

Comparison of shallow soil results in the vicinity of future open pit to background soil standards for Ontario*

Lab ID		SCS Standard		L1031026-1	L1031026-2	L1031026-3	L1031026-4	L1031026-5	L1031026-6	L1031026-7	L1031026-8	L1031026-9	L1031026-10	L1031026-11	L1031026-12	L1031026-13	L1031026-14	L1031026-15	L1031026-16	L1031026-17	L1031026-18	L1031026-19	L1031026-20	L1031026-21	L1031026-22	L1031026-23	L1031026-24	L1031026-25
Date Sampled	m			11-Jul-11	11-Jul-11	11-Jul-11	11-Jul-11	11-Jul-11	11-Jul-11	11-Jul-11	11-Jul-11	11-Jul-11	11-Jul-11	11-Jul-11	11-Jul-11	11-Jul-11	11-Jul-11	11-Jul-11	12-Jul-11	12-Jul-11	12-Jul-11	12-Jul-11	12-Jul-11	12-Jul-11	12-Jul-11	12-Jul-11	12-Jul-11	12-Jul-11
Depth	Sample ID	Soil (Agricultural) ^A	Soil (R/P/M/C/C) ^B	0.25	0.85	0.4	Dup of 02-40	0.05	0.25	0.65	1	1.3	0.25	0.1	0.2-1.4	0.5-1.3	0.1	0.05	0.15	0.35-1.7	0.1	0.1	0.15-0.65	n.a.	0.3	0.1	0.15	0.3
Parameter	Units			TP11-01-25	TP11-01-85	TP11-02-40	TP11-02-45	TP11-03-5	TP11-03-25	TP11-04-65	TP11-04-100	TP11-05-G	TP11-05-25	TP11-06-10	TP11-06-G	TP11-07-G	TP11-07-10	TP11-08-5	TP11-08-15	TP11-09-G	TP11-09-10	TP11-10-10	TP11-10-G1	TP11-10-G2	TP11-11-30	TP11-11-10	TP11-12-15	TP11-12-30
Antimony (Sb)	µg/g	1	1.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Arsenic (As)	µg/g	11	18	1.8	3.4	5.9	3.4	2.5	1.6	3.2	7.9	3	2.2	3.4	3.5	3	2.3	2.6	2.2	2.5	2.8	2.4	1.9	2.2	2.7	2.6	1.4	2
Barium (Ba)	µg/g	210	220	55	153	28.6	29.5	100	39.4	97.2	135	129	181	182	160	124	94.5	96.3	89.2	124	78.6	45.7	84.1	102	43.5	96.2	42.4	83.5
Beryllium (Be)	µg/g	2.5	2.5	0.5	0.52	0.5	0.5	0.5	0.5	0.5	0.5	0.58	0.5	0.58	0.63	0.5	0.5	0.55	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Bismuth (Bi)	µg/g	--	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Boron (B)	µg/g	36	36	<5	<5	<5	<5	<5	<5	<5	<5	5.2	6.5	6.6	5.3	<5	<5	<5	<5	6.1	5.4	<5	5.1	6	<5	<5	<5	<5
Cadmium (Cd)	µg/g	1	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.39	<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
Chromium (Cr)	µg/g	67	70	43.2	77.9	24.7	24.1	43.7	30.8	66.3	65.2	23.9	69.9	76.2	66.6	65.3	53.5	57.9	59.2	21.8	21.7	43.7	48.9	16	48.4	24.2	53.6	
Cobalt (Co)	µg/g	19	21	8.8	15.4	5.3	4.8	9.5	5.3	11.4	13.8	13.1	5.6	15.7	15.3	14.2	13.5	13.3	12.7	12.6	3.8	4.4	9.2	10.6	3.5	11.7	3.9	10.8
Copper (Cu)	µg/g	62	92	10	35.7	10.3	8	21	9	31.9	57.3	26	14.3	35.1	37.1	28.9	19.2	17.7	14.3	25.9	10.6	8.7	21.2	26.4	7	14.6	7.3	12.8
Iron (Fe)	µg/g	--	--	21100	37400	13100	11400	19400	13100	28900	32500	34000	11900	35100	37500	32500	31000	26600	28900	30600	12100	11600	22000	25200	9440	24400	14200	27900
Lead (Pb)	µg/g	45	120	6.2	8.4	4.5	4	8.3	3.9	5.4	13.8	8.4	17.5	9.6	9.6	7.4	8	12.8	9.4	7.2	14.4	5.8	4.6	4.9	6	10.2	5.6	7.4
Lithium (Li)	µg/g	--	--	14.2	27.7	7.3	7.4	16.3	10.5	19.7	49.5	28.7	8.1	29.7	32.4	24	24.4	20.3	23.9	26.4	7.2	7.7	16.8	20.5	5.7	20.8	9.8	21
Manganese (Mn)	µg/g	--	--	366	696	133	111	385	157	422	688	536	726	852	697	661	601	808	637	620	236	247	382	420	197	637	139	409
Mercury (Hg)	µg/g	0.16	0.27	<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	<0.05	<0.05	0.117	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Molybdenum (Mo)	µg/g	2	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.2	<1	<1	<1	<1	<1	<1	<1
Nickel (Ni)	µg/g	37	82	21.1	45.1	12.5	12.3	22.9	14.7	35.4	52.1	37.9	14	41.3	44.3	37.1	34.4	28.6	29.8	33.8	11.5	10.8	24.6	28.7	8	26.2	11	27.3
Phosphorus (P)	µg/g	--	--	470	744	242	202	272	200	687	564	565	579	713	685	729	487	468	362	607	618	451	673	621	384	481	201	243
Selenium (Se)	µg/g	1.2	1.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Silver (Ag)	µg/g	0.5	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.26	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Strontium (Sr)	µg/g	--	--	28.6	51.5	9	9.2	26.3	14.8	33.8	48.8	36.6	38.4	43.8	45	52.6	42.5	37.5	34	68.1	41.4	15.3	60.1	61.3	16.9	32.1	13.9	30.7
Thallium (Tl)	µg/g	1	1	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tin (Sn)	µg/g	--	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Titanium (Ti)	µg/g	--	--	1240	2160	528	532	1040	781	1440	1770	1840	575	1890	2050	2030	1980	1590	1920	2010	426	599	1480	1540	420	1420	808	1790
Uranium (U)	µg/g	1.9	2.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium (V)	µg/g	86	86	47.1	75.7	25	23.4	39.7	29.3	58.3	63	66.1	25.3	70.1	74.5	69.3	66.8	55.1	64.2	65.4	19.8	23.1	49.1	54.3	17.5	51.1	31.7	61.1
Zinc (Zn)	µg/g	290	290	35.3	67.8	20.2	18.1	59.2	22.1	46.2	120	64.2	167	78	70.3	59	65.4	80.8	70.9	59.1	31.7	19.8	37.6	42.3	13.1	73.5	24.4	42.3

Notes:

*The MOE Table 1 Site Condition Standards (SCS) are background values derived from the Ontario Typical Range values for the land uses indicated and are considered representative of upper limits of typical province-wide background concentrations in soils that are not contaminated by point source. n.a. = depth not available.

^A Agricultural or Other Property Use

^B Residential/ Parkland/ Institutional/ Industrial/Commercial/ Community Property Use

Value exceeds SCS (agricultural)^A

Value Exceeds SCS (R/P/M/C/C)^B