



**TECHNICAL SOLUTIONS  
NORTH AMERICA**

March 21, 2011

Mr. Jim Byer  
Department of Environmental Protection  
Northwest District Office  
160 Governmental Center  
Pensacola, FL 32501-5794

RE: Veolia ES Technical Solutions, L.L.C.  
342 Marpan Lane  
Tallahassee, FL 32305  
EPA ID# FL0000207449  
Permit#: H037-82472-004

**RECEIVED**  
**MAR 22 2011**  
**NORTHWEST FLORIDA  
DEP**

Dear Mr. Byer:

This letter is being submitted as a follow up to our telephone notifications to Melissa Woehle regarding an exceedance in the allowable residual mercury concentration in the glass generated at the above referenced facility during weeks one and two of 2011. The telephone notification and this letter are being submitted in accordance with General Condition # 8 of the above referenced permit. Below is a chronological summary of the activities associated with the sampling and analysis of the glass generated during weeks one and two 2011. The analytical results for weeks three, four and five are also being included below to document that the process is again meeting the residual mercury requirements. Following the discovery of the elevated results, a number of activities were undertaken to determine the cause of the results, as well as looking at procedures that could be taken to prevent a reoccurrence.

**Week One, 2011**

- January 3, 2011 through January 7, 2011, the facility processed a total of 88,426 lamps generating 59,244 pounds of glass.
- January 11, 2011, a weekly composite sample for laboratory analysis was created from daily samples collected during week one.
- January 12, 2011, Test America received the composite sample and accepted custody of the sample.



- January 14, 2011, Test America issued the laboratory report containing the results of the analytical testing for the week one glass. Analytical result reported was 77 mg/kg.
- Upon receipt of the analytical report, a request was submitted to Test America that they review the results of the week one glass analysis and retest the sample.
- January 24, 2011, Test America issued the laboratory report containing the results of the analytical testing for the retest of the original composite sample submitted to the laboratory. Analytical result reported was 25 mg/kg.
- January 25, 2011, a second weekly composite was created from the daily samples retained at the facility.
- January 26, 2011, Test America received the second composite sample for week one and accepted custody of the sample.
- January 31, 2011, Test America issued the laboratory report containing the results of the analytical testing for the second composite week one glass sample. Analytical result reported was 23 mg/kg.
- Upon receipt of the analytical report, a request was submitted to Test America that they review the results of the second week one composite sample analysis and retest the sample.
- February 3, 2011, Test America issued the laboratory report containing the results of the analytical testing for the retest of the original composite sample submitted to the laboratory. Analytical result reported was 30 mg/kg.

#### Week Two, 2011

- January 10, 2011 through January 14, 2011, the facility processed a total of 108,511 lamps generating 72,801 pounds of glass.
- January 17, 2011, a weekly composite sample for laboratory analysis was created from daily samples collected during week two.
- January 20, 2011, Test America received the composite sample and accepted custody of the sample.
- January 25, 2011, Test America issued the laboratory report containing the results of the analytical testing for the week two glass. Analytical result reported was 11 mg/kg.
- Upon receipt of the analytical report, a request was submitted to Test America that they review the results of the week two glass analysis and retest the sample.
- January 28, 2011, Test America issued the laboratory report containing the results of the analytical testing for the retest of the original composite sample submitted to the laboratory. Analytical result reported was 9.0 mg/kg.
- January 31, 2011, a second weekly composite was created from the daily samples retained at the facility.
- February 1, 2011, Test America received the second composite sample for week two and accepted custody of the sample.





- February 7, 2011, Test America issued the laboratory report containing the results of the analytical testing for the second composite week one glass sample. Analytical result reported was 8.7 mg/kg.

#### Weeks Three, Four and Five

- January 31, 2011, Test America issued the laboratory report containing the results of the analytical testing for the week three glass. Analytical result reported was 1.7 mg/kg.
- February 7, 2011, Test America issued the laboratory report containing the results of the analytical testing for the week four glass. Analytical result reported was 3.7 mg/kg.
- February 22, 2011, Test America issued the laboratory report containing the results of the analytical testing for the week four glass. Analytical result reported was 0.43 mg/kg.

Upon receipt of the initial analytical results Veolia immediately contacted the laboratory and requested that the sample be retested, as outlined in the facility waste analysis plan. In addition to requesting the retesting of the sample, as a standard practice Veolia initiated an investigation to determine if there are any problems with the processing equipment or processing methods. The following outlines the findings of this investigation.

#### Material Inputs

Based on past analytical data and the composition of the lamps being received for recycling, a post processing concentration of 77 mg/kg would not be possible, provided the portion of sample being tested was representative of the whole sample. The vast majority of lamps being received and recycled by Veolia are of the low mercury variety. In order to have a concentration of 77 mg/kg for an entire week, the process would have to recover less than 25% of the mercury contained within a lamp. As described in the production data section below, the facility did not experience a material change in the volume of phosphor powder generated during these two weeks. However, based on a concentration of 26 mg/kg, the average of the three retest results, it would be possible for the facility to have a residual concentration within this range and still recover most of the phosphor powder.

#### Inspection of equipment

An inspection of the lamp processing equipment was completed by the facility maintenance personnel. All systems were in good operating order, with the exception of a loose drive belt on the blower for the baghouse unit. Due to routine wear the drive belt had become loose and under load was found to be slipping. This resulted in reduced air flow through the processing equipment. A reduction in airflow has the potential to reduce the effectiveness in drawing phosphor powder off the system. However, this will not impact the system's ability to separate the phosphor powder from the glass. The separation of the powder from



the glass is achieved through the abrasion of the glass particles on each other as they pass through the in-feed auger and the trommel. The drive belt was tightened on January 25, 2011.

#### Production Data

Based on a review of the production data for the weeks in question, it was found that the production levels were consistent with prior weeks. One item that was noted was that the straight lamp processing may have been completed in less time than normal due to a high volume of compact and specialty lamps in inventory at the facility. Although trying to process too much material at one time may cause the equipment to not properly clean the glass, it is unlikely that facility personnel could sustain such a high feed rate over an extended period of time.

Another aspect of production related data that was reviewed was the rate of generation of phosphor powder. Over the past five years the facility has averaged a generation rate of one drum of phosphor powder every 2 to 3 days based on lamp volumes. During weeks one and two the facility generated three drums of phosphor powder with two to three days of processing contained within each drum. This rate of generation of phosphor powder was consistent with past operations and did not indicate to facility personnel that there was a problem with the equipment or processing of lamps.

#### Disposition of the Glass

The glass generated at the Tallahassee facility is currently being beneficially reused at Veolia Evergreen Landfill (f.k.a. Veolia Pecan Row landfill), a Subtitle D landfill, in Valdosta GA. The glass is used as alternate daily cover or as road base within the confines of the landfill. All glass from weeks one and two were shipped to this facility and beneficially reused in this manner.

The facility permit allows for the storage of up to 50 tons of glass on-site and the mercury recovery facility regulations, 62-737.840(2) F.A.C., allow for a total material limit of 100 tons on-site at any time. In order to remain within these volume limitations, the glass generated at the facility typically must be moved off-site before the analytical data is received.

#### Analytical History

As part of this review, a review of the analytical history for glass generated at this site was completed. We have reviewed analytical results back to 1997 and during that time, there have been no other occasions where the final concentration in the glass was found to be above the regulatory limits. There was one week where the concentration in the aluminum, second week of 2007, was found to be above the regulatory limit. This instance was discovered as part of a DEP inspection of the facility in 2007.





A review of TCLP data was also completed for glass generated at all Veolia facilities. As part of that review, a sample of glass collected at our Stoughton, MA facility in 2008 had a total concentration comparable to the concentration of the glass generated during week one at the Tallahassee facility. The corresponding TCLP result for that sample was 0.0086 mg/l TCLP mercury. This result is far below the TCLP limit for mercury.

### Regulatory Requirements

62-737.840 F.A.C. contains the regulations governing residual mercury concentrations in recovered material from mercury recovery facilities. At the time of adoption, the Veolia Tallahassee facility was recycling less than one million lamps per year. Because of these volumes, the primary concern with the testing requirements was whether a facility should have to submit a sample if the facility was not operating at least three days during a week. That concern was included in the rules and facilities were only required to submit a sample for testing if they were processing lamps three or more days in any given week. Since that time, lamp recycling volumes have increased and the Veolia Tallahassee facility is recycling in excess of 4 million lamps per year and at times during the past seven years has recycled more than 5 million lamps per year. With this increased volume, the facility could not stay within its storage limits if it did not process lamps for three days during a week. This increase in processing volumes has also lead to an increase in the volume of by-products generated from the process. The facility permit allows for the storage of 50 tons of by-product glass on-site at any one time and the regulations limit the amount of all material on-site to 100 tons. Based on these limits the facility has the capability to hold glass on-site for a period of 7 – 10 days. Assuming normal turn-around time from the laboratory, the facility is not able to hold all glass on-site until the results of the analysis are received. This problem is compounded when a sample must be retested, delaying final results an additional 2 – 7 days.

### Past Discussions with DEP

The issue of the storage limits for glass versus the time frame for analytical testing has been discussed with department staff in the past; however, those discussions have not yet lead to a workable solution to the problem.

### Conclusion

Based on a review of findings of the investigation into the elevated laboratory results for weeks one and two, we have not been able to definitively determine the cause of the elevated results. It appears that the most likely cause of the elevated result was a combination of factors. We have identified one improvement: qualitative evaluation of the daily samples collected from the process. To implement this change, we have developed the attached sampling log form that the facility will use to qualitatively compare the daily



samples of glass collected to samples of glass that have been previously tested and meet the residual mercury standard.

Additionally, Veolia is intending to submit a variance request in the near future that will allow for the facility to comply with the residual testing requirements without requiring the facility to violate the storage limit requirements of the rule.

Veolia ES Technical Solutions is committed to operating all its facilities in full compliance with permits and regulations and looks forward to working with the department to develop a procedure for assuring that by-products generated from the process meet the requirements of the regulations while allowing the facility to stay in compliance with the storage volume requirements of the rules.

If you have any questions please call me at 262-243-8908, Linda Dunwoody at 850-877-8299 or Wayne Bulsiewicz at 602-233-2955.

Thank you for considering these points.

Sincerely,

VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.

Phillip Ditter, CHMM  
EH&S Manager

Cc: Linda Dunwoody  
Greig Siedor  
John McShane  
Wayne Bulsiewicz

January 26, 2011 11:03:45AM

Client: Veolia ES Technical Solutions, L.L.C. (14303)  
342 Marpan Lane  
Tallahassee, FL 32305  
Attn: Randy Williams

Work Order: NUA2452  
Project Name: Tallahassee Operations  
Project Nbr: Bi-Annual Testing - Fluorescent Lamp Glass  
P/O Nbr: OU# 36400  
Date Received: 01/20/11

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
Fluorescent Lamp Glass	NUA2452-01	01/14/11 02:30

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately at 615-726-0177.

Florida Certification Number: E87358

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.

Estimated uncertainty is available upon request.

This report has been electronically signed.

Report Approved By:



Madonna Myers

Project Manager

Client: Veolia ES Technical Solutions, L.L.C. (14303)  
342 Marpan Lane  
Tallahassee, FL 32305  
Attn: Randy Williams

Work Order: NUA2452  
Project Name: Tallahassee Operations  
Project Number: Bi-Annual Testing - Fluorescent Lamp Glass  
Received: 01/20/11 08:30

## ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
<b>Sample ID: NUA2452-01 (Fluorescent Lamp Glass - Soil) Sampled: 01/14/11 02:30</b>									
TCLP Metals by 6000/7000 Series Methods									
Mercury	0.0494		mg/L	0.00200	0.0200	2	01/25/11 16:52	SW846 1311/7470A	11A4109
Arsenic	ND	U	mg/L	0.0400	0.100	1	01/24/11 13:37	SW846 1311/6010B	11A4063
Barium	0.368		mg/L	0.0600	0.100	1	01/24/11 13:37	SW846 1311/6010B	11A4063
Cadmium	ND	U	mg/L	0.00600	0.0100	1	01/24/11 13:37	SW846 1311/6010B	11A4063
Chromium	ND	U	mg/L	0.0100	0.0500	1	01/24/11 13:37	SW846 1311/6010B	11A4063
Lead	0.0390	I	mg/L	0.0290	0.0500	1	01/24/11 13:37	SW846 1311/6010B	11A4063
Selenium	ND	U	mg/L	0.0390	0.100	1	01/24/11 13:37	SW846 1311/6010B	11A4063
Silver	ND		mg/L	0.0200	0.0500	1	01/24/11 13:37	SW846 1311/6010B	11A4063



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342 Marpan Lane  
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Work Order: NUA2452  
Project Name: Tallahassee Operations  
Project Number: Bi-Annual Testing - Fluorescent Lamp Glass  
Received: 01/20/11 08:30

## SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extract Vol	Date	Analyst	Extraction Method
TCLP Extraction by EPA 1311							
SW846 1311	11A3910	NUA2452-01	100.00	2000.00	01/22/11 14:00	SJM	EPA 1311
TCLP Metals by 6000/7000 Series Methods							
SW846 1311/6010	11A3910	NUA2452-01	100.00	2000.00	01/22/11 14:00	SJM	EPA 1311
SW846 1311/6010B	11A4063	NUA2452-01	5.00	50.00	01/24/11 07:03	ALJ	EPA 3015A
SW846 1311/6010B	11A4063	NUA2452-01	5.00	50.00	01/24/11 07:03	ALJ	EPA 3015A
SW846 1311/6010B	11A4063	NUA2452-01	5.00	50.00	01/24/11 07:03	ALJ	EPA 3015A
SW846 1311/6010B	11A4063	NUA2452-01	5.00	50.00	01/24/11 07:03	ALJ	EPA 3015A
SW846 1311/6010B	11A4063	NUA2452-01	5.00	50.00	01/24/11 07:03	ALJ	EPA 3015A
SW846 1311/6010B	11A4063	NUA2452-01	5.00	50.00	01/24/11 07:03	ALJ	EPA 3015A
SW846 1311/6010B	11A4063	NUA2452-01	5.00	50.00	01/24/11 07:03	ALJ	EPA 3015A
SW846 1311/7470A	11A4109	NUA2452-01	3.00	30.00	01/24/11 12:50	MB	EPA 7470

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## PROJECT QUALITY CONTROL DATA

### Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
<b>TCLP Metals by 6000/7000 Series Methods</b>						
<b>11A4063-BLK1</b>						
Arsenic	<0.0400	U	mg/L	11A4063	11A4063-BLK1	01/24/11 12:55
Barium	<0.0600	U	mg/L	11A4063	11A4063-BLK1	01/24/11 12:55
Cadmium	<0.00600	U	mg/L	11A4063	11A4063-BLK1	01/24/11 12:55
Chromium	<0.0100	U	mg/L	11A4063	11A4063-BLK1	01/24/11 12:55
Lead	<0.0290	U	mg/L	11A4063	11A4063-BLK1	01/24/11 12:55
Selenium	<0.0390	U	mg/L	11A4063	11A4063-BLK1	01/24/11 12:55
Silver	<0.0200		mg/L	11A4063	11A4063-BLK1	01/24/11 12:55
<b>11A4109-BLK1</b>						
Mercury	<0.00100	U	mg/L	11A4109	11A4109-BLK1	01/25/11 13:07

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PROJECT QUALITY CONTROL DATA  
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
<b>TCLP Metals by 6000/7000 Series Methods</b>								
<b>11A4063-BS1</b>								
Arsenic	2.00	2.05		mg/L	103%	80 - 120	11A4063	01/24/11 13:02
Barium	20.0	22.2		mg/L	111%	80 - 120	11A4063	01/24/11 13:02
Cadmium	2.00	2.08		mg/L	104%	80 - 120	11A4063	01/24/11 13:02
Chromium	10.0	10.7		mg/L	107%	80 - 120	11A4063	01/24/11 13:02
Lead	10.0	10.3		mg/L	103%	80 - 120	11A4063	01/24/11 13:02
Selenium	2.00	2.12		mg/L	106%	80 - 120	11A4063	01/24/11 13:02
Silver	2.00	1.94		mg/L	97%	80 - 120	11A4063	01/24/11 13:02
<b>11A4109-BS1</b>								
Mercury	0.0200	0.0181		mg/L	90%	80 - 120	11A4109	01/25/11 13:12



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**PROJECT QUALITY CONTROL DATA**  
**Matrix Spike**

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
<b>TCLP Metals by 6000/7000 Series Methods</b>										
<b>11A4063-MS1</b>										
Arsenic	ND	1.89		mg/L	2.00	94%	75 - 125	11A4063	NUA2430-01	01/24/11 13:13
Barium	0.858	19.6		mg/L	20.0	94%	75 - 125	11A4063	NUA2430-01	01/24/11 13:13
Cadmium	0.00800	1.85		mg/L	2.00	92%	75 - 125	11A4063	NUA2430-01	01/24/11 13:13
Chromium	ND	9.29		mg/L	10.0	93%	75 - 125	11A4063	NUA2430-01	01/24/11 13:13
Lead	5.64	14.7		mg/L	10.0	91%	75 - 125	11A4063	NUA2430-01	01/24/11 13:13
Selenium	ND	1.93		mg/L	2.00	96%	75 - 125	11A4063	NUA2430-01	01/24/11 13:13
Silver	ND	1.73		mg/L	2.00	86%	75 - 125	11A4063	NUA2430-01	01/24/11 13:13
<b>11A4109-MS1</b>										
Mercury	ND	0.0173		mg/L	0.0200	87%	75 - 125	11A4109	NUA2608-01	01/25/11 14:24

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## PROJECT QUALITY CONTROL DATA

### Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
<b>TCLP Metals by 6000/7000 Series Methods</b>												
<b>11A4063-MSD1</b>												
Arsenic	ND	1.91		mg/L	2.00	96%	75 - 125	1	20	11A4063	NUA2430-01	01/24/11 13:16
Barium	0.858	20.1		mg/L	20.0	96%	75 - 125	3	20	11A4063	NUA2430-01	01/24/11 13:16
Cadmium	0.00800	1.90		mg/L	2.00	95%	75 - 125	3	20	11A4063	NUA2430-01	01/24/11 13:16
Chromium	ND	9.49		mg/L	10.0	95%	75 - 125	2	20	11A4063	NUA2430-01	01/24/11 13:16
Lead	5.64	15.1		mg/L	10.0	95%	75 - 125	3	20	11A4063	NUA2430-01	01/24/11 13:16
Selenium	ND	2.00		mg/L	2.00	100%	75 - 125	4	20	11A4063	NUA2430-01	01/24/11 13:16
Silver	ND	1.77		mg/L	2.00	88%	75 - 125	2	20	11A4063	NUA2430-01	01/24/11 13:16
<b>11A4109-MSD1</b>												
Mercury	ND	0.0181		mg/L	0.0200	90%	75 - 125	4	20	11A4109	NUA2608-01	01/25/11 14:27

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## CERTIFICATION SUMMARY

### TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Florida
SW846 1311/6010B	Soil	N/A	X	X
SW846 1311/6010	Soil			
SW846 1311/7470A	Soil	N/A	X	X
SW846 1311	Soil	N/A	X	X



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## NELAC CERTIFICATION SUMMARY

TestAmerica Analytical - Nashville does not hold NELAC certifications for the following analytes included in this report

<u>Method</u>	<u>Matrix</u>	<u>Analyte</u>
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## TCLP REGULATORY LIMITS

<u>Analyte</u>	<u>Regulatory Limit</u>
Arsenic	5
Barium	100
Cadmium	1
Chromium	5
Lead	5
Mercury	0.2
Selenium	1
Silver	5

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## DATA QUALIFIERS AND DEFINITIONS

**I** The reported value is between the laboratory method detection limit and method reporting limit.  
**U** The compound was analyzed for but not detected  
**ND** Not detected at the reporting limit (or method detection limit if shown)

## METHOD MODIFICATION NOTES

## COOLER RECEIPT



NUA2452

Cooler Received/Opened On 1/20/2011 @ 008:30

1. Tracking # 8832 (last 4 digits, FedEx)

Courier: FEDEX IR Gun ID 96210146

2. Temperature of rep. sample or temp blank when opened: 0.4 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES...NO...NA

4. Were custody seals on outside of cooler? N/A YES...NO...NA

If yes, how many and where: \_\_\_\_\_

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? P.H. YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (Initial) P.H.

7. Were custody seals on containers: YES NO and intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry Ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # \_\_\_\_\_

I certify that I unloaded the cooler and answered questions 7-14 (Initial) [Signature]

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (Initial) [Signature]

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (Initial) [Signature]

I certify that I attached a label with the unique LIMS number to each container (Initial) [Signature]

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...# \_\_\_\_\_



## ANALYTICAL TESTING CORPORATION

**Indianapolis, IN**

Orlando, FL  
Cedar Falls, IA

	Watertown, WI
	Pontiac, MI

**To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?**

**Address: 342 Marpan Lane**

**City/State/Zip: Tallahassee, Fla. 32306**

**Project Manager: Randy Williams**

**Telephone Number: 860-877-8298**

**Fax No.: 850-878-3348**

**Sampler Name: (Print) Linda Dunwoody/Kurt Thompson**

**Sampler Signature:**

## Report To:

**Invoice To:**

**TA Quote #:**

**Project ID: Tallahassee Operations**

**Project #: Bi-Annual Testing - Fluorescent Lamp Glass**

[illegible]

From:

02/21/2008 16:15

#859 P.001/006



Thursday, February 21, 2008

John Melo  
Veolia Technical Solutions  
218 Canton Street  
Stoughton, MA 02072

GeoLabs, Inc.  
45 Johnson Lane  
Braintree MA 02184  
Tele: 781 848 7844  
Fax: 781 848 7811

TEL: (781) 341-6080  
FAX: (781) 341-6088

Project:  
Location:

Order No.: 0802177

Dear John Melo:

GeoLabs, Inc. received 6 sample(s) on 2/15/2008 for the analyses presented in the following report.

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "Jim Chen", is written over a horizontal line.

Jim Chen  
Laboratory Director

**Certifications:**

CT (PH-0148) - MA (M-MA015) - NH (2508) - NJ (MA009) - NY (11796) - RI (LA000252)

**GeoLabs, Inc.**

Date: 21-Feb-08

**CLIENT:** Veolia Technical Solutions**Project:****Lab Order:** 0802177**CASE NARRATIVE****Physical Condition of Samples**

The project was received by the laboratory in satisfactory condition. The sample(s) were received undamaged, in appropriate containers with the correct preservation.

**Project Documentation**

The project was accompanied by satisfactory Chain of Custody documentation.

**Analysis of Sample(s)**

All extractable samples were extracted and analyzed and any Volatile samples were analyzed within method specified holding times and according to GeoLabs documented Standard Operating Procedure. No analytical anomalies or non-conformances were noted by the laboratory during the processing of these samples.

## GeoLabs, Inc.

Reported Date: 21-Feb-08

CLIENT: Veolia Technical Solutions  
Project:

Lab Order: 0802177

Lab ID: 0802177-001

Collection Date: 2/15/2008

Client Sample ID: Aluminum End Caps

Matrix: OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
----------	--------	------------	------	-------	----	---------------

## MERCURY - SW7471A

Mercury

1.01

0.0952

mg/Kg

1

2/20/2008

Analyst: EC

## TCLP MERCURY - E245.1

Mercury

0.00240

0.00200

mg/L

1

2/21/2008

Analyst: FC

Lab ID: 0802177-002

Collection Date: 2/15/2008

Client Sample ID: Cooked Powder

Matrix: OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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## MERCURY - SW7471A

Mercury

24.6

4.00

mg/Kg

50

2/20/2008

Analyst: EC

## TCLP MERCURY - E245.1

Mercury

0.00232

0.00200

mg/L

1

2/21/2008

Analyst: FC

Lab ID: 0802177-003

Collection Date: 2/15/2008

Client Sample ID: H.I.D. Socket

Matrix: OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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## MERCURY - SW7471A

Mercury

ND

1.82

mg/Kg

1

2/20/2008

Analyst: EC

## TCLP MERCURY - E245.1

Mercury

ND

0.00200

mg/L

1

2/21/2008

Analyst: FC

Qualifiers: B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
S Spike Recovery outside recovery limits

BRL Below Reporting Limit  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit



## GeoLabs, Inc.

Reported Date: 21-Feb-08

CLIENT: Veolia Technical Solutions  
Project:

Lab Order: 0802177

Lab ID: 0802177-004

Collection Date: 2/15/2008

Client Sample ID: HID Glass

Matrix: OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
MERCURY - SW7471A Mercury	0.262	0.0833		mg/Kg	1	2/20/2008
TCLP MERCURY - E245.1 Mercury	ND	0.00200		mg/L	1	2/21/2008

Analyst: EC

Analyst: FC

Lab ID: 0802177-005

Collection Date: 2/15/2008

Client Sample ID: Clean Glass

Matrix: OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
MERCURY - SW7471A Mercury	21.6	4.55		mg/Kg	50	2/20/2008
TCLP MERCURY - E245.1 Mercury	0.00860	0.00200		mg/L	2	2/21/2008

Analyst: EC

Analyst: FC

Lab ID: 0802177-006

Collection Date: 2/15/2008

Client Sample ID: Cooked Ampoule

Matrix: OTHER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
MERCURY - SW7471A Mercury	0.220	0.0800		mg/Kg	10	2/20/2008
TCLP MERCURY - E245.1 Mercury	0.00710	0.00200		mg/L	1	2/21/2008

Analyst: EC

Analyst: FC

Qualifiers: B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
S Spike Recovery outside recovery limits

BRL Below Reporting Limit

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

GeoLabs, Inc.

Date: 21-Feb-08

CLIENT: Veolia Technical Solutions  
Work Order: 0802177

# ANALYTICAL QC SUMMARY REPORT

Project:

TestCode: hg\_7471a\_s

Sample ID: MB-9406	SampleType: MBLK	TestCode: hg_7471a_s	Units: mg/Kg	Prep Date: 2/20/2008	RunNo: 22165
Client ID: ZZZZ	Batch ID: 9406	TestNo: SW 7471A	(SW7471A)	Analysis Date: 2/20/2008	SeqNo: 216376
Analyte	Result	POL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	ND	0.100			
Sample ID: LCS-9406	SampleType: LCS	TestCode: hg_7471a_s	Units: mg/Kg	Prep Date: 2/20/2008	RunNo: 22155
Client ID: ZZZZ	Batch ID: 9406	TestNo: SW 7471A	(SW7471A)	Analysis Date: 2/20/2008	SeqNo: 216577
Analyte	Result	POL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	2.650	0.100	2.5	0	106 80 120

Qualifiers: BRL Below Reporting Limit  
J Analyte detected below quantitation limits  
S Spike Recovery outside recovery limits  
E Value above quantitation range  
ND Not Detected at the Reporting Limit  
H Holding times for preparation or analysis exceeded  
R RPD outside recovery limits



# CHAIN OF CUSTODY

GeoLabs CHAIN NUMBER:

**GeoLabs, Inc.**  
**Environmental Laboratories**  
 45 Johnson Lane  
 Braintree, MA 02184  
 Office: 781-848-7844  
 Fax: 781-848-7811

**Turnaround Time**

RUSH ☐ 24hrs ☐ STANDARD ☐

48hrs ☐ 72hrs ☐

Page      of     

**SPECIAL INSTRUCTIONS**

INCLUDE ALL QA/QC DATA

**Note: JOBS WITH INCOMPLETELY FILLED OUT CHAINS WILL NOT BE RUN. CHAIN WILL BE RETURNED TO CLIENT FOR COMPLETION**

TYPE OF CLIENT: BUS      LAB      HOMEOWNER     

**NOTE: HOMEOWNERS, LAW FIRMS MUST PAY WHEN DROPPING OFF SAMPLES**

Client: XVeolia ES TECHNICAL SERVICES  
 Address: X730 Canton St NO P.O. BOXES  
STOUGHTON, MA 02072

Project Number: X  
 Project Location: X

CHANGES REQUESTED? Y      N       
 BY      DATE     

Phone: X781-341-6000

Fax: 781-341-6008

Contact: X John Mew

E-mail:     

Purchase Order #:     

Collected By: X John Mew

Received on ice? ☐

SAMPLE ID	COLLECTION			SAMPLE LOCATION	CONTAINER		MATRIX	COMP	GRAB	PRES	GEOLABS SAMPLE NUMBER	ANALYSES REQUESTED																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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Verbal results given to     

by (date/initial)     

**MATRIX CODES:**

GW = Ground Water  
 WW = Wastewater  
 DW = Drinking Water  
 SL = Sludge  
 S = Soil A = Air  
 O = Oil OT = Other

**CONTAINER CODES:**

A = Amber B = Bag  
 G = Glass P = Plastic  
 S = Summa Canister  
 O = Other V = VOA

**PRESERVATIVE CODES:**

1 = HCl 5 = NaOH  
 2 = HNO<sub>3</sub> 6 = MeOH  
 3 = H<sub>2</sub>SO<sub>4</sub> 7 = ICE  
 4 = Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>

Terms: Payment due within 30 days unless other arrangements are made.  
 Past due balances subject to interest and collection costs.

Relinquished By:      Date/Time     

For Shell 2/15/08

PRINT: 4:08pm

Relinquished By:     

Received By:      Date/Time:     

Received By:     

Relinquished By:     

Received By GeoLabs:

R.B. 2-15-08 -4/08