	0.0616	3
Lead	mg/L	0.154	0.154	3
Mercury	µg/L	0.071 J	0.071 J	3
Nickel	mg/L	0.143	0.206	3
Total Uranium	mg/L	0.579	4.46	3
Zinc	mg/L	0.231	0.344	3

Summary of Detected Concentrations from the C-400 Cleaning Building Plenum Room (Continued)

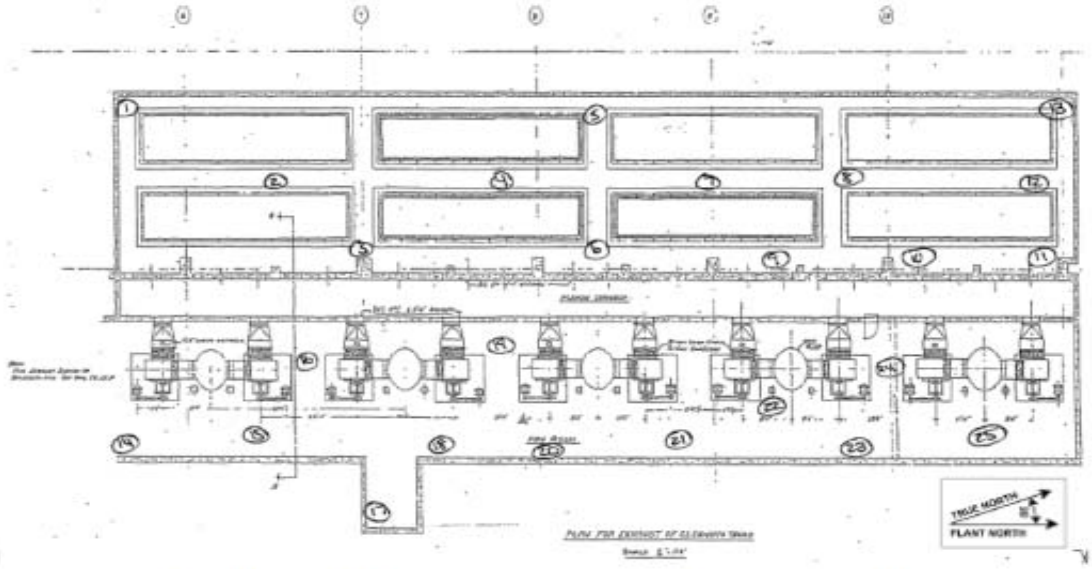
Analyte	Units	Minimum Concentration[a]	Maximum Concentration[a]	Number of Samples
PCB				
Total PCBs	µg/L	0.054	0.054	3
RADIONUCLIDES				
Neptunium-237	pCi/L	5.91	12.6	3
Potassium-40	pCi/L	150	150	3
Strontium-90	pCi/L	4.77	4.77	3
Technetium-99	pCi/L	2,060	20,100	3
Uranium-235	pCi/L	5.44	37	3
Uranium-235	wt.%	0.384	0.441	3

[a] "J" or estimated qualifiers are noted.

[b] The metals arsenic, beryllium, selenium, and thallium also were analyzed, but were not detected.
The radionuclide cobalt-60 also was analyzed, but was not detected.
The TCLP metals beryllium, selenium, and thallium also were analyzed, but were not detected.
The TCLP SVOCs 1,4-dichlorobenzene; 2,4,5-trichlorophenol; 2,4,6-trichlorophenol; 2,4-dinitrotoluene; 2-methylphenol; hexachlorobenzene; hexachlorobutadiene; hexachloroethane; m,p-cresol; pentachlorophenol; and pyridine also were analyzed, but were not detected.
Additionally, SVOCs, VOCs, and TCLP VOCs were analyzed but were not detected.

[c] The metals beryllium, selenium, silver, and thallium also were analyzed, but were not detected.
The radionuclides americium-241, cesium-137, cobalt-60, plutonium-238, plutonium-239/240, thorium-230, and thorium-232 also were analyzed, but were not detected. Additionally, SVOCs and VOCs were analyzed but were not detected.

Previous Survey Locations and Results from the East Basement Area (January 2018)

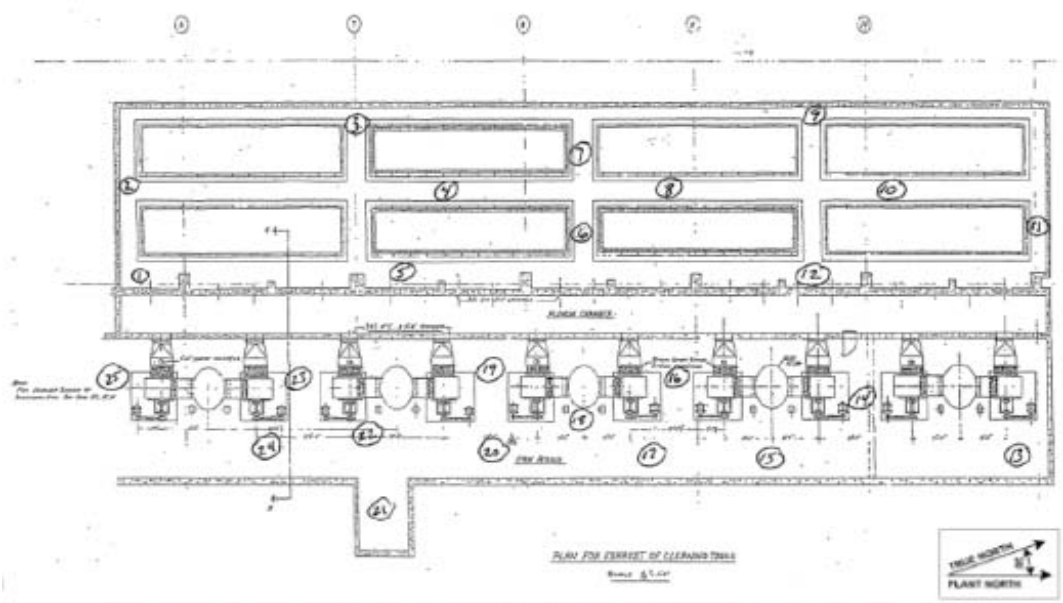


Removable alpha (dpm/100 cm^2)		
Survey #	gross cpm	dpm/ 100 cm^2
1	11	25
2	5	8
3	3	< Lc
4	7	14
5	8	17
6	4	6
7	10	22
8	5	8
9	6	11
10	9	20
11	21	53
12	6	11
13	7	14
14	2	< Lc
15	3	< Lc
16	12	28
17	8	17
18	9	20
19	5	8
20	11	25
21	19	47
22	22	56
23	13	31
24	19	47
25	16	39
26	3	< Lc

Removable Beta/Gamma (dpm/100 cm^2)		
Survey #	gross cpm	dpm/ 100 cm^2
1	164	306
2	129	212
3	72	59
4	148	263
5	100	134
6	141	244
7	98	129
8	125	201
9	132	220
10	203	410
11	129	212
12	109	158
13	74	64
14	96	123
15	98	129
16	115	174
17	126	204
18	160	295
19	97	126
20	202	407
21	198	397
22	184	359
23	108	155
24	157	287
25	129	212
26	47	< Lc

Lc = critical level

Previous Survey Locations and Results from the East Basement Area (February 2018)



Removable alpha (dpm/100 cm^2)			Removable Beta/Gamma (dpm/100 cm^2)		
Survey #	gross cpm	dpm/ 100 cm^2	Survey #	gross cpm	dpm/ 100 cm^2
1	9	22	1	92	115
2	6	14	2	91	113
3	5	11	3	141	247
4	8	19	4	106	153
5	7	16	5	111	166
6	3	5	6	96	126
7	10	22	7	98	129
8	4	8	8	78	77
9	9	22	9	80	83
10	4	8	10	70	56
11	3	5	11	70	56
12	8	19	12	92	115
13	14	40	13	120	190
14	55	150	14	244	523
15	14	70	15	138	239
16	6	14	16	87	102
17	8	19	17	89	107
18	3	5	18	90	110
19	13	33	19	151	273
20	4	8	20	93	118
21	6	14	21	79	80
22	7	< Lc	22	108	158
23	5	11	23	85	96
24	6	14	24	98	131
25	14	40	25	98	131
26	0	< Lc	26	56	< Lc

Lc = critical level