	Gravity Specific	lb. per cu. foot	Weights lb. per cu. Yard	lb. per cu. Gal.	Attachment "A" 25% H2O	50% H2O	75% H2O	100% H2O
Earth, loam	1.25	78	2,106	10.4	9.9	9.36	8.83	8.3
Earth, mois	1.44	90	2,430	12	11.1	10.17	9.23	8.3
Sand, loos	1.44	90	2,430	12	11.1	10.17	9.23	8.3
Caliche	1.44	90	2,430	12	11.1	10.17	9.23	8.3
Earth, pack	1.52	95	2,565	12.7	11.6	10.5	9.4	8.3
Earth, wet,	1.6	100	2,700	13.4	12.1	10.83	9.57	8.3
Sand, dry	1.6	100	2,700	13.4	12.1	10.83	9.57	8.3
Clay, wet lu	1.6	100	2,943	13.4	12.1	10.83	9.57	8.3
Sand, ramr	1.68	105	2,835	14	12.6	11.17	9.73	8.3
Gravel, dry	1.68	105	2,835	14	12.6	11.17	9.73	8.3
Earth, soft	1.73	108	2,916	14.4	12.9	11.37	9.83	8.3
Sand and (	1.73	108	2,916	14.4	12.9	11.37	9.83	8.3
Clay, Wet e	1.83	114	3,078	15.2	13.51	11.77	10.04	8.3
Sand, wate	1.92	120	3,240	16	14.11	12.17	10.24	8.3
Sand, wet	1.92	120	3,240	16	14.11	12.17	10.24	8.3
Earth, dens	2	125	3,375	16.7	14.61	12.51	10.4	8.3
Sand and (	2	125	3,375	16.7	14.61	12.51	10.4	8.3
Gravel, we	2	125	3,375	16.7	14.61	12.51	10.4	8.3
Sand, wet	2.08	130	3,510	17.4	15.11	12.84	10.57	8.3

Variables effecting volume of H2O required for excavation

1. Material type
2. Material purity
3. Compaction
4. Water content
5. PSI of water wand
6. GPM of water flow
7. CFM of vacuum
8. IN/HG of vacuum
9. Individual operator

* Source: Pocket Ref by Thomas J. Glover, Copyright 198901999, 2nd Edition, pg 427-436