

ANALYTICAL REPORT

Job Number: 680-60518-1

Job Description: Environmental Dialogne Committee

For:

Kennedy & Madonna, LLP
48 Dewitt Mills Rd
Hurley, NY 12443

Attention: Mr. Kevin Madonna



Approved for release:
Sheila Hoffman
Project Manager I
9/28/2010 10:23 AM

Sheila Hoffman
Project Manager I
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09/28/2010

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. This report may not be reproduced, except in full, without the written approval of the laboratory. Questions should be directed to the person who signed this report.

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LABORATORY SERVICES

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Tampa, Florida 33601
(813) 229-2879
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TestAmerica-Savannah
5102 LaRoche Ave.
Savannah, GA. 31404

Attn: Sheila Hoffman

Report Date: August 31, 2010

Field Custody: Client
Client/Field ID: 680-60518-01
Salinas1

Sample Collection: 8-18-10/0900
Lab ID No: 10.5776
Lab Custody Date: 8-25-10/1100
Sample description: solid

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/g	9.9 ± 1.6	8-31-10/0800	DOE RP710	1.6
Gross Beta	pCi/g	5.7 ± 0.8	8-31-10/0800	DOE RP710	1.6

Alpha Standard: Th-230
Beta Standard: Cr-137

James W. Hayes
Laboratory Manager

Test results meet all the requirements of the NELAP standards.
Contact person: Jim Hayes (813) 229-2879.

Analytical Data

Client: Kennedy & Madonna, LLP

Job Number: 680-60518-1

Client Sample ID: Salinas 1

Lab Sample ID: 680-60518-1

Client Matrix: Solid

% Moisture: 35.7

Date Sampled: 08/18/2010 0900
Date Received: 08/19/2010 0935

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 08/28/2010 0406
Date Prepared: 08/28/2010 1135
Analysis Batch: 680-178536
Prep Batch: 680-178345
Instrument ID: ICPD
Lab File ID: 082710.chr
Initial Weight/Volume: 1.01 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Antimony		5.3		3.1
Arsenic		23		3.1
Barium		720		1.5
Beryllium		2.2		0.62
Boron		140		15
Cadmium		1.2		0.77
Chromium		35		1.5
Cobalt		12		1.5
Copper		46		1.5
Iron		28000		3.8
Lead		8.3		31
Magnesium		6500		1.5
Manganese		310		1.5
Molybdenum		8.7		77
Nickel		33		1.5
Selenium		19		6.2
Silver		<1.5		3.8
Thallium		<3.8		1.5
Vanadium		130		3.8
Zinc		64		1.5
				3.1

7471A Mercury (CVAA)

Method: 7471A
Preparation: 7471A
Dilution: 1.0
Date Analyzed: 08/25/2010 1916
Date Prepared: 08/24/2010 1034
Analysis Batch: 680-178327
Prep Batch: 680-178055
Instrument ID: LEEMAN1
Lab File ID: b082510.chr
Initial Weight/Volume: 0.55 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Mercury		0.21		0.018

BORRADOR
Resumen del Análisis de la Muestra de Cenizas de Carbón Tomada en Salinas

Cenizas de la planta de carbón de AES se están usando extensamente como relleno en diferentes municipios en Puerto Rico, especialmente en el sur de la isla. Dada la amplia base de datos del riesgo a la salud y al ambiente que representan estas cenizas, se decidió coger muestras en un área rellena con cenizas en Salinas. Las muestras se enviaron para análisis de composición química al laboratorio acreditado Test America Savannah. De los resultados reportados de mayor preocupación son los de metales y emisiones radioactivas. Entre los metales de mayor preocupación en las cenizas se encontraron Arsénico, Boro, Cadmio, Cromo, Cobalto, Plomo, Molibdeno, Níquel, Selenio, Talio y Vanadio. Todos son Tóxicos y/o cancerígenos a humanos. Las concentraciones variaron entre unidades de mg/Kg hasta cientos de mg/Kg de ceniza. En docenas de sitios donde se han depositado cenizas de carbón sobre terrenos, según la misma EPA, se han contaminado acuíferos con metales a niveles que los hacen inservibles como fuente de agua. Hay cientos de otros lugares actualmente siendo estudiados por la EPA. El uso de las cenizas de carbón como relleno pone en riesgo de contaminación irreversible a nuestros acuíferos en el área sur de la isla.

Otro resultado de preocupación fueron los niveles altos encontrados de radiación alfa. Esta es de las radioactividades más energéticas. La EPA indica que cuando particulado que genera radiación (en este caso polvo de las cenizas) es inhalado, aumenta el riesgo de contraer cáncer. El transporte y manejo de las cenizas dispersa particulado de cenizas por nuestras carreteras y áreas urbanas poniendo en riesgo la salud del pueblo.

Es sumamente urgente parar estas prácticas de uso de cenizas de carbón que ponen en riesgo la salud del pueblo. En adición, hay que exigir la remoción de estas cenizas de donde se han depositado.

DRAFT

Summary of the Analysis of a Coal Ash Sample Taken in Salinas, Puerto Rico

Coal ashes from the AES power generating plant are being used extensively as fill at construction sites in different municipalities in Puerto Rico, especially in the southern region of the island. Based on the overwhelming amount of data that shows the risk to human health and the environment posed by ashes from coal combustion, it was important to analyze ashes from the AES plant in Puerto Rico. Ashes were taken at a construction site in Salinas, P.R. These were sent to Test America Savannah Laboratories for chemical analyses. Of the results reported that were of most concern were the metals and levels of alpha radiation.

Among the metals found of most concern were Arsenic, Boron, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Nickel, Selenium, Thallium, and Vanadium. EPA recognizes that they are toxic and/or present cancer risks to humans (ref. 1). The concentration levels ranged between units of mg/Kg to hundreds of mg/Kg of ash. According to EPA, in dozens of sites of coal ash landfills, groundwater has been contaminated by metals to levels that far exceed safe limits forcing wells to be closed. At least a hundred additional sites are being evaluated for metal contamination due to coal ash. The use of coal ashes as fill puts our groundwater resources at risk of irreversible contamination. These are an important source of drinking water along the south coast.

In addition to the metals, relatively high levels of alpha radiation were found in the ash samples. Alpha particles, among the most energetic radioactivity, if inhaled or ingested, will increase the risk of cancer according to EPA. (ref. 2) When combined, the 9.9 pCi/g gross alpha and 5.7 pCi/g of gross beta radiation in the ash sample are more than triple the 5 pCi/g concentration criterion for surface soil, and still exceed the 15 pCi/g subsurface criteria levels recognized by EPA and NRC for remediation cleanup. (ref. 3) The transport and handling of coal combustion ashes disperses ash particles along our roads and urban areas putting at risk the health of the people.

It is of utmost urgency to stop the use of coal ashes as fill to protect health and quality of life of our residents. In addition we must demand the removal and safe disposition of ashes from sites where they have been used as fill.

Acknowledgement:

The people of Puerto Rico are grateful for the support from Kennedy & Madonna, LLP in this effort against this use of coal combustion ashes.