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## LABORATORY REPORT

November 25, 2009

Stewart Averett  
EcoActive Surfaces, Inc.  
551-D NE 27th Street  
Pompano Beach, FL 33064

**RE: OxiTitan VLR**

Dear Stewart:

Enclosed are the results of the samples submitted to our laboratory on November 11, 2009. For your reference, these analyses have been assigned our service request number P0903862.

All analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at [www.caslab.com](http://www.caslab.com). Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains 7 pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; Department of the Navy (NFESC); Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-09-TX; Minnesota Department of Health, Certificate No. 11495AA. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

**Columbia Analytical Services, Inc.**

Kelly Horiuchi  
Project Manager

Client: EcoActive Surfaces, Inc.  
Project: OxiTitan VLR

CAS Project No: P0903862

### CASE NARRATIVE

The samples were received under chain of custody and intact on November 11, 2009 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

#### Sample Preparation and Hydrogen Sulfide Analysis

The study consisted of four one-liter static Tedlar bags; blank, control, treated (containing a 3” square piece of material) and untreated (containing a 3” square piece of material). The bags were held at room temperature, ambient lighting and 50% relative humidity for the duration of the 24 hour experiment. See Figures 1 & 2.

The control, treated and untreated chambers were exposed to approximately 1000ppbV of hydrogen sulfide and samples from each chamber were collected at five temporal points (0, 1, 4, 7 and 24 hours). All of the samples were analyzed according to ASTM D 5504-01 using a gas chromatograph equipped with a sulfur chemiluminescence detector (SCD).

Figure 1:

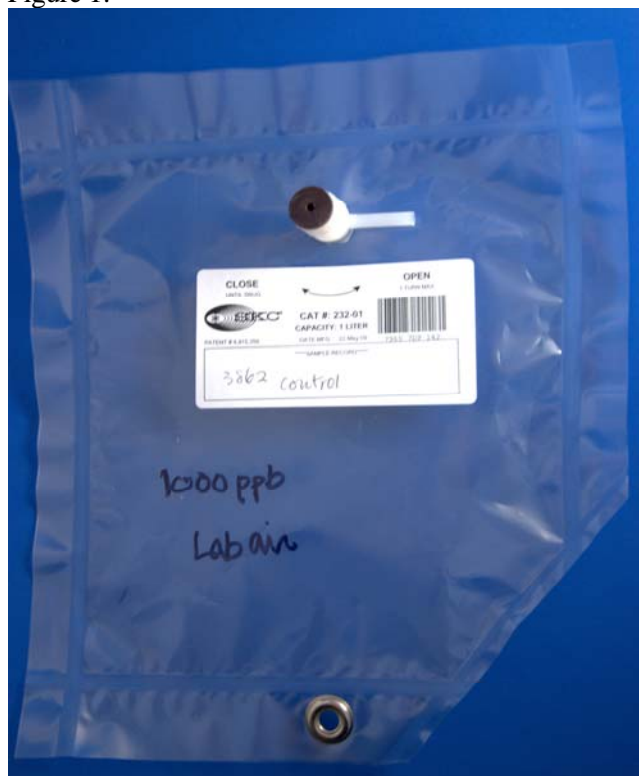


Figure 2:



*The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.*

Client: EcoActive Surfaces, Inc.  
Project: Formaldehyde Odor Reduction

Service Request: P0903862

**SAMPLE CROSS-REFERENCE**

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
P0903862-001	Treated 0hr	11/7/09	00:00
P0903862-002	Treated 1hr	11/7/09	00:00
P0903862-003	Treated 4hr	11/7/09	00:00
P0903862-004	Treated 7hr	11/7/09	00:00
P0903862-005	Treated 24hr	11/7/09	00:00
P0903862-006	Untreated 0hr	11/7/09	00:00
P0903862-007	Untreated 1hr	11/7/09	00:00
P0903862-008	Untreated 4hr	11/7/09	00:00
P0903862-009	Untreated 7hr	11/7/09	00:00
P0903862-010	Untreated 24hr	11/7/09	00:00
P0903862-011	Blank	11/7/09	00:00



**Columbia Analytical Services, Inc.**  
**Sample Acceptance Check Form**

Client: EcoActive Surfaces, Inc.

Work order: P0903862

Project: OxiTitan VLR

Sample(s) received on: 11/11/2009

Date opened: 11/11/2009

by: KHORIUCHI

*Note:* This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

- |    |   | <b>Yes</b>                          | <b>No</b>                           | <b>N/A</b>                          |
|----|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1  | Were <b>sample containers</b> properly marked with client sample ID?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 2  | Container(s) <b>supplied by CAS</b> ?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 3  | Did <b>sample containers</b> arrive in good condition?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 4  | Was a <b>chain-of-custody</b> provided?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 5  | Was the <b>chain-of-custody</b> properly completed?   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 6  | Did <b>sample container labels</b> and/or tags agree with custody papers?                                     | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 7  | Was <b>sample volume</b> received adequate for analysis?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 8  | Are samples within specified holding times?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 9  | Was proper <b>temperature</b> (thermal preservation) of cooler at receipt adhered to?                         | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
|    | Cooler Temperature _____ °C    Blank Temperature _____ °C   |                                     |                                     |                                     |
| 10 | Was a <b>trip blank</b> received?   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
|    | Trip blank supplied by CAS: _____   |                                     |                                     |                                     |
| 11 | Were <b>custody seals</b> on outside of cooler/Box?   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
|    | Location of seal(s)? _____ Sealing Lid?   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
|    | Were signature and date included?   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
|    | Were seals intact?  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
|    | Were custody seals on outside of sample container?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
|    | Location of seal(s)? _____ Sealing Lid?   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
|    | Were signature and date included?   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
|    | Were seals intact?  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 12 | Do containers have appropriate <b>preservation</b> , according to method/SOP or Client specified information? | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
|    | Is there a client indication that the submitted samples are <b>pH</b> preserved?                              | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
|    | Were <b>VOA vials</b> checked for presence/absence of air bubbles?  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
|    | Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it?     | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 13 | <b>Tubes:</b> Are the tubes capped and intact?  | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
|    | Do they contain moisture?   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 14 | <b>Badges:</b> Are the badges properly capped and intact?   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
|    | Are dual bed badges separated and individually capped and intact?   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P0903862-001.01	1 each Plastic Bag					
P0903862-001.02	1 each Plastic Bag					
P0903862-002.01	1 each Plastic Bag					
P0903862-002.02	1 each Plastic Bag					
P0903862-003.01	1 each Plastic Bag					
P0903862-003.02	1 each Plastic Bag					

Explain any discrepancies: (include lab sample ID numbers): \_\_\_\_\_

Chain of Custody is missing date/time collected

COC missing analysis.

\*Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12);



COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

**Client:** EcoActive Surfaces, Inc.  
**Client Project ID:** Formaldehyde Odor Reduction

CAS Project ID: P0903862

**Hydrogen Sulfide**

**Test Code:** ASTM D 5504-01  
**Instrument ID:** HP5890 II/GC5/SCD  
**Analyst:** Ku-Jih Chen  
**Sampling Media:** Solid  
**Test Notes:**

**Date(s) Collected:** 11/7/09  
**Date Received:** 11/11/09  
**Date Analyzed:** 11/17 - 11/19/09

Time	Blank ppbV	Control ppbV	Untreated ppbV	Treated ppbV	Data Qualifier
0 Min	ND	925.8	823.4	942.1	
1 Hour	ND	972.1	817.0	794.0	
4 Hour	ND	916.5	696.8	437.2	
7 Hour	ND	898.6	620.5	173.0	
24 Hour	ND	847.9	330.6	8.6	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.