



# Raven Power

February 27, 2014

Martha Hynson  
Maryland Department of the Environment  
Land Management Administration  
Solid Waste Program  
1800 Washington Boulevard, Suite 605  
Baltimore, Maryland 21230-1719

SOLID WASTE

MAR 05 2014

PROGRAM

Re: Annual Generator Tonnage Reports for Calendar Year 2013 for the Brandon Shores, C. P. Crane, and H. A. Wagner Electric Generating Stations

Dear Ms. Hynson:

Enclosed please find the 2013 Annual Generator Tonnage Reports for Raven Power's Brandon Shores, C. P. Crane, and H. A. Wagner generating facilities. These reports cover the period from January 1, 2013 to December 31, 2013 for all of the coal-fired units at these facilities and reflect coal combustion byproduct production, beneficial reuse, and disposal figures at all three facilities.

Please contact me with any questions regarding these reports at 410-787-5188, or by email at [amontier@raven-power.com](mailto:amontier@raven-power.com). You can also contact Thomas Weissinger, Director, Environmental, at 410-787-5532, or by email at [tweissinger@raven-power.com](mailto:tweissinger@raven-power.com).

Regards,

Anthony Montier  
Environmental Manager, Raven Power

Enclosures (3)

**Coal Combustion Byproducts (CCBs)  
Annual Generator Tonnage Report  
Instructions for Calendar Year 2013**

The following is general information relating to the requirement for reporting quantities of coal combustion byproducts (CCBs) that were managed in the State of Maryland during calendar year 2013. Please answer the questions on the form provided, attaching additional information and any requested supplemental information to the back of the form. Note that the form for this year requires both volume and weight of the CCBs produced. If you know one of these parameters but not the others, for example, you have the tonnage produced but not the volume, you may calculate the other parameter; however, please provide the calculations and assumptions that you used in your estimate. Questions can be directed to the Solid Waste Program at (410) 537-3315 or via email at [ed.dexter@maryland.gov](mailto:ed.dexter@maryland.gov).

**I. Background.** This requirement that generators of CCBs submit an annual report was instituted in the Code of Maryland Regulations COMAR 26.04.10.08, that was promulgated effective December 1, 2008. The regulation requires that any non-residential generator of CCBs submit a report to the Department by March 1 of each year describing the manner in which CCBs generated within the State were managed during the preceding calendar year. Additional information and specific instructions follow. For more detailed information, please refer to COMAR 26.04.10.08.

**II. General Information and Applicability.**

**A. Definitions.** CCBs are defined in COMAR 26.04.10.02B as:

*“(3) Coal Combustion Byproducts. (a) "Coal combustion byproducts" means the residue generated by or resulting from the burning of coal.  
(b) "Coal combustion byproducts" includes fly ash, bottom ash, boiler slag, pozzolan, and other solid residuals removed by air pollution control devices from the flue gas and combustion chambers of coal burning furnaces and boilers, including flue gas desulfurization sludge and other solid residuals recovered from flue gas by wet or dry methods.”*

A generator of CCBs is defined in COMAR 26.04.10.02B as:

*“(9) Generator.  
(a) "Generator" means a person whose operations, activities, processes, or actions create coal combustion byproducts.  
(b) "Generator" does not include a person who only generates coal combustion byproducts by burning coal at a private residence.”*

**B. Applicability.** If you or your company meets the definition of a generator of CCBs as defined above, you must provide the information as required below. For the purposes of this report, "you" shall hereinafter refer to the generator defined above. Please note that COMAR 26.04.10.08 requires generators of CCBs to submit an annual report to the Department concerning the disposition of the CCBs that they generated the previous year. **THIS INCLUDES CCBs THAT WERE NOT SEPARATELY COLLECTED BUT WERE PRODUCED BY THE BURNING OF COAL AND WERE DIRECTLY CONTRIBUTED TO A PRODUCT, such as cement.** Where the amount cannot be directly measured, estimates based on the amount of coal burned can be used. The method of determining the volume of CCBs produced must be described.

**III. Required Information.** The following information must be provided to the Department by March 1, 2014:

A. Contact information:

Facility Name: C. P. Crane

Name of Permit Holder: C. P. Crane LLC

Facility Address: 1001 Carroll Island Road  
Street

Facility Address: Chase Maryland 21220  
City State Zip

County: Baltimore County

Contact Information (Person filing report or Environmental Manager)

Facility Telephone No.: 410-682-9797 Facility Fax No.: 410-682-9805

Contact Name: Anthony Montier

Contact Title: Environmental Manager

Contact Address: 1005 Brandon Shores Road, Suite 100  
Street

Contact Address: Baltimore Maryland 21226  
City State Zip

Contact Email: amontier@raven-power.com

Contact Telephone No.: 410-787-5188 Contact Fax No.: 410-787-5160

*For questions on how to complete this form, please contact the Solid Waste Program at 410-537-3315*

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

The C. P. Crane electric generating facility has two coal fired units which produce electricity for commercial sale. Unit 1 is equipped with a Babcock & Wilcox once-through subcritical, cyclone-fired, wet bottom boiler, and Unit 2 is equipped with a Babcock & Wilcox drum-type, cyclone-fired, wet bottom boiler. Both units burn sub-bituminous coal alone, or in combination with bituminous coal. Coal is transported to the plant by rail and stored in a pile adjacent to the plant. The coal is prepared for use by two Pennsylvania hammer-mill type crushers. After crushing, a proprietary additive, Cyclean, is added to the coal to aid in slag flow and reduce mercury in the flue gas.

The CCB handling process is the same for both units. Boiler slag (a.k.a. bottom ash) created by the combustion process is recovered from the bottom of the boilers and stored in de-watering bins. Heavier fly ash particles in the flue gas stream drop into hoppers below the air heaters, are removed by vacuum truck, and transported to a temporary storage area on site. Finer particulate fly ash is captured on fabric bags in bag houses downstream of the air heaters and falls down to storage hoppers below before being pneumatically conveyed from the hoppers to storage silos. All types of CCBs are eventually loaded onto trucks and sent off site for beneficial reuse or disposal.

C. The volume and weight of CCBs generated during calendar year 2013, including an identification of the different types of CCBs generated and the volume of each type generated. If the space provided is insufficient, please attach additional pages in a similar format. If converting from volume to weight or weight to volume, please provide your calculations and assumptions.

**Table I: Volume and Weight of CCBs Generated for Calendar Year 2013:** Please note the change to this table from previous years, to include both the volume and weight of the types of CCBs your facility produces.

<b>Volume and Weight of CCBs Generated for Calendar Year 2013</b>			
Fly Ash Type of CCB	Boiler Slag Type of CCB	----	----
12,438	10,832	----	----
Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards	Volume of CCB, in Cubic Yards
9,235	8,043	----	----
Weight of CCB, in Tons	Weight of CCB, in Tons	Weight of CCB, in Tons	Weight of CCB, in Tons

Additional notes:

Coal combustion byproducts (“CCB”) are reported in dry tons. Cubic yards are calculated using a conversion factor of 1 ton = 1.3468 cubic yards.

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

No modeling or risk assessments were conducted during 2013.

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

See the attached Certificate of Analysis. Results for the different types of CCBs are coded in the report as follows:

Sample ID No.	Type of CCB
AAHA2D13	Air Heater Fly Ash
ABH2FAD13	Bag House Fly Ash
ABTA2D13	Bottom Ash (Boiler Slag)
ABHBD13	Bag House Bag Material and Fly Ash

F. A description of how you disposed of or used your CCBs in calendar year 2013, identifying:

(a) The types and volume of CCBs disposed of or used (if different than described in Paragraph C above) including any CCBs stored during the previous calendar year, the location of disposal, mine reclamation and use sites, and the type and volume of CCBs disposed of or used at each site:

Fly Ash - Disposal

9,235 tons (12,438 CY) of fly ash was landfilled at Fort Armistead Road – Lot 15 Landfill in Baltimore, MD.

Bottom Ash (Boiler Slag) - Beneficial Reuse

8,043 tons (10,832 CY) of boiler slag was delivered to Opta Minerals (a.k.a. Virginia Materials) in Baltimore, MD for use as abrasive material for paint removal.

and (b) The different uses by type and volume of CCBs:

See (a) above.

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

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

Fly Ash

Raven projects that as much as 13,000 tons (17,500 CY) of fly ash will be generated each year for the next five years. Unless suitable beneficial uses are identified, the fly ash will be disposed of in the company-owned Fort Armistead Road - Lot 15 LLC landfill in Baltimore, Maryland. This landfill is permitted and authorized to accept CCBs for disposal.

Boiler Slag

Raven projects that approximately 15,000 tons (20,100 CY) of boiler slag will be generated each year for the next five years, all of which will be beneficially used for blasting grit and/or roofing granules.

and (b) The different intended uses by type and volume of CCBs.

Fly Ash


While there are currently no identified beneficial uses for the projected 13,000 tons (17,500 CY) of fly ash that may be generated over the next 5 years, it is possible that all or some portion of the fly ash generated at C.P. Crane will be beneficially used. The potential exists that with proper certification as a Class C fly ash, it can be beneficially used in concrete products.

Boiler Slag

Approximately 15,000 tons (20,100 CY) each year will be beneficially used for blasting grit and/or roofing granules.

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

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

This is to certify that, to the best of my knowledge, the information contained in this report and any attached documents are true, accurate, and complete.		
 Signature	John Forbes Authorized Representative, C. P. Crane LLC 410-682-9701 <hr/> Name, Title, & Telephone No. (Print or Type)  jforbes@raven-power.com <hr/> Your Email Address	2/27/2014 <hr/> Date

**V: Attachments (please list):**

1. Certificate of Analysis No. 13072411 - Annual TCLPs 2013

**Analytical Report for**  
**Raven Power Holdings, LLC - CP Crane Plant**  
**Certificate of Analysis No.: 13072411**

**Project Manager: Joshua Sawyers**  
**Project Name : Annual TCLPs 2013**  
**Project Location: Carroll Island Road, MD**



**July 31, 2013**  
**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  
FAX 410-788-8723

# PHASE SEPARATION SCIENCE, INC.



July 31, 2013

**Joshua Sawyers**  
**Raven Power Holdings, LLC - CP Crane Plant**  
1001 Carroll Island Rd  
Baltimore, MD 21220

Reference: PSS Work Order(s) No: **13072411**  
Project Name: Annual TCLPs 2013  
Project Location: Carroll Island Road, MD

Dear Joshua Sawyers :

This report includes 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(s) numbered **13072411**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. 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 28, 2013. 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 5 years, after which time it will be disposed of 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](mailto:info@phaseonline.com).

Sincerely,

---

**John Richardson**  
Laboratory Director





## Sample Summary

Client Name: Raven Power Holdings, LLC - CP Crane Plant

Project Name: Annual TCLPs 2013

Work Order Number(s): 13072411

The following samples were received under chain of custody by Phase Separation Science (PSS) on 07/24/2013 at 12:30 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
13072411-001	APRD13	SOLID	07/08/13 10:00
13072411-002	ABAD13	SOLID	07/08/13 10:05
13072411-003	AAHA2D13	SOLID	07/08/13 10:20
13072411-004	ABH2FAD13	SOLID	07/08/13 10:30
13072411-005	ABTA2D13	SOLID	07/08/13 10:35
13072411-007	RRT3D13	SOLID	07/23/13 13:10

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 Case Narrative Summary.

### Notes:

1. The presence of a common laboratory contaminant such as methylene chloride 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].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. The analyses of chlorine, pH, dissolved oxygen, temperature and sulfite for non-potable water samples tested for compliance for Virginia Pollution Discharge Elimination System (VDPES) permits and Virginia Pollutant Abatement (VPA) permits, have a maximum holding time of 15 minutes established by 40CFR136.3.

### 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.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- Fail The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
- J The target analyte was positively identified below the reporting limit but greater than the LOD.
- LOD Limit of Detection. An estimate of the minimum amount of a substance that an analytical process can reliably detect.  
An LOD is analyte and matrix specific.
- ND Not Detected at or above the reporting limit.
- RL PSS Reporting Limit.
- U Not detected.



## Case Narrative Summary

Client Name: Raven Power Holdings, LLC - CP Crane Plant

Project Name: Annual TCLPs 2013

Work Order Number(s): 13072411

---

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.

**Sample Receipt:**

Container label for COC sample ABHBD13 reads BAG 464.

**General Comments:**

Per client, sample 'ABHBD13' on hold. Client to resample to provide more sample mass due to matrix.

**NELAP accreditation was held for all analyses performed unless noted below. See [www.phaseonline.com](http://www.phaseonline.com) for complete PSS scope of accreditation.**

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: 13072411

Raven Power Holdings, LLC - CP Crane Plant, Baltimore, MD  
 July 31, 2013

Project Name: Annual TCLPs 2013  
 Project Location: Carroll Island Road, MD

**Sample ID: APRD13**      **Date/Time Sampled: 07/08/2013 10:00**      **PSS Sample ID: 13072411-001**  
**Matrix: SOLID**      **Date/Time Received: 07/24/2013 12:30**

TCLP Metals      Analytical Method: SW-846 6020 A      Preparation Method: 3010A

	Result	Units	RL	Flag	Dil	TCLP Limit	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	0.050		1	5	07/30/13	07/30/13 17:49	1034
Barium	ND	mg/L	1.0		1	100	07/30/13	07/30/13 17:49	1034
Cadmium	ND	mg/L	0.050		1	1	07/30/13	07/30/13 17:49	1034
Chromium	ND	mg/L	0.050		1	5	07/30/13	07/30/13 17:49	1034
Lead	ND	mg/L	0.050		1	5	07/30/13	07/30/13 17:49	1034
Mercury	ND	mg/L	0.0020		1	0.2	07/30/13	07/30/13 17:49	1034
Selenium	ND	mg/L	0.050		1	1	07/30/13	07/30/13 17:49	1034
Silver	ND	mg/L	0.050		1	5	07/30/13	07/30/13 17:49	1034

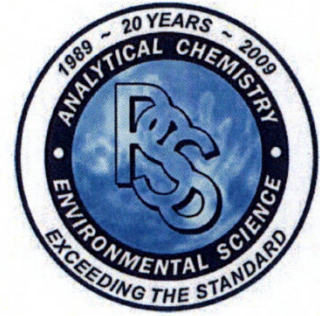
**Sample ID: ABAD13**      **Date/Time Sampled: 07/08/2013 10:05**      **PSS Sample ID: 13072411-002**  
**Matrix: SOLID**      **Date/Time Received: 07/24/2013 12:30**

TCLP Metals      Analytical Method: SW-846 6020 A      Preparation Method: 3010A

	Result	Units	RL	Flag	Dil	TCLP Limit	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	0.050		1	5	07/30/13	07/30/13 17:55	1034
Barium	ND	mg/L	1.0		1	100	07/30/13	07/30/13 17:55	1034
Cadmium	ND	mg/L	0.050		1	1	07/30/13	07/30/13 17:55	1034
Chromium	ND	mg/L	0.050		1	5	07/30/13	07/30/13 17:55	1034
Lead	ND	mg/L	0.050		1	5	07/30/13	07/30/13 17:55	1034
Mercury	ND	mg/L	0.0020		1	0.2	07/30/13	07/30/13 17:55	1034
Selenium	ND	mg/L	0.050		1	1	07/30/13	07/30/13 17:55	1034
Silver	ND	mg/L	0.050		1	5	07/30/13	07/30/13 17:55	1034

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: 13072411

Raven Power Holdings, LLC - CP Crane Plant, Baltimore, MD  
 July 31, 2013

Project Name: Annual TCLPs 2013  
 Project Location: Carroll Island Road, MD

**Sample ID: AAHA2D13**      **Date/Time Sampled: 07/08/2013 10:20**      **PSS Sample ID: 13072411-003**  
**Matrix: SOLID**      **Date/Time Received: 07/24/2013 12:30**

TCLP Metals      Analytical Method: SW-846 6020 A      Preparation Method: 3010A

	Result	Units	RL	Flag	Dil	TCLP Limit	Prepared	Analyzed	Analyst
Arsenic	0.11	mg/L	0.050		1	5	07/30/13	07/31/13 15:05	1034
Barium	ND	mg/L	1.0		1	100	07/30/13	07/30/13 18:01	1034
Cadmium	ND	mg/L	0.050		1	1	07/30/13	07/30/13 18:01	1034
Chromium	ND	mg/L	0.050		1	5	07/30/13	07/30/13 18:01	1034
Lead	ND	mg/L	0.050		1	5	07/30/13	07/30/13 18:01	1034
Mercury	ND	mg/L	0.0020		1	0.2	07/30/13	07/30/13 18:01	1034
Selenium	ND	mg/L	0.050		1	1	07/30/13	07/30/13 18:01	1034
Silver	ND	mg/L	0.050		1	5	07/30/13	07/30/13 18:01	1034

**Sample ID: ABH2FAD13**      **Date/Time Sampled: 07/08/2013 10:30**      **PSS Sample ID: 13072411-004**  
**Matrix: SOLID**      **Date/Time Received: 07/24/2013 12:30**

TCLP Metals      Analytical Method: SW-846 6020 A      Preparation Method: 3010A

	Result	Units	RL	Flag	Dil	TCLP Limit	Prepared	Analyzed	Analyst
Arsenic	0.70	mg/L	0.050		1	5	07/30/13	07/31/13 15:11	1034
Barium	ND	mg/L	1.0		1	100	07/30/13	07/30/13 18:07	1034
Cadmium	ND	mg/L	0.050		1	1	07/30/13	07/30/13 18:07	1034
Chromium	0.14	mg/L	0.050		1	5	07/30/13	07/31/13 15:11	1034
Lead	ND	mg/L	0.050		1	5	07/30/13	07/30/13 18:07	1034
Mercury	ND	mg/L	0.0020		1	0.2	07/30/13	07/30/13 18:07	1034
Selenium	0.47	mg/L	0.050		1	1	07/30/13	07/31/13 15:11	1034
Silver	ND	mg/L	0.050		1	5	07/30/13	07/30/13 18:07	1034

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: 13072411

Raven Power Holdings, LLC - CP Crane Plant, Baltimore, MD  
 July 31, 2013

Project Name: Annual TCLPs 2013  
 Project Location: Carroll Island Road, MD

**Sample ID: ABTA2D13**      **Date/Time Sampled: 07/08/2013 10:35**      **PSS Sample ID: 13072411-005**  
**Matrix: SOLID**      **Date/Time Received: 07/24/2013 12:30**

TCLP Metals      Analytical Method: SW-846 6020 A      Preparation Method: 3010A

	Result	Units	RL	Flag	Dil	TCLP Limit	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	0.050		1	5	07/30/13	07/30/13 18:13	1034
Barium	ND	mg/L	1.0		1	100	07/30/13	07/30/13 18:13	1034
Cadmium	ND	mg/L	0.050		1	1	07/30/13	07/30/13 18:13	1034
Chromium	ND	mg/L	0.050		1	5	07/30/13	07/30/13 18:13	1034
Lead	ND	mg/L	0.050		1	5	07/30/13	07/30/13 18:13	1034
Mercury	ND	mg/L	0.0020		1	0.2	07/30/13	07/30/13 18:13	1034
Selenium	ND	mg/L	0.050		1	1	07/30/13	07/30/13 18:13	1034
Silver	ND	mg/L	0.050		1	5	07/30/13	07/30/13 18:13	1034

**Sample ID: RRT3D13**      **Date/Time Sampled: 07/23/2013 13:10**      **PSS Sample ID: 13072411-007**  
**Matrix: SOLID**      **Date/Time Received: 07/24/2013 12:30**

TCLP Metals      Analytical Method: SW-846 6020 A      Preparation Method: 3010A

	Result	Units	RL	Flag	Dil	TCLP Limit	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	0.050		1	5	07/30/13	07/30/13 18:20	1034
Barium	ND	mg/L	1.0		1	100	07/30/13	07/30/13 18:20	1034
Cadmium	ND	mg/L	0.050		1	1	07/30/13	07/30/13 18:20	1034
Chromium	ND	mg/L	0.050		1	5	07/30/13	07/30/13 18:20	1034
Lead	ND	mg/L	0.050		1	5	07/30/13	07/30/13 18:20	1034
Mercury	ND	mg/L	0.0020		1	0.2	07/30/13	07/30/13 18:20	1034
Selenium	ND	mg/L	0.050		1	1	07/30/13	07/30/13 18:20	1034
Silver	ND	mg/L	0.050		1	5	07/30/13	07/30/13 18:20	1034



# SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

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

## PHASE SEPARATION SCIENCE, INC.

<b>1</b> CLIENT: Raven Power      OFFICE LOC. C.P. Crane		PSS Work Order #: <b>13072411</b> PAGE 1 OF 1			
PROJECT MGR: Joshua Sawyers      PHONE NO.: 443-934-4990		Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil WL=Waste Liquid WS=Waste Solid W=Wipe No. <input type="checkbox"/> C <input type="checkbox"/> O <input type="checkbox"/> N <input type="checkbox"/> T <input type="checkbox"/> A <input type="checkbox"/> I <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> R <input type="checkbox"/> S			
EMAIL: jsawyers@raven-power.com      FAX NO.:		Analysis/Method Required			
PROJECT NAME: Annual TCLPs 2013      PROJECT NO.:		REMARKS			
SITE LOCATION: Carroll Island Road, MD      P.O. NO.: 7516938		PRB coal			
SAMPLERS: SAWYERS/Davey DW CERT NO.:		Bailey coal			
<b>2</b>		AH ash			
LAB NO.      SAMPLE IDENTIFICATION      DATE      TIME      MATRIX (See Codes)		BH flyash			
1	APRD13	7/8/13	1000	WS	BT ash (slag)
2	ABAD13	7/8/13	1005	WS	BH bag
3	AAHA2D13	7/8/13	1020	WS	RR ties
4	ABH2FAD13	7/8/13	1030	WS	
5	ABTA2D13	7/8/13	1035	WS	
6	ABHBD13	7/10/13	1000	WS	
7	RRT3D13	7/23/13	1310	WS	
<b>3</b> Relinquished By: (1) <i>[Signature]</i> Date: 7-24      Time: 1054      Received By: <i>[Signature]</i> #1057		Requested Turnaround Time: <input checked="" type="checkbox"/> 5-Day <input type="checkbox"/> 3-Day <input type="checkbox"/> 2-Day <input type="checkbox"/> Other			
<b>4</b> Relinquished By: (2) <i>[Signature]</i> #1057      Date: 7/24/13      Time: 1230      Received By: <i>[Signature]</i>		Data Deliverables Required:			
Relinquished By: (3)		Ice Present: PLES Temp: 3°C			
Relinquished By: (4)		Shipping Carrier: TFE			
Special Instructions:					

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



# Phase Separation Science, Inc

## Sample Receipt Checklist

<b>Work Order #</b>	13072411	<b>Received By</b>	Rachel Davis
<b>Client Name</b>	Raven Power Holdings, LLC - CP Cr:	<b>Date Received</b>	07/24/2013 12:30:00 PM
<b>Project Name</b>	Annual TCLPs 2013	<b>Delivered By</b>	Trans Time Express
<b>Disposal Date</b>	08/28/2013	<b>Tracking No</b>	Not Applicable
<b>Shipping Container(s)</b>		<b>Logged In By</b>	Robyn Rhudy

No. of Coolers      1

Custody Seal(s) Intact?      N/A  
 Seal(s) Signed / Dated?      N/A

Ice      Present  
 Temp (deg C)      3  
 Temp Blank Present      No

**Documentation**

COC agrees with sample labels?      No  
 Chain of Custody      Yes

Sampler Name      Joshua Sawyers  
 MD DW Cert. No.      N/A

**Sample Container**

Appropriate for Specified Analysis?      Yes  
 Intact?      Yes  
 Labeled and Labels Legible?      Yes

Custody Seal(s) Intact?      Not Applicable  
 Seal(s) Signed / Dated      Not Applicable

Total No. of Samples Received 7

Total No. of Containers Received 7

**Preservation**

Metals	(pH<2)	N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	N/A
Do VOA vials have zero headspace?		N/A

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

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Container label for COC sample ABHBD13 reads BAG 464.

Samples Inspected/Checklist Completed By: Robyn Rhudy      Date: 07/24/2013  
 \_\_\_\_\_  
 Robyn Rhudy

PM Review and Approval: Lynn Moran      Date: 07/24/2013  
 \_\_\_\_\_  
 Lynn Moran