

# soil gravimetric processing

6/15:

Started processing these soils at about 1815 today -- rather late for samples taken about 1100, so might be a bit too dry.

Dry weights taken 21 hours later.

Comparison sensor measurements read by eye from WWW plot.

6/21: 1200

In both cases, should have driven the corer further in (collar was flush, but apparently had compacted) -- use 0-2cm in both cases. a.soil also still had some litter and b.soil had some roots.

6/26: 1015

A bit drier than before. Mike Daniels helped. I think we got the whole 3cm in the top sample, though the soil may have been compacted in the process.

7/3: 1015/1025

A bit wetter due to some rain last night. Note that the wetness profile probably isn't uniform, though Qsoils did show an uptick. b 0-3cm probably was compacted too much (too dense). Scales have been moved into base trailer (from AABC lab).

Date	Position	Tare (g) (g)	Wet (g) (g)	Dry (g) (g)	rho (g/cm^3)	Moist (%)	Moist (%) EC-5
6/15	soil.a 0-3cm	7.981	74.357	48.354	0.61	39.2	
6/15	soil.a 3-6cm	7.940	97.473	72.210	0.97	38.0	30
6/15	soil.b 0-3cm	7.945	90.836	67.464	0.90	35.2	
6/15	soil.b 3-6cm	7.991	98.365	78.623	1.06	29.7	23
6/21	soil.a 0-3cm	7.972	51.536	29.353	0.48	50.1	
6/21	soil.a 3-6cm	7.940	102.324	68.270	0.91	51.3	27
6/21	soil.b 0-3cm	7.927	59.973	42.641	0.78	39.1	
6/21	soil.b 3-6cm	7.987	74.350	55.189	0.71	28.8	25
6/26	soil.a 0-3cm	7.972	116.089	79.391	1.08	55.2	
6/26	soil.a 3-6cm	7.939	120.337	92.536	1.27	41.8	34
6/26	soil.b 0-3cm	7.926	78.270	59.924	0.78	27.6	
6/26	soil.b 3-6cm	7.984	103.500	84.423	1.15	28.7	21
7/3	soila 0-3cm	7.990	73.581	46.360	0.58	41.0	
7/3	soila 3-6cm	7.945	96.626	69.548	0.93	40.8	34
7/3	soilb 0-3cm	7.913	105.195	77.396	1.05	41.8	
7/3	soilb 3-6cm	7.986	103.252	83.068	1.13	30.4	22

```
tare = c(c(7.981,7.940,7.945,7.991),c(7.972,7.940,7.927,7.987),c(7.972,7.939,7.926,7.984),c(7.990,7.945,7.913,7.985))
```

```
wet = c(74.357,97.473,90.836,98.365,51.536,102.324,59.973,74.350,116.089,120.337,78.270,103.500,73.581,96.626,105.195,103.252)-tare
```

```
dry = c(48.354,72.210,67.464,78.623,29.353,68.270,42.641,55.189,79.391,92.536,59.924,84.423,46.360,69.548,77.396,83.068)-tare
```

```
vol = c(2,3)*pi*(5.31/2)^2
```

```
moist = 100*(wet-dry)/vol[c(2,2,2,2,1,2,1,2,2,2,2,2,2,2,2)]
```

```
rho = dry/vol[c(2,2,2,2,1,2,1,2,2,2,2,2,2,2,2)]
```

```
m = array(moist,c(2,2,4))
```

```
grav.moist = t(0.5*(m[1,,]+m[2,,]))
```

```
grav.comp = t(m[2,,])
```

```
ec5 = matrix(c(30,23,27,25,34,21,34,22),ncol=2,byrow=T)
```

```
matplot(grav.comp,ec5,xlim=c(0,60),ylim=c(0,60)); abline(0,1,lty=2); abline(-8,1,col=3,lty=2)
```