Facility Name: Constellation – H.A.Wagner **CCB Tonnage Report – 2009**

26.04.10.08 requires generators of CCBs to submit an annual report to the Department concerning the disposition of the CCBs that they generated the previous year.

III. Required Information. The following information must be provided to the Department by March 1, 2010:

A. Contact information:

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

Contact Information (Person filing report or Environmental Manager)

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

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

Contact Title: Program Manager, Environmental Services

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

For questions on how to complete this form, please call Mr. Edward Dexter, Administrator, Solid Waste Program at 410-537-3318.

B. A description of the process that generates the coal combustion byproducts, including the type of coal or other raw material that generates the coal combustion byproducts. If the space provided is insufficient, please attach additional pages:

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 electrostatic precipitators (ESPs) for control of PM emissions. Unit 3 has been retrofitted with a selective catalytic reduction (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 2009 at the H.A. Wagner Plant included bituminous coals from Central Appalachian and South American sources, and sub-bituminous coals from Powder River Basin and Indonesian sources

C. The annual volume of coal combustion byproducts generated during the last calendar year, including an identification of the different types of coal combustion byproducts generated and the volume of each type generated. If the space provided is insufficient, please attach additional pages in a similar format:

Table I: Volume of CCBs Generated for Previous Calendar Year:

Reporting Year	Volume of CCB Type: Fly Ash (dry tons)	Volume of CCB Type: Bottom Ash (dry tons)	Volume of CCB Type:
2009	132,670	6,983	

Additional notes:

D. Descriptions of any modeling or risk assessments, or both, conducted relating to the coal combustion byproducts or their use that were performed by you or your company during the reporting year. Please attach this information to the report.

Neither modeling nor risk assessments have been performed during the past year.

E. Copies of all laboratory reports of all chemical characterizations of the coal combustion byproducts. Please attach this information to the report.

- Wagner Injection Test, Phase Separation Science, Inc., March 25, 2009
- Wagner #3 Trona, Phase Separation Science, Inc., March 31, 2009
- Wagner Drummond/Adaro, Phase Separation Science, Inc., June 16, 2009
- Wagner Babcock/Darco, Phase Separation Science, Inc., June 18, 2009
- Wagner Calgon A, Phase Separation Science, Inc., June 19, 2009
- Capp & Drummond 50%, Phase Separation Science, Inc., June 30, 2009
- Wagner #3 Chem-Mod, Phase Separation Science, Inc., July 22, 2009
- Fly Ash Tests for MDE, Phase Separation Science, Inc., September 22, 2009
- Wagner PAC, Phase Separation Science, Inc., November 11, 2009

F. A description of how you disposed of or used your coal combustion byproducts in the last calendar year, identifying:

(a) The types and volume of coal combustion byproducts disposed of or used (if different than described in Paragraph C above), the location of disposal, mine reclamation and use sites, and the type and volume of coal combustion byproducts disposed of or used at each site:

Year	CCB Receiver	Fly Ash (dry tons)	Bottom Ash (dry tons)	CCBs Use
2009	Lehigh	38,465	17	concrete
	Bulk Materials, Int'l	0	1,205	cement kiln feed
	Waste Mgmt, VA	70,470	4,405	landfill, daily cover
	Mountainview LF, MD	11,508	1,176	landfill, daily cover
	The East End LF, VA	1,241	180	landfill, daily cover
	Tri-Cities LF, VA	10,986	0	landfill, structural fill

and (b) The different uses by type and volume of coal combustion byproducts:

- CCBs delivered to Waste Management were used for daily cover in 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 The East End Landfill in Henrico, VA were used for daily cover in municipal solid waste (MSW) landfills.
- CCBs delivered to Tri-Cities Landfill in Petersburg, VA will be used as structural fill to build walls and barriers in that MSW landfill.

- CCBs delivered to Lehigh Cement in Union Bridge, MD were used in concrete production.
- CCBs delivered to Bulk Materials, Inc. were subsequently shipped by BMI to a LaFarge cement plant in New York for use as cement kiln feed

If the space provided is insufficient, please attach additional pages in a similar format. . (Please note that in subsequent years you need only provide the information in Section F for the last calendar year).

G. A description of how you intend to dispose of or use coal combustion byproducts in the next 5 years, identifying:

(a) The types and volume of coal combustion byproducts intended to be disposed of or used, the location of intended disposal, mine reclamation and use sites, and the type and volume of coal combustion byproducts intended to be disposed of or used at each site:

• Fly Ash: CPSG projects that approximately 99,000 tons will be generated each year for the next five years. Approximately 29,000 tons will be beneficially used in cement and/or concrete. Approximately 70,000 tons per year will disposed of in landfills in Virginia and Maryland authorized to accept CCBs, used primarily for daily cover. Beginning in March 2011, CPSG plans to place fly ash not beneficially used in a permitted industrial waste landfill in Baltimore City.

• Bottom Ash: CPSG projects that approximately 5,000 tons will be generated each year for the next five years, of which 1,000 tons will be beneficially used in cement and/or concrete. Approximately 4,000 tons will be disposed of in Virginia and Maryland authorized to accept CCBs, used primarily for daily cover. Beginning in March 2011, CPSG plans to place bottom ash not beneficially used in a permitted industrial waste landfill in Baltimore City.

and (b) The different intended uses by type and volume of coal combustion byproducts.

• Fly Ash: Approximately 29,000 tons each year will be beneficially used in cement and/or concrete.

• Bottom Ash: Approximately 1,000 tons each year will be beneficially used in cement and/or concrete.

If the space provided is insufficient, please attach additional pages in a similar format.

IV. Signature and Certification. An authorized official of the generator must sign the annual report, and certify as to the accuracy and completeness of the information contained in the annual report:

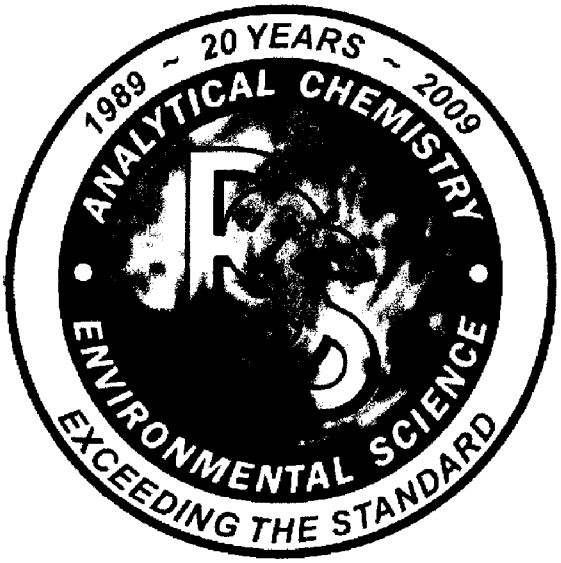
This is to certify that, to the best of my knowledge, the information contained in this report and any attached documents are true, accurate, and complete.		
Signature	Quinn Morrison, Director-Asset Operations 410.787.5399 Name, Title, & Telephone No. quinn.morrison@constellation.com Your Email Address	2/26/2010 Date

Analytical Report for

Constellation Energy Group

Certificate of Analysis No.: 9032411

Project Manager: John Basciano
Project Name : Wagner Injection Test
Project Location: Wagner #3



March 25, 2009

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.

March 25, 2009

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

Reference: PSS Work Order No: **9032411**
Project Name : Wagner Injection Test
Project Location: Wagner #3

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 **9032411**.

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 28, 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 Injection Test

Project ID: N/A **Work Order Number: 9032411**

The following samples were received under chain of custody by Phase Separation Science (PSS) on 03/24/2009 at 12:50 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
9032411-001	Wagner Fly Ash	SOLID	03/24/2009 12:00 pm

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.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].

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: 9032411

Constellation Energy Group, Baltimore, MD

March 25, 2009

Project Name: Wagner Injection Test
Project Location: Wagner #3

Sample ID: Wagner Fly Ash **Date/Time Sampled: 03/24/2009 12:00** **PSS Sample ID: 9032411-001**
Matrix: SOLID **Date/Time Received: 03/24/2009 12:50**

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	03/25/09	03/25/09 13:16	1034
Barium	ND	mg/L	100		1	03/25/09	03/25/09 13:16	1034
Cadmium	ND	mg/L	1.0		1	03/25/09	03/25/09 13:16	1034
Chromium	ND	mg/L	5.0		1	03/25/09	03/25/09 13:16	1034
Lead	ND	mg/L	5.0		1	03/25/09	03/25/09 13:16	1034
Mercury	ND	mg/L	0.200		1	03/25/09	03/25/09 13:16	1034
Selenium	**0.208**	mg/L	1.0		1	03/25/09	03/25/09 13:16	1034
Silver	ND	mg/L	5.0		1	03/25/09	03/25/09 13:16	1034

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

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

(1) CLIENT: Const. Energy OFFICE LOC. Coal Yard
PROJECT MGR: John Basciano PHONE NO.: 410 917 3202
EMAIL: John.m.Basciano@constellation.com FAX NO.: 410 787 5424
PROJECT NAME: Wagner Injection Test PROJECT NO.:
SITE LOCATION: Wagner #3 P.O. NO.:
SAMPLERS: DW CERT NO.

PSS Work Order #: 9032411 PAGE 1 OF 1

Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil WL=Waste Liquid WS=Waste Solid W= Wipe

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	Click to enter Analysis	TCLP Metals	Preservative Used	Analysis/ Method Required	REMARKS
1	Wagner Fly Ash	3/24/09	12 noon	AGH	1	G		X			Click to enter Remarks

(5)

Relinquished By: (1)	Date	Time	Received By:
John Baxter	3/24/09	12 noon	
Relinquished By: (2)	Date	Time	Received By:
David E. Hatter	3/24/09	12:50	
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4)

Requested Turnaround Time
☐ 5-Day ☐ 3-Day ☐ 2-Day
☐ Next Day ☒ Emergency ☐ Other

Data Deliverables Required:

# of Coolers: 0
Custody Seal: ABS
Ice Present: ABS Temp: 23°c
Shipping Carrier: CLIENT

Special Instructions:
PLEASE PERFORM TEST ASAP. NEED RESULTS BY NOON WEDS. 3/25/09
call John with results 4107875216

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723 CELL- 410 917 3202

Phase Separation Science, Inc

Sample Receipt Checklist

Wo Number	9032411	**Received By**	Rachel Davis
Client Name	Constellation Energy Group	**Date Received**	03/24/2009 12:50:00 PM
Project Name	Wagner Injection Test	**Delivered By**	Client
Project Number	N/A	**Tracking No**	Not Applicable
Disposal Date:	04/28/2009	**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? X Yes or ___ No

Chain of Custody (COC) X Yes or ___ No

Sample Container

Appropiate for Specified Analysis?	Yes X No___	Custody Seal(s)	Yes___ No X
Intact?	X ___	Custody Seal(s) Intact?	___ X
Labeled and Labels Legible	X ___	Seal(s) Signed / Dated	___ X
Total No. of Samples Received	1	Total No. of Containers Received	1

Preservation

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

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: _____ Date: 3/24/9

PM Review and Approval: _____ Date: 3/24/09

03/24/2009 01:11 PM

Analytical Report for

Constellation Energy Group

Certificate of Analysis No.: 9013005

Project Manager: John Basciano
Project Name : Wagner #3 TRONA
Project Location: Wagner #32 SILO

March 31, 2009

Phase Separation Science, Inc.
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Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

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PHASE SEPARATION SCIENCE, INC.

March 31, 2009

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

Reference: PSS Work Order No: **9013005**
Project Name : Wagner #3 TRONA
Project Location: Wagner #32 SILO

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 **9013005.**

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 March 6, 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: 9013005**

The following samples were received under chain of custody by Phase Separation Science (PSS) on 01/30/2009 at 12:36 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
9013005-001	Wagner #3 TRONA	SOLID	01/30/2009 11:00 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.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].

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: 9013005

Constellation Energy Group, Baltimore, MD

March 31, 2009

Project Name: Wagner #3 TRONA
Project Location: Wagner #32 SILO

Sample ID: Wagner #3 TRONA **Date/Time Sampled: 01/30/2009 11:00** **PSS Sample ID: 9013005-001**
Matrix: SOLID **Date/Time Received: 01/30/2009 12:36**

TCLP Metals — Analytical Method: SW846 6020A — Preparation Method: SW846 3010A

	Result	Units	Rep Limit	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	0.050	5.0		1	02/02/09	02/02/09 13:41	1034
Barium	ND	mg/L	1.000	100		1	02/02/09	02/02/09 13:41	1034
Cadmium	ND	mg/L	0.010	1.0		1	02/02/09	02/02/09 13:41	1034
Chromium	ND	mg/L	0.050	5.0		1	02/02/09	02/02/09 13:41	1034
Lead	ND	mg/L	0.050	5.0		1	02/02/09	02/02/09 13:41	1034
Mercury	ND	mg/L	0.002	0.200		1	02/02/09	02/02/09 13:41	1034
Selenium	**0.338**	mg/L	0.010	1.0		1	02/02/09	02/02/09 13:41	1034
Silver	ND	mg/L	0.050	5.0		1	02/02/09	02/02/09 13:41	1034

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

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

(1) CLIENT: CONSTELLATION ENERGY OFFICE LOC. COAL YARD
PROJECT MGR: JOHN BASCIANO PHONE NO.: (410) 917-3202
EMAIL: JOHN.M BASCIANO @ CONSTELLATION.COM FAX NO.: (410) 787-5424
PROJECT NAME: WAGNER #3 TRONA PROJECT NO.:
SITE LOCATION: WAGNER #3 2 SILO P.O. NO.:
SAMPLERS:

PSS Work Order #: 491300S PAGE 1 OF 1

Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil WL=Waste Liquid WS=Waste Solid W= Wipe

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	Preservatives Used	(3) Analysis/ Method Required: TCLP METALS	REMARKS
1	WAGNER #3 TRONA	11/30/09	1100A	FILTER	1	G		✓	

(5)

Relinquished By: (1)	Date	Time	Received By:
John Basciano	11/30/09	1115A	
Relinquished By: (2)	Date	Time	Received By:
	11/30/09	1236	
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4) Requested Turnaround Time
☐ 5-Day ☐ 3-Day ☐ 2-Day
☒ Next Day ☐ Emergency ☐ Other

Data Deliverables Required:

# of Coolers: 0
Custody Seal: PSS
Ice Present: PSS Temp: 19°C
Shipping Carrier: CLIENT

Special Instructions:
PLEASE REPORT RESULTS WHEN AVAILABLE.

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Phase Separation Science, Inc

Sample Receipt Checklist

Wo Number	9013005	**Received By**	Rachel Davis
Client Name	Constellation Energy Group	**Date Received**	01/30/2009 12:36:00 PM
Project Name	Wagner #3 TRONA	**Delivered By**	Client
Project Number	N/A	**Tracking No**	Not Applicable
Disposal Date:	03/06/2009	**Logged In By**	Rachel Davis

Shipping Container(s)

No. of Coolers	0	Ice	Absent
Custody Seals	Absent	Temp (deg C)	19
Seal Condition	None	Temp Blank Present	No

Documentation

COC agrees with sample labels? X Yes or ___ No

Chain of Custody (COC) X Yes or ___ No

Sample Container

Appropiate for Specified Analysis?	Yes X	No ___	Custody Seal(s)	Yes ___	No X
Intact?	X	___	Custody Seal(s) Intact?	___	X
Labeled and Labels Legible	X	___	Seal(s) Signed / Dated	___	X
Total No. of Samples Received	1		Total No. of Containers Received	1	

Preservation

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

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: _____ Date: 1/30/9

PM Review and Approval: _____ Date: 1/30/09

Analytical Report for

Constellation Energy Group

Certificate of Analysis No.: 9061501

Project Manager: John Basciano
Project Name : Wagner Drummond/ Adaro
Project Location: Wagner Plant

June 16, 2009

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

OFFICES:
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PHASE SEPARATION SCIENCE, INC.

June 16, 2009

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

Reference: PSS Work Order No: **9061501**
Project Name : Wagner Drummond/ Adaro
Project Location: Wagner Plant

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 **9061501**.

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 July 20, 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

Dan Prucnal
Laboratory Manager

Case Narrative Summary

Client Name: Constellation Energy Group

Project Name: Wagner Drummond/ Adaro

Project ID: N/A **Work Order Number: 9061501**

The following samples were received under chain of custody by Phase Separation Science (PSS) on 06/15/2009 at 09:00 am

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
9061501-001	25% Adaro 75% Drummond	FLY ASH CINDER	06/15/2009 09:00 am
9061501-002	75% Adaro 25% Drummond	FLY ASH CINDER	06/15/2009 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.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].

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
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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 9061501

Constellation Energy Group, Baltimore, MD

June 16, 2009

Project Name: Wagner Drummond/ Adaro
Project Location: Wagner Plant

Sample ID: 25% Adaro 75% Drummond **Date/Time Sampled: 06/15/2009 09:00** **PSS Sample ID: 9061501-001**
Matrix: FLY ASH CINDER **Date/Time Received: 06/15/2009 09:00**

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	06/16/09	06/16/09 13:28	1033
Barium	ND	mg/L	100		1	06/16/09	06/16/09 13:28	1033
Cadmium	ND	mg/L	1.0		1	06/16/09	06/16/09 13:28	1033
Chromium	ND	mg/L	5.0		1	06/16/09	06/16/09 13:28	1033
Lead	ND	mg/L	5.0		1	06/16/09	06/16/09 13:28	1033
Mercury	ND	mg/L	0.200		1	06/16/09	06/16/09 13:28	1033
Selenium	ND	mg/L	1.0		1	06/16/09	06/16/09 13:28	1033
Silver	ND	mg/L	5.0		1	06/16/09	06/16/09 13:28	1033

Sample ID: 75% Adaro 25% Drummond **Date/Time Sampled: 06/15/2009 09:00** **PSS Sample ID: 9061501-002**
Matrix: FLY ASH CINDER **Date/Time Received: 06/15/2009 09:00**

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	06/16/09	06/16/09 14:00	1033
Barium	ND	mg/L	100		1	06/16/09	06/16/09 14:00	1033
Cadmium	ND	mg/L	1.0		1	06/16/09	06/16/09 14:00	1033
Chromium	ND	mg/L	5.0		1	06/16/09	06/16/09 14:00	1033
Lead	ND	mg/L	5.0		1	06/16/09	06/16/09 14:00	1033
Mercury	ND	mg/L	0.200		1	06/16/09	06/16/09 14:00	1033
Selenium	ND	mg/L	1.0		1	06/16/09	06/16/09 14:00	1033
Silver	ND	mg/L	5.0		1	06/16/09	06/16/09 14:00	1033

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

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

(1) CLIENT: CPSG — OFFICE LOC.: Brandon Shores
PROJECT MGR: John Basciano — PHONE NO.: 410-917-3202
EMAIL: john.m.basciano@constellation.com — FAX NO.: 410-787-5424
PROJECT NAME: Wagner Drummond / Adaro — PROJECT NO.:
SITE LOCATION: Wagner Plant — P.O. NO.:
SAMPLERS: — DW CERT NO.:

PSS Work Order #: 9001561 — PAGE 1 OF 1

Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil WL=Waste Liquid WS=Waste Solid W= Wipe

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	Click to enter Analysis	TCLP Metals	Preservative Used	Analysis/ Method Required	REMARKS
	25% Adaro 75% Drummond	6/15/09	9am	Fly ash	1	G		✓			Click to enter Remarks
	75% Adaro 25% Drummond	6/15/09	9am	Fly Ash	1	G		✓			

(5)

Relinquished By: (1)	Date	Time	Received By:
	6/15	09:00	
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4)

Requested Turnaround Time: ☐ 5-Day ☐ 3-Day ☐ 2-Day ■ Next Day ☐ Emergency ☐ Other

Data Deliverables Required:

# of Coolers: 0
Custody Seal: ABS
Ice Present: ABS Temp: 2.6°C
Shipping Carrier: CLIENT

Special Instructions:
Please Forward results ASAP

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

Phase Separation Science, Inc

Sample Receipt Checklist

Wo Number	9061501	**Received By**	Lynn Moran
Client Name	Constellation Energy Group	**Date Received**	06/15/2009 09:00:00 AM
Project Name	Wagner Drummond/ Aadaro	**Delivered By**	Client
Project Number	N/A	**Tracking No**	Not Applicable
Disposal Date:	07/20/2009	**Logged In By**	Lynn Moran

Shipping Container(s)

No. of Coolers	0	Ice	Absent
Custody Seals	Absent	Temp (deg C)	26 ✓
Seal Condition	Not Applicable ✓	Temp Blank Present	No

Documentation

COC agrees with sample labels? X Yes or ___ No

Chain of Custody (COC) X Yes or ___ No

Sample Container

Appropiate for Specified Analysis?	Yes X	No ___	Custody Seal(s)	Absent	
Intact?	X	___	Custody Seal(s) Intact?	Not Applicable	✓
Labeled and Labels Legible	X	___	Seal(s) Signed / Dated	Not Applicable	
Total No of Samples Received	2		Total No. of Containers Received	2	

Preservation

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

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: _____ Date: 6/15/9

PM Review and Approval: _____ Date: 6/15/09

Printed: 06/15/2009 09:27 AM

Analytical Report for

Constellation Energy Group

Certificate of Analysis No.: 9061701

Project Manager: John Basciano
Project Name : Wagner Babcock/Darco
Project Location: Wagner Unit #2/Unit #3

June 18, 2009

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Baltimore, MD 21228
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Fax: (410) 788-8723

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BALTIMORE, MD 21228
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800-932-9047

PHASE SEPARATION SCIENCE, INC.

June 18, 2009

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

Reference: PSS Work Order No: **9061701**
Project Name : Wagner Babcock/Darco
Project Location: Wagner Unit #2/Unit #3

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 **9061701.**

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 July 22, 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.

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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 Babcock/Darco

Project ID: N/A **Work Order Number: 9061701**

The following samples were received under chain of custody by Phase Separation Science (PSS) on 06/17/2009 at 10:10 am

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
9061701-001	Wagner Babcock/Darco	SOLID	06/17/2009 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.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].

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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CERTIFICATE OF ANALYSIS

No: 9061701

Constellation Energy Group, Baltimore, MD

June 18, 2009

Project Name: Wagner Babcock/Darco
Project Location: Wagner Unit #2/Unit #3

Sample ID: Wagner Babcock/Darco **Date/Time Sampled: 06/17/2009 09:00** **PSS Sample ID: 9061701-001**
Matrix: SOLID **Date/Time Received: 06/17/2009 10:10**

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	06/18/09	06/18/09 12:34	1033
Barium	ND	mg/L	100		1	06/18/09	06/18/09 12:34	1033
Cadmium	ND	mg/L	1.0		1	06/18/09	06/18/09 12:34	1033
Chromium	ND	mg/L	5.0		1	06/18/09	06/18/09 12:34	1033
Lead	ND	mg/L	5.0		1	06/18/09	06/18/09 12:34	1033
Mercury	ND	mg/L	0.200		1	06/18/09	06/18/09 12:34	1033
Selenium	ND	mg/L	1.0		1	06/18/09	06/18/09 12:34	1033
Silver	ND	mg/L	5.0		1	06/18/09	06/18/09 12:34	1033

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

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

(1)

CLIENT: CPSG — OFFICE LOC.: BS Coal yard
PROJECT MGR: John Basciano — PHONE NO.: 410-9173202
EMAIL: john.m.basciano@constellation.com — FAX NO.: 410-787-5424
PROJECT NAME: Wagner Babcock / Darco — PROJECT NO.:
SITE LOCATION: Wagner unit # 2 /Unit # 3 — P.O. NO.:
SAMPLERS: — DW CERT NO.:

PSS Work Order #: 906170 1 — PAGE 1 OF 1

Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil WL=Waste Liquid WS=Waste Solid W= Wipe

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	Click to enter Analysis	TCLP Metals	Preservative Used	Analysis/ Method Required	REMARKS
1	Wagner Babcock / Darco	6/17/09	9am	Fly Ash	1	G		✓			Click to enter Remarks

(5)

Relinquished By: (1)	Date	Time	Received By:
Mathew	6/17/9	1010A	
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4)

Requested Turnaround Time
☐ 5-Day ☐ 3-Day ☐ 2-Day
☐ Next Day ■ Emergency ☐ Other

Data Deliverables Required:

# of Coolers: 0
Custody Seal: ABSENT
Ice Present: ABSENT Temp: 24°c
Shipping Carrier: CLIENT

Special Instructions:
Please provide results before noon 6/18 if possible.

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Phase Separation Science, Inc

Sample Receipt Checklist

Wo Number	9061701	**Received By**	Rachel Davis
Client Name	Constellation Energy Group	**Date Received**	06/17/2009 10:10:00 AM
Project Name	Wagner Babcock/Darco	**Delivered By**	Client
Project Number	N/A	**Tracking No**	Not Applicable
Disposal Date:	07/22/2009	**Logged In By**	Rachel Davis

Shipping Container(s)

No. of Coolers	0	Ice	Absent ✓
Custody Seals	Absent ✓	Temp (deg C)	24 ✓
Seal Condition	Not Applicable	Temp Blank Present	No

Documentation

COC agrees with sample labels? X Yes or ____ No

Chain of Custody (COC) X Yes or ____ No

Sample Container

Appropiate for Specified Analysis?	Yes X No ____	Custody Seal(s)	Absent
Intact?	X ____	Custody Seal(s) Intact?	Not Applicable ✓
Labeled and Labels Legible	X ____	Seal(s) Signed / Dated	Not Applicable
Total No. of Samples Received	1	Total No. of Containers Received	1

Preservation

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

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: _____ Date: 6/17/9

PM Review and Approval: _____ Date: 6/17/08

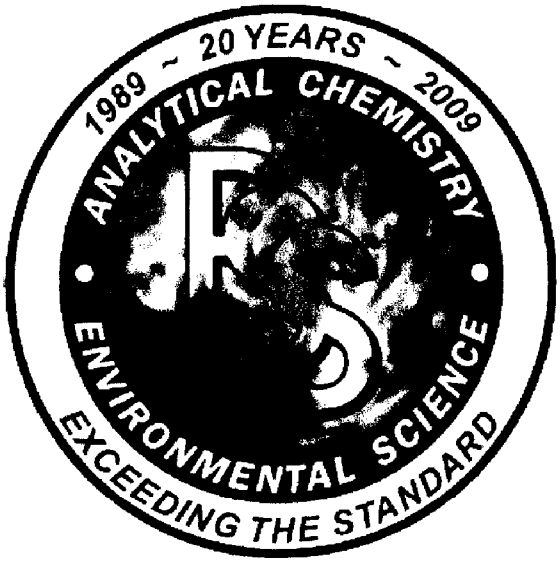
Printed: 06/17/2009 10:45 AM

Analytical Report for

Constellation Energy Group

Certificate of Analysis No.: 9061806

Project Manager: John Basciano
Project Name : Wagner Calgon A
Project Location: Wagner Station



June 19, 2009

Phase Separation Science, Inc.
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Baltimore, MD 21228
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800-932-9047

PHASE SEPARATION SCIENCE, INC.

June 19, 2009

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

Reference: PSS Work Order No: **9061806**
Project Name : Wagner Calgon A
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 **9061806.**

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 July 23, 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.

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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

Dan Prucnal
Laboratory Manager

Case Narrative Summary

Client Name: Constellation Energy Group

Project Name: Wagner Calgon A

Project ID: N/A **Work Order Number: 9061806**

The following samples were received under chain of custody by Phase Separation Science (PSS) on 06/18/2009 at 10:25 am

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
9061806-001	Wagner Calgon A	SOLID	06/18/2009 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.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].

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: 9061806

Constellation Energy Group, Baltimore, MD

June 19, 2009

Project Name: Wagner Calgon A
Project Location: Wagner Station

Sample ID: Wagner Calgon A **Date/Time Sampled: 06/18/2009 09:00** **PSS Sample ID: 9061806-001**
Matrix: SOLID **Date/Time Received: 06/18/2009 10:25**

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	06/19/09	06/19/09 14:29	1033
Barium	ND	mg/L	100		1	06/19/09	06/19/09 14:29	1033
Cadmium	ND	mg/L	1.0		1	06/19/09	06/19/09 14:29	1033
Chromium	ND	mg/L	5.0		1	06/19/09	06/19/09 14:29	1033
Lead	ND	mg/L	5.0		1	06/19/09	06/19/09 14:29	1033
Mercury	ND	mg/L	0.200		1	06/19/09	06/19/09 14:29	1033
Selenium	ND	mg/L	1.0		1	06/19/09	06/19/09 14:29	1033
Silver	ND	mg/L	5.0		1	06/19/09	06/19/09 14:29	1033

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

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

(1) CLIENT: CPSG OFFICE LOC. 410-787-5216
PROJECT MGR: John Basciano PHONE NO.: 410-917-3202
EMAIL: john.m.basciano@constellation.com FAX NO.: 410-787-5424
PROJECT NAME: Wagner Calgon A PROJECT NO.:
SITE LOCATION: Wagner Station P.O. NO.:
SAMPLERS: DW CERT NO.:

PSS Work Order #: 9061806 PAGE 1 OF 1

Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil WL=Waste Liquid WS=Waste Solid W= Wipe

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	Click to enter Analysis	TCLP Metals	Preservative Used	Analysis/ Method Required	REMARKS
1	Wagner Calgon A	6/18/09	9am	Fly Ash	1	G		✓			Click to enter Remarks

(5)

Relinquished By: (1)	Date	Time	Received By:
[signature]	6/18/09	1025	[signature]
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4)

Requested Turnaround Time
☐ 5-Day ☐ 3-Day ☐ 2-Day
☐ Next Day ■ Emergency ☐ Other

Data Deliverables Required:

# of Coolers: 0
Custody Seal: ABS
Ice Present: ABS Temp: 25°c
Shipping Carrier: CLIENT

Special Instructions:
Please forward test results ASAP.

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Phase Separation Science, Inc

Sample Receipt Checklist

Wo Number	9061806	**Received By**	Rachel Davis
Client Name	Constellation Energy Group	**Date Received**	06/18/2009 10:25:00 AM
Project Name	Wagner Calgon A	**Delivered By**	Client
Project Number	N/A	**Tracking No**	Not Applicable
Disposal Date:	07/23/2009	**Logged In By**	Rachel Davis

Shipping Container(s)

No. of Coolers	0	Ice	Absent
Custody Seals	Absent	Temp (deg C)	25 ✓
Seal Condition	Not Applicable	Temp Blank Present	No

Documentation

COC agrees with sample labels? X Yes or ___ No

Chain of Custody (COC) X Yes or ___ No

Sample Container

Appropiate for Specified Analysis?	Yes X No___	Custody Seal(s)	Absent
Intact?	X ___	Custody Seal(s) Intact?	Not Applicable ✓
Labeled and Labels Legible	X ___	Seal(s) Signed / Dated	Not Applicable
Total No. of Samples Received	1	Total No. of Containers Received	1

Preservation

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

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: 6/18/9

PM Review and Approval: [signature] Date: 6/18/09

Printed: 06/18/2009 11:36 AM

Analytical Report for

Constellation Energy Group

Certificate of Analysis No.: 9062906

Project Manager: John Basciano
Project Name : Capp & Drummond 50%
Project Location: Wagner

June 30, 2009

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.

June 30, 2009

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

Reference: PSS Work Order No: **9062906**
Project Name : Capp & Drummond 50%
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 **9062906**.

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 August 3, 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

Dan Prucnal
Laboratory Manager

Case Narrative Summary

Client Name: Constellation Energy Group

Project Name: Capp & Drummond 50%

Project ID: N/A **Work Order Number: 9062906**

The following samples were received under chain of custody by Phase Separation Science (PSS) on 06/29/2009 at 01:03 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
9062906-001	50% Capp 50% Drummond	SOLID	06/29/2009 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.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].

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: 9062906

Constellation Energy Group, Baltimore, MD

June 30, 2009

Project Name: Capp & Drummond 50%
Project Location: Wagner

Sample ID: 50% Capp 50% Drummond **Date/Time Sampled: 06/29/2009 09:00** **PSS Sample ID: 9062906-001**
Matrix: SOLID **Date/Time Received: 06/29/2009 13:03**

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	06/30/09	06/30/09 12:43	1033
Barium	ND	mg/L	100		1	06/30/09	06/30/09 12:43	1033
Cadmium	ND	mg/L	1.0		1	06/30/09	06/30/09 12:43	1033
Chromium	ND	mg/L	5.0		1	06/30/09	06/30/09 12:43	1033
Lead	ND	mg/L	5.0		1	06/30/09	06/30/09 12:43	1033
Mercury	ND	mg/L	0.200		1	06/30/09	06/30/09 12:43	1033
Selenium	ND	mg/L	1.0		1	06/30/09	06/30/09 12:43	1033
Silver	ND	mg/L	5.0		1	06/30/09	06/30/09 12:43	1033

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

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

(1) CLIENT: CPSG — OFFICE LOC.: Brandon Shores
PROJECT MGR: John Basciano — PHONE NO.: 410-917-3202
EMAIL: john.m.basciano@constellation.com — FAX NO.: 410-787-5424
PROJECT NAME: Capp & Drummond 50% — PROJECT NO.:
SITE LOCATION: Wagner — P.O. NO.:
SAMPLERS: — DW CERT NO.:

PSS Work Order #: 9067906 — PAGE 1 OF 1

Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil WL=Waste Liquid WS=Waste Solid W=Wipe

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE C=COMP G=GRAB	Click to enter Analysis	TCLP Metals	Preservative Used	Analysis/ Method Required	REMARKS
1	50% Capp 50% Drummond	6/29/09	9am	Fly Ash	1	G		✓			Click to enter Remarks

(5)

Relinquished By: (1)	Date	Time	Received By:
Matt	6/29/9	1303	
Relinquished By: (2)	Date	Time:	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4)

Requested Turnaround Time
☐ 5-Day ☐ 3-Day ☐ 2-Day
☐ Next Day ■ Emergency ☐ Other

Data Deliverables Required:

# of Coolers: 0
Custody Seal: ABSENT
Ice Present: ABSENT Temp: 33°
Shipping Carrier: CLIENT

Special Instructions:
Please forward results ASAP

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

Phase Separation Science, Inc

Sample Receipt Checklist

Wo Number	9062906	**Received By**	Rachel Davis
Client Name	Constellation Energy Group	**Date Received**	06/29/2009 01:03:00 PM
Project Name	Capp & Drummond 50%	**Delivered By**	Client
Project Number	N/A	**Tracking No**	Not Applicable
Disposal Date:	08/03/2009	**Logged In By**	Rachel Davis

Shipping Container(s)

No. of Coolers	0	Ice	Absent
Custody Seals	Absent	Temp (deg C)	33
Seal Condition	Not Applicable	Temp Blank Present	No

Documentation

COC agrees with sample labels? X Yes or ___ No Sampler Name: Not Provided

Chain of Custody (COC) X Yes or ___ No

Sample Container

Appropiate for Specified Analysis?	Yes X No___	Custody Seal(s)	Absent
Intact?	X ___	Custody Seal(s) Intact?	Not Applicable
Labeled and Labels Legible	X ___	Seal(s) Signed / Dated	Not Applicable
Total No. of Samples Received	1	Total No. of Containers Received	1

Preservation

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

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: 6/29/9

PM Review and Approval: AE Date: 6/29/09

Printed: 06/29/2009 01:09 PM

Analytical Report for

Constellation Energy Group

Certificate of Analysis No.: 9072102

Project Manager: John Basciano
Project Name : Wagner #3 Chem-mod
Project Location: Wagner

July 22, 2009

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

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PHASE SEPARATION SCIENCE, INC.

July 22, 2009

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

Reference: PSS Work Order No: **9072102**
Project Name : Wagner #3 Chem-mod
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 **9072102.**

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 August 25, 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.

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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 #3 Chem-mod

Project ID: N/A **Work Order Number: 9072102**

The following samples were received under chain of custody by Phase Separation Science (PSS) on 07/21/2009 at 09:30 am

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
9072102-001	Brandon Shores Unit #1	SOLID	07/21/2009 09:00 am
9072102-002	Brandon Shores Unit #2	SOLID	07/21/2009 09:00 am
9072102-003	Wagner #3 Chem-mod	SOLID	07/21/2009 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.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].

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: 9072102

Constellation Energy Group, Baltimore, MD

July 22, 2009

Project Name: Wagner #3 Chem-mod
Project Location: Wagner

Sample ID: Brandon Shores Unit #1 **Date/Time Sampled: 07/21/2009 09:00** **PSS Sample ID: 9072102-001**
Matrix: SOLID **Date/Time Received: 07/21/2009 09:30**

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	07/22/09	07/22/09 13:47	1033
Barium	ND	mg/L	100		1	07/22/09	07/22/09 13:47	1033
Cadmium	ND	mg/L	1.0		1	07/22/09	07/22/09 13:47	1033
Chromium	ND	mg/L	5.0		1	07/22/09	07/22/09 13:47	1033
Lead	ND	mg/L	5.0		1	07/22/09	07/22/09 13:47	1033
Mercury	ND	mg/L	0.200		1	07/22/09	07/22/09 13:47	1033
Selenium	ND	mg/L	1.0		1	07/22/09	07/22/09 13:47	1033
Silver	ND	mg/L	5.0		1	07/22/09	07/22/09 13:47	1033

Sample ID: Brandon Shores Unit #2 **Date/Time Sampled: 07/21/2009 09:00** **PSS Sample ID: 9072102-002**
Matrix: SOLID **Date/Time Received: 07/21/2009 09:30**

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	07/22/09	07/22/09 13:53	1033
Barium	ND	mg/L	100		1	07/22/09	07/22/09 13:53	1033
Cadmium	ND	mg/L	1.0		1	07/22/09	07/22/09 13:53	1033
Chromium	ND	mg/L	5.0		1	07/22/09	07/22/09 13:53	1033
Lead	ND	mg/L	5.0		1	07/22/09	07/22/09 13:53	1033
Mercury	ND	mg/L	0.200		1	07/22/09	07/22/09 13:53	1033
Selenium	ND	mg/L	1.0		1	07/22/09	07/22/09 13:53	1033
Silver	ND	mg/L	5.0		1	07/22/09	07/22/09 13:53	1033

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 9072102

Constellation Energy Group, Baltimore, MD

July 22, 2009

Project Name: Wagner #3 Chem-mod
Project Location: Wagner

Sample ID: Wagner #3 Chem-mod **Date/Time Sampled: 07/21/2009 09:00** **PSS Sample ID: 9072102-003**
Matrix: SOLID **Date/Time Received: 07/21/2009 09:30**

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	07/22/09	07/22/09 14:00	1033
Barium	ND	mg/L	100		1	07/22/09	07/22/09 14:00	1033
Cadmium	ND	mg/L	1.0		1	07/22/09	07/22/09 14:00	1033
Chromium	ND	mg/L	5.0		1	07/22/09	07/22/09 14:00	1033
Lead	ND	mg/L	5.0		1	07/22/09	07/22/09 14:00	1033
Mercury	ND	mg/L	0.200		1	07/22/09	07/22/09 14:00	1033
Selenium	ND	mg/L	1.0		1	07/22/09	07/22/09 14:00	1033
Silver	ND	mg/L	5.0		1	07/22/09	07/22/09 14:00	1033

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

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

(1) CLIENT: CPSG | OFFICE LOC.: BS Coal Yard
PROJECT MGR: John Basciano | PHONE NO.: 410-917-3202
EMAIL: john.m.basciano@constellation.com | FAX NO.: 410-787-5424
PROJECT NAME: Wagner # 3 Chem-mod | PROJECT NO.:
SITE LOCATION: Wagner | P.O. NO.:
SAMPLERS: | DW CERT NO.:

PSS Work Order #: 907210Z | PAGE 1 OF 1

Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil WL=Waste Liquid WS=Waste Solid W= Wipe

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	Click to enter Analysis	TCLP Metals	Preservative Used	Analysis/ Method Required	REMARKS
1	Brandon Shores unit # 1	7/21/09	9am	Fly ash	1	G		✓			Click to enter Remarks
2	Brandon Shores unit # 2	7/21/09	9am	Fly ash	1	G		✓			
3	Wagner # 3 Chem -mod	7/21/09	9am	Fly ash	1	G		✓			

(5)

Relinquished By: (1)	Date	Time	Received By:
[signature]	7/21/9	1730	[signature]
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4)

Requested Turnaround Time
☐ 5-Day ☐ 3-Day ☐ 2-Day
☐ Next Day ■ Emergency ☐ Other

Data Deliverables Required: 7/22/09

# of Coolers: 0
Custody Seal: ABS
Ice Present: ABS Temp: 25°C
Shipping Carrier: CLIENT

Special Instructions:
Please forward results ASAP.

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

Phase Separation Science, Inc

Sample Receipt Checklist

Wo Number	9072102	**Received By**	Rachel Davis
Client Name	Constellation Energy Group	**Date Received**	07/21/2009 09:30:00 AM
Project Name	Wagner #3 Chem-mod	**Delivered By**	Client
Project Number	N/A	**Tracking No**	Not Applicable
Disposal Date:	08/25/2009	**Logged In By**	Rachel Davis

Shipping Container(s)

No. of Coolers	0	Ice	Absent
Custody Seals	Absent ✓	Temp (deg C)	25 ✓
Seal Condition	Not Applicable	Temp Blank Present	No

Documentation

COC agrees with sample labels? X Yes or ___ No Sampler Name: Not Provided

Chain of Custody (COC) X Yes or ___ No

Sample Container

Appropiate for Specified Analysis?	Yes X No ___	Custody Seal(s)	Absent
Intact?	X ___	Custody Seal(s) Intact?	Not Applicable ✓
Labeled and Labels Legible	X ___	Seal(s) Signed / Dated	Not Applicable
Total No. of Samples Received	3	Total No. of Containers Received	3

Preservation

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

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: _____ Date: 7/21/9

PM Review and Approval: _____ Date: 7/21/09

Printed: 07/21/2009 09:50 AM

Analytical Report for

Constellation Energy Group

Certificate of Analysis No.: 9091404

Project Manager: Beth Pittaway
Project Name : Fly Ash Tests for MDE
Project Location: Various Coal Plants

September 22, 2009

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

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410-747-8770
800-932-9047

PHASE SEPARATION SCIENCE, INC.

September 22, 2009

Beth Pittaway
Constellation Energy Group
1005 Brandon Shores Rd.
Baltimore, MD 21226

Reference: PSS Work Order No: **9091404**
Project Name : Fly Ash Tests for MDE
Project Location: Various Coal Plants

Dear Beth Pittaway :

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 **9091404**.

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 October 19, 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

Dan Prucnal
Laboratory Manager

Case Narrative Summary

Client Name: Constellation Energy Group

Project Name: Fly Ash Tests for MDE

Project ID: N/A **Work Order Number: 9091404**

The following samples were received under chain of custody by Phase Separation Science (PSS) on 09/14/2009 at 01:21 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
9091404-001	Brandon Shores #1	SOLID	09/14/2009 09:00
9091404-002	Brandon Shores #2	SOLID	09/14/2009 09:00
9091404-003	Crane	SOLID	09/14/2009 09:00
9091404-004	Wagner #2	SOLID	09/14/2009 09:00
9091404-005	Wagner #3	SOLID	09/14/2009 09:00
9091404-006	Brandon Shores #4 Silo	SOLID	09/14/2009 09:00
9091404-007	Wagner Bottom Ash	SOLID	09/14/2009 09:00
9091404-008	Brandon Shores Wastewater Slud	SOLID	09/14/2009 09:00
9091404-009	Brandon Shores Bottom Ash	SOLID	09/14/2009 09:00

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.

Narrative Comments:

Analyses associated with analyst code 4005 were performed by Enviro-Chem Laboratories, Inc.

All Sulfur results reported on an "as received" basis.

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.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].

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: 9091404

Constellation Energy Group, Baltimore, MD

September 22, 2009

Project Name: Fly Ash Tests for MDE
Project Location: Various Coal Plants

Sample ID: Wagner #2 | **Date/Time Sampled: 09/14/2009 09:00** | **PSS Sample ID: 9091404-004**
Matrix: SOLID | **Date/Time Received: 09/14/2009 13:21** | **% Solids: 100**

Total Metals | Analytical Method: SW846 6020A | Preparation Method: SW846 3050B

	Result	Units	Rep Limit	Flag	Dil	Prepared	Analyzed	Analyst
Aluminum	**7,900**	mg/kg	4,600		200	09/14/09	09/16/09 21:46	1033
Antimony	**1.7**	mg/kg	2.4	J	1	09/14/09	09/15/09 15:29	1033
Arsenic	**25**	mg/kg	0.2		1	09/14/09	09/15/09 15:29	1033
Barium	**340**	mg/kg	23		10	09/14/09	09/16/09 14:31	1033
Beryllium	**2.6**	mg/kg	2.4		1	09/14/09	09/15/09 15:29	1033
Boron	**55**	mg/kg	2.4	B	1	09/14/09	09/15/09 15:29	1033
Cadmium	ND	mg/kg	2.4		1	09/14/09	09/15/09 15:29	1033
Calcium	**3,300**	mg/kg	460		10	09/14/09	09/16/09 14:31	1033
Chromium	**27**	mg/kg	2.4		1	09/14/09	09/15/09 15:29	1033
Cobalt	**16**	mg/kg	2.4		1	09/14/09	09/15/09 15:29	1033
Copper	**47**	mg/kg	2.4		1	09/14/09	09/15/09 15:29	1033
Iron	**18,000**	mg/kg	4,600		100	09/14/09	09/16/09 13:33	1033
Lead	**23**	mg/kg	2.4		1	09/14/09	09/15/09 15:29	1033
Lithium	**24**	mg/kg	1.2		1	09/14/09	09/15/09 15:29	1033
Magnesium	**840**	mg/kg	48		1	09/14/09	09/15/09 15:29	1033
Manganese	**68**	mg/kg	2.4		1	09/14/09	09/15/09 15:29	1033
Mercury	**0.65**	mg/kg	0.1		1	09/14/09	09/15/09 15:29	1033
Molybdenum	**10**	mg/kg	4.8		1	09/14/09	09/15/09 15:29	1033
Nickel	**26**	mg/kg	2.4		1	09/14/09	09/15/09 15:29	1033
Potassium	**1,400**	mg/kg	48		1	09/14/09	09/15/09 15:29	1033
Selenium	**27**	mg/kg	2.4		1	09/14/09	09/15/09 15:29	1033
Silver	ND	mg/kg	2.4		1	09/14/09	09/15/09 15:29	1033
Sodium	**360**	mg/kg	48	B	1	09/14/09	09/15/09 15:29	1033
Thallium	**0.89**	mg/kg	0.5		1	09/14/09	09/15/09 15:29	1033
Vanadium	**90**	mg/kg	2.4		1	09/14/09	09/15/09 15:29	1033
Zinc	**34**	mg/kg	9.5		1	09/14/09	09/15/09 15:29	1033

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 9091404

Constellation Energy Group, Baltimore, MD

September 22, 2009

Project Name: Fly Ash Tests for MDE
Project Location: Various Coal Plants

Sample ID: Wagner #2 **Date/Time Sampled: 09/14/2009 09:00** **PSS Sample ID: 9091404-004**
Matrix: SOLID **Date/Time Received: 09/14/2009 13:21**

Total Metals — Analytical Method: SW846 6010B

	Result	Units	Rep Limit	Flag	Prepared	Analyzed	Analyst
Sulfur	**1,580**	mg/kg	35.7		09/15/09	09/15/09 14:16	4005

TCLP Metals — Analytical Method: SW846 6020A — Preparation Method: SW846 3050B

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	5.0		1	09/14/09	09/15/09 16:18	1034
Barium	ND	mg/L	100		1	09/14/09	09/15/09 16:18	1034
Cadmium	ND	mg/L	1.0		1	09/14/09	09/15/09 16:18	1034
Chromium	ND	mg/L	5.0		1	09/14/09	09/15/09 16:18	1034
Lead	ND	mg/L	5.0		1	09/14/09	09/15/09 16:18	1034
Mercury	ND	mg/L	0.200		1	09/14/09	09/15/09 16:18	1034
Selenium	**0.150**	mg/L	1.0		1	09/14/09	09/15/09 16:18	1034
Silver	ND	mg/L	5.0		1	09/14/09	09/15/09 16:18	1034

TCLP Organochlorine Pesticides — Analytical Method: SW846 8081B — Preparation Method: SW846 3510C

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
Chlordane	ND	mg/L	0.030		1	09/15/09	09/16/09 12:55	1029
Endrin	ND	mg/L	0.020		1	09/15/09	09/16/09 12:55	1029
Heptachlor	ND	mg/L	0.008		1	09/15/09	09/16/09 12:55	1029
gamma-BHC (Lindane)	ND	mg/L	0.400		1	09/15/09	09/16/09 12:55	1029
Heptachlor epoxide	ND	mg/L	0.008		1	09/15/09	09/16/09 12:55	1029
Methoxychlor	ND	mg/L	10		1	09/15/09	09/16/09 12:55	1029
Toxaphene	ND	mg/L	0.500		1	09/15/09	09/16/09 12:55	1029

TCLP Chlorinated Herbicides — Analytical Method: SW846 8151A

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
2,4-D	ND	mg/L	10		1	09/15/09	09/16/09 01:49	1029
2,4,5-TP (Silvex)	ND	mg/L	1.0		1	09/15/09	09/16/09 01:49	1029

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 9091404

Constellation Energy Group, Baltimore, MD

September 22, 2009

Project Name: Fly Ash Tests for MDE
Project Location: Various Coal Plants

Sample ID: Wagner #2 **Date/Time Sampled: 09/14/2009 09:00** **PSS Sample ID: 9091404-004**
Matrix: SOLID **Date/Time Received: 09/14/2009 13:21**

TCLP Volatile Organic Compounds — Analytical Method: SW846 8260B — Preparation Method: SW846 5030B

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
Vinyl chloride	ND	mg/L	0.2		20	09/15/09	09/15/09 15:56	1011
1,1-Dichloroethene	ND	mg/L	0.7		20	09/15/09	09/15/09 15:56	1011
2-Butanone (MEK)	ND	mg/L	200		20	09/15/09	09/15/09 15:56	1011
Chloroform	ND	mg/L	6.0		20	09/15/09	09/15/09 15:56	1011
1,2-Dichloroethane	ND	mg/L	0.5		20	09/15/09	09/15/09 15:56	1011
Carbon tetrachloride	ND	mg/L	0.5		20	09/15/09	09/15/09 15:56	1011
Benzene	ND	mg/L	0.5		20	09/15/09	09/15/09 15:56	1011
Trichloroethene	ND	mg/L	0.5		20	09/15/09	09/15/09 15:56	1011
Tetrachloroethene	ND	mg/L	0.7		20	09/15/09	09/15/09 15:56	1011
Chlorobenzene	ND	mg/L	100		20	09/15/09	09/15/09 15:56	1011
1,4-Dichlorobenzene	ND	mg/L	7.5		20	09/15/09	09/15/09 15:56	1011

TCLP Semivolatile Organic Compounds — Analytical Method: SW846 8270C — Preparation Method: SW846 3550

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
2,4-Dinitrotoluene	ND	mg/L	0.130		1	09/15/09	09/16/09 01:29	1014
Hexachlorobenzene	ND	mg/L	0.130		1	09/15/09	09/16/09 01:29	1014
Hexachlorobutadiene	ND	mg/L	0.500		1	09/15/09	09/16/09 01:29	1014
Hexachloroethane	ND	mg/L	3.0		1	09/15/09	09/16/09 01:29	1014
2-Methyl phenol	ND	mg/L	200		1	09/15/09	09/16/09 01:29	1014
3&4-Methylphenol	ND	mg/L	200		1	09/15/09	09/16/09 01:29	1014
Nitrobenzene	ND	mg/L	2.0		1	09/15/09	09/16/09 01:29	1014
Pentachlorophenol	ND	mg/L	100		1	09/15/09	09/16/09 01:29	1014
Pyridine	ND	mg/L	5.0		1	09/15/09	09/16/09 01:29	1014
2,4,6-Trichlorophenol	ND	mg/L	2.0		1	09/15/09	09/16/09 01:29	1014
2,4,5-Trichlorophenol	ND	mg/L	400		1	09/15/09	09/16/09 01:29	1014

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 9091404

Constellation Energy Group, Baltimore, MD

September 22, 2009

Project Name: Fly Ash Tests for MDE
Project Location: Various Coal Plants

Sample ID: Wagner #3 | **Date/Time Sampled: 09/14/2009 09:00** | **PSS Sample ID: 9091404-005**
Matrix: SOLID | **Date/Time Received: 09/14/2009 13:21** | **% Solids: 100**

Total Metals | Analytical Method: SW846 6020A | Preparation Method: SW846 3050B

	Result	Units	Rep Limit	Flag	Dil	Prepared	Analyzed	Analyst
Aluminum	**7,200**	mg/kg	2,300		100	09/14/09	09/16/09 13:39	1033
Antimony	**1.5**	mg/kg	2.4	J	1	09/14/09	09/15/09 15:35	1033
Arsenic	**19**	mg/kg	0.2		1	09/14/09	09/15/09 15:35	1033
Barium	**150**	mg/kg	2.4		1	09/14/09	09/15/09 15:35	1033
Beryllium	**2.2**	mg/kg	2.4	J	1	09/14/09	09/15/09 15:35	1033
Boron	**28**	mg/kg	2.4	B	1	09/14/09	09/15/09 15:35	1033
Cadmium	ND	mg/kg	2.4		1	09/14/09	09/15/09 15:35	1033
Calcium	**1,800**	mg/kg	48		1	09/14/09	09/15/09 15:35	1033
Chromium	**23**	mg/kg	2.4		1	09/14/09	09/15/09 15:35	1033
Cobalt	**13**	mg/kg	2.4		1	09/14/09	09/15/09 15:35	1033
Copper	**39**	mg/kg	2.4		1	09/14/09	09/15/09 15:35	1033
Iron	**10,000**	mg/kg	4,700		100	09/14/09	09/16/09 13:39	1033
Lead	**21**	mg/kg	2.4		1	09/14/09	09/15/09 15:35	1033
Lithium	**22**	mg/kg	1.2		1	09/14/09	09/15/09 15:35	1033
Magnesium	**550**	mg/kg	48		1	09/14/09	09/15/09 15:35	1033
Manganese	**45**	mg/kg	2.4		1	09/14/09	09/15/09 15:35	1033
Mercury	**0.21**	mg/kg	0.1		1	09/14/09	09/15/09 15:35	1033
Molybdenum	**10**	mg/kg	4.8		1	09/14/09	09/15/09 15:35	1033
Nickel	**22**	mg/kg	2.4		1	09/14/09	09/15/09 15:35	1033
Potassium	**1,200**	mg/kg	48		1	09/14/09	09/15/09 15:35	1033
Selenium	**20**	mg/kg	2.4		1	09/14/09	09/15/09 15:35	1033
Silver	ND	mg/kg	2.4		1	09/14/09	09/15/09 15:35	1033
Sodium	**250**	mg/kg	48	B	1	09/14/09	09/15/09 15:35	1033
Thallium	**0.74**	mg/kg	0.5		1	09/14/09	09/15/09 15:35	1033
Vanadium	**59**	mg/kg	2.4		1	09/14/09	09/15/09 15:35	1033
Zinc	**28**	mg/kg	9.7		1	09/14/09	09/15/09 15:35	1033

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 9091404

Constellation Energy Group, Baltimore, MD

September 22, 2009

Project Name: Fly Ash Tests for MDE
Project Location: Various Coal Plants

Sample ID: Wagner #3 **Date/Time Sampled: 09/14/2009 09:00** **PSS Sample ID: 9091404-005**
Matrix: SOLID **Date/Time Received: 09/14/2009 13:21**

Total Metals — Analytical Method: SW846 6010B

	Result	Units	Rep Limit	Flag	Prepared	Analyzed	Analyst
Sulfur	**1,990**	mg/kg	35.5		09/15/09	09/15/09 14:17	4005

TCLP Metals — Analytical Method: SW846 6020A — Preparation Method: SW846 3050B

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	5.0		1	09/14/09	09/16/09 11:03	1034
Barium	ND	mg/L	100		1	09/14/09	09/16/09 11:03	1034
Cadmium	ND	mg/L	1.0		1	09/14/09	09/16/09 11:03	1034
Chromium	ND	mg/L	5.0		1	09/14/09	09/16/09 11:03	1034
Lead	ND	mg/L	5.0		1	09/14/09	09/16/09 11:03	1034
Mercury	ND	mg/L	0.200		1	09/14/09	09/16/09 11:03	1034
Selenium	**0.114**	mg/L	1.0		1	09/14/09	09/16/09 11:03	1034
Silver	ND	mg/L	5.0		1	09/14/09	09/16/09 11:03	1034

TCLP Organochlorine Pesticides — Analytical Method: SW846 8081B — Preparation Method: SW846 3510C

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
Chlordane	ND	mg/L	0.030		1	09/15/09	09/16/09 13:23	1029
Endrin	ND	mg/L	0.020		1	09/15/09	09/16/09 13:23	1029
gamma-BHC (Lindane)	ND	mg/L	0.400		1	09/15/09	09/16/09 13:23	1029
Heptachlor	ND	mg/L	0.008		1	09/15/09	09/16/09 13:23	1029
Heptachlor epoxide	ND	mg/L	0.008		1	09/15/09	09/16/09 13:23	1029
Methoxychlor	ND	mg/L	10		1	09/15/09	09/16/09 13:23	1029
Toxaphene	ND	mg/L	0.500		1	09/15/09	09/16/09 13:23	1029

TCLP Chlorinated Herbicides — Analytical Method: SW846 8151A

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
2,4-D	ND	mg/L	10		1	09/15/09	09/15/09 21:29	1029
2,4,5-TP (Silvex)	ND	mg/L	1.0		1	09/15/09	09/15/09 21:29	1029

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 9091404

Constellation Energy Group, Baltimore, MD

September 22, 2009

Project Name: Fly Ash Tests for MDE
Project Location: Various Coal Plants

Sample ID: Wagner #3 **Date/Time Sampled: 09/14/2009 09:00** **PSS Sample ID: 9091404-005**
Matrix: SOLID **Date/Time Received: 09/14/2009 13:21**

TCLP Volatile Organic Compounds — Analytical Method: SW846 8260B — Preparation Method: SW846 5030B

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
Vinyl chloride	ND	mg/L	0.2		20	09/15/09	09/15/09 16:23	1011
1,1-Dichloroethene	ND	mg/L	0.7		20	09/15/09	09/15/09 16:23	1011
2-Butanone (MEK)	ND	mg/L	200		20	09/15/09	09/15/09 16:23	1011
Chloroform	ND	mg/L	6.0		20	09/15/09	09/15/09 16:23	1011
1,2-Dichloroethane	ND	mg/L	0.5		20	09/15/09	09/15/09 16:23	1011
Carbon tetrachloride	ND	mg/L	0.5		20	09/15/09	09/15/09 16:23	1011
Benzene	ND	mg/L	0.5		20	09/15/09	09/15/09 16:23	1011
Trichloroethene	ND	mg/L	0.5		20	09/15/09	09/15/09 16:23	1011
Tetrachloroethene	ND	mg/L	0.7		20	09/15/09	09/15/09 16:23	1011
Chlorobenzene	ND	mg/L	100		20	09/15/09	09/15/09 16:23	1011
1,4-Dichlorobenzene	ND	mg/L	7.5		20	09/15/09	09/15/09 16:23	1011

TCLP Semivolatile Organic Compounds — Analytical Method: SW846 8270C — Preparation Method: SW846 3550

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
2,4-Dinitrotoluene	ND	mg/L	0.130		1	09/15/09	09/16/09 02:00	1014
Hexachlorobenzene	ND	mg/L	0.130		1	09/15/09	09/16/09 02:00	1014
Hexachlorobutadiene	ND	mg/L	0.500		1	09/15/09	09/16/09 02:00	1014
Hexachloroethane	ND	mg/L	3.0		1	09/15/09	09/16/09 02:00	1014
2-Methyl phenol	ND	mg/L	200		1	09/15/09	09/16/09 02:00	1014
3&4-Methylphenol	ND	mg/L	200		1	09/15/09	09/16/09 02:00	1014
Nitrobenzene	ND	mg/L	2.0		1	09/15/09	09/16/09 02:00	1014
Pentachlorophenol	ND	mg/L	100		1	09/15/09	09/16/09 02:00	1014
Pyridine	ND	mg/L	5.0		1	09/15/09	09/16/09 02:00	1014
2,4,6-Trichlorophenol	ND	mg/L	2.0		1	09/15/09	09/16/09 02:00	1014
2,4,5-Trichlorophenol	ND	mg/L	400		1	09/15/09	09/16/09 02:00	1014

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 9091404

Constellation Energy Group, Baltimore, MD

September 22, 2009

Project Name: Fly Ash Tests for MDE
Project Location: Various Coal Plants

Sample ID: Wagner Bottom Ash | **Date/Time Sampled: 09/14/2009 09:00** | **PSS Sample ID: 9091404-007**
Matrix: SOLID | **Date/Time Received: 09/14/2009 13:21** | **% Solids: 62**

Total Metals | Analytical Method: SW846 6020A | Preparation Method: SW846 3050B

	Result	Units	Rep Limit	Flag	Dil	Prepared	Analyzed	Analyst
Aluminum	**5,000**	mg/kg	3,700		100	09/14/09	09/16/09 22:00	1033
Antimony	ND	mg/kg	3.7		1	09/14/09	09/15/09 15:48	1033
Arsenic	**2.7**	mg/kg	0.4		1	09/14/09	09/15/09 15:48	1033
Barium	**130**	mg/kg	3.7		1	09/14/09	09/15/09 15:48	1033
Beryllium	ND	mg/kg	3.7		1	09/14/09	09/15/09 15:48	1033
Boron	**22**	mg/kg	3.7	B	1	09/14/09	09/15/09 15:48	1033
Cadmium	ND	mg/kg	3.7		1	09/14/09	09/15/09 15:48	1033
Calcium	**2,100**	mg/kg	75		1	09/14/09	09/15/09 15:48	1033
Chromium	**11**	mg/kg	3.7		1	09/14/09	09/15/09 15:48	1033
Cobalt	**4.9**	mg/kg	3.7		1	09/14/09	09/15/09 15:48	1033
Copper	**17**	mg/kg	3.7		1	09/14/09	09/15/09 15:48	1033
Iron	**14,000**	mg/kg	1,500		20	09/14/09	09/16/09 13:52	1033
Lead	**4.5**	mg/kg	3.7		1	09/14/09	09/15/09 15:48	1033
Lithium	**7.4**	mg/kg	1.9		1	09/14/09	09/15/09 15:48	1033
Magnesium	**840**	mg/kg	75		1	09/14/09	09/15/09 15:48	1033
Manganese	**130**	mg/kg	3.7		1	09/14/09	09/15/09 15:48	1033
Mercury	ND	mg/kg	0.1		1	09/14/09	09/15/09 15:48	1033
Molybdenum	ND	mg/kg	7.5		1	09/14/09	09/15/09 15:48	1033
Nickel	**12**	mg/kg	3.7		1	09/14/09	09/15/09 15:48	1033
Potassium	**790**	mg/kg	75		1	09/14/09	09/15/09 15:48	1033
Selenium	**3.8**	mg/kg	3.7		1	09/14/09	09/15/09 15:48	1033
Silver	ND	mg/kg	3.7		1	09/14/09	09/15/09 15:48	1033
Sodium	**1,200**	mg/kg	75	B	1	09/14/09	09/15/09 15:48	1033
Thallium	ND	mg/kg	0.7		1	09/14/09	09/15/09 15:48	1033
Vanadium	**17**	mg/kg	3.7		1	09/14/09	09/15/09 15:48	1033
Zinc	**11**	mg/kg	15	J	1	09/14/09	09/15/09 15:48	1033

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

PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 9091404
Constellation Energy Group, Baltimore, MD
September 22, 2009

Project Name: Fly Ash Tests for MDE
Project Location: Various Coal Plants

Sample ID: Wagner Bottom Ash **Date/Time Sampled: 09/14/2009 09:00** **PSS Sample ID: 9091404-007**
Matrix: SOLID **Date/Time Received: 09/14/2009 13:21**

Total Metals — Analytical Method: SW846 6010B

	Result	Units	Rep Limit	Flag	Prepared	Analyzed	Analyst
Sulfur	**823**	mg/kg	33.6		09/15/09	09/15/09 14:25	4005

TCLP Metals — Analytical Method: SW846 6020A — Preparation Method: SW846 3050B

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	5.0		1	09/14/09	09/16/09 11:15	1034
Barium	ND	mg/L	100		1	09/14/09	09/16/09 11:15	1034
Cadmium	ND	mg/L	1.0		1	09/14/09	09/16/09 11:15	1034
Chromium	ND	mg/L	5.0		1	09/14/09	09/16/09 11:15	1034
Lead	ND	mg/L	5.0		1	09/14/09	09/16/09 11:15	1034
Mercury	ND	mg/L	0.200		1	09/14/09	09/16/09 11:15	1034
Selenium	ND	mg/L	1.0		1	09/14/09	09/16/09 11:15	1034
Silver	ND	mg/L	5.0		1	09/14/09	09/16/09 11:15	1034

TCLP Organochlorine Pesticides — Analytical Method: SW846 8081B — Preparation Method: SW846 3510C

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
Chlordane	ND	mg/L	0.030		1	09/15/09	09/16/09 13:51	1029
Endrin	ND	mg/L	0.020		1	09/15/09	09/16/09 13:51	1029
gamma-BHC (Lindane)	ND	mg/L	0.400		1	09/15/09	09/16/09 13:51	1029
Heptachlor	ND	mg/L	0.008		1	09/15/09	09/16/09 13:51	1029
Heptachlor epoxide	ND	mg/L	0.008		1	09/15/09	09/16/09 13:51	1029
Methoxychlor	ND	mg/L	10		1	09/15/09	09/16/09 13:51	1029
Toxaphene	ND	mg/L	0.500		1	09/15/09	09/16/09 13:51	1029

TCLP Chlorinated Herbicides — Analytical Method: SW846 8151A

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
2,4-D	ND	mg/L	10		1	09/15/09	09/15/09 22:01	1029
2,4,5-TP (Silvex)	ND	mg/L	1.0		1	09/15/09	09/15/09 22:01	1029

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 9091404

Constellation Energy Group, Baltimore, MD

September 22, 2009

Project Name: Fly Ash Tests for MDE
Project Location: Various Coal Plants

Sample ID: Wagner Bottom Ash **Date/Time Sampled: 09/14/2009 09:00** **PSS Sample ID: 9091404-007**
Matrix: SOLID **Date/Time Received: 09/14/2009 13:21**

TCLP Volatile Organic Compounds — Analytical Method: SW846 8260B — Preparation Method: SW846 5030B

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
Vinyl chloride	ND	mg/L	0.2		20	09/15/09	09/15/09 17:19	1011
1,1-Dichloroethene	ND	mg/L	0.7		20	09/15/09	09/15/09 17:19	1011
2-Butanone (MEK)	ND	mg/L	200		20	09/15/09	09/15/09 17:19	1011
Chloroform	ND	mg/L	6.0		20	09/15/09	09/15/09 17:19	1011
1,2-Dichloroethane	ND	mg/L	0.5		20	09/15/09	09/15/09 17:19	1011
Carbon tetrachloride	ND	mg/L	0.5		20	09/15/09	09/15/09 17:19	1011
Benzene	ND	mg/L	0.5		20	09/15/09	09/15/09 17:19	1011
Trichloroethene	ND	mg/L	0.5		20	09/15/09	09/15/09 17:19	1011
Tetrachloroethene	ND	mg/L	0.7		20	09/15/09	09/15/09 17:19	1011
Chlorobenzene	ND	mg/L	100		20	09/15/09	09/15/09 17:19	1011
1,4-Dichlorobenzene	ND	mg/L	7.5		20	09/15/09	09/15/09 17:19	1011

TCLP Semivolatile Organic Compounds — Analytical Method: SW846 8270C — Preparation Method: SW846 3550

	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
2,4-Dinitrotoluene	ND	mg/L	0.130		1	09/15/09	09/16/09 03:02	1014
Hexachlorobenzene	ND	mg/L	0.130		1	09/15/09	09/16/09 03:02	1014
Hexachlorobutadiene	ND	mg/L	0.500		1	09/15/09	09/16/09 03:02	1014
Hexachloroethane	ND	mg/L	3.0		1	09/15/09	09/16/09 03:02	1014
2-Methyl phenol	ND	mg/L	200		1	09/15/09	09/16/09 03:02	1014
3&4-Methylphenol	ND	mg/L	200		1	09/15/09	09/16/09 03:02	1014
Nitrobenzene	ND	mg/L	2.0		1	09/15/09	09/16/09 03:02	1014
Pentachlorophenol	ND	mg/L	100		1	09/15/09	09/16/09 03:02	1014
Pyridine	ND	mg/L	5.0		1	09/15/09	09/16/09 03:02	1014
2,4,6-Trichlorophenol	ND	mg/L	2.0		1	09/15/09	09/16/09 03:02	1014
2,4,5-Trichlorophenol	ND	mg/L	400		1	09/15/09	09/16/09 03:02	1014

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

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

(1) CLIENT: CPSG — OFFICE LOC.: Coal Yard
PROJECT MGR: Beth Pittaway — PHONE NO.: 410-787-5320
EMAIL: beth.pittaway@constellation.com — FAX NO.: 410-787-5424
PROJECT NAME: Fly Ash Tests for MDE — PROJECT NO.:
SITE LOCATION: various coal plants — P.O. NO.:
SAMPLERS: — DW CERT NO.:

PSS Work Order #: 9091409 — PAGE 1 OF 1

Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil WL=Waste Liquid WS=Waste Solid W= Wipe

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE C=COMP G=GRAB	Attached Comar	Preservative Used	Analysis/ Method Required	REMARKS
1	Brandon Shores # 1	9/14/09	9am	Fly Ash	1	G	✓			Click to enter Remarks
2	Brandon Shores # 2	9/14/09	9am	Fly Ash	1	G	✓			
3	Crane	9/14/09	9am	Fly Ash	1	G	✓			
4	Wagner # 2	9/14/09	9am	Fly Ash	1	G	✓			
5	Wagner # 3	9/14/09	9am	Fly Ash	1	G	✓			
6	Brandon Shores #4 Silo	9/14/09	9am	Fly Ash	1	G	✓			
7	Wagner Bottom Ash	9/14/09	9 am	Btm Ash	1	G	✓			
8	Brandon Shores Wastewater Sludge	9/14/09	9Am	Sludge	1	G	✓			
9	Brandon Shores Bottom Ash	9/14/09	9Am	Btm Ash	1	G	✓			

(5)

Relinquished By:	Date	Time	Received By:
(1) Keith Blom	9/14/09	1321	
(2)			
(3)			
(4)			

(4)

Requested Turnaround Time: ☐ 5-Day ☐ 3-Day ☐ 2-Day ☐ Next Day ■ Emergency ☐ Other

Data Deliverables Required:

# of Coolers: 0
Custody Seal: ABS
Ice Present: ABS Temp: 30c
Shipping Carrier: CLIENT

Special Instructions:

Please test samples per attached Comar 26.21.04.05B

12 PM

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

9091404

Amy

From: Pittaway, Beth [Beth Pittaway@constellation.com]
Sent: Monday, September 14, 2009 2:17 PM
To: 'amyf@phaseonline.com'
Cc: despinoza@Geosyntec com; mlloyd1@a-oenv com
Subject: CCB analyses
Attachments: Document.pdf

Amy,

Nine samples were just dropped off to you for analysis labeled as:

1. Brandon Shores Unit 1
2. Brandon Shores Unit 2
3. Brandon Shores #4 Silo
4. Brandon Shores Bottom Ash
5. Brandon Wastewater sludge
6. Wagner Unit 2
7. Wagner Unit 3
8. Wagner Bottom Ash
9. Crane Ash

We require a Total analysis for the elements detailed in the attached COMAR 26.21.04.05 B. We also need a full TCLP on the samples as required in COMAR 26.21.04 03A(3) which references 40 CFR Section 261 24.

Thanks for your help and the quick turn around.

Beth Pittaway
Assistant General Supervisor
Fuel and Ash Handling
410-787-5320
410-733-2165 (cell)

Phase Separation
410-747-8770
Amy f@
phase online.com

Try Another Page | Return to Main COMAR Search Page

26.21.04.05

.05 Initial and Ongoing Characterization.

A. A person who uses or intends to use, or gives, sells, or otherwise provides for use, coal combustion byproducts for noncoal surface mine reclamation shall develop and implement a sampling plan, using a methodology acceptable to the Department for the initial characterization of the coal combustion byproducts.

B. The sampling plan shall include the following:

(1) A list of the parameters to be analyzed and their detection limits (Practical Quantitation Limits—PQL), which shall include, at a minimum, the following:

ELEMENTS AND INDICATOR PARAMETERS	PQL(mg/kg)
Total Aluminum	40
Total Antimony	1
Total Arsenic	1
Total Barium	1
Total Beryllium	1
Total Boron	20
Total Cadmium	1
Total Chromium	1
Total Calcium	1
Total Cobalt	1
Total Copper	2
Total Iron	500
Total Lead	1
Total Magnesium	100
Total Lithium	1
Total Manganese	1
Total Mercury	0.2
Total Molybdenum	10
Total Nickel	5
Total Potassium	100
Total Selenium	4
Total Silver	1
Total Sodium	100
Total Sulfur	10
Total Thallium	50.0
Total Vanadium	4
Total Zinc	10

(2) A description of analytical methods to be used in the characterization, which is subject to the approval of the Department; and

(3) Other information as may be required by the Department.

C. Coal combustion byproducts shall be characterized in accordance with the sampling plan developed under §A of this regulation at least one time per calendar year.

D. Laboratory results from the initial and ongoing characterizations of the coal combustion byproducts shall be submitted to the Department and to any recipients of the coal combustion byproducts.

E. If there is a change in the raw materials or processes that generate the coal combustion byproducts, the generator of the coal combustion byproducts shall characterize the byproducts in accordance with the sampling plan and submit the results to the Department. All subsequent characterizations shall include any additional parameters found in the coal combustion byproducts.

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26.21.04.03

.03 Authorization of Use and General Requirements.

A. Authorization of Use.

(1) Coal combustion byproducts may be used in the reclamation of a permitted noncoal surface mine only when approved by the Department.

(2) The Department shall review and approve the use as part of a permit review or permit modification in accordance with this chapter and in accordance with the applicable provisions of Environment Article, Title 15, Subtitle 8, Annotated Code of Maryland, and COMAR 26.21.

B. General Requirements.

(1) Flue gas desulfurization sludge and other solid residuals recovered from flue gas by wet or dry methods that are generated by the combustion of coal may not be used in the reclamation of a noncoal surface mine.

(2) The use of coal combustion byproducts in the reclamation of a noncoal surface mine shall be designed to prevent the degradation of water quality.

(3) Coal combustion byproducts containing a constituent at a level exceeding the TCLP toxicity limits defined in 40 CFR §261.24 may not be used in the reclamation of a noncoal surface mine.

(4) To minimize leachate generation, coal combustion byproducts used in noncoal surface mine reclamation shall be placed in layers and compacted to at least 90 percent of its maximum dry density based on ASTM D698 (Standard Proctor), or to a permeability of less than 10-5 centimeters/second. Thickness of each layer may not be greater than 12 inches.

(5) Final grade of a site after reclamation may not exceed approximate pre-mining contours at the site, except where post-mining land use requires minimal variation and is approved by the Department.

(6) Coal combustion byproducts may not be placed in ground or surface waters and may not be placed within 3 feet of the maximum expected ground water elevation at the site, unless the Department approves otherwise upon a demonstration that ground water contamination will not occur.

(7) The area of exposed coal combustion byproducts at a site shall be minimized and may not exceed 5 acres unless approved by the Department.

(8) Coal combustion byproducts at a site shall be immediately placed and compacted and may not be stockpiled.

(9) If placement of coal combustion byproducts is halted for more than 15 days, the coal combustion byproducts shall be covered to prevent infiltration of ground or surface water.

(10) Adequate measures shall be taken to minimize dust at a site as follows:

(a) A person shall control dust by moisture-conditioning the coal combustion byproducts before they leave the coal combustion byproducts generating facility, or by handling them in sealed containers designed for transportation of powdery solids and moisture-conditioning them prior to off-loading them to the ground;

(b) A person shall control dust by spreading and compacting the coal combustion byproducts upon arrival at a site;

(c) A person may not store uncompacted coal combustion byproducts at a site;

(d) A water truck shall be available to add water at a site as needed for fugitive dust control; and

(e) The Department may require other measures it considers necessary to protect public health and the environment.

(11) Only coal combustion byproducts obtained from sources approved by the Department may be used at a site

(12) Coal combustion byproducts may not be placed within 200 feet of any lands not owned by the permittee or owner

(13) A permittee shall implement an erosion and sediment control plan that satisfies the requirements of Environment Article, Title 4, Subtitle 1, Annotated Code of Maryland, and COMAR 26.17.01.

(14) A permittee shall provide a minimum of two upgradient and two downgradient monitoring wells at a site. The Department may require additional monitoring wells based upon site conditions. Monitoring wells shall be constructed and installed by a State-licensed well driller in accordance with COMAR 26.04.04. The well screen or slotted casing shall extend from the seasonally high water table downward a minimum of 15 feet.

(15) A permittee shall comply with all other permits and approvals required by the Department

in ASTM Standard D-3278-78 (incorporated by reference, see § 260.11), or as determined by an equivalent test method approved by the Administrator under procedures set forth in §§ 260.20 and 260.21.

(2) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and when ignited, burns so vigorously and persistently that it creates a hazard.

(3) It is an ignitable compressed gas as defined in 49 CFR 173.300 and as determined by the test methods described in that regulation or equivalent test methods approved by the Administrator under §§ 260.20 and 260.21.

(4) It is an oxidizer as defined in 49 CFR 173.151.

(b) A solid waste that exhibits the characteristic of ignitability has the EPA Hazardous Waste Number of D001.

[45 FR 33119, May 19, 1980, as amended at 46 FR 35247, July 7, 1981; 55 FR 22684, June 1, 1990]

§ 261.22 Characteristic of corrosivity.

(a) A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties:

(1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using Method 9040 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in § 260.11 of this chapter.

(2) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55 °C (130 °F) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69 as standardized in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in § 260.11 of this chapter.

(b) A solid waste that exhibits the characteristic of corrosivity has the EPA Hazardous Waste Number of D002.

[45 FR 33119, May 19, 1980, as amended at 46 FR 35247, July 7, 1981; 55 FR 22684, June 1, 1990; 58 FR 46049, Aug. 31, 1993]

§ 261.23 Characteristic of reactivity.

(a) A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has *any* of the following properties:

(1) It is normally unstable and readily undergoes violent change without detonating.

(2) It reacts violently with water.

(3) It forms potentially explosive mixtures with water.

(4) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(5) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(6) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement.

(7) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure.

(8) It is a forbidden explosive as defined in 49 CFR 173.51, or a Class A explosive as defined in 49 CFR 173.53 or a Class B explosive as defined in 49 CFR 173.88.

(b) A solid waste that exhibits the characteristic of reactivity has the EPA Hazardous Waste Number of D003.

[45 FR 33119, May 19, 1980, as amended at 55 FR 22684, June 1, 1990]

§ 261.24 Toxicity characteristic.

(a) A solid waste (except manufactured gas plant waste) exhibits the characteristic of toxicity if, using the Toxicity Characteristic Leaching Procedure, test Method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in § 260.11 of this chapter, the extract from a representative sample of the waste contains any of the contaminants listed in table 1 at the concentration equal to or greater than the respective value given in that table. Where the waste contains less than 0.5 percent filterable solids, the waste

itself, after filtering using the methodology outlined in Method 1311, is considered to be the extract for the purpose of this section.

(b) A solid waste that exhibits the characteristic of toxicity has the EPA Hazardous Waste Number specified in Table I which corresponds to the toxic contaminant causing it to be hazardous.

TABLE 1—MAXIMUM CONCENTRATION OF CONTAMINANTS FOR THE TOXICITY CHARACTERISTIC

EPA HW No.[1]	Contaminant	CAS No.[2]	Regulatory Level (mg/L)
D004	Arsenic	7440-38-2	5.0
D005	Barium	7440-39-3	100.0
D018	Benzene	71-43-2	0.5
D006	Cadmium	7440-43-9	1.0
D019	Carbon tetrachloride	56-23-5	0.5
D020	Chlordane	57-74-9	0.03
D021	Chlorobenzene	108-90-7	100.0
D022	Chloroform	67-66-3	6.0
D007	Chromium	7440-47-3	5.0
D023	o-Cresol	95-48-7	[4]200.0
D024	m-Cresol	108-39-4	[4]200.0
D025	p-Cresol	106-44-5	[4]200.0
D026	Cresol		[4]200.0
D016	2,4-D	94-75-7	10.0
D027	1,4-Dichlorobenzene	106-46-7	7.5
D028	1,2-Dichloroethane	107-06-2	0.5
D029	1,1-Dichloroethylene	75-35-4	0.7
D030	2,4-Dinitrotoluene	121-14-2	[3]0.13
D012	Endrin	72-20-8	0.02
D031	Heptachlor (and its epoxide)	76-44-8	0.008
D032	Hexachlorobenzene	118-74-1	[3]0.13
D033	Hexachlorobutadiene	87-68-3	0.5
D034	Hexachloroethane	67-72-1	3.0
D008	Lead	7439-92-1	5.0
D013	Lindane	58-89-9	0.4
D009	Mercury	7439-97-6	0.2
D014	Methoxychlor	72-43-5	10.0
D035	Methyl ethyl ketone	78-93-3	200.0
D036	Nitrobenzene	98-95-3	2.0
D037	Pentachlorophenol	87-86-5	100.0
D038	Pyridine	110-86-1	[5]5.0
D010	Selenium	7782-49-2	1.0
D011	Silver	7440-22-4	5.0
D039	Tetrachloroethylene	127-18-4	0.7
D015	Toxaphene	8001-35-2	0.5
D040	Trichloroethylene	79-01-6	0.5
D041	2,4,5-Trichlorophenol	95-95-4	400.0
D042	2,4,6-Trichlorophenol	88-06-2	2.0
D017	2,4,5-TP (Silvex)	93-72-1	1.0
D043	Vinyl chloride	75-01-4	0.2

[1] Hazardous waste number.
[2] Chemical abstracts service number.
[3] Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.
[4] If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 mg/l.

[55 FR 11862, Mar. 29, 1990, as amended at 55 FR 22684, June 1, 1990; 55 FR 26987, June 29, 1990; 58 FR 46049, Aug. 31, 1993; 67 FR 11254, Mar. 13, 2002]

Subpart D—Lists of Hazardous Wastes

§ 261.30 General.

(a) A solid waste is a hazardous waste if it is listed in this subpart, unless it has been excluded from this list under §§ 260.20 and 260.22.

(b) The Administrator will indicate his basis for listing the classes or types of wastes listed in this subpart by employing one or more of the following Hazard Codes:

Ignitable Waste	(I)
Corrosive Waste	(C)
Reactive Waste	(R)
Toxicity Characteristic Waste	(E)
Acute Hazardous Waste	(H)
Toxic Waste	(T)

Appendix VII identifies the constituent which caused the Administrator to list the waste as a Toxicity Characteristic Waste (E) or Toxic Waste (T) in §§ 261.31 and 261.32.

(c) Each hazardous waste listed in this subpart is assigned an EPA Hazardous Waste Number which precedes the name of the waste. This number must be used in complying with the notification requirements of Section 3010 of the Act and certain recordkeeping and reporting requirements under parts 262 through 265, 268, and part 270 of this chapter.

(d) The following hazardous wastes listed in § 261.31 or § 261.32 are subject to the exclusion limits for acutely hazardous wastes established in § 261.5: EPA Hazardous Wastes Nos. FO20, FO21, FO22, FO23, FO26, and FO27.

[45 FR 33119, May 19, 1980, as amended at 48 FR 14294, Apr. 1, 1983; 50 FR 2000, Jan. 14, 1985; 51 FR 40636, Nov. 7, 1986; 55 FR 11863, Mar. 29, 1990]

§ 261.31 Hazardous wastes from non-specific sources.

(a) The following solid wastes are listed hazardous wastes from non-specific sources unless they are excluded under §§ 260.20 and 260.22 and listed in appendix IX

Phase Separation Science, Inc

Sample Receipt Checklist

Wo Number	9091404	**Received By**	Rachel Davis
Client Name	Constellation Energy Group	**Date Received**	09/14/2009 01:21:00 PM
Project Name	Fly Ash Tests for MDE	**Delivered By**	Client
Project Number	N/A	**Tracking No**	Not Applicable
Disposal Date:	10/19/2009	**Logged In By**	Rachel Davis

Shipping Container(s)

No. of Coolers	1	Ice	Absent
Custody Seals	Absent	Temp (deg C)	30
Seal Condition	Not Applicable	Temp Blank Present	No

Documentation

COC agrees with sample labels? X Yes or ___ No Sampler Name: Not Provided

Chain of Custody (COC) X Yes or ___ No

Sample Container

Appropiate for Specified Analysis?	Yes X No___	Custody Seal(s)	Absent
Intact?	X ___	Custody Seal(s) Intact?	Not Applicable
Labeled and Labels Legible	X ___	Seal(s) Signed / Dated	Not Applicable
Total No of Samples Received	9	Total No. of Containers Received	18

Preservation

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

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: RDavis Date: 9/15/9

PM Review and Approval: ___ Date: 9/15/09

Printed: 09/15/2009 10:27 AM

Analytical Report for

Constellation Energy Group

Certificate of Analysis No.: 9111014

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

November 11, 2009

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

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

PHASE SEPARATION SCIENCE, INC.

November 11, 2009

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

Reference: PSS Work Order No: **9111014**
Project Name : Wagner PAC
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 **9111014**.

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 15, 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 PAC

Project ID: N/A **Work Order Number: 9111014**

The following samples were received under chain of custody by Phase Separation Science (PSS) on 11/10/2009 at 02:56 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
9111014-001	Wagner #3 Fly Ash	SOLID	11/10/2009 09:00

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.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].

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.

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 9111014

Constellation Energy Group, Baltimore, MD

November 11, 2009

Project Name: Wagner PAC
Project Location: Wagner

Sample ID: Wagner #3 Fly Ash **Date/Time Sampled: 11/10/2009 09:00** **PSS Sample ID: 9111014-001**
Matrix: SOLID **Date/Time Received: 11/10/2009 14:56**

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	11/11/09	11/11/09 11:53	1034
Barium	ND	mg/L	100		1	11/11/09	11/11/09 11:53	1034
Cadmium	ND	mg/L	1.0		1	11/11/09	11/11/09 11:53	1034
Chromium	ND	mg/L	5.0		1	11/11/09	11/11/09 11:53	1034
Lead	ND	mg/L	5.0		1	11/11/09	11/11/09 11:53	1034
Mercury	ND	mg/L	0.200		1	11/11/09	11/11/09 11:53	1034
Selenium	ND	mg/L	1.0		1	11/11/09	11/11/09 11:53	1034
Silver	ND	mg/L	5.0		1	11/11/09	11/11/09 11:53	1034

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

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

(1) CLIENT: CPSG — OFFICE LOC.: Coal Yard
PROJECT MGR: John Basciano — PHONE NO.: 410-917-3202
EMAIL: john.m.basciano@constellation.com — FAX NO.: 410-787-5424
PROJECT NAME: Wagner PAC — PROJECT NO.:
SITE LOCATION: Wagner — P.O. NO.:
SAMPLERS: — DW CERT NO.:

PSS Work Order #: 911014 — PAGE 1 OF 1

Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil WL=Waste Liquid WS=Waste Solid W= Wipe

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	TCLP METALS	Preservative Used	Analysis/ Method Required	REMARKS
	[redacted]									Click to enter Remarks
	Wagner # 3 fly ash	11-10	9am	fly ash	1	G	✓			

(5)

Relinquished By: (1)	Date	Time	Received By:
[signature]	11/10/9	1456	[signature]
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4)

Requested Turnaround Time: ☐ 5-Day ☐ 3-Day ☐ 2-Day ☒ Next Day ☐ Emergency ☐ Other

Data Deliverables Required: AD

# of Coolers: 0
Custody Seal: ABS
Ice Present: ABS Temp: 30°c
Shipping Carrier: CLIENT

Special Instructions:
Please forward test results ASAP.

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

Phase Separation Science, Inc

Sample Receipt Checklist

Wo Number	9111014	**Received By**	Rachel Davis
Client Name	Constellation Energy Group	**Date Received**	11/10/2009 02:56:00 PM
Project Name	Wagner PAC	**Delivered By**	Client
Project Number	N/A	**Tracking No**	Not Applicable
Disposal Date:	12/15/2009	**Logged In By**	Rachel Davis

Shipping Container(s)

No. of Coolers	1	Ice	Absent
Custody Seals	Not Applicable	Temp (deg C)	30
Seal Condition	Not Applicable	Temp Blank Present	No

Documentation

COC agrees with sample labels? X Yes or ____ No Sampler Name: Not Provided

Chain of Custody (COC) X Yes or ____ No

Sample Container

Appropiate for Specified Analysis?	Yes X No ____	Custody Seal(s)	Absent
Intact?	X ____	Custody Seal(s) Intact?	Not Applicable
Labeled and Labels Legible	X ____	Seal(s) Signed / Dated	Not Applicable
Total No. of Samples Received	1	Total No of Containers Received	1

Preservation

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

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: _____ Date: 11/10/9

PM Review and Approval: _____ Date: 11/10/09

Printed: 11/10/2009 03:01 PM