

pH

- weigh 5 g of sieved soil
- add 5 ml deionized water
- stir thoroughly ^{several times} over 15 minutes
- let stand 15 minutes
- measure pH
 - rinse electrode w/ deionized
 - place electrode near bottom of beaker

NOTES ON pH meter

- always turn to standby when taking electrode out of solution
- calibrate the meter periodically w/ pH 7.0 + 4.0 Buffers

Soil pH

Plot #	pH	date Plot #	comments pH
761	4.6	3/13	
53	4.9		
517	4.7		
699	4.8		
636	4.9		
657	4.3		
89	4.5		
554	4.8		
82	4.5		
69	4.3		
60	4.8		
1019	4.3		
500	4.7		
667	4.6		
504	4.6		
659	4.6		
771	4.7		
87	5.3		
54	5.0		
		3/15	

Soil pH

1110

Plot #	pH	Date
300	5.0	3/15

797	5.2	
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707	5.4	
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697	4.1	
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100	4.2	3/19
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147	4.5	
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799	5.0	
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502	4.4	
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1008	4.3	
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854	4.3	
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556	4.7	
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808	4.1	
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600	4.4	
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830	4.7	
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456	4.4	
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798	4.7	
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101 107	4.4	
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767	5.0	
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61	5.1	
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601	4.6	
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98	4.4	
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506	4.7	
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Plot #	pH	Date
407	4.7	3/19

702	4.5	
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698	4.7	
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805	4.6	
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637	4.7	
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565	4.5	
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664	4.0	
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602	4.3	
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1014	4.3	
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739	4.3	
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829	4.7	
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	4.5	
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<u>Plot #</u>	<u>pH</u>	<u>Date</u>	<u>Comments</u>
503	4.7	3/15	
93	5.1		
252 635	4.5 6.1		
634	4.5		
740	4.6		
809	4.1		
626	5.0		
1010	4.7		
639	4.4		
635	4.3		
617	4.6		
735	4.3		
75	4.6		
555	4.5		
107	4.8		
859	5.5		
598	4.8		
605	4.7		
826	4.3		
731	4.0		

CATION EXTRACTION

Test of leachate

5g soil

1	50 ml	overnite
2	25 ml	filtered
3	25 "	"
4	"	"
5	"	"

SHEET

PLOT #	Soil weight (g)	
	Gross	Net
82	5.55	0.61
69	5.60	0.62
59 53	5.59	0.59
60	5.59	0.58
89	5.58	0.59
504	5.62	0.63
761	5.57	0.58
636	5.57	0.57
771	5.59	0.60
1019	5.58	0.59
500	5.59	0.60
554	5.62	0.62
567	5.60	0.61
672	5.59	0.60
657	5.61	0.62
93	5.59	0.60
569	5.76	0.60
300	5.66	0.63
697	5.62	0.62

Extractions

PLOT #	Gross	Tare	Net
801	5.66	0.61	
598	5.59	0.60	
75	5.69	0.58	
735	5.57	0.60	
667	5.60	0.61	
707	5.57	0.57	
556	5.57 ⁵⁷ 5.58	0.58	
502	5.59 ⁵⁹ 5.60	0.60	
1008	5.56	0.57	
147	5.57	0.58	
808	5.58 ^{5.58}	0.61 ^{0.58}	
639	5.56	0.57	
699	5.55	0.57	
92	5.58	0.59	
826	5.55	0.56	
54	5.58	0.58	
702	5.57	0.58	
101	5.57	0.59	

3/19/85

Extractions

3/19/85

Plot #	Gross	Tare	Net
664	5.57	0.59	
739	5.61	0.62	
634	5.59	0.60	
87	5.57	0.58	
252	5.60	0.62	
635	5.58	0.59	
503	5.58	0.59	
659	5.60	0.60	

3/20/85

797	5.69	0.57	
506	5.69	0.58	
100	5.67	0.61	
698	5.62	0.57	
170	5.55	0.57	
799	5.60	0.59	
637	5.70	0.58	
98	5.60	0.60	
107	5.75	0.62	
829	5.60	0.60	

PLOT	GROSS	TARE
476	5.55	0.56
767	5.57	0.61
1010	5.60	0.58
61	5.57	0.57
809	5.70	0.56
605	5.56	0.59
407	5.63	0.57
798	5.60	0.57
456	5.68	0.59
1014	5.66	0.56
601	5.65	0.57
740	5.55	0.58
731	5.58	0.55
565	5.55	0.59
555	5.60	0.59
600	5.59	0.56
859	5.56	0.56

4
 75
 29
 675
 55
 325

Soil Organic Matter

- ~~a~~ label the crucible
- add $\approx 10g$ soil (after sterilizing the soil)
- place in drying oven for 2 hrs. minimum
- remove (one at a time) from drying oven and weigh on the analytical balance
- place on the muffle furnace rack
- when 8 are done - place in the muffle furnace
- record time - after
- after 2 hrs - remove from muffle furnace and place back in drying oven
- when cooled off to 60° - remove one at a time and
 - 1) weigh crucible plus soil
 - 2) empty crucible, (wipe out w/ a kimwipe if necessary) and weight the crucible

Plot #

Air dry
(soil plus crucible)

Composted
(soil plus
crucible)

Crucible

↓

↓

↓

↓

Plot #	Air Dry Soil & Crucible	Combusted Soil & Crucible	Crucible	% Combusted
100	29.06	27.54	16.34	11.95%
506	28.37	27.70	16.27	6.63%
555	27.01	25.54 (reheat) 25.48	16.99	14.67%
565	30.90	29.60	12.53	9.72%
605	25.02	23.46	16.49	18.29%
809	29.84	28.39	17.44	11.69%
826	27.82	26.76	17.37	10.14%
92	30.67	29.55	16.50	7.90%
98	29.74	28.32	16.59	10.80%
107	31.69	30.43	16.79	8.46%
170	29.68	28.16	16.07	11.17%
407	30.23	29.04	16.90	8.93%
600	29.01	27.65	16.49	10.88%
797	28.15	26.59	16.40	13.28%
859	26.68	24.96	16.61	17.08%
54	25.88	24.38	17.29	17.46%
61	27.91	26.49	17.30	13.38%
252	29.69	28.20	16.56	11.35%
456	28.33	26.55	16.87	15.53%
476	31.03	30.12	18.21	7.10%
503	29.72	28.46	17.55	11.69%
556	29.66	28.37	17.41	10.53%
637	28.23	27.03	16.73	11.08%
639	28.35	27.02	16.73	11.45%
698	27.29	25.74	17.46	15.77%
731	25.24	23.38	16.00	20.13%
601	32.58	31.49	18.40	7.69%
740	30.30	28.92	17.39	10.69%
767	28.94	27.39	16.09	12.06%
797	28.29	27.01	15.70	10.17%
798	29.76	28.44	16.57	10.01%
808	28.57	26.79	15.67	13.80%
829	29.78	27.85	17.24	15.39%
830	27.47	27.50	16.55	15.25%
854	29.84	27.09	16.97	21.37%
1010	31.30	29.51	16.85	12.39%
1014	30.37	29.22	16.15	8.09%
1008	28.11	26.60	16.37	12.86%

Plot#	Air Dry (soil & crucible)	Combusted (soil & crucible)	Crucible	% Combusted
53	29.78	28.35	17.22	11.39%
60	32.92	31.51	17.55	9.17%
89	31.99	30.46	16.68	9.99%
147	28.92	27.18	16.40	13.90%
500	27.19	27.63	17.26	REDID (last sample)
502	29.27	27.96	16.49	10.25%
504	22.93	26.12	17.35	17.11%
554	29.76	28.10	16.82	12.83%
567	29.15	27.00	16.82	17.44%
657	30.89	29.39	15.09 charcoal (chunks)	9.49%
699	31.84	30.89	17.00	11.79%
87	32.60	31.03	17.21	10.20%
101	27.58	26.42	15.47	9.58%
602	28.02	26.83	16.99	10.79%
634	26.71	25.46	16.58	12.34%
664	27.91	26.44	16.88	13.33%
702	26.42	26.71	15.64	13.38%
739	25.57	24.53	16.05	10.92%
805	28.26	26.65	16.59	13.80%
75	29.44	28.03 28.11	15.99	9.89%
300	31.66	26.40 29.99	16.37	12.57%
569	32.12	30.13	17.39	13.51%
598	31.52	30.11	17.35	9.95%
626	27.54		16.71 charcoal (little powder)	
697	29.43	27.57	17.38	15.30%
735	29.44	28.00	17.46	11.87%
801	32.05	30.21	18.18 charcoal (chunks)	13.27%
69	34.81	33.29	19.28	9.79%
82	33.53	32.01	16.38	8.86%
93	32.43	30.39	17.30 (C. powder) (traces)	13.48
636	35.02	32.70	16.86 charcoal chunks	12.78%
662		33.22	17.53	
687	35.23	33.22	17.53	11.36%
622	32.09	30.28	16.55	11.65%
761	39.55	38.25	16.47	5.63%
1019	32.05	30.27	16.62	11.92%
707	20.26	19.84	16.09	10.07%
771	29.33	27.65	16.90	13.52%

tests of drying time sensitivity

- ① samples dried overnight at 60°C
then placed in 100°C oven and
weighed periodically over $4\frac{1}{2}$ hours

