

Clear
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Page

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

>>Complete and submit this form to IDEM each report month<<

Month:	October	Year:	2016
Permittee	Merrell Bros., Inc.	L.A. Permit No. IN LA:	000653

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
X	Biosolids were land applied this month	133.23
<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? 0.00

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? 0.00

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


Signature

Ryan Zeck
Printed Name

C.O.O.
Title

11/25/16
Date

RECEIVED
NOV 29 2016
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
OFFICE OF LAND QUALITY

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<<

RECEIVED
NOV 29 2016
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF LAND QUALITY

Month:	October	Year:	2016	Place "X" below if first use of site by this permittee
Permittee:	Merrell Bros., Inc.	Site ID:	RZ-1	
L.A. Permit No. IN LA:	000653	Acres Available:	75	
Type of Material Applied This Month:	1	Acres Used This Month:	50	

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
	Dry Tons Applied	% Total Solids			
1					
2					
3					
4					
5					
6	133.23	18.10	50	3	1
7					
8					
9					
10					
11					
12					
13					
14					
15					
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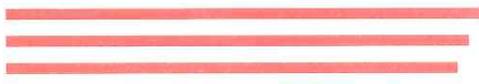
Lab Data:	DO NOT USE < IF NOT DETECTED	
Heavy Metal Analysis:	ENTER DETECTION LIMIT!	
ANALYSIS #	1	2
Sample Report Date	08/30/16	
% Total Solids	18.30	
Arsenic (As)	5.93	mg/kg dry wt.
Cadmium (Cd)	1.23	mg/kg dry wt.
Copper (Cu)	864.00	mg/kg dry wt.
Lead (Pb)	29.20	mg/kg dry wt.
Mercury (Hg)	1.43	mg/kg dry wt.
Molybdenum (Mo)	20.50	mg/kg dry wt.
Nickel (Ni)	24.90	mg/kg dry wt.
Selenium (Se)	7.62	mg/kg dry wt.
Zinc (Zn)	901.00	mg/kg dry wt.

Nutrient Analysis:	DO NOT USE < IF NOT DETECTED	
	ENTER DETECTION LIMIT!	
ANALYSIS #	1	2
% Total Solids	18.30	
Total N (TN)	5.63	% dry wt.
Ammonium N (NH4-N)	0.43	% dry wt.
Nitrate N (NO3-N)	0.03	% dry wt.
Phosphorus (P)	2.99	% dry wt.
Potassium (K)	0.46	% dry wt.

Other Analysis:		
ANALYSIS #	1	2
PCB	<.44	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?	Wheat
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	10/27/14
pH range from last soil analysis of this site	7.1-7.4
Date on which last soil pH adjustment was made on this site	N/A
Minimum CEC from last soil analysis of this site (does not apply to sites where biosolids are applied)	



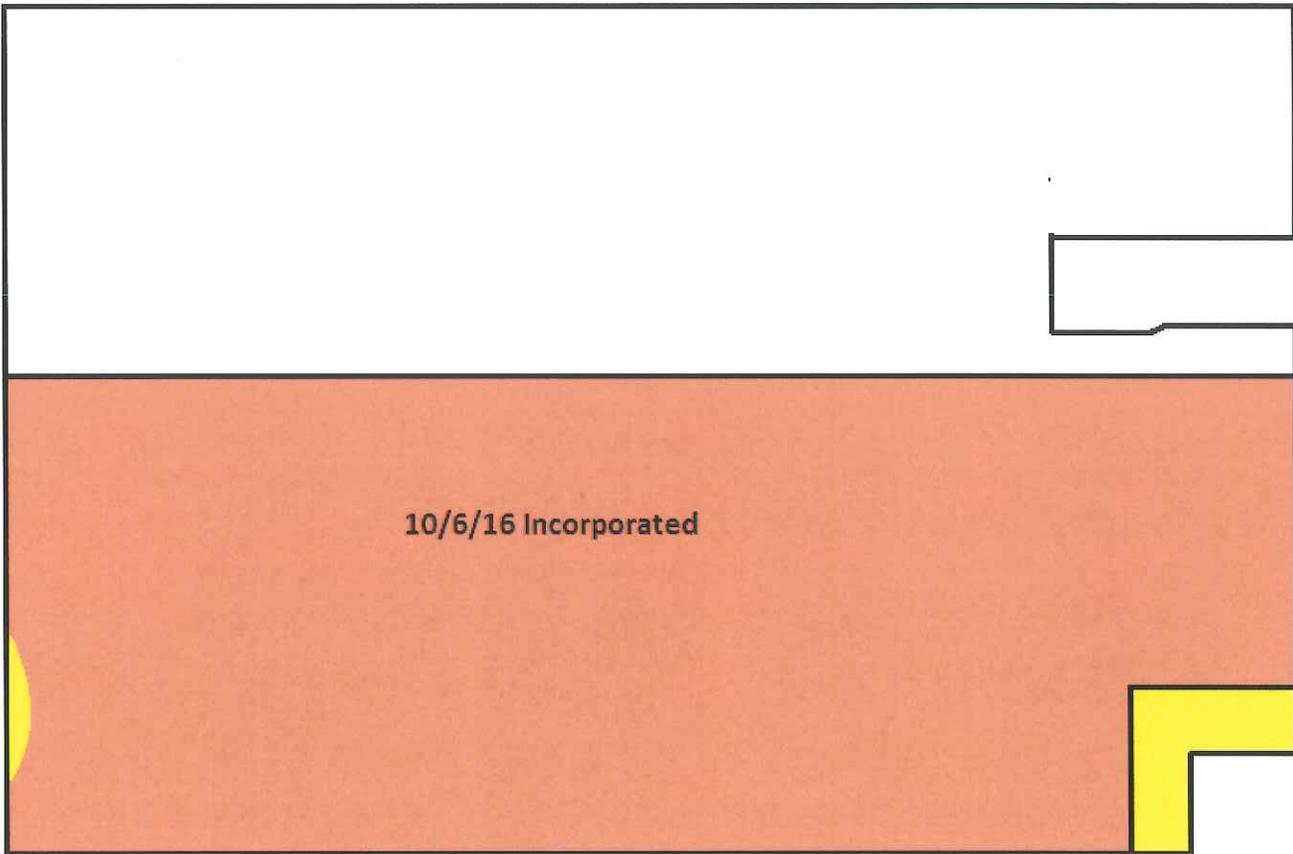
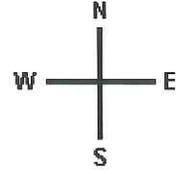
MERRELL BROS.



A Biosolids Management Corporation

- Liquid / Dry Land Application
- Consulting
- Off-Site Biosolids Storage
- Lagoon/Pond Hydraulic Dredging
- State / Federal Reporting
- Lagoon Surveying
- Grease & Septage Disposal
- Lagoon/Pond Mechanical Dredging
- Permitting
- Digester and Lagoon Cleaning
- Brown/Yellow Grease Recycling
- Belt Press/Centrifuge Dewatering

RZ # 1



 = Setback





Element Materials Technology -
 Fort Wayne
 2121 E. Washington Blvd.
 Fort Wayne, IN 46803
 TEL: (260) 424-1622
 Website: www.element.com

REPORT OF ANALYSIS

Lab Number: 16083121

Client Sample ID: Yabio (Dry) # 62 - Merrell Brothers

Date Sampled: 08/22/2016

Date Received: 08/23/2016

Date Reported: 08/30/2016

Parameter	Wet Basis			Dry Basis		Table 1#	Table 3#	Loading Rate		Analyst	Date Analyzed	Method Reference
	Result	Unit	MRL	Result	Unit	mg/kg	mg/kg	Lbs/Wet Ton	Lbs/Dry Ton			
pH	7.97	pH Units			ph units					JXL	8/25/2016	SW9045D
Total Nitrogen	10300	mg/Kg	0.600	5.63	%			20.6	113	CRT	8/29/2016	Calculated
Nitrogen, Kjeldahl, Total	10200	mg/Kg	258	5.60	%			20.5	112	LER	8/25/2016	E351.2
Nitrogen, Ammonia (As N)	778	mg/Kg	1.50	0.425	%			1.56	8.51	CRT	8/29/2016	M4500-NH3 BC
Nitrogen, Nitrate (As N)	55.2	mg/Kg	0.600	0.0302	%			0.110	0.604	CRT	8/29/2016	E353.2
Total Phosphorus	5480	mg/Kg	18.0	2.99	%			11.0	59.9	CXC	8/26/2016	SW6010C
Phosphorus (as P2O5)	12500	mg/Kg	18.0	6.85	%			25.1	137	CXC	8/26/2016	Calculated
Potassium	841	mg/Kg	90.1	0.460	%			1.68	9.19	CXC	8/26/2016	SW6010C
Potassium (as K2O)	1010	mg/Kg	90.1	0.552	%			2.02	11.0	CXC	8/26/2016	Calculated
Arsenic	1.09	mg/Kg	0.225	5.93	mg/Kg	75	41	0.00217	0.0119	CXC	8/26/2016	SW6020
Cadmium	<0.225	mg/Kg	0.225	<1.23	mg/Kg	85	39	<0.00045	<0.00246	CXC	8/26/2016	SW6020
Copper	158	mg/Kg	1.08	864	mg/Kg	4300	1500	0.316	1.73	CXC	8/26/2016	SW6020
Lead	5.34	mg/Kg	0.279	29.2	mg/Kg	840	300	0.0107	0.0584	CXC	8/26/2016	SW6020
Mercury	<0.261	mg/Kg	0.261	<1.43	mg/Kg	57	17	<0.00052	<0.00286	CXC	8/26/2016	SW6020
Molybdenum	3.75	mg/Kg	0.243	20.5	mg/Kg	75		0.00750	0.0410	CXC	8/26/2016	SW6020
Nickel	4.56	mg/Kg	0.234	24.9	mg/Kg	420	420	0.00912	0.0498	CXC	8/26/2016	SW6020
Selenium	1.39	mg/Kg	0.523	7.62	mg/Kg	100	100	0.00279	0.0152	CXC	8/26/2016	SW6020
Zinc	165	mg/Kg	6.53	901	mg/Kg	7500	2800	0.330	1.80	CXC	8/26/2016	SW6020
Percent Solids	18.3	wt%			%					MU	8/25/2016	M2540 G
Total PCBs	<0.080	mg/Kg	0.080	<0.44	mg/Kg			<0.00016	<0.00087	SKW	8/29/2016	SW8082



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Parameter	Wet Basis			Dry Basis		Table 1#	Table 3#	Loading Rate		Analyst	Date Analyzed	Method Reference
	Result	Unit	MRL	Result	Unit	mg/kg	mg/kg	Lbs/Wet Ton	Lbs/Dry Ton			
Percent Moisture	81.71	wt%			%					MU	8/25/2016	M2540 G
IDEM PAN*										CALC	8/29/2016	327 IAC 6.1-4-10(b)
- Aerobic Digestion	---	---	---	---	---	---	---	---	40.35357			
- Anaerobic Digestion	---	---	---	---	---	---	---	---	29.93905			

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.



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Case Narrative

WO#: 16082750

Date: 8/25/2016

CLIENT: Merrell Brothers, Inc.

Project: Yabio (Dry) #62

The geometric mean for fecal coliform density = 400,000 CFU/g-dry.

Original



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Analytical Report

(continuous)

WO#: 16082750

Date Reported 8/25/2016

CLIENT: Merrell Brothers, Inc.

Lab Order: 16082750

Project: Yabio (Dry) #62

Lab ID: 16082750-001

Collection Date: 8/22/2016 3:00:00 PM

Client Sample ID: Yabio (Dry) - 1

Matrix: SLUDGE

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
CLASS B FECAL COLIFORM CFU FECAL COLIFORMS IN SLUDGE BY MF					M9222D	Analyst: JXL
Fecal Coliform	3,800,000	58		CFU/g-dry	1	8/23/2016 12:41:00 PM
CLASS B FECAL COLIFORM CFU SOLIDS, TOTAL					M2540 G	Analyst: MU
Percent Solids	17.4	0.10		wt%	1	8/23/2016 3:40:00 PM

Lab ID: 16082750-002

Collection Date: 8/22/2016 3:00:00 PM

Client Sample ID: Yabio (Dry) - 2

Matrix: SLUDGE

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
CLASS B FECAL COLIFORM CFU FECAL COLIFORMS IN SLUDGE BY MF					M9222D	Analyst: JXL
Fecal Coliform	13,000	60		CFU/g-dry	1	8/23/2016 12:41:00 PM
CLASS B FECAL COLIFORM CFU SOLIDS, TOTAL					M2540 G	Analyst: MU
Percent Solids	16.8	0.10		wt%	1	8/23/2016 3:40:00 PM

Qualifiers: H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 PQL Practical Quantitation Limit

M Manual Integration used to determine area response
 PL Permit Limit
 RL Reporting Detection Limit



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Analytical Report

(continuous)

WO#: 16082750

Date Reported 8/25/2016

CLIENT: Merrell Brothers, Inc.

Lab Order: 16082750

Project: Yabio (Dry) #62

Lab ID: 16082750-003

Collection Date: 8/22/2016 3:00:00 PM

Client Sample ID: Yabio (Dry) - 3

Matrix: SLUDGE

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
CLASS B FECAL COLIFORM CFU FECAL COLIFORMS IN SLUDGE BY MF					M9222D	Analyst: JXL
Fecal Coliform	150,000,000	57		CFU/g-dry	1	8/23/2016 12:41:00 PM
CLASS B FECAL COLIFORM CFU SOLIDS, TOTAL					M2540 G	Analyst: MU
Percent Solids	17.4	0.10		wt%	1	8/23/2016 3:40:00 PM

Lab ID: 16082750-004

Collection Date: 8/22/2016 3:00:00 PM

Client Sample ID: Yabio (Dry) - 4

Matrix: SLUDGE

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
CLASS B FECAL COLIFORM CFU FECAL COLIFORMS IN SLUDGE BY MF					M9222D	Analyst: JXL
Fecal Coliform	82,000	77		CFU/g-dry	1	8/23/2016 12:41:00 PM
CLASS B FECAL COLIFORM CFU SOLIDS, TOTAL					M2540 G	Analyst: MU
Percent Solids	13.0	0.10		wt%	1	8/23/2016 3:40:00 PM

Qualifiers:
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 PQL Practical Quantitation Limit

M Manual Integration used to determine area response
 PL Permit Limit
 RL Reporting Detection Limit



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Analytical Report

(continuous)

WO#: 16082750

Date Reported 8/25/2016

CLIENT: Merrell Brothers, Inc.

Lab Order: 16082750

Project: Yabio (Dry) #62

Lab ID: 16082750-005

Collection Date: 8/22/2016 3:00:00 PM

Client Sample ID: Yabio (Dry) - 5

Matrix: SLUDGE

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
CLASS B FECAL COLIFORM CFU FECAL COLIFORMS IN SLUDGE BY MF					M9222D	Analyst: JXL
Fecal Coliform	1,300,000	37		CFU/g-dry	1	8/23/2016 12:41:00 PM
CLASS B FECAL COLIFORM CFU SOLIDS, TOTAL					M2540 G	Analyst: MU
Percent Solids	26.9	0.10		wt%	1	8/23/2016 3:40:00 PM

Lab ID: 16082750-006

Collection Date: 8/22/2016 3:00:00 PM

Client Sample ID: Yabio (Dry) - 6

Matrix: SLUDGE

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
CLASS B FECAL COLIFORM CFU FECAL COLIFORMS IN SLUDGE BY MF					M9222D	Analyst: JXL
Fecal Coliform	260,000	50		CFU/g-dry	1	8/23/2016 12:41:00 PM
CLASS B FECAL COLIFORM CFU SOLIDS, TOTAL					M2540 G	Analyst: MU
Percent Solids	19.8	0.10		wt%	1	8/23/2016 3:40:00 PM

Qualifiers:
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 PQL Practical Quantitation Limit

M Manual Integration used to determine area response
 PL Permit Limit
 RL Reporting Detection Limit



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Analytical Report

(continuous)

WO#: 16082750

Date Reported 8/25/2016

CLIENT: Merrell Brothers, Inc.

Lab Order: 16082750

Project: Yabio (Dry) #62

Lab ID: 16082750-007

Collection Date: 8/22/2016 3:00:00 PM

Client Sample ID: Yabio (Dry) - 7

Matrix: SLUDGE

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
CLASS B FECAL COLIFORM CFU FECAL COLIFORMS IN SLUDGE BY MF						Analyst: JXL
Fecal Coliform	9,000	60		CFU/g-dry	1	8/23/2016 12:41:00 PM
CLASS B FECAL COLIFORM CFU SOLIDS, TOTAL						Analyst: MU
Percent Solids	16.7	0.10		wt%	1	8/23/2016 3:40:00 PM

Qualifiers: H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitation Limit

M Manual Integration used to determine area response
PL Permit Limit
RL Reporting Detection Limit

