

Derivation of Default Background for Arsenic

Geochemical and mineralogical data for samples of surface soils collected from a depth of 0 to 30 centimeters in the conterminous United States; Data from the USGS Mineral Resources/Online Spatial Data- <https://mrdata.usgs.gov/ds-801/>

0-30_LabID	SiteID	StateID	Latitude	Longitude	CollDate	LandCover1	LandCover2	0-30_Depth	0-30_As
C-328054	12128	GA	32.4501	-83.0783	3/7/2009	Forested Upland	Deciduous Forest	0-30	1.2
C-328119	12128		32.4501	-83.0783	3/7/2009	Forested Upland	Deciduous Forest	0-5	1
C-328216	11472	GA	34.2618	-83.7891	2/28/2009	Forested Upland	Deciduous Forest	0-10	3.8
C-328037	11472		34.2618	-83.7891	2/28/2009	Forested Upland	Deciduous Forest	0-5	4.1
C-328023	10448	GA	34.2936	-84.4965	2/28/2009	Forested Upland	Deciduous Forest	0-10	6.6
C-328088	10448		34.2936	-84.4965	2/28/2009	Forested Upland	Deciduous Forest	0-5	2.8
C-328217	2412	GA	34.4683	-84.4829	2/28/2009	Forested Upland	Deciduous Forest	0-10	2.9
C-328038	2412		34.4683	-84.4829	2/28/2009	Forested Upland	Deciduous Forest	0-5	3
C-328064	5584	GA	34.4748	-85.282	2/27/2009	Forested Upland	Deciduous Forest	0-10	23.9
C-328129	5584		34.4748	-85.282	2/27/2009	Forested Upland	Deciduous Forest	0-5	26.7
C-328057	3180	GA	34.6147	-83.4232	2/28/2009	Forested Upland	Deciduous Forest	0-25	1.8
C-328122	3180		34.6147	-83.4232	2/28/2009	Forested Upland	Deciduous Forest	0-5	2.5
C-328212	6176	GA	30.7233	-83.9138	3/11/2009	Forested Upland	Evergreen Forest	0-7	1.1
C-328033	6176		30.7233	-83.9138	3/11/2009	Forested Upland	Evergreen Forest	0-5	1.1
C-328193	7456	GA	30.866	-84.0304	3/11/2009	Forested Upland	Evergreen Forest	0-20	0.9
C-327993	7456		30.866	-84.0304	3/11/2009	Forested Upland	Evergreen Forest	0-5	1.1
C-328145	9760	GA	30.9548	-84.6111	3/10/2009	Forested Upland	Evergreen Forest	0-20	1.1
C-328101	9760		30.9548	-84.6111	3/10/2009	Forested Upland	Evergreen Forest	0-5	1.1
C-328223	12960	GA	31.4221	-83.2474	3/10/2009	Forested Upland	Evergreen Forest	0-30	<0.6
C-328044	12960		31.4221	-83.2474	3/10/2009	Forested Upland	Evergreen Forest	0-5	<0.6
C-328022	8352	GA	31.8562	-81.7293	3/7/2009	Forested Upland	Evergreen Forest	0-30	1
C-328087	8352		31.8562	-81.7293	3/7/2009	Forested Upland	Evergreen Forest	0-5	1.2
C-328005	7008	GA	32.343	-83.1491	3/6/2009	Forested Upland	Evergreen Forest	0-30	0.9
C-328070	7008		32.343	-83.1491	3/6/2009	Forested Upland	Evergreen Forest	0-5	0.7
C-328191	7520	GA	33.0154	-81.9055	3/4/2009	Forested Upland	Evergreen Forest	0-30	2.8
C-327991	7520		33.0154	-81.9055	3/4/2009	Forested Upland	Evergreen Forest	0-5	2.1
C-328180	2256	GA	33.111	-83.4908	3/5/2009	Forested Upland	Evergreen Forest	0-10	1.9
C-327980	2256		33.111	-83.4908	3/5/2009	Forested Upland	Evergreen Forest	0-5	1.4
C-328007	1744	GA	33.3294	-85.2325	3/3/2009	Forested Upland	Evergreen Forest	0-20	1.5
C-328072	1744		33.3294	-85.2325	3/3/2009	Forested Upland	Evergreen Forest	0-5	1.6
C-328051	864	GA	33.3594	-82.8837	3/4/2009	Forested Upland	Evergreen Forest	0-7	1.1
C-328116	864		33.3594	-82.8837	3/4/2009	Forested Upland	Evergreen Forest	0-5	0.8
C-328060	7376	GA	33.6503	-83.2592	3/4/2009	Forested Upland	Evergreen Forest	0-30	3.6
C-328125	7376		33.6503	-83.2592	3/4/2009	Forested Upland	Evergreen Forest	0-5	3.2
C-328012	5728	GA	33.8277	-82.47	2/28/2009	Forested Upland	Evergreen Forest	0-15	1.5
C-328077	5728		33.8277	-82.47	2/28/2009	Forested Upland	Evergreen Forest	0-5	1.6
C-328196	9580	GA	34.3569	-84.1412	2/28/2009	Forested Upland	Evergreen Forest	0-25	2.7
C-327996	9580		34.3569	-84.1412	2/28/2009	Forested Upland	Evergreen Forest	0-5	3
C-328062	8736	GA	31.5872	-84.061	3/10/2009	Planted/Cultivated	Fallow	0-20	0.9
C-328127	8736		31.5872	-84.061	3/10/2009	Planted/Cultivated	Fallow	0-5	1.1
C-328192	10192	GA	32.4803	-84.3115	3/6/2009	Planted/Cultivated	Fallow	0-30	1.5
C-327992	10192		32.4803	-84.3115	3/6/2009	Planted/Cultivated	Fallow	0-5	1.7
C-328011	8656	GA	33.3986	-84.4361	3/3/2009	Planted/Cultivated	Fallow	0-20	8
C-328076	8656		33.3986	-84.4361	3/3/2009	Planted/Cultivated	Fallow	0-5	8.5
C-328008	10604	GA	34.5862	-85.0297	2/27/2009	Planted/Cultivated	Fallow	0-10	6
C-328073	10604		34.5862	-85.0297	2/27/2009	Planted/Cultivated	Fallow	0-5	6.5
C-328224	6560	GA	30.7811	-83.158	3/9/2009	Developed	Low Intensity Residential	0-10	<0.6
C-328045	6560		30.7811	-83.158	3/9/2009	Developed	Low Intensity Residential	0-5	<0.6
C-328253	1056	GA	30.8109	-84.8918	3/10/2009	Developed	Low Intensity Residential	0-25	2.6
C-328106	1056		30.8109	-84.8918	3/10/2009	Developed	Low Intensity Residential	0-5	2.2
C-328136	7072	GA	30.9971	-81.9603	3/9/2009	Developed	Low Intensity Residential	0-15	1
C-328092	7072		30.9971	-81.9603	3/9/2009	Developed	Low Intensity Residential	0-5	<0.6
C-328006	5024	GA	31.1302	-81.8595	3/9/2009	Developed	Low Intensity Residential	0-20	0.8
C-328071	5024		31.1302	-81.8595	3/9/2009	Developed	Low Intensity Residential	0-5	0.7
C-328052	11552	GA	31.1434	-83.9273	3/11/2009	Developed	Low Intensity Residential	0-30	3.5
C-328117	11552		31.1434	-83.9273	3/11/2009	Developed	Low Intensity Residential	0-5	3.9
C-328095	7584		31.1627	-82.4239	3/9/2009	Developed	Low Intensity Residential	0-5	<0.6
C-328063	10144	GA	31.4664	-81.3672	3/9/2009	Developed	Low Intensity Residential	0-7	1.1

C-328128	10144		31.4664	-81.3672	3/9/2009	Developed	Low Intensity Residential	0-5	2.4
C-328020	2592	GA	31.4873	-84.8607	3/10/2009	Developed	Low Intensity Residential	0-20	3
C-328085	2592		31.4873	-84.8607	3/10/2009	Developed	Low Intensity Residential	0-5	5.6
C-328061	9120	GA	31.496	-82.0381	3/7/2009	Developed	Low Intensity Residential	0-30	0.9
C-328126	9120		31.496	-82.0381	3/7/2009	Developed	Low Intensity Residential	0-5	1.1
C-328152	4768	GA	31.5555	-83.212	3/10/2009	Developed	Low Intensity Residential	0-30	1.7
C-328109	4768		31.5555	-83.212	3/10/2009	Developed	Low Intensity Residential	0-5	2.9
C-328202	1696	GA	31.628	-83.4223	3/10/2009	Developed	Low Intensity Residential	0-30	1.6
C-328002	1696		31.628	-83.4223	3/10/2009	Developed	Low Intensity Residential	0-5	2.2
C-328186	12832	GA	31.7467	-84.3179	3/10/2009	Developed	Low Intensity Residential	0-30	3.8
C-327986	12832		31.7467	-84.3179	3/10/2009	Developed	Low Intensity Residential	0-5	3.5
C-328207	12448	GA	31.8051	-82.132	3/7/2009	Developed	Low Intensity Residential	0-20	1.1
C-328028	12448		31.8051	-82.132	3/7/2009	Developed	Low Intensity Residential	0-5	1.1
C-328219	13152	GA	31.8666	-82.5703	3/7/2009	Developed	Low Intensity Residential	0-20	0.9
C-328040	13152		31.8666	-82.5703	3/7/2009	Developed	Low Intensity Residential	0-5	1.5
C-328220	1568	GA	31.8935	-83.6877	3/10/2009	Developed	Low Intensity Residential	0-20	1.3
C-328041	1568		31.8935	-83.6877	3/10/2009	Developed	Low Intensity Residential	0-5	1.1
C-328142	9056	GA	32.1946	-82.8312	3/7/2009	Developed	Low Intensity Residential	0-30	2.5
C-328098	9056		32.1946	-82.8312	3/7/2009	Developed	Low Intensity Residential	0-5	0.7
C-328185	1184	GA	32.2425	-82.0065	3/5/2009	Developed	Low Intensity Residential	0-15	1.5
C-327985	1184		32.2425	-82.0065	3/5/2009	Developed	Low Intensity Residential	0-5	1.3
C-328055	160	GA	32.2704	-81.3716	3/4/2009	Developed	Low Intensity Residential	0-15	0.7
C-328120	160		32.2704	-81.3716	3/4/2009	Developed	Low Intensity Residential	0-5	0.7
C-328177	2000	GA	32.3134	-84.7742	3/6/2009	Developed	Low Intensity Residential	0-10	1.2
C-327977	2000		32.3134	-84.7742	3/6/2009	Developed	Low Intensity Residential	0-5	1.2
C-328137	9376	GA	32.3494	-81.9418	3/5/2009	Developed	Low Intensity Residential	0-30	2.9
C-328093	9376		32.3494	-81.9418	3/5/2009	Developed	Low Intensity Residential	0-5	1.7
C-328222	2912	GA	32.5937	-82.2415	3/5/2009	Developed	Low Intensity Residential	0-20	0.9
C-328043	2912		32.5937	-82.2415	3/5/2009	Developed	Low Intensity Residential	0-5	1
C-328009	5280	GA	32.6338	-81.5207	3/4/2009	Developed	Low Intensity Residential	0-20	0.9
C-328074	5280		32.6338	-81.5207	3/4/2009	Developed	Low Intensity Residential	0-5	0.9
C-327994	10080		32.651	-82.4204	3/5/2009	Developed	Low Intensity Residential	0-5	0.9
C-328015	5984	GA	32.6603	-82.1995	3/5/2009	Developed	Low Intensity Residential	0-20	0.6
C-328080	5984		32.6603	-82.1995	3/5/2009	Developed	Low Intensity Residential	0-5	1.1
C-328091	3936		32.6712	-82.7933	3/5/2009	Developed	Low Intensity Residential	0-5	<0.6
C-328014	8032	GA	32.7419	-83.1647	3/5/2009	Developed	Low Intensity Residential	0-20	2
C-328079	8032		32.7419	-83.1647	3/5/2009	Developed	Low Intensity Residential	0-5	2.2
C-328201	9168	GA	32.8098	-83.5151	3/5/2009	Developed	Low Intensity Residential	0-20	2.5
C-328001	9168		32.8098	-83.5151	3/5/2009	Developed	Low Intensity Residential	0-5	2.2
C-328213	2656	GA	33.2092	-82.3587	3/4/2009	Developed	Low Intensity Residential	0-15	0.8
C-328034	2656		33.2092	-82.3587	3/4/2009	Developed	Low Intensity Residential	0-5	0.9
C-328221	12752	GA	33.2886	-84.2136	3/3/2009	Developed	Low Intensity Residential	0-30	2.7
C-328042	12752		33.2886	-84.2136	3/3/2009	Developed	Low Intensity Residential	0-5	2.6
C-328206	4960	GA	33.572	-82.9533	3/4/2009	Developed	Low Intensity Residential	0-5	2.4
C-328027	4960		33.572	-82.9533	3/4/2009	Developed	Low Intensity Residential	0-5	1.2
C-328188	4560	GA	33.6865	-84.037	3/4/2009	Developed	Low Intensity Residential	0-20	4.6
C-327988	4560		33.6865	-84.037	3/4/2009	Developed	Low Intensity Residential	0-5	4.2
C-328016	464	GA	33.6933	-84.5927	3/3/2009	Developed	Low Intensity Residential	0-10	1.6
C-328081	464		33.6933	-84.5927	3/3/2009	Developed	Low Intensity Residential	0-5	1.4
C-328187	6352	GA	33.732	-83.8514	3/4/2009	Developed	Low Intensity Residential	0-5	3
C-327987	6352		33.732	-83.8514	3/4/2009	Developed	Low Intensity Residential	0-5	1.5
C-328199	3280	GA	34.1094	-83.9357	2/28/2009	Developed	Low Intensity Residential	0-10	2
C-327999	3280		34.1094	-83.9357	2/28/2009	Developed	Low Intensity Residential	0-5	1.6
C-328067	2512	GA	34.3951	-85.2298	2/27/2009	Developed	Low Intensity Residential	0-10	6.7
C-328132	2512		34.3951	-85.2298	2/27/2009	Developed	Low Intensity Residential	0-5	7.1
C-328147	3436	GA	34.9233	-85.5628	2/27/2009	Developed	Low Intensity Residential	0-20	4.2
C-328103	3436		34.9233	-85.5628	2/27/2009	Developed	Low Intensity Residential	0-5	4.3
C-328138	11168	GA	30.7394	-82.0741	3/9/2009	Forested Upland	Mixed Forest	0-30	0.9
C-328094	11168		30.7394	-82.0741	3/9/2009	Forested Upland	Mixed Forest	0-5	0.6
C-328200	6304	GA	31.8527	-81.255	3/7/2009	Forested Upland	Mixed Forest	0-30	1
C-328000	6304		31.8527	-81.255	3/7/2009	Forested Upland	Mixed Forest	0-5	0.9
C-328205	976	GA	32.7967	-84.2864	3/6/2009	Forested Upland	Mixed Forest	0-5	1.3
C-328026	976		32.7967	-84.2864	3/6/2009	Forested Upland	Mixed Forest	0-5	1.2
C-328214	5072	GA	32.8572	-83.9318	3/6/2009	Forested Upland	Mixed Forest	0-15	1.5
C-328035	5072		32.8572	-83.9318	3/6/2009	Forested Upland	Mixed Forest	0-5	1.6

C-328178	11728	GA	33.6123	-84.965	3/3/2009	Forested Upland	Mixed Forest	0-20	1.4
C-327978	11728		33.6123	-84.965	3/3/2009	Forested Upland	Mixed Forest	0-5	1.8
C-328019	11872	GA	33.6342	-82.2998	2/28/2009	Forested Upland	Mixed Forest	0-20	1.8
C-328084	11872		33.6342	-82.2998	2/28/2009	Forested Upland	Mixed Forest	0-5	2.1
C-328146	720	GA	33.8041	-84.8897	3/3/2009	Forested Upland	Mixed Forest	0-10	0.9
C-328102	720		33.8041	-84.8897	3/3/2009	Forested Upland	Mixed Forest	0-5	1
C-328065	6508	GA	34.7178	-84.713	2/27/2009	Forested Upland	Mixed Forest	0-20	2.4
C-328130	6508		34.7178	-84.713	2/27/2009	Forested Upland	Mixed Forest	0-5	0.9
C-328144	7840	GA	30.3922	-82.1786	3/9/2009	Planted/Cultivated	Pasture/Hay	0-30	2.2
C-328100	7840		30.3922	-82.1786	3/9/2009	Planted/Cultivated	Pasture/Hay	0-5	0.9
C-328066	10656	GA	30.8132	-83.6676	3/11/2009	Planted/Cultivated	Pasture/Hay	0-30	1.9
C-328131	10656		30.8132	-83.6676	3/11/2009	Planted/Cultivated	Pasture/Hay	0-5	2.4
C-328017	672	GA	30.823	-82.8522	3/9/2009	Planted/Cultivated	Pasture/Hay	0-10	<0.6
C-328082	672		30.823	-82.8522	3/9/2009	Planted/Cultivated	Pasture/Hay	0-5	<0.6
C-328183	3360	GA	30.8963	-84.4049	3/11/2009	Planted/Cultivated	Pasture/Hay	0-30	2.2
C-327983	3360		30.8963	-84.4049	3/11/2009	Planted/Cultivated	Pasture/Hay	0-5	1.8
C-328058	2464	GA	31.0355	-83.2649	3/9/2009	Planted/Cultivated	Pasture/Hay	0-30	1.6
C-328123	2464		31.0355	-83.2649	3/9/2009	Planted/Cultivated	Pasture/Hay	0-5	1.8
C-328115	5664		31.8164	-84.113	3/10/2009	Planted/Cultivated	Pasture/Hay	0-5	3.5
C-328153	544	GA	31.8844	-84.7292	3/10/2009	Planted/Cultivated	Pasture/Hay	0-20	2.7
C-328110	544		31.8844	-84.7292	3/10/2009	Planted/Cultivated	Pasture/Hay	0-5	2.5
C-328210	10400	GA	32.0196	-81.2651	3/7/2009	Planted/Cultivated	Pasture/Hay	0-20	3.4
C-328031	10400		32.0196	-81.2651	3/7/2009	Planted/Cultivated	Pasture/Hay	0-5	3.3
C-328148	11216	GA	32.368	-83.6587	3/6/2009	Planted/Cultivated	Pasture/Hay	0-5	3.3
C-328104	11216		32.368	-83.6587	3/6/2009	Planted/Cultivated	Pasture/Hay	0-5	2.1
C-328181	7120	GA	32.4336	-83.8865	3/6/2009	Planted/Cultivated	Pasture/Hay	0-30	2.6
C-327981	7120		32.4336	-83.8865	3/6/2009	Planted/Cultivated	Pasture/Hay	0-5	2.4
C-328184	2208	GA	32.763	-82.0166	3/5/2009	Planted/Cultivated	Pasture/Hay	0-20	0.7
C-327984	2208		32.763	-82.0166	3/5/2009	Planted/Cultivated	Pasture/Hay	0-5	1.2
C-328189	5840	GA	32.8565	-85.0364	3/6/2009	Planted/Cultivated	Pasture/Hay	0-5	1.4
C-327989	5840		32.8565	-85.0364	3/6/2009	Planted/Cultivated	Pasture/Hay	0-5	1.2
C-328198	11984	GA	32.9053	-84.7239	3/6/2009	Planted/Cultivated	Pasture/Hay	0-30	2.9
C-327998	11984		32.9053	-84.7239	3/6/2009	Planted/Cultivated	Pasture/Hay	0-5	2.6
C-328013	6752	GA	33.1098	-82.1885	3/4/2009	Planted/Cultivated	Pasture/Hay	0-20	1.5
C-328078	6752		33.1098	-82.1885	3/4/2009	Planted/Cultivated	Pasture/Hay	0-5	1.8
C-328179	9824	GA	34.1522	-83.0924	2/28/2009	Planted/Cultivated	Pasture/Hay	0-30	5.1
C-327979	9824		34.1522	-83.0924	2/28/2009	Planted/Cultivated	Pasture/Hay	0-5	5.4
C-328209	7276	GA	34.2749	-83.2362	2/28/2009	Planted/Cultivated	Pasture/Hay	0-20	6.8
C-328030	7276		34.2749	-83.2362	2/28/2009	Planted/Cultivated	Pasture/Hay	0-5	8.9
C-328086	6608		34.3627	-84.7396	3/27/2009	Planted/Cultivated	Pasture/Hay	0-5	6.3
C-328049	7532	GA	34.8042	-85.4684	2/27/2009	Planted/Cultivated	Pasture/Hay	0-20	2.6
C-328114	7532		34.8042	-85.4684	2/27/2009	Planted/Cultivated	Pasture/Hay	0-5	2.7
C-328151	11680	GA	31.1163	-82.5787	3/9/2009	Planted/Cultivated	Row crops	0-30	1.1
C-328108	11680		31.1163	-82.5787	3/9/2009	Planted/Cultivated	Row crops	0-5	1.1
C-328195	3488	GA	31.4615	-82.5845	3/7/2009	Planted/Cultivated	Row crops	0-20	1.5
C-327995	3488		31.4615	-82.5845	3/7/2009	Planted/Cultivated	Row crops	0-5	1.4
C-328215	8864	GA	31.6333	-83.6128	3/10/2009	Planted/Cultivated	Row crops	0-30	1.5
C-328036	8864		31.6333	-83.6128	3/10/2009	Planted/Cultivated	Row crops	0-5	1.1
C-328143	4640	GA	31.7366	-84.6235	3/10/2009	Planted/Cultivated	Row crops	0-20	9
C-328099	4640		31.7366	-84.6235	3/10/2009	Planted/Cultivated	Row crops	0-5	11.7
C-328056	1888	GA	31.9367	-82.8017	3/7/2009	Planted/Cultivated	Row crops	0-20	0.8
C-328121	1888		31.9367	-82.8017	3/7/2009	Planted/Cultivated	Row crops	0-5	0.8
C-328150	11104	GA	32.0406	-83.1038	3/7/2009	Planted/Cultivated	Row crops	0-15	3.5
C-328107	11104		32.0406	-83.1038	3/7/2009	Planted/Cultivated	Row crops	0-5	2.4
C-328048	6096	GA	32.2387	-84.5338	3/6/2009	Planted/Cultivated	Row crops	0-30	1.5
C-328113	6096		32.2387	-84.5338	3/6/2009	Planted/Cultivated	Row crops	0-5	0.8
C-328140	3024	GA	32.3189	-84.2203	3/6/2009	Planted/Cultivated	Row crops	0-25	3.2
C-328096	3024		32.3189	-84.2203	3/6/2009	Planted/Cultivated	Row crops	0-5	3.1
C-328211	10848	GA	33.1445	-82.5223	3/4/2009	Planted/Cultivated	Row crops	0-25	1.2
C-328032	10848		33.1445	-82.5223	3/4/2009	Planted/Cultivated	Row crops	0-5	1.4

	A	B
	Horizon A and B	d_Horizon A and B
1		
2	1.2	1
3	1	1
4	3.8	1
5	4.1	1
6	6.6	1
7	2.8	1
8	2.9	1
9	3	1
10	23.9	1
11	26.7	1
12	1.8	1
13	2.5	1
14	1.1	1
15	1.1	1
16	0.9	1
17	1.1	1
18	1.1	1
19	1.1	1
20	0.6	0
21	0.6	0
22	1	1
23	1.2	1
24	0.9	1
25	0.7	1
26	2.8	1
27	2.1	1
28	1.9	1
29	1.4	1
30	1.5	1
31	1.6	1
32	1.1	1
33	0.8	1
34	3.6	1
35	3.2	1
36	1.5	1
37	1.6	1
38	2.7	1
39	3	1
40	0.9	1
41	1.1	1
42	1.5	1
43	1.7	1
44	8	1
45	8.5	1
46	6	1
47	6.5	1
48	0.6	0
49	0.6	0
50	2.6	1
51	2.2	1
52	1	1
53	0.6	0
54	0.8	1
55	0.7	1
56	3.5	1
57	3.9	1
58	0.6	0
59	1.1	1
60	2.4	1
61	3	1
62	5.6	1
63	0.9	1
64	1.1	1

	A	B
65	1.7	1
66	2.9	1
67	1.6	1
68	2.2	1
69	3.8	1
70	3.5	1
71	1.1	1
72	1.1	1
73	0.9	1
74	1.5	1
75	1.3	1
76	1.1	1
77	2.5	1
78	0.7	1
79	1.5	1
80	1.3	1
81	0.7	1
82	0.7	1
83	1.2	1
84	1.2	1
85	2.9	1
86	1.7	1
87	0.9	1
88	1	1
89	0.9	1
90	0.9	1
91	0.9	1
92	0.6	1
93	1.1	1
94	0.6	0
95	2	1
96	2.2	1
97	2.5	1
98	2.2	1
99	0.8	1
100	0.9	1
101	2.7	1
102	2.6	1
103	2.4	1
104	1.2	1
105	4.6	1
106	4.2	1
107	1.6	1
108	1.4	1
109	3	1
110	1.5	1
111	2	1
112	1.6	1
113	6.7	1
114	7.1	1
115	4.2	1
116	4.3	1
117	0.9	1
118	0.6	1
119	1	1
120	0.9	1
121	1.3	1
122	1.2	1
123	1.5	1
124	1.6	1
125	1.4	1
126	1.8	1
127	1.8	1
128	2.1	1
129	0.9	1

	A	B
130	1	1
131	2.4	1
132	0.9	1
133	2.2	1
134	0.9	1
135	1.9	1
136	2.4	1
137	0.6	0
138	0.6	0
139	2.2	1
140	1.8	1
141	1.6	1
142	1.8	1
143	3.5	1
144	2.7	1
145	2.5	1
146	3.4	1
147	3.3	1
148	3.3	1
149	2.1	1
150	2.6	1
151	2.4	1
152	0.7	1
153	1.2	1
154	1.4	1
155	1.2	1
156	2.9	1
157	2.6	1
158	1.5	1
159	1.8	1
160	5.1	1
161	5.4	1
162	6.8	1
163	8.9	1
164	6.3	1
165	2.6	1
166	2.7	1
167	1.1	1
168	1.1	1
169	1.5	1
170	1.4	1
171	1.5	1
172	1.1	1
173	9	1
174	11.7	1
175	0.8	1
176	0.8	1
177	3.5	1
178	2.4	1
179	1.5	1
180	0.8	1
181	3.2	1
182	3.1	1
183	1.2	1
184	1.4	1

	A	B	C	D	E	F	G	H	I	J	K	L
1				Background Statistics for Data Sets with Non-Detects								
2	User Selected Options											
3	Date/Time of Computation			ProUCL 5.2 1/8/2026 4:21:41 PM								
4	From File			WorkSheet_b.xls								
5	Full Precision			OFF								
6	Confidence Coefficient			95%								
7	Coverage			95%								
8	Different or Future K Observations			1								
9	Number of Bootstrap Operations			2000								
10												
11	Horizon A and B											
12												
13	General Statistics											
14	Total Number of Observations				183	Number of Missing Observations				0		
15	Number of Distinct Observations				53							
16	Number of Detects				174	Number of Non-Detects				9		
17	Number of Distinct Detects				53	Number of Distinct Non-Detects				1		
18	Minimum Detect				0.6	Minimum Non-Detect				0.6		
19	Maximum Detect				26.7	Maximum Non-Detect				0.6		
20	Variance Detected				9.412	Percent Non-Detects				4.918%		
21	Mean Detected				2.572	SD Detected				3.068		
22	Mean of Detected Logged Data				0.639	SD of Detected Logged Data				0.698		
23												
24	Critical Values for Background Threshold Values (BTVs)											
25	Tolerance Factor K (For UTL)				1.845	d2max (for USL)				3.405		
26												
27	Normal GOF Test on Detects Only											
28	Shapiro Wilk Test Statistic				0.534	Normal GOF Test on Detected Observations Only						
29	1% Shapiro Wilk P Value				0	Data Not Normal at 1% Significance Level						
30	Lilliefors Test Statistic				0.26	Lilliefors GOF Test						
31	1% Lilliefors Critical Value				0.0781	Data Not Normal at 1% Significance Level						
32	Data Not Normal at 1% Significance Level											
33												
34	Kaplan Meier (KM) Background Statistics Assuming Normal Distribution											
35	KM Mean				2.475	KM SD				3.013		
36	95% UTL95% Coverage				8.034	95% KM UPL (t)				7.47		
37	90% KM Percentile (z)				6.336	95% KM Percentile (z)				7.431		
38	99% KM Percentile (z)				9.485	95% KM USL				12.74		
39												
40	DL/2 Substitution Background Statistics Assuming Normal Distribution											
41	Mean				2.46	SD				3.031		
42	95% UTL95% Coverage				8.053	95% UPL (t)				7.485		
43	90% Percentile (z)				6.345	95% Percentile (z)				7.446		
44	99% Percentile (z)				9.512	95% USL				12.78		
45	DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons											
46												
47	Gamma GOF Tests on Detected Observations Only											
48	A-D Test Statistic				6.102	Anderson-Darling GOF Test						
49	5% A-D Critical Value				0.768	Data Not Gamma Distributed at 5% Significance Level						
50	K-S Test Statistic				0.128	Kolmogorov-Smirnov GOF						
51	5% K-S Critical Value				0.0714	Data Not Gamma Distributed at 5% Significance Level						
52	Data Not Gamma Distributed at 5% Significance Level											

	A	B	C	D	E	F	G	H	I	J	K	L
53												
54	Gamma Statistics on Detected Data Only											
55	k hat (MLE)					1.784	k star (bias corrected MLE)					1.757
56	Theta hat (MLE)					1.442	Theta star (bias corrected MLE)					1.464
57	nu hat (MLE)					620.7	nu star (bias corrected)					611.3
58	MLE Mean (bias corrected)					2.572						
59	MLE Sd (bias corrected)					1.94	95% Percentile of Chisquare (2kstar)					8.687
60												
61	Gamma ROS Statistics using Imputed Non-Detects											
62	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
63	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
64	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
65	This is especially true when the sample size is small.											
66	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
67	Minimum					0.01	Mean					2.446
68	Maximum					26.7	Median					1.6
69	SD					3.042	CV					1.244
70	k hat (MLE)					1.111	k star (bias corrected MLE)					1.096
71	Theta hat (MLE)					2.202	Theta star (bias corrected MLE)					2.231
72	nu hat (MLE)					406.5	nu star (bias corrected)					401.2
73	MLE Mean (bias corrected)					2.446	MLE Sd (bias corrected)					2.336
74	95% Percentile of Chisquare (2kstar)					6.359	90% Percentile					5.506
75	95% Percentile					7.094	99% Percentile					10.76
76	The following statistics are computed using Gamma ROS Statistics on Imputed Data											
77	Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods											
78				WH	HW						WH	HW
79	95% Approx. Gamma UTL with 95% Coverage			7.55	8.136	95% Approx. Gamma UPL					6.715	7.13
80	95% Gamma USL			17.32	21.18							
81												
82	Estimates of Gamma Parameters using KM Estimates											
83	Mean (KM)					2.475	SD (KM)					3.013
84	Variance (KM)					9.079	SE of Mean (KM)					0.223
85	k hat (KM)					0.675	k star (KM)					0.667
86	nu hat (KM)					246.9	nu star (KM)					244.2
87	theta hat (KM)					3.669	theta star (KM)					3.709
88	80% gamma percentile (KM)					4.074	90% gamma percentile (KM)					6.282
89	95% gamma percentile (KM)					8.571	99% gamma percentile (KM)					14.06
90												
91	The following statistics are computed using gamma distribution and KM estimates											
92	Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods											
93				WH	HW						WH	HW
94	95% Approx. Gamma UTL with 95% Coverage			6.663	6.633	95% Approx. Gamma UPL					6.008	5.943
95	95% KM Gamma Percentile			5.964	5.898	95% Gamma USL					14.06	14.96
96												
97	Lognormal GOF Test on Detected Observations Only											
98	Shapiro Wilk Approximate Test Statistic					0.935	Shapiro Wilk GOF Test					
99	10% Shapiro Wilk P Value					5.1554E-9	Data Not Lognormal at 10% Significance Level					
100	Lilliefors Test Statistic					0.0955	Lilliefors GOF Test					
101	10% Lilliefors Critical Value					0.0618	Data Not Lognormal at 10% Significance Level					
102	Data Not Lognormal at 10% Significance Level											
103												
104	Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects											

	A	B	C	D	E	F	G	H	I	J	K	L
105	Mean in Original Scale					2.464	Mean in Log Scale					0.557
106	SD in Original Scale					3.029	SD in Log Scale					0.771
107	95% UTL95% Coverage					7.244	95% BCA UTL95% Coverage					8.36
108	95% Bootstrap (%) UTL95% Coverage					8.45	95% UPL (t)					6.27
109	90% Percentile (z)					4.691	95% Percentile (z)					6.208
110	99% Percentile (z)					10.5	95% USL					24.13
111												
112	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
113	KM Mean of Logged Data					0.582	95% KM UTL (Lognormal)95% Coverage					6.797
114	KM SD of Logged Data					0.723	95% KM UPL (Lognormal)					5.936
115	95% KM Percentile Lognormal (z)					5.881	95% KM USL (Lognormal)					21
116												
117	Background DL/2 Statistics Assuming Lognormal Distribution											
118	Mean in Original Scale					2.46	Mean in Log Scale					0.548
119	SD in Original Scale					3.031	SD in Log Scale					0.79
120	95% UTL95% Coverage					7.425	95% UPL (t)					6.405
121	90% Percentile (z)					4.759	95% Percentile (z)					6.34
122	99% Percentile (z)					10.86	95% USL					25.45
123	DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.											
124												
125	Nonparametric Distribution Free Background Statistics											
126	Data do not follow a Discernible Distribution											
127												
128	Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)											
129	Order of Statistic, r					178	95% UTL with95% Coverage					8.9
130	Approx, f used to compute achieved CC					1.561	Approximate Actual Confidence Coefficient achieved by UTL					0.899
131	Approximate Sample Size needed to achieve specified CC					181	95% UPL					6.78
132	95% USL					26.7	95% KM Chebyshev UPL					15.64
133												
134	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.											
135	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers											
136	and consists of observations collected from clean unimpacted locations.											
137	The use of USL tends to provide a balance between false positives and false negatives provided the data											
138	represents a background data set and when many onsite observations need to be compared with the BTV.											
139												