



1005 Brandon Shores Road
Baltimore, Maryland 21226

Constellation Power Generation (CPG) is providing this coal combustion byproducts (CCBs) information in accordance with COMAR 26.04.10.08 for the **H.A. Wagner Electric Generation Station** located at the Constellation Power Fort Smallwood Complex in northeastern Anne Arundel County, Maryland.

A. Contact information (26.04.10.08 A.(1)):

Facility Name: H.A. Wagner Electric Generation Station

Name of Permit Holder: Constellation Power Source Generation

Facility Address: 3000 Brandon Shores Road
Street

Facility Address: Baltimore Maryland 21226
City State Zip

County: Anne Arundel

Facility Telephone No.: 410.787.5017 Facility Fax No.: 410.787.6960

Contact Information (Person filing report or Environmental Manager)

Contact Name: John E. Murosko, P.G.

Contact Title: Program Manager

Contact Address: 1005 Brandon Shores Road
Street

Contact Address: Baltimore Maryland 21226
City State Zip

Contact Email: john.murosko@constellation.com

Contact Telephone No.: 410.787.5471 Contact Fax No.: 410.787.6637

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MAR 13 2009
Solid Waste Program

B. Description of the CCBs generation process (26.04.10.08 A.(2)):

H.A. Wagner (HAW): H.A. Wagner consists of 2 coal-fired units (Units 2 and 3), one #6 oil-fired unit (Unit 4) and one unit (Unit 1) that can burn either natural gas or #6 oil. The plant has a combined nominal generating capacity of 1,020 MW. Unit 2 began operations in 1959 using a Babcock and Wilcox (B&W) natural circulation boiler, and Unit 3 began operations in 1966 using a B&W once-through supercritical boiler. Coal is supplied by barge and stored in a coal pile adjacent to the plant. Coal is fed from the coal pile to the plant storage bunkers via conveyor belts, after which the coal is pulverized and blown into the furnaces. Units 2 and 3 are currently equipped with ESPs for control of PM emissions. Unit 3 has been retrofitted with a SCR system for control of NOx emissions, and Unit 2 utilizes a selective non-catalytic reduction (SNCR) system for the same purpose. Ash is collected from the ESP hoppers and conveyed pneumatically to storage silos from where it is loaded into trucks for final disposition.

Coals burned in 2008 at the H.A. Wagner Plant from Central Appalachian and Powder River Basin sources, and are summarized below:

Mine Location	Tons
Webster Co. WV	650,875
Knott Co. KY	181,297
Powder River Basin WY	65,339
Total	897,511

C. Annual report of CCBs generated during the last 5 calendar years (26.04.10.08 A.(3)):

CCBs produced at the H.A. Wagner electric generation station during this reporting period consist of fly ash and bottom ash, and are summarized below.

**Table 1: CCBs Produced in Past Five Years
H.A. Wagner Electric Generation Station**

Year	Fly Ash (tons)	Bottom Ash (tons)
2008	136,334	7,509
2007	250,623	9,174
2006	206,893	9,831
2005	237,584	10,325
2004	141,607	8,041

**D. Descriptions of modeling or risk assessments conducted in the previous year
(26.04.10.08 A.(4)):**

Prior to September, 2007, Constellation placed CCBs generated at the Brandon Shores and H.A.Wagner facilities and not used for other beneficial uses, at the BBSS facility in Gambrills, MD. Constellation conducted certain modeling or risk assessments in 2008 related to the CCBs placed at the BBSS location. More specifically, it performed modeling of the groundwater flow and CCB-related constituent movement for use in evaluating prospective remedial options at the BBSS site. The modeling results were used to support the "Alternatives Analysis and Proposed Remediation Report," dated May 5, 2008 and submitted to the Director of the Water Management Administration, MDE on May 7, 2008. Additional modeling or risk assessments that may have been in progress in connection with asserted or threatened private claims (not involving MDE as a party) are privileged and confidential, were incomplete or preliminary, and may not even be related specifically to CCBs.

**E. Copies of all laboratory reports of all chemical characterizations of the CCBs
(26.04.10.08 A.(5)):**

The following analytical results for CCBs sampled in 2008 are attached to this report:

- Fly Ash - PRB Injection, TCLP Metals, Phase Separation Science, Inc., March 21, 2008
- Fly Ash, Wagner 3, TCLP Metals, Phase Separation Science, Inc., May 27, 2008
- Bottom Ash, Wagner 3, TCLP Metals, Phase Separation Science, Inc., May 27, 2008
- Fly Ash, WAG#2 w/o Trona, TCLP Metals, Phase Separation Science, Inc., November 18, 2008
- Fly Ash, WAG#2 w/ Trona, TCLP Metals, Phase Separation Science, Inc., November 18, 2008
- Fly Ash, Wagner #2 Trona Test, TCLP Metals, Phase Separation Science, Inc., November 25, 2008
- Fly Ash, Wagner #2 TRONA, TCLP Metals, Phase Separation Science, Inc., December 10, 2008
- Bottom Ash, Total Oxides, Standard Laboratories, Inc., August 15, 2008
- Fly Ash, Wagner Silos, Total Oxides, Standard Laboratories, Inc., August 15, 2008
- Fly Ash, Wagner, Oxides/Alkalies, CTL/Thompson Materials Engineers, Inc., August 25, 2008

F. Descriptions of how CCBs were used and/or disposed (26.04.10.08 A.(6)):

The following table documents the types and volumes of the CCBs used or disposed of in the last 5 calendar years.

- CCBs delivered to BBSS in Gambrills, MD were used for surface mine restoration.
- CCBs delivered to Waste Management were used for daily cover municipal solid waste (MSW) landfills located in Charles City and King George, VA.
- CCBs delivered to Mountainview Landfill in Allegany County, MD were used for daily cover in that MSW landfill, as authorized by MDE.
- CCBs delivered to Lehigh Cement in Union Bridge, MD were used in concrete production.
- CCBs delivered to Bonsal in White Marsh, MD were used as flowable fill in area projects.
- STI processed fly ash from H.A. Wagner, distributing their product to concrete plants throughout the mid-Atlantic region.
- From time to time within this reporting period, small amounts of CCBs (from 5 gallons to less than 20 tons) were delivered to various entities for testing and evaluation of various uses, including metals extraction, grout mixtures and concrete mixtures.

**Table 2: CCBs Used/Disposed in Past Five Years
H.A. Wagner Electric Generation Station**

Year	CCB Receiver	Fly Ash (tons)	Bottom Ash (tons)	CCBs Use
2008	Lehigh	20,962		concrete
	Waste Mgmt, VA	112,305	7,509	landfill, daily cover
	Mountainview LF, MD	3,067		landfill, daily cover
2007	Lehigh	77,711	87	concrete
	Bonsal	4,444		flowable fill
	BBSS	153,079	8,811	mine reclamation
	Waste Mgmt, VA	15,390	249	landfill, daily cover
2006	Lehigh	81,992		concrete
	BBSS	115,879	9,831	mine reclamation
2005	STI	1,193		concrete
	Lehigh	45,589		concrete
	Bonsal	5,708		flowable fill
	BBSS	185,094	10,325	mine reclamation
2004	Lehigh	23,477	3,256	concrete
	Bonsal	2,030		flowable fill
	BBSS	116,099	4,785	mine reclamation

G. Projections for CCBs use or disposal for the next 5 years (26.04.10.08 A.(7)):

The estimates provided in this section represent the best information that CPSG has available at this time. CPSG's goal is to maximize beneficial reuse over disposal and is continually seeking new markets which, if successful, could alter the projections provided in Table 3 on the following page.

- CCBs delivered to Waste Management of Virginia will be used for daily cover in MSW landfills located in Charles City and King George, VA.
- CCBs delivered to Mountainview Landfill in Allegany County, MD, will be used for daily cover in that MSW landfill, as authorized by MDE.
- CCBs delivered to STI will be used in concrete plants throughout the mid-Atlantic region.
- CCBs delivered to Lehigh Cement in Union Bridge, MD will be used in concrete production.

CPSG is currently pursuing purchase of a permitted industrial waste landfill in Baltimore City. If the purchase and re-permitting is successful, CCBs not used for beneficial purposes will be placed in this landfill at the projected tonnages beginning in late 2010 rather than the landfills indicated in Table 3 below.

**Table 3: CCBs Use/Disposal Projections for the Next Five Years
H.A. Wagner Electric Generation Station**

Year	Fly Ash	Tons Used	Tons Disposed	Bottom Ash	Tons Used	Tons Disposed
2009	Waste Mgt - VA		47,309	Waste Mgt - VA		6,961
	Lehigh	84,955				
	Total	84,955	47,309	Total		6,961
2010	Waste Mgt - VA		19,205	Waste Mgt - VA		6,125
	Lehigh	97,174				
	Total	97,174	19,205	Total		6,125
2011	Waste Mgt - VA		37,543	Waste Mgt - VA		7,029
	Lehigh	96,000				
	Total	96,000	37,543	Total		7,029
2012	Waste Mgt - VA		35,480	Waste Mgt - VA		6,920
	Lehigh	96,000				
	Total	96,000	35,480	Total		6,920
2013	Waste Mgt - VA		32,021	Waste Mgt - VA		6,738
	Lehigh	96,000				
	Total	96,000	32,021	Total		6,738

H. Signature and Certification (26.04.10.08 B):

This is to certify that, to the best of my knowledge, the information contained in this report and any attached documents are true, accurate, and complete.		
 Signature	Quinn Morrison, Director-Asset Operations 410.787.5399 <hr/> Quinn.Morrison@constellation.com Email Address	<u>3/13/09</u> Date

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 8052702

Constellation Energy Group, Baltimore, MD

June 3, 2008

Project Name: Typical Coal Samples

Project Location: Various

Sample ID: Wagner 3 Fly Ash domes Date/Time Sampled: 05/27/2008 09:00 PSS Sample ID: 8052702-001
 Matrix: SOLID Date/Time Received: 05/27/2008 10:05

TCLP Metals

Analytical Method: SW846 6020A

Preparation Method: SW846 3010A

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	5.0		1	05/30/08	05/30/08 13:57	1034
Barium	ND	mg/L	100		1	05/30/08	05/30/08 13:57	1034
Cadmium	ND	mg/L	1.0		1	05/30/08	05/30/08 13:57	1034
Chromium	ND	mg/L	5.0		1	05/30/08	05/30/08 13:57	1034
Lead	ND	mg/L	5.0		1	05/30/08	05/30/08 13:57	1034
Mercury	ND	mg/L	0.200		1	05/30/08	05/30/08 13:57	1034
Selenium	ND	mg/L	1.0		1	05/30/08	05/30/08 13:57	1034
Silver	ND	mg/L	5.0		1	05/30/08	05/30/08 13:57	1034

Sample ID: Brandon 1 Fly Ash domes Date/Time Sampled: 05/27/2008 09:00 PSS Sample ID: 8052702-002
 Matrix: SOLID Date/Time Received: 05/27/2008 10:05

TCLP Metals

Analytical Method: SW846 6020A

Preparation Method: SW846 3010A

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	5.0		1	05/30/08	05/30/08 14:27	1034
Barium	ND	mg/L	100		1	05/30/08	05/30/08 14:27	1034
Cadmium	ND	mg/L	1.0		1	05/30/08	05/30/08 14:27	1034
Chromium	ND	mg/L	5.0		1	05/30/08	05/30/08 14:27	1034
Lead	ND	mg/L	5.0		1	05/30/08	05/30/08 14:27	1034
Mercury	ND	mg/L	0.200		1	05/30/08	05/30/08 14:27	1034
Selenium	ND	mg/L	1.0		1	05/30/08	05/30/08 14:27	1034
Silver	ND	mg/L	5.0		1	05/30/08	05/30/08 14:27	1034

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 8052702

Constellation Energy Group, Baltimore, MD

June 3, 2008

Project Name: Typical Coal Samples

Project Location: Various

Sample ID: Brandon 2 Fly Ash domes Date/Time Sampled: 05/27/2008 09:00 PSS Sample ID: 8052702-003
 Matrix: SOLID Date/Time Received: 05/27/2008 10:05

TCLP Metals

Analytical Method: SW846 6020A

Preparation Method: SW846 3010A

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	5.0		1	05/30/08	05/30/08 14:33	1034
Barium	ND	mg/L	100		1	05/30/08	05/30/08 14:33	1034
Cadmium	ND	mg/L	1.0		1	05/30/08	05/30/08 14:33	1034
Chromium	ND	mg/L	5.0		1	05/30/08	05/30/08 14:33	1034
Lead	ND	mg/L	5.0		1	05/30/08	05/30/08 14:33	1034
Mercury	ND	mg/L	0.200		1	05/30/08	05/30/08 14:33	1034
Selenium	ND	mg/L	1.0		1	05/30/08	05/30/08 14:33	1034
Silver	ND	mg/L	5.0		1	05/30/08	05/30/08 14:33	1034

Sample ID: Wagner 3 Bottom Ash domes Date/Time Sampled: 05/27/2008 09:00 PSS Sample ID: 8052702-004
 Matrix: SOLID Date/Time Received: 05/27/2008 10:05

TCLP Metals

Analytical Method: SW846 6020A

Preparation Method: SW846 3010A

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	5.0		1	05/30/08	05/30/08 14:39	1034
Barium	ND	mg/L	100		1	05/30/08	05/30/08 14:39	1034
Cadmium	ND	mg/L	1.0		1	05/30/08	05/30/08 14:39	1034
Chromium	ND	mg/L	5.0		1	05/30/08	05/30/08 14:39	1034
Lead	ND	mg/L	5.0		1	05/30/08	05/30/08 14:39	1034
Mercury	ND	mg/L	0.200		1	05/30/08	05/30/08 14:39	1034
Selenium	ND	mg/L	1.0		1	05/30/08	05/30/08 14:39	1034
Silver	ND	mg/L	5.0		1	05/30/08	05/30/08 14:39	1034

Analytical Report for

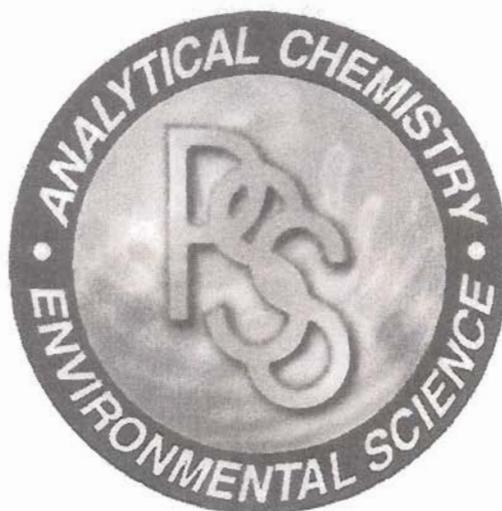
Constellation Energy Group

Certificate of Analysis No.: 8032018

Project Manager: John Basciano

Project Name : PRB Injection, Flyash

Project Location : Wabner



March 21, 2008

Phase Separation Science, Inc.

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PHASE SEPARATION SCIENCE, INC.



March 21, 2008

John Basciano
Constellation Energy Group
1015 Brandon Shores Rd.
Baltimore, MD 21226

Reference: PSS Work Order No: **8032018**
Project Name : PRB Injection, Flyash
Project Location: Wabner

Dear John Basciano :

The attached Analytical and QC Summary lists the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order numbered **8032018**.

All work reported herein has been performed in accordance with referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on April 24, 2008. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 10 years, after which time it will be disposed without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

John Richardson
Laboratory Director

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 8032018

Constellation Energy Group, Baltimore, MD

March 21, 2008

Project Name: PRB Injection, Flyash
 Project Location: Wabner

Sample ID: PRB 50/50 Injection
 Matrix: SOLID

Date/Time Sampled: 03/20/2008 15:00

PSS Sample ID: 8032018-001

Date/Time Received: 03/20/2008 16:03

TCLP Metals

Analytical Method: SW846 6020A

Preparation Method: SW846 3010A

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	5.0		1	03/21/08	03/21/08 13:41	1034
Barium	ND	mg/L	100		1	03/21/08	03/21/08 13:41	1034
Cadmium	ND	mg/L	1.0		1	03/21/08	03/21/08 13:41	1034
Chromium	ND	mg/L	5.0		1	03/21/08	03/21/08 13:41	1034
Lead	ND	mg/L	5.0		1	03/21/08	03/21/08 13:41	1034
Mercury	ND	mg/L	0.200		1	03/21/08	03/21/08 13:41	1034
Selenium	0.249	mg/L	1.0		1	03/21/08	03/21/08 13:41	1034
Silver	ND	mg/L	5.0		1	03/21/08	03/21/08 13:41	1034



Phase Separation Science, Inc

Sample Receipt Checklist

Wo Number	8032018	Received By	Rachel Davis
Client Name	Constellation Energy Group	Date Received	03/20/2008 04:03:00 PM
Project Name	PRB Injection, Flyash	Delivered By	Client
Project Number	N/A	Tracking No	Not Applicable
		Logged In By	Rachel Davis

Shipping Container(s)

No. of Coolers	0	Ice	Absent
Custody Seals	Absent	Temp (deg C)	22.6
Seal Condition	None	Temp Blank Present	No

Documentation

COC agrees with sample labels? Yes or No
Chain of Custody (COC) Yes or No

Sample Container

Appropriate for Specified Analysis?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Custody Seal(s)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Intact?	<input checked="" type="checkbox"/> <input type="checkbox"/>	Custody Seal(s) Intact?	<input type="checkbox"/> <input checked="" type="checkbox"/>
Labeled and Labels Legible	<input checked="" type="checkbox"/> <input type="checkbox"/>	Seal(s) Signed / Dated	<input type="checkbox"/> <input checked="" type="checkbox"/>
Total No. of Samples Received	1	Total No. of Containers Received	1

Preservation

		Yes	No	N/A
Metals	(pH<2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cyanides	(pH>12)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sulfide	(pH>9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
TOC, COD, Phenols	(pH<2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
TOX, TKN, NH3, Total Phos	(pH<2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Do VOA vials have zero headspace?		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

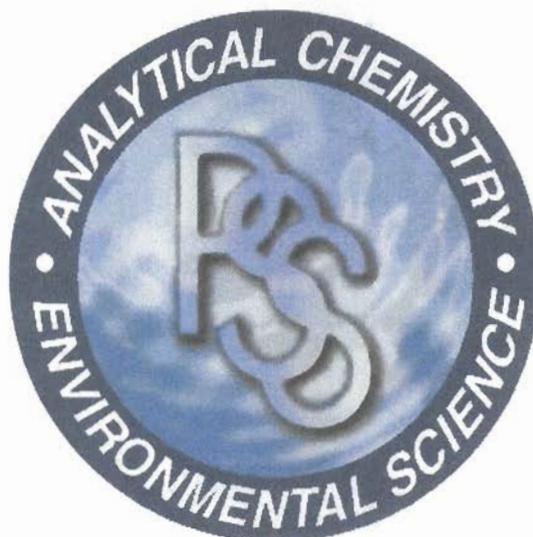
Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling.

Samples Inspected/Checklist Completed By: [Signature] Date: 3/20/08
PM Review and Approval: [Signature] Date: 3/20/08

Analytical Report for
Constellation Energy Group
Certificate of Analysis No.: 8111809

Project Manager: John Basciano
Project Name : Wagner Test
Project Location: Wagner



November 20, 2008
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PHASE SEPARATION SCIENCE, INC.



November 20, 2008

John Basciano
Constellation Energy Group
1005 Brandon Shores Rd.
Baltimore, MD 21226

Reference: PSS Work Order No: **8111809**
Project Name : Wagner Test
Project Location: Wagner

Dear John Basciano :

The attached Analytical and QC Summary lists the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order numbered **8111809**.

All work reported herein has been performed in accordance with referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on December 23, 2008. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 10 years, after which time it will be disposed without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Dan Prucnal

Laboratory Manager



Case Narrative Summary
Client Name: Constellation Energy Group
Project Name: Wagner Test

Project ID: N/A

Work Order Number: 8111809

The following samples were received under chain of custody by Phase Separation Science (PSS) on 11/18/2008 at 11:12 am

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
8111809-001	WAG#2 W Trona	FLY ASH CINDER	11/18/2008 09:00 am
8111809-002	WAG#2 W/O Trona	FLY ASH CINDER	11/18/2008 09:00 am

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in the Sample Receipt Checklist.

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Notes:

1. The presence of common laboratory contaminants such as acetone, methylene chloride and phthalates, may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. The following analytical results are never reported on a dry weight basis: pH, flashpoint, moisture and paint filter test.

Standard Flags/Abbreviations:

- B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- C Results Pending Final Confirmation.
- D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- J The target analyte was positively identified below the reporting limit but greater than one-half of the reporting limit.
- ND Not Detected at or above the reporting limit.
- RL Reporting Limit.
- U Not detected.

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 8111809

Constellation Energy Group, Baltimore, MD

November 20, 2008

Project Name: Wagner Test

Project Location: Wagner

Sample ID: WAG#2 W Trona Date/Time Sampled: 11/18/2008 09:00 PSS Sample ID: 8111809-001
 Matrix: FLY ASH CINDER Date/Time Received: 11/18/2008 11:12

TCLP Metals

Analytical Method: SW846 6020A

Preparation Method: SW846 3010A

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	5.0		1	11/19/08	11/19/08 15:43	1034
Barium	ND	mg/L	100		1	11/19/08	11/19/08 15:43	1034
Cadmium	ND	mg/L	1.0		1	11/19/08	11/19/08 15:43	1034
Chromium	ND	mg/L	5.0		1	11/19/08	11/19/08 15:43	1034
Lead	ND	mg/L	5.0		1	11/19/08	11/19/08 15:43	1034
Mercury	ND	mg/L	0.200		1	11/19/08	11/19/08 15:43	1034
Selenium	0.519	mg/L	1.0		1	11/19/08	11/19/08 15:43	1034
Silver	ND	mg/L	5.0		1	11/19/08	11/19/08 15:43	1034

Sample ID: WAG#2 W/O Trona Date/Time Sampled: 11/18/2008 09:00 PSS Sample ID: 8111809-002
 Matrix: FLY ASH CINDER Date/Time Received: 11/18/2008 11:12

TCLP Metals

Analytical Method: SW846 6020A

Preparation Method: SW846 3010A

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	5.0		1	11/19/08	11/19/08 15:49	1034
Barium	ND	mg/L	100		1	11/19/08	11/19/08 15:49	1034
Cadmium	ND	mg/L	1.0		1	11/19/08	11/19/08 15:49	1034
Chromium	ND	mg/L	5.0		1	11/19/08	11/19/08 15:49	1034
Lead	ND	mg/L	5.0		1	11/19/08	11/19/08 15:49	1034
Mercury	ND	mg/L	0.200		1	11/19/08	11/19/08 15:49	1034
Selenium	0.176	mg/L	1.0		1	11/19/08	11/19/08 15:49	1034
Silver	ND	mg/L	5.0		1	11/19/08	11/19/08 15:49	1034



Phase Separation Science, Inc

Sample Receipt Checklist

Wo Number 8111809 **Received By** Rachel Davis
Client Name Constellation Energy Group **Date Received** 11/18/2008 11:12:00 AM
Project Name Wagner Test **Delivered By** Client
Project Number N/A **Tracking No** Not Applicable
Logged In By Rachel Davis

Shipping Container(s)

No. of Coolers 0 Ice Absent
Custody Seals Absent Temp (deg C) 23
Seal Condition None Temp Blank Present No

Documentation

COC agrees with sample labels? Yes or No
Chain of Custody (COC) Yes or No

Sample Container

Appropriate for Specified Analysis? Yes No Custody Seal(s) Yes No
Intact? Custody Seal(s) Intact?
Labeled and Labels Legible Seal(s) Signed / Dated
Total No. of Samples Received 2 Total No. of Containers Received 2

Preservation

	Yes	No	N/A
Metals (pH<2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cyanides (pH>12)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sulfide (pH>9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
TOC, COD, Phenols (pH<2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
TOX, TKN, NH3, Total Phos (pH<2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Do VOA vials have zero headspace?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling.

Samples Inspected/Checklist Completed By: *R. Davis* Date: 11/18/08
PM Review and Approval: *[Signature]* Date: 11/18/08

Analytical Report for

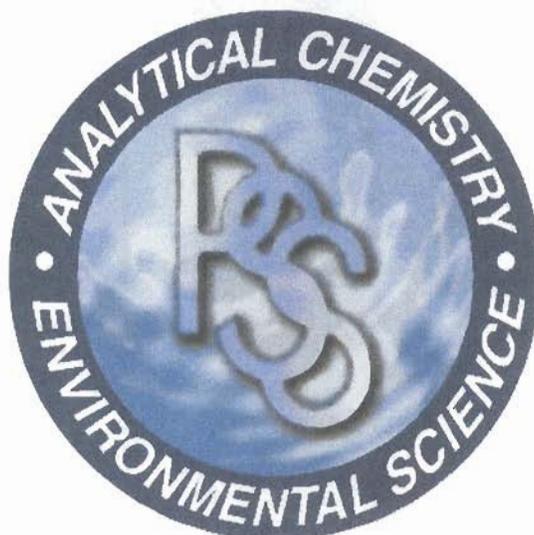
Constellation Energy Group

Certificate of Analysis No.: 8112602

Project Manager: John Basciano

Project Name : Wagner #2 Trona Test

Project Location: Wagner



December 1, 2008

Phase Separation Science, Inc.

6630 Baltimore National Pike

Baltimore, MD 21228

Phone: (410) 747-8770

Fax: (410) 788-8723

OFFICES:
6630 BALTIMORE NATIONAL
PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047

PHASE SEPARATION SCIENCE, INC.



December 1, 2008

John Basciano
Constellation Energy Group
1005 Brandon Shores Rd.
Baltimore, MD 21226

Reference: PSS Work Order No: **8112602**
Project Name : Wagner #2 Trona Test
Project Location: Wagner

Dear John Basciano :

The attached Analytical and QC Summary lists the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order numbered **8112602**.

All work reported herein has been performed in accordance with referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on December 31, 2008. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 10 years, after which time it will be disposed without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

John Richardson
Laboratory Director



Case Narrative Summary
Client Name: Constellation Energy Group
Project Name: Wagner #2 Trona Test

Project ID: N/A

Work Order Number: 8112602

The following samples were received under chain of custody by Phase Separation Science (PSS) on 11/26/2008 at 09:25 am

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
8112602-001	Wagner #2 Trona Test	SOLID	11/25/2008 08:00 am

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in the Sample Receipt Checklist.

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Notes:

1. The presence of common laboratory contaminants such as acetone, methylene chloride and phthalates, may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. The following analytical results are never reported on a dry weight basis: pH, flashpoint, moisture and paint filter test.

Standard Flags/Abbreviations:

- B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- C Results Pending Final Confirmation.
- D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- J The target analyte was positively identified below the reporting limit but greater than one-half of the reporting limit.
- ND Not Detected at or above the reporting limit.
- RL Reporting Limit.
- U Not detected.

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BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 8112602

Constellation Energy Group, Baltimore, MD

December 1, 2008

Project Name: Wagner #2 Trona Test

Project Location: Wagner

Sample ID: Wagner #2 Trona Test

Date/Time Sampled: 11/25/2008 08:00

PSS Sample ID: 8112602-001

Matrix: SOLID

Date/Time Received: 11/26/2008 09:25

TCLP Metals

Analytical Method: SW846 6020A

Preparation Method: SW846 3010A

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	5.0		1	12/01/08	12/01/08 14:49	1034
Barium	ND	mg/L	100		1	12/01/08	12/01/08 14:49	1034
Cadmium	ND	mg/L	1.0		1	12/01/08	12/01/08 14:49	1034
Chromium	ND	mg/L	5.0		1	12/01/08	12/01/08 14:49	1034
Lead	ND	mg/L	5.0		1	12/01/08	12/01/08 14:49	1034
Mercury	ND	mg/L	0.200		1	12/01/08	12/01/08 14:49	1034
Selenium	0.282	mg/L	1.0		1	12/01/08	12/01/08 14:49	1034
Silver	ND	mg/L	5.0		1	12/01/08	12/01/08 14:49	1034



SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

www.phaseonline.com
email: info@phaseonline.com

PHASE SEPARATION SCIENCE, INC.

1 CLIENT: Constellation Energy OFFICE LOC. Coal Yard		PSS Work Order #: 8112602 PAGE 1 OF 1			
PROJECT MGR: John Basciano PHONE NO: 410-787-3202 <i>John M. Basciano Constellation, Co.</i> EMAIL: FAX NO: 410-787-5424		Matrix Codes: SW—Surface Wtr DW—Drinking Wtr GW—Ground Wtr WW—Waste Wtr D—Oil S—Soil WL—Waste Liquid WS—Waste Solid W—Wipe Preservative Used			
PROJECT NAME: Wagner # 2 Trona Test PROJECT NO.: SITE LOCATION: Wagner P.O. NO.:					
2 SAMPLERS:					
LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX (Site Codes)	No. CONTAINERS SAMPLE TYPE C = COMP G = GRAB ANALYSIS/METHOD REQUIRED REMARKS Click to enter Remarks
1	Wagner # 2 Trona Test	11/25/08	8am	G	
3 Relinquished By: (1) <i>John Basciano</i> Date: <i>11/25/08</i> Time: <i>8:00</i> Received By:					
Relinquished By: (2) <i>A. Mettler</i> Date: <i>11/26/08</i> Time: <i>9:25A</i> Received By: <i>R. Davin</i>					
Relinquished By: (3) Date: Time: Received By:					
Relinquished By: (4) Date: Time: Received By:					
4 Requested Turnaround Time: # of Coolers: 0 <input type="checkbox"/> 5-Day <input type="checkbox"/> 3-Day <input type="checkbox"/> 2-Day <input checked="" type="checkbox"/> Next Day <input type="checkbox"/> Emergency <input type="checkbox"/> Other Data Deliverables Required: 11/28/08 Custody Seal: ABS Ice Present: ABS Temp: 20°C Shipping Carrier: CLIENT					
Special Instructions: Please provide test results ASAP. If the emergency turnaround is faster, please run sample that way.					

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723
 The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorneys or other reasonable fees if collection becomes necessary.



Phase Separation Science, Inc

Sample Receipt Checklist

Wo Number	8112602	Received By	Rachel Davis
Client Name	Constellation Energy Group	Date Received	11/26/2008 09:25:00 AM
Project Name	Wagner#2 Trona Test	Delivered By	Client
Project Number	N/A	Tracking No	Not Applicable
Disposal Date:	12/31/2008	Logged In By	Rachel Davis

Shipping Container(s)

No. of Coolers	0	Ice	Absent
Custody Seals	Absent	Temp (deg C)	20
Seal Condition	None	Temp Blank Present	No

Documentation

COC agrees with sample labels? Yes or No
 Chain of Custody (COC) Yes or No

Sample Container

Appropriate for Specified Analysis?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Custody Seal(s)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Intact?	<input checked="" type="checkbox"/> <input type="checkbox"/>	Custody Seal(s) Intact?	<input type="checkbox"/> <input checked="" type="checkbox"/>
Labeled and Labels Legible	<input checked="" type="checkbox"/> <input type="checkbox"/>	Seal(s) Signed / Dated	<input type="checkbox"/> <input checked="" type="checkbox"/>
Total No. of Samples Received	1	Total No. of Containers Received	1

Preservation

		Yes	No	N/A
Metals	(pH<2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cyanides	(pH>12)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sulfide	(pH>9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
TOC, COD, Phenols	(pH<2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
TOX, TKN, NH3, Total Phos	(pH<2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Do VOA vials have zero headspace?		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

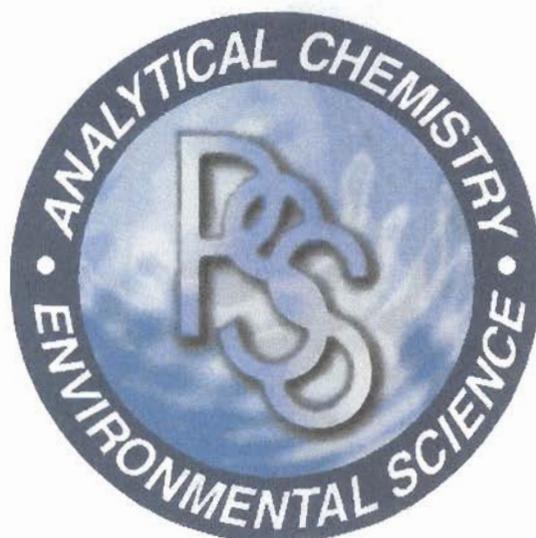
Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling.

Samples Inspected/Checklist Completed By: *R. Davis* Date: 11/26/08
 PM Review and Approval: *[Signature]* Date: 11/26/08

Analytical Report for
Constellation Energy Group
Certificate of Analysis No.: 8121001

Project Manager: John Basciano
Project Name : Wagner #3 TRONA
Project Location: Wagner Station



December 11, 2008
Phase Separation Science, Inc.
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

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PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047

PHASE SEPARATION SCIENCE, INC.



December 11, 2008

John Basciano
Constellation Energy Group
1005 Brandon Shores Rd.
Baltimore, MD 21226

Reference: PSS Work Order No: **8121001**
Project Name : Wagner #3 TRONA
Project Location: Wagner Station

Dear John Basciano :

The attached Analytical and QC Summary lists the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order numbered **8121001**.

All work reported herein has been performed in accordance with referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on January 14, 2009. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 10 years, after which time it will be disposed without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Dan Prucnal

Laboratory Manager



Case Narrative Summary
Client Name: Constellation Energy Group
Project Name: Wagner #3 TRONA

Project ID: N/A

Work Order Number: 8121001

The following samples were received under chain of custody by Phase Separation Science (PSS) on 12/10/2008 at 08:15 am

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
8121001-001	Wagner #3 TRONA	FLY ASH CINDER	12/10/2008 07:00 am

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in the Sample Receipt Checklist.

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Notes:

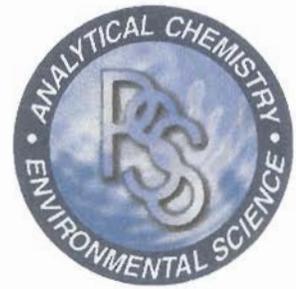
1. The presence of common laboratory contaminants such as acetone, methylene chloride and phthalates, may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. The following analytical results are never reported on a dry weight basis: pH, flashpoint, moisture and paint filter test.

Standard Flags/Abbreviations:

- B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- C Results Pending Final Confirmation.
- D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- J The target analyte was positively identified below the reporting limit but greater than one-half of the reporting limit.
- ND Not Detected at or above the reporting limit.
- RL Reporting Limit.
- U Not detected.

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 FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 8121001

Constellation Energy Group, Baltimore, MD

December 11, 2008

Project Name: Wagner #3 TRONA

Project Location: Wagner Station

Sample ID: Wagner #3 TRONA

Date/Time Sampled: 12/10/2008 07:00

PSS Sample ID: 8121001-001

Matrix: FLY ASH CINDER

Date/Time Received: 12/10/2008 08:15

TCLP Metals

Analytical Method: SW846 6020A

Preparation Method: SW846 3010A

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	5.0		1	12/11/08	12/11/08 12:41	1034
Barium	ND	mg/L	100		1	12/11/08	12/11/08 12:41	1034
Cadmium	ND	mg/L	1.0		1	12/11/08	12/11/08 12:41	1034
Chromium	ND	mg/L	5.0		1	12/11/08	12/11/08 12:41	1034
Lead	ND	mg/L	5.0		1	12/11/08	12/11/08 12:41	1034
Mercury	ND	mg/L	0.200		1	12/11/08	12/11/08 12:41	1034
Selenium	0.232	mg/L	1.0		1	12/11/08	12/11/08 12:41	1034
Silver	ND	mg/L	5.0		1	12/11/08	12/11/08 12:41	1034



SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

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email: info@phaseonline.com

PHASE SEPARATION SCIENCE, INC.

1 CLIENT: <u>CONSTELLATION ENERGY OFFICE LOC. COAL YARD</u>		PSS Work Order #: <u>8121001</u> PAGE <u>1</u> OF <u>1</u>									
PROJECT MGR: <u>JOHN BASCIANO</u> PHONE NO.: <u>410 917 8202</u> <u>JOHN M. BASCIANO CONSULTATION CORP</u> FAX NO.: <u>410 787-5424</u> EMAIL:		Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WM=Waste Wtr O=Oil S=Soil WL=Waste Liquid WS=Waste Solid W= Wipe (Preservative)									
PROJECT NAME: <u>WAGNER #3 TRONA</u> PROJECT NO.: SITE LOCATION: <u>WAGNER STATION</u> P.O. NO.:		Analytical Method Required ← REMARKS Click to enter Remarks									
2 SAMPLERS:		# of Coolers: <u>0</u> Custody Seal: <u>NONE</u> Ice Present: <u>NO</u> Temp: <u>22°C</u> Shipping Carrier: <u>CURRENT</u>									
LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX (See Codes)	C	CONTAINERS	SAMPLE TYPE	G	GRAB	Requested Turnaround Time	Special Instructions:
1	WAGNER #3 TRONA	10/19/08	7:00A	FLY ASH	1	1	C			<input type="checkbox"/> 5-Day <input type="checkbox"/> 3-Day <input checked="" type="checkbox"/> 2-Day <input type="checkbox"/> Next Day <input type="checkbox"/> Emergency <input type="checkbox"/> Other	Data Deliverables Required: <u>PM ON 10/19/08</u> NEED FINAL RESULTS NO LATER THAN <u>2:30 PM ON 10/19/08</u>
Relinquished By: (1) <u>John Basciano</u>		Date	Time	Received By: <u>[Signature]</u>	Click to enter Analysis <u>TELE METALS</u>		Click to enter Analysis <u>X</u>		Requested Turnaround Time		Special Instructions: <u>NEED FINAL RESULTS NO LATER THAN 2:30 PM ON 10/19/08</u>
Relinquished By: (2)		Date	Time	Received By:	Click to enter Analysis		Click to enter Analysis		Requested Turnaround Time		Special Instructions:
Relinquished By: (3)		Date	Time	Received By:	Click to enter Analysis		Click to enter Analysis		Requested Turnaround Time		Special Instructions:
Relinquished By: (4)		Date	Time	Received By:	Click to enter Analysis		Click to enter Analysis		Requested Turnaround Time		Special Instructions:

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723
 The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorneys or other reasonable fees if collection becomes necessary.



Phase Separation Science, Inc

Sample Receipt Checklist

Wo Number 8121001 **Received By** Amy Friedlander
Client Name Constellation Energy Group **Date Received** 12/10/2008 08:15:00 AM
Project Name Wagner #3 TRONA **Delivered By** Client
Project Number N/A **Tracking No** Not Applicable
Disposal Date: 01/14/2009 **Logged In By** Rachel Davis

Shipping Container(s)

No. of Coolers	0	Ice	Absent
Custody Seals	Absent	Temp (deg C)	22
Seal Condition	None	Temp Blank Present	No

Documentation

COC agrees with sample labels? Yes or No
Chain of Custody (COC) Yes or No

Sample Container

Appropriate for Specified Analysis?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Custody Seal(s)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Intact?	<input checked="" type="checkbox"/> <input type="checkbox"/>	Custody Seal(s) Intact?	<input type="checkbox"/> <input checked="" type="checkbox"/>
Labeled and Labels Legible	<input checked="" type="checkbox"/> <input type="checkbox"/>	Seal(s) Signed / Dated	<input type="checkbox"/> <input checked="" type="checkbox"/>
Total No. of Samples Received	1	Total No. of Containers Received	1

Preservation

	Yes	No	N/A
Metals (pH<2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cyanides (pH>12)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sulfide (pH>9)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
TOC, COD, Phenols (pH<2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
TOX, TKN, NH3, Total Phos (pH<2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Do VOA vials have zero headspace?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling.

Samples Inspected/Checklist Completed By: *R. Davis*

Date: 12/10/08

PM Review and Approval: *[Signature]*

Date: 12/20/08



STANDARD LABORATORIES INC.
 NORTHERN DIVISION
 P. O. BOX 214
 CRESSON, PA 16630
 (814) 886-7400

STANDARD LABORATORIES, INC.

DATE: 8-29-2008
 SAMPLE NO. 972558

CONSTELLATION POWER SOURCE
 GENERATION INC.
 2025 BRANDON SHORES ROAD
 BALTIMORE, MD 21226

SAMPLE ID: WAGNER BOTTOM ASH

OPERATING CO. :
 SAMPLED BY: CUSTOMER PROVIDED
 MINE:
 LOCATION:

DATE SAMPLED: 8/15/08
 WEATHER:
 GROSS WEIGHT:

DATE RECEIVED: 8/15/08

OTHER ID:

CERTIFICATE OF ANALYSIS

SCREEN TEST		CUMULATIVE	
		DOWN	UP
+325m	83.30%	83.30%	100.00%
325m x 0	16.70%	100.00%	16.70%
	100.00%		

	ASTM METHOD	AS RECEIVED	DRY BASIS
MOISTURE	D2961 D3302 D3173	42.38%	
LOSS ON IGNITION		18.81%	32.63%

ASH MINERAL
 D2795 D3682

SILICON DIOXIDE	31.90 %
ALUMINUM OXIDE	13.52 %
FERRIC OXIDE	3.98 %
CALCIUM OXIDE	0.52 %
SODIUM OXIDE	0.30 %
POTASSIUM OXIDE	1.32 %
SULFUR TRIOXIDE	0.67 %
Available Alkalies (as Na2O)	1.06 %

APPROVED BY _____
 APPROVED BY _____

BLACK SEAL ANALYSIS

FOR YOUR PROTECTION THIS DOCUMENT HAS
 BEEN PRINTED ON CONTROLLED PAPER STOCK.
 NOT VALID IF ALTERED.



STANDARD LABORATORIES INC.
 NORTHERN DIVISION
 P.O. BOX 214
 CRESSON, PA 16630
 (814) 886-7400

STANDARD LABORATORIES, INC.

DATE: 8-29-2008
 SAMPLE NO. 972557

CONSTELLATION POWER SOURCE
 GENERATION INC.
 2025 BRANDON SHORES ROAD
 BALTIMORE, MD 21226

SAMPLE ID: WAGNER SILOS

OPERATING CO.:
 SAMPLED BY: CUSTOMER PROVIDED
 MINE:
 LOCATION:

DATE SAMPLED: 8/15/08
 WEATHER:
 GROSS WEIGHT:

DATE RECEIVED: 8/15/08

OTHER ID:

CERTIFICATE OF ANALYSIS

SCREEN TEST		CUMULATIVE	
		DOWN	UP
+325m	37.30%	37.30%	100.00%
325m x 0	62.70%	100.00%	62.70%
	100.00%		

	ASTM METHOD	AS RECEIVED	DRY BASIS
MOISTURE	D2961 D3302 D3173	0.16%	
LOSS ON IGNITION		20.57%	20.61%

ASH MINERAL
 D2795 D3682

SILICON DIOXIDE	46.06 %
ALUMINUM OXIDE	21.33 %
FERRIC OXIDE	4.82 %
CALCIUM OXIDE	0.99 %
SODIUM OXIDE	0.28 %
POTASSIUM OXIDE	1.71 %
SULFUR TRIOXIDE	0.62 %
Available Alkalies(as Na2O)	1.27 %

APPROVED BY _____

APPROVED BY _____

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BLACK SEAL ANALYSIS

FOR YOUR PROTECTION THIS DOCUMENT HAS
 BEEN PRINTED ON CONTROLLED PAPER STOCK.
 NOT VALID IF ALTERED.

Chemical and Physical Analysis of Fly Ash

Developed For: *Standard Laboratories, Inc.*
P.O. Box 214
Cresson, PA 16630

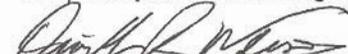
Ticket: 8334 Job: 14611 Report Date: 10/20/2008	Plant of Origin: <i>Wagner</i> Sample ID: Docket: 972557 -	Sample Date Range: to: Date Received: 08/25/2008
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Chemical Composition (%) <small>(by Wyoming Analytical Laboratories, Inc.)</small>		ASTM C 618-03 Specifications	
		Class F	Class C
Total Silica, Aluminum, Iron:		70.0 Min	50.0 Min
Silicon Dioxide:			
Aluminum Oxide:			
Iron Oxide:			
Sulfur Trioxide:		5.0 Max	5.0 Max
Calcium Oxide:			
Moisture Content:		3.0 Max	3.0 Max
Loss on Ignition:		6.0 Max	6.0 Max
		AASHTO M 295-00 Specifications	
Available Alkalies (as Na ₂ O):	0.6	1.5 Max	1.5 Max
Sodium Oxide:	0.13		
Potassium Oxide:	0.65		

Physical Test Results		ASTM C 618-03 Specifications	
		Class F	Class C
Fineness, Retained on #325 Sieve (%):	40.6	34 Max	34 Max
Strength Activity Index (%)			
Ratio to Control @ 7 Days:	66.2		
Ratio to Control @ 28 Days:	76.0	75 Min	75 Min
Water Requirement, % of Control:	103.3	105 Max	105 Max
Soundness, Autoclave Expansion (%):	-0.02	0.8 Max	0.8 Max
Drying Shrinkage, Increase @ 28 Days (%):	0.00	0.03 Max	0.03 Max
Density Mg/m ³ :	2.11		

Comments: *At the client's request chemical analysis not performed.*

CTL | Thompson Materials Engineers, Inc.


Orville R. Wefner II, P.E.

