



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

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Instructions for Reporting the Monthly Land Application of Biosolids and Industrial Waste Products (IWP)

Before you begin to land apply, be sure to review the permit requirements for your facility. Your permit may have additional information that needs to be reported and is not outlined in these instructions. Please note that these are generic instructions to cover the basics for filling out the IDEM monthly report forms. To obtain the report forms document, please contact either Jeff Harmon at (317) 232-8735 or by email at jharmon@idem.in.gov, or the permit manager assigned to your facility.

The biosolids and IWP excel document, titled “EZLA 2”, is comprised of 7 pages. All pages should be kept on file with the monthly report at your facility for a minimum of 5 years.

- a. The first page is titled “Land Application Monthly Report – Biosolids and Industrial Waste Products”. It is located under the first tab at the bottom of the screen labeled *Monthly Report*. This page will need to be submitted to IDEM. This page represents all disposal activity for the month (including no disposal).
- b. The second page is titled “Land Application Site Activity Report – Biosolids and Industrial Waste Products”. It is located under the second tab at the bottom of the screen labeled *Site Activity*. This page will also need to be submitted to IDEM, when land application occurs.
- c. The third page is titled “Land Application Nutrient Summary – Biosolids and Industrial Waste Products”. It is located under the third tab at the bottom of the screen labeled *Nutrient Summary*. This page DOES NOT need to be submitted to IDEM. This page was created to assist you, and the farmer, to keep track of your monthly heavy metal and nutrient summary for each site.
- d. The fourth page is titled “Land Application Cumulative Load Summary – Biosolids and Industrial Waste Products”. It is located under the fourth tab at the bottom of the screen labeled *Metal Summary*. This page DOES NOT need to be submitted to IDEM. This page was created to assist you, and the farmer, to keep track of your heavy metal cumulative loading for each site.
- e. The fifth page is titled “Land Applier Certification – Biosolids”. It is located under the fifth tab at the bottom of the screen labeled *Applier Certification*. As of January 2018, this page must be submitted to IDEM. This page is a certification statement to be signed by the person who land applied the biosolids and certifying they maintained compliance during land application.

- f. The sixth page is titled “Preparer Certification – Biosolids”. It is located under the sixth tab at the bottom of the screen labeled *Preparer Certification*. As of January 2018, this page must be submitted to IDEM. This is a certification documenting pathogen and vector attraction reduction requirements for the biosolids land applied that month were met.
- g. The seventh page is titled “Land Application Site Use Map – Biosolids and Industrial Waste Products”. It is located under the last tab at the bottom of the screen labeled *Site Use Map*. We do require submittal of a map of the site depicting where land application took place with your monthly report. However, you can use a different map if it can depict a better image of the site. Please see the bottom of the document for examples.

Please follow the red numbers on the enclosed documents for instructions on how to fill out each page.

Page 1- Land Application Monthly Report – Biosolids and Industrial Waste Product

1. Enter the month for which you are reporting.
2. Enter the facility name.
3. Enter the year for which you are reporting.
4. Enter your land application permit number.

Biosolids

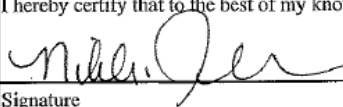
5. If no biosolids were disposed by any method during the month, place an “X” in the box and proceed to number 25.
6. If biosolids were land applied during the month, place an “X” in the box.
7. Enter the total number of dry tons applied for the entire month.
 - a. If land application of biosolids occurred at multiple sites, add the total dry tons applied for each site.
8. If dewatered biosolids were used at the treatment plant, place an “X” in the box.
9. Enter the total number of dry tons applied for the entire month.
10. If biosolids were landfilled during the month, place an “X” in the box.
11. Enter the total number of dry tons sent to the landfill for the entire month.
12. If biosolids were disposed of by another method during the month, place an “X” in the box.
13. Enter the total number of dry tons disposed of for the entire month.
14. Enter the method by which biosolids (from #12 above) were disposed of.
15. Enter the total dry tons of biosolids that were transported out of Indiana.

Industrial Waste Products

16. If no IWP were disposed by any method during the month, place an “X” in the box and proceed to number 25.
17. If IWP were land applied during the month, place an “X” in the box.
18. Enter the total number of dry tons applied for the entire month.

- a. If land application of IWP occurred at multiple sites, add the total dry tons applied for each site.
- 19. If IWP were landfilled during the month, place an "X" in the box.
- 20. Enter the total number of dry tons sent to the landfill for the entire month.
- 21. If IWP were disposed of by another method during the month, place an "X" in the box.
- 22. Enter the total number of dry tons disposed of for the entire month.
- 23. Enter the method by which IWP (from box 21) were disposed of.
- 24. Enter the total dry tons of IWP that were transported out of Indiana.
- 25. The person filling out the report must provide a hand-written signature if land application activity occurred. Please note, this person must have signature authority from the permit holder and be on file with the IDEM Land Application office.
- 26. Print the name of the person filling out the report.
- 27. Provide the employee title of the person filling out the report.
- 28. Provide the date the report was filled out.

Example 1:

Clear This Page	<p>Indiana Department of Environmental Management Solid Waste Permits Section - Office of Land Quality Land Application Monthly Report - Biosolids and Industrial Waste Products >>Complete and submit this form to IDEM each report month<<</p>	Clear All Pages	
Month:	March	Year:	2017
Permittee	Example Inc.	L.A. Permit No. IN LA:	999888
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
<input type="checkbox"/>	No biosolids were disposed, by land application or other methods, this month		NA
<input checked="" type="checkbox"/>	Biosolids were land applied this month		14.50
<input type="checkbox"/>	Dewatered biosolids were used at the treatment works grounds this month		
<input type="checkbox"/>	Biosolids were landfilled this month		
<input type="checkbox"/>	Biosolids were disposed by the method listed below this month		
Method:			
Of the total volume listed above, what volume was transported out of Indiana?			
INDUSTRIAL WASTE PRODUCTS:			Dry Tons
<input type="checkbox"/>	No industrial waste products were disposed, by land application or other methods, this month		NA
<input type="checkbox"/>	Industrial waste products were land applied this month		
<input type="checkbox"/>	Industrial waste products were landfilled this month		
<input type="checkbox"/>	Industrial waste products were disposed by the method listed below this month		
Method:			
Of the total volume listed above, what volume was transported out of Indiana?			
I hereby certify that to the best of my knowledge and understanding this report is complete and accurate.			
	Nikki Jeffers		
Signature	Printed Name		
Operations Manager		4/7/2017	
Title		Date	

Example 2: Alternate method of disposal

INDUSTRIAL WASTE PRODUCTS:		Dry Tons
<input type="checkbox"/>	No industrial waste products were disposed, by land application or other methods, this month	NA
<input type="checkbox"/>	Industrial waste products were land applied this month	
<input type="checkbox"/>	Industrial waste products were landfilled this month	
<input checked="" type="checkbox"/>	Industrial waste products were disposed by the method listed below this month	5.00
Method:	Taken to a regional biocenter- Biosolids 'R' Us	

Page 2- Land Application Site Activity Report – Biosolids and Industrial Waste Product

1. Enter the month that land application took place.
2. Enter the facility name.
3. Enter your land application permit number.
4. Enter the year land application took place.
5. Enter the name of the site in which land application occurred. If the site is a site-specific site, enter the ID as it is identified in your permit.
6. Enter the total number of acres for the site.
7. Enter the total number of acres that was used for land application.
8. Enter the number that corresponds to the type of material applied, **1- refers to anaerobically digested biosolids, 2- refers to aerobically digested biosolids and 3- refers to IWP.**
9. If you are using a new site for the first time, place an “X” inside the box. You will need to submit additional information about the site. Please see the hand-out “XXXX” for instructions.

For *Loading Data*, the numbers on the far left of the box refer to the dates in a month. Only enter information corresponding to that specific day in which land application occurred.

Example 2:

Loading Data:	%		Method Used*	Metal Analysis	Nutrient Analysis	Lf
	Dry Tons Applied	Total Solids				
Date:						
1						Al
2	80.30	11.00	15	2	1	2
3	52.50	10.00	10	2	1	2
4	35.50	10.50	7	2	1	2
5						%
6	39.40	10.50	8	2	1	2
7						At
8						Ct

10. In the dry ton column, enter the total dry tons applied for each day in which land application occurred..
11. Enter the percent total solids taken before land application occurred that day.
12. Enter the total number of acres used for land application on that day.

13. Enter the method of application used, either 1, 2 or 3. The three methods are listed at the bottom of the table, **1- refers to surface application, 2- refers to injection and 3- refers to incorporation.**

You will be required to sample for heavy metals. To determine when and how often, please refer to your permit. Sampling frequencies are based on the amount of biosolids or IWP generated and the results are valid for a specified time frame (refer to your permit for your frequency). You could have more than one set of metal analyses if your sample results expire in the middle of a month or if you land apply from more than one batch of biosolids or IWP. *Please note that these values must be reported in mg/kg dry weight.* Do not enter “<” sign, as use of them prevents the nutrient and metal summary pages from calculating correctly.

Example 3:

Loading Data:						Metal Analysis		Nutrient Analysis		Lab Data:		DO NOT USE < IF NOT DETECTED ENTER DETECTION LIMIT!	
Date:	Dry Tons Applied	% Total Solids	Acres Used	Method Used* 1, 2, or 3	Metal Analysis 1 or 2	Nutrient Analysis 1 or 2	Heavy Metal Analysis:		ANALYSIS #				
1									1	2			
2	80.30	11.00	15	2	1	2	Sample Report Date		12/14/16	01/19/17			
3	52.50	10.00	10	2	1	2	% Total Solids		7.98				
4	35.50	10.50	7	2	1	2	Arsenic (As)	0.77			mg/kg dry wt.		
5							Cadmium (Cd)	0.77			mg/kg dry wt.		
6	39.40	10.50	8	2	1	2	Copper (Cu)	14.40			mg/kg dry wt.		
7							Lead (Pb)	1.16			mg/kg dry wt.		
8							Mercury (Hg)	0.89			mg/kg dry wt.		
9							Molybdenum (Mo)	2.02			mg/kg dry wt.		
10							Nickel (Ni)	17.30			mg/kg dry wt.		
11							Selenium (Se)	1.79			mg/kg dry wt.		
12							Zinc (Zn)	56.50			mg/kg dry wt.		
13													
14													

14. Enter the date, percent total solids and heavy metal values from the lab analysis.
 15. If you have a second heavy metal lab analysis, enter the date, percent total solids and heavy metal values in column 2.
 16. Enter the analysis number, 1 or 2, that corresponds to the monthly analysis taken from the biosolids or IWP land applied on that date.

You are required to sample for nutrients once every 30 day period when land application occurs. This 30 days period can be a calendar month or any sliding 30 day period. There are two columns available to report nutrients to accommodate for different batches of biosolids or IWP or if more than one sample is analyzed during the calendar month. Enter the results from the additional analysis in the second column. *Please note that these values must be reported in percent dry weight. If the lab reported the values in mg/kg dry weight, please see the equation below to determine how to convert to percent dry weight.*

Equation Example:

Lab value: Total Nitrogen= 5500 mg/kg dry weight ÷ 10,000= **0.55 % dry weight**
If the lab reports TKN, convert it to total nitrogen by adding the nitrate nitrogen and the TKN values together.

Example 4:

Loading Data:						Nutrient Analysis		Lab Data:	
Date:	Dry Tons Applied	% Total Solids	Acres Used	Method Used* 1, 2, or 3	Metal Analysis 1 or 2	Nutrient Analysis 1 or 2	Heavy Metal Analysis:	DO NOT USE < IF NOT DETECTED ENTER DETECTION LIMIT!	
1							ANALYSIS #	1	2
2	80.30	11.00	15	2	1	2	Sample Report Date	12/14/16	01/19/17
3	52.50	10.00	10	2	1	2	% Total Solids	7.98	
4	35.50	10.50	7	2	1	2	Arsenic (As)	0.77	mg/kg dry wt.
5							Cadmium (Cd)	0.77	mg/kg dry wt.
6	39.40	10.50	8	2	1	2	Copper (Cu)	14.40	mg/kg dry wt.
7							Lead (Pb)	1.16	mg/kg dry wt.
8							Mercury (Hg)	0.89	mg/kg dry wt.
9							Molybdenum (Mo)	2.02	mg/kg dry wt.
10							Nickel (Ni)	17.30	mg/kg dry wt.
11							Selenium (Se)	1.79	mg/kg dry wt.
12							Zinc (Zn)	66.50	mg/kg dry wt.
13							Nutrient Analysis: DO NOT USE < IF NOT DETECTED ENTER DETECTION LIMIT!		
14							ANALYSIS #	1	2
15							% Total Solids		13.80
16							Total N (TN)		5.27 % dry wt.
17							Ammonium N (NH4-N)		0.24 % dry wt.
18							Nitrate N (NO3-N)		0.00 % dry wt.
19							Phosphorus (P)		1.45 % dry wt.
20							Potassium (K)		0.95 % dry wt.
21									
22									
23									
24									
25									
26									

- 17. Enter the values that correspond to your laboratory nutrient analysis.
- 18. If you have a second nutrient analysis, enter the values in the additional column.
- 19. Enter the analysis number, 1 or 2, that corresponds to the monthly analysis taken from the biosolids or IWP land applied on that date.

According to your permit, you may be required to sample for additional parameters either annually, monthly, or not at all.

- 20. Enter the value that corresponds to the appropriate PCB analysis.
- 21. Enter the value that corresponds to any additional analysis parameters.

The last boxes refer to the specific site on which land application took place.

- 22. Enter the projected crop you intend to fertilize, such as: corn, soybeans, hay/pasture, grain, or set aside/idle. Each of these types of crops has a specific Plant Available Nitrogen (PAN) Loading rate per acre that cannot be exceeded. See your permit for the PAN loading rates.
- 23. Place an "X" in the box if that is the appropriate answer.

24. Indicate who applied the additional biosolids and/or industrial waste products on the site.
25. Place an "X" in the box if that is the appropriate answer.
26. Enter the date of the last soil analysis from the site. Soil analyses must be no more than 2 years old at the time of land application.
27. Enter the pH range from the most recent soil analysis. If the pH is less than 5.5, the soil pH must be adjusted using lime or a similar material before land application can take place.
28. If the soil pH was adjusted, enter the date on which it occurred.

Please see the completed example below demonstrating how your Site Activity Report form should look.

Example 5:

Clear This Page

Indiana Department of Environmental Management
Solid Waste Permits Section - Office of Land Quality
Land Application Site Activity Report - Biosolids and Industrial Waste Products
 >>Complete and submit this form to IDEM for each application site used during a report month<<

Month:	February	Year:	2017	Place "X" below if
Permittee:	Biosolids 'R' Us	Site ID:	Site A	first use of site
L.A. Permit No. IN LA:	999888	Acres Available:	137.2	by this permittee
Type of Material Applied This Month:	3	Acres Used This Month:	40	
Types of Material: 1 = Anaerobically Digested Biosolids, 2 = Aerobically Digested Biosolids, 3 = Industrial Waste Product				

Date:	Loading Data:		Method Used* 1, 2, or 3	Metal Analysis 1 or 2	Nutrient Analysis 1 or 2	Lab Data:	
	Dry Tons Applied	% Total Solids				DO NOT USE < IF NOT DETECTED ENTER DETECTION LIMIT!	
1						ANALYSIS #	1 2
2	80.30	11.00	15	2	1	Sample Report Date	12/14/16 01/19/17
3	52.50	10.00	10	2	1	% Total Solids	7.98
4	35.50	10.50	7	2	1	Arsenic (As)	0.77 mg/kg dry wt.
5						Cadmium (Cd)	0.77 mg/kg dry wt.
6	39.40	10.50	8	2	1	Copper (Cu)	14.40 mg/kg dry wt.
7						Lead (Pb)	1.16 mg/kg dry wt.
8						Mercury (Hg)	0.89 mg/kg dry wt.
9						Molybdenum (Mo)	2.02 mg/kg dry wt.
10						Nickel (Ni)	17.30 mg/kg dry wt.
11						Selenium (Se)	1.79 mg/kg dry wt.
12						Zinc (Zn)	56.50 mg/kg dry wt.
13						Nutrient Analysis: DO NOT USE < IF NOT DETECTED ENTER DETECTION LIMIT!	
14						ANALYSIS #	1 2
15						% Total Solids	13.80
16						Total N (TN)	5.27 % dry wt.
17						Ammonium N (NH4-N)	0.24 % dry wt.
18						Nitrate N (NO3-N)	0.00 % dry wt.
19						Phosphorus (P)	1.45 % dry wt.
20						Potassium (K)	0.95 % dry wt.
21						Other Analysis:	
22						ANALYSIS #	1 2
23						PCB	0.50 mg/kg dry wt.
24						Other	
25						Other	
26							
27							
28							
29							
30							
31							

*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 <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, by whom? <input type="checkbox"/>
Date of last soil analysis of this site	05/06/15
pH range from last soil analysis of this site	5.7-6.7
Date on which last soil pH adjustment was made on this site	NA
Minimum CEC from last soil analysis of this site (does not apply to sites where biosolids are applied)	NA



Page 3- Site Use Maps – Biosolids and Industrial Waste Product

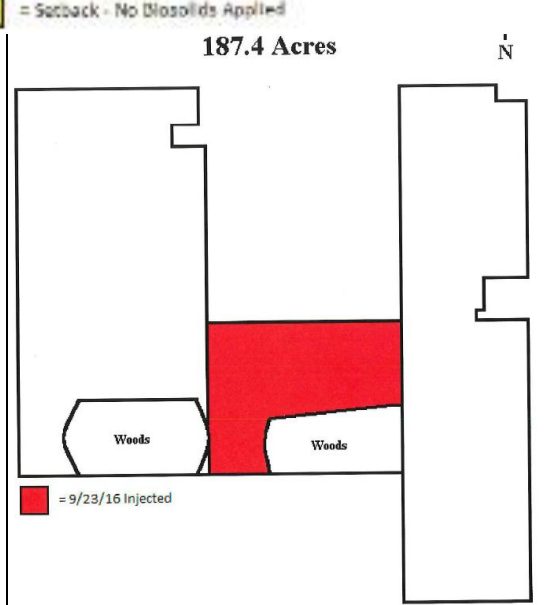
Each month land application takes place, you must submit a map detailing the following:
 a. clearly identify the boundaries of the site,

- b. for each day in which land application occurred, highlight the area used and identify the date in which land application took place,
- c. the site name,
- d. the total acreage of the site, and
- e. the number of acres covered each day.

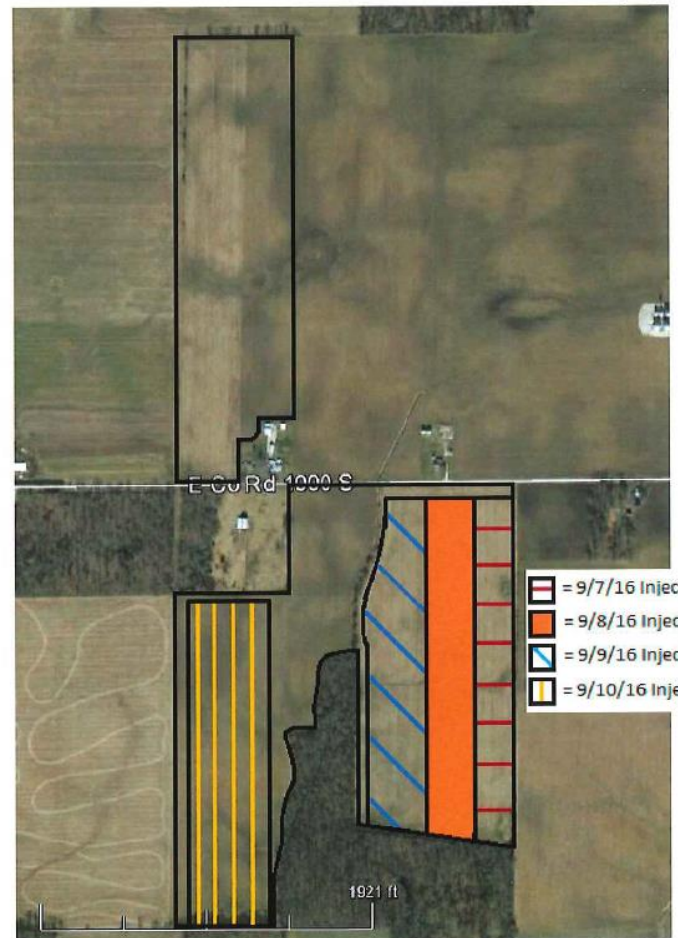
If land application occurs on different sites within the same month, you must submit a separate Site Activity Report Form and map for each site. Please see the examples of appropriate maps below.







-  = 2/24/17 Incorporated
-  = Setback - No Biosolids Applied



MH-5



-  = 9/7/16 Injected
-  = 9/8/16 Injected
-  = 9/9/16 Injected
-  = 9/10/16 Injected

Other information required to be submitted with the report:

Analytical data reported on both a wet weight (mg/l) and dry weight (mg/kg) basis:

- Heavy metal concentrations
- Nutrient concentrations
- PCBs (as specified in the permit)
- Soil pH

- Pathogen reduction documentation (as specified in the permit)
- Vector attraction reduction documentation (as specified in the permit)