

Table 1

Summary of mean and median Pb $^{206}\text{Pb}/^{207}\text{Pb}$ ratios and Pb concentrations for specific mineral top, mineral bottom, organic top and organic bottom horizons at the 169 sites.

	Soil Horizon	Mean Top	Median Top	Mean Bottom	Median Bottom
$^{206}\text{Pb}/^{207}\text{Pb}$	Ap	1.177 ± 0.016 (42)	1.173	-	-
	Other A	1.174 ± 0.012 (21)	1.174	-	-
	All A	1.176 ± 0.014 (63)	1.173	1.277 ± 0.001 (1)	1.277
	E	1.190 ± 0.003 (1)	1.190	1.218 ± 0.092 (3)	1.174
	B	1.176 ± 0.003 (2)	1.176	1.217 ± 0.056 (22)	1.208
	BC	-	-	1.216 ± 0.043 (35)	1.202
	C	-	-	1.200 ± 0.033 (72)	1.193
	All mineral	1.176 ± 0.014 (66)	1.174	1.208 ± 0.042 (133)	1.196
Pb (mg kg⁻¹)	Ap	41 ± 55 (42)	24	-	-
	Other A	46 ± 35 (21)	37	8.9 (1)	8.9
	All A	42 ± 49 (63)	27	8.9 (1)	8.9
	E	11 (1)	11	9.1 ± 9.0 (3)	4.1
	B	17 ± 0 (2)	17	20 ± 28 (22)	7.3
	BC	-	-	9.5 ± 5.2 (35)	8.6
	C	-	-	13 ± 16 (72)	9.7
	All mineral	41 ± 48 (66)	27	13 ± 17 (133)	9.1
$^{206}\text{Pb}/^{207}\text{Pb}$	LF-FH	1.135 ± 0.011 (24)	1.136	-	-
	H	1.154 ± 0.012 (10)	1.154	-	-
	O	1.163 ± 0.011 (69)	1.164	1.175 ± 0.018 (36)	1.177
	All organic	1.156 ± 0.016 (103)	1.159	1.175 ± 0.018 (36)	1.177
Pb (mg kg⁻¹)	LF-FH	57 ± 56 (24)	43	-	-
	H	102 ± 108 (10)	52	-	-
	O	80 ± 103 (69)	42	7.5 ± 7.8 (36)	4.3
	All organic	77 ± 94 (103)	43	7.5 ± 7.8 (36)	4.3

Table 2

Mean $^{206}\text{Pb}/^{207}\text{Pb}$ ratio and mean difference in $^{206}\text{Pb}/^{207}\text{Pb}$ ratio for the paired organic top and organic bottom horizons by Ordnance Survey Zone

OS Zone	Number of Sites	Organic Top Horizon Mean $^{206}\text{Pb}/^{207}\text{Pb}$	Organic Bottom Horizon Mean $^{206}\text{Pb}/^{207}\text{Pb}$	Top – Bottom Mean Δ $^{206}\text{Pb}/^{207}\text{Pb}$
HU	1	1.165 ± 0.004	1.180 ± 0.006	-0.015 ± 0.007
HY	0	-	-	-
NB	5	1.163 ± 0.007	1.172 ± 0.030	-0.009 ± 0.029
NC	7	1.165 ± 0.021	1.186 ± 0.023	-0.022 ± 0.016
ND	1	1.158 ± 0.003	1.177 ± 0.004	-0.019 ± 0.005
NF	1	1.161 ± 0.006	1.142 ± 0.003	+0.019 ± 0.007
NG	1	1.154 ± 0.005	1.168 ± 0.005	-0.014 ± 0.007
NH	3	1.146 ± 0.001	1.170 ± 0.012	-0.024 ± 0.011
NJ	1	1.134 ± 0.006	1.178 ± 0.006	-0.044 ± 0.008
NK	0	-	-	-
NM	1	1.180 ± 0.005	1.190 ± 0.002	-0.010 ± 0.005
NN	4	1.159 ± 0.012	1.163 ± 0.015	-0.005 ± 0.008
NO	2	1.153 ± 0.025	1.183 ± 0.004	-0.030 ± 0.024
NR	2	1.163 ± 0.005	1.172 ± 0.004	-0.009 ± 0.005
NS	3	1.171 ± 0.007	1.169 ± 0.006	+0.002 ± 0.008
NT	2	1.159 ± 0.010	1.183 ± 0.004	-0.024 ± 0.009
NX	2	1.160 ± 0.004	1.184 ± 0.003	-0.024 ± 0.004
NY	0	-	-	-
All	36	1.160 ± 0.014	1.175 ± 0.018	-0.014 ± 0.018

Table 3 Mean $^{206}\text{Pb}/^{207}\text{Pb}$ ratio and mean difference in $^{206}\text{Pb}/^{207}\text{Pb}$ ratio for the paired organic top and mineral bottom horizons by Ordnance Survey Zone

OS Zone	Number of Sites	Organic Top Horizon Mean $^{206}\text{Pb}/^{207}\text{Pb}$	Mineral Bottom Horizon Mean $^{206}\text{Pb}/^{207}\text{Pb}$	Top – Bottom Mean Δ $^{206}\text{Pb}/^{207}\text{Pb}$
HU	0	-	-	-
HY	1	1.167 ± 0.004	1.188 ± 0.002	-0.021 ± 0.004
NB	0	-	-	-
NC	6	1.161 ± 0.006	1.173 ± 0.032	-0.012 ± 0.035
ND	3	1.166 ± 0.004	1.222 ± 0.051	-0.056 ± 0.047
NF	0	-	-	-
NG	4	1.158 ± 0.010	1.222 ± 0.033	-0.064 ± 0.023
NH	13	1.152 ± 0.018	1.261 ± 0.055	-0.109 ± 0.057
NJ	7	1.144 ± 0.021	1.223 ± 0.014	-0.080 ± 0.022
NK	1	1.130 ± 0.005	1.165 ± 0.002	-0.035 ± 0.005
NM	2	1.150 ± 0.004	1.170 ± 0.004	-0.021 ± 0.004
NN	13	1.150 ± 0.018	1.227 ± 0.054	-0.077 ± 0.061
NO	4	1.132 ± 0.006	1.181 ± 0.013	-0.049 ± 0.009
NR	2	1.165 ± 0.002	1.253 ± 0.034	-0.089 ± 0.032
NS	2	1.170 ± 0.004	1.229 ± 0.042	-0.059 ± 0.042
NT	7	1.155 ± 0.015	1.203 ± 0.022	-0.048 ± 0.021
NX	2	1.168 ± 0.007	1.182 ± 0.010	-0.014 ± 0.017
NY	0	-	-	-
All	67	1.153 ± 0.017	1.219 ± 0.048	-0.066 ± 0.050

Table 4

Mean $^{206}\text{Pb}/^{207}\text{Pb}$ ratio and mean difference in $^{206}\text{Pb}/^{207}\text{Pb}$ ratio for the paired mineral top and mineral bottom horizons by Ordnance Survey Zone

OS Zone	Number of Sites	Mineral Top Horizon Mean $^{206}\text{Pb}/^{207}\text{Pb}$	Mineral Bottom Horizon Mean $^{206}\text{Pb}/^{207}\text{Pb}$	Top – Bottom Mean Δ $^{206}\text{Pb}/^{207}\text{Pb}$
HU	1	1.186 ± 0.004	1.305 ± 0.005	-0.119 ± 0.006
HY	1	1.202 ± 0.005	1.206 ± 0.004	-0.004 ± 0.006
NB	0	-	-	-
NC	1	1.184 ± 0.006	1.199 ± 0.005	-0.015 ± 0.008
ND	1	1.195 ± 0.006	1.177 ± 0.003	$+0.018 \pm 0.007$
NF	0	-	-	-
NG	2	1.171 ± 0.004	1.204 ± 0.050	-0.033 ± 0.046
NH	2	1.180 ± 0.014	1.230 ± 0.037	-0.050 ± 0.023
NJ	10	1.193 ± 0.019	1.223 ± 0.036	-0.029 ± 0.023
NK	1	1.169 ± 0.004	1.192 ± 0.006	-0.023 ± 0.007
NM	4	1.177 ± 0.025	1.217 ± 0.064	-0.040 ± 0.039
NN	4	1.174 ± 0.008	1.192 ± 0.042	-0.018 ± 0.034
NO	9	1.174 ± 0.008	1.190 ± 0.011	-0.016 ± 0.010
NR	1	1.174 ± 0.004	1.147 ± 0.003	$+0.027 \pm 0.005$
NS	10	1.165 ± 0.005	1.176 ± 0.016	-0.011 ± 0.016
NT	11	1.175 ± 0.005	1.192 ± 0.009	-0.017 ± 0.010
NX	5	1.168 ± 0.006	1.190 ± 0.007	-0.022 ± 0.009
NY	3	1.167 ± 0.013	1.180 ± 0.010	-0.013 ± 0.011
All	66	1.176 ± 0.014	1.197 ± 0.033	-0.021 ± 0.025