



Pace Analytical Services, LLC

2231 W. Altorfer Drive

Peoria, IL 61615

(800)752-6651

April 13, 2022

Emily Hoeft
Archer Daniels Midland - Clinton
1800 South 5th Street
Clinton, IA 52732

RE: 253529

Dear Emily Hoeft:

Please find enclosed the analytical results for the **1** sample(s) the laboratory received on **3/21/22 11:55 am** and logged in under work order **FC03673**. All testing is performed according to our current TNI accreditations unless otherwise noted. This report cannot be reproduced, except in full, without the written permission of Pace Analytical Services, LLC.

If you have any questions regarding your report, please contact your project manager. Quality and timely data is of the utmost importance to us.

Pace Analytical Services appreciates the opportunity to provide you with analytical expertise. We are always trying to improve our customer service and we welcome you to contact the Director of Client Services, Lisa Grant, with any feedback you have about your experience with our laboratory at 309-683-1764 or lisa.grant@pacelabs.com.

A handwritten signature in black ink that reads 'Erin M. Lane'.

Erin Lane
Project Manager
(309)683-1767
erin.lane@pacelabs.com

**SAMPLE RECEIPT CHECK LIST**

Items not applicable will be marked as in compliance

Work Order FC03673

YES	Samples received within temperature compliance when applicable
YES	COC present upon sample receipt
YES	COC completed & legible
YES	Sampler name & signature present
YES	Unique sample IDs assigned
YES	Sample collection location recorded
YES	Date & time collected recorded on COC
YES	Relinquished by client signature on COC
YES	COC & labels match
YES	Sample labels are legible
YES	Appropriate bottle(s) received
YES	Sufficient sample volume received
YES	Sample containers received undamaged
NO	Zero headspace, <6 mm present in VOA vials
NO	Trip blank(s) received
YES	All non-field analyses received within holding times
NO	Short hold time analysis
NO	Current PDC COC submitted
NO	Case narrative provided



ANALYTICAL RESULTS

Sample: FC03673-01

Name: ADM Fly Ash

Matrix: Solid - Grab

Sampled: 03/17/22 12:30

Received: 03/21/22 11:55

PO #: 600286623

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Anions - PIA									
Sulfate	11000	mg/kg		03/29/22 01:16	250	2500	03/29/22 01:16	CRD	EPA 9056A
DI EXT WC - PIA									
Chloride	86	mg/L		03/25/22 15:14	10	10	03/25/22 15:14	CRD	EPA 300.0 REV 2.1
Cyanide	< 0.0050	mg/L		03/28/22 08:24	1	0.0050	03/29/22 09:31	CRS1	EPA 9012A REV1
Final pH	12	mg/L		03/23/22 13:55	1		03/24/22 09:41	CWW	ASTM D3987
Final pH	12	pH Units		03/23/22 13:55	1		03/24/22 09:41	CWW	ASTM D3987
Fluoride	2.1	mg/L		03/28/22 15:35	1	0.25	03/28/22 15:35	TTH	SM 4500F C 1997
Sulfate	1400	mg/L		03/25/22 15:32	250	250	03/25/22 15:32	CRD	EPA 9056A
General Chemistry - PIA									
Calcium Carbonate Equivalent	56	%		03/23/22 11:27	1	1.0	03/23/22 11:27	TTH	Soil Analysis 91-4
Fluoride	34	mg/kg		03/28/22 15:39	1	2.5	03/28/22 15:39	TTH	SM 4500F C 1997
pH paste	13	pH Units	H	03/23/22 13:18	1		03/23/22 13:18	TTH	EPA 9045D
Solids - loss on ignition (LOI)	2.0	%		03/24/22 13:42	1	1.0	03/24/22 13:55	ADM	ASTM D2795 MOD
Solids - paste total dissolved solids	7900	mg/L		03/24/22 13:45	1	100	03/24/22 14:22	JLC1	SM 2540C
Solids - total solids (TS)	100	%		03/24/22 13:42	1	0.050	03/24/22 13:55	ADM	SM 2540G
Semivolatile Organics - TCLP - PIA									
Pyridine	< 0.10	mg/L		03/25/22 08:19	1	0.10	03/31/22 18:03	KAF	EPA 8270C
2-Methylphenol	< 0.10	mg/L		03/25/22 08:19	1	0.10	03/31/22 18:03	KAF	EPA 8270C
3- & 4-Methylphenol	< 0.10	mg/L		03/25/22 08:19	1	0.10	03/31/22 18:03	KAF	EPA 8270C
Hexachloroethane	< 0.10	mg/L		03/25/22 08:19	1	0.10	03/31/22 18:03	KAF	EPA 8270C
Nitrobenzene	< 0.10	mg/L		03/25/22 08:19	1	0.10	03/31/22 18:03	KAF	EPA 8270C
Hexachlorobutadiene	< 0.10	mg/L		03/25/22 08:19	1	0.10	03/31/22 18:03	KAF	EPA 8270C
2,4,6-Trichlorophenol	< 0.50	mg/L		03/25/22 08:19	1	0.50	03/31/22 18:03	KAF	EPA 8270C
2,4,5-Trichlorophenol	< 0.50	mg/L		03/25/22 08:19	1	0.50	03/31/22 18:03	KAF	EPA 8270C
2,4-Dinitrotoluene	< 0.10	mg/L		03/25/22 08:19	1	0.10	03/31/22 18:03	KAF	EPA 8270C
Hexachlorobenzene	< 0.10	mg/L		03/25/22 08:19	1	0.10	03/31/22 18:03	KAF	EPA 8270C
Pentachlorophenol	< 0.50	mg/L		03/25/22 08:19	1	0.50	03/31/22 18:03	KAF	EPA 8270C
SPLP Metals - PIA									
Antimony	< 0.0030	mg/L		03/24/22 10:38	5	0.0030	03/25/22 10:16	JMW	EPA 6020A
Arsenic	< 0.0050	mg/L		03/24/22 10:38	5	0.0050	03/25/22 10:16	JMW	EPA 6020A



ANALYTICAL RESULTS

Sample: FC03673-01

Name: ADM Fly Ash

Matrix: Solid - Grab

Sampled: 03/17/22 12:30

Received: 03/21/22 11:55

PO #: 600286623

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Barium	< 0.50	mg/L		03/24/22 10:38	5	0.50	03/25/22 10:16	JMW	EPA 6020A
Beryllium	< 0.0010	mg/L		03/24/22 10:38	5	0.0010	03/25/22 10:16	JMW	EPA 6020A
Cadmium	< 0.0010	mg/L		03/24/22 10:38	5	0.0010	03/25/22 10:16	JMW	EPA 6020A
Chromium	0.056	mg/L		03/24/22 10:38	5	0.0040	03/25/22 10:16	JMW	EPA 6020A
Copper	0.061	mg/L	B	03/24/22 10:38	5	0.0050	03/25/22 10:16	JMW	EPA 6020A
Lead	0.006	mg/L		03/24/22 10:38	5	0.005	03/25/22 10:16	JMW	EPA 6020A
Selenium	0.033	mg/L		03/24/22 10:38	5	0.0025	03/25/22 10:16	JMW	EPA 6020A
Thallium	< 0.0010	mg/L		03/24/22 10:38	5	0.0010	03/25/22 10:16	JMW	EPA 6020A
Mercury	< 0.00050	mg/L		03/24/22 10:38	5	0.00050	03/25/22 10:16	JMW	EPA 6020A

TCLP Metals - PIA

Final pH	11.70	pH Units		03/23/22 13:55	1		03/28/22 12:41	CWW	EPA 1311
Final pH	11.70	pH Units		03/23/22 13:55	1		03/28/22 12:41	CWW	EPA 1311
Antimony	< 0.012	mg/L		03/24/22 10:29	20	0.012	03/24/22 14:14	JMW	EPA 6020A
Arsenic	< 0.020	mg/L		03/24/22 10:29	20	0.020	03/24/22 14:14	JMW	EPA 6020A
Barium	2.3	mg/L		03/24/22 10:29	20	2.0	03/24/22 14:14	JMW	EPA 6020A
Beryllium	< 0.0040	mg/L		03/24/22 10:29	20	0.0040	03/25/22 08:02	JMW	EPA 6020A
Boron	1.1	mg/L		03/24/22 10:29	20	1.0	03/25/22 08:02	JMW	EPA 6020A
Cadmium	< 0.0040	mg/L		03/24/22 10:29	20	0.0040	03/24/22 14:14	JMW	EPA 6020A
Chromium	< 0.016	mg/L		03/24/22 10:29	20	0.016	03/24/22 14:14	JMW	EPA 6020A
Cobalt	< 0.020	mg/L		03/24/22 10:29	20	0.020	03/24/22 14:14	JMW	EPA 6020A
Copper	< 0.020	mg/L		03/24/22 10:29	20	0.020	03/24/22 14:14	JMW	EPA 6020A
Iron	< 120	ug/L		03/24/22 10:29	20	120	03/24/22 14:14	JMW	EPA 6020A
Lead	< 0.020	mg/L		03/24/22 10:29	20	0.020	03/24/22 14:14	JMW	EPA 6020A
Manganese	< 0.0040	mg/L		03/24/22 10:29	20	0.0040	03/24/22 14:14	JMW	EPA 6020A
Nickel	< 0.020	mg/L		03/24/22 10:29	20	0.020	03/24/22 14:14	JMW	EPA 6020A
Selenium	0.036	mg/L		03/24/22 10:29	20	0.010	03/24/22 14:14	JMW	EPA 6020A
Silver	< 0.020	mg/L		03/24/22 10:29	20	0.020	03/24/22 14:14	JMW	EPA 6020A
Thallium	< 0.0040	mg/L		03/24/22 10:29	20	0.0040	03/24/22 14:14	JMW	EPA 6020A
Mercury	< 0.0020	mg/L		03/24/22 10:29	20	0.0020	03/24/22 14:14	JMW	EPA 6020A
Zinc	< 2.0	mg/L		03/24/22 10:29	20	2.0	03/24/22 14:14	JMW	EPA 6020A

TCLP WC - PIA

Phenolics	< 0.10	mg/kg		03/30/22 12:46	1	0.10	03/31/22 10:20	CRS1	EPA 9066
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Total Metals - PIA

Antimony	< 3.0	mg/kg		03/29/22 15:48	10	3.0	03/30/22 10:53	JMW	EPA 6020A
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ANALYTICAL RESULTS

Sample: FC03673-01

Name: ADM Fly Ash

Matrix: Solid - Grab

Sampled: 03/17/22 12:30

Received: 03/21/22 11:55

PO #: 600286623

Parameter	Result	Unit	Qualifier	Prepared	Dilution	MRL	Analyzed	Analyst	Method
Arsenic	4.1	mg/kg		03/29/22 15:48	10	1.0	03/30/22 10:53	JMW	EPA 6020A
Barium	2500	mg/kg		03/29/22 15:48	100	10	03/30/22 12:49	JMW	EPA 6020A
Beryllium	1.1	mg/kg		03/29/22 15:48	10	1.0	03/30/22 10:53	JMW	EPA 6020A
Boron	320	mg/kg		03/29/22 15:48	100	100	04/12/22 14:52	SJW	EPA 6020A
Cadmium	< 1.0	mg/kg		03/29/22 15:48	10	1.0	03/30/22 10:53	JMW	EPA 6020A
Calcium	150000	mg/kg		03/29/22 15:48	100	1000	03/30/22 12:49	JMW	EPA 6020A
Chromium	18	mg/kg		03/29/22 15:48	10	4.0	03/30/22 10:53	JMW	EPA 6020A
Cobalt	9.3	mg/kg		03/29/22 15:48	10	2.0	03/30/22 10:53	JMW	EPA 6020A
Copper	89	mg/kg		03/29/22 15:48	10	3.0	03/30/22 10:53	JMW	EPA 6020A
Lead	16	mg/kg		03/29/22 15:48	10	1.0	03/30/22 10:53	JMW	EPA 6020A
Manganese	140	mg/kg		03/29/22 15:48	10	1.0	03/30/22 10:53	JMW	EPA 6020A
Molybdenum	3.7	mg/kg		03/29/22 15:48	10	1.0	03/30/22 10:53	JMW	EPA 6020A
Nickel	17	mg/kg		03/29/22 15:48	10	5.0	03/30/22 10:53	JMW	EPA 6020A
Selenium	4.9	mg/kg		03/29/22 15:48	10	1.0	03/30/22 10:53	JMW	EPA 6020A
Silver	< 5.0	mg/kg		03/29/22 15:48	10	5.0	03/30/22 10:53	JMW	EPA 6020A
Thallium	0.29	mg/kg		03/29/22 15:48	10	0.20	03/30/22 10:53	JMW	EPA 6020A
Vanadium	70	mg/kg		03/29/22 15:48	10	5.0	03/30/22 10:53	JMW	EPA 6020A
Mercury	0.20	mg/kg		03/29/22 15:48	10	0.20	03/30/22 10:53	JMW	EPA 6020A
Zinc	320	mg/kg		03/29/22 15:48	10	6.0	03/30/22 10:53	JMW	EPA 6020A
Lithium	< 50	mg/kg		03/29/22 15:48	10	50	04/01/22 08:51	TJJ	EPA 6010B
Sulfur	24000	mg/kg		03/29/22 15:48	40	400	03/31/22 15:14	TJJ	EPA 6010B

Volatile Organics - TCLP - PIA

1,1-Dichloroethene	< 0.005	mg/L		03/25/22 10:50	1	0.005	03/25/22 14:41	JJI	EPA 8260B
1,2-Dichloroethane	< 0.005	mg/L		03/25/22 10:50	1	0.005	03/25/22 14:41	JJI	EPA 8260B
1,4-Dichlorobenzene	< 0.005	mg/L		03/25/22 10:50	1	0.005	03/25/22 14:41	JJI	EPA 8260B
2-Butanone	< 0.010	mg/L		03/25/22 10:50	1	0.010	03/25/22 14:41	JJI	EPA 8260B
Benzene	< 0.005	mg/L		03/25/22 10:50	1	0.005	03/25/22 14:41	JJI	EPA 8260B
Carbon tetrachloride	< 0.005	mg/L		03/25/22 10:50	1	0.005	03/25/22 14:41	JJI	EPA 8260B
Chlorobenzene	< 0.005	mg/L		03/25/22 10:50	1	0.005	03/25/22 14:41	JJI	EPA 8260B
Chloroform	< 0.005	mg/L		03/25/22 10:50	1	0.005	03/25/22 14:41	JJI	EPA 8260B
Tetrachloroethene	< 0.005	mg/L		03/25/22 10:50	1	0.005	03/25/22 14:41	JJI	EPA 8260B
Trichloroethene	< 0.005	mg/L		03/25/22 10:50	1	0.005	03/25/22 14:41	JJI	EPA 8260B
Vinyl chloride	< 0.005	mg/L		03/25/22 10:50	1	0.005	03/25/22 14:41	JJI	EPA 8260B



NOTES

Specifications regarding method revisions, method modifications, and calculations used for analysis are available upon request. Please contact your project manager.

* Not a TNI accredited analyte

Certifications

CHI - McHenry, IL - 4314-A W. Crystal Lake Road, McHenry, IL 60050

TNI Accreditation for Drinking Water and Wastewater Fields of Testing through IL EPA Accreditation No. 100279

Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17556

PIA - Peoria, IL - 2231 W. Altorfer Drive, Peoria, IL 61615

TNI Accreditation for Drinking Water, Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. 100230

Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory Registry No. 17553

Drinking Water Certifications/Accreditations: Iowa (240); Kansas (E-10338); Missouri (870)

Wastewater Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

Solid and Hazardous Material Certifications/Accreditations: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

SPMO - Springfield, MO - 1805 W Sunset Street, Springfield, MO 65807

USEPA DMR-QA Program

STL - Hazelwood, MO - 944 Anglum Rd, Hazelwood, MO 63042

TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through KS KDHE Certification No. E-10389

TNI Accreditation for Wastewater, Solid and Hazardous Material Fields of Testing through IL EPA Accreditation No. - 200080

Illinois Department of Public Health Bacterial Analysis in Drinking Water Approved Laboratory, Registry No. 171050

Missouri Department of Natural Resources - Certificate of Approval for Microbiological Laboratory Service - No. 1050

Qualifiers

B Present in the method blank at 0.00769 mg/L.

H Test performed after the expiration of the appropriate regulatory/advisory maximum allowable hold time.

Certified by: Erin Lane, Project Manager





Client: Ms. Erin Lane
Pace Analytical Services, LLC
2231 West Altorfer Drive
Peoria, IL 61615

File Number 22001797.01
Date 03-30-2022
Project Name FC03673
Pace Analytical Laboratories
Peoria, Illinois

Purchase Order # 45

SIEVE ANALYSIS TEST RESULTS

SAMPLE NUMBER:	PACE #FC03673-01 (ADM Fly Ash)
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SIEVE DESIGNATION	PERCENTAGE BY WEIGHT PASSING-%
3/8"	100.0
#4	100.0
#8	100.0
#60	100.0

Should you have any questions or comments whatsoever in regard to this report, or if any additional information is desired, please do not hesitate to contact us at your convenience.

Respectfully submitted,
IMEG CORP.

Scott M. Osmulski
Field Technician III
309-673-2131
scott.m.osmulski@imegcorp.com

SMO/rma

PIXE Test Report
 Elemental Analysis, Inc.
 2101 Capstone Dr. Ste. 110
 Lexington, KY 40511
 Tel: 1-800-563-PIXE(7493)

Date: 3/24/2022
 Run: 20
 Job: 7920-22
 Name: PDC Laboratories Inc.
 Project: Erin Lane
 Target: FC03673-01

Element Name	Energy (keV)	Det. Limit 95% Conf.	Concentration Mass	Error
* O -----			36.984%	
Sodium	1.041	0.201%	1.567%	0.166%
Magnesium	1.254	603.000 ppm	9.643%	0.096%
Aluminium	1.487	467.600 ppm	7.099%	0.071%
Silicon	1.740	199.400 ppm	11.619%	0.116%
Phosphorus	2.010	299.200 ppm	1.163%	0.028%
Sulphur	2.308	193.400 ppm	4.857%	0.049%
Chlorine	2.622	162.000 ppm	0.293%	0.016%
Potassium	3.314	174.900 ppm	1.202%	0.023%
Calcium	3.692	500.700 ppm	21.856%	0.219%
Sc	4.091	802.500 ppm		
Titanium	4.511	241.600 ppm	0.563%	0.019%
V	4.952	75.740 ppm		
Cr	5.415	16.950 ppm		
Manganese	5.899	19.580 ppm	200.099 ppm	11.886 ppm
Iron	6.405	19.440 ppm	2.541%	0.025%
Co	6.930	24.330 ppm		
Nickel	7.478	4.714 ppm	15.108 ppm	2.825 ppm
Copper	8.048	3.444 ppm	128.289 ppm	3.823 ppm
Zinc	8.639	2.504 ppm	456.072 ppm	6.294 ppm
Gallium	9.252	3.800 ppm	10.257 ppm	2.513 ppm
Ge	9.887	1.972 ppm		
As	10.544	2.790 ppm		
Se	11.222	2.766 ppm		
Bromine	11.924	2.235 ppm	37.317 ppm	3.131 ppm
Rb	13.395	5.982 ppm		
Strontium	14.165	15.150 ppm	0.155%	0.002%
Yttrium	14.958	7.452 ppm	18.820 ppm	5.544 ppm
Zirconium	15.775	60.640 ppm	126.373 ppm	22.722 ppm
Nb	16.615	7.586 ppm		
Mo	17.480	8.150 ppm		
Tc	18.367	8.394 ppm		
Ru	19.279	6.642 ppm		
Rh	20.216	9.904 ppm		
Pd	21.176	11.600 ppm		
Ag	22.162	13.750 ppm		
Cd	23.173	14.760 ppm		
In	24.210	32.280 ppm		
Sn	25.271	20.460 ppm		
Sb	26.359	48.720 ppm		
Te	3.768	0.682%		
I	3.937	0.262%		
Cs	4.288	373.600 ppm		
Barium	5.157	427.500 ppm	0.356%	0.031%
La	4.648	499.500 ppm		
Ce	4.841	309.100 ppm		
Pr	5.034	151.200 ppm		
Nd	5.230	92.620 ppm		
Pm	5.431	57.110 ppm		
Sm	5.632	37.720 ppm		
Eu	5.841	48.650 ppm		
Gd	6.050	28.080 ppm		
Tb	6.271	175.400 ppm		

PIXE Test Report
 Elemental Analysis, Inc.
 2101 Capstone Dr. Ste. 110
 Lexington, KY 40511
 Tel: 1-800-563-PIXE(7493)

Date: 3/24/2022
 Run: 20
 Job: 7920-22
 Name: PDC Laboratories Inc.
 Project: Erin Lane
 Target: FC03673-01

Element Name	Energy (keV)	Det. Limit 95% Conf.	Concentration Mass	Error
Dy	6.492	216.000 ppm		
Ho	6.725	19.540 ppm		
Er	6.945	77.480 ppm		
Tm	7.182	62.350 ppm		
Yb	7.416	10.890 ppm		
Lu	7.655	8.188 ppm		
Hf	7.899	12.150 ppm		
Ta	8.149	14.870 ppm		
W	8.398	8.800 ppm		
Re	8.652	37.160 ppm		
Os	8.911	11.000 ppm		
Ir	9.174	7.750 ppm		
Pt	9.443	12.190 ppm		
Au	9.712	10.340 ppm		
Hg	9.989	5.365 ppm		
Tl	10.267	6.627 ppm		
Lead	10.551	9.821 ppm	32.395 ppm	6.897 ppm
Bi	10.838	6.002 ppm		
Th	12.968	11.390 ppm		
U	13.616	12.080 ppm		

Login No:

FC03673-01

Fly Ash

PACE Analytical Services, LLC

SPLP Metals	Results (mg/L)	Test Date	Drinking Water MCL Limit (mg/l)	10 x MCL Limit	Exceeds MCL	Exceeds 10x MCL
Antimony	< 0.003	03/25/22	0.006	0.06		
Arsenic	< 0.005	03/25/22	0.01	0.1		
Barium	< 0.5	03/25/22	2	20		
Beryllium	< 0.001	03/25/22	0.004	0.04		
Cadmium	< 0.001	03/25/22	0.005	0.05		
Chromium	0.056	03/25/22	0.1	1		
Copper	0.061	03/25/22	1.3	13		
Fluoride	2.1	03/25/22	4	40		
Lead	0.006	03/25/22	0.015	0.15		
Mercury	< 0.0005	03/25/22	0.002	0.02		
Selenium	0.033	03/25/22	0.05	0.5		
Thallium	< 0.001	03/25/22	0.002	0.02		

Total Metals	Results (mg/kg)	Test Date	State Standards for Soil (mg/kg)	Exceeds State Standard
Antimony	< 3	03/30/22	31	
Arsenic	4.1	03/30/22	17	
Barium	2500	03/30/22	15000	
Beryllium	1.1	03/30/22	110	
Boron	320	03/30/22	16000	
Cadmium	< 1	03/30/22	70	
Chromium	18	03/30/22	210	
Cobalt	9.3	03/30/22	23	
Copper	89	03/30/22	15000	
Fluoride	34	03/28/22	4700	
Lead	16	03/30/22	400	
Lithium	< 50	04/01/22	160	
Manganese	140	03/30/22	10000	
Mercury	0.2	03/30/22	23	
Molybdenum	3.7	03/30/22	390	
Nickel	17	03/30/22	1500	
Selenium	4.9	03/30/22	390	
Silver	< 5	03/30/22	370	
Thallium	0.29	03/30/22	0.78	
Vanadium	70	03/30/22	350	
Zinc	320	03/30/22	23000	

TCLP Metals	Results (mg/L)	Test Date	Regulatory Limit (mg/l)	Exceeds Regulatory Limit
Arsenic	< 0.020	03/24/22	5	
Barium	2.3	03/24/22	100	
Cadmium	< 0.004	03/24/22	1	
Chromium	< 0.016	03/24/22	5	
Lead	< 0.02	03/24/22	5	
Mercury	< 0.002	03/24/22	0.2	
Selenium	0.036	03/24/22	1	
Silver	< 0.02	03/24/22	5	

PDC LABORATORIES, INC.
2231 WEST ALTORFER DRIVE **PHONE # 309-692-9688**
PEORIA, IL 61615 **FAX # 309-692-9689**

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FAX # 309-692-9689

CHAIN OF CUSTODY RECORD

State where samples collected IOWA

CLIENT TO COMPLETE SECTIONS 1, 2, 3, 5 & 7 (PLEASE PRINT)

[illegible]



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

Beneficial Use ID#: 23 -BUD- 15 - 03
DNR Certified Lab: Pace Laboratories
Lab Report Date: 04/13/2022
By-Product Generator: ADM Clinton Cogeneration
City: Clinton State: IA Zip: 52732
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) 201-8272.

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	
☒	Antimony	0.006 mg/L	0.06 mg/L	<0.003 mg/L	31 mg/kg	<3	mg/kg
☒	Arsenic	0.010 mg/L	0.10 mg/L	<0.005 mg/L	17 mg/kg	4.1	mg/kg
☒	Barium	2.0 mg/L	20.0 mg/L	<0.5 mg/L	15,000 mg/kg	2500	mg/kg
☒	Beryllium	0.004 mg/L	0.04 mg/L	<0.001 mg/L	110 mg/kg	1.1	mg/kg
☒	Boron				16,000 mg/kg	320	mg/kg
☒	Cadmium	0.005 mg/L	0.05 mg/L	<0.001 mg/L	70 mg/kg	<1	mg/kg
☒	Chromium	0.1 mg/L	1.0 mg/L	0.056 mg/L	** (Total)	18	mg/kg
					(Hexavalent - VI) 210 mg/kg		mg/kg
					(Trivalent - III) 97,000 mg/kg		mg/kg
☒	Cobalt				23 mg/kg	9.3	mg/kg
☒	Copper	1.3 mg/L	13.0 mg/L	0.061 mg/L	15,000 mg/kg	89	mg/kg
☒	Fluoride	4.0 mg/L	40.0 mg/L	2.1 mg/L	4,700 mg/kg	34	mg/kg
☒	Lead	0.015 mg/L	0.15 mg/L	0.006 mg/L	400 mg/kg	16	mg/kg
☒	Lithium				160 mg/kg	<50	mg/kg
☒	Manganese				10,000 mg/kg	140	mg/kg
☒	Mercury	0.002 mg/L	0.02 mg/L	<0.0005 mg/L	23 mg/kg	0.2	mg/kg
☒	Molybdenum				390 mg/kg	3.7	mg/kg
☒	Nickel				1,500 mg/kg	17	mg/kg
☒	Selenium	0.05 mg/L	0.5 mg/L	0.033 mg/L	390 mg/kg	4.9	mg/kg
☒	Silver				370 mg/kg	<5	mg/kg
☒	Thallium	0.002 mg/L	0.02 mg/L	<0.001 mg/L	0.78 mg/kg	0.29	mg/kg
☒	Vanadium				350 mg/kg	70	mg/kg
☒	Zinc				23,000 mg/kg	320	mg/kg

*Required contaminant

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

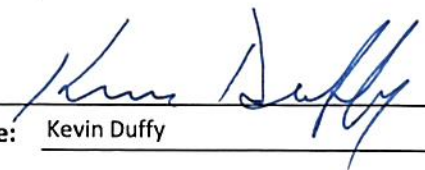
Toxicity Characteristic Leaching Procedure (EPA Test Method 1311) - Regulatory Limits

Metals					Volatile Organic Compounds				
*	Contaminant	Regulatory Limit	Test Result		*	Contaminant	Regulatory Limit	Test Result	
☒	Arsenic	5.0 mg/L	<0.020	mg/L	☐	Benzene	0.5 mg/L		mg/L
☒	Barium	100.0 mg/L	2.3	mg/L	☐	Carbon tetrachloride	0.5 mg/L		mg/L
☒	Cadmium	1.0 mg/L	<0.004	mg/L	☐	Chlorobenzene	100.0 mg/L		mg/L
☒	Chromium	5.0 mg/L	<0.016	mg/L	☐	Chloroform	6.0 mg/L		mg/L
☒	Lead	5.0 mg/L	<0.02	mg/L	☐	1,2-Dichloroethane	0.5 mg/L		mg/L
☒	Mercury	0.2 mg/L	<0.002	mg/L	☐	1,1-Dichloroethylene	0.7 mg/L		mg/L
☒	Selenium	1.0 mg/L	0.036	mg/L	☐	Methyl ethyl ketone	200.0 mg/L		mg/L
☒	Silver	5.0 mg/L	<0.02	mg/L	☐	Tetrachloroethylene	0.7 mg/L		mg/L
					☐	Trichloroethylene	0.5 mg/L		mg/L
					☐	Vinyl chloride	0.2 mg/L		mg/L
Pesticides					Semi-Volatile Organic Compounds				
*	Contaminant	Regulatory Limit	Test Result		*	Contaminant	Regulatory Limit	Test Result	
☐	Chlordane	0.03 mg/L		mg/L	☐	o-Cresol	200.0 mg/L		mg/L
☐	Endrin	0.02 mg/L		mg/L	☐	m-Cresol	200.0 mg/L		mg/L
☐	Heptachlor (and its epoxide)	0.008 mg/L		mg/L	☐	p-Cresol	200.0 mg/L		mg/L
☐	Lindane	0.4 mg/L		mg/L	☐	Cresol	200.0 mg/L		mg/L
☐	Methoxychlor	10.0 mg/L		mg/L	☐	1,4-Dichlorobenzene	7.5 mg/L		mg/L
☐	Toxaphene	0.5 mg/L		mg/L	☐	2,4-Dinitrotoluene	0.13 mg/L		mg/L
					☐	Hexachlorobenzene	0.13 mg/L		mg/L
					☐	Hexachlorobutadiene	0.5 mg/L		mg/L
					☐	Hexachloroethane	3.0 mg/L		mg/L
Herbicides					☐	Nitrobenzene	2.0 mg/L		mg/L
*	Contaminant	Regulatory Limit	Test Result		☐	Pentachlorophenol	100.0 mg/L		mg/L
☐	2,4-D	10.0 mg/L		mg/L	☐	Pyridine	5.0 mg/L		mg/L
☐	2,4,5-TP (Silvex)	1.0 mg/L		mg/L	☐	2,4,5-Trichlorophenol	400.0 mg/L		mg/L
					☐	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: 04/18/2022
 Printed Name: Kevin Duffy Title: Cogen Plant Manager