

**From:** [Matt Allen](#)  
**To:** [IDEM LARports](#)  
**Subject:** July 2024 Report for INLA 000112  
**Date:** Thursday, August 22, 2024 9:39:05 AM  
**Attachments:** [July 2024 Report for INLA 000112.pdf](#)

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Internal

Please find the attached July 2024 Land Application report for INLA 000112.

**Matt Allen**

Environmental, Health & Safety Manager

[matt.a.allen@iff.com](mailto:matt.a.allen@iff.com)

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**Nourish**

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Internal



Solae, LLC  
P.O. Box 127  
413 Cressy Ave  
Remington, IN 47977 USA  
463-766-4082

August 22, 2024

Jeff Harmon  
Land Application Group  
Indiana Department of Environmental Management  
100 North Senate Avenue  
MC 65-45 IGCN 1101  
Indianapolis, IN 46204-2251

RE: Solae, LLC  
IDEM Permit IN LA 000112

Dear Jeff:

Enclosed please find our monthly land application reports for July 2024. These reports cover plots CS1-3 and CS2-3.

Sincerely,

Matt Allen  
Safety, Health, & Environmental Manager  
Solae, LLC, Remington, Indiana  
Remington, Indiana 47977  
463-766-4022

cc: File

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# Indiana Department of Environmental Management

## Solid Waste Permits Section - Office of Land Quality

### Land Application Monthly Report - Biosolids and Industrial Waste Products

Clear  
All  
Pages

&gt;&gt;Complete and submit this form to IDEM each report month&lt;&lt;

**Month:** July **Year:** 2024  
**Permittee** The Solae Company **L.A. Permit No. IN LA:** 112

**Methods of Disposal Utilized:**

Indicate by an "X" which disposal methods were utilized this month and provide volumes for each method.

**NOTE:** Only include amounts for those materials which you are PERMITTED to land apply.**BIOSOLIDS:**

Dry Tons

X No biosolids were disposed, by land application or other methods, this month  
 Biosolids were land applied this month  
 Dewatered biosolids were used at the treatment works grounds this month  
 Biosolids were landfilled this month  
 Biosolids were disposed by the method listed below this month

NA

Method:

Of the total volume listed above, what volume was transported out of Indiana?

**INDUSTRIAL WASTE PRODUCTS:**

Dry Tons

No industrial waste products were disposed, by land application or other methods, this month  
 X Industrial waste products were land applied this month  
 Industrial waste products were landfilled this month  
 Industrial waste products were disposed by the method listed below this month

NA

2.78

Method: Injection (cut-in)

Of the total volume listed above, what volume was transported out of Indiana?

N/A

I hereby certify that to the best of my knowledge and understanding this report is complete and accurate.



Signature

Matt Allen

Printed Name

Safety Health and Environmental Mgr.  
 Title

8/22/2024  
 Date

**Indiana Department of Environmental Management****Solid Waste Permits Section - Office of Land Quality****Land Application Site Activity Report - Biosolids and Industrial Waste Products**

&gt;&gt;Complete and submit this form to IDEM for each application site used during a report month&lt;&lt;

**Month:** July **Year:** 2024 **Place "X" below if**  
**Permittee:** The Solae Company **Site ID:** CS1-3 **first use of site**  
**L.A. Permit No. IN LA:** 112 **Acres Available:** 30 **by this permittee**  
**Type of Material Applied This Month:** 3 **Acres Used This Month:** 5

Types of Material: 1 = Anaerobically Digested Biosolids, 2 = Aerobically Digested Biosolids, 3 = Industrial Waste Product

**Loading Data:** % Method Metal Nutrient **Lab Data:** DO NOT USE < IF NOT DETECTED  
 Dry Tons Total Acres Used\* Analysis Analysis Heavy Metal Analysis: ENTER DETECTION LIMIT!  
 Date: Applied Solids Used 1, 2, or 3 1 or 2 1 or 2

**ANALYSIS #** 1 2  
 Sample Report Date 8/21/24 10/24/23

% Total Solids 1.95 1.61

Arsenic (As) 1.21 1.20 mg/kg dry wt.  
 Cadmium (Cd) 0.05 0.13 mg/kg dry wt.  
 Copper (Cu) 40.00 37.00 mg/kg dry wt.  
 Lead (Pb) 4.39 2.07 mg/kg dry wt.  
 Mercury (Hg) 0.10 0.01 mg/kg dry wt.  
 Molybdenum (Mo) 4.35 5.13 mg/kg dry wt.  
 Nickel (Ni) 5.78 7.19 mg/kg dry wt.  
 Selenium (Se) 3.40 1.38 mg/kg dry wt.  
 Zinc (Zn) 252.00 232.00 mg/kg dry wt.

**Nutrient Analysis:** DO NOT USE < IF NOT DETECTED  
 ENTER DETECTION LIMIT!

**ANALYSIS #** 1 2  
 % Total Solids 1.95 1.61

Total N (TN) 6.21 4.73 % dry wt.  
 Ammonium N (NH4-N) 0.01 0.03 % dry wt.  
 Nitrate N (NO3-N) 2.00 2.66 % dry wt.  
 Phosphorus (P) 1.52 1.61 % dry wt.  
 Potassium (K) 0.49 0.75 % dry wt.

**Other Analysis:**  
**ANALYSIS #** 1 2  
 PCB 1.70 1.70 mg/kg dry wt.  
 Other  
 Other

\*Methods of Application: 1 = Surface, 2 = Injection, 3 = Incorporation

What is the projected crop(s) for which the above application(s) was intended to fertilize? Corn

If more than one crop is listed, indicate on the site-use map the areas planted, or to be planted, in each different type of crop.

Has this application site been used for land application of any biosolids or industrial waste products from any other facility within the  
 past 365 day period? Yes No X If yes, by whom?

Date of last soil analysis of this site 05/20/24

pH range from last soil analysis of this site 6.9-7.3

Date on which last soil pH adjustment was made on this site 11/16/15

Minimum CEC from last soil analysis of this site (does not apply to sites where biosolids are applied) 9

Internal

Month: July  
Permittee: Solae, LLC  
L.A. Permit No. IN LA 000112

Year: 2024  
Site ID: CS1-3  
Acres Available: 30

Plot 6					
Plot 5					
Plot 4					
Plot 3	0.00 Dry Tons of Industrial Waste Applied this Month				
Plot 2					
Plot 1					

Scale: 1 Square = 1 Acre

North ↑

Internal

**Indiana Department of Environmental Management****Solid Waste Permits Section - Office of Land Quality****Land Application Site Activity Report - Biosolids and Industrial Waste Products**

&gt;&gt;Complete and submit this form to IDEM for each application site used during a report month&lt;&lt;

**Month:** July **Year:** 2024 **Place "X" below if**  
**Permittee:** The Solae Company **Site ID:** CS2-3 **first use of site**  
**L.A. Permit No. IN LA:** 112 **Acres Available:** 18 **by this permittee**  
**Type of Material Applied This Month:** 3 **Acres Used This Month:** 6

Types of Material: 1 = Anaerobically Digested Biosolids, 2 = Aerobically Digested Biosolids, 3 = Industrial Waste Product

**Loading Data:** % Method Metal Nutrient **Lab Data:** **DO NOT USE < IF NOT DETECTED**  
 Dry Tons Total Acres Used\* Analysis Analysis Heavy Metal Analysis: **ENTER DETECTION LIMIT!**  
 Date: Applied Solids Used 1, 2, or 3 1 or 2 1 or 2

1	1.97	2.20	6	2	2	1	<b>ANALYSIS #</b>	<b>1</b>	<b>2</b>
2							Sample Report Date	08/21/24	10/24/23
3									
4							% Total Solids	1.95	1.71
5									
6							Arsenic (As)	1.21	0.66 mg/kg dry wt.
7							Cadmium (Cd)	0.05	0.04 mg/kg dry wt.
8							Copper (Cu)	40.00	27.40 mg/kg dry wt.
9							Lead (Pb)	4.39	1.69 mg/kg dry wt.
10							Mercury (Hg)	0.10	0.01 mg/kg dry wt.
11							Molybdenum (Mo)	4.35	5.06 mg/kg dry wt.
12							Nickel (Ni)	5.78	6.21 mg/kg dry wt.
13							Selenium (Se)	3.40	3.85 mg/kg dry wt.
14							Zinc (Zn)	252.00	188.00 mg/kg dry wt.
15									
16							Nutrient Analysis:	<b>DO NOT USE &lt; IF NOT DETECTED</b>	
17								<b>ENTER DETECTION LIMIT!</b>	
18							<b>ANALYSIS #</b>	<b>1</b>	<b>2</b>
19							% Total Solids	1.95	1.71
20	0.81	1.60	6	2	2	1			
21							Total N (TN)	6.21	5.75 % dry wt.
22							Ammonium N (NH4-N)	0.01	0.06 % dry wt.
23							Nitrate N (NO3-N)	2.00	2.31 % dry wt.
24							Phosphorus (P)	1.52	1.29 % dry wt.
25							Potassium (K)	0.49	0.66 % dry wt.
26									
27							Other Analysis:		
28							<b>ANALYSIS #</b>	<b>1</b>	<b>2</b>
29							PCB	1.70	1.90 mg/kg dry wt.
30							Other		
31							Other		

\*Methods of Application: 1 = Surface, 2 = Injection, 3 = Incorporation

What is the projected crop(s) for which the above application(s) was intended to fertilize? Corn

If more than one crop is listed, indicate on the site-use map the areas planted, or to be planted, in each different type of crop.

Has this application site been used for land application of any biosolids or industrial waste products from any other facility within the past 365 day period? Yes No X If yes, by whom?

Date of last soil analysis of this site 05/20/24

pH range from last soil analysis of this site 6.8-6.9

Date on which last soil pH adjustment was made on this site 11/06/21

Minimum CEC from last soil analysis of this site (does not apply to sites where biosolids are applied) 16.7



**Indiana Department of Environmental Management****Solid Waste Permits Section - Office of Land Quality****Land Application Nutrient Summary - Biosolids and Industrial Waste Products**

&gt;&gt;Complete and retain this form and provide a copy to the application site farmer for each application site used during a report month&lt;&lt;

**Month:** July **Year:** 2024  
**Permittee:** The Solae Company **Site ID:** CS2-3  
**L.A. Permit No. IN LA:** 112 **Acres Available:** 18

During this month and on the site indicated, **2.782** dry tons of **Industrial Waste Product**  
was applied to **6** acres of the site's **18** total available acres.

**Nutrient Summary:**

	Total	Per Acre Used
Pounds of Plant Available Nitrogen applied to this site this month:	182	30
Pounds of Phosphorus, as P, applied to this site this month:	85	14
Pounds of Phosphorus, as P <sub>2</sub> O <sub>5</sub> , applied to this site this month:	194	32
Pounds of Potassium, as K, applied to this site this month:	27	5
Pounds of Potassium, as K <sub>2</sub> O, applied to this site this month:	33	6

**Residual Nitrogen from organic breakdown:**

	Total	Per Acre Used
Pounds of Residual Nitrogen available 1 year after application:	35	6
Pounds of Residual Nitrogen available 2 years after application:	19	3
Pounds of Residual Nitrogen available 3 years after application:	9	2

**Heavy Metal and Micronutrient Summary:**

	Total	Per Acre Used
Pounds of Arsenic applied to this site this month:	0.004	0.001
Pounds of Cadmium applied to this site this month:	0.000	0.000
Pounds of Copper applied to this site this month:	0.152	0.025
Pounds of Lead applied to this site this month:	0.009	0.002
Pounds of Mercury applied to this site this month:	0.000	0.000
Pounds of Molybdenum applied to this site this month:	0.028	0.005
Pounds of Nickel applied to this site this month:	0.035	0.006
Pounds of Selenium applied to this site this month:	0.021	0.004
Pounds of Zinc applied to this site this month:	1.046	0.174

**Estimated value of nutrients applied to this site this month**

	Total	Per Dry Ton
	\$ 137.65	\$ 49.48

Based on the following costs for commercial fertilizers: \$0.35/lb N; \$0.31/lb P<sub>2</sub>O<sub>5</sub>; \$0.40/lb K<sub>2</sub>O; \$0.75/lb Cu; \$3.00/lb Mo; \$0.40/lb Zn  
Value of residual nitrogen, micronutrients other than copper and zinc, and organic matter not included.

I hereby certify that a copy of this summary has been provided to the farmer of this application site.

Signature

8/22/2024  
Date

Clear  
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Indiana Department of Environmental Management

Solid Waste Permits Section - Office of Land Quality

Land Application Cumulative Load Summary - Biosolids and Industrial Waste Products

>>Complete and retain this form for each application site used during a report month<<

Month:	July	Year:	2024
Permittee:	The Solae Company	Site ID:	CS2-3
L.A. Permit No. IN LA:	112	Acres Available:	18

During this month and on the site indicated,	2.782	dry tons of	Industrial Waste Product
was applied to 6 acres of the site's	18	total available acres.	

Heavy Metal Cumulative Load Summary:	(Enter previous cumulative from last month used)	Previous Cumulative	Added This Month	New Cumulative
Arsenic cumulative load for this site in pounds:		0.022	0.000	0.022
Cadmium cumulative load for this site in pounds:		0.149	0.000	0.149
Copper cumulative load for this site in pounds:		2.393	0.008	2.401
Lead cumulative load for this site in pounds:		0.407	0.001	0.408
Mercury cumulative load for this site in pounds:		0.029	0.000	0.029
Nickel cumulative load for this site in pounds:		0.491	0.002	0.493
Selenium cumulative load for this site in pounds:		0.033	0.001	0.034
Zinc cumulative load for this site in pounds:		17.731	0.058	17.789



Internal

Month: July  
Permittee: Solae, LLC  
L.A. Permit #: IN LA 000112

Year: 2024  
Site ID: CS2-3  
Acres Available: 18

North

Plot 3

2.78 Dry tons of Industrial Waste Applied this Month

Plot 2

West

Plot 1

South

Scale: 1 Square = 1 Acre

Internal





Element  
Suite 100, 328 Ley Road  
Fort Wayne, Indiana  
46825, United States

T: +1 (260) 471-7000  
E: [Info.FortWayne@element.com](mailto:Info.FortWayne@element.com)  
W: [www.element.com](http://www.element.com)

August 21, 2024

Larry Ewen  
Solae LLC  
PO Box 127  
Remington, IN 47977-0127

RE: Land Application

Dear Larry Ewen:

Lot Id: 195193

Element Materials Technology – Fort Wayne received 1 sample(s) on 8/1/2024 for the analyses presented in the following report.

In accordance with your instructions, a laboratory of Element Materials Technology Fort Wayne LLC either conducted or subcontracted these analyses. Subcontracted analyses will be identified in an accompanying case narrative and any associated report(s) will be attached in full. Unless otherwise noted in the case narrative, all analyses were conducted using approved methodologies. Reported results relate only to the items tested.

Estimated uncertainty is available upon request. This report shall not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions regarding these test results, please feel free to call.

Sincerely,

A handwritten signature in black ink that reads 'Adam Rolf'.

Adam Rolf  
Project Manager  
Suite 100, 328 Ley Road,  
Fort Wayne, IN 46825

**Accreditation**

TNI:2016 (Florida)  
ISO 17025:2017 (A2LA)  
Indiana – Fort Wayne  
Indiana – Fort Wayne  
Indiana – Columbus  
Indiana – South Bend

**Cert #**

E871168  
6190.02  
C-02-03  
M-02-05  
M-03-02  
M-71-02

**Accreditation**

Louisiana  
Michigan  
South Dakota  
Tennessee

**Cert #**

235913  
9030  
–  
04911

## Analytical Report

Lot Number: **195193**  
Report Number: 297007  
Report Type: Final Report

Reference Sample ID: 315032  
Sample Description: 2407 CS2-3 (Composite)

Date Sampled: 07/20/2024  
Date Received: 08/01/2024  
Date Reported: 08/21/2024

Parameter	Wet Basis			Dry Basis		Table 1 # mg/kg	Table 3 # mg/kg	Loading Rate		Analyst	Analyzed Date	Method Reference
	Result	Unit	MRL	Result	Unit			Lbs/Wet Ton	Lbs/Dry Ton			
Total Solids	1.95	%	0.1							AW	08/01/24	2540G
Moisture	98.00	%	0.1							AW	08/01/24	2540G
Nitrogen, Ammonia (As N)	<1.5	mg/Kg	1.5	<0.00768	%			<0.00300	<0.1540	KL	08/06/24	4500-NH3BC
Nitrogen, Nitrate (As N)	391	mg/Kg	0.50	2.00	%			0.783	40.1	HN	08/01/24	SW9056A
Total Phosphorus	296	mg/Kg	0.60	1.52	%			0.592	30.3	CO	08/19/24	SW3050B/6010D
Phosphorus (as P2O5)	678	mg/Kg		3.47	%			1.36	69.4	CO	08/19/24	SW3050B/6010D
Potassium	96.4	mg/Kg	1.0	0.493	%			0.193	9.87	CO	08/19/24	SW3050B/6010D
Potassium (as K2O)	116	mg/Kg		0.592	%			0.231	11.8	CO	08/19/24	SW3050B/6010D
Total Kjeldahl Nitrogen	821	mg/Kg		4.20	%			1.64	84.1	NB	08/16/24	E 351.2
Total Nitrogen	1210	mg/Kg	2.0	6.21	%			2.420	124	NB	08/16/24	Calculated
Aluminum	109	mg/Kg	0.20	5600	mg/Kg			0.219	11.2	CO	08/19/24	SW3050B/6010D
Iron	37.3	mg/Kg	0.20	1910	mg/Kg			0.0747	3.82	CO	08/19/24	SW3050B/6010D
Potassium	96.4	mg/Kg	1.0	0.493	%			0.193	9.87	CO	08/19/24	SW3050B/6010D
Arsenic	0.0237	mg/Kg	0.00050	1.21	mg/Kg	75	41	0.0000473	0.00242	CO	08/16/24	SW3050B/6020B
Cadmium	<0.00097	mg/Kg	0.00050	<0.050	mg/Kg	85	39	<0.0000019	<0.000100	CO	08/16/24	SW3050B/6020B
Copper	0.780	mg/Kg	0.0010	40.0	mg/Kg	4300	1500	0.00156	0.0799	CO	08/16/24	SW3050B/6020B
Lead	0.0857	mg/Kg	0.0010	4.39	mg/Kg	840	300	0.000171	0.00877	CO	08/16/24	SW3050B/6020B
Mercury	<0.002	mg/Kg	0.0010	<0.10	mg/Kg	57	17	<0.000004	<0.0002	CO	08/16/24	SW3050B/6020B
Molybdenum	0.0850	mg/Kg	0.00050	4.35	mg/Kg	75	75	0.000170	0.00870	CO	08/16/24	SW3050B/6020B
Nickel	0.113	mg/Kg	0.0020	5.78	mg/Kg	420	420	0.000226	0.0116	CO	08/16/24	SW3050B/6020B
Selenium	0.0663	mg/Kg	0.0020	3.40	mg/Kg	100	100	0.000133	0.00679	CO	08/16/24	SW3050B/6020B
Zinc	4.91	mg/Kg	0.010	252	mg/Kg	7500	2800	0.00983	0.503	CO	08/16/24	SW3050B/6020B
Aroclor 1016	<0.033	mg/Kg	0.0067	<1.7	mg/Kg					SW	08/08/24	SW8082A
Aroclor 1221	<0.033	mg/Kg	0.0067	<1.7	mg/Kg					SW	08/08/24	SW8082A

# Table 1 and Table 3 pollution concentrations for biosolids or industrial waste products, EPA-600/4-79-020, 327 IAC 6.1-5

Approved by: 

Adam Rolf  
Project Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).  
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

## Analytical Report

Lot Number: **195193**  
Report Number: 297007  
Report Type: Final Report

Reference Sample ID: 315032  
Sample Description: 2407 CS2-3 (Composite)

Date Sampled: 07/20/2024  
Date Received: 08/01/2024  
Date Reported: 08/21/2024

Parameter	Wet Basis			Dry Basis		Table 1 # mg/kg	Table 3 # mg/kg	Loading Rate		Analyst	Analyzed Date	Method Reference
	Result	Unit	MRL	Result	Unit			Lbs/Wet Ton	Lbs/Dry Ton			
Aroclor 1232	<0.033	mg/Kg	0.0067	<1.7	mg/Kg					SW	08/08/24	SW8082A
Aroclor 1242	<0.033	mg/Kg	0.0067	<1.7	mg/Kg					SW	08/08/24	SW8082A
Aroclor 1248	<0.033	mg/Kg	0.0067	<1.7	mg/Kg					SW	08/08/24	SW8082A
Aroclor 1254	<0.033	mg/Kg	0.0067	<1.7	mg/Kg					SW	08/08/24	SW8082A
Aroclor 1260	<0.033	mg/Kg	0.0067	<1.7	mg/Kg					SW	08/08/24	SW8082A
Total PCBs	<0.033	mg/Kg	0.0067	<1.7	mg/Kg			<0.000067	<0.0034	SW	08/08/24	SW8082A
Total Kjeldahl Nitrogen	821	mg/Kg		4.20	%			1.64	84.1	NB	08/16/24	E351.2
* Aerobic Digestion									77.3	NB	08/16/24	327 IAC 6.1-4-10(b)
* Anaerobic Digestion									64.9	NB	08/16/24	327 IAC 6.1-4-10(b)

# Table 1 and Table 3 pollution concentrations for biosolids or industrial waste products, EPA-600/4-79-020, 327 IAC 6.1-5

\* Plant Available Nitrogen (PAN) calculations assume incorporation or injection with no prior year contribution of mineralized N.

Approved by:



Adam Rolf  
Project Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).  
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.



Element  
Suite 100, 328 Ley Road  
Fort Wayne, Indiana  
46825, United States

T: +1 (260) 471-7000  
F: +1  
E: Info.FortWayne@element.com  
W: www.element.com

October 24, 2023

Larry Ewen  
Solae LLC  
PO Box 127  
Remington, IN 47977-0127

RE: Land App

Dear Larry Ewen:

Lot Id: 165418

Element Materials Technology –Fort Wayne received 1 sample(s) on 10/6/2023 for the analyses presented in the following report.

In accordance with your instructions, a laboratory of Element Materials Technology Fort Wayne LLC either conducted or subcontracted these analyses. Subcontracted analyses will be identified in an accompanying case narrative and any associated report(s) will be attached in full. Unless otherwise noted in the case narrative, all analyses were conducted using approved methodologies. Reported results relate only to the items tested.

Estimated uncertainty is available upon request. This report shall not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions regarding these test results, please feel free to call.

Sincerely,

Kris Kadinger  
Project Manager  
Suite 100, 328 Ley Road,  
Fort Wayne, IN 46825

**Accreditation**

TNI:2016 (Florida)  
ISO 17025:2017 (A2LA)  
Indiana – Fort Wayne  
Indiana – Fort Wayne  
Indiana – Columbus  
Indiana – South Bend

**Cert #**

E871168  
6190.02  
C-02-03  
M-02-05  
M-03-02  
M-71-02

**Accreditation**

Louisiana  
Michigan  
South Dakota  
Tennessee

**Cert #**

235913  
9030  
–  
04911



## Analytical Report

Lot Number: **165418**  
Report Number: 266254  
Reference Sample ID: 228078  
Sample Description: 2309 CS2-1 (Composite)

Date Sampled: 09/03/2023  
Date Received: 10/06/2023  
Date Reported: 10/24/2023

Parameter	Wet Basis			Dry Basis		Table 1 # mg/kg	Table 3 # mg/kg	Loading Rate		Analyst	Analyzed Date	Method Reference
	Result	Unit	MRL	Result	Unit			Lbs/Wet Ton	Lbs/Dry Ton			
Total Solids	1.71	%	0.1							ME	10/07/23	2540G
Moisture	98.30	%	0.1							ME	10/07/23	2540G
Nitrogen, Ammonia (As N)	11	mg/Kg	1.5	0.062	%			0.021	1.2	AA	10/17/23	4500-NH3BC
Nitrogen, Nitrate (As N)	395	mg/Kg	0.50	2.31	%			0.789	46.2	HN	10/11/23	SW9056A
Total Kjeldahl Nitrogen	589	mg/Kg	0.5	3.44	%			1.18	68.9	SS	10/24/23	E351.2
Total Nitrogen	984	mg/Kg	2.0	5.75	%			1.97	115	SS	10/24/23	Calculated
Total Phosphorus	221	mg/Kg	0.60	1.29	%			0.442	25.8	CO	10/18/23	SW3050B/6010C
Phosphorus (as P2O5)	506	mg/Kg		2.96	%			1.01	59.2	CO	10/18/23	SW3050B/6010C
Potassium	112	mg/Kg	1.0	0.656	%			0.224	13.1	CO	10/18/23	SW3050B/6010C
Potassium (as K2O)	135	mg/Kg		0.787	%			0.269	15.7	CO	10/18/23	SW3050B/6010C
Iron	27.2	mg/Kg	0.20	1590	mg/Kg			0.0543	3.18	CO	10/18/23	SW3050B/6010C
Aluminum	83.8	mg/Kg	0.20	4900	mg/Kg			0.168	9.80	CO	10/18/23	SW3050B/6010C
Arsenic	0.011	mg/Kg	0.00050	0.66	mg/Kg	75	41	0.000023	0.0013	CO	10/17/23	SW3050B/6020A
Cadmium	0.0007	mg/Kg	0.00050	0.04	mg/Kg	85	39	0.0000010	0.00008	CO	10/17/23	SW3050B/6020A
Copper	0.468	mg/Kg	0.0010	27.4	mg/Kg	4300	1500	0.000936	0.0548	CO	10/17/23	SW3050B/6020A
Lead	0.0290	mg/Kg	0.0010	1.69	mg/Kg	840	300	0.0000579	0.00339	CO	10/17/23	SW3050B/6020A
Mercury	<0.0002	mg/Kg	0.0010	<0.01	mg/Kg	57	17	<0.0000004	<0.00002	CO	10/17/23	SW3050B/6020A
Molybdenum	0.0866	mg/Kg	0.00050	5.06	mg/Kg	75	75	0.000173	0.0101	CO	10/17/23	SW3050B/6020A
Nickel	0.106	mg/Kg	0.0020	6.21	mg/Kg	420	420	0.000212	0.0124	CO	10/17/23	SW3050B/6020A
Selenium	0.0659	mg/Kg	0.0020	3.85	mg/Kg	100	100	0.000132	0.00771	CO	10/17/23	SW3050B/6020A
Zinc	3.21	mg/Kg	0.010	188	mg/Kg	7500	2800	0.00643	0.376	CO	10/17/23	SW3050B/6020A
Aroclor 1016	<0.033	mg/Kg	0.0067	<1.9	mg/Kg					AA	10/18/23	SW8082A
Aroclor 1221	<0.033	mg/Kg	0.0067	<1.9	mg/Kg					AA	10/18/23	SW8082A
Aroclor 1232	<0.033	mg/Kg	0.0067	<1.9	mg/Kg					AA	10/18/23	SW8082A

# Table 1 and Table 3 pollution concentrations for biosolids or industrial waste products, EPA-600/4-79-020, 327 IAC 6.1-5

Approved by: 

Kris Kadinger  
Project Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).  
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

## Analytical Report

Lot Number: **165418**  
Report Number: 266254  
Reference Sample ID: 228078  
Sample Description: 2309 CS2-1 (Composite)

Date Sampled: 09/03/2023  
Date Received: 10/06/2023  
Date Reported: 10/24/2023

Parameter	Wet Basis			Dry Basis		Table 1 # mg/kg	Table 3 # mg/kg	Loading Rate		Analyst	Analyzed Date	Method Reference
	Result	Unit	MRL	Result	Unit			Lbs/Wet Ton	Lbs/Dry Ton			
Aroclor 1242	<0.033	mg/Kg	0.0067	<1.9	mg/Kg					AA	10/18/23	SW8082A
Aroclor 1248	<0.033	mg/Kg	0.0067	<1.9	mg/Kg					AA	10/18/23	SW8082A
Aroclor 1254	<0.033	mg/Kg	0.0067	<1.9	mg/Kg					AA	10/18/23	SW8082A
Aroclor 1260	<0.033	mg/Kg	0.0067	<1.9	mg/Kg					AA	10/18/23	SW8082A
Total PCBs	<0.033	mg/Kg	0.0067	<1.9	mg/Kg			<0.000067	<0.0039	AA	10/18/23	SW8082A
* Aerobic Digestion									81.6	SS	10/24/23	327 IAC 6.1-4-10(b)
* Anaerobic Digestion									70.2	SS	10/24/23	327 IAC 6.1-4-10(b)

# Table 1 and Table 3 pollution concentrations for biosolids or industrial waste products, EPA-600/4-79-020, 327 IAC 6.1-5

\* Plant Available Nitrogen (PAN) calculations assume incorporation or injection with no prior year contribution of mineralized N.

Approved by: 

Kris Kadinger  
Project Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).  
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

Report Number  
F24137-0183  
Account Number  
14008



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LABORATORIES  
*Scientists who don't mind getting dirty.™*

3505 Conestoga Dr.  
Fort Wayne, IN 46808  
260.483.4759  
algreatlakes.com

Purchase Order: Solae-LLC

To: SOLAE LLC  
413 CRESSY AVE  
PO BOX 127  
REMINGTON, IN 47977-0127

For: MATT ALLEN

Field: CS2

Date Sampled: 5/15/2024

Date Received: 5/16/2024

Date Reported: 5/20/2024

Page: 1 of 1

## SOIL TEST REPORT

Sample ID	Lab Number	Organic Matter %	Phosphorus		Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	Sodium Na ppm	Soil pH	Buffer pH	CEC meq/100g	Percent Cation Saturation				
			Bray-1 Equiv ppm-P	Bray P2 ppm-P								% K	% Mg	% Ca	% H	% Na
CS23	30392	3.6	201 <i>VH</i>		214 <i>H</i>	525 <i>VH</i>	2250 <i>M</i>		6.8		16.7	3.3	26.2	67.5	3.0	
CS22	30393	4.1	190 <i>VH</i>		269 <i>VH</i>	620 <i>VH</i>	2450 <i>M</i>		6.9		18.4	3.8	28.1	66.6	1.5	
CS21	30394	3.7	210 <i>VH</i>		237 <i>H</i>	565 <i>VH</i>	2250 <i>M</i>		6.9		16.8	3.6	28.0	66.9	1.5	

VL = Very Low    L = Low    M = Medium    H = High    VH = Very High

Sample ID	Sulfur S ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Soluble Salts (1:2) mmhos/cm	Nitrate NO <sub>3</sub> -N ppm	Ammonium NH <sub>4</sub> -N ppm	Bicarb-P P ppm					Comments

Report reviewed and approved by our professional agronomy staff.

ASLR



Report Number  
F24137-0184  
Account Number  
14008



3505 Conestoga Dr.  
Fort Wayne, IN 46808  
260.483.4759  
algreatlakes.com

Purchase Order: Solae-LLC

To: SOLAE LLC  
413 CRESSY AVE  
PO BOX 127  
REMINGTON, IN 47977-0127

For: MATT ALLEN

Field: CS1

Date Sampled: 5/15/2024

Date Received: 5/16/2024

Date Reported: 5/20/2024

Page: 1 of 1

## SOIL TEST REPORT

Sample ID	Lab Number	Organic Matter %	Phosphorus		Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	Sodium Na ppm	Soil pH	Buffer pH	CEC meq/100g	Percent Cation Saturation				
			Bray-1 Equiv ppm-P	Bray P2 ppm-P								% K	% Mg	% Ca	% H	% Na
CS16	30395	2.3	71 VH		181 H	365 VH	1400 M		7.0		10.5	4.4	29.0	66.6		
CS15	30396	2.7	120 VH		154 H	385 VH	1600 M		7.1		11.6	3.4	27.7	68.9		
CS14	30397	2.4	152 VH		196 H	355 VH	1650 M		7.0		11.7	4.3	25.3	70.4		
CS13	30398	2.0	81 VH		139 M	290 VH	1250 M		7.2		9.0	4.0	26.8	69.3		
CS12	30399	1.9	53 VH		168 H	295 VH	1300 M		6.9		9.5	4.5	25.8	68.2	1.5	
CS11	30400	2.3	86 VH		269 VH	355 VH	1400 M		7.3		10.6	6.5	27.8	65.7		

VL = Very Low L = Low M = Medium H = High VH = Very High

Sample ID	Sulfur S ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Soluble Salts (1:2) mmhos/cm	Nitrate NO <sub>3</sub> -N ppm	Ammonium NH <sub>4</sub> -N ppm	Bicarb-P P ppm					Comments

Report reviewed and approved by our professional agronomy staff.

A&L