

Calibration data for Source 1 for 5-minute live time acquisitions for each of the 0, 2.0, 2.5, 2.9, 3.5 and 4.00 mm tissue overlay thickness phantoms. The calibration uses the Sr K α x-ray intensity only.

	0.0 mm		2.0 mm		2.5 mm		2.9 mm		3.5 mm		4.0 mm	
Phantom Concentration ($\mu\text{g Sr/g Ca}$)	Sr K α /Ni K α ratio	σ	Sr K α /Ni K α ratio	σ	Sr K α /Ni K α ratio	σ	Sr K α /Ni K α ratio	σ	Sr K α /Ni K α ratio	$u \sigma$	Sr K α /Ni K α ratio	σ
0	6616	153	4154	117	4659	135	2586	114	2271	106	1700	89
25	5165	126	4643	135	2986	109	2543	108	2433	118	2270	115
50	5346	121	4653	134	3542	130	2666	112	2320	114	1740	87
100	6925	172	4716	134	3218	125	2846	116	3425	116	1901	105
250	5628	145	5610	125	4348	125	3246	121	2664	117	2321	110
500	8409	184	6192	152	4589	142	3743	121	2582	117	2696	114
750	8105	166	8291	184	5804	132	4417	112	3779	135	3323	114
1000	6328	153	9391	209	6315	152	5710	143	5020	145	3215	116
1250	17109	247	10041	192	7806	164	6179	150	5670	148	4703	138
1500	16316	258	12150	205	8388	170	7029	157	6214	166	5166	153

Normalized calibration data for Source 1 for 30-minute live time acquisitions for each of the 0, 2.0, 2.5, 2.9, 3.5 and 4.00 mm tissue overlay thickness phantoms. The calibration uses the Sr K α x-ray intensity only.

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0	49699	452	23109	310	25126	348	16421	327	11877	294	11662	264
25	41291	403	27609	375	19137	312	16805	342	13009	260	13288	328
50	38727	414	25270	361	19625	341	16781	306	12855	311	13588	302
100	45710	420	27727	322	21725	312	17778	305	19847	330	11736	279
250	51347	451	33233	423	26338	345	18880	366	14402	274	15994	321
500	63310	550	41514	495	35060	458	26086	316	15992	310	19293	350
750	45974	436	56207	645	38273	476	28244	361	21624	362	19919	312
1000	70906	570	62730	666	47804	528	40959	482	29198	360	27972	347
1250	90034	750	65207	688	53672	542	42102	420	32946	414	29497	379
1500	119260	1121	71156	721	55969	602	45009	511	39118	425	33900	468

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	0.0 mm		2.0 mm		2.5 mm		2.9 mm		3.5 mm		4.0 mm	
Phantom Concentration ($\mu\text{g Sr/g Ca}$)	Sr K α /Ni K α ratio	σ	Sr K α /Ni K α ratio	σ	Sr K α /Ni K α ratio	σ	Sr K α /Ni K α ratio	σ	Sr K α /Ni K α ratio	$u \sigma$	Sr K α /Ni K α ratio	σ
0	5.70	0.42	1.51	0.08	1.56	0.09	0.76	0.04	0.63	0.03	0.45	0.03
25	4.70	0.26	1.73	0.08	0.99	0.05	0.75	0.04	0.65	0.04	0.61	0.04
50	3.67	0.15	1.70	0.07	1.14	0.05	0.81	0.04	0.63	0.04	0.47	0.03
100	5.82	0.35	1.68	0.08	1.02	0.05	0.86	0.04	0.89	0.04	0.50	0.03
250	4.71	0.27	1.94	0.09	1.43	0.06	0.99	0.05	0.71	0.04	0.62	0.03
500	6.44	0.29	2.24	0.12	1.54	0.08	1.12	0.05	0.70	0.04	0.70	0.04
750	7.26	0.34	3.01	0.14	1.97	0.08	1.30	0.05	0.98	0.04	0.90	0.04
1000	4.46	0.30	3.41	0.13	2.11	0.08	1.73	0.08	1.41	0.06	0.84	0.04
1250	17.30	1.12	3.75	0.16	2.78	0.11	1.84	0.07	1.51	0.05	1.25	0.05
1500	13.45	0.88	4.54	0.17	2.71	0.08	2.11	0.08	1.71	0.07	1.40	0.06

Normalized calibration data for Source 1 for 30-minute live time acquisitions for each of the 0, 2.0, 2.5, 2.9, 3.5 and 4.00 mm tissue overlay thickness phantoms. The Sr K α x-ray intensity is normalized to the Nickel K α x-ray intensity.

	0.0 mm		2.0 mm		2.5 mm		2.9 mm		3.5 mm		4.0 mm	
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0	5.70	0.42	1.51	0.08	1.56	0.09	0.76	0.04	0.63	0.03	0.45	0.03
25	4.70	0.26	1.73	0.08	0.99	0.05	0.75	0.04	0.65	0.04	0.61	0.04
50	3.67	0.15	1.70	0.07	1.14	0.05	0.81	0.04	0.63	0.04	0.47	0.03
100	5.82	0.35	1.68	0.08	1.02	0.05	0.86	0.04	0.89	0.04	0.50	0.03
250	4.71	0.27	1.94	0.09	1.43	0.06	0.99	0.05	0.71	0.04	0.62	0.03
500	6.44	0.29	2.24	0.12	1.54	0.08	1.12	0.05	0.70	0.04	0.70	0.04
750	7.26	0.34	3.01	0.14	1.97	0.08	1.30	0.05	0.98	0.04	0.90	0.04
1000	4.46	0.30	3.41	0.13	2.11	0.08	1.73	0.08	1.41	0.06	0.84	0.04
1250	17.30	1.12	3.75	0.16	2.78	0.11	1.84	0.07	1.51	0.05	1.25	0.05
1500	13.45	0.88	4.54	0.17	2.71	0.08	2.11	0.08	1.71	0.07	1.40	0.06

Calibration data for Source 2 for 5-minute live time acquisitions for each of the 0, 2.0, 2.5, 2.9, 3.5 and 4.00 mm tissue overlay thickness phantoms. The calibration uses the Sr K α x-ray intensity only.

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0	6830	188	4095	166	3034	152	2817	157	2412	163	2107	147
25	6660	167	4128	172	3537	162	2258	142	2370	158	2314	167
50	4715	153	3939	163	3465	158	2949	189	2737	153	2489	161
100	6808	179	4180	162	3258	154	2798	149	3840	162	2041	163
250	8744	180	6075	163	4267	143	3225	165	3225	159	2702	139
500	10255	219	6703	164	5164	185	4916	183	2792	162	3065	181
750	12171	197	8130	202	6056	199	5070	186	4147	165	4433	194
1000	14321	260	8859	179	7280	192	6416	165	5369	189	4253	156
1250	15172	240	9406	227	9269	195	7097	184	6482	195	5449	196
1500	19619	296	12248	226	9014	207	7634	207	6663	209	5790	185

Normalized calibration data for Source 2 for 30-minute live time acquisitions for each of the 0, 2.0, 2.5, 2.9, 3.5 and 4.00 mm tissue overlay thickness phantoms. The calibration uses the Sr K α x-ray intensity only.

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0	49009	503	25103	459	21004	431	17278	446	16407	445	13252	427
25	45578	499	25538	413	21510	415	14162	392	15929	349	13706	425
50	36243	485	24429	367	21915	480	17279	401	15674	360	13561	393
100	49327	535	27322	458	24385	453	21250	421	23176	498	13680	429
250	51041	523	37418	506	33075	507	23206	422	17980	396	17449	450
500	63158	607	42712	568	35696	504	30321	494	18470	393	20553	498
750	62296	635	53582	568	38568	548	32122	550	27239	444	23470	456
1000	74443	625	58420	563	45191	572	41359	536	37943	520	27481	531
1250	119929	966	60067	638	49148	619	42655	550	41302	555	35811	531
1500	128890	1071	72067	715	54166	603	47535	557	39209	572	36811	478

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0	2.70	0.16	1.12	0.07	0.79	0.05	0.57	0.04	0.46	0.04	0.38	0.03
25	2.75	0.16	1.12	0.07	0.85	0.05	0.49	0.04	0.44	0.03	0.41	0.03
50	1.97	0.13	1.06	0.07	0.87	0.05	0.62	0.05	0.50	0.03	0.45	0.03
100	2.96	0.17	1.07	0.07	0.73	0.04	0.57	0.04	0.73	0.04	0.37	0.03
250	3.84	0.26	1.69	0.09	1.09	0.06	0.65	0.04	0.61	0.04	0.49	0.03
500	4.12	0.26	1.95	0.11	1.26	0.08	1.00	0.06	0.54	0.04	0.55	0.04
750	5.41	0.27	2.13	0.10	1.45	0.07	1.07	0.05	0.78	0.04	0.81	0.05
1000	5.94	0.36	2.34	0.10	1.65	0.07	1.35	0.06	1.04	0.05	0.77	0.04
1250	7.46	0.48	2.67	0.12	2.27	0.13	1.53	0.07	1.28	0.07	0.97	0.05
1500	7.75	0.47	3.41	0.15	2.10	0.09	1.60	0.08	1.30	0.06	1.05	0.05

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0	6.29	0.15	8.40	0.36	8.42	0.33	0.68	0.02	0.58	0.02	0.45	0.01
25	5.75	0.13	10.28	0.39	6.35	0.21	0.73	0.02	0.59	0.01	0.51	0.01
50	4.69	0.13	9.21	0.29	6.31	0.18	0.77	0.02	0.54	0.01	0.55	0.01
100	6.55	0.17	9.89	0.38	6.86	0.27	0.84	0.02	0.85	0.02	0.46	0.01
250	5.82	0.12	11.52	0.51	8.67	0.26	0.89	0.02	0.64	0.01	0.61	0.01
500	6.98	0.14	15.03	0.72	11.75	0.47	1.21	0.02	0.64	0.02	0.74	0.02
750	6.36	0.16	20.42	0.85	12.99	0.45	1.36	0.02	0.93	0.02	0.81	0.02
1000	7.61	0.17	22.81	0.77	15.94	0.47	1.97	0.04	1.29	0.02	1.07	0.02
1250	11.13	0.31	24.33	0.93	19.08	0.69	1.94	0.03	1.36	0.02	1.12	0.02
1500	17.31	0.51	26.60	0.91	18.10	0.46	2.03	0.03	1.59	0.02	1.27	0.03