

SUPPLEMENTARY MATERIAL FOR

Groundwater flow model along a vertical profile of the Sardas landfill in Sabiñánigo, Spain

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Table S1. Measured and calculated hydraulic heads in the boreholes located along the profile. The mean measured head is the average of the available data in each borehole. The residual is the difference between the calculated and the measured heads.

Borehole	Mean measured head (m)	Computed steady-state head (m)	Residual (m)
SE21 - Reservoir	764.91	764.96	0.05
PS26 - Gravels	765.06	765.04	-0.01
PS26B - Marls	765.02	765.04	0.02
SPN5 - Gravels	765.05	765.05	0.00
PS21 - Marls	765.04	765.06	0.02
PS21B - Gravels	765.03	765.06	0.02
PS14 - Gravels	765.10	765.07	-0.03
PS14L - Gravels	765.05	765.07	0.02
PS19B - Gravels	765.10	765.07	-0.03
PS19C - Silts	767.79	767.17	-0.63
PS5D - Gravels	765.02	765.07	0.05
PS5E - Silts	766.59	766.44	-0.15
PS5F - Silts	769.08	769.47	0.38
PS5G - Gravels	765.07	765.07	0.00
PS7C - Silts	772.87	772.87	0.00
PS29 - Deep marls	773.89	773.19	-0.70
PS29B - Shallow marls	774.16	773.91	-0.26
PS29C - Wastes spread out	774.04	774.64	0.61
S44D - Wastes spread out	778.45	778.00	-0.44
S37B - Landfill wastes	779.15	779.67	0.52
S37 - Landfill wastes	787.29	788.07	0.78
S39B - Landfill wastes	789.02	789.36	0.34
S39M - Landfill wastes	792.13	790.37	-1.76
S39G - Landfill wastes	791.79	791.27	-0.52
S39L - Landfill wastes	792.10	792.28	0.19
S39F - Landfill wastes	791.89	793.30	1.41
S35E - Deep marls	802.15	802.89	0.74
Average absolute residual			0.3592
Root mean square error normalized by the standard deviation			0.0486
Nash-Sutcliffe index			0.9972

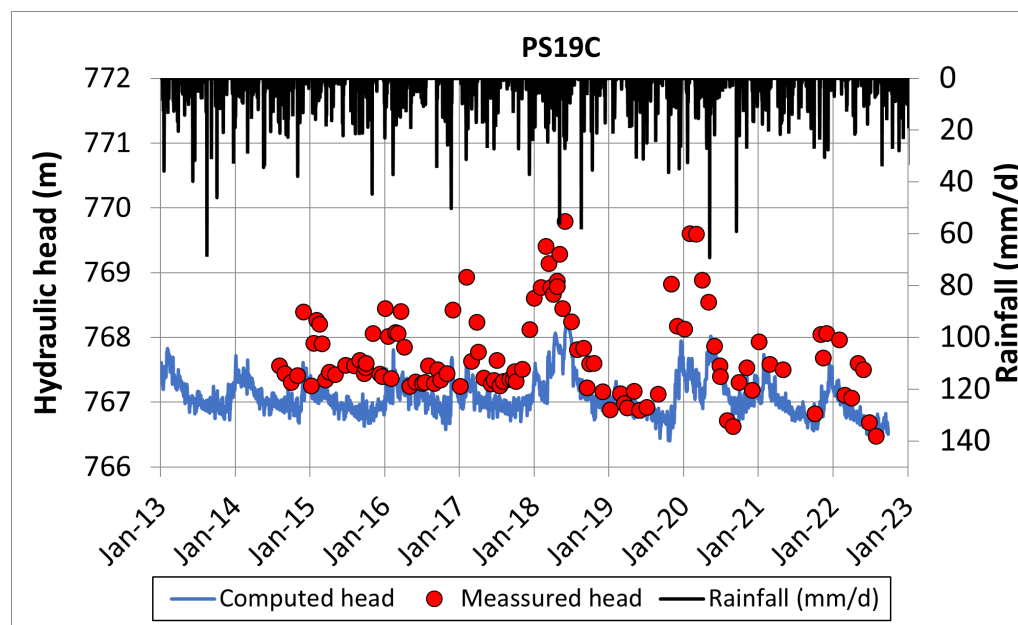


Figure S1. Measured and computed hydraulic heads (left axis) in borehole PS19C screened in silts and daily rainfall (right axis) from January 2013 to September 2022.

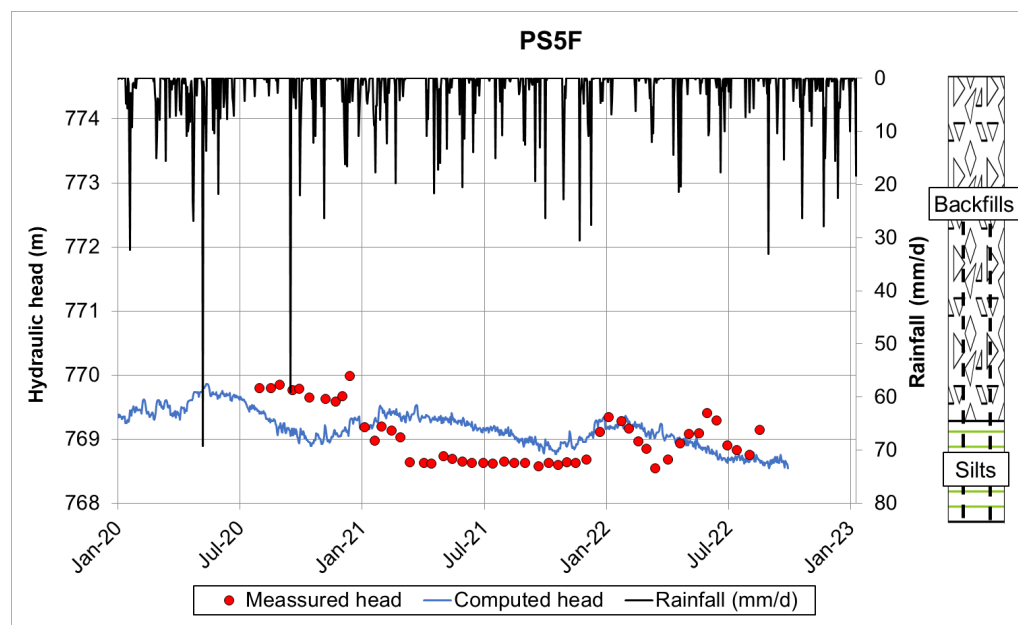


Figure S2. Measured and computed hydraulic heads (left axis) in borehole PS5F screened in backfill and daily rainfall (right axis) from January 2013 to September 2022. Also shown the schematic lithology of PS5F borehole. Dashed lines indicate the screened section of the borehole.