

Table 1I  
Mass of Chemicals Placed in CAMU Unit 2  
HWD-2 Landfill and Refuse Area Post-Closure Groundwater Monitoring - Fourth Quarter 2017  
U.S. Steel - Gary Works  
Gary, Indiana

Parameter	Location ID	EE-MW-16D	EE-MW-16S	EE-MW-18D	EE-MW-18S	EE-MW-18S	EE-MW-24D	EE-MW-24S	EE-MW-25D	EE-MW-25S	EE-MW-26D	EE-MW-26S	EE-MW-26S	EE-MW-27D	EE-MW-27S	EE-MW-28D	
	Sample Type	Regular	Regular	Regular	Regular	Duplicate	Regular	Regular	Regular	Regular	Regular	Regular	Duplicate	Regular	Regular	Regular	
	Sample Date	12/05/17	12/05/17	12/06/17	12/06/17	12/06/17	12/06/17	12/06/17	12/06/17	12/06/17	12/06/17	12/07/17	12/07/17	12/07/17	12/08/17	12/07/17	12/08/17
	Units																
Volatile Organic Compunds (VOCs)																	
1,1,1-Trichloroethane	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	1.5	0.5	0.5	0.5	0.5	0.5	2.5	0.5	0.5	
1,1-Dichloroethane	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.5	0.5	0.5	
1,1-Dichloroethene	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.5	0.5	0.5	
2-Butanone	ug/l	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	12.5	2.5	2.5	
4-Methyl-2-pentanone	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.5	0.5	0.5	
Acetone	ug/l	5	5	5	5	5	5	5	5	5	5	5	5	25	5	5	
Benzene	ug/l	18	0.5	10	0.5	0.5	9.4	0.5	5.4	0.5	1.1	0.5	0.5	3.8	0.5	1.7	
Ethylbenzene	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.5	0.5	0.5	
m&p-Xylene	ug/l	1	1	1	1	1	1	1	1	1	1	1	1	5	1	1	
Methylene Chloride	ug/l	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	12.5	2.5	2.5	
o-Xylene	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.5	0.5	0.5	
Stvrene	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.5	0.5	0.5	
Toluene	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.5	0.5	0.5	
Vinyl chloride	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.5	0.5	0.5	
Xylenes (total)	ug/l	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	7.5	1.5	1.5	
Semi-Volatile Organic Compunds (SVOCs)																	
1,4-Dioxane	ug/l	2.5	2.5	2.5	2.5	2.5	2.5	2.5	1.3	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
2,4-Dimethylphenol	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	R	R	1.6	0.5	0.5	
2-Methylnaphthalene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
2-Methylphenol	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	R	R	0.5	0.5	0.5	
2-Picoline	ug/l	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
3-Methylphenol & 4-Methylphenol	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	R	R	1.3	0.5	0.5	
Acenaphthene	ug/l	0.05	0.05	0.05	0.05	0.05	0.25	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Acenaphthylene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.14	0.05	0.05	
Acetophenone	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.52	0.5	0.5	0.5	0.5	2.3	0.5	0.5	
Anthracene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Benzo(a)anthracene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Benzo(a)pyrene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Benzo(b)fluoranthene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Benzo(g,h,i)perylene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Benzo(k)fluoranthene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Benzyl alcohol	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5J	0.5	0.5	0.5	R	R	0.5	0.5	0.5	
bis(2-Ethylhexyl)phthalate	ug/l	0.5	0.5	0.05	0.5	0.5	3.5	0.5	3.2	0.5	0.5	0.5	0.5	0.05	0.5	0.5	
Butyl benzyl phthalate	ug/l	0.5	0.5	0.05	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.05	0.5	0.5	
Chrysene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Dibenzofuran	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.05	0.5	0.5	
Fluoranthene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Fluorene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Indeno(1,2,3-cd)pyrene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Naphthalene	ug/l	0.05	0.05	0.05	0.05	0.05	0.83	0.3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Phenanthrene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Phenol	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	R	R	0.05	0.5	0.5	
Pyrene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Pyridine	ug/l	5	5	5	5	5	5	5	0.85	5	5	5	5	1.8	5	5	

Table 11  
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Parameter	Location ID	EE-MW-16D	EE-MW-16S	EE-MW-18D	EE-MW-18S	EE-MW-18S	EE-MW-24D	EE-MW-24S	EE-MW-25D	EE-MW-25S	EE-MW-26D	EE-MW-26S	EE-MW-26S	EE-MW-27D	EE-MW-27S	EE-MW-28D	
	Sample Type	Regular	Regular	Regular	Regular	Duplicate	Regular	Regular	Regular	Regular	Regular	Regular	Duplicate	Regular	Regular	Regular	
	Sample Date	12/05/17	12/05/17	12/06/17	12/06/17	12/06/17	12/06/17	12/06/17	12/06/17	12/06/17	12/06/17	12/07/17	12/07/17	12/07/17	12/08/17	12/07/17	12/08/17
	Units																
Dissolved Metals																	
Aluminum, dissolved	mg/l	0.027	0.005	0.005	0.005	0.005	0.002	0.005	0.0053	0.005	0.005	0.005	0.005	0.19	0.005	0.005	
Antimony, dissolved	mg/l	0.0024	0.012	0.0024	0.0025	0.0025	0.0025	0.0025	0.0028	0.0025	0.0025	0.0031	0.0021	0.0025	0.0046	0.0025	
Arsenic, dissolved	mg/l	0.055	0.0025	0.094	0.0025	0.0025	0.15	0.0025	0.18	0.0025	0.04	0.0093	0.01	0.29	0.011	0.1	
Barium, dissolved	mg/l	0.13	0.014	0.14	0.061	0.06	0.058	0.02	0.046	0.085	0.12	0.01	0.01	0.086	0.043	0.072	
Beryllium, dissolved	mg/l	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.00048	0.00069	0.001	0.001	0.001	0.001	
Cadmium, dissolved	mg/l	0.005	0.005	0.005	0.001	0.0016	0.003	0.0012	0.004	0.0016	0.0028	0.0015	0.0015	0.0047	0.002	0.0016	
Calcium, dissolved	mg/l	34	93	81	230	230	180	150	180	180	100	72	79	560	120	54	
Chromium, Hexavalent, dissolved	mg/l	0.00046	0.015	0.0002	0.001	0.00082	0.00018	0.00023	0.0025	0.00045	0.0025	0.0025	0.0025	0.00053	0.0021	0.00023	
Chromium, total, dissolved	mg/l	0.0025	0.011	0.0033	0.0025	0.0025	0.0095	0.0025	0.011	0.0025	0.0025	0.0025	0.0025	0.02	0.0025	R	
Cobalt, dissolved	mg/l	0.0025	0.0025	0.0025	0.00054	0.00051	0.0025	0.0025	0.0025	0.0022	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	
Copper, dissolved	mg/l	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.003	0.0026	0.005	0.0066	0.005	
Iron, dissolved	mg/l	1.2	0.018	8.3	0.053	0.051	8.4	0.019	8.5	0.081	4.1	0.04	0.04	18	0.04	2	
Lead, dissolved	mg/l	0.014	0.0057	0.0065	0.0036	0.0036	0.004	0.0055	0.0045	0.0053	0.0031	0.0059	0.0065	0.02	0.012	0.0059	
Lithium, dissolved	mg/l	0.005	0.041	0.0048	0.2	0.19	0.15	0.19	0.11	0.094	0.12	0.19	0.2	0.13	0.42	0.058	
Magnesium, dissolved	mg/l	11	24	27	49	48	79	28	72	51	33	3.9	4.1	140	38	9.3	
Manganese, dissolved	mg/l	0.02	0.0025	0.055	0.088	0.087	0.042	0.46	0.024	1.2	0.19	0.059	0.06	0.12	0.056	0.063	
Mercury, dissolved	mg/l	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	
Nickel, dissolved	mg/l	0.0025	0.0025	0.0025	0.0025	0.0022	0.0025	0.0021	0.0025	0.0016	0.0025	0.0044	0.0049	0.0025	0.0067	0.0025	
Potassium, dissolved	mg/l	4.5	5.1	1.3	9.7	9.7	100	41	66	24	44	51	53	100	63	49	
Selenium, dissolved	mg/l	0.005	0.0039	0.005	0.0079	0.0086	0.005	0.0059	0.005	0.0096	0.005	0.0039	0.004	0.0033	0.0062	0.005	
Silicon, dissolved	mg/l	23	12	13	10	9.7	11	12	11	12	8.7	13	14	41	23	15	
Sodium, dissolved	mg/l	29	4.5	10	33	33	150	36	130	31	63	53	56	260	65	120	
Tin, dissolved	mg/l	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.001	0.005	0.005	
Vanadium, dissolved	mg/l	0.00048	0.0025	0.00097	0.00063	0.00078	0.0011	0.0012	0.0011	0.0025	0.00084	0.12	0.12	0.0022	0.007	0.0025	
Zinc, dissolved	mg/l	0.005	0.005	0.005	0.005	0.005	0.002	0.005	0.005	0.005	0.005	0.005	0.005	0.0017	0.005	0.005	
Total Metals																	
Iron	mg/l	1.4	0.028	8.6	0.057	0.052	8.3	0.045	9	0.15	4.8	0.029	0.034	18	0.16	2	
General Chemistry																	
Alkalinity, bicarbonate, as CaCO3	mg/l	320	250	290	290	290	560	270	590	350	290	48	41	870	220	190	
Alkalinity, carbonate, as CaCO3	mg/l	5	5	5	5	5	5	5	5	5	5	16	22	5	5	5	
Alkalinity, Total as CaCO3	mg/l	320	260	290	290	290	560	270	590	350	290	64	63	870	220	190	
Ammonia as N	mg/l	54	0.01	1.2	0.01	0.01	37	0.01	36	0.01	2.1	0.84	0.84	40	0.061	5	
Chloride	mg/l	21	3.5	13	140	140	190	34	150	29	51	39	39	270	36	100	
Fluoride, Dissolved	mg/l	0.05	1.1	0.05	1.4	1.4	0.25	1.7	0.45	1.8	1.7	1.6	1.6	0.5	0.65	0.53	
Nitrate as N	mg/l	0.046	3.7	0.05	3.4	3.3	0.38	0.51	0.1	3.5	0.1	0.28	0.28	0.5	17	0.1	
Sulfate, dissolved	mg/l	0.66	33	0.37	270	270	340	220	290	220	210	240	230	1,100	280	130	
Sulfide	mg/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	

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Mass of Chemicals Placed in CAMU Unit 2  
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U.S. Steel - Gary Works  
Gary, Indiana

Parameter	Location ID	EE-MW-28S	EE-MW-29D	EE-MW-29S	EE-MW-30D	EE-MW-30D	EE-MW-30S	EE-MW-31D	EE-MW-31S	HWD-2-10D	HWD-2-10S	HWD-2-12D	HWD-2-12S	HWD-2-20D	HWD-2-20S	HWD-2-21D	HWD-2-21S
	Sample Type	Regular	Regular	Regular	Regular	Duplicate	Regular	Regular	Regular	Regular	Regular	Regular	Regular	Regular	Regular	Regular	Regular
	Sample Date	12/08/17	12/07/17	12/07/17	12/07/17	12/07/17	12/07/17	12/07/17	12/07/17	12/07/17	12/07/17	12/06/17	12/06/17	12/08/17	12/08/17	12/06/17	12/06/17
	Units																
<b>Volatile Organic Compunds (VOCs)</b>																	
1,1,1-Trichloroethane	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	26	2.5	0.5	0.5	0.5
1,1-Dichloroethane	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.1	32	2.5	0.5	0.5	0.5
1,1-Dichloroethene	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.5	2.5	0.5	0.5	0.5
2-Butanone	ug/l	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	12.5	2.5	2.5	2.5
4-Methyl-2-pentanone	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.5	0.5	0.5	0.5
Acetone	ug/l	5	5	5	5	5	5	5	5	5	5	5	5	25	5	5	5
Benzene	ug/l	0.5	16	0.5	2	1.9	0.5	1.8	0.5	32	0.5	24	0.5	2.6	0.5	58	76
Ethylbenzene	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.5	0.5	0.5	10
m&p-Xylene	ug/l	1	1	1	1	1	1	1	1	1	1	1	1	5	1	1	13
Methylene Chloride	ug/l	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	12.5	2.5	2.5	2.5
o-Xylene	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.5	0.5	0.5	11
Styrene	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.5	0.5	0.5	0.5
Toluene	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.43	0.5	0.5	0.5	2.5	0.5	0.5	2.8
Vinyl chloride	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.5	0.5	0.5	0.5
Xylenes (total)	ug/l	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	7.5	1.5	1.5	24
<b>Semi-Volatile Organic Compunds (SVOCs)</b>																	
1,4-Dioxane	ug/l	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
2,4-Dimethylphenol	ug/l	0.5	R	0.5	0.5	0.5	R	0.5	R	0.5	R	0.5	0.5	0.5	0.5	0.65	28
2-Methylnaphthalene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	23
2-Methylphenol	ug/l	0.5	R	0.5	0.5	0.5	R	0.5	R	0.5	R	0.5	0.5	0.5	0.5	0.5	2.9
2-Picoline	ug/l	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
3-Methylphenol & 4-Methylphenol	ug/l	0.5	R	0.5	0.5	0.5	R	0.5	R	0.5	R	0.5	0.5	0.5	0.5	0.5	9.2
Acenaphthene	ug/l	0.05	0.05	0.14	0.05	0.05	0.05	0.05	0.21	0.14	0.05	0.05	0.05	0.05	5.1	0.05	120
Acenaphthylene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	3.1
Acetophenone	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.51	0.5	0.5	0.5	0.5	0.5
Anthracene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	6.2
Benzo(a)anthracene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Benzo(a)pyrene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Benzo(b)fluoranthene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Benzo(g,h,i)perylene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Benzo(k)fluoranthene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Benzyl alcohol	ug/l	0.5	R	0.5	0.5	0.5	R	0.5	R	0.5	R	0.5	0.5	0.5	0.5	0.5	0.5
bis(2-Ethylhexyl)phthalate	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.1	0.5	2.4	0.5	0.5	0.5	0.5	0.5
Butyl benzyl phthalate	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chrysene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.14	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Dibenzofuran	ug/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	82
Fluoranthene	ug/l	0.12	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	9.3
Fluorene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	78
Indeno(1,2,3-cd)pyrene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Naphthalene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.2	0.05	0.05	0.05	0.05	5,500
Phenanthrene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.13	0.05	0.05	73
Phenol	ug/l	0.5	R	0.5	0.5	0.5	R	0.5	R	0.5	R	0.5	0.5	0.5	0.5	0.5	0.5
Pyrene	ug/l	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	5.2
Pyridine	ug/l	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Table 11  
Mass of Chemicals Placed in CAMU Unit 2  
HWD-2 Landfill and Refuse Area Post-Closure Groundwater Monitoring - Fourth Quarter 2017  
U.S. Steel - Gary Works  
Gary, Indiana

Parameter	Location ID	EE-MW-28S	EE-MW-29D	EE-MW-29S	EE-MW-30D	EE-MW-30D	EE-MW-30S	EE-MW-31D	EE-MW-31S	HWD-2-10D	HWD-2-10S	HWD-2-12D	HWD-2-12S	HWD-2-20D	HWD-2-20S	HWD-2-21D	HWD-2-21S
	Sample Type	Regular	Regular	Regular	Regular	Duplicate	Regular	Regular	Regular	Regular	Regular	Regular	Regular	Regular	Regular	Regular	Regular
	Sample Date	12/08/17	12/07/17	12/07/17	12/07/17	12/07/17	12/07/17	12/07/17	12/07/17	12/07/17	12/07/17	12/06/17	12/06/17	12/08/17	12/08/17	12/06/17	12/06/17
	Units																
<b>Dissolved Metals</b>																	
Aluminum, dissolved	mg/l	0.005	0.005	0.005	0.005	0.005	0.096	0.016	0.005	0.0072	0.027	0.081	0.005	0.005	0.005	0.005	0.0092
Antimony, dissolved	mg/l	0.0025	0.0019	0.004	0.0025	0.0025	0.0019	0.0021	0.0025	0.0018	0.0018	0.0025	0.0025	0.0033	0.0025	0.0025	0.0027
Arsenic, dissolved	mg/l	0.011	0.03	0.0016	0.083	0.081	0.0026	0.15	0.019	0.069	0.007	0.099	0.0025	0.27	0.042	0.26	0.0025
Barium, dissolved	mg/l	0.043	0.034	0.062	0.038	0.037	0.0038	0.044	0.024	0.091	0.014	1.1	0.14	0.063	0.053	0.047	0.15
Beryllium, dissolved	mg/l	0.001	0.00032	0.00026	0.00044	0.001	0.001	0.001	0.00026	0.001	0.0004	0.001	0.001	0.001	0.001	0.001	0.001
Cadmium, dissolved	mg/l	0.001	0.0021	0.0013	0.003	0.0017	0.005	0.0037	0.0012	0.0019	0.005	0.0024	0.0017	0.0049	0.0014	0.005	0.0018
Calcium, dissolved	mg/l	110	190	120	360	410	35	370	39	110	54	200	260	140	58	140	180
Chromium, Hexavalent, dissolved	mg/l	0.00055	0.0025	0.0052	0.0025	0.0025	0.0076	0.0025	0.0025	0.0025	0.0025	0.0002	0.0025	0.00022	0.00024	0.00018	0.0008
Chromium, total, dissolved	mg/l	R	0.014	0.007	0.0025	0.0025	0.007	0.0025	0.0025	0.002	0.0025	0.007	0.0025	0.002	R	0.007	0.011
Cobalt, dissolved	mg/l	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0019	0.0025	0.0025	0.0025
Copper, dissolved	mg/l	0.005	0.005	0.005	0.005	0.005	0.0033	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Iron, dissolved	mg/l	0.021	8.5	0.04	11	12	0.04	26	0.04	1.6	0.04	6.1	0.037	3.2	0.27	6.8	12
Lead, dissolved	mg/l	0.0058	0.0089	0.0078	0.0025	0.0025	0.0028	0.0019	0.003	0.0037	0.0079	0.0048	0.0047	0.023	0.0045	0.0086	0.009
Lithium, dissolved	mg/l	0.27	0.21	0.07	0.041	0.037	0.067	0.031	0.1	0.12	0.15	0.1	0.16	0.26	0.37	0.16	0.16
Magnesium, dissolved	mg/l	13	100	23	140	160	21	110	13	9.1	2.4	46	43	110	7.9	330	75
Manganese, dissolved	mg/l	0.091	0.25	0.13	0.28	0.3	0.0025	0.13	0.055	0.039	0.038	0.047	0.89	0.034	0.38	0.0015	0.98
Mercury, dissolved	mg/l	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Nickel, dissolved	mg/l	0.002	0.0025	0.00079	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.00038	0.0025	0.0021	0.0025	0.00058	0.0025	0.0025
Potassium, dissolved	mg/l	52	50	78	13	13	22	14	37	65	23	42	40	97	140	30	20
Selenium, dissolved	mg/l	0.005	0.005	0.0066	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.0037	0.005	0.005	0.005	0.005
Silicon, dissolved	mg/l	16	20	16	9.3	10	7	13	6.9	9.3	14	12	12	52	12	17	18
Sodium, dissolved	mg/l	82	210	110	93	92	32	62	41	46	52	56	24	160	120	120	30
Tin, dissolved	mg/l	0.005	0.005	0.005	0.005	0.005	0.005	0.00096	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.0016	0.005
Vanadium, dissolved	mg/l	0.0028	0.0013	0.0012	0.0014	0.0011	0.016	0.0017	0.0076	0.00048	0.097	0.0009	0.0025	0.0014	0.0025	0.0015	0.0011
Zinc, dissolved	mg/l	0.0016	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
<b>Total Metals</b>																	
Iron	mg/l	0.18	8.4	0.13	11	11	0.039	25	0.036	1.6	0.042	7.3	0.076	4.6	0.33	6.8	12
<b>General Chemistry</b>																	
Alkalinity, bicarbonate, as CaCO3	mg/l	21	420	190	180	190	110	250	130	220	29	690	360	530	150	670	740
Alkalinity, carbonate, as CaCO3	mg/l	8.7	5	5	5	5	12	5	5	5	29	5	5	5	5	5	5
Alkalinity, Total as CaCO3	mg/l	220	420	190	180	190	120	250	140	230	58	690	360	530	150	670	740
Ammonia as N	mg/l	0.081	31	0.019	38	43	0.01	30	1.8	8.7	1.1	27	0.01	25	0.71	86	16
Chloride	mg/l	59	190	110	75	73	39	48	65	67	49	66	14	100	120	130	32
Fluoride, Dissolved	mg/l	1.4	0.5	2.7	1	1	0.44	0.5	0.45	0.87	1.8	2.3	1.4	1.6	1.7	1.3	1.9
Nitrate as N	mg/l	4	0.64	16	1	1	1.1	0.51 J	0.12	0.05	0.47	0.05	0.49	0.5	0.39	0.5	0.05
Sulfate, dissolved	mg/l	200	780	300	1,500	1,500	70	1,200	49	110	150	52	440	530	270	970	12
Sulfide	mg/l	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

Table 1I  
Mass of Chemicals Placed in CAMU Unit 2  
HWD-2 Landfill and Refuse Area Post-Closure Groundwater Monitoring - Fourth Quarter 2017  
U.S. Steel - Gary Works  
Gary, Indiana

Parameter	Location ID	Median Concentration	Median Concentration	Mass of Chemicals in HWD-2 Purge Water Placed in CAMU Unit 2 (Based on Median Concentration)			
	Sample Type			mg/L	Milligrams	Kilograms	Pounds
	Sample Date						
	Units						
Volatile Organic Compounds (VOCs)							
1,1,1-Trichloroethane	ug/l	0.5	0.0005	0.13	1.27E-07	2.80E-07	
1,1-Dichloroethane	ug/l	0.5	0.0005	0.13	1.27E-07	2.80E-07	
1,1-Dichloroethene	ug/l	0.5	0.0005	0.13	1.27E-07	2.80E-07	
2-Butanone	ug/l	2.5	0.0025	0.64	6.37E-07	1.40E-06	
4-Methyl-2-pentanone	ug/l	0.5	0.0005	0.13	1.27E-07	2.80E-07	
Acetone	ug/l	5	0.005	1.27	1.27E-06	2.80E-06	
Benzene	ug/l	1.1	0.0011	0.28	2.80E-07	6.16E-07	
Ethylbenzene	ug/l	0.5	0.0005	0.13	1.27E-07	2.80E-07	
m&p-Xylene	ug/l	1	0.001	0.25	2.55E-07	5.60E-07	
Methylene Chloride	ug/l	2.5	0.0025	0.64	6.37E-07	1.40E-06	
o-Xylene	ug/l	0.5	0.0005	0.13	1.27E-07	2.80E-07	
Styrene	ug/l	0.5	0.0005	0.13	1.27E-07	2.80E-07	
Toluene	ug/l	0.5	0.0005	0.13	1.27E-07	2.80E-07	
Vinyl chloride	ug/l	0.5	0.0005	0.13	1.27E-07	2.80E-07	
Xylenes (total)	ug/l	1.5	0.0015	0.38	3.82E-07	8.40E-07	
Semi-Volatile Organic Compounds (SVOCs)							
1,4-Dioxane	ug/l	2.5	0.0025	0.64	6.37E-07	1.40E-06	
2,4-Dimethylphenol	ug/l	0.5	0.0005	0.13	1.27E-07	2.80E-07	
2-Methylnaphthalene	ug/l	0.05	0.00005	0.01	1.27E-08	2.80E-08	
2-Methylphenol	ug/l	0.5	0.0005	0.13	1.27E-07	2.80E-07	
2-Picoline	ug/l	2.5	0.0025	0.64	6.37E-07	1.40E-06	
3-Methylphenol & 4-Methylphenol	ug/l	0.5	0.0005	0.13	1.27E-07	2.80E-07	
Acenaphthene	ug/l	0.05	0.00005	0.01	1.27E-08	2.80E-08	
Acenaphthylene	ug/l	0.05	0.00005	0.01	1.27E-08	2.80E-08	
Acetophenone	ug/l	0.5	0.0005	0.13	1.27E-07	2.80E-07	
Anthracene	ug/l	0.05	0.00005	0.01	1.27E-08	2.80E-08	
Benzo(a)anthracene	ug/l	0.05	0.00005	0.01	1.27E-08	2.80E-08	
Benzo(a)pyrene	ug/l	0.05	0.00005	0.01	1.27E-08	2.80E-08	
Benzo(b)fluoranthene	ug/l	0.05	0.00005	0.01	1.27E-08	2.80E-08	
Benzo(g,h,i)perylene	ug/l	0.05	0.00005	0.01	1.27E-08	2.80E-08	
Benzo(k)fluoranthene	ug/l	0.05	0.00005	0.01	1.27E-08	2.80E-08	
Benzyl alcohol	ug/l	0.5	0.0005	0.13	1.27E-07	2.80E-07	
bis(2-Ethylhexyl)phthalate	ug/l	0.5	0.0005	0.13	1.27E-07	2.80E-07	
Butyl benzyl phthalate	ug/l	0.5	0.0005	0.13	1.27E-07	2.80E-07	
Chrysene	ug/l	0.05	0.00005	0.01	1.27E-08	2.80E-08	
Dibenzofuran	ug/l	0.5	0.0005	0.13	1.27E-07	2.80E-07	
Fluoranthene	ug/l	0.05	0.00005	0.01	1.27E-08	2.80E-08	
Fluorene	ug/l	0.05	0.00005	0.01	1.27E-08	2.80E-08	
Indeno(1,2,3-cd)pyrene	ug/l	0.05	0.00005	0.01	1.27E-08	2.80E-08	
Naphthalene	ug/l	0.05	0.00005	0.01	1.27E-08	2.80E-08	
Phenanthrene	ug/l	0.05	0.00005	0.01	1.27E-08	2.80E-08	
Phenol	ug/l	0.5	0.0005	0.13	1.27E-07	2.80E-07	
Pyrene	ug/l	0.05	0.00005	0.01	1.27E-08	2.80E-08	
Pyridine	ug/l	5	0.005	1.27	1.27E-06	2.80E-06	

Table 1I  
Mass of Chemicals Placed in CAMU Unit 2  
HWD-2 Landfill and Refuse Area Post-Closure Groundwater Monitoring - Fourth Quarter 2017  
U.S. Steel - Gary Works  
Gary, Indiana

Parameter	Location ID	Median Concentration	Median Concentration	Mass of Chemicals in HWD-2 Purge Water Placed in CAMU Unit 2 (Based on Median Concentration)		
	Sample Type			Milligrams	Kilograms	Pounds
	Sample Date					
	Units					
<b>Dissolved Metals</b>						
Aluminum, dissolved	mg/l	0.005	0.005	1.27	1.27E-06	2.80E-06
Antimony, dissolved	mg/l	0.0025	0.0025	0.64	6.37E-07	1.40E-06
Arsenic, dissolved	mg/l	0.03	0.03	7.64	7.64E-06	1.68E-05
Barium, dissolved	mg/l	0.053	0.053	13.50	1.35E-05	2.97E-05
Beryllium, dissolved	mg/l	0.001	0.001	0.25	2.55E-07	5.60E-07
Cadmium, dissolved	mg/l	0.002	0.002	0.51	5.09E-07	1.12E-06
Calcium, dissolved	mg/l	140	140	35656.60	3.57E-02	7.84E-02
Chromium, Hexavalent, dissolved	mg/l	0.0021	0.0021	0.53	5.35E-07	1.18E-06
Chromium, total, dissolved	mg/l	0.0025	0.0025	0.64	6.37E-07	1.40E-06
Cobalt, dissolved	mg/l	0.0025	0.0025	0.64	6.37E-07	1.40E-06
Copper, dissolved	mg/l	0.005	0.005	1.27	1.27E-06	2.80E-06
Iron, dissolved	mg/l	1.2	1.2	305.63	3.06E-04	6.72E-04
Lead, dissolved	mg/l	0.0055	0.0055	1.40	1.40E-06	3.08E-06
Lithium, dissolved	mg/l	0.13	0.13	33.11	3.31E-05	7.28E-05
Magnesium, dissolved	mg/l	38	38	9678.22	9.68E-03	2.13E-02
Manganese, dissolved	mg/l	0.063	0.063	16.05	1.60E-05	3.53E-05
Mercury, dissolved	mg/l	0.0001	0.0001	0.03	2.55E-08	5.60E-08
Nickel, dissolved	mg/l	0.0025	0.0025	0.64	6.37E-07	1.40E-06
Potassium, dissolved	mg/l	41	41	10442.29	1.04E-02	2.30E-02
Selenium, dissolved	mg/l	0.005	0.005	1.27	1.27E-06	2.80E-06
Silicon, dissolved	mg/l	12	12	3056.28	3.06E-03	6.72E-03
Sodium, dissolved	mg/l	56	56	14262.64	1.43E-02	3.14E-02
Tin, dissolved	mg/l	0.005	0.005	1.27	1.27E-06	2.80E-06
Vanadium, dissolved	mg/l	0.0014	0.0014	0.36	3.57E-07	7.84E-07
Zinc, dissolved	mg/l	0.005	0.005	1.27	1.27E-06	2.80E-06
<b>Total Metals</b>						
Iron	mg/l	0.79	0.485	123.52	1.24E-04	2.72E-04
<b>General Chemistry</b>						
Alkalinity, bicarbonate, as CaCO3	mg/l	260	255	64945.95	6.49E-02	1.43E-01
Alkalinity, carbonate, as CaCO3	mg/l	5	5	1273.45	1.27E-03	2.80E-03
Alkalinity, Total as CaCO3	mg/l	265	262.5	66856.13	6.69E-02	1.47E-01
Ammonia as N	mg/l	1.5	1.35	343.83	3.44E-04	7.56E-04
Chloride	mg/l	62	63.5	16172.82	1.62E-02	3.56E-02
Fluoride, Dissolved	mg/l	1.05	1.075	273.79	2.74E-04	6.02E-04
Nitrate as N	mg/l	0.5	0.5	127.35	1.27E-04	2.80E-04
Sulfate, dissolved	mg/l	235	237.5	60488.88	6.05E-02	1.33E-01
Sulfide	mg/l	0.5	0.5	127.35	1.27E-04	2.80E-04

Table 1I  
Mass of Chemicals Placed in CAMU Unit 2  
HWD-2 Landfill and Refuse Area Post-Closure Groundwater Monitoring - Fourth Quarter 2017  
U.S. Steel - Gary Works  
Gary, Indiana

Notes:  
mg/l = milligrams per liter  
ug/l = micrograms per liter  
R = Reject data result  
Bold font indicates positive detection  
Italics and shading indicate a non-detect result; one-half the reporting limit was used for non-detect results  
Samples collected from December 5 to December 8, 2017.  
Per TRI Reporting guidance, the median value is used when a range of data values is present.  
Volume of purge water place in CAMU = 67.2 gallons  
Volume of purge water placed in CAMU (liters): (67.2 gal)(3.79 liter/gal) = 254.69 liters  
Mass of individual chemicals placed in CAMU = (concentration)(volume of purge water)