

											Spreadsheet to calculate permeability from grain size analysis													
											from Trenter NA, a note on the estimation of permeability of granular soil., pp383-388, QJEG vol 32 Nov 1999													
											Hazen													
											Constant													
											0.01													
values in red are input values																								
Grain size	% passing																							
mm	TP01/17	TP02/17	TP03/17	TP03/17	TP04/17	TP06/17	TP08/17	TP08/17	TP09/17	TP09/17	TP01/17	TP02/17	TP03/17	TP03/17	TP04/17	TP06/17	TP08/17	TP08/17	TP09/17	TP09/17				
0.063	2	9	4	3	15	10	4	3	25	16	diam lower than D10	0.250	0.063	0.250	0.250	#N/A	0.063	0.250	0.250	#N/A	#N/A			
0.125	3	12	5	4	19	16	6	5	40	22	diam higher than D10	0.500	0.125	0.500	0.500	#N/A	0.125	0.500	0.500	#N/A	#N/A			
0.25	6	17	10	8	24	29	9	7	47	26	D10	0.350	0.084	0.250	0.313	0.063	0.063	0.292	0.375	0.063	0.063	Note: Taylor (1948) notes that Hazen is only valid where D10 >0.1 & <3 mm. Results outside this range presented in red. Also D60/D10 ratio must be less than 5. For some results D10 < 0.063 mm (highlighted in green). For these		
0.5	16	22	16	16	33	36	15	13	64	32	diam lower than D60	8.000	8.000	8.000	8.000	8.000	6.300	8.000	8.000	0.250	8.000			
1	19	25	18	18	36	39	16	15	68	35	diam higher than D60	10.000	10.000	10.000	10.000	10.000	8.000	10.000	10.000	0.500	10.000			
2	22	27	20	20	39	42	17	16	70	37	D60	9.786	9.565	9.714	9.400	8.414	7.717	9.526	9.935	0.441	8.783	Min	average	Max
2.8	26	33	24	25	41	47	20	20	73	41	k (m/s)	0.001225	7.00011E-05	0.000625	0.000977	3.97E-05	0.00003969	0.000851	0.001406	3.97E-05	3.97E-05	3.97E-05	5.31E-04	1.41E-03
4	26	33	24	25	41	47	20	20	73	41	K (m/d)	105.84	6.05	54.00	84.38	3.43	3.43	73.50	121.50	3.43	3.43	3.428	45.90	121.50
6.3	30	38	30	32	48	55	25	24	77	46	ratio D60/D10	27.95918	114.3253075	38.85714	30.08	133.5523	122.486772	32.66165	26.49462	7.002801	139.4065			
8	35	42	36	39	54	61	31	30	79	51														
10	63	65	64	69	83	83	69	61	92	74														
14	63	65	64	69	83	83	69	61	92	74														
16	63	65	64	69	83	83	69	61	92	74														
20	73	76	75	80	90	89	82	75	94	83														
31.5	90	88	88	95	97	98	96	90	99	92														
37.5	93	91	96	97	97	99	99	92	100	100														
63	100	100	100	100	100	100	100	100	100	100														
75	100	100	100	100	100	100	100	100	100	100														
											Results in blue from TP09 which is closest to NW corner													