



Alliant Energy
4902 North Biltmore Lane
P.O. Box 77007
Madison, WI 53707-1007

1-800-ALLIANT (800-255-4268)
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February 26, 2024

Mr. Chad Stobbe
Iowa Department of Natural Resources
502 E 9th Street
Des Moines, IA 50319

Mr. Stobbe,

On behalf of Interstate Power and Light and Company (IPL), Alliant Energy is submitting the enclosed Solid Byproduct Management Plan for the Lansing Generating Station (LAN). The enclosed report was developed in accordance with IAC 567-108.6(2) (455B, 455D) and it includes annual Analytical Testing Reports.

The facility ended coal-combustion operations on December 31, 2022, and officially retired June 1, 2023.

Thank you for your review of the enclosed report. If you have any questions, please contact me via email (ursulanorwood@alliantenergy.com) or phone at (608) 458-6203.

Sincerely,

A handwritten signature in cursive script that reads "Ursula Norwood".

Ursula Norwood
Environmental Specialist II
Alliant Energy

Enclosures

Cc: IDNR Field Office #1
Wendy Cigrand, Robin Nelson – IPL Lansing Generating Station
Nic Lelm – Alliant Energy



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Solid By-Product Management Plan – RY2023

Lansing Generating Station

IDNR File #03-SDP-04-01

This solid by-product management plan (plan) is prepared as required by Iowa Administrative Code (IAC) 567-108.6(2) for coal combustion byproduct beneficial uses listed in IAC 567-108.4 and beneficial use determinations granted under IAC 567-108.5.

Facility Information

Interstate Power and Light Company (IPL) owns and operates the Lansing Generating Station (LAN) located at 2320 Power Plant Drive, Lansing, IA 52151. LAN previously operated one steam-electric generating unit (Unit 4) with a nameplate rating of 274.5 megawatts. Sub-bituminous coal was the primary fuel for producing steam, but coal-fired operations ended on December 31, 2022. LAN beneficially used coal combustion byproducts generated from the Unit 4 boiler. The Lansing facility officially retired June 1, 2023, and did not generate any new byproducts in 2023.

Sources of the Solid Byproduct [IAC 567-108.6(2)a]

The following byproduct were beneficially used from this facility:

- **Fly Ash**
Unit 4 was fitted with an electrostatic precipitator (ESP) for fly ash collection. The ESP used a vacuum system to convey fly ash from the precipitator hoppers to three fly ash collection silos with a combined capacity of approximately 1,280 tons. The dry material was unloaded gravitationally from the silos into trucks and hauled off site for beneficial use in cement ready mix and asphalt, as allowed under IAC 567-108.4(4)b1.

Procedures for Periodic Testing of the Solid Byproduct [IAC 567-108.6(2)b]

Testing of byproducts was performed as required under IAC 567-108 in late 2022 for the byproducts that were beneficially used in 2023. The testing was performed in accordance with the Alliant Energy Coal Combustion Residual Sampling Guide. This internal guidance specifies the materials to be sampled, the sample collection methods, laboratory analysis procedures, and methods for comparing the lab results to applicable standards. Specifically, the Sampling Guide outlines a two-tiered review process for all laboratory results:

- The on-site Environmental & Safety Specialist reviewed lab data and compared information to the applicable standards within 5 business days of receiving the report.
- Following the on-site Environmental & Safety Specialist receipt and review of the report, a Corporate Environmental Specialist performed an additional review to validate the initial evaluation.

- If an exceedance was identified, the following steps were taken:
 - Beneficial use activity ceased immediately if there was an exceedance of an applicable standard. Exceedances of statewide soil standards were evaluated by the Iowa Cumulative Risk Calculator and are not suspended if the Risk Calculator indicates that the use remains appropriate under the Site Worker scenario.
 - All exceedances were reported to IDNR as required.

Description of Storage Procedures [IAC 567-108.6(2)c]

- Storage Location
Fly ash was stored in on-site silos prior to beneficial use.
- Maximum Anticipated Inventory
The fly ash silos combined capacity was approximately 1,280 tons.
- Run-on and Run-off Controls
Fly ash was stored in a dry silo and was not exposed to precipitation.
- Minimization of Uncontrolled Dispersion
Uncontrolled dispersion of fly ash was minimized through storage in an enclosed silo and gravitational transfer into closed trucks.
- Maximum Storage Time
By-product inventories were managed using a reconciliation process. Monthly records of byproduct generation were maintained by the facility and Alliant Energy Corporate Services. Records of by-products taken off-site are maintained through retention of weight tickets. A reconciliation of these records was performed monthly by Alliant Energy and entered into an environmental data management system for tracking. The storage time for byproducts did not exceed 6 months.

Additional Information

- Byproduct Uses
Table 1 describes the beneficial uses of Fly Ash from this facility in 2023.

Table 1. Lansing Generating Station Byproduct Uses in 2023.

Use	Unit 4 Fly Ash
Raw Material in the Manufacture of Cement, Concrete Products, or Asphalt	724 tons

- Training, Reporting, and Recordkeeping
The Director of IPL Generation is the Responsible Official that ensured personnel responsible for ash management, including beneficial use, received training regarding the proper on-site storage and management.

No material from this facility was used off-site as fill.

No additional beneficial use activity has occurred at this facility, aside from cleanout of residual fly ash present in ducts and on-site silos. This is expected to be the final solid byproduct management plan submitted for Lansing.

Records related to by-product management are maintained within the corporate electronic document storage system, including:

- Weigh tickets
- Disposal records
- Beneficial use records
- Contracts
- Analytical reports
- Agency correspondence
- Agency determinations and approvals
- Annual IDNR fill reports (if applicable)
- Training

Records will be kept for at least five years.

- **Byproduct Management Responsibilities**

Responsibility for management of byproducts that are beneficially used from this facility is shared by the following personnel:

- The Director of IPL Generation or designee was responsible for the safe and efficient operation of the plant byproduct storage facilities.
- The Team Lead (TL) of Generation Markets is responsible for managing contracts related to byproduct beneficial uses.
- The Corporate Environmental Specialist maintains the environmental data management system database entries related to byproduct beneficial use.
- Plant operations and coal yard personnel are responsible for the daily operation and maintenance of ash ponds, byproduct storage and transport.
- The facility Environmental and Safety (E&S) Specialist is responsible for maintaining records and seeing that inspections of CCR storage & management areas are completed as needed.

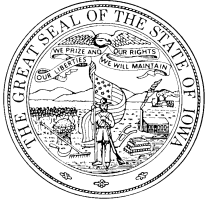
Table 2. Facility Contact Information

Position	Name	Contact Info
Director IPL Generation	Wendi Cigrand	319-786-4698
E&S Specialist	Robin Nelson	319-758-5311
Plant Ash Contact	Robin Nelson	319-758-5311
Plant Control Room	Operations Department	563-538-3151
Corporate Environmental Specialist / Compliance	Ursula Norwood	608-458-6203
TL Generation Markets / CCR Marketing	Nic Lelm	608-458-6227

SIGNATURE OF COMPLETENESS

Signature of person certifying the completeness and accuracy of this plan:

Name	Title	Date
		2/22/24
Wendy Cigrand	Director IPL Generation	



Beneficial Use Determination: Solid By-Product Management Plan Analytical Testing Report

Beneficial Use ID#: 03 -BUD- 04 - 01
 DNR Certified Lab: Eurofins Test America
 Lab Report Date: 10/4/2022
 By-Product Generator: IPL Lansing Generating Station
 City: Lansing State: IA Zip: 52151
 By-Product Name: Fly Ash

Send completed report form(s), laboratory analytics, and supplemental Solid By-Product Management Plan (SBMP) documentation to:

Iowa Department of Natural Resources
 Land Quality Bureau
 Solid Waste Section
 502 E 9th St
 Des Moines, IA 50319-0034

For questions concerning this report form please contact the DNR at (515) 725-8351.

ANALYTICAL TESTING RESULTS

Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (SW-846).

Required		Synthetic Precipitation Leaching Procedure (EPA Test Method 1312)			Total Metals		
*	Contaminant	MCL	10 X MCL	Test Result	Regulatory Limit	Test Result	
<input checked="" type="checkbox"/>	Antimony	0.006 mg/L	0.06 mg/L	mg/L	31 mg/kg	0.832	mg/kg
<input checked="" type="checkbox"/>	Arsenic	0.010 mg/L	0.10 mg/L	mg/L	17 mg/kg	16.3	mg/kg
<input checked="" type="checkbox"/>	Barium	2.0 mg/L	20.0 mg/L	mg/L	15,000 mg/kg	33.1	mg/kg
<input checked="" type="checkbox"/>	Beryllium	0.004 mg/L	0.04 mg/L	mg/L	110 mg/kg	2.99	mg/kg
<input checked="" type="checkbox"/>	Boron				16,000 mg/kg	<44.2	mg/kg
<input checked="" type="checkbox"/>	Cadmium	0.005 mg/L	0.05 mg/L	mg/L	70 mg/kg	1.17	mg/kg
<input checked="" type="checkbox"/>	Chromium	0.1 mg/L	1.0 mg/L	mg/L	** (Total)	122	mg/kg
(Hexavalent - VI)						mg/kg	
(Trivalent - III)						mg/kg	
<input checked="" type="checkbox"/>	Cobalt				23 mg/kg	22	mg/kg
<input checked="" type="checkbox"/>	Copper	1.3 mg/L	13.0 mg/L	mg/L	15,000 mg/kg	130	mg/kg
<input checked="" type="checkbox"/>	Fluoride	4.0 mg/L	40.0 mg/L	mg/L	4,700 mg/kg	40.3	mg/kg
<input checked="" type="checkbox"/>	Lead	0.015 mg/L	0.15 mg/L	mg/L	400 mg/kg	23.6	mg/kg
<input checked="" type="checkbox"/>	Lithium				160 mg/kg	27.4	mg/kg
<input checked="" type="checkbox"/>	Manganese				10,000 mg/kg	247	mg/kg
<input checked="" type="checkbox"/>	Mercury	0.002 mg/L	0.02 mg/L	mg/L	23 mg/kg	<0.00605	mg/kg
<input checked="" type="checkbox"/>	Molybdenum				390 mg/kg	9.68	mg/kg
<input checked="" type="checkbox"/>	Nickel				1,500 mg/kg	7.69	mg/kg
<input checked="" type="checkbox"/>	Selenium	0.05 mg/L	0.5 mg/L	mg/L	390 mg/kg	9.02	mg/kg
<input checked="" type="checkbox"/>	Silver				370 mg/kg	0.183	mg/kg
<input checked="" type="checkbox"/>	Thallium	0.002 mg/L	0.02 mg/L	mg/L	0.78 mg/kg	0.349	mg/kg
<input checked="" type="checkbox"/>	Vanadium				350 mg/kg	15.9	mg/kg
<input checked="" type="checkbox"/>	Zinc				23,000 mg/kg	92.9	mg/kg

*Required contaminant

**If Total Chromium \geq 210 mg/kg, further analysis shall be conducted to determine hexavalent and trivalent results.

Toxicity Characteristic Leaching Procedure (EPA Test Method 1311) - Regulatory Limits

Metals					Volatile Organic Compounds				
*	Contaminant	Regulatory Limit	Test Result		*	Contaminant	Regulatory Limit	Test Result	
<input checked="" type="checkbox"/>	Arsenic	5.0 mg/L	<0.100	mg/L	<input type="checkbox"/>	Benzene	0.5 mg/L		mg/L
<input checked="" type="checkbox"/>	Barium	100.0 mg/L	2.23	mg/L	<input type="checkbox"/>	Carbon tetrachloride	0.5 mg/L		mg/L
<input checked="" type="checkbox"/>	Cadmium	1.0 mg/L	<0.008	mg/L	<input type="checkbox"/>	Chlorobenzene	100.0 mg/L		mg/L
<input checked="" type="checkbox"/>	Chromium	5.0 mg/L	0.430	mg/L	<input type="checkbox"/>	Chloroform	6.0 mg/L		mg/L
<input checked="" type="checkbox"/>	Lead	5.0 mg/L	<0.050	mg/L	<input type="checkbox"/>	1,2-Dichloroethane	0.5 mg/L		mg/L
<input checked="" type="checkbox"/>	Mercury	0.2 mg/L	<0.001	mg/L	<input type="checkbox"/>	1,1-Dichloroethylene	0.7 mg/L		mg/L
<input checked="" type="checkbox"/>	Selenium	1.0 mg/L	0.193	mg/L	<input type="checkbox"/>	Methyl ethyl ketone	200.0 mg/L		mg/L
<input checked="" type="checkbox"/>	Silver	5.0 mg/L	<0.009	mg/L	<input type="checkbox"/>	Tetrachloroethylene	0.7 mg/L		mg/L
					<input type="checkbox"/>	Trichloroethylene	0.5 mg/L		mg/L
					<input type="checkbox"/>	Vinyl chloride	0.2 mg/L		mg/L
Pesticides					Semi-Volatile Organic Compounds				
*	Contaminant	Regulatory Limit	Test Result		*	Contaminant	Regulatory Limit	Test Result	
<input type="checkbox"/>	Chlordane	0.03 mg/L		mg/L	<input type="checkbox"/>	o-Cresol	200.0 mg/L		mg/L
<input type="checkbox"/>	Endrin	0.02 mg/L		mg/L	<input type="checkbox"/>	m-Cresol	200.0 mg/L		mg/L
<input type="checkbox"/>	Heptachlor (and its epoxide)	0.008 mg/L		mg/L	<input type="checkbox"/>	p-Cresol	200.0 mg/L		mg/L
<input type="checkbox"/>	Lindane	0.4 mg/L		mg/L	<input type="checkbox"/>	Cresol	200.0 mg/L		mg/L
<input type="checkbox"/>	Methoxychlor	10.0 mg/L		mg/L	<input type="checkbox"/>	1,4-Dichlorobenzene	7.5 mg/L		mg/L
<input type="checkbox"/>	Toxaphene	0.5 mg/L		mg/L	<input type="checkbox"/>	2,4-Dinitrotoluene	0.13 mg/L		mg/L
					<input type="checkbox"/>	Hexachlorobenzene	0.13 mg/L		mg/L
					<input type="checkbox"/>	Hexachlorobutadiene	0.5 mg/L		mg/L
					<input type="checkbox"/>	Hexachloroethane	3.0 mg/L		mg/L
Herbicides					<input type="checkbox"/>	Nitrobenzene	2.0 mg/L		mg/L
*	Contaminant	Regulatory Limit	Test Result		<input type="checkbox"/>	Pentachlorophenol	100.0 mg/L		mg/L
<input type="checkbox"/>	2,4-D	10.0 mg/L		mg/L	<input type="checkbox"/>	Pyridine	5.0 mg/L		mg/L
<input type="checkbox"/>	2,4,5-TP (Silvex)	1.0 mg/L		mg/L	<input type="checkbox"/>	2,4,5- Trichlorophenol	400.0 mg/L		mg/L
					<input type="checkbox"/>	2,4,6- Trichlorophenol	2.0 mg/L		mg/L

*Required contaminant

BY-PRODUCT GENERATOR CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Signature:  Date: 1 March 2023
 Printed Name: JOHN WATTS Title: PLANT MANAGER

ANALYTICAL REPORT

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-240696-1

Client Project/Site: LAN Coal Combustion Residual Testing

For:

Alliant Energy Corporation
2320 Power Plant Drive
Lansing, Iowa 52151

Attn: Glen Thomas



Authorized for release by:

10/4/2022 3:43:13 PM

Brian Graettinger, Lab Director
(319)595-2012

Brian.Graettinger@et.eurofinsus.com

Designee for

Shirley Thompson, Client Service Manager
(319)277-2401

Shirley.Thompson@et.eurofinsus.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Case Narrative

Client: Alliant Energy Corporation
Project/Site: LAN Coal Combustion Residual Testing

Job ID: 310-240696-1

Job ID: 310-240696-1

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-240696-1

Comments

No additional comments.

Receipt

The samples were received on 9/22/2022 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.0° C.

HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals

Method 6020B: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following sample: LAN Fly Ash (310-240696-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



Sample Summary

Client: Alliant Energy Corporation
Project/Site: LAN Coal Combustion Residual Testing

Job ID: 310-240696-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-240696-1	LAN Fly Ash	Solid	09/21/22 08:00	09/22/22 09:00
310-240696-2	LAN Bottom Ash	Solid	09/21/22 08:30	09/22/22 09:00
310-240696-3	LAN FGD Byproduct	Solid	09/21/22 09:15	09/22/22 09:00

- 1
- 2
- 3
- 4
- 5
- 6
- 7

Client Sample Results

Client: Alliant Energy Corporation
 Project/Site: LAN Coal Combustion Residual Testing

Job ID: 310-240696-1

Client Sample ID: LAN Fly Ash

Lab Sample ID: 310-240696-1

Date Collected: 09/21/22 08:00

Matrix: Solid

Date Received: 09/22/22 09:00

Percent Solids: 99.8

Method: 9056A - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Analyzed	Dil Fac	Analyst
Fluoride	40.3		9.95	4.38	mg/Kg	✱	09/27/22 22:35	10	J7CK

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Analyzed	Dil Fac	Analyst
Arsenic	<0.100		0.200	0.100	mg/L		09/28/22 12:03	1	ZRI4
Barium	2.23		0.500	0.110	mg/L		09/28/22 12:03	1	ZRI4
Cadmium	<0.00780		0.0200	0.00780	mg/L		09/28/22 12:03	1	ZRI4
Chromium	0.430		0.0200	0.00870	mg/L		09/28/22 12:03	1	ZRI4
Lead	<0.0500		0.100	0.0500	mg/L		09/28/22 12:03	1	ZRI4
Selenium	0.193		0.100	0.0670	mg/L		09/28/22 12:03	1	ZRI4
Silver	<0.00940		0.0200	0.00940	mg/L		09/28/22 12:03	1	ZRI4

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Analyzed	Dil Fac	Analyst
Antimony	0.832		0.736	0.317	mg/Kg	✱	10/01/22 04:31	5	A6US
Arsenic	16.3		0.736	0.265	mg/Kg	✱	10/01/22 04:31	5	A6US
Barium	33.1		2.94	1.24	mg/Kg	✱	10/03/22 18:54	20	A6US
Beryllium	2.99		0.368	0.133	mg/Kg	✱	10/01/22 04:31	5	A6US
Boron	<44.2		147	44.2	mg/Kg	✱	10/03/22 18:54	20	A6US
Cadmium	1.17		0.368	0.110	mg/Kg	✱	10/01/22 04:31	5	A6US
Chromium	122		1.10	0.353	mg/Kg	✱	10/01/22 04:31	5	A6US
Cobalt	22.0		0.184	0.0957	mg/Kg	✱	10/01/22 04:31	5	A6US
Copper	130		1.10	0.560	mg/Kg	✱	10/01/22 04:31	5	A6US
Lead	23.6		1.84	0.574	mg/Kg	✱	10/01/22 04:31	5	A6US
Lithium	27.4		1.84	0.501	mg/Kg	✱	10/01/22 04:31	5	A6US
Manganese	247		1.84	0.957	mg/Kg	✱	10/01/22 04:31	5	A6US
Molybdenum	9.68		0.736	0.243	mg/Kg	✱	10/01/22 04:31	5	A6US
Nickel	7.69	^6+	4.42	1.71	mg/Kg	✱	10/03/22 18:54	20	A6US
Selenium	9.02		1.10	0.456	mg/Kg	✱	10/01/22 04:31	5	A6US
Silver	0.183	J	0.184	0.110	mg/Kg	✱	10/01/22 04:31	5	A6US
Thallium	0.349		0.184	0.147	mg/Kg	✱	10/01/22 04:31	5	A6US
Vanadium	15.9		4.42	1.09	mg/Kg	✱	10/03/22 18:54	20	A6US
Zinc	92.9		3.68	1.84	mg/Kg	✱	10/01/22 04:31	5	A6US

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Analyzed	Dil Fac	Analyst
Mercury	<0.00120		0.00200	0.00120	mg/L		09/29/22 14:28	1	XXW3

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Analyzed	Dil Fac	Analyst
Mercury	<0.00605		0.0151	0.00605	mg/Kg	✱	09/30/22 09:18	1	XXW3

Client Sample Results

Client: Alliant Energy Corporation
 Project/Site: LAN Coal Combustion Residual Testing

Job ID: 310-240696-1

Client Sample ID: LAN Bottom Ash

Lab Sample ID: 310-240696-2

Date Collected: 09/21/22 08:30

Matrix: Solid

Date Received: 09/22/22 09:00

Percent Solids: 89.5

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Analyzed	Dil Fac	Analyst
Antimony	0.486	J	1.08	0.466	mg/Kg	☼	10/01/22 04:34	5	A6US
Arsenic	6.97		1.08	0.390	mg/Kg	☼	10/01/22 04:34	5	A6US
Barium	33.0		2.17	0.910	mg/Kg	☼	10/03/22 19:30	10	A6US
Beryllium	2.44		0.542	0.195	mg/Kg	☼	10/01/22 04:34	5	A6US
Cadmium	0.370	J	0.542	0.162	mg/Kg	☼	10/01/22 04:34	5	A6US
Chromium	58.1		1.62	0.520	mg/Kg	☼	10/01/22 04:34	5	A6US
Cobalt	14.1		0.271	0.141	mg/Kg	☼	10/01/22 04:34	5	A6US
Copper	77.1		1.62	0.823	mg/Kg	☼	10/01/22 04:34	5	A6US
Lead	8.52		2.71	0.845	mg/Kg	☼	10/01/22 04:34	5	A6US
Manganese	152		2.71	1.41	mg/Kg	☼	10/01/22 04:34	5	A6US
Molybdenum	3.50		1.08	0.357	mg/Kg	☼	10/01/22 04:34	5	A6US
Nickel	8.88	^6+	3.25	1.26	mg/Kg	☼	10/03/22 19:30	10	A6US
Selenium	2.16		1.62	0.672	mg/Kg	☼	10/01/22 04:34	5	A6US
Silver	<0.162		0.271	0.162	mg/Kg	☼	10/01/22 04:34	5	A6US
Thallium	<0.217		0.271	0.217	mg/Kg	☼	10/01/22 04:34	5	A6US
Vanadium	22.5		3.25	0.802	mg/Kg	☼	10/03/22 19:30	10	A6US
Zinc	49.2		5.42	2.71	mg/Kg	☼	10/01/22 04:34	5	A6US

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Analyzed	Dil Fac	Analyst
Mercury	<0.00714		0.0179	0.00714	mg/Kg	☼	09/30/22 09:21	1	XXW3

Client Sample Results

Client: Alliant Energy Corporation
 Project/Site: LAN Coal Combustion Residual Testing

Job ID: 310-240696-1

Client Sample ID: LAN FGD Byproduct

Lab Sample ID: 310-240696-3

Date Collected: 09/21/22 09:15

Matrix: Solid

Date Received: 09/22/22 09:00

Percent Solids: 98.7

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Analyzed	Dil Fac	Analyst
Antimony	<0.795		1.85	0.795	mg/Kg	✱	10/03/22 19:38	10	A6US
Arsenic	10.2		0.924	0.333	mg/Kg	✱	10/01/22 04:38	5	A6US
Barium	207		0.924	0.388	mg/Kg	✱	10/01/22 04:38	5	A6US
Beryllium	1.79		0.462	0.166	mg/Kg	✱	10/01/22 04:38	5	A6US
Cadmium	0.840		0.462	0.139	mg/Kg	✱	10/01/22 04:38	5	A6US
Chromium	58.8		1.39	0.444	mg/Kg	✱	10/01/22 04:38	5	A6US
Cobalt	12.6		0.231	0.120	mg/Kg	✱	10/01/22 04:38	5	A6US
Copper	81.8		1.39	0.702	mg/Kg	✱	10/01/22 04:38	5	A6US
Lead	20.8		2.31	0.721	mg/Kg	✱	10/01/22 04:38	5	A6US
Manganese	152		2.31	1.20	mg/Kg	✱	10/01/22 04:38	5	A6US
Molybdenum	5.18		0.924	0.305	mg/Kg	✱	10/01/22 04:38	5	A6US
Nickel	22.2	^6+	2.77	1.07	mg/Kg	✱	10/03/22 19:38	10	A6US
Selenium	14.1		1.39	0.573	mg/Kg	✱	10/01/22 04:38	5	A6US
Silver	<0.277	^6+	0.462	0.277	mg/Kg	✱	10/03/22 19:38	10	A6US
Thallium	0.236		0.231	0.185	mg/Kg	✱	10/01/22 04:38	5	A6US
Vanadium	45.0		2.77	0.684	mg/Kg	✱	10/03/22 19:38	10	A6US
Zinc	76.5		4.62	2.31	mg/Kg	✱	10/01/22 04:38	5	A6US

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Analyzed	Dil Fac	Analyst
Mercury	2.20		0.353	0.141	mg/Kg	✱	09/30/22 09:45	20	XXW3

Accreditation/Certification and Definitions Summary

Client: Alliant Energy Corporation
 Project/Site: LAN Coal Combustion Residual Testing

Job ID: 310-240696-1

Laboratory: Eurofins Cedar Falls

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-02-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
6020B	3050B	Solid	Lithium
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Qualifiers

Metals

Qualifier	Qualifier Description
^6+	Interference Check Standard (ICSA and/or IC SAB) is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)

Accreditation/Certification and Definitions Summary

Client: Alliant Energy Corporation
Project/Site: LAN Coal Combustion Residual Testing

Job ID: 310-240696-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count



Method Summary

Client: Alliant Energy Corporation
Project/Site: LAN Coal Combustion Residual Testing

Job ID: 310-240696-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	EET CF
6010C	Metals (ICP)	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
7471B	Mercury (CVAA)	SW846	EET CF
Moisture	Percent Moisture	EPA	EET CF
1311	TCLP Extraction	SW846	EET CF
3010A	Preparation, Total Metals	SW846	EET CF
3050B	Preparation, Metals	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF
7471B	Preparation, Mercury	SW846	EET CF
DI Leach	Deionized Water Leaching Procedure	ASTM	EET CF

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401



Environment Testing
America



310-240696 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

1
2
3
4
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Client Information			
Client: <i>Alliant</i>			
City/State:	CITY <i>Laurens</i>	STATE <i>IA</i>	Project:
Receipt Information			
Date/Time Received:	DATE <i>9-22-22</i>	TIME <i>9:00</i>	Received By: <i>AL</i>
Delivery Type: <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # ____ of ____	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<i>R</i>	Correction Factor (°C):	<i>0</i>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<i>1.0</i>	Corrected Temp (°C):	<i>1.0</i>
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Chain of Custody Record

Client Information Client Contact: Glen Thomas Phone: (563) 538-3173 E-Mail: Shirley Thompson@eurofins.com				Lab PM: Thompson Shirley J State of Origin:		Carrier Tracking No(s): 310-74301-18810 1 Page: Page 1 of 1 Job #:	
Company: Alliant Energy Corporation Address: 2320 Power Plant Drive City: Lansing State/Zip: IA, 52151 Phone: 563-538-3143(Tel) Email: glenthomas@alliantenergy.com				PWSID:		Preservation Codes: M Hexane N None O AsNaO2 P Na2O4S Q Na2SO3 R Na2S2O3 S H2SO4 T - TSP Dodecahydrate U - Acetone V MCAA W pH 4-5 Y Trizma Z other (specify)	
Project Name: LAN Coal Combustion Residual Testing Site:				Analysis Requested Perform MS/MSD (Yes or No) Field Filled Sample (Yes or No)		Total Number of Containers	
Due Date Requested: TAT Requested (days): Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No PO #: GENCO00249416A Line 1 WO #: Project #: 31003947 SSOV#:				6010C, 7470A 6020B, 7471B, 9056A_ORGFM_28D 6020B, 7470A, 9056A_ORGFM_28D 6020B, 7471B		Special Instructions/Note	
Sample Identification LAN Fly Ash LAN Bottom Ash LAN FGD Byproduct		Sample Date: 9-21-22, 9-21-22, 9-21-22 Sample Time: 08:00, 08:30, 09:15 Sample Type (C=comp, G=grab): G, G, G	Matrix: (W=water, S=solid, G=gas, O=oil, T=tissue, A=air)	Perform MS/MSD (Yes or No): N, N, N Field Filled Sample (Yes or No): X, X, X Total Number of Containers: 2, 2, 1			Special Instructions/Note
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological							
Deliverable Requested I II III IV Other (specify)							
Empty Kit Relinquished by:							
Relinquished by: Glen Thomas Date/Time: 9-21-22 09:30 Company: Alliant		Received by: <i>(Signature)</i> Date/Time: 9-22-22 8:00 Company:		Return To Client: <input checked="" type="checkbox"/> Disposal By Lab: <input type="checkbox"/> Archive For: <input type="checkbox"/> Months:			
Relinquished by:							
Relinquished by:		Received by:		Method of Shipment:			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Cooler Temperature(s) °C and Other Remarks:							