

APPENDIX B

Contents of Solids Data File

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July, 1994	Sample Number	Location\Type of Sample
	PNA94-01	Nipissing high grade-mill site, sulphide-rich material near mill. Surface layer in petri dish.
	PNA94-02	Sample of yellow zone of sulphide-rich material from site 1, possibly ore material.
	PNA94-03	Black core of sulphide-rich material.
	PNA94-04	Deep reddish zone surrounding above material.
	PNA94-05	Pink efflorescence, furnace residue(?), high-grade mill site.
	PNA94-06	White efflorescence, furnace residue(?), high-grade mill site.
	PNA94-07	Very dark pink efflorescence, furnace residue(?), high-grade mill site.
	PNA94-08	Rock specimen from the high grade mill site, not in situ.
	PNA94-09	Material from interior of furnace residue(?), deep pink.
	PNA94-10	Dark pink efflorescence, lower are of high-grade mill, newspaper local.
	PNA94-11	Material from interior of furnace residue(?), white.
	PNA94-12B	Hudson Bay waste rock pile, sulphide-bearing sample.
	PNA94-12A	Hudson Bay waste rock pile, example of Co, Cu mineralization (tetrahedrite, malachite?).
	PNA94-13	Nipissing low-grade tailings, 80.0 cm pit (sampled from bottom up and therefore depth indicated as same.) Upper disturbed zone from 59-80 cm (top).
	PNA94-13A	0-21 cm
	PNA94-13B	21-41 cm
	PNA94-13C	41-46 cm
	PNA94-13D	46-57 cm sample in petri dish also (hard lens)
	PNA94-13E	57-59 cm
	PNA94-13F	Blue-green layer
	PNA94-13G	Pink layer
	PNA94-14	Nipissing low-grade tailings, Beak 2 piezometer, blue-stained (surface) tailings (down 10 cm).
	PNA94-15	Nipissing low-grade tailings, salt crust near cribwork.

Sample Number	Location\Type of Sample
PNA94-16	Nipissing low-grade tailings site, rock sample from Ag vein, east side Trenton P57 piezometer.
PNA94-17	Nipissing low-grade tailings, small pit.
PNA94-17A	0-34 cm (from bottom)
PNA94-17B	34-37.5 cm (surface)
PNA94-18	Nipissing low-grade tailings, salt crust near stream (north end) close to hydro building. Uniform to 20 + cm; also petri dish.
PNA94-19	Nipissing high-grade tailings, bulk sample taken 24.5 m , from dam along axis of valley.
PNA94-20	Nipissing high-grade tailings, altered, zoned material.
PNA94-20A	0-7 cm (bottom)
PNA94-20B	7-12 cm (top)
PNA94-21	Nipissing high-grade tailings, bulk sample 50 m from dam, along valley axis.
PNA94-22A	White crust on moss, near sample PNA94-19; 26.5 m from dam. Moss ~3 mm thick, greenish on top, reddish brown below overlaying yellow grey tailings
PNA94-22B	White crust on black tailings (no moss).
PNA94-23	Nova Scotia-Peterson Lake site, sand-rich tailings about 50 m from dam.
PNA94-24	Fine sand and silt sample, 20 m from dam. Subtle zonation with lenses of ferrihydrite (?) marking changes.
PNA94-25	Nova Scotia waste rock pile, samples taken near dam (variety, one Ag containing).
PNA94-26A	Beach sand 0 cm (30 cm deep).
PNA94-26B	Tailings above beach sand (0-21 cm).
PNA94-26C	Thin layer of lighter-coloured tailings (3-4 cm thick), below alteration layer (21-25 cm).
PNA94-26D	Alteration layer ~ 1 cm thick (25-26 cm).
PNA94-26E	Surface tailings (26-30 cm).
PNA94-27	Bucket sample taken 5-8 m from shore, Peterson Lake, about 1 m of water.
PNA94-28	Massive sulphide rock samples from Bucke Park waste rock pile.

	Sample Number	Location\Type of Sample
September, 1994	PNA94-29A	Bucke Park, bulk tailings sample.
	PNA94-29B	Pink sample (erythrite?), in petri dish.
	PNA94-30	Fe-oxide sludge from near well, Bucke Park.
	PNA94-31	Crosswise Lake tailings (depth from bottom of pit), about 50 m from tailings pipeline. Top is at 58 cm, upper unit is light grey (dried surface).
	PNA94-31A	Lower olive grey unit, 0-16 cm.
	PNA94-31B	Middle dark grey unit, 16-32 cm.
	PNA94-31C	Upper unit, 32-57 cm, composite sample.
	PNA94-31D	Clay lens from bottom of pit (0 cm).
	PNA94-32	Tailings sample from Farr Creek site; in line with Montreal St., about 1 km from bridge, about 50 m east of Farr Creek (no vegetation).
	PNA94-33	Mill Creek sediment/tailings at sample W13 site.
	PNA94-34	Nipissing low-grade tailings site, gypsum crust (north of piezometer line).
	PNA94-35	Nipissing low-grade tailings site, gypsum crust (south of piezometer line, north of cribwork).
	PNA94-36	Nipissing low-grade tailings site, gypsum crust (cribwork site)
	PNA94-37	Low grade-tailings site, Beak 2 piezometer, re-sample of blue-stained (surface) tailings (see PNA94-14).
	PNA94-38	Cart Lake tailings surface, crust, 6 m from piezometer 5, in front of Provincial headframe.
	PNA94-39	Gypsum/thenardite crust, Nipissing low-grade tailings site, near piezometer 39 about 10 m from fence (lower area).
	PNA94-40	Nipissing low-grade tailings site, crust, 30 m east of B3 piezometer.
	PNA94-41	Nipissing low-grade tailings site, 10 m north of lower cribwork/dam, A, B, C coloured crusts.
	PNA94-42	Nipissing high-grade mill site, furnace residue?-white crust sample (brassite).
	PNA94-43	Sediment sample from Larose outlet, 3-5 m downstream from PNA94-W34 site.
	PNA94-CORE1	Farr Creek, site W4.
	PNA94-CORE2	Farr Creek, site W9.

Location and Type of Sample from Cobalt, Ontario

B2-Location

Sample Number	Location\Type of Sample
PNA94-CORE3	Mill Creek, 8 m from confluence with Farr Creek.
PNA94-CORE4	Farr Creek, above confluence with Mill Creek.

Collected August 1997

Sample Number	Location
PNA-L1	Outcrop adjacent to high-grade tailings site: within Cobalt townsite, east side of Cobalt Lake (not Xanthoria elegans)
PNA-L2	Ste Therese Cemetary: North Cobalt along Highway 11B, Cemetery Road.
PNA-L2-1	Tombstone dated 1962
PNA-L2-2	Tombstone dated 1922
PNA-L2-3	Tombstone dated 1909-1918
PNA-L2-4	Tombstone dated 1956
PNA-L2-5	Tombstone dated 1937
PNA-L3	Railways abutment north of Cobalt along Highway 11B, 1.7km from Cemetery Road
PNA-L4	Pioneer Cemetery: New Liskeard, Ontario. Older part on hillside overlooking the north end.
PNA-L4-1	Tombstone dated 1945; not likely <i>X. elegans</i> .
PNA-L4-2	Tombstone dated 1950s
PNA-L4-3a	Tombstone dated 1921/1929
PNA-L4-3b	Tombstone dated 1905
PNA-94-4	Tombstone dated 1915
PNA-L5	Haileybury, Ontario
PNA-L5-1	Tombstone dated 1908/1936
PNA-L5-2	Tombstone dated 1949
PNA-L5-3	Tombstone dated 1939
PNA-L5-4	Tombstone dated 1847?
PNA-L5-5	Tombstone dated 1921 from lower section, along hillside.
PNA-L5-6	Tombstone dated 1919 from lower section, along hillside.

Bulk Mineralogy (XRD)

B4-Bulk Mineralogy

Tailings and sediment samples collected from the Cobalt area, July and September, 1994 (A = abundant; m = minor; tr = trace; ML = mixed-layer).

Sample Number	Quartz	Plagioclase	K-Feldspar	Amphibole	Calcite	Dolomite	Illite	Chlorite	Smectite	ML Clay	Pyrite	Erythrite	Gypsum	Thenardite	Jarosite	Amorphous
PNA94-02	m-tr	A	m	tr			tr	tr			A-m		A		m-tr	
PNA94-04	m	m	tr		m	m-tr		A								
PNA94-09	A	A			m-tr			m		tr			tr			m?
PNA94-10	m	A					tr	A-m		tr		m-tr				
PNA94-13A	A	A			m-tr	m-tr	tr	m								
PNA94-13B	A	A-m			tr	m-tr		m				tr				
PNA94-13D*	A	A		tr	m	tr		m				m-tr				
PNA94-13E	A	A			m	m	tr?	A								
PNA94-14	A	A			m-tr	m-tr		A							tr	
PNA94-14-DB	A	A			m-tr	m-tr		A-m								
PNA94-16	A-m	A	m	tr	m	m	m	A								
PNA94-17A	A	A			m	tr?		m				tr				
PNA94-17B	A	A			m	tr?		m				tr				
PNA94-18	A	A			m	m		m								
PNA94-19	m	A			m-tr			A								
PNA94-20A	A	m	tr	tr	m	m	tr	A								
PNA94-20B	A-m	m			m	m		A								m-tr
PNA94-21	A	A			A-m	m-tr	m-tr					m-tr?		tr?		
PNA94-23	A	A	tr	m-tr	m	m	m	A								
PNA94-24	A	A		m-tr	m	m	tr	m								
PNA94-26	A	A	m	m-tr	m	m	m-tr	A-m		tr						
PNA94-26B	A	A		m-tr	m	m	m-tr	A-m								
PNA94-26C	A	A		m-tr	m	m	tr	A-m								
PNA94-26D	A	A	m	m-tr	m	m	m-tr	A-m								
PNA94-26E	A	A	m-tr	m-tr	m	m	m-tr	A-m								
PNA94-27	A-m	A-m		tr	m	m	tr	A-m								
PNA94-30	A	A	m			A		m	tr?							tr
PNA94-31A	A-m	A	tr	m	m	m-tr	tr	A-m								tr?
PNA94-31C	A	A	m	m	m	m	m-tr	A-m		tr?						
PNA94-32	A	A		tr	m-tr	m-tr		m								
PNA94-33	m	A			tr?	tr		m				A				
PNA94-34	A	A						A-m				tr		m		
PNA94-35	A	A			tr	m-tr		A-m		tr?						
PNA94-36	m	A			A-m			m		tr?		A		tr		
PNA94-37	A	A			m-tr	m-tr		A								
PNA94-38	A-m	A			tr?	tr	tr?	A				tr				
PNA94-39	m	A						A		tr?		tr	A-m			

* contains Fe-chlorite

Tailings and sediment samples collected from the Cobalt area, July and September, 1994 (A = abundant; m = minor; tr = trace; ML = mixed-layer).

Sample Number	Quartz	Plagioclase	K-Feldspar	Amphibole	Calcite	Dolomite	Illite	Chlorite	Smectite	ML Clay	Pyrite	Erythrite	Gypsum	Thenardite	Jarosite	Amorphous
PNA94-02															m-tr	m-tr
PNA94-09							tr	A		tr		m				tr
PNA94-10	m-tr	m					m-tr	A		tr		m				tr
PNA94-11	tr						tr	tr		m		A				tr
PNA94-13A	m	m						A								tr
PNA94-13B	m	m					tr	A								tr
PNA94-13C	m-tr	m					tr	A								tr
PNA94-13D	m	m					tr	A				m				tr
PNA94-13E	m	m						A								
PNA94-14	m	m					tr	A							m	
PNA94-14-DB	m	m					tr	A		tr					tr	
PNA94-17A	m	m					tr	A				m-tr				
PNA94-17B	m	m					tr	A				m-tr				
PNA94-18	m	m					tr	A								
PNA94-19	tr	m-tr					tr	A							tr	
PNA94-20	m	m					tr	A	tr			m				tr
PNA94-20A	m-tr	m-tr					tr	A	tr							tr
PNA94-21	m	m					m-tr	A	tr	tr		m				tr
PNA94-23	m	m		tr			m-tr	A		tr						tr
PNA94-24	m	m		m-tr			m-tr	A		tr						
PNA94-26A	m	A-m		m-tr			m-tr	A								
PNA94-26B	m	A-m		m-tr			m-tr	A								tr
PNA94-26C	m	m		tr			m-tr	A								tr
PNA94-26D	m	m	tr	tr			m-tr	A								tr
PNA94-26E	m	m		m-tr			m-tr	A		tr						tr
PNA94-27	m	m	m-tr	tr			m-tr	A		tr						
PNA94-30	m-tr															m
PNA94-31A	m	m	tr	m-tr			tr	A		tr						tr
PNA94-31B	m	m		tr			A-m	A								tr
PNA94-31C	m	m	tr	m-tr			tr	A	tr							tr
PNA94-31D	m-tr	m		m-tr			m-tr	A	m							tr
PNA94-32	m	m		tr			tr	A		tr						tr
PNA94-37	m	m						A							m	
PNA94-43	m	m					tr	A		tr						tr

Major Elements in Tailings Samples from Cobalt, Ontario

B6-Majors

Report No.	Variable	SiO2	TiO2	Al2O3	Fe2O3(T)	Fe2O3	FeO	MnO	MgO	CaO	Na2O	K2O	H2O(T)	CO2(T)	P2O5	S(T)
106-94	Units	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%
	Determination Limits	0.5	0.02	0.2	0.06		0.2	0.01	0.04	0.01	0.03	0.05	0.1	0.1	0.01	0.02
	Analytical Method	ICPES-100	ICPES-100	ICPES-100	ICPES-100	Calculated	CHEM-100	ICPES-100	ICPES-100	ICPES-100	ICPES-100	ICPES-100	CHEM-120	CHEM-130	ICPES-100	CHEM-140
		(Fe2O3=Fe2O3T-1.113xFeO)														
	PNA94-02	15.3	0.40	4.24	33.5	nd	nd	0.01	0.36	7.07	1.32	0.62	nd	0.9	0.09	26.8
	PNA94-09	30.4	0.48	7.96	10.6	nd	nd	0.08	1.87	1.47	2.11	0.72	nd	10.1	0.08	1.20
	PNA94-10	44.9	0.65	13.4	10.7	0.40	9.3	0.09	4.05	1.02	3.84	1.03	6.6	1.2	0.09	0.66
	PNA94-11	23.5	0.35	6.21	5.29	nd	nd	0.10	5.53	4.49	1.93	0.42	nd	3.2	0.06	1.05
	PNA94-13A*	60.2	0.74	14.0	6.80	0.60	5.6	0.10	3.86	2.78	5.10	0.66	3.0	1.9	0.11	0.13
	PNA94-13B*	60.4	0.77	13.7	6.60	0.60	5.4	0.10	4.07	2.82	5.10	0.62	3.3	2.3	0.11	0.22
	PNA94-13C*	56.3	0.73	14.4	8.10	nd	7.3	0.12	5.15	3.85	4.70	0.58	3.7	3.0	0.12	0.15
	PNA94-13D*	60.5	0.75	13.6	6.80	0.50	5.7	0.10	4.23	2.74	5.00	0.62	3.4	2.4	0.10	0.17
	PNA94-13E*	60.7	0.68	13.8	6.50	0.30	5.6	0.10	4.21	3.38	4.90	0.63	3.0	2.7	0.10	0.10
	PNA94-14*	58.7	0.69	14.2	7.50	nd	nd	0.11	4.70	3.08	5.00	0.62	3.5	3.0	0.12	0.22
	PNA94-14BLUE*	54.8	0.68	14.5	9.10	0.50	7.7	0.13	5.68	2.66	4.80	0.64	4.4	3.1	0.13	0.31
	PNA94-17A*	58.4	0.76	13.9	7.30	0.60	6.0	0.11	4.43	3.97	4.90	0.62	3.1	2.9	0.12	0.11
	PNA94-17B*	59.5	0.75	14.0	7.10	0.90	5.6	0.11	4.24	3.58	5.30	0.66	3.1	2.7	0.12	0.08
	PNA94-18*	59.7	0.76	14.0	6.90	0.30	5.9	0.11	4.17	3.49	5.20	0.65	3.0	2.6	0.11	0.14
	PNA94-19*	45.6	0.71	17.5	11.4	nd	nd	0.10	8.68	2.32	4.30	0.49	5.6	1.6	0.15	0.37
	PNA94-20*	44.9	1.09	14.7	13.3	nd	12.3	0.27	7.33	5.43	2.90	0.66	5.8	4.1	0.16	0.32
	PNA94-20A*	47.0	1.31	13.1	11.9	nd	nd	0.27	6.43	6.59	2.70	0.70	4.2	5.2	0.13	0.52
	PNA94-21*	56.7	0.74	17.6	7.20	0.80	5.8	0.07	5.51	1.18	4.40	1.65	4.2	1.5	0.13	0.17
	PNA94-23*	59.2	0.74	15.0	7.00	1.00	5.4	0.09	4.21	3.22	4.40	1.84	2.9	2.0	0.13	0.06
	PNA94-24*	56.7	0.77	13.9	7.40	0.70	6.0	0.13	4.66	5.49	4.30	1.12	2.9	3.5	0.11	0.09
	PNA94-26A*	63.0	0.59	14.6	6.10	1.50	4.1	0.08	3.56	3.74	4.20	1.65	2.4	3.1	0.11	0.06
	PNA94-26B*	61.0	0.67	14.9	6.30	1.00	4.8	0.08	3.82	2.96	4.90	1.52	2.6	1.9	0.12	0.06
	PNA94-26C*	58.4	0.74	14.1	6.90	0.80	5.5	0.10	4.34	4.16	4.60	1.35	2.8	3.1	0.13	0.08
	PNA94-26D*	59.2	0.85	14.6	6.90	0.90	5.4	0.10	4.28	3.63	4.60	1.54	2.7	2.3	0.14	0.06
	PNA94-26E*	59.7	0.73	14.7	6.50	0.90	5.0	0.09	4.00	3.34	4.80	1.49	2.7	2.3	0.12	0.05
	PNA94-27*	56.4	0.75	14.3	7.80	0.20	6.8	0.11	4.82	4.36	4.30	1.32	3.2	3.3	0.14	0.12
	PNA94-30*	52.2	0.29	9.80	11.7	9.60	1.9	0.09	3.18	4.99	2.50	1.45	6.3	3.7	0.08	0.03
	PNA94-31A*	57.6	1.00	14.1	8.50	1.10	6.7	0.19	4.98	4.36	4.40	1.41	2.9	1.3	0.11	0.06
	PNA94-31B*	60.1	0.77	17.5	6.40	0.80	5.0	0.08	3.50	1.87	3.40	3.06	3.2	0.9	0.12	0.05
	PNA94-31C*	62.1	0.51	15.0	5.40	0.80	4.1	0.09	3.43	3.62	4.60	2.19	2.1	1.5	0.15	0.05
	PNA94-31D*	55.0	0.88	14.3	9.80	1.90	7.1	0.20	5.35	4.58	4.10	1.41	3.4	1.8	0.13	0.05
	PNA94-32*	61.6	0.64	14.0	6.20	0.60	5.0	0.09	3.55	3.32	5.00	0.85	2.6	2.2	0.12	0.08
	PNA94-37*	56.0	0.67	14.1	8.10	0.80	6.6	0.12	5.14	3.57	4.90	0.65	3.7	3.4	0.13	0.23
	PNA94-43*	54.8	0.69	13.9	8.00	nd	7.3	0.13	4.71	4.04	4.40	0.62	4.6	6.6	0.15	0.29
	QUARTZ*	98.1	0.06	1.00	<0.06	<0.2	<0.2	<0.01	0.05	<0.01	<0.03	<0.05	0.2	0.1	0.02	<0.02
	D1	43.7	0.63	13.1	10.4	nd	nd	0.08	3.92	1.01	3.76	1.04	6.2	0.9	0.08	0.64
	D2*	63.1	0.60	14.7	6.20	1.60	4.1	0.08	3.58	3.93	4.20	1.66	2.3	2.7	0.11	0.04
	D3*	62.7	0.66	13.9	6.20	0.60	5.0	0.09	3.52	3.29	5.10	0.82	2.6	2.2	0.12	0.08
	106-94-39*	58.7	0.77	14.0	7.30	0.50	6.1	0.11	4.45	3.95	5.00	0.63	3.1	2.9	0.12	0.09
	106-94-40*	60.0	0.77	17.2	6.40	0.80	5.0	0.08	3.52	1.87	3.50	3.07	3.0	1.0	0.12	0.05

* = analyzed by XRF
nd = not determined

Major Elements in Tailings Samples from Cobalt, Ontario

B6-Majors

Report No. 106-94	Variable	SiO2	TiO2	Al2O3	Fe2O3(T)	Fe2O3	FeO	MnO	MgO	CaO	Na2O	K2O	H2O(T)	CO2(T)	P2O5	S(T)
	Units	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%
	Determination Limits	0.5	0.02	0.2	0.06		0.2	0.01	0.04	0.01	0.03	0.05	0.1	0.1	0.01	0.02
	Analytical Method	ICPES-100	ICPES-100	ICPES-100	ICPES-100	Calculated	CHEM-100	ICPES-100	ICPES-100	ICPES-100	ICPES-100	ICPES-100	CHEM-120	CHEM-130	ICPES-100	CHEM-140
(Fe2O3=Fe2O3T-1.113xFeO)																
Duplicates																
106-94-39*		58.70	0.77	14.00	7.30	0.50	6.1	0.11	4.45	3.95	5.00	0.63	3.1	2.9	0.12	0.09
PNA94-17A*		58.40	0.76	13.90	7.30	0.60	6.0	0.11	4.43	3.97	4.90	0.62	3.1	2.9	0.12	0.11
106-94-40*		60.00	0.77	17.20	6.40	0.80	5.0	0.08	3.52	1.87	3.50	3.07	3.0	1.0	0.12	0.05
PNA94-31B*		60.10	0.77	17.50	6.40	0.80	5.0	0.08	3.50	1.87	3.40	3.06	3.2	0.9	0.12	0.05

Variable	Total	LOI
Units	wt%	wt%
Determination Limits		0.1
Analytical Method	ICPES-100+110	ICPES-100
PNA94-02	90.9	26.1
PNA94-09	74.5	26.6
PNA94-10	90.0	10.7
PNA94-11	56.6	30.7
PNA94-13A*	99.1	<0.1
PNA94-13B*	100.0	<0.1
PNA94-13C*	100.4	<0.1
PNA94-13D*	100.4	<0.1
PNA94-13E*	100.5	<0.1
PNA94-14*	101.8	<0.1
PNA94-14BLUE*	100.5	<0.1
PNA94-17A*	100.3	<0.1
PNA94-17B*	101.0	<0.1
PNA94-18*	100.5	<0.1
PNA94-19*	99.7	<0.1
PNA94-20*	100.6	<0.1
PNA94-20A*	100.8	<0.1
PNA94-21*	101.0	<0.1
PNA94-23*	100.3	<0.1
PNA94-24*	100.7	<0.1
PNA94-26A*	101.9	<0.1
PNA94-26B*	100.4	<0.1
PNA94-26C*	100.4	<0.1
PNA94-26D*	100.5	<0.1
PNA94-26E*	100.1	<0.1
PNA94-27*	100.4	<0.1
PNA94-30*	96.6	<0.1
PNA94-31A*	100.3	<0.1
PNA94-31B*	100.6	<0.1
PNA94-31C*	100.5	<0.1
PNA94-31D*	100.5	<0.1
PNA94-32*	99.9	<0.1
PNA94-37*	100.3	<0.1
PNA94-43*	99.7	<0.1
QUARTZ*	99.6	<0.1
D1	87.9	11.3
D2*	102.2	<0.1
D3*	100.9	<0.1
106-94-39*	100.8	<0.1
106-94-40*	100.2	<0.1

* = analyzed by XRF
nd = not determined

Major Elements in Tailings Samples from Cobalt, Ontario

B6-Majors

Variable	Total	LOI
Units	wt%	wt%
Determination Limits		0.1
Analytical Method	ICPES-100+110	ICPES-100

Duplicates		
106-94-39*	100.8	<0.1
PNA94-17A*	100.3	<0.1
106-94-40*	100.2	<0.1
PNA94-31B*	100.6	<0.1

Trace Elements in Tailings Samples from Cobalt, Ontario

B7-Traces

Report No. 106-94	Variable	Ag	Ba	Be	Bi	Ce	Co	Cr	Cu	Cs	Dy	Er	Eu	Ga	Gd
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	Determination Limits	5	30	0.5	0.5	0.1	5	10	10	0.02	0.02	0.02	0.02	0.1	0.02
	Analytical Method	ICPMS-110	XRF-100	ICPES-110	ICPMS-110	ICPMS-100	ICPES-110	ICPES-110	ICPES-110	ICPMS-110	ICPMS-100	ICPMS-100	ICPMS-100	ICPMS-110	ICPMS-100
	PNA94-02	1500	140*	<0.5	10	9.1	500	30	64	0.43	0.63	0.32	0.28	5.30	0.84
	PNA94-09	1200	310*	1.3	2400	39	35000	84	12000	1.10	3.30	1.60	0.61	11.00	4.10
	PNA94-10	580	190*	1.4	1200	24	16000	260	1100	1.10	2.70	1.50	0.52	16.00	3.30
	PNA94-11	600	130*	0.9	670	31	24000	60	1000	0.67	2.70	1.30	0.48	8.30	3.40
	PNA94-13A	97	150	1.5	36	38	1000	110	340	0.65	3.10	1.70	0.70	15.00	3.80
	PNA94-13B	93	130	1.3	59	40	2000	97	470	0.53	3.10	1.70	0.71	15.00	3.90
	PNA94-13C	91	110	1.4	57	40	1200	120	270	0.69	3.40	1.80	0.72	17.00	4.20
	PNA94-13D	220	110	1.4	65	37	2200	110	560	0.60	3.10	1.70	0.67	15.00	3.90
	PNA94-13E	120	70	1.3	44	37	980	99	430	0.49	3.20	1.60	0.64	15.00	3.80
	PNA94-14	110	130	1.4	48	41	940	110	300	0.24	3.30	1.80	0.77	16.00	4.10
	PNA94-14BLUE	120	100	1.5	65	45	1000	130	280	0.22	3.70	1.90	0.78	18.00	4.80
	PNA94-17A	110	140	1.5	41	38	850	120	520	0.66	3.40	1.80	0.72	15.00	4.10
	PNA94-17B	110	120	1.5	44	39	1000	110	560	0.64	3.30	1.80	0.71	15.00	4.10
	PNA94-18	110	120	1.4	37	36	990	110	460	0.63	3.20	1.70	0.67	15.00	3.90
	PNA94-19	12	150	1.8	130	39	5400	160	300	0.87	3.60	1.90	0.57	23.00	4.60
	PNA94-20	12	140	1.5	110	30	3100	110	1800	0.80	4.50	2.50	0.91	20.00	5.10
	PNA94-20A	7.6	130	1.5	120	22	4000	81	1900	0.68	4.50	2.60	0.93	16.00	4.90
	PNA94-21	17	250	1.8	63	34	2400	110	1400	1.40	3.30	1.70	0.52	20.00	4.10
	PNA94-23	43	210	1.9	25	38	230	110	110	1.90	3.30	1.90	0.80	17.00	3.80
	PNA94-24	130	190	1.6	53	33	1300	100	320	1.40	3.50	1.90	0.75	15.00	4.00
	PNA94-26A	41	300	1.5	14	32	240	95	110	1.50	2.70	1.50	0.69	16.00	3.00
	PNA94-26B	35	210	1.7	17	32	170	100	97	1.50	3.00	1.60	0.67	16.00	3.30
	PNA94-26C	52	230	1.7	29	38	490	110	130	1.50	3.40	1.80	0.76	16.00	4.10
	PNA94-26D	39	220	1.9	25	39	280	120	110	1.60	3.60	2.00	0.82	17.00	4.10
	PNA94-26E	37	210	1.7	21	35	260	110	100	1.50	3.20	1.80	0.73	16.00	3.70
	PNA94-27	88	160	1.8	39	42	710	120	180	1.50	3.70	2.00	0.81	17.00	4.30
	PNA94-30	0.7	510	0.8	2	22	2500	48	31	0.97	1.60	0.87	0.54	11.00	1.90
	PNA94-31A	53	410	1.3	15	28	100	120	100	1.40	3.70	2.10	0.93	17.00	3.90
	PNA94-31B	82	430	1.5	7	44	90	180	140	2.40	2.80	1.50	0.90	22.00	3.80
	PNA94-31C	26	590	1.3	5	46	68	120	96	1.10	2.40	1.10	0.95	18.00	3.70
	PNA94-31D	51	390	1.3	24	36	380	140	91	1.60	3.70	2.00	0.95	19.00	4.20
	PNA94-32	71	140	1.6	25	42	320	100	260	0.71	3.00	1.60	0.71	16.00	3.90
	PNA94-37	97	120	1.5	51	41	910	120	260	0.43	3.50	1.80	0.81	17.00	4.40
	PNA94-43	170	130	1.6	56	42	1300	130	700	0.87	3.40	1.70	0.74	18.00	4.40
	QUARTZ	0.1	50	<0.5	<0.5	22	<5	<10	<10	<0.02	0.74	0.30	0.24	1.00	1.20
	D1	620	200*	1.5	1200	25	15000	250	1000	1.10	2.80	1.50	0.53	16.00	3.30
	D2	32	320	1.6	14	33	240	97	110	1.60	2.70	1.40	0.71	16.00	3.00
	D3	69	140	1.6	25	42	310	100	260	0.70	3.10	1.60	0.72	16.00	3.90
	106-94-39	110	160	1.5	42	38	860	120	530	0.70	3.50	1.80	0.75	16.00	4.20
	106-94-40	70	450	1.6	8	45	96	200	160	2.40	2.90	1.50	0.97	21.00	3.80

* = analyzed by ICPES
** = analyzed by XRF
*** = analyzed by ICPMS

Trace Elements in Tailings Samples from Cobalt, Ontario

B7-Traces

Report No.	Variable	Ag	Ba	Be	Bi	Ce	Co	Cr	Cu	Cs	Dy	Er	Eu	Ga	Gd
106-94	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	Determination Limits	5	30	0.5	0.5	0.1	5	10	10	0.02	0.02	0.02	0.02	0.1	0.02
	Analytical Method	ICPMS-110	XRF-100	ICPES-110	ICPMS-110	ICPMS-100	ICPES-110	ICPES-110	ICPES-110	ICPMS-110	ICPMS-100	ICPMS-100	ICPMS-100	ICPMS-110	ICPMS-100
	Duplicates														
	106-94-39	110	160	1.5	42	38	860	120	530	0.70	3.50	1.80	0.75	16.00	4.20
	PNA94-17A	110	140	1.5	41	38	850	120	520	0.66	3.40	1.80	0.72	15.00	4.10
	106-94-40	70	450	1.6	8	45	96	200	160	2.40	2.90	1.50	0.97	21.00	3.80
	PNA94-31B	82	430	1.5	7	44	90	180	140	2.40	2.80	1.50	0.90	22.00	3.80

Trace Elements in Tailings Samples from Cobalt, Ontario

B7-Traces

Variable	Hf	Ho	In	La	Lu	Mo	Nb	Nd	Ni	Pb	Pr	Rb	Sc	Sm	Sr
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Determination Limits	0.05	0.02	0.05	0.1	0.02	0.2	0.05	0.1	10	2	0.02	0.05	0.5	0.02	20
Analytical Method	ICPMS-110	ICPMS-100	ICPMS-110	ICPMS-100	ICPMS-100	ICPMS-110	ICPMS-110	ICPMS-100	ICPES-110	ICPMS-110	ICPMS-100	ICPMS-110	ICPMS-110	ICPMS-100	XRF-100
PNA94-02	0.94	0.12	0.06	4.30	0.05	8.90	2.80	4.60	400	43	1.20	13	5.0*	0.91	100*
PNA94-09	2.70	0.63	1.50	17.00	0.24	450	4.50	20.00	22000	1800**	4.80	21	12*	4.20	80*
PNA94-10	2.50	0.54	0.16	10.00	0.24	260	4.30	14.00	8300	350**	3.20	31	21*	3.10	77*
PNA94-11	2.30	0.51	0.35	14.00	0.18	120	3.60	16.00	16000	700**	3.90	13	9.2*	3.40	58*
PNA94-13A	3.40	0.62	0.07	17.00	0.26	3.20	5.70	19.00	900	150	4.80	13	18	3.80	92
PNA94-13B	4.00	0.62	0.09	17.00	0.26	4.20	6.00	20.00	1600	310**	5.00	11	16	4.00	78
PNA94-13C	3.30	0.65	0.13	17.00	0.27	2.90	5.20	21.00	820	340**	5.00	9.9	20	4.20	75
PNA94-13D	3.90	0.62	0.11	16.00	0.25	9.00	5.70	19.00	1700	310**	4.60	10	17	3.90	74
PNA94-13E	3.10	0.60	0.08	16.00	0.25	1.60	5.10	19.00	850	290	4.60	10	16	3.80	73
PNA94-14	3.30	0.65	0.10	18.00	0.27	8.50	5.30	21.00	980	340**	5.10	11	18	4.20	74
PNA94-14BLUE	3.20	0.73	0.12	20.00	0.29	42	5.30	24.00	1200	500**	5.70	9.5	20	4.80	70
PNA94-17A	3.30	0.65	0.10	17.00	0.28	1.80	5.60	20.00	810	350**	4.80	13	19	4.10	76
PNA94-17B	3.40	0.65	0.12	17.00	0.27	1.80	5.70	20.00	860	240	4.80	13	19	4.20	82
PNA94-18	3.30	0.65	0.11	16.00	0.27	2.50	5.60	19.00	860	250	4.50	13	18	3.90	81
PNA94-19	3.70	0.70	0.08	17.00	0.30	220	6.40	21.00	2400	74	5.00	14	22	4.40	42
PNA94-20	2.90	0.91	0.30	12.00	0.41	33	4.90	18.00	780	130	4.00	16	37	4.40	48
PNA94-20A	2.40	0.91	0.32	8.90	0.41	25	4.30	14.00	560	110	3.10	16	40	4.00	49
PNA94-21	3.40	0.65	0.26	14.00	0.28	28	6.70	19.00	850	36	4.40	53	18	4.10	83
PNA94-23	2.80	0.70	0.10	17.00	0.33	0.80	6.40	17.00	93	200	4.30	61	21	3.60	55
PNA94-24	2.60	0.71	0.14	15.00	0.31	1.70	5.10	16.00	290	230	3.90	39	22	3.70	54
PNA94-26A	2.50	0.57	0.10	15.00	0.24	1.30	5.20	14.00	97	160	3.70	52	16	3.00	150
PNA94-26B	2.60	0.61	0.06	14.00	0.28	3.60	5.60	15.00	86	170	3.60	48	18	3.20	56
PNA94-26C	2.80	0.69	0.08	17.00	0.31	1.40	5.80	17.00	140	220	4.50	43	20	3.60	55
PNA94-26D	3.20	0.74	0.08	18.00	0.33	1.40	6.70	18.00	100	180	4.60	52	21	3.90	62
PNA94-26E	2.80	0.64	0.06	16.00	0.30	1.40	5.90	16.00	96	180	4.10	48	19	3.30	66
PNA94-27	2.80	0.73	0.12	19.00	0.32	2.10	6.00	19.00	200	300	4.90	43	21	4.00	52
PNA94-30	1.60	0.35	0.05	11.00	0.14	1.20	3.00	11.00	590	16	2.80	43	7.6	2.00	490
PNA94-31A	2.70	0.76	0.10	12.00	0.35	1.10	5.20	15.00	79	220	3.60	41	29	3.60	91
PNA94-31B	3.40	0.55	<0.05	20.00	0.25	1.50	5.30	22.00	94	260	5.60	100	22	4.30	130
PNA94-31C	3.00	0.46	0.10	21.00	0.20	1.20	3.60	23.00	53	300	5.80	57	12	4.50	230
PNA94-31D	2.80	0.77	0.17	16.00	0.34	0.90	5.00	19.00	140	230	4.50	40	30	4.10	83
PNA94-32	3.60	0.61	0.07	19.00	0.26	1.30	6.40	20.00	230	210	5.10	21	16	4.10	96
PNA94-37	3.30	0.69	0.11	19.00	0.29	22	5.50	20.00	920	360**	5.20	11	19	4.20	76
PNA94-43	3.20	0.70	0.13	19.00	0.28	3.10	6.00	21.00	920	380**	5.30	16	19	4.30	70
QUARTZ	1.20	0.13	<0.05	9.90	0.04	<0.20	0.63	10.00	<10	nd	2.70	0.24	<0.5	1.70	<20
D1	2.60	0.56	0.17	11.00	0.24	250	4.60	14.00	6900	340**	3.20	33	21*	3.20	76*
D2	2.30	0.55	0.14	15.00	0.24	1.50	5.30	15.00	97	150	3.90	54	16	3.20	160
D3	3.30	0.62	0.17	19.00	0.26	1.80	6.40	20.00	220	210	5.10	21	15	4.10	93
106-94-39	3.40	0.68	0.12	17.00	0.29	1.90	5.90	20.00	810	350**	4.80	13	19	4.30	78
106-94-40	3.50	0.57	<0.05	20.00	0.26	4.30	5.30	22.00	110	260	5.50	100	24	4.40	140

* = analyzed by ICPES
** = analyzed by XRF
*** = analyzed by ICPMS

Trace Elements in Tailings Samples from Cobalt, Ontario

B7-Traces

Variable	Hf	Ho	In	La	Lu	Mo	Nb	Nd	Ni	Pb	Pr	Rb	Sc	Sm	Sr
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Determination Limits	0.05	0.02	0.05	0.1	0.02	0.2	0.05	0.1	10	2	0.02	0.05	0.5	0.02	20
Analytical Method	ICPMS-110	ICPMS-100	ICPMS-110	ICPMS-100	ICPMS-100	ICPMS-110	ICPMS-110	ICPMS-100	ICPES-110	ICPMS-110	ICPMS-100	ICPMS-110	ICPMS-110	ICPMS-100	XRF-100
Duplicates															
106-94-39	3.40	0.68	0.12	17.00	0.29	1.90	5.90	20.00	810	350**	4.80	13	19	4.30	78
PNA94-17A	3.30	0.65	0.10	17.00	0.28	1.80	5.60	20.00	810	350**	4.80	13	19	4.10	76
106-94-40	3.50	0.57	<0.05	20.00	0.26	4.30	5.30	22.00	110	260	5.50	100	24	4.40	140
PNA94-31B	3.40	0.55	<0.05	20.00	0.25	1.50	5.30	22.00	94	260	5.60	100	22	4.30	130

Trace Elements in Tailings Samples from Cobalt, Ontario

B7-Traces

Variable	Ta	Tb	Th	Tl	Tm	U	V	Y	Yb	Zn	Zr
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Determination Limits	0.2	0.02	0.02	0.02	0.02	0.02	5	0.02	0.02	5	10
Analytical Method	ICPMS-110	ICPMS-100	ICPMS-110	ICPMS-110	ICPMS-100	ICPMS-110	ICPES-110	ICPMS-100	ICPMS-100	ICPMS-110	XRF-100
PNA94-02	0.9	0.12	0.42	0.77	0.05	1.9	62	3.6	0.33	20	40***
PNA94-09	0.9	0.64	3.1	0.88	0.26	2.4	17	21	1.5	2200	110*
PNA94-10	1.1	0.50	2.7	0.40	0.25	1.6	120	17	1.6	320	100*
PNA94-11	1.5	0.52	2.4	0.51	0.21	2.1	17	17	1.2	1600	97***
PNA94-13A	0.3	0.58	4.1	0.09	0.29	1.9	120	19	1.7	120	140
PNA94-13B	0.3	0.59	3.6	0.09	0.27	1.9	100	19	1.7	150	160
PNA94-13C	0.5	0.63	3.7	0.07	0.30	2.2	130	21	1.8	140	130
PNA94-13D	0.5	0.60	3.5	0.09	0.27	1.9	110	19	1.7	280	150
PNA94-13E	0.5	0.58	3.4	0.07	0.27	1.9	110	19	1.6	210	130
PNA94-14	0.5	0.66	3.7	0.08	0.28	1.8	120	21	1.7	260	130
PNA94-14BLUE	0.4	0.72	4.1	0.10	0.32	2.2	140	23	1.9	330	130
PNA94-17A	0.4	0.62	3.8	0.09	0.29	1.9	130	21	1.8	290	140
PNA94-17B	0.8	0.61	3.8	0.09	0.30	1.9	130	21	1.8	260	140
PNA94-18	0.8	0.59	3.7	0.08	0.29	2.0	120	20	1.8	230	140
PNA94-19	0.7	0.69	6.6	0.15	0.31	3.6	160	23	1.9	240	150
PNA94-20	0.4	0.83	2.3	0.15	0.42	1.8	290	28	2.5	230	120
PNA94-20A	0.4	0.80	0.93	0.12	0.44	1.1	290	28	2.7	180	91***
PNA94-21	0.3	0.61	4.9	0.45	0.30	2.0	120	21	1.8	130	140
PNA94-23	0.7	0.60	7.2	0.23	0.32	2.5	140	21	2.1	120	110
PNA94-24	0.4	0.64	4.5	0.16	0.33	2.2	150	22	2.0	150	100***
PNA94-26A	0.5	0.47	5.6	0.22	0.25	1.9	100	16	1.6	110	97***
PNA94-26B	0.6	0.53	6.0	0.17	0.28	2.1	120	18	1.8	90	110
PNA94-26C	0.6	0.62	5.7	0.18	0.32	2.1	130	21	2.0	130	110
PNA94-26D	1.2	0.65	6.5	0.20	0.33	2.3	140	22	2.2	100	130
PNA94-26E	0.8	0.58	6.0	0.18	0.31	2.2	130	20	2.0	95	110
PNA94-27	0.8	0.64	5.9	0.18	0.33	2.5	150	22	2.1	180	110
PNA94-30	0.8	0.28	2.6	0.24	0.16	1.1	46	13	0.97	180	66***
PNA94-31A	0.8	0.65	2.4	0.20	0.36	1.0	190	23	2.3	250	110
PNA94-31B	0.6	0.56	4.1	0.43	0.25	1.3	140	17	1.6	250	130
PNA94-31C	1.2	0.48	3.8	0.33	0.19	1.3	84	14	1.2	220	110
PNA94-31D	1.2	0.65	3.0	0.20	0.35	1.3	220	23	2.3	540	100
PNA94-32	0.9	0.56	4.9	0.10	0.27	2.1	100	19	1.7	230	140
PNA94-37	1.4	0.64	3.9	0.08	0.30	1.9	140	21	2.0	240	120
PNA94-43	0.7	0.66	4.3	0.11	0.29	2.3	140	22	1.8	490	120
QUARTZ	<0.2	0.16	1.7	<0.02	0.05	0.2	<5	3.8	0.28	<5	52***
D1	1.1	0.51	2.7	0.39	0.25	1.5	130	18	1.6	310	110
D2	1.2	0.49	5.6	0.24	0.27	1.8	110	17	1.7	110	91***
D3	0.7	0.57	4.9	0.11	0.28	2.1	99	19	1.7	220	150
106-94-39	0.8	0.64	3.9	0.09	0.30	1.9	130	21	1.9	290	130
106-94-40	0.7	0.54	4.4	0.46	0.27	1.3	160	17	1.7	270	140

* = analyzed by ICPES
** = analyzed by XRF
*** = analyzed by ICPMS

Trace Elements in Tailings Samples from Cobalt, Ontario

B7-Traces

Variable	Ta	Tb	Th	Tl	Tm	U	V	Y	Yb	Zn	Zr
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Determination Limits	0.2	0.02	0.02	0.02	0.02	0.02	5	0.02	0.02	5	10
Analytical Method	ICPMS-110	ICPMS-100	ICPMS-110	ICPMS-110	ICPMS-100	ICPMS-110	ICPES-110	ICPMS-100	ICPMS-100	ICPMS-110	XRF-100
Duplicates											
106-94-39	0.8	0.64	3.9	0.09	0.30	1.9	130	21	1.9	290	130
PNA94-17A	0.4	0.62	3.8	0.09	0.29	1.9	130	21	1.8	290	140
106-94-40	0.7	0.54	4.4	0.46	0.27	1.3	160	17	1.7	270	140
PNA94-31B	0.6	0.56	4.1	0.43	0.25	1.3	140	17	1.6	250	130