Facility Name: Constellation – H.A. Wagner	CCB Tonnage	Report – 2009
26.04.10.08 requires generators of CCBs to concerning the disposition of the CCBs that they	•	o the Department
III. Required Information. The following information 1, 2010:	ormation must be provided to	the Department by
A. Contact information:		
Facility Name: H.A. Wagner Electric Ge	neration Station	
Name of Permit Holder:Constellation Pov	ver Source Generation	
Facility Address: 3000 Brandon Shores Road St	reet	<u> </u>
Facility Address: Baltimore	Maryland State	21226 Zip
City County: <u>Anne Arundel</u>	j ,	Zip
Contact Information (Person filing report or Env	rironmental Manager)	
Facility Telephone No.: 410.787,5017	Facility Fax No.: <u>410.78</u>	7.6960
Contact Name: John E. Murosko, P.G.		
Contact Title: Program Manager, Environment	tal Services	
Contact Address: 1005 Brandon Shores Road St	reet	
Contact Address: Baltimore City	Maryland State	21226 Zip
Contact Email:john.murosko@constellation.c	com	
Contact Telephone No.: 410,787,5471	Contact Fax No.: 410.78	7.6637
For questions on how to complete this form, plea Waste Program	ase call Mr. Edward Dexter, Ac at 410-537-3318.	dministrator, Solid

Facility Name:	Constellation - H.A. Wagner	CCB Tonnage Report - 2009
i definity i varie.	Constantion 11.71. Wagner	COD Tonnage Report 2009

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	Volume of CCB Type:	Volume of CCB Type:	Volume of CCB Type:
Year			
	Fly Ash (dry tons)	Bottom Ash (dry tons)	
2009			
	132,670	6,983	
	•	,	
l 1			

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'i	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.

	t, and certify as to the accu	 An authorized official of the generator must racy and completeness of the information conta 	
11	s to certify that, to the best ttached documents are true	of my knowledge, the information contained in accurate, and complete.	this report and
		Quinn Morrison, Director-Asset Operations 410.787.5399	ale la se
	Signature	Name, Title, & Telephone No.	Date
		quinn.morrison@constellation.com	

Facility Name: Constellation – H.A. Wagner

CCB Tonnage Report – 2009

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.
- 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: 9032411

Constellation Energy Group, Baltimore, MD

March 25, 2009

Project Name: Wagner Injection Test

Project Location: Wagner #3

Sample iD: Wagner Fly Ash

Matrix: SOLID

Date/Time Sampled: 03/24/2009 12:00 PSS Sample ID: 9032411-001

Date/Time Received: 03/24/2009 12:50

TCLP Metals Analytical Method: SW846 6020A

Preparation Method: SW846 3010A

	Result	<u>Units</u>	TCLP Limit Flag	Dil	Prepared	Analyzed	<u>Analyst</u>
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	ma/L	5.0	1	03/25/09	03/25/09 13:16	1034

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SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.comemail: info@phaseonline.com

CLIENT: CONST. ENERSY		OFFICE LOC. CALL YARD	14 c 1/2	120	PSS Work Order #:	14 Jap	96	1756b			PAGE	40	
PROJECT MGR. JOHN BASIAND PHONE NO. 410 917 3202	ام	IE NO: 412	6173	202	Matrix Codes: SW=Suntace Wit	DW-Drinkin	g Wit GW=G	round Whr W	N=Waste Wir	0=0 S=SoH	M.=Waste Uqu	d WS=Waste Soli	W=Wine
EMAIL: Q CONSTRUCTO DU COM	Gr. FAX N	FAX NO.: 4/10 787 5424	787 54	74	SAMP SAMP							NO. Preservative	A Tarti
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6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-87234 CELL- 410 917 3362. The client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorneys or other reasonable fees if collection becomes necessary.



Phase Separation Science, Inc

Sample Receipt Checklist

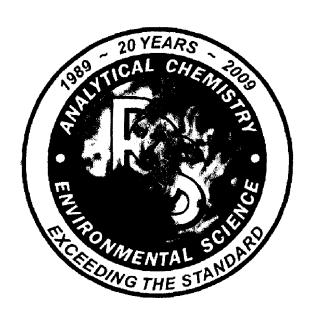
Wo Number	9032411			Received	By	Rachel D	avis	
Client Name	Constella	tion Energy Gro	oup	Date Rec	eived	03/24/20	09 12:50:00 PM	
Project Name	Wagner I	njection Test		Delivered	Ву	Client		
Project Number	N/A			Tracking	No	Not Appli	cable	
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Analytical 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.
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 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.

- 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.
- 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: 9013005

Constellation Energy Group, Baltimore, MD

March 31, 2009

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

Sample ID: Wagner #3 TRONA

Matrix: SOLID

TCLP Metals

Date/Time Sampled: 01/30/2009 11:00

PSS Sample ID: 9013005-001

Date/Time Received: 01/30/2009 12:36

Analytical Method: SW846 6020A

Preparation Method: SW846 3010A

	Result	Units	Rep Limit	TCLP Limit Flag	Dil_	Prepared	Analyzed	<u>Anaiys</u> t
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

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Relinquished By: (4)	Date	Time	Received By:	ÿ.		<u>`</u>	A VAJLAULE.	ACCE							
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6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723
The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attomey's or other reasonable tees if collection becomes necessary.



Phase Separation Science, Inc

Sample Receipt Checklist

Wo Number	9013005			Received B	y	Rachel Davis	3
Cilent Name	Constella	tion Energy Group		Date Receiv	ved	01/30/2009 1	2:36:00 PM
Project Name	Wagner #	3 TRONA		Delivered E	Вy	Client	
Project Number	N/A			Tracking No	0	Not Applicab	le
Disposal Date:	03/06/200	9		Logged in I	Ву	Rachel Davis	3
Shipping Conta	liner(s)						
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Documentation COC agre Chain of C		mple labels? X	Yes or Yes or	No No			
Sample Contain	ner						
Intact? Labeled a	nd Labels !	fied Analysis? Yes Legible Received 1	X No	Custody S Seal(s) Sig	Seal(s) Ir gned / D	ntact?	YesNo_X X ed 1
Preservation				Y	es N	lo N/A	l
TOX, TKN VOC, BTE Do VOA vi Comments: (Ar For any Improper p documentation of	lals have zony "No" represervation any client no	al Phos als Rcvd Preserved ero headspace? esponse must be conditions, list sample tification as well as cli- altyzed as soon as pos-	detailed ID, preserva	in the comtive added (reams. Samples f	igent ID n or pH, ch	section bel	•
Samples lune 4	M/Ob = =1-11 -	A Completed D. 19	00	1 1 PM		1/70	[]
Samples Inspecte		· · · · · · · · · · · · · · · · · · ·	P:10%	y (C)	Date:	1/30	100
	PM Revie	w and Approval:	<u> </u>	K	Date:	1/90	107_

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

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

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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PHASE SEPARATION SCIENCE, INC.



PSS Sample ID: 9061501-002

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	<u>Analyst</u>
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

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 A	nalyst
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

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SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com emall: Info@phaseonline.com

MAENTAL													-	
CLIENT: CPSG	PSG.	OFFICE	Loc. Brandon Shores	don Shor		PSS Work Order #	* 1900)()(b	19511106			PAGE	3E 1	0F 1
PROJECT	PROJECT MGR: John Basciano	PHONE	PHONE NO.: 410-917-3202	117-3202		Matrix Codes: SW-Surtace V	Vir DW=Drir	tking Wrt 61	V=Ground	Mr WW-W	ıste Wtr O=()ii s —Sofi WIL=Wa	este Liquid	Matrix Codes: SW-Sunace Wit DW-Ditibling Wit GW-Ground Wit WW-Waste Wit O-DII 8-Soil WIL-Waste Liquid WS-Waste Soild W- Wipe
EMAIL: 10th	EMAIL: John.m.besdano@constellation.com.FAX NO.:	COM FAX NC		410-787-5424										Preservative
PROJECT	PROJECT NAME Wagner Drummond / Ada	iond / Ad≀	ا ا	PROJECT NO:		OZF	TA FE Jack Jacks	sle						1
SITE LOC	SITE LOCATION: Wagner Plant		P.O. NO.:	ö		აც - ∢	G M N TA 191							Analysis/ Method
SAMPLERS:	ŝ	DW (CERT NO.	ų . _*		2 ш	G≖ GRAB							Required
ON BVI	SAMPLE IDENTIFICATION	NOL	DATE	TIME	MATRIX (See Codes)									HEMARKS V
	25% Adaro 75% Drummond	puoww	6/12/09	9am	Fly ash	-	9	>		_				Click to enter Remarks
	75% Adaro 25% Drummond	pwoww	6/12/09	9am	Fly Ash	-	တ	>						
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Relinquehed By (1)	8d By.(1)	Date U/IS	an:bo	Reserved By	22 N)		Fequency Process	ested Turni	Requested Turnaround Time v 3-Dav 2-D Dav Emergency 0th	1 Time □ 2-Day □ Other	* of Coolers: O	97 0 .	Ω
Relinquished By: (2)	ed By (2)	Date	Time	Received By:	By:		ស្ន	Dala Deliverables Required:	tbles Re	tuired:		lice Present Shipping C	108 108 108 108 108 108 108 108 108 108	Shipping Carrier: () L. L. E. T.
Relinquished By. (3)	ed Bv. (3)	Date	Time	Received By:	By:	İ	g G	Special Instructions: Please Forward results ASAP	uctions: Orwar	d resul	ts ASA			
Relinquished By: (4)	ed By: (4)	Date	Time	Received By:	2 6									

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The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable tees if collection becomes necessary.



Printed: 06/15/2009 09:27 AM

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 Conta	iner(s)			
No. of Coo Custody S Seal Cond	eals Absent tition Not Applic		ice Temp (deg C) Temp Blank Pre	Absent 26 – sent No
-	es with sample labels ustody (COC)	? X Yes or _ X Yes or _	No No	
Sample Contair	er			
Intact? Labeled ar	for Specified Analysi d Labels Legible f Samples Received	s? Yes X No	Custody Seal(s) II Seal(s) Signed / I	Absent Intact? Not Applicable Dated Not Applicable ainers Received 2
Preservation			Yes !	No N/A
VOC, BTE	i, Phenols NH3, Total Phos X (VOA Vials Rovd Pi als have zero headspi	, ,,	(2)	$\frac{\chi}{\chi}$
Comments: (An	y "No" response r	nust be detailed	in the comments	section below.)
For any Improper p documentation of a		ist sample ID, preserva well as client instructio	rtive added (reagent ID r ons. Samples for pH, ch	tumber) below as well as lorins and
Samples Inspecte	d/Checklist Complete	d By: MANA	Date:	6/15/9
	PM Review and App	roval:	Date:	6/15/09

Page 2 of 2

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
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 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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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 9061701

Constellation Energy Group, Baltimore, MD

June 18, 2009

Analytical Method: SW846 6020A

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

TCLP Metals

Date/Time Received: 06/17/2009 10:10

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	ΝD	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	ma/L	5.0	1	06/18/09	06/18/09 12:34	1033

A STANDARD OF THE PROPERTY OF

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

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

PROJECT MGR: John Basciano PHONEN EMAIL: John.m.basciano@constallation.com _{FAX} NO: PROJECT NAME: Wagner Babcock / Darco SITE LOCATION: Wagner Babcock / Darco J Wagner Babcock / Darco Magner Babcock / Darco Ample Babcock / Darco Magner Babcoc	Date Date Date Date Date Date Date Date		BS Coal yard 410-9173202 410-787-5424 PROJECT NO.: PO. NO.: NO. 9am F 100	MATHIX Bee Codes) Fly Ash	Main's Cordes: Main's Cordes: Main'	Olick to enter Analysis A TCLP Metal's wife and between the control of the	Drinking Mrt GW-Ground Wrt WW-Waste Wr. Analysis Click to entire of TCL Click to entire of TCL Analysis For the original of TCL Analysis For the original of TCL S-Day Balta Deliverables Required:	Beound The Control of	Ste Wtr 0-Oil	# of Coolers: Couetody South	PAGE 1 Colers: Colers	PSS Wick Order, F. State No. Color 1 Sea Will Debug and Sea Will S	8 9 8	
Relinquished By: (3)	Date	Time	Received By	Ä		Spec	Special Instructions:	tions: Ovide re	esults (before	noon 6	3/18 if p	Special Instructions: Please provide results before noon 6/18 if possible.	
Relinquished Bv: (4)	Date	Time	Received By:	ž										

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The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable tees if collection becomes necessary.



Phase Separation Science, Inc

Sample Receipt Checklist

Vo Number	9061701	Received	Ву	Rachel Davis	
Cilent Name	Constellation Energy Group	Date Rec	elved	06/17/2009 10:10:00	АМ
Project Name	Wagner Babcock/Darco	Delivered	l By	Client	
Project Number	N/A	Tracking	•	Not Applicable	
Disposal Date:	07/22/2009	Logged I		Rachel Davis	
Shipping Conta		Logged 1	Dy	raciioi Davis	
No. of Cod	• •	4			
Custody S		ice Tomp	(dog C)	Absent 24 ~	
Seal Cond		-	(deg C) Blank Pre:		
			J. C. T. T. T. C.	5511t 115	
COC agre Chain of C	es with sample labels?	Yes or No Yes or No			
Sample Contair	ner				
Approplate	e for Specified Analysis? YesX	No Custody	Seal(s)	Absent	
Intact?	X'	Custody	Seal(s) Ir	ntact? Not Applicable	
	nd Labels Legible X		Signed / D		
I OTAL NO. C	of Samples Received 1	Total No	o of Conta	iners Received 1	
Preservation			Yes N	lo N/A	
Metals		(pH<2)			
Cyanides		(pH>12)		_ 🔀	
Sulfide		(pH>9)		X -	
TOC, COL		(pH<2) _			
	, NH3, Total Phos	(pH<2) _		_ \ \	
	X (VOA Vials Royd Preserved)	(pH<2) _	 _	_ × _	
DO VOA VI	als have zero headspace?	-		_ ×	
Comments: (An	y "No" response must be	detailed in the co	mments	section below.)	
documentation of a	oreservation conditions, list sample I any client notification as well as clier should be analyzed as soon as possi	nt instructions Sample:	for pH, chi	orine and	
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		$\bigcirc\bigcirc$			1
Samples Inspecte	d/Checklist Completed By:	Descir	Date:	6/17/9	
-	DM Paylow and Assessed	1		6012108	
	PM Review and Approval:		Date:	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	

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.
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 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.

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 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

Matrix: SOLID

TCLP Metals

Date/Time Sampled: 06/18/2009 09:00 PSS

Date/Time Received: 06/18/2009 10:25

Analytical Method: SW846 6020A

PSS Sample ID: 9061806-001

Preparation Method: SW846 3010A

	Result	Units	TCLP Limit Flag	Díl	Prepared	Analyzed A	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	ma/L	5.0	1	06/19/09	06/19/09 14:29	1033

Manual Charles of the
SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

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

MARKINE			ATION COLENOL, INC.		ĵ	5					20	Iail. 1111	o e pi	Ginair, iino e priascominic, com
CLIENT: CPSG	SPSG	OFFICE	OFFICE LOC. 410-787-5216	-787-521	9	PSS Work Order #	Order #:		908/006	28/	9)	PAGE	iE 1	_ or 1
PROJECT	PROJECT MGR. John Basciano	PHONE	PHONE NO.: 410-917-3202	917-3202		Matrix Codes SW=Surface	Wir DW=Dr	inking Wri	W-Ground Wh	r WW-Waste	Wtr 0=0!! S=	-Soil Wil.=Wa	ste Liquid	Matric Codes: SW-Surface Wit DW-Drinking Wri GW-Ground Wit WW-Wasta Wit O-Oil S-Soil Wil-Waste Liquid WS-Waste Solid W- Wipe
EMAIL: JOF	EMAIL, John.m.basciano@constellation.com.FAX NO.:	COM FAX NC		410-787-5424		No. C. SAI	i di							Preservat.
PROJECT	PROJECT NAME: Wagner Calgon A	<u>4</u>		PROJECT NO.:			TPE TPE Sisyleis							1
SITE LOC	SITE LOCATION: Wagner Station		P.O. NO.:	ğ		- ∀ -	COMP		***************************************					Analysis/ Method
SAMPLERS:		DW (CERT NO.				G = GRAB	d						Required
CAB NO	SAMPLE IDENTIFICATION	NOIT	DATE	TIME	MATRIX (See Codes)	ar so								REMARKS
	Wagner Calgon A	A	6/18/09	9am	Fly Ash	-	၅	>						Click to enter Remarks
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Relinguished By: (1)	By: (1)	Date 6/18/9	7me 1925	Received		MUR	<u>'</u>	Reque	Requested Turnaround Time y 3-Dav 2-D Day Emergency Oth	eround Til		# of Coolers: O Custody Seat: A.P.C.		V
Relinquished By(2)	ed By(g)	Date	Пте	Received Bv.) Ž		ة	ıta Delive	1 <u>2</u>			oe Present. Nipping Ce	SE SE	loa Present AGS Temp: 250. Shipping Carrier: CLIENT
Relinquished By: (3)	ed By. (3)	Date	Тте	Received By:	à.		க் ட	Special Instructions: Please forwar	Special Instructions: Please forward test results ASAP.	est resu	ults AS/	Ģ.		
Relinquished By: (4)	ed By: (4)	Date	Time	Received By:	.: 26									
2 0000							-							

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The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable less if collection becomes necessary.



Phase Separation Science, Inc

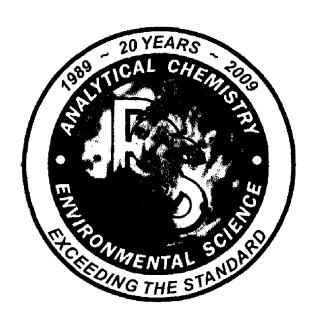
Sample Receipt Checklist

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 Conta	ainer(s)	•	
No. of Cor Custody S Seal Cond	Seals Absent · " lition Not Applicable	lce Temp (deg C) Temp Blank Pre	Absent 25 ¥ esent No
COC agre Chain of C	custody (COC) Yes c	or No or No	
Sample Contain	ner		
intact? Labeled a	e for Specified Analysis? Yes North	Custody Seal(s) Seal(s) Signed /	Intact? Not Applicable 🔑
Preservation		Yes	No N/A
TOX, TKN VOC, BTE Do VOA vi Comments: (Ar For any improper adocumentation of	D, Phenols I, NH3, Total Phos EX (VOA Vials Rovd Preserved) Ials have zero headspace? Ty "No" response must be deta preservation conditions, list sample ID, pre any client notification as well as client insi should be analyzed as soon as possible. p	servative added (reagent ID tructions Samples for pH, c	number) below as well as hiorine and
Samples Inspecte	nd/Checklist Completed By: PM Review and Approval:	Date:	6/8/9
	I IN NOVIOW and Approval.	Male.	413/-1
nted: 06/18/2009 11:	3 6 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

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

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.

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 Date/Time Received: 06/29/2009 13:03

PSS Sample ID: 9062906-001

Matrix: SOLID

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

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CUENT: CPSG	PSG	OFFICE LOC.	LOC. Brai	Brandon Shores	yres	PSS Work Order #	Order #		100	0062006	90		PAGE	ļ	OF 1
PROJECT N	PROJECT MGR: John Basciano	PHONE	NE NO.: 410-917-3202	917-3202		Matrix Codes SW-Surface	Wir DW-Dr	eking Wrt G	W=Ground	Wir WW=V	Vaste Wfr (O-Oii 8-Sol	W.L=Waste	Liquid WE-	Matrix Codes: 8W-Surface With DW-Drinking With GWI-Ground With WWI-Wasie With O-ON 8-Soil Wil-Waste Liquid Wis-Waste Soild W-Wipe
EMAIL: John	EMAIL: John.m.basciano@constellation.com FAX I	COM FAX NO.:	410-	410-787-5424		No. G	<u> </u>		$\vdash \downarrow$			口			Preservative Used
PROJECT N	PROJECT NAME: Capp & Drummond 50%	nond 50%		PROJECT NO.:		021									\
SITE LOCA	SITE LOCATION: Wagner		P.O. NO.:	.: .:		- ∢ -	COMP FINATE								Analysis/ Method
SAMPLERS:	н	DW C	CERT NO.	; · ;		· Z Ш	GAB≡ AB toent	d							Required
ON BYT	SAMPLE IDENTIFICATION	NOIL	DATE	TIME	MATRIX (See Codes)						·				REMARKS
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Relinquished By:	d By: A	Date	Time	Received By:) **		Da	Data Deliverables Required:	ables Re	duired:			Shiepping Carrier A. J. D.		kie Presenty Differe: 550 Shietoing Cartier (1), 107/1
Refinquished By: (3)	d By: (3)	Date	Time	Received By:	%		& ፲	Special Instructions: Please forward results ASAP	uctions:	result	ts AS/	4			
Relinquished By: (4)	d By: (4)	Date	Time	Received By:	By:		 								

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Phase Separation Science, Inc

Sample Receipt Checklist

104 - Bloom book	200000	be a street by	Deshal Davis
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 Contr	ainer(s)		
No. of Co	olers 0	lce	Absent
Custody S	Seals Absent	Temp (deg C)	33
Seal Cond	dition Not Applicable	Temp Blank Pre	esent No
_	nees with sample labels? Yes or Yes or Yes or Yes or	No Sample No	r Name: <u>Not Provided</u>
Sample Contai	ner		
Intact? Labeled a	e for Specified Analysis? Yes No and Labels Legible of Samples Received 1	Custody Seal(s) Seal(s) Signed /	• •
Preservation		Yes	No N/A
Metals Cyanides Sulfide TOC, COI	1q) 1q)	i<2) i>12) i>9) i<2)	
		l<2)	_ ×
•	, ,	l<2)	_ &
Do VOA V	ials have zero headspace?		_
Comments: (A	ny "No" response must be detaile	d in the comments	section below.)
For any improper processing the contract of th	preservation conditions, list sample ID, preser any client notification as well as client instruct should be analyzed as soon as possible, prefe	/ative added (reagent ID lons. Samples for pH, cl	number) below as well as nlorine and
Samples Inspecte	ed/Checklist Completed By:	WW Date:	6/29/9
	PM Review and Approval:	Date:	6/29/09

Printed: 08/29/2009 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

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.

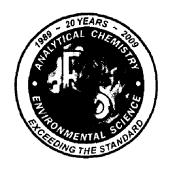
Notes:

- 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.
- 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.

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

Matrix: SOLID

Date/Time Sampled: 07/21/2009 09:00

PSS Sample ID: 9072102-001

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	<u>Analyst</u>
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	NĎ	mg/L	5.0	1	07/22/09	07/22/09 13:47	1033

Sample ID: Brandon Shores Unit #2

Matrix: SOLID

Date/Time Sampled: 07/21/2009 09:00

Date/Time Received: 07/21/2009 09:30

TCLP Metals Analytical Method: SW846 6020A

Preparation Method: SW846 3010A

PS\$ Sample ID: 9072102-002

	Result_	Units	TCLP Limit Flag	Dil	Prepared	Analyzed /	<u>Analyst</u>
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

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

Matrix: SOLID

Date/Time Sampled: 07/21/2009 09:00

PSS Sample ID: 9072102-003

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

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www.phaseonline.comemail: info@phaseonline.com

WATENTAL S	S I IIAOL OLI A		Allon Science, IIVS.		, ,	į					5		Spilas	sman: mo@phaseonme.com
CLIENT: CPSG	PSG	OFFICE	OFFICE LOC. BS Coal Yard	oal Yard		PSS Work Order#	der#	6	101710b	. QI	7	PAGE	1	OF 1
PROJECT	PROJECT MGR: John Basciano	PHONE	PHONE NO.: 410-917-3202	117-3202		Matrix Codes: SW=Surface Wit	DW/-Drink	ing Wit GW.	Ground Wir	WW-Waste	Wir D=Oil S	=Soil Wil.=Waste	Liquid W/S=W	Matrix Cacles. SW-Surface Wit DW-Drinking Wit GW-Ground Wit WW-Waste Wit O-Oii S-Soii Wil.=Waste Liquid WiS-Waste Solid W= Wipe
EMAIL: johi	EMAIL; john.m.basciano@constellation.com FAX NO.:	COUM FAX NO	1	410-787-5424						<i>g</i> -				Preservative
PROJECT	PROJECT NAME: Wagner # 3 Chem-mod	em-mod		PROJECT NO.:		JA NE	sisyla	sls						1
SITE LOCA	SITE LOCATION: Wagner		P.O. NO.:	.: ō		A COMP		teΝ						Analysis/ Method
SAMPLERS:	<i>i</i> 6	DW (CERT NO.	ξ.		N GRAB		ا ط <u>ا</u>						Required
LAB No.	SAMPLE IDENTIFICATION	NOIT	DATE	TIME	MATRIX (See Codes)			DT						REMARKS 4
	Brandon Shores unit #	nit#1	7/21/09	9am	Fly ash	ا م		>	<u> </u>				Clig	Click to enter Remarks
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Relinguished By: (1)	d By: (1)	Date	Time	Received By) 	\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	<u>, </u>	Reque	Requested Turnaround Time	E punou	λ	A of Coolers A		
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The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable tees if collection becomes necessary.



Printed: 07/21/2009 09:50 AM

Phase Separation Science, Inc

Sample Receipt Checklist

Ma Number	9072102	Descined Du	Backel Davie
Wo Number		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	Cilent
Project Number	N/A	Tracking No	Not Applicable
Disposal Date:	08/25/2009	Logged In By	Rachel Davis
Shipping Conta	alner(s)		
No. of Cod Custody S Seal Cond	Seals Absent /	ice Temp (deg C) Temp Blank Pre	Absent 25 / sent No
•	tes with sample labels? Yes or Yes or Yes or Yes or	No Sample No	r Name: <u>Not Provided</u>
Sample Contain	ner		
Intact? Labeled a	e for Specified Analysis? Yes \ No nd Labels Legible of Samples Received 3	Custody Seal(s) I Seal(s) Signed / I	• • • • • • • • • • • • • • • • • • • •
Preservation		Yes	No N/A
TOX, TKN VOC, BTE		<2)	X X X X X X
Comments: (Ar	ny "No" response must be detalled	in the comments	section below.)
documentation of	preservation conditions, list sample ID, preserv any client notification as well as client instruct should be analyzed as soon as possible, prefer	ons Samples for pH, ch	lorine and
Samples Inspects	ed/Checklist Completed By:	1 and 200 =	7 7 0
Compress Hispotic	PM Review and Approval:	Date:	7/21/09

Page 2 of 2

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

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

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 antifact. 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.

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

Matrix: SOLID

Date/Time Sampled: 09/14/2009 09:00

PSS Sample ID: 9091404-004

Date/Time Received: 09/14/2009 13:21

% Solids: 100

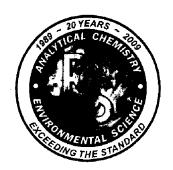
Total Metals

Analytical Method: SW846 6020A

Preparation Method: SW846 3050B

	Result	Units	Rep Limit	Flag	Dil	Prepared	Analyzed	<u>Analyst</u>
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	В	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
\$odium	360	mg/kg	48	В	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

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

Sample ID: Wagner #2 Matrix: SOLID		-	ed: 09/14/20/ ed: 09/14/20/			PSS Samı	ole ID: 90914	04-004
Total Metals	Analytical Method: S	SW846 60)10B					
	Result	Units	Rep Limit	Flag		Prepared	Analyzed	Analyst
Sulfur	1,580	mg/kg	35.7			09/15/09	09/15/09 14:10	3 4005
TCLP Metals	Analytical Method: §	SW846 60)20A		Prep	aration Met	hod: SW846 30	50B
	Result	Units	TCLP Limit	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	5.0		1	09/14/09	09/15/09 16:18	3 1034
Barium	ND	mg/L	100		1	09/14/09	09/15/09 16:18	3 1034
Cadmium	ND	mg/L	1.0		1	09/14/09	09/15/09 16:18	3 1034
Chromium	ND	mg/L	5.0		1	09/14/09	09/15/09 16:18	3 1034
Lead	ND	mg/L	5.0		1	09/14/09	09/15/09 16:18	3 1034
Mercury	ND	mg/L	0.200		1	09/14/09	09/15/09 16:18	3 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: S	SW846 80	81B		Prep	aration Met	hod: SW846 35	10C
	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
Heptachior	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: S	SW846 81	51A		•			
	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

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

Matrix: SOLID

Date/Time Sampled: 09/14/2009 09:00

PSS Sample ID: 9091404-004

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	<u>Analyst</u>
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

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

Matrix: SOLID

Date/Time Sampled: 09/14/2009 09:00

Date/Time Received: 09/14/2009 13:21

PSS Sample ID: 9091404-005

% Solids: 100

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

	Result	Units	Rep Limit	Flag	Dil	Prepared	Analyzed	<u>Analyst</u>
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	В	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	09/1 4/09	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	В	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

PHASE SEPARATION SCIENCE, INC.



PSS Sample ID: 9091404-005

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

Matrix: SOLID

Date/Time Sampled: 09/14/2009 09:00

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 5.0 mg/L 09/14/09 09/16/09 11:03 1034 Barium ND mg/L 100 09/14/09 09/16/09 11:03 1034 Cadmium ND 1.0 mg/L 09/14/09 09/16/09 11:03 1034 Chromium ND mg/L 5.0 09/14/09 09/16/09 11:03 1034 Lead 5.0 09/14/09 09/16/09 11:03 1034 ND mg/L Mercury ND mg/L 0.200 09/14/09 09/16/09 11:03 1034 Selenium 0.114 mg/L 1.0 09/14/09 09/16/09 11:03 1034 Silver ND mg/L 5.0 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 0.030 mg/L 09/15/09 09/16/09 13:23 1029 Endrin ND mg/L 0.020 09/15/09 09/16/09 13:23 1029 gamma-BHC (Lindane) ND mg/L 0.400 09/15/09 09/16/09 13:23 1029 Heptachlor ND mg/L 0.008 09/15/09 09/16/09 13:23 1029 1 Heptachlor epoxide ND 800.0 mg/L 09/15/09 09/16/09 13:23 1029 Methoxychlor ND mg/L 10 09/15/09 09/16/09 13:23 1029 Toxaphene ND 0.500 09/15/09 09/16/09 13:23 1029 mg/L TCLP Chlorinated Herbicides Analytical Method: SW846 8151A Result Units TCLP Limit Flag Dil Prepared Analyzed Analyst 2,4-D ND 10 09/15/09 09/15/09 21:29 1029 mg/L 2,4,5-TP (Silvex) ND mg/L 1.0 09/15/09 09/15/09 21:29 1029

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

Matrix: SOLID

Date/Time Sampled: 09/14/2009 09:00

PSS Sample ID: 9091404-005

Date/Time Received: 09/14/2009 13:21

TCLP Volatile Organic Compounds

Analytical Method: SW846 8260B

Preparation Method: SW846 5030B

=	Result	<u>Units</u>	TCLP Limit Flag	Dil	Prepared	Analyzed A	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

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

Matrix: SOLID

Date/Time Sampled: 09/14/2009 09:00 Date/Time Received: 09/14/2009 13:21 PSS Sample ID: 9091404-007

% 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	В	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/kġ	3.7		1	09/14/09	09/15/09 15:48	1033
Sodium	1,200	mg/kg	75	В	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

PHASE SEPARATION SCIENCE, INC.



PSS Sample ID: 9091404-007

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

Matrix: SOLID

Total Metals

Sulfur

Date/Time Sampled: 09/14/2009 09:00

Date/Time Received: 09/14/2009 13:21

Analytical Method: SW846 6010B

 Result
 Units
 Rep Limit
 Flag
 Prepared
 Analyzed
 Analyst

 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	<u>Analyst</u>
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
Heptachior	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)	N D	mg/L	1.0	1	09/15/09	09/15/09 22:01	1029

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

Matrix: SOLID

Date/Time Sampled: 09/14/2009 09:00

PSS Sample ID: 9091404-007

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	<u>Analyst</u>
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	1 011
Carbon tetrachtoride	ND	m g/ 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

PROPERTAL S	11.2											;			
UCLIENT: CPSG	CPSG	OFFICI	OFFICE LOC. Coal Yard	Yard		IOM SSH	PSS Work Order 🛊		101	711			PAGE	1	or 1
PROJECT	PROJECT MGR: Beth Pittaway	PHONE	: NO.: 410-787-5320	787-5320		Matrix Codes: SW=Surface	es: e Witr DW-⊑	trinking W	ii GW=Gro	und Wir W	W-Waste W	# 0±0#\$	-Soil WL-Waste	Liquid WS	Matric Cooles: SW-Syrface Wit DW-Drinking Wri GW-Ground Wit WW-Wasie Wit O-08 S-Soil WIL-Wasie Liquid WS-Wasie Soild W- Wipe
EMAIL: b	EMAIL: beth.pittaway@constellation.comFAX NO.:	COM FAX NO		410-787-5424		န္ ပ	MP E								Preservativ
PROJECT	PROJECT NAME: Fly Ash Tests for MDE	or MDE		PROJECT NO.		0 Z F		mar				-			1
SITELOC	SITE LOCATION: Various coal plants	nts	P.O. NO.:	ō		- « -	COMP	ეე r							Analysis/ Method
SAMPLERS	AS:	DW	CERT NO.	: .		z w	G= GRAB	еџе				=			Required
LABNO	SAMPLE IDENTIFICATION	NOL	DATE	TIME	MATRIX (See Codes)	ασ		en.							REMARKS V
	Brandon Shores # 1	#1	9/14/09	9am	Fly Ash	-	ر ن			_		\vdash		8	Click to enter Remarks
2	Brandon Shores # 2	#2	60/41/6	9am	Fly Ash		ŋ				_	_			
3	Crane		9/14/09	9am	Fly Ash	-	<u>></u> ق			-					
5	Wagner #2		8/14/09	9am	Fly Ash	+-	<u>*</u> ق			_					
S	Wagner # 3		9/14/09	9am	Fly Ash	-	ر ن					_			
9	Brandon Shores #45.16		4/14/09	gan	FlyAsh	-	3			_		_			
•	Wagner Bottom Ash		9/14/08	gam	Shr. Ash	_	G V								
8	Granden Shores Khathwater Suis	na ter Suis	104109	gam.	Surke	~	9								
0	Brandon Shores Brite m Ash	rm Ash	9/14/01	9 Am	Broke	,	5								
(5)							_ ;								
Relinquis)ed By: (1)	Date ,	Time	r Received By	7 / 3/6	') -	Œ	edneete	1 Tuman	Requested Turnaround Time		# of Coolers:	C	
イズ	THUCH Blow	9/14/9		3				D 5-Day	€.	3-Day		O per	SVU leas (popen)	ARS	
Relinquis	Relinquished Bv. (2)	Date	Time	Received By	i i		ü	ata Deli	verables	Data Deliverables Required	<u></u>		toe Presenti $ ho BS$ Tempi. $ ho S$ Shipping Center. $ ho ABN $	188°	mg 100°C (万)
Relinquist	Relinquished By: (3)	Date	Time	Received By:	Ŋ.:		w II	pecial Ir	Special Instructions: Please test se	sample	s per	attach	Special Instructions: Please test samples per attached Comar 26.21.04.05B	ır 26.2	1.04.05B
Relinquist	Relinquished By: (4)	Date	Time	Received Bv:	. .					17	12 PM				

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

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
- 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)

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Phase Separation 410-747-8770

Page 1 of 2

Iry Another Page | Return to Main COMAR Search Page

26 21 04 05

Army fe phase on line com

.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.

26.21,04.05 Page 2 of 2

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) Five gas desulfurization sludge and other solid residuals recovered from flue gas by wer 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 by products in the reclamation of a noncoal surface mine shall be designed to prevent the degradation of water quality.
- (3) Coal combustion by products containing a constituent are 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-leading 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

http://www.dsd state.md.us/comar/getfile aspx?file=26.21.04.03.htm

26 21.04.03 Page 2 of 2

(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 menitoring wells at a site. The Department may require additional monitoring wells based upon site conditions. Monitoring wells shall be constructed and installed by a Statelicensed well driller in accordance with COMAR 26.04.04. The well screen or sletted 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 (incorporeted by reference, see § 260 11), or as determined by an equivalent test method approved by the Administrator under procedures set forth in \$5 250 20 and 250 21

(2) It is not a liquid and is capable under standard temperature and pres-sure, of causing fire through friction. absorption of moliture or spontaneous chemical changes and when ignified. burns so vigorously and persistently

that it creates a hazard

(3) It is an ignitable compressed gas as defined in 48 CFR 173.300 and as determined by the test methods described in that regulation or equivalent test methods approved by the Adminis-trator under \$5280.20 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 D061

(45 PR 38119 Mey 19, 1980 as amended at 46 PR 38247 July 7 1981; 55 FR 2288f June 1.

\$261.22 Characteristic of corrosivity.

(a) A solid waste exhibits the characteristic of corresivity if a represent-

acteristic 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 2 or greater than or equal to 12.5, as determined by a pH meter using Method 800 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

erence in §260.11 of this chapter
(2) It is a liquid and corrodes steel
(SAE 1020) at a rete 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 Weste, Physical/Chemical
Methods" FPA Publication SW-348, as Methods: EPA Publication SW-846, as incorporated by reference in \$260 11 of this chapter

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

(45 FR 33119 May 19, 1880, as amended at 46 FR 35247, July 7, 1881; 95 FR 2584 June 1, 1990; 58 FR 46049 Aug. 31, 1993]

\$251.23 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 125, can generate toxic gases, vapors or fumes in a quan-tity 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 defiried 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

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

[45 FR 33119, May 10, 1989 as amended at 55 FR 22584 June 1, 1990]

1261.24 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 Syslusting Solid Weste, Physical/Chemical Methods, EPA Publication SW-868, 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 I at the concentration equal to or greater than the re-spective value given in that table. Where the waste contains less than 0.5 percent filterable solids the waste itself, after filtering using the mothod-ology outlined in Method 1811, is con-sidered to be the extract for the pur-

pose 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 conteminant causing it to be hazardous

TAGES 1 - MARKETS CONCENTRATION OF CONTAINERS FOR

EPA HW No.1	Contaminent	CAS No #	Fingu- tetorir Level (mg/L)
D004	Arestilo	7440-86-2	5.0
D005	.Hemin	7440-39-3	100.0
0016	Senzene	71-43-2	0.5
D1008	Cadmium	7440-43-0	1.0
D018	Carbon tetrachicolta	56-23-6 57-74-6	0.63
D021	Chlordane	108-00-7	100.0
13022	Chiorotom	67-66-3	6.0
D007	Chromium	7440-47-3	5.0
0023	A.P.	95-48-7	+200.0
D024	6-Creed m-Creed	703-30-4	+200.0
D025	p-Creeci	106-44-8	+200.0
0000	Cresci	1140,000,000	4200.0
0016	240 parameters	94-75-7	10:0
D997	1,4-Dichlorobenzene	106-48-7	75
D028	1,2-Ulchloroethans	107-06-2	0.5
D028	1.1-Dichloroethylene	75-05-4	0.7
COSO	2.4-Dinitrototuese	121-14-2	30.13
D012	Enden was some an inch	72-20-8	0.02
D031	Heptachlor land its op-	76-44-8	0.508
	Osidis .		
D632	Hexachiorobenzana	118-74-1	70.13
D033	Herarchiorobutacliene	97 68 d	0.5
D034	Hexachioroetherre	67-72-i	8.0
D008	Lead Lindens	7439-02-1	5.0
D008		58-89-9 7439-97-8	0.8 0.2
DOTA	Matthey	72-43-5	10.0
D095	Mathyl ethyl kelona	76-83-3	200.0
0096	Altrohermone	28-05-3	20
D037	Nipoberizane Peringhiorophanol	87-85-5	160 0
D038	Pyridine	110-66-1	36.0
D010	Selenium.	7782-49-2	1.0
D011	Shrer	7440-22-4	5.0
D039	Tetracitioncethylene	127-18-4	47
D015	Tomonene	8001-38-2	85
D046	Trichlorostinyiene	79 01-8	0.5
D041	2.4.5 Trichlorophenol	95-95-4	400.0
D042	2,4,6 Trichloroptienol	88-08-2	2.0
0017	2,4,6 TP (Blives)	99-72-1	1.0
2043	Vinvi crioride	75-01-4	0.2

1 Intranscens visuals number.

2 Champion abstracts service number.

2 Champion abstracts service number.

3 Champion abstracts service number of the calculated regulatory level. The guardiadon limit therefore becomes the regulatory level.

48 o. ;p.; and p.Cesca contemplators cannot be differentiated, the Intal Green (100gS) concentration is used. The regulatory level of total creed is 200 mg/l.

[55 FR 11862, Mar 29, 1990, as amended at 55 FR 22864, June 1, 1990, 55 FR 28867, June 29 1990; 58 FR 46649 Aug 31, 1998; 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 268.22.

(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	(11)
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 \$5261 31 and 281 32.

(c) Each hazardous waste listed in this subpart is assigned an EPA Haz-ardous Waste Number which precedes the name of the waste. This number must be used in complying with the no-dification requirements of Section 3010 of the Act and certain recordkeeping and reporting requirements under parts 262 through 266 . 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.

145 PR 33119, May 19, 1989, as amended at 48 PR 4294, Apr. 1 1983; 30 PR 2000 Jan. 14 1985; 51 PR 40836, Nov 7 1988; 55 PR 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 \$5200.20 and 200.22 and listed in appendix IX



Phase Separation Science, Inc

Sample Receipt Checklist

Wo Number	9091404			Received	Ву	Rachel Da	vis
Client Name	Constellat	ion Energy Gro	oup	Date Rece	ived	09/14/2009	01:21:00 PM
Project Name	Fly Ash Te	ests for MDE		Delivered	Ву	Client	
Project Number	N/A			Tracking i	No	Not Applica	able
Disposai Date:	10/19/200	9		Logged in	Ву	Rachel Da	vis
Shipping Conta	iner(s)						
No. of Coo		1		Ice		Absen	t
Custody S Seal Cond		Absent Not Applicable	ì	Temp (Temp E	deg C) Ilank Pres	30 sent No	
Documentation COC agre Chain of C	es with san Custody (CC	nple labels? _	Yes or Yes or	No No	Sampler	· Name: <u>Not</u>	Provided
Sample Contain	ner						
Intact? Labeled a	e for Specifi nd Labels L of Samples	.egible	Yes X No X 9	Custody Seal(s) S	Seal(s) in Signed / E	ntact? Not	sent Applicable Applicable ived 18
Preservation				,	Yes N	lo N	I/A
TOX, TKN VOC, BTE	ials have ze ny "No" re preservation any client no	als Rovd Prese ero headspace esponse mus conditions, list s tification as well	? st be detailed ample ID, preservi as client instruction	12)	eagent ID r for pH, ch	section b	v sa well as
Samples Inspecte		t Completed B	TYPI	yais	Date:	9/1	5 9 15/09

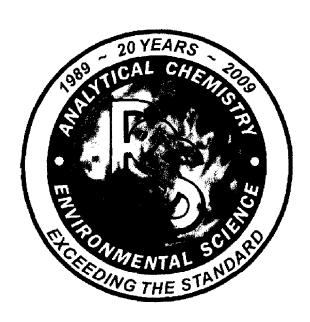
Printed: 09/15/2009 10:27 AM

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

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.
- 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.
- 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.

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

Matrix: SOLID

TCLP Metals

Date/Time Sampled: 11/10/2009 09:00 PSS Sample ID: 9111014-001

Date/Time Received: 11/10/2009 14:56

Analytical Method: SW846 6020A

Preparation Method: SW846 3010A

	Result	Units	TCLP Limit_Flag	Dil	Prepared	Analyzed	<u>Analyst</u>
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

ANALON SANARON

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

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

Non-circle March	OLIENT: CPSG	PSG	OFFICE L	OFFICE LOC. Coal Yard	Yard		≢.jepig ¥rojv.ssia;	a repro		41101116	0	1		PAGE	-	OF 1
SAMPLE PROJECT NO. PROJE	PROJECT N	MGR: John Basciano	PHONE	to.: 410-9	17-3202		Matrix Code	Wir DW-C	Drinking Wrt	GW=Groun	d Wir With	-Waste Wt	0-0i 8-S	oil WI-Was	te Liquid W	S=Waste Solid W=
NAME Controls, Wagner PAC PROJECTIVO: NAME PACKED PA	EMAIL: tohr	n.m.basciano@constellation.c	OM FAX NO.:		87-5424							1	$oxed{I}$		_	Deed
SAMPLE FIG. DIV CERT NO. :	PROJECT	NAME: Wagner PAC			ECT NO.:				STA							↓
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6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

The client (Client Name), by signing, or having client's agent sign, this "Sample Chari of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable tees if collection becomes necessary.



Phase Separation Science, Inc

Sample Receipt Checklist

Vo 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 Conta	liner(s)		
No. of Coo	olers 1	fce	Absent
Custody S	eals Not Applicable	Temp (deg C)	30 -
Seal Cond	lition Not Applicable	Temp Blank Pro	esent No
-	es with sample labels? X Yes Sustody (COC) Yes		er Name: <u>Not Provided</u>
Sample Contair	ner		
intact? Labeled a	e for Specified Analysis? Yes \(\)	Custody Seal(s) Seal(s) Signed /	
Preservation		Yes	No N/A
VOC, BTE	D, Phenols I, NH3, Total Phos X (VOA Vials Rcvd Preserved) als have zero headspace?	(pH<2) (pH>12) (pH>9) (pH<2) (pH<2) (pH<2)	
Comments: (Ar	ny "No" response must be det	ailed in the comments	s section below.)
For any improper p	preservation conditions, list sample ID, p any client notification as well as client in should be analyzed as soon as possible,	reservative added (reagent ID structions Samples for pH, c	number) below as well as hiorine and
Samples Inspecte	nd/Checklist Completed By:	Date:	11/10/9
	PM Review and Approval:	Date:	11/10/09
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Printed: 11/10/2009 03:01 PM