

Data Dictionary

Field Name on Excel File	Field Definition
SD	Standard deviation of the replicates
Raman shift	Wavenumber of Raman scattering light shift, cm^{-1}
Observed spectrum intensity	Raman measurement intensity of SRM 1650, a.u.
EC mass	Elemental carbon mass measured by NIOSH method, μg
GC mass R1	Graphitic carbon mass of replicate measurement 1 using Raman method, μg
GC mass R2	Graphitic carbon mass of replicate measurement 2 using Raman method, μg
GC mass R3	Graphitic carbon mass of replicate measurement 3 using Raman method, μg
EC concentration	Elemental carbon concentration measured by NIOSH method, $\mu\text{g}/\text{m}^3$
GC concentration R1	Graphitic carbon concentration of replicate measurement 1 using Raman method, $\mu\text{g}/\text{m}^3$
GC concentration R2	Graphitic carbon concentration of replicate measurement 2 using Raman method, $\mu\text{g}/\text{m}^3$
GC concentration R3	Graphitic carbon concentration of replicate measurement 3 using Raman method, $\mu\text{g}/\text{m}^3$
Location	A location for sampling
Intensity R1	Intensity of replicate measurement 1, a.u.
Intensity R2	Intensity of replicate measurement 2, a.u.
Intensity R3	Intensity of replicate measurement 3, a.u.
Intensity of SRM 1650	Raman measurement intensity of standard reference material 1650, a.u.

Intensity of SRM 2975	Raman measurement intensity of aerosol sample from, a.u.
Intensity of aerosol from Ambulance diesel engine exhaust	Raman measurement intensity of aerosol sample from Ambulance diesel engine exhaust, a.u.
Intensity of aerosol from Fire truck diesel engine exhaust	Raman measurement intensity of aerosol sample from Fire truck diesel engine exhaust, a.u.
Intensity of aerosol from Potash mine 1	Raman measurement intensity of aerosol sample from Potash mine 1, a.u.
Intensity of aerosol from Potash mine 2	Raman measurement intensity of aerosol sample from Potash mine 2, a.u.
Intensity of aerosol from Limestone mine	Raman measurement intensity of aerosol sample from Limestone mine, a.u.
Intensity of aerosol from Metal (silver/lead/zinc) mine	Raman measurement intensity of aerosol sample from Metal (silver/lead/zinc) mine, a.u.
Intensity of aerosol from Fire station	Raman measurement intensity of aerosol sample from Fire station, a.u.
Intensity of aerosol from oil and gas extraction workplace	Raman measurement intensity of aerosol sample from oil and gas extraction workplace, a.u.
Average	Average of the replicates
Raman intensity with 42 mW	Intensity of Raman measurement with 42 mW laser power, a.u.
Raman intensity with 84 mW	Intensity of Raman measurement with 84 mW laser power, a.u.
Raman intensity with 168 mW	Intensity of Raman measurement with 168 mW laser power, a.u.
Raman intensity with 252 mW	Intensity of Raman measurement with 252 mW laser power, a.u.

Raman intensity with 336 mW	Intensity of Raman measurement with 336 mW laser power, a.u.
Raman intensity with 420 mW	Intensity of Raman measurement with 420 mW laser power, a.u.
1 minute	Intensity of Raman measurement after 1 min continuous irradiation of the same sample spot, a.u.
2 minutes	Intensity of Raman measurement after 2 min continuous irradiation of the same sample spot, a.u.
3 minutes	Intensity of Raman measurement after 3 min continuous irradiation of the same sample spot, a.u.
4 minutes	Intensity of Raman measurement after 4 min continuous irradiation of the same sample spot, a.u.
5 minutes	Intensity of Raman measurement after 5 min continuous irradiation of the same sample spot, a.u.
6 minutes	Intensity of Raman measurement after 6 min continuous irradiation of the same sample spot, a.u.
7 minutes	Intensity of Raman measurement after 7 min continuous irradiation of the same sample spot, a.u.
8 minutes	Intensity of Raman measurement after 8 min continuous irradiation of the same sample spot, a.u.
9 minutes	Intensity of Raman measurement after 9 min continuous irradiation of the same sample spot, a.u.

10 minutes	Intensity of Raman measurement after 10 min continuous irradiation of the same sample spot, a.u.
11 minutes	Intensity of Raman measurement after 11 min continuous irradiation of the same sample spot, a.u.
12 minutes	Intensity of Raman measurement after 12 min continuous irradiation of the same sample spot, a.u.