

APPENDIX E.2

INCINERATOR ASH TESTING RESULTS

Table E.2.1: Annual Inventory and Status of 2021 Produced Incinerator Ash

Category	Mine Site Bins	Mine Site Volume (m ³)	Mine Site Status	Milne Port Bins	Milne Port Volume (m ³)	Milne Port Status
Landfill	13	41.81	Landfilled	13	41.27	Landfilled
Hazardous	-	-	N/A	-	-	N/A
Total	13	41.81	Landfilled	13	41.27	Landfilled

Notes:

TCLP residual analysis tests were performed by ALS Laboratories and compared to Criteria for Process Residuals (Government of Nunavut, 2011) to determine if ash is Landfill compliant. 2021 Incinerator ash volume: bin volumes converted to m³ and 'Full Bin' = 3.62 m³.

Table E.2.2: Annual Analytical Testing Results of 2021 Produced Incinerator Ash for Mary River Site

Analyte	Sample ID			MS-ASH-193	MS-ASH-194	MS-ASH-195	MS-ASH-196	MS-ASH-197	MS-ASH-01	MS-ASH-02_2021-07-16	MS-ASH-01_2021-08-09	MS-ASH-02_2021-09-05
	ALS Laboratory Sample ID			L2550475-1	L2558122-1	L2564296-1	L2579257-1	L2592253-1	L2604240-1	L2615793-1	L2625162-1	L2637101-1
	Sample Date and Time			2021-01-18 18:00	2021-02-10 15:30	2021-03-02 14:30	2021-04-10 15:00	2021-05-24 16:00	2021-06-20 15:10	2021-07-16 8:05	2021-08-09 8:15	2021-09-05 12:05
	Units	LOR	Waste Criteria ¹									
Arsenic	mg/L	0.050/1.0	2.5	<0.050	<0.050	<0.050	<0.050	0.072	<0.050	<0.05	<0.05	<0.050
Barium	mg/L	0.50/2.5	100	<0.50	1.51	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.50
Boron	mg/L	2.50		<2.5	<2.5	<2.5	2.9	3.0	<2.5	<2.5	<2.5	<2.5
Cadmium	mg/L	0.0050/0.050	0.5	<0.0050	<0.0050	<0.0050	<0.0060	<0.0050	<0.0050	<0.005	<0.005	<0.0050
Chromium	mg/L	0.050/0.25	5	1.02	2.52	<0.050	<0.050	<0.050	3.39	4.3	<0.05	<0.050
Lead	mg/L	0.025/0.25	5	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Mercury	mg/L	0.00010/0.0010	0.1	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0001	<0.0001	<0.00010
Selenium	mg/L	0.025/0.10	1	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Silver	mg/L	0.0050/0.050	5	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.005	<0.005	<0.0050
Uranium	mg/L	0.25/2.0	10	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Zinc	mg/L	0.50/1.0	500	<1.0	<1.0	<1.0	2.1	<1.0	<1.0	<1	1.4	<1.0

Notes:
¹ Criteria for process residuals from Environmental Guideline for Industrial Waste Discharges into Municipal Solid Waste and Sewage Treatment Facilities (Government of Nunavut, 2011).

Table E.2.2: Annual Analytical Testing Results of 2021 Produced Incinerator Ash for Mary River Site

Analyte	Sample ID			MS-ASH-BA_2021-09-05	MS-ASH-01_2021-09-23	MS-ASH-02_2021-08-11	MS-ASH-01_2021-11-22
	ALS Laboratory Sample ID			L2637101-2	L2646310-1	L2661733-1	L2666751-1
	Sample Date and Time			2021-09-05 12:05	2021-09-23 17:30	2021-11-08 13:10	2021-11-22 10:25
	Units	LOR	Waste Criteria ¹				
Arsenic	mg/L	0.050/1.0	2.5	<0.050	0.056	<0.050	<0.050
Barium	mg/L	0.50/2.5	100	<0.50	0.72	<0.50	0.71
Boron	mg/L	2.50		<2.5	<4.0	<2.5	<2.5
Cadmium	mg/L	0.0050/0.050	0.5	0.0067	<0.0050	<0.0050	<0.0050
Chromium	mg/L	0.050/0.25	5	<0.050	<0.050	<0.050	0.386
Lead	mg/L	0.025/0.25	5	<0.025	<0.025	<0.025	<0.025
Mercury	mg/L	0.00010/0.0010	0.1	<0.00010	<0.00010	<0.00010	<0.00010
Selenium	mg/L	0.025/0.10	1	<0.025	<0.025	<0.025	<0.025
Silver	mg/L	0.0050/0.050	5	<0.0050	<0.0050	<0.0050	<0.0050
Uranium	mg/L	0.25/2.0	10	<0.25	<0.25	<0.25	<0.25
Zinc	mg/L	0.50/1.0	500	20.1	<1.0	32.7	<1.0

Notes:
¹ Criteria for process residuals from Environmental Guideline for Industrial Waste Discharges into Municipal Solid Waste and Sewage Treatment Facilities (Government of Nunavut, 2011).

Table E.2.3: Annual Analytical Testing Results of 2021 Produced Incinerator Ash for the Milne Port Site

Analyte	Sample ID			MP-ASH-243	MP-ASH-244	MP-ASH-245	MP-ASH-245-1	MP-ASH-254-2	MP-ASH-245-3	MP-ASH-245-4	MP-ASH-246	MP-ASH-247_2021-05-16_1720
	ALS Laboratory Sample ID			L2550470-1	L2558690-1	L2563941-1	L2579258-1	L2579258-2	L2579258-3	L2579258-4	L2579262-1	L2592240-1
	Sample Date			2021-01-17 17:30	2021-02-09 10:15	2021-03-02 14:45	2021-04-14 17:00	2021-04-14 17:05	2021-04-14 17:15	2021-04-14 17:20	2021-04-14 17:30	2021-05-16 17:20
	Units	LOR	Waste Criteria ¹									
Arsenic	mg/L	0.050/1.0	2.5	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Barium	mg/L	0.50/2.5	100	1.99	<0.50	<0.50	1.08	<0.50	0.58	<0.50	<0.50	<0.50
Boron	mg/L	2.5		<2.5	3	2.7	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Cadmium	mg/L	0.0050/0.050	0.5	<0.0050	<0.0050	<0.0050	0.224	<0.0050	0.137	<0.0050	<0.0050	<0.0050
Chromium	mg/L	0.050/0.25	5	1.70	0.125	11.8	0.080	<0.050	<0.050	<0.050	<0.050	0.959
Lead	mg/L	0.025/0.25	5	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Mercury	mg/L	0.00010/0.0010	0.1	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Selenium	mg/L	0.025/0.10	1	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Silver	mg/L	0.0050/0.050	5	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Uranium	mg/L	0.25/2.0	10	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Zinc	mg/L	0.50/1.0	500	<1.0	<1.0	<1.0	9.8	45.8	12.3	13.1	87	<1.0

Notes:
¹ Criteria for process residuals from Environmental Guideline for Industrial Waste Discharges into Municipal Solid Waste and Sewage Treatment Facilities (Government of Nunavut, 2011).

Table E.2.3: Annual Analytical Testing Results of 2021 Produced Incinerator Ash for the Milne Port Site

Analyte	Sample ID			MP-ASH-01_2021-06-15_1740	MP-ASH-02_2021-07-19	MP-ASH-01_2021-08-11	MP-ASH-02_2021-09-08	MP-ASH-01_2021-10-09	MP-ASH-02_2021-11-03	MP-ASH-01_2021-11-25	MP-ASH-02
	ALS Laboratory Sample ID			L2603166-1	L2622821-1	L2630034-1	L2639964-1	L2654002-1	L2660103-1	L2669041-1	L2677075-1
	Sample Date			2021-06-15 17:40	2021-07-19 17:30	2021-08-11 14:30	2021-09-08 17:30	2021-10-09 9:25	2021-11-03 13:00	2021-11-25 10:30	2021-12-31 13:30
	Units	LOR	Waste Criteria ¹								
Arsenic	mg/L	0.050/1.0	2.5	<0.050	<0.05	<0.050	<1.0	<0.050	<0.050	<0.050	<0.050
Barium	mg/L	0.50/2.5	100	0.54	<0.5	<0.50	<2.5	<0.50	<0.50	<0.50	<0.50
Boron	mg/L	2.5		<2.5	<2.5	<2.5	2.84	<2.5	<2.5	<2.5	<2.5
Cadmium	mg/L	0.0050/0.050	0.5	<0.0050	<0.005	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050
Chromium	mg/L	0.050/0.25	5	0.570	3.09	1.45	0.30	<0.050	<0.050	1.97	2.51
Lead	mg/L	0.025/0.25	5	<0.025	<0.03	<0.025	<0.25	<0.025	<0.025	<0.025	<0.025
Mercury	mg/L	0.00010/0.0010	0.1	<0.00010	<0.0001	<0.00010	<0.0010	<0.00010	<0.00010	<0.00010	<0.00010
Selenium	mg/L	0.025/0.10	1	<0.025	<0.025	<0.025	<0.10	<0.025	<0.025	<0.025	<0.025
Silver	mg/L	0.0050/0.050	5	<0.0050	<0.005	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050
Uranium	mg/L	0.25/2.0	10	<0.25	<0.25	<0.25	<2.0	<0.25	<0.25	<0.25	<0.25
Zinc	mg/L	0.50/1.0	500	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0

Notes:
¹ Criteria for process residuals from Environmental Guideline for Industrial Waste Discharges into Municipal Solid Waste and Sewage Treatment Facilities (Government of Nunavut, 2011).