



Analysis Report for Use of Biosolids on Cropland

Jason Brown
 University Area Joint Auth
 1576 Spring Valley Rd
 State College PA 16801

Lab Sample ID: E18126
Date Received: 2/9/2017
Date Sampled: 2/9/2017
Report Date: 2/22/2017
Sample type: Grab
County: Centre
Customer Sample ID: Compost

RESULTS

pH	Solids	Volatile	Tot-N	Org-N	NH ₄ N	P	K	Mg	Ca	Na	Fe	Al
@ 21.1 C	— % —					% (dry weight basis)						
7.7	69.62	68.58	2.56	2.17	0.39	1.58	0.49	0.46	3.84	0.05	0.49	2.27
Mn	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn	PCB ¹	Reactive CN
mg/kg (dry weight basis)												
222.1	2.45	< 0.75	10.9	226.1	10.4	0.30	4.4	9.3	<3.76	254.1	<.01	< 1

NR-Not Requested One dry ton of this material is equivalent to 344 gallons of wet material or 1.4 tons of wet material

PRIMARY NUTRIENT CONTENT

% (dry wt basis)		
Total N	2.56	1.95 dry tons of this biosolid will supply 100 lbs of total N.
P ₂ O ₅	3.61	3.17 dry tons of this biosolid will supply 100 lbs of P
K ₂ O	0.59	

ANALYSIS INFORMATION FOR EPA 503 POLLUTANTS

Analyte	EPA SW-846 Method	Analyst	Date	Time
Cd,Cu,Mo,Pb,Ni, Zn	3050B + 6010	Stecko	2/16/2017	13:11:59
As	3050B + 6010	Stecko	2/16/2017	13:11:59
Se	3050B + 6010	Stecko	2/16/2017	13:11:59
Hg	7473	Spargo	2/16/2017	12:20:01 PM
PCB ¹	8082			

¹Subcontracted to Fairway Laboratories, Inc. (ID 7-00062)

RAW LABORATORY BENCH DATA FOR EPA 503 POLLUTANTS

	As	Cd	Cu	Hg	Mo	Ni	Pb	Se	Zn
Wet Wt. aliquot (g)	0.478	0.478	0.478	0.209	0.478	0.478	0.478	0.478	0.478
Analyte conc. in sample/ digest (mg/L except Hg)	0.016	0.003	1.50	0.044 ug	0.03	0.06	0.07	0.02	1.69
Method limit (mg/L except Hg)	0.015	0.005	0.015	0.0010 ug	0.015	0.010	0.025	0.025	0.050

Optional Analyses: Results (except soluble salts) on dry weight basis

Sample Receipt

Nitrate-N (mg/kg)	Total Carbon (%)	CCE Calcium Carbonate Equivalent (%)	Soluble Salts (mmhos/cm)	Other: Ba = 131.66 mg/kg
4.49	40.5		1.51	

Hand-delivered after sampling



Analysis Report for Use of Biosolids on Cropland

Jason Brown University Area Joint Auth 1576 Spring Valley Rd State College PA 16801	Lab Sample ID: E18277 Date Received: 4/6/2017 Date Sampled: 4/6/2017 Report Date: 4/28/2017 Sample type: Grab County: Centre Customer Sample ID: Compost
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RESULTS

pH	Solids	Volatile	Tot-N	Org-N	NH ₄ N	P	K	Mg	Ca	Na	Fe	Al
@ 22.3 C	— % —					% (dry weight basis)						
6.6	73.38	71.79	2.57	2.17	0.40	1.22	0.33	0.21	2.50	0.05	0.31	1.54
Mn	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn	PCB ¹	Reactive CN
mg/kg (dry weight basis)												
233.1	1.45	0.34	7.8	179.8	7.1	0.31	3.3	8.3	2.49	185.2	< .01	< 1

NR-Not Requested One dry ton of this material is equivalent to 327 gallons of wet material or 1.4 tons of wet material

PRIMARY NUTRIENT CONTENT

% (dry wt basis)			
Total N	2.57	1.95	dry tons of this biosolid will supply 100 lbs of total N.
P ₂ O ₅	2.80	4.09	dry tons of this biosolid will supply 100 lbs of P
K ₂ O	0.39		

ANALYSIS INFORMATION FOR EPA 503 POLLUTANTS

Analyte	EPA SW-846 Method	Analyst	Date	Time
Cd,Cu,Mo,Pb,Ni, Zn	3050B + 6010	Green/Stecko	4/13/2017	10:07:29
As	3050B + 6010	Green/Stecko	4/13/2017	10:07:29
Se	3050B + 6010	Green/Stecko	4/13/2017	10:07:29
Hg	7473	Rishel	4/11/2017	1:07:25 PM
PCB ¹	8082			

¹Subcontracted to Fairway Laboratories, Inc. (ID 7-00062)

RAW LABORATORY BENCH DATA FOR EPA 503 POLLUTANTS

	As	Cd	Cu	Hg	Mo	Ni	Pb	Se	Zn
Wet Wt. aliquot (g)	1.001	1.001	1.001	0.241	1.001	1.001	1.001	1.001	1.001
Analyte conc. in sample/digest (mg/L except Hg)	0.021	0.005	2.64	0.055 ug	0.05	0.12	0.10	0.04	2.72
Method limit (mg/L except Hg)	0.015	0.005	0.015	0.0010 ug	0.015	0.010	0.025	0.025	0.050

Optional Analyses: Results (except soluble salts) on dry weight basis

Sample Receipt

Nitrate-N (mg/kg)	Total Carbon (%)	CCE Calcium Carbonate Equivalent (%)	Soluble Salts (mmhos/cm)	Other: Ba = 114.61 mg/kg	Hand-delivered after sampling
43.98	40.3		2.32		



Analysis Report for Use of Biosolids on Cropland

Jason Brown
 University Area Joint Auth
 1576 Spring Valley Rd
 State College PA 16801

Lab Sample ID: E18362
Date Received: 6/5/2017
Date Sampled: 06/05/2017
Report Date: 6/22/2017
Sample type: Composite
County: Centre
Customer Sample ID: Compost

RESULTS

pH	Solids	Volatile	Tot-N	Org-N	NH ₄ N	P	K	Mg	Ca	Na	Fe	Al
@ 24 C	%					% (dry weight basis)						
7.1	76.40	75.84	2.66	2.16	0.49	1.95	0.44	0.33	2.74	0.07	0.44	2.41
Mn	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn	PCB ¹	Reactive CN
mg/kg (dry weight basis)												
330.3	< 2	< 0.67	11.3	231.0	8.8	0.30	4.1	10.2	<3.33	275.5	< .01	< 1

NR-Not Requested One dry ton of this material is equivalent to 314 gallons of wet material or 1.3 tons of wet material

PRIMARY NUTRIENT CONTENT

% (dry wt basis)

Total N	2.66	1.88	dry tons of this biosolid will supply 100 lbs of total N.
P ₂ O ₅	4.47	2.56	dry tons of this biosolid will supply 100 lbs of P
K ₂ O	0.52		

ANALYSIS INFORMATION FOR EPA 503 POLLUTANTS

Analyte	EPA SW-846 Method	Analyst	Date	Time
Cd,Cu,Mo,Pb,Ni, Zn	3050B + 6010	Stecko	6/8/2017	10:16:09
As	3050B + 6010	Stecko	6/8/2017	10:16:09
Se	3050B + 6010	Stecko	6/8/2017	10:16:09
Hg	7473	Rishel	6/6/2017	10:00:10 AM
PCB ¹	8082			

¹Subcontracted to Fairway Laboratories, Inc. (ID 7-00062)

RAW LABORATORY BENCH DATA FOR EPA 503 POLLUTANTS

	As	Cd	Cu	Hg	Mo	Ni	Pb	Se	Zn
Wet Wt. aliquot (g)	0.491	0.491	0.491	0.256	0.491	0.491	0.491	0.491	0.491
Analyte conc. in sample/ digest (mg/L except Hg)	0.014	0.003	1.73	0.058 ug	0.03	0.08	0.07	0.01	2.07
Method limit (mg/L except Hg)	0.015	0.005	0.015	0.0010 ug	0.015	0.010	0.025	0.025	0.050

Optional Analyses: Results (except soluble salts) on dry weight basis

Sample Receipt

Nitrate-N (mg/kg)	Total Carbon (%)	CCE Calcium Carbonate Equivalent (%)	Soluble Salts (mmhos/cm)	Other: Ba = 170.47 mg/kg	Hand-delivered after sampling
23.14	34.5		1.58		



Analysis Report for Use of Biosolids on Cropland

Jason Brown University Area Joint Auth 1576 Spring Valley Rd State College PA 16801	Lab Sample ID: E18431 Date Received: 8/7/2017 Date Sampled: 8/7/2017 Report Date: 8/18/2017 Sample type: Composite County: Centre Customer Sample ID: Compost
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RESULTS

pH	Solids	Volatile	Tot-N	Org-N	NH ₄ N	P	K	Mg	Ca	Na	Fe	Al
@ 23.4 C	— % —					% (dry weight basis)						
6.0	82.09	73.17	2.74	2.32	0.42	1.58	0.43	0.27	2.22	0.06	0.42	2.00
Mn	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn	PCB ¹	Reactive CN
mg/kg (dry weight basis)												
247.3	2.46	< 0.55	11.6	206.8	13.1	0.48	4.4	9.4	3.33	246.6	< .01	< 1

NR-Not Requested One dry ton of this material is equivalent to 292 gallons of wet material or 1.2 tons of wet material

PRIMARY NUTRIENT CONTENT

% (dry wt basis)		
Total N	2.74	1.83 dry tons of this biosolid will supply 100 lbs of total N.
P ₂ O ₅	3.62	3.17 dry tons of this biosolid will supply 100 lbs of P
K ₂ O	0.51	

ANALYSIS INFORMATION FOR EPA 503 POLLUTANTS

Analyte	EPA SW-846 Method	Analyst	Date	Time
Cd,Cu,Mo,Pb,Ni, Zn	3050B + 6010	Green	08/11/2017	12:49:25
As	3050B + 6010	Green	08/11/2017	12:49:25
Se	3050B + 6010	Green	08/11/2017	12:49:25
Hg	7473	Spargo	8/10/2017	11:08:37 AM
PCB ¹	8082			

¹Subcontracted to Fairway Laboratories, Inc. (ID 7-00062)

RAW LABORATORY BENCH DATA FOR EPA 503 POLLUTANTS

	As	Cd	Cu	Hg	Mo	Ni	Pb	Se	Zn
Wet Wt. aliquot (g)	0.549	0.549	0.549	0.169	0.549	0.549	0.549	0.549	0.549
Analyte conc. in sample/digest (mg/L except Hg)	0.022	0.004	1.86	0.067 ug	0.04	0.08	0.12	0.03	2.22
Method limit (mg/L except Hg)	0.015	0.005	0.015	0.0010 ug	0.015	0.010	0.025	0.025	0.050

Optional Analyses: Results (except soluble salts) on dry weight basis						Sample Receipt
Nitrate-N (mg/kg)	Total Carbon (%)	CCE Calcium Carbonate Equivalent (%)	Soluble Salts (mmhos/cm)	Other:	Ba = 150.61 mg/kg	Hand-delivered after sampling
21.26	34.5		2.62			



Analysis Report for Use of Biosolids on Cropland

Jason Brown University Area Joint Auth 1576 Spring Valley Rd State College PA 16801	Lab Sample ID: E18565 Date Received: 10/2/2017 Date Sampled: 10/2/2017 Report Date: 10/13/2017 Sample type: Composite County: Centre Customer Sample ID: Compost
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RESULTS

pH	Solids	Volatile	Tot-N	Org-N	NH ₄ N	P	K	Mg	Ca	Na	Fe	Al
@ 22.6 C	— % —					% (dry weight basis)						
6.9	74.42	70.12	2.66	2.29	0.37	1.26	0.35	0.47	2.90	0.05	0.40	1.70
Mn	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn	PCB ¹	Reactive ¹ CN
mg/kg (dry weight basis)												
204.7	1.48	0.44	9.3	206.1	9.8	0.40	4.0	8.2	2.01	298.2	<.01	< 1.2

NR-Not Requested One dry ton of this material is equivalent to 322 gallons of wet material or 1.3 tons of wet material

PRIMARY NUTRIENT CONTENT

% (dry wt basis)		
Total N	2.66	1.88 dry tons of this biosolid will supply 100 lbs of total N.
P ₂ O ₅	2.89	3.96 dry tons of this biosolid will supply 100 lbs of P
K ₂ O	0.42	

ANALYSIS INFORMATION FOR EPA 503 POLLUTANTS

Analyte	EPA SW-846 Method	Analyst	Date	Time
Cd,Cu,Mo,Pb,Ni, Zn	3050B + 6010	Green/Stecko	10/5/2017	13:31:02
As	3050B + 6010	Green/Stecko	10/5/2017	13:31:02
Se	3050B + 6010	Green/Stecko	10/5/2017	13:31:02
Hg	7473	Rishel	10/3/2017	11:17:05 AM
PCB ¹	8082			

¹Subcontracted to Fairway Laboratories, Inc. (ID 7-00062)

RAW LABORATORY BENCH DATA FOR EPA 503 POLLUTANTS

	As	Cd	Cu	Hg	Mo	Ni	Pb	Se	Zn
Wet Wt. aliquot (g)	1.918	1.918	1.918	0.243	1.918	1.918	1.918	1.918	1.918
Analyte conc. in sample/ digest (mg/L except Hg)	0.042	0.013	5.88	0.073 ug	0.11	0.23	0.28	0.06	8.51
Method limit (mg/L except Hg)	0.015	0.005	0.015	0.0010 ug	0.015	0.010	0.025	0.025	0.050

Optional Analyses: Results (except soluble salts) on dry weight basis						Sample Receipt
Nitrate-N (mg/kg)	Total Carbon (%)	CCE Calcium Carbonate Equivalent (%)	Soluble Salts (mmhos/cm)	Other:	Ba = 123.73 mg/kg	Hand-delivered after sampling
2.69	37.4		1.76			



Analysis Report for Use of Biosolids on Cropland

Jason Brown University Area Joint Auth 1576 Spring Valley Rd State College PA 16801	Lab Sample ID: E18672 Date Received: 12/11/2017 Date Sampled: 12/11/2017 Report Date: 1/9/2018 Sample type: Composite County: Centre Customer Sample ID: Compost
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RESULTS

pH	Solids	Volatile	Tot-N	Org-N	NH ₄ N	P	K	Mg	Ca	Na	Fe	Al
@ 23.9 C	— % —					% (dry weight basis)						
6.6	70.46	73.13	2.68	2.14	0.54	1.41	0.50	0.52	4.54	0.06	0.44	2.08
Mn	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn	PCB ¹	Reactive ¹ CN
mg/kg (dry weight basis)												
220.5	3.55	< 0.69	12.1	250.8	10.9	0.40	4.3	10.4	< 3.44	296.6	< .01	< 1.4

NR-Not Requested One dry ton of this material is equivalent to 340 gallons of wet material or 1.4 tons of wet material

PRIMARY NUTRIENT CONTENT

% (dry wt basis)		
Total N	2.68	1.87 dry tons of this biosolid will supply 100 lbs of total N.
P ₂ O ₅	3.24	3.53 dry tons of this biosolid will supply 100 lbs of P
K ₂ O	0.60	

ANALYSIS INFORMATION FOR EPA 503 POLLUTANTS

Analyte	EPA SW-846 Method	Analyst	Date	Time
Cd,Cu,Mo,Pb,Ni, Zn	3050B + 6010	Stecko/Green	12/15/2017	16:18:21
As	3050B + 6010	Stecko/Green	12/15/2017	16:18:21
Se	3050B + 6010	Stecko/Green	12/15/2017	16:18:21
Hg	7473	Rishel	12/13/2017	10:17:30 AM
PCB ¹	8082			

¹Subcontracted to Fairway Laboratories, Inc. (ID 7-00062)

RAW LABORATORY BENCH DATA FOR EPA 503 POLLUTANTS

	As	Cd	Cu	Hg	Mo	Ni	Pb	Se	Zn
Wet Wt. aliquot (g)	0.515	0.515	0.515	0.323	0.515	0.515	0.515	0.515	0.515
Analyte conc. in sample/ digest (mg/L except Hg)	0.026	0.004	1.82	0.090 ug	0.03	0.08	0.08	0.01	2.15
Method limit (mg/L except Hg)	0.015	0.005	0.015	0.0010 ug	0.015	0.010	0.025	0.025	0.050

Optional Analyses: Results (except soluble salts) on dry weight basis						Sample Receipt
Nitrate-N (mg/kg)	Total Carbon (%)	CCE Calcium Carbonate Equivalent (%)	Soluble Salts (mmhos/cm)	Other:	Ba = 142.92 mg/kg	Hand-delivered after sampling
97.55	41.5		2.25			