American Hydrosoil RHA with Comparison to Typical Soil Amendment Samples

Sample	Bulk Density	Particle Size, um			BET	Water Absorption	Water Absorption
	lb/ft3	d10	d50	d90	m2/g	Ratio by weight	Ratio by Volume
American Hydrosoil RHA	15	40	125	270	35	3.10	0.85
Dallas Bonsai Calcined Clay	39.11	>841	>841	>841	83.9182	0.67	0.40
USA Gypsum	30.93	500	>841	>841	15.2845	0.74	0.34
Biochar	11.3	74	555	>841	291.3844	1.39	0.37
Greensand	87.28	140	283	438	44.6035	0.31	0.46
Bentonite	39.74	25	55	90	38.8041	0.68	0.54
Wollastonite MD200	47.28	150	267	362	1.5191	0.48	0.38
Wollastonite 5#	44.17	5.54	20.16	51.11	1.3487		
Zeolite	53.94	480	>841	>841	16.7951	0.55	0.49

Sample	Sample Bed Moisture Variation with time, hour								Soil Bed
	0	1	3	24	48	72	88	96	Moisture
American Hydrosoil RHA	75.63	74.88	74.52	73.22	70.54	69.85	68.69	68.28	0.069
Dallas Bonsai Calcined Clay	40.21	37.82	37.28	33.66	29.25	24.85	22.51	21.80	0.172
USA Gypsum	42.56	36.70	35.88	31.36	26.00	19.63	15.51	14.10	0.239
Biochar	58.17	57.27	56.99	53.59	48.82	45.29	42.21	40.75	0.174
Greensand	23.53	22.43	21.43	19.03	16.44	13.59	11.79	11.18	0.116
Bentonite	40.35	40.08	39.82	37.43	34.68	31.98	30.21	29.61	0.112
Wollastonite MD200	32.46	31.03	30.62	26.17	23.12	22.38	19.81	18.32	0.125
Wollastonite 5#									
Zeolite	35.55	32.00	31.43	30.97	24.82	22.39	20.06	18.92	0.141

Summary of the Results

1. PSD

The particle size from smallest to largest order is
Bentonite, American Hydrosoil RHA, Wollastonite, Greensand, USA Biochar, Zeolite, USA Gypsum, and
Calcined Clay The American Hydrosoil RHA has a relatively small particle size compared to commonly used soil amendment products.

2. BET

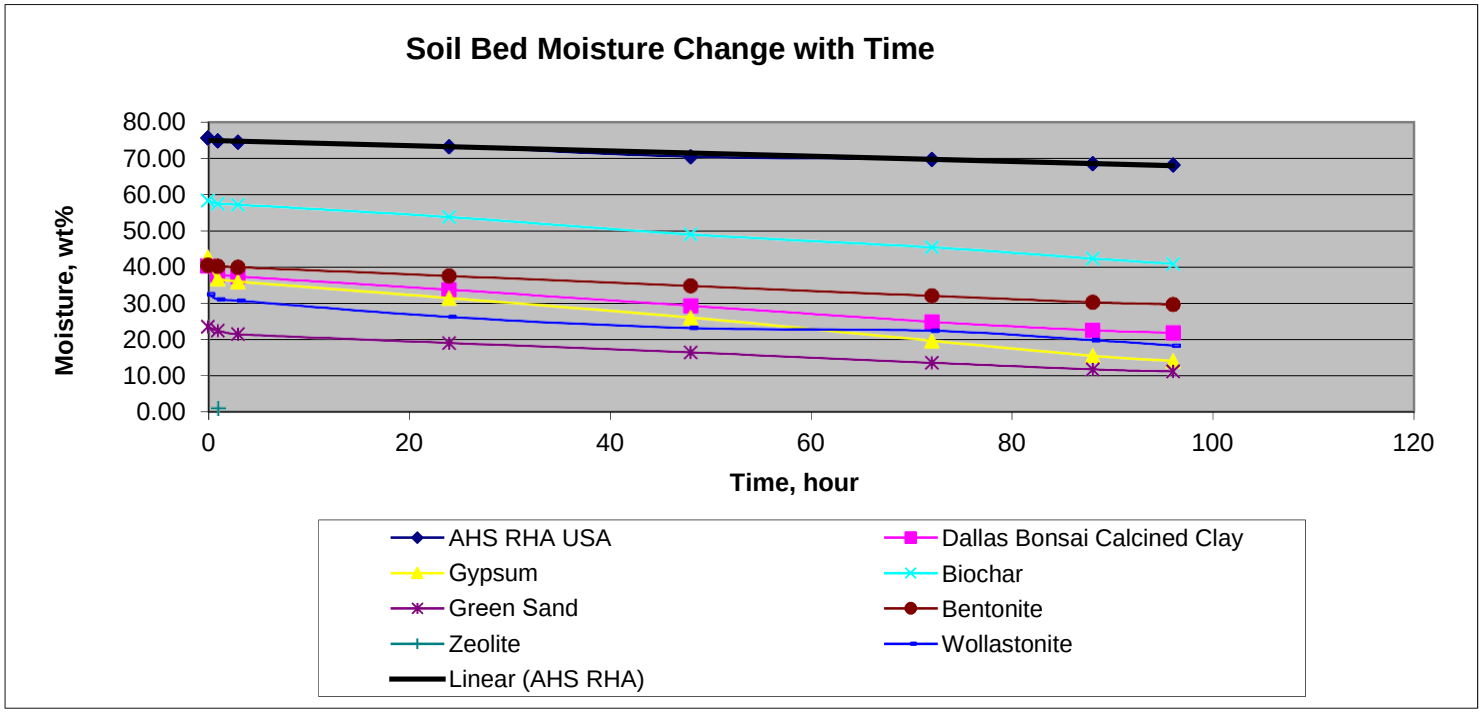
The BET surface area of Biochar is very high, and the Calcined Clay BET is relatively high. American Hydrosoil RHA, Bentonite and Greensand BET are close aound 30-40 m2/g. The US Gypsum and zeolite has lower BET about 15m2/g. The Wollastonite BET is suprisingly low.

3. Bulk Density
The American Hydrosoil RHA and Biochar has low bulk density, all other materials have high bulk density and are heavy materials

4. Water Absorption
Comparing the water absorption by either weight or volume, the American Hydrosoil RHA has the highest water absorption capability

5. Soil Bed Moisture Holding Capability

A soil bed moisture content variation with time curve is tested by obtaining bed average moisture content over time. The curve is shown in figure below:



Variation of moisture of each material behaves as straight line. Slopes of each straight liine indicates the rate the moisture is evaporating from the soil bed and are listed in the datasheet.
The lower the rate, the higher the capability the moisture is held in the soil bed.
Results show the American Hydrosoil RHA has the lowest moisture drying rate indicating that the American Hydrosoil soil bed has the highest moisture holding capability.