Name	Formula	ρ_{log} (g/cm³)	ϕ_{SNP} (p.u.)	ϕ_{CNL} (p.u.)	ϕ_{APS}† (p.u.)	Δt_c (μs/ft)	Δt_s (μs/ft)	Pe	U	ε (farad/m)	t_p (ns/m)	Gamma Ray (gAPI Units)	Σ (c.u.)
Silicates													
Quartz	SiO_2	2.64	–1	–2	–1	56.0	88.0	1.8	4.8	4.65	7.2		4.3
β-cristobalite	SiO_2	2.15	–2	–3				1.8	3.9				3.5
Opal (3.5% H_2O)	$SiO_2(H_2O)_{0.1209}$	2.13	4	2		58		1.8	3.7				5.0
Garnet‡	$Fe_3Al_2(SiO_4)_3$	4.31	3	7				11	48				45
Hornblende‡	$Ca_2NaMg_2Fe_2AlSi_8O_{22}(O,OH)_2$	3.20	4	8		43.8	81.5	6.0	19				18
Tourmaline	$NaMg_3Al_6B_3Si_6O_2(OH)_4$	3.02	16	22				2.1	6.5				7450
Zircon	$ZrSiO_4$	4.50	–1	–3				69	311				6.9
Carbonates													
Calcite	$CaCO_3$	2.71	0	0	0	49.0	88.4	5.1	13.8	7.5	9.1		7.1
Dolomite	$CaCO_3MgCO_3$	2.85	2	1	1	44.0	72	3.1	9.0	6.8	8.7		4.7
Ankerite	$Ca(Mg,Fe)(CO_3)_2$	2.86	0	1				9.3	27				22
Siderite	$FeCO_3$	3.89	5	12	3	47		15	57	6.8–7.5	8.8–9.1		52
Oxidates													
Hematite	Fe_2O_3	5.18	4	11		42.9	79.3	21	111				101
Magnetite	Fe_3O_4	5.08	3	9		73		22	113				103
Goethite	FeO(OH)	4.34	50+	60+				19	83				85
Limonite‡	$FeO(OH)(H_2O)_{2.05}$	3.59	50+	60+		56.9	102.6	13	47	9.9–10.9	10.5–11.0		71
Gibbsite	$Al(OH)_3$	2.49	50+	60+				1.1					23
Phosphates													
Hydroxyapatite	$Ca_5(PO_4)_3OH$	3.17	5	8		42		5.8	18				9.6
Chlorapatite	$Ca_5(PO_4)_3Cl$	3.18	–1	–1		42		6.1	19				130
Fluorapatite	$Ca_5(PO_4)3F$	3.21	–1	–2		42		5.8	19				8.5
Carbonapatite	$(Ca_5(PO_4)_3)2CO_3H_2O$	3.13	5	8				5.6	17				9.1
Feldspars—Alkali‡													
Orthoclase	$KAlSi_3O_8$	2.52	–2	–3		69		2.9	7.2	4.4–6.0	7.0–8.2	~220	16
Anorthoclase	$KAlSi_3O_8$	2.59	–2	–2				2.9	7.4	4.4–6.0	7.0–8.2	~220	16
Microcline	$KAlSi_3O_8$	2.53	–2	–3				2.9	7.2	4.4–6.0	7.0–8.2	~220	16
Feldspars—Plagioclase‡													
Albite	$NaAlSi_3O_8$	2.59	–1	–2	–2	49	85	1.7	4.4	4.4–6.0	7.0–8.2		7.5
Anorthite	$CaAl_2Si_2O_8$	2.74	–1	–2		45		3.1	8.6	4.4–6.0	7.0–8.2		7.2
Micas‡													
Muscovite	$KAl_2(Si_3AlO_{10})(OH)_2$	2.82	12	~20	~13	49	149	2.4	6.7	6.2–7.9	8.3–9.4	~270	17
Glauconite	$K_{0.7}(Mg,Fe_2,Al)(Si_4,Al_{10})O_2(OH)$	2.86		~38	~15			4.8	14				21
Biotite	$K(Mg,Fe)_3(AlSi_3O_{10})(OH)_2$	~2.99	~11	~21	~11	50.8	224	6.3	19	4.8–6.0	7.2–8.1	~275	30
Phlogopite	$KMg_3(AlSi_3O_{10})(OH)_2$					50	207						33

†APS* Accelerator Porosity Sonde porosity derived from near-to-array ratio (APLC)

‡Mean value, which may vary for individual samples

For more information, see Reference 41.

Name	Formula	ρ_{log} (g/cm³)	ϕ_{SNP} (p.u.)	ϕ_{CNL} (p.u.)	ϕ_{APS}† (p.u.)	Δt_c (μs/ft)	Δt_s (μs/ft)	Pe	U	ε (farad/m)	t_p (ns/m)	Gamma Ray (gAPI Units)	Σ (c.u.)
Clays‡													
Kaolinite	$Al_4Si_4O_{10}(OH)_8$	2.41	34	~37	~34			1.8	4.4	~5.8	~8.0	80–130	14
Chlorite	$(Mg,Fe,Al)_6(Si,Al)_4O_{10}(OH)_8$	2.76	37	~52	~35			6.3	17	~5.8	~8.0	180–250	25
Illite	$K_{1-1.5}Al_4(Si_{7-6.5},Al_{1-1.5})O_{20}(OH)_4$	2.52	20	~30	~17			3.5	8.7	~5.8	~8.0	250–300	18
Montmorillonite	$(Ca,Na)_7(Al,Mg,Fe)_4(Si,Al)_8O_{20}(OH)_4(H_2O)_n$	2.12		~60	~60			2.0	4.0	~5.8	~8.0	150–200	14
Evaporites													
Halite	NaCl	2.04	–2	–3	21	67.0	120	4.7	9.5	5.6–6.3	7.9–8.4		754
Anhydrite	$CaSO_4$	2.98	–1	–2	2	50		5.1	15	6.3	8.4		12
Gypsum	$CaSO_4(H_2O)_2$	2.35	50+	60+	60	52		4.0	9.4	4.1	6.8		19
Trona	$Na_2CO_3NaHCO_3H_2O$	2.08	24	35		65		0.71	1.5				16
Tachhydrite	$CaCl_2(MgCl_2)_2(H_2O)_{12}$	1.66	50+	60+		92		3.8	6.4				406
Sylvite	KCl	1.86	–2	–3				8.5	16	4.6–4.8	7.2–7.3	500+	565
Carnalite	$KClMgCl_2(H_2O)_6$	1.57	41	60+				4.1	6.4			~220	369
Langbeinite	$K_2SO_4(MgSO_4)_2$	2.82	–1	–2				3.6	10			~290	24
Polyhalite	$K_2SO_4MgSO_4(CaSO_4)_2(H_2O)_2$	2.79	14	25				4.3	12			~200	24
Kainite	$MgSO_4KCl(H_2O)_3$	2.12	40	60+				3.5	7.4			~245	195
Kieserite	$MgSO_4(H_2O)$	2.59	38	43				1.8	4.7				14
Epsomite	$MgSO_4(H_2O)_7$	1.71	50+	60+				1.2	2.0				21
Bischofite	$MgCl_2(H_2O)_6$	1.54	50+	60+		100		2.6	4.0				323
Barite	$BaSO_4$	4.09	–1	–2				267	1090				6.8
Celestite	$SrSO_4$	3.79	–1	–1				55	209				7.9
Sulfides													
Pyrite	FeS_2	4.99	–2	–3		39.2	62.1	17	85				90
Marcasite	FeS_2	4.87	–2	–3				17	83				88
Pyrrhotite	Fe_7S_8	4.53	–2	–3				21	93				94
Sphalerite	ZnS	3.85	–3	–3				36	138	7.8–8.1	9.3–9.5		25
Chalcopyrite	$CuFeS_2$	4.07	–2	–3				27	109				102
Galena	PbS	6.39	–3	–3				1,630	10,400				13
Sulfur	S	2.02	–2	–3		122		5.4	11				20
Coals													
Anthracite	$CH_{0.358}N_{0.009}O_{0.022}$	1.47	37	38		105		0.16	0.23				8.7
Bituminous	$CH_{0.793}N_{0.015}O_{0.078}$	1.24	50+	60+		120		0.17	0.21				14
Lignite	$CH_{0.849}N_{0.015}O_{0.211}$	1.19	47	52		160		0.20	0.24				13

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For more information, see Reference 41.