

Supplementary data sets for the Rock Physics Handbook, 3rd Edition

Described below are data files representative of the plots in Figures A1.x.x in the Appendix.

Figures A1.1a-f. Shaly Sandstones

Dry and water-saturated ultrasonic velocities in consolidated sandstones, plotted versus porosity, clay volume fraction, and effective pressure. De-Hua Han (1986). File extension .mat indicates Matlab data format, variable type “table.” File extension .txt indicates ascii format.

Han_dry.txt	Han_dry.mat
Han_sat.txt	Han_sat.mat

Figures A1.2a-e. Shaly Sandstones. Porosity, permeability, electrical conductivity, and brine-saturated ultrasonic velocities in shaly sandstones, plotted versus porosity, clay volume fraction, and effective pressure. Saturated with sodium chloride 35g/l. Conductivity measured at 440 Hz. Tongchen Han (2010). File extension .mat indicates Matlab data format, variable type “table.” File extension .txt indicates ascii format.

tHan_Vp.txt	tHan_Vp.mat
tHan_Vs.txt	tHan_Vs.mat
tHan_conductivity.txt	tHan_conductivity.mat
tHan_PoroPerm.txt	tHan_PoroPerm.mat

Figures A1.3a-f. Shaly Sandstones from Oseberg. Porosity and dry and water-saturated ultrasonic V_p and V_s . Sverre Strandenes, Rock Physics Analysis of the Brent Group Reservoir in the Oseberg Field, SRB Special Report, Stanford University. File extension .mat indicates Matlab data format, variable type “table.” File extension .txt indicates ascii format.

strand_Vpdry.txt	strand_Vpdry.mat
strand_Vpsat.txt	strand_Vpsat.mat
strand_Vsdry.txt	strand_Vsdry.mat
strand_Vssat.txt	strand_Vssat.mat

Figures A1.4a-f. Weakly Consolidated Sandstones from the Troll field. Ultrasonic velocities plotted versus porosity and effective pressure for dry and saturated rocks. J.P. Blangy (1992). File extension .mat indicates Matlab data format, variable type “table.” File extension .txt indicates ascii format.

blangy.txt	blangy.mat
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Figures A1.5a-d. Shaly Sandstones. Ultrasonic V_p and Q_p versus porosity and clay. Water-saturated at 40 MPa effective pressure. T. Klimentos and C. McCann (1990). File extension .mat indicates Matlab data format, variable type “table.” File extension .txt indicates ascii format.

klim.txt	klim.mat
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Figures A1.6a-f. Sand-Clay Mixtures. Porosity, permeability and dry and saturated ultrasonic V_p and V_s for water-saturated mixtures of clean Ottawa sand and kaolinite powder while uploading pressure. Labels on curves refer to effective pressure in MPa. Gas permeability is taken at nominally zero effective pressure. Yin (1992). File extension .mat indicates Matlab data format, variable type “table.” File extension .txt indicates ascii format.

yinperm.txt	yinperm.mat
yinphi.txt	yinphi.mat
vpdry.txt	vsdry.mat
vsdry.txt	vsdry.mat
vssat.txt	vssat.mat

Figures A1.7a-f. Unconsolidated Pomponio Beach Sand. Ultrasonic velocities of dry and water-saturated unconsolidated sand. Arrows indicate loading and unloading cycles of effective pressure. Zimmer (2003). File extension .mat indicates Matlab data format, variable type “table.” File extension .txt indicates ascii format.

zimpomp.txt	zimpomp.mat
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Figures A1.8a-d. Carbonates. Porosity, permeability, and ultrasonic velocity in water-saturated carbonates. Pore types according to the Choquette and Pray classification system are noted by the gray scale. IP: interparticle; WP: intraparticle; ; IX: intercrystal; VUG: vuggy; MO: Moldic. Dominant mineralogy (calcite or dolomite) is indicated by dot size. Weger (2006). File extension .mat indicates Matlab data format, variable type “table.” File extension .txt indicates ascii format.

Weger.txt	Weger.mat
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Figures A1.9a-b. Electrical Conductivity of Shaly Sandstones. Brine-saturated electrical conductivity. Vertical axis is effective electrical conductivity. Labels on curves indicate conductivity of different pore fluids. F is formation factor. Waxman and Smits (1968). File extension .mat indicates Matlab data format, variable type “table.” File extension .txt indicates ascii format.

wsbl.txt	wsbl.mat
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Figures FA1.10a-f. Ultrasonic measurements on room-dry Niobrara shales. Ro is vitrinite reflectance. Epsilon, gamma, and delta are the Thomsen (1986) parameters. TOC is total organic content. Data compiled from: Vernik (1993, 1994, 2016), Vernik and Landis (1996). File extension .mat indicates Matlab data format, variable type “table.” File extension .txt indicates ascii format.

vernik_nio.txt

vernik_nio.mat

Figures FA1.11a-f. Ultrasonic measurements on room-dry Bakken shales. Ro is vitrinite reflectance. Epsilon, gamma, and delta are the Thomsen (1986) parameters. TOC is total organic content. Data compiled from: Vernik (1993, 1994, 2016), Vernik and Landis (1996). File extension .mat indicates Matlab data format, variable type “table.” File extension .txt indicates ascii format.

vernik_bak.txt

vernik_bak.mat

Figures A1.12a-f. Various Mudrocks Ultrasonic velocity measurements on room-dry mudrocks at high effective pressure (50-70 MPa). Kerogen is in volume fraction. Density is bulk density (g/cm^3). Epsilon, gamma, and delta are the Thomsen (1986) parameters. Data compiled by Vernik (2016) from sources: Vernik and Liu (1997), Sondergeld et al. (2000), Lo et al. (1986), Hornby (1998), Tosaya (1982), Johnston and Christensen (1995). File extension .mat indicates Matlab data format, variable type “table.” File extension .txt indicates ascii format.

vernik_baz.txt

vernik_baz.mat