



**CONESTOGA-ROVERS
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August 26, 2009

Reference No. 055528-111

Mr. Patrick Hannan
Director of Communications
Planning and Programs
City Fields Foundation
1714 Stockton Street, Suite 400
San Francisco, California
U.S.A. 94117

VIA MAIL AND ELECTRONIC MAIL
www.cityfieldsfoundation.org

Dear Mr. Hannan:

Re: Results for Laboratory Analytical Testing Artificial Turf Field
City Fields Foundation
San Francisco, CA

1.0 INTRODUCTION

On behalf of Fieldturf Inc. (Fieldturf), Conestoga-Rovers & Associates (CRA) has prepared this letter to present the results of the laboratory analytical testing of samples collected by CRA from four City Fields Foundation artificial turf fields from July 7, 2009 through July 10, 2009. These four fields were soccer fields at Franklin Square Playground (16th Street and Bryant, San Francisco, CA), Garfield Square Park (26th & Harrison Streets, San Francisco, CA), South Sunset Playground (40th Avenue & Vicente, San Francisco, CA), and Youngblood-Coleman Playground (Mendell St & Fairfax Ave, San Francisco, CA).

From each of these fields, two (2) wipe samples each were collected from green and white striped turf areas, one (1) turf fiber sample each was collected from green and white striped turf, and one sample of infill material was collected. As such, there were four (4) wipe samples, two (2) turf fiber samples, and one (1) infill material sample collected from each field. The samples were submitted by CRA staff on July 13, 2009 to EMSL Analytical (EMSL) in Westmont, New Jersey, which received the samples on July 15, 2009. Collected samples were identified by: (a) field; (b) fiber color (green or white); (c) sample type; and (d) sample number where applicable. For example, wipe samples collected from green areas of the artificial turf field at the Franklin Square Playground were identified as Franklin-Grn-Wipe1 and Franklin-Grn-Wipe2.



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2.0 ANALYTICAL TESTING PROGRAM

2.1 WIPE SAMPLE TESTING

The wipe sample analytical testing program was designed to be consistent with the wipe sampling methodology that the U.S. Consumer Product Safety Commission (CPSC) recently used to evaluate potential lead exposures from artificial turf fields (CPSC, 2008a¹). Briefly, the CPSC method involves attaching a pre-moistened Ghost Wipe™ to a 1.1-kg disk, 8-centimeters (cm) [3.1-inches (in)] in diameter, which is placed within a sampling device built to provide a standardized and consistent surface wiping. The disk is dragged down a 50-cm (19.7-in) length of artificial turf for 10 back and forth strokes. The wipe is then removed from the disk, placed in a plastic bag or sample jar, and submitted for laboratory analysis. The wiping area is approximately 400 square centimeters (cm²).

The sampling device was constructed from ultra high molecular weight polyethylene (UHMW-PE), and the CPSC wipe sampling methodology was followed. UHMW-PE was selected for the sampling device construction because it is approved by the U.S. Food and Drug Administration for food contact purposes. The details of the sampling protocol employed in the wipe sampling, which are consistent with the CPSC methodology, are presented in Attachment A.

Four wipe samples were collected during the sampling event from each field and submitted for laboratory analysis, where two samples were collected from green turf areas and two samples were collected from white turf areas (striped lines). In order to select areas that were as representative of general field conditions as practicable, one wipe sample was collected from green turf areas on each side of the field centerline approximately 25 yards from the end of the field exclusive of end zones (i.e., the approximate center of the two halves of the field). One wipe sample was also collected from white turf areas on each side of the field centerline. The two wipe samples from green turf areas and the two wipe samples from white turf areas were submitted to EMSL for analysis of lead consistent with CPSC analytical methods (CPSC, 2008b²). Wipe samples were analyzed for lead by inductively coupled plasma-atomic emission spectrometry (ICP-AES) (USEPA Method 6010B). ICP-AES is a method identified by the CPSC for lead analysis (CPSC, 2008b). Acid digestion of the Ghost Wipes™ prior to analysis for lead was conducted for 6 hours according to USEPA Method 3050B. This method is considered more rigorous than the digestion method developed by the CPSC (CPSC, 2008b).

¹ CPSC, 2008a. Staff Analysis and Assessment of Synthetic Turf "Grass Blades", July 2008, (<http://www.cpsc.gov/LIBRARY/FOIA/foia08/os/turfassessment.pdf>).

² CPSC, 2008b. Test Methodology for Accessible Lead in Vinyl Products, <http://www.cpsc.gov/phth/vinyltest.html>, Accessed November 28, 2008.



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2.2 INFILL SAMPLE TESTING

A sample of infill material was collected from each field, and tested for metals according to U.S. Environmental Protection Agency (USEPA) SW-846 analytical methods. Specifically, the samples were analyzed according to the following:

<i>Analytical Test</i>	<i>Parameter</i>	<i>Analytical Method</i>	<i>Preparation Method</i>
Chemical Composition	Inductively Coupled Plasma-Atomic Emission Spectrometry (Metals)	SW846 6010B	SW846 3050B
	Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique)	SW846 7471A	SW846 7471A

These methods involve destructive testing of the sample to determine chemical composition. Table 1 lists the 23 metals included in the infill analytical program. Details of the sampling protocol used to collect infill samples are presented in Attachment B. The protocol was designed to collect as representative a sample as reasonably practical.

2.3 TURF FIBER SAMPLE TESTING

Samples of green and white turf fiber material were collected from each field by clipping, and tested for metals according to USEPA SW-846 analytical methods. Specifically, the samples were analyzed according to the following:

<i>Analytical Test</i>	<i>Parameter</i>	<i>Analytical Method</i>	<i>Preparation Method</i>
Chemical Composition	Inductively Coupled Plasma-Atomic Emission Spectrometry (Metals)	SW846 6010B	SW846 3050B
	Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique)	SW846 7471A	SW846 7471A

As noted above, these methods involve destructive testing of the sample to determine chemical composition. The listing of the 23 metals included in the analytical testing program is presented in Table 1 and details of the sampling protocol used to collect turf fiber samples are presented in Attachment C. The protocol was designed to collect as representative a sample as reasonably practical.



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3.0 ANALYTICAL TESTING RESULTS

3.1 WIPE SAMPLE TESTING

The results of the sample analysis are presented in the EMSL analytical report included as Attachment D. As noted, two wipes were collected each from green and wipe turf areas from the four fields sampled. The sampled fields, wipe sample numbers, and results are as follows:

<i>Field Samples</i>	<i>Wipe Sample Number</i>	<i>Result ($\mu\text{g Pb}^{(1)}/\text{wipe}$)</i>
Franklin Square Playground 16th Street and Bryant San Francisco, CA	Franklin-Grn-Wipe1	0.78
	Franklin-Grn-Wipe2	0.95
	Franklin-Wht-Wipe3	1.7
	Franklin-Wht-Wipe4	1.5
Garfield Square Park 26th & Harrison Streets San Francisco, CA	Garfield-Grn-Wipe1	2.3
	Garfield-Grn-Wipe2	1.9
	Garfield-Wht-Wipe3	4.0
	Garfield-Wht-Wipe4	2.9
South Sunset Playground 40th Avenue & Vicente San Francisco, CA	South-Sunset-Grn-Wipe1	0.95
	South-Sunset-Grn-Wipe2	0.98
	South-Sunset-Wht-Wipe3	0.73
	South-Sunset-Wht-Wipe4	0.78
Youngblood-Coleman Playground Mendell St & Fairfax Ave San Francisco, CA	Youngblood-Coleman-Grn-Wipe1	1.6
	Youngblood-Coleman-Grn-Wipe2	1.3
	Youngblood-Coleman-Wht-Wipe3	2.3
	Youngblood-Coleman-Wht-Wipe4	1.6

Note:

(1) Pb is the periodic table symbol for lead.

The analytical results show that the lead content detected on the wipe samples collected from green turf areas at the four fields ranged from 0.78 micrograms (μg) per wipe ($\mu\text{g}/\text{wipe}$) at Franklin Square Playground to 2.3 $\mu\text{g}/\text{wipe}$ at Garfield Square Park. With respect to white turf fiber areas (striped lines), lead content on wipe samples ranged from 0.73 $\mu\text{g}/\text{wipe}$ at South Sunset Playground to 4.0 $\mu\text{g}/\text{wipe}$ at Garfield Square Park.



3.2 TURF FIBER SAMPLE TESTING

As noted previously, one sample each of green and white turf fiber material was collected from each field by clipping, and tested for metals. The fields and sample numbers are presented below. The results of the sample analysis are presented in the EMSL analytical report included as Attachment D, and are summarized in the attached Table 2.

<i>Field Samples</i>	<i>Turf Fiber Sample Number</i>
Franklin Square Playground (16th Street and Bryant, San Francisco, CA)	Franklin-Grn-Fiber Franklin-Wht-Fiber
Garfield Square Park (26th & Harrison Streets, San Francisco, CA)	Garfield-Grn-Fiber Garfield-Wht-Fiber
South Sunset Playground (40th Avenue & Vicente, San Francisco, CA)	South-Sunset-Grn-Fiber South-Sunset-Wht-Fiber
Youngblood-Coleman Playground (Mendell St & Fairfax Ave, San Francisco, CA)	Youngblood-Coleman-Grn-Fiber Youngblood-Coleman-Wht-Fiber

For analytical testing of green fiber samples, 15 of the 23 metals included in the testing program were detected in at least one sample from the four fields. Of these, 8 metals were detected in all four green fiber samples. These metals were aluminum, calcium, chromium, copper, iron, manganese, sodium, and zinc. Metals detected in green fiber samples from one to three of the four fields were barium, cobalt, lead, magnesium, nickel, potassium, and vanadium. The eight metals that were not detected in any of the green fiber samples were antimony, arsenic, beryllium, cadmium, mercury, selenium, silver, and thallium.

The number of metals detected in the green fiber samples from each field was relatively similar (i.e., 13 metals in the sample from Franklin Square Playground, 9 metals in the samples from Garfield Square Park and South Sunset Playground, and 14 metals detected in the sample from Youngblood-Coleman Playground). As noted, 8 of these metals were detected in samples from all four fields. With respect to the remaining metals, barium was detected in the green fiber sample from Franklin Square Playground; cobalt was detected in the green fiber samples from Franklin Square Playground and Youngblood-Coleman Playground, lead was detected in green fiber samples from Franklin Square Playground, Garfield Square Park, and Youngblood-Coleman Playground; magnesium was detected in the green fiber samples from Franklin Square Playground, South Sunset Playground, and Youngblood-Coleman Playground; nickel was detected in the green fiber samples from Franklin Square Playground and



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Youngblood-Coleman Playground; and potassium and vanadium were detected in the green fiber sample from Youngblood-Coleman Playground.

For metals detected in the green fiber samples from two or more fields, detected concentrations differed generally by less than five-fold. Only concentrations of cobalt and zinc differed by more than five-fold. The concentration of cobalt in the green fiber samples from Franklin Square Playground and Youngblood-Coleman Playground was 49 and 2.4 mg/kg, respectively. Cobalt was not detected in the green fiber samples from other fields. The concentration of zinc in the green fiber sample from Franklin Square Playground was 7,400 mg/kg. Concentrations in the green fiber samples from other fields were 190 mg/kg in Garfield Square Park, 130 mg/kg in South Sunset Playground, and 320 mg/kg in Youngblood-Coleman Playground.

For analytical testing of white fiber samples, 12 of the 23 metals included in the testing program were detected in at least one sample from the four fields. Of these, 7 metals were detected in all four white fiber samples. These metals were aluminum, calcium, copper, iron, manganese, sodium, and zinc. Metals detected in the white fiber samples from one the three of the four fields were chromium, lead, manganese, nickel, and potassium. The 11 metals that were not detected in any of the white fiber samples were antimony, arsenic, barium, beryllium, cadmium, cobalt, mercury, selenium, silver, thallium, and vanadium.

The number of metals detected in the white fiber samples from each field was relatively similar (i.e., 11 metals in the sample from Franklin Square Playground, 10 metals in the sample from Garfield Square Park, 7 metals in the sample from South Sunset Playground, and 12 metals detected in sample from Youngblood-Coleman Playground). As noted, 7 of these metals were detected in the white fiber samples from all four fields. With respect to the remaining metals, chromium, lead, and manganese were detected in the white fiber samples from Franklin Square Playground, Garfield Square Park, and Youngblood-Coleman Playground; potassium was detected in the white fiber samples from Franklin Square Playground and Youngblood-Coleman Playground; and nickel was detected in the white fiber sample from Youngblood-Coleman Playground.

For metals detected in the white fiber samples from two or more fields, detected concentrations differed generally by less than five-fold. Only concentrations of aluminum and iron differed by more than five-fold, but these differed by less than ten-fold.

3.3 INFILL SAMPLE TESTING

As noted previously, one sample of infill material was collected from each of the four fields and tested for metals. The sampled fields and sample numbers are presented below. The results of



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the sample analysis are presented in the EMSL analytical report included as Attachment D, and are summarized in the attached Table 3.

<i>Field Samples</i>	<i>Infill Sample Number</i>
Franklin Square Playground (16th Street and Bryant, San Francisco, CA)	Franklin-Infill
Garfield Square Park (26th & Harrison Streets, San Francisco, CA)	Garfield-Infill
South Sunset Playground (40th Avenue & Vicente, San Francisco, CA)	South-Sunset-Infill
Youngblood-Coleman Playground (Mendell St & Fairfax Ave, San Francisco, CA)	Youngblood-Coleman-Infill

Of the 23 metals included in the testing program, 17 were detected in at least one infill sample from the four fields. Twelve of these metals were detected in all four infill samples. These metals were aluminum, cadmium, calcium, cobalt, copper, iron, lead, magnesium, manganese, potassium, sodium, and zinc. Antimony was detected in three infill samples, while barium, chromium, nickel, and vanadium were each detected in only one infill sample. The six metals that were not detected in any infill sample were arsenic, beryllium, mercury, selenium, silver, and thallium.

The number of metals detected in the infill samples from the four fields was consistent (i.e., 13 metals were detected in the samples from Franklin Square Playground, South Sunset Playground, and Youngblood-Coleman Playground, and 14 metals were detected in infill samples from Garfield Square Park). As noted, 12 of these metals were detected in the infill samples from all four fields. With respect to the remaining metals, antimony was detected in the infill samples from Franklin Square Playground, Garfield Square Park, and Youngblood-Coleman Playground; chromium and vanadium were detected in the infill sample from South Sunset Playground; barium was detected in the infill sample from Garfield Square Park; and nickel was detected in the infill sample from Youngblood-Coleman Playground.

For metals detected in the infill samples from at least two fields, concentrations were consistent in that detected concentrations differed by less than two-fold. Only concentrations of copper and iron differed by more than two-fold, but these differed by less than five-fold.



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4.0 EVALUATION

4.2 WIPE SAMPLE TESTING

To address concerns with respect to lead content in turf fibers, the CPSC undertook testing of a number of artificial turf fields, in which the lead concentration in turf fibers was as high as 9,600 mg/kg (CPSC, 2008a). Because turf fibers are not a medium that is expected to be directly ingested by field users, the CPSC performed wipe tests to determine the amount of lead in dislodgeable dust that could be picked up on childrens' hands and inadvertently ingested. The dust is thought to result when turf fibers break or become worn.

The CPSC based its evaluation of the lead content detected on wipe samples on the CPSC's extensive wipe sample testing program for pressure treated lumber (CPSC, 2006³), in which the CPSC noted that pre-moistened wipes tended to collect 13 times more residue than that transferred to bare hands. Using dry wipes, five times more was transferred to wipes. In all cases, the amount of residue tended to reach a plateau in that additional contact did not result in an increase in the amount transferred. In terms of its testing program for artificial turf fields, the CPSC assumed that dividing the amount of lead transferred to the pre-moistened Ghost Wipe™ by five would provide a reasonable approximation of the amount of lead that may transfer to bare hands (CPSC, 2008a).

In addition to the amount that might be transferred from the field to bare hands, the CPSC also noted that only a portion of the "handload" might be transferred to the mouth. The CPSC practice is to assume that about half of the residue that collects on bare hands ends up in the mouth (i.e., they assume that the transfer efficiency is 50 percent) (CPSC, 2006).

In its wipe test program for lead in artificial turf fields (CPSC, 2008a), the CPSC used the above two factors in its evaluation (i.e., a factor of five to account for the overestimate of lead transfer from field to wipes compared with transfer from field to hands; and a factor of two to account for the amount transferred from hands to mouth). As such, the CPSC divided its wipe sample test results by a factor of ten to derive an estimate of the amount of lead that potentially could be ingested. It was assumed this would occur on a daily basis.

The CPSC uses a level of 10 micrograms of lead per deciliter of blood (10 µg/dL) as a level of concern with respect to lead poisoning, and therefore, suggests as a guideline that chronic ingestion of lead from consumer products should not exceed 15 µg/day (CPSC, 2008a). This is

³ CPSC, 2006. Evaluation of the Effectiveness of Surface Coatings in Reducing Dislodgeable Arsenic from New Wood Pressure-Treated with Chromate Copper Arsenate (CCA). October 2006.



the guideline value the CPSC used to evaluate the lead content detected on the wipe samples collected from the artificial turf fields that it recently tested (CPSC, 2008a).

As noted in Section 3.1, the lead content on the wipe samples collected from the four fields ranged from 0.78 µg/wipe at Franklin Square Playground to 2.3 µg/wipe at Garfield Square Park for green turf areas, and from 0.73 µg/wipe at South Sunset Playground to 4.0 µg/wipe at Garfield Square Park for white turf fiber areas (striped lines). Dividing each by a factor of ten consistent with the CPSC approach yields estimated daily lead intakes that range from 0.073 µg/day to 0.40 µg/day (i.e., based on the white turf area wipe samples from South Sunset Playground and Garfield Square Park, respectively). These estimated daily intakes are well below the CPSC guideline value for lead intake of 15 µg/day. These results are summarized in the following table:

<i>Field Samples</i>	<i>Wipe Sample Number</i>	<i>Wipe Sample Result (µg Pb⁽¹⁾/wipe)</i>	<i>Estimated Daily Intake⁽²⁾ (µg/day)</i>
Franklin Square Playground 16th Street and Bryant San Francisco, CA	Franklin-Grn-Wipe1	0.78	0.078
	Franklin-Grn-Wipe2	0.95	0.095
	Franklin-Wht-Wipe3	1.7	0.17
	Franklin-Wht-Wipe4	1.5	0.15
Garfield Square Park 26th & Harrison Streets San Francisco, CA	Garfield-Grn-Wipe1	2.3	0.23
	Garfield-Grn-Wipe2	1.9	0.19
	Garfield-Wht-Wipe3	4.0	0.40
	Garfield-Wht-Wipe4	2.9	0.29
South Sunset Playground 40th Avenue & Vicente San Francisco, CA	South-Sunset-Grn-Wipe1	0.95	0.095
	South-Sunset-Grn-Wipe2	0.98	0.098
	South-Sunset-Wht-Wipe3	0.73	0.073
	South-Sunset-Wht-Wipe4	0.78	0.078
Youngblood-Coleman Playground Mendell St & Fairfax Ave San Francisco, CA	Youngblood-Coleman-Grn-Wipe1	1.6	0.16
	Youngblood-Coleman-Grn-Wipe2	1.3	0.13
	Youngblood-Coleman-Wht-Wipe3	2.3	0.23
	Youngblood-Coleman-Wht-Wipe4	1.6	0.16

Notes:

- (1) Pb is the periodic table symbol for lead.
- (2) The CPSC guideline value for lead intake is 15 µg/day.



4.2 TURF FIBER SAMPLE TESTING

There are currently no known comparative health-based screening criteria to evaluate polymeric materials used in artificial field turf applications. Moreover, absorption of metals embedded in a polymeric matrix from the gastrointestinal (GI) tract following incidental ingestion is unlikely. Therefore, use of soil screening criteria as surrogate values to evaluate polymeric materials such as turf fibers or infill material are thought to overestimate potential impacts on human health.

Table 2 shows that the many of the metals detected in green and white turf fiber samples are essential human nutrients. Included are calcium, chromium, iron, magnesium, manganese, potassium, sodium and zinc. These metals are natural constituents in foods and vitamin supplements. With respect to the remaining metals detected in turf fibers, concentrations of carcinogenic metals (i.e., arsenic, beryllium, cadmium and nickel) were all either non-detect or very low, as were concentrations of the toxic metals lead and mercury. Therefore, the analytical testing results suggest that metals detected in green or white turf fibers are not expected to present an appreciable risk to human health.

4.3 INFILL SAMPLE TESTING

Similar to results for turf fibers, Table 3 shows many of the metals detected in the infill material samples are essential human nutrients. Included are calcium, chromium, iron, magnesium, manganese, potassium, sodium and zinc. As noted previously, these metals are natural constituents in foods and vitamin supplements. Also similar to the results noted for the turf fiber samples, concentrations of carcinogenic metals (i.e., arsenic, beryllium, cadmium, and nickel) were all either non-detect or very low, as were concentrations of the toxic metals lead and mercury. Therefore, the analytical testing results suggest that metals detected in infill material are not expected to present an appreciable risk to human health.

5.0 SUMMARY AND CONCLUSIONS

In summary, wipe samples, turf fiber samples, and infill material samples were collected by CRA from the artificial turf soccer fields at Franklin Square Playground, Garfield Square Park, South Sunset Playground and Youngblood-Coleman Playground between July 7, 2009 and July 10, 2009. The samples were submitted on July 13, 2009 by CRA to EMSL in Westmont, New Jersey for analysis.



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Analysis of wipe samples from green and white turf areas showed that estimated daily lead intake was well below the CPSC guideline value of 15 µg/day. Results for turf fiber and infill material testing indicated that a number of metals including essential nutrients were detected, and that concentrations of carcinogenic and toxic metals were either non-detect or very low. In total, the results indicate that accessible lead in dislodgable dust and metals in turf fiber and infill material do not present an appreciable risk to human health.

CRA trusts that the information provided above will be of use to you. Should you have any questions regarding the information provided above, please do not hesitate to contact us.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Dale J. Marino, MS, DABT

Steven M. Harris, M.A.Sc., P.Eng.

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Encl.

cc: Darren Gill, FieldTurf
Guy Chateaufneuf, CRA

TABLE 1

**INFILL AND TURF FIBER CHEMICAL COMPOSITION ANALYTE LIST
LABORATORY ANALYTICAL TESTING RESULTS
FIELDTURF INC.**

Metals

Aluminum

Antimony

Arsenic

Barium

Beryllium

Cadmium

Calcium

Chromium

Cobalt

Copper

Iron

Lead

Magnesium

Manganese

Mercury

Nickel

Potassium

Selenium

Silver

Sodium

Thallium

Vanadium

Zinc

TABLE 2

**CITY FIELDS FOUNDATION TURF FIBER CHEMICAL COMPOSITION TESTS
LABORATORY ANALYTICAL TESTING RESULTS
FIELDTURE, INC.**

<i>Constituent</i>	<i>Franklin Square Playground</i>		<i>Garfield Square Park</i>		<i>South Sunset Playground</i>		<i>Youngblood-Coleman Playground</i>	
	<i>Franklin- Grn-Fiber Result</i>	<i>Franklin- Wht-Fiber Result</i>	<i>Garfield- Grn-Fiber Result</i>	<i>Garfield- Wht-Fiber Result</i>	<i>South- Sunset-Grn- Fiber Result</i>	<i>South- Sunset-Wht- Fiber Result</i>	<i>Youngblood- Coleman-Grn- Fiber Result</i>	<i>Youngblood- Coleman-Wht- Fiber Result</i>
<i>Metals:</i>	<i>(mg/kg)</i>	<i>(mg/kg)</i>	<i>(mg/kg)</i>	<i>(mg/kg)</i>	<i>(mg/kg)</i>	<i>(mg/kg)</i>	<i>(mg/kg)</i>	<i>(mg/kg)</i>
Aluminum	1400	230	290	140	370	58	1400	530
Antimony	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	ND	ND	ND	ND	ND	ND	ND	ND
Barium	10	ND	ND	ND	ND	ND	ND	ND
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	ND	ND	ND	ND	ND	ND	ND	ND
Calcium	690	490	150	230	110	120	220	360
Chromium	2.8	1.2	1.5	1.3	1.2	ND	4.3	1.9
Cobalt	49	ND	ND	ND	ND	ND	2.4	ND
Copper	15	5.1	11	6.9	9.9	3.4	25	5.0
Iron	4900	470	1300	320	1000	140	4800	1200
Lead	8.7	2.4	2.6	4.8	ND	ND	4.6	2.8
Magnesium	220	200	ND	130	150	200	310	240
Manganese	6.3	4.7	3.0	3.9	2.0	ND	8.8	5.2
Mercury	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	3.1	ND	ND	ND	ND	ND	5.8	2.9
Potassium	ND	280	ND	ND	ND	ND	150	120
Selenium	ND	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND	ND	ND
Sodium	210	560	200	260	1100	1200	330	330
Thallium	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	ND	ND	ND	ND	ND	ND	1.2	ND
Zinc	7400	150	190	190	130	50	320	77

Notes:

ND - Not detected

mg/kg - Milligrams per kilogram

TABLE 3

CITY FIELDS FOUNDATION INFILL MATERIAL CHEMICAL COMPOSITION TESTS
LABORATORY ANALYTICAL TESTING RESULTS
FIELDTUFF, INC.

<i>Constituent</i>	<i>Franklin Square Playground</i>	<i>Garfield Square Park</i>	<i>South Sunset Playground</i>	<i>Youngblood- Coleman Playground</i>
	<i>Franklin-Infil Result</i>	<i>Garfield-Infil Result</i>	<i>South-Sunset- Infil Result</i>	<i>Youngblood- Coleman-Infil Result</i>
<i>Metals:</i>	<i>(mg/kg)</i>	<i>(mg/kg)</i>	<i>(mg/kg)</i>	<i>(mg/kg)</i>
Aluminum	190	190	390	170
Antimony	2.4	2.4	ND	2.6
Arsenic	ND	ND	ND	ND
Barium	ND	30	ND	ND
Beryllium	ND	ND	ND	ND
Cadmium	1.4	1.4	0.75	1.1
Calcium	980	1100	760	940
Chromium	ND	ND	1.2	ND
Cobalt	83	130	130	160
Copper	9.3	19	31	11
Iron	220	180	880	220
Lead	8.0	14	10	14
Magnesium	210	190	230	270
Manganese	4.0	3.3	5.4	3.6
Mercury	ND	ND	ND	ND
Nickel	ND	ND	ND	2.1
Potassium	290	330	260	310
Selenium	ND	ND	ND	ND
Silver	ND	ND	ND	ND
Sodium	310	310	160	250
Thallium	ND	ND	ND	ND
Vanadium	ND	ND	1.2	ND
Zinc	13000	14000	11000	16000

Notes:

ND - Not detected

mg/kg - Milligrams per kilogram

ATTACHMENT A
WIPE SAMPLING PROTOCOL

ATTACHMENT A
WIPE SAMPLING PROTOCOL
ANALYTICAL TESTING OF ARTIFICIAL TURF FIELDS
FIELDTURE, INC.

Materials:

The required sampling materials include the following:

- Sample device, consisting of a frame, 1.1-kg sampling weight with an attached threaded rod, slide and nut
- Ghost Wipes™
- 1-quart polyethylene or polypropylene “ziplock” storage or freezer bags (avoid using bags comprised of PVC)
- 11-inch or longer releasable cable ties
- clean wipe sample storage jars
- deionized or distilled water
- clean cotton cloths
- disposable nitrile or latex gloves
- plastic drop cloth or clean trash bags
- clippers or pliers

Potential Suppliers:

Ghost Wipes™ and sample containers can be purchased in bulk from a number of suppliers including Environmental Express (<http://www.envexp.com/index.asp>), or Environmental Monitoring Systems (<http://www.emssales.net/index.php>). Releasable cable ties can also be purchased from a number of suppliers either locally or over the Internet including the following: Cable Ties Plus, Inc. ([http://www.cabletiesplus.com/Products/11-Releasable-Cable-Ties-\(50-lb\)-\(Natural\)_CP-11-50R-N.aspx](http://www.cabletiesplus.com/Products/11-Releasable-Cable-Ties-(50-lb)-(Natural)_CP-11-50R-N.aspx)). The remainder of the items can be purchased locally.

General Description of Sampling Procedure:

The following provides a general description of the wipe sample collection procedure. A detailed description of the sampling procedure is presented in the subsequent section.

Four (4) wipe samples will be collected in which two (2) will be analyzed and two (2) will be retained as archive samples. These should be collected on either side of the field centerline approximately 25 or so yards from the end of the field exclusive of end zones (i.e., the approximate center of the two halves of the field), as presented on Figure 1. The collection of the wipe samples over painted markings on the field is to be avoided. An approximate sketch of the sampling locations should be made and scanned.

Prior to the collection of the initial sample and between samples, the sampling device and associated components will be decontaminated by wiping down all surfaces of the device using a clean cotton cloth and deionized/distilled water. Clean disposable gloves must be worn. Once decontaminated, the sampling device frame should be set in position over the sample collection location. The weight should be placed in a clean polyethylene or polypropylene ziplock bag, a GhostWipe™ is stretched over the polyethylene bag and secured with a cable tie as presented in Figure 3. The plastic threaded rod attached to the weight is then guided through the hole in the slide, and the slide placed on the frame rails as presented in Figures 4 and 5. Once in place, the weight is lowered to the field at one end of the sample track. By moving the slide along the frame rails, the weight is dragged from one end of the sample track to the other. This is one cycle, and the operation is repeated until five cycles are completed, the weight is then raised so it no longer contacts the surface and rotated 90°, and five more cycles are completed. The slide and weight are then lifted from the sample device using the treaded rod, the wipe removed and placed in the sample container. The polyethylene bag, cable tie, disposable gloves, etc. are discarded. The sampling device will be decontaminated, and the process repeated until four (4) wipe samples are collected. The sample device must be repositioned to collect each sample, i.e., do not re-wipe the same area. Figure 1 presents a diagram of sample collection locations. Two (2) samples will be submitted for analysis (one from each end of the field) and two (2) wipes retained as archive samples.

Detailed Sampling Procedure:

1. Prior to collecting a new wipe sample, put on a new pair of disposable nitrile or latex gloves.
2. If wipe sample container jars are not supplied by the laboratory, thoroughly clean sample jars with deionized or distilled water and dry with clean cloth.
3. Thoroughly clean sampling device frame, slide, 1.1-kg sampling weight, and nut with deionized or distilled water and dry with clean cloth. Cleaned items can be placed on a clean trash bag or plastic drop cloth if needed prior to use. Figure 2 shows these components.
4. Set the sampling device frame in position for collecting a wipe sample.
5. Place the 1.1 kg sampling weight in a clean plastic polyethylene or polypropylene ziplock bag, open an individual Ghost Wipe™ and stretch the wipe over the bottom of the sampling weight on top of the polyethylene bag. Ensure the wipe is smoothly

stretched over the bottom of the sampling weight, and secure it using a cable tie, as presented on Figure 3.

6. Guide the threaded rod attached to the 1.1 kg sampling weight into the hole of the sampling device slide, as presented on Figure 4.
7. Place the slide on the rails of the sampling device frame making sure the wipe is suspended above the field, and does not engage the surface to be sampled until ready to begin sample collection. This can be done by holding the threaded rod to suspend the sampling weight above the surface until ready to begin sample collection. The slide needs to be oriented lengthwise so that the handle-knobs are oriented parallel to the rails. Please see Figure 5.
8. Position the slide at one end of the sampling device. Lower the weight until it engages the surface. Place feet (toes or heels) on shoe rests (side wings) of the sampling device to hold the device in place. Take hold of handle-knobs on the slide and move the slide to the other end of the device thereby dragging the 1.1-kg sampling weight to the other end of the sample track. Move slide back to the starting position. This up and back movement constitutes one sampling stroke.
9. Move the slide back and forth for a total of 5 strokes, elevate the sampling weight off of the surface using the threaded rod, rotate the rod 90°, and then lower the weight to re-engage the surface. Perform 5 more strokes for a total of 10 strokes.
10. While holding the threaded rod, lift the slide off the rails, and remove the GhostWipe™ from the bottom of the sampling weight by releasing the cable tie.
11. Place the GhostWipe™ into a clean sample storage jar. After the wipe sample is transferred to the sample jar, discard the polyethylene plastic bag, disposable gloves, cable tie, etc.
12. Repeat the procedure from step 1 to collect duplicate and repeat samples. Shift the sampling device by approximately 3 feet to an undisturbed adjacent area so that the duplicate sample is collected nearby the original sample. Please refer to Figure 1. If this is the last sample for the day, put on a new pair of disposable nitrile or latex gloves, and thoroughly clean the sampling device with deionized or distilled water and dry with clean cloth.
13. Standard chain-of-custody and sample labeling procedures should be followed in accordance with CRA standard field operating procedures. Please include the following on the COC:

Testing: Consumer Product Safety Commission procedure for lead

Reports are to be sent to:

Ms. Susan Scrocchi
Conestoga-Rovers & Associates
2055 Niagara Falls Blvd. Suite 3
Niagara Falls, NY 14304

14. Two samples (one from each end of the field preferably diagonal to each other) should then be forwarded to the following laboratory and please notify Steve Harris, Dale Marino, and Sue Scrocchi that the samples have been shipped:

Sample Receipt
EMSL Analytical
3 Cooper Street
Westmont, NJ 08108
(800) 220-3675

15. The remaining two samples should be retained and returned to the office with the sampling technician for now. Instructions will be forwarded regarding archiving these samples.

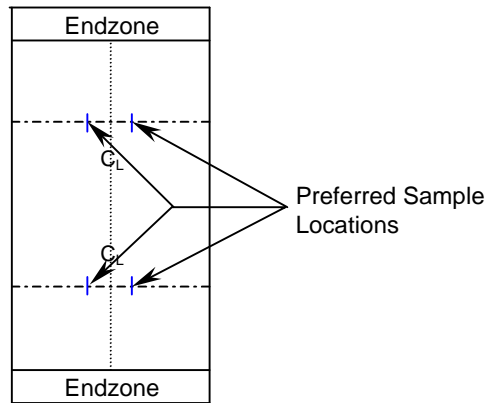


Figure 1: Preferred wipe sample locations at the approximate 25-yard line with duplicates taken from a nearby undisturbed area with approximately 3-foot separation between samples.



Figure 2: Sampling device frame, slide, weight and nut



Figure 3: Weight with 1-quart polyethylene storage bag, a wipe (please note this is a paper towel for demonstration purposes only), and a cable tie



Figure 4: Device frame and weight with wipe with rod threaded through hole in slide.



Figure 5: Slide placed on device frame rails.

ATTACHMENT B

ARTIFICIAL FIELD INFILL MATERIAL COLLECTION PROTOCOL

ATTACHMENT B
ARTIFICIAL FIELD INFILL MATERIAL COLLECTION PROTOCOL
ANALYTICAL TESTING OF ARTIFICIAL TURF FIELDS
FIELDTURE, INC.

Materials:

The required sampling materials include the following:

- Clean wipe sample storage jars
- Deionized or distilled water
- Clean cotton cloths
- Disposable nitrile or latex gloves
- Plastic drop cloth or clean trash bags
- Balance

General Description of Sampling Procedure:

The following provides a general description of the sample collection procedure. A detailed description of the sampling procedure is presented in the subsequent section.

Infill material will be collected from the field at various locations in order to obtain a representative sample. This is accomplished by starting midline at the end of the field and collecting a sample, advancing a yard or so and collecting another sample. The procedure is repeated until the needed sample weight is obtained. The collection of the infill material from painted markings on the field is to be avoided.

Detailed Sampling Procedure:

1. Prior to initiation of infill material collection, put on a new pair of disposable nitrile or latex gloves.
2. If sample container jars are not supplied by the laboratory, thoroughly clean sample jars with deionized or distilled water and dry with clean cloth.
3. Start at the midline at the end of the field and collect an infill sample, advance a yard or so and collect another sample. The procedure is repeated until the needed sample weight is obtained. The collection of infill material from painted markings on the field is to be avoided.

4. The collection procedure would involve grasping some of the granulated material between turf fibers using fingers and thumb. As the material is collected, place the material into the clean sample storage jar.
5. Sufficient infill material should be obtained to meet analytical testing requirements. Once completed, an additional 2 grams is collected as an archive sample.
6. Standard chain-of-custody and sample labeling procedures should be followed in accordance with CRA standard field operating procedures. Please include the following on the COC:

Testing: Please contact Ms Susan Scrocchi for test requirements

Reports are to be sent to:

Ms. Susan Scrocchi
Conestoga-Rovers & Associates
2055 Niagara Falls Blvd. Suite 3
Niagara Falls, NY 14304

7. Samples should then be forwarded to the following laboratory and please notify Steve Harris, Dale Marino, and Sue Scrocchi that the samples have been shipped:

Sample Receipt
EMSL Analytical
3 Cooper Street
Westmont, NJ 08108
(800) 220-3675

8. Archive samples should be retained and returned to the office with the sampling technician for now. Instructions will be forwarded regarding archiving these samples.

ATTACHMENT C

ARTIFICIAL FIBER CLIPPING PROTOCOL

ATTACHMENT C
FIBER CLIPPING PROTOCOL
ANALYTICAL TESTING OF ARTIFICIAL TURF FIELDS
FIELDTURE, INC.

Materials:

The required sampling materials include the following:

- Small scissors such as 2.5-inch curved fingernail scissors
- Clean wipe sample storage jars
- Deionized or distilled water
- Clean cotton cloths
- Disposable nitrile or latex gloves
- Plastic drop cloth or clean trash bags
- Balance

General Description of Sampling Procedure:

The following provides a general description of the sample collection procedure. A detailed description of the sampling procedure is presented in the subsequent section.

Turf fibers will be clipped from the field at various locations in order to obtain a representative sample. This is accomplished by starting midline at the end of the field and clipping a sample, advancing a yard or so and clipping another sample. The procedure is repeated until the needed sample weight is obtained. The collection of the clippings from painted markings on the field is to be avoided.

Detailed Sampling Procedure:

1. Prior to initiating collection of fiber clippings, put on a new pair of disposable nitrile or latex gloves.
2. If sample container jars are not supplied by the laboratory, thoroughly clean sample jars with deionized or distilled water and dry with clean cloth.
3. Thoroughly clean scissors with deionized or distilled water and dry with clean cloth.

4. Start at the midline at the end of the field and clip a sample, advance a yard or so and clip another sample. The procedure is repeated until the needed sample weight is obtained. The collection of the wipe samples over painted markings on the field is to be avoided.
5. The clipping procedure would involve grasping a number of fibers between the index finger and thumb and clipping them. Collection of infill material along with clippings is to be avoided to the extent possible. Every ten yards or so (approximately 10 clippings), decontaminate gloves with deionized or distilled water and dry with clean cloth
6. As they are collected, place clippings into the clean sample storage jar.
7. Sufficient clippings should be obtained to meet analytical testing requirements. Once completed, an additional 2 grams is collected as an archive sample.
8. Standard chain-of-custody and sample labeling procedures should be followed in accordance with CRA standard field operating procedures. Please include the following on the COC:

Testing: Please contact Ms Susan Scrocchi for test requirements

Reports are to be sent to:

Ms. Susan Scrocchi
Conestoga-Rovers & Associates
2055 Niagara Falls Blvd. Suite 3
Niagara Falls, NY 14304

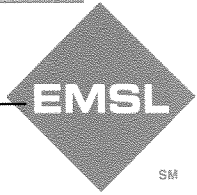
9. Samples should then be forwarded to the following laboratory and please notify Steve Harris, Dale Marino, and Sue Scrocchi that the samples have been shipped:

Sample Receipt
EMSL Analytical
3 Cooper Street
Westmont, NJ 08108
(800) 220-3675

10. Archive samples should be retained and returned to the office with the sampling technician for now. Instructions will be forwarded regarding archiving these samples.

ATTACHMENT D

EMSL LABORATORY ANALYTICAL REPORT



EMSL Analytical, Inc.

<http://www.emsl.com>

3 Cooper St.
Westmont, NJ 08108
Phone: (856) 858-4800
Fax: 8568584571

Attn: **SUSAN SCROCCHI**
CRA (Conestoga Rovers & Associates)
2055 Niagara Falls Blvd.
Suite 3
Niagara Falls, NY 14304

7/29/2009

Phone (716) 297-2160
Fax: (716) 297-2265

The following report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 7/15/2009. The results are tabulated on the attached data pages for the following client designated project:

Project ID: 055528-111

The reference number for these samples is EMSL Order #010903527. Please use this reference when calling about these samples.

If you have any questions, please do not hesitate to contact me at (856) 858-4800.

Reviewed and Approved By:


Julie Smith - Laboratory Director or
other approved signatory
NJ-NELAP Accredited:04653 



The test results contained within this report meet the requirements of NELAC and/or the specific certification program that is applicable, unless otherwise noted.

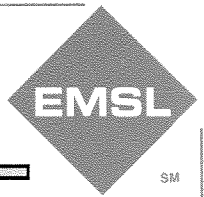
The Lead wipe LCS/LCSD recoveries fell slightly below method criteria, therefore the results may be biased low.



EMSL Analytical, Inc.

3 Cooper St., Westmont, NJ 08108

Phone: (856) 858-4800 Fax: (856) 858-4571 Email: jsmith@emsl.com



SM

Attn: SUSAN SCROCCHI
CRA (Conestoga Rovers & Associates)
2055 Niagara Falls Blvd.
Suite 3
Niagara Falls, NY 14304

Customer ID: CONE53
Customer PO:
Received: 07/15/09 9:56 AM
EMSL Order: 010903527

Fax: (716) 297-2265 Phone: (716) 297-2160

EMSL Proj: 055528-111

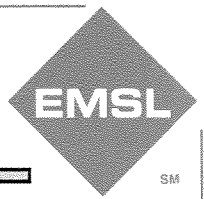
Table with columns: Client Sample Description, Method, Parameter, Concentration, Reporting Limit, Units, Analysis Date, Analyst. Includes data for Franklin-Grn-Fiber and Franklin-Wht-Fiber.



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EMSL Proj: 055528-111

Table with columns: Client Sample Description, Method, Parameter, Concentration, Reporting Limit, Units, Analysis Date, Analyst. Includes sample description Franklin-Whit-Fiber and various element analysis results.

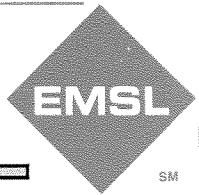
Table with columns: Client Sample Description, Method, Parameter, Concentration, Reporting Limit, Units, Analysis Date, Analyst. Includes sample description Franklin-Infil and various element analysis results.



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Table with 7 columns: Client Sample Description, Method, Parameter, Concentration, Reporting Limit, Units, Analysis Date, Analyst. Includes sample description Franklin-Infil and a list of 17 chemical analyses.

Table with 7 columns: Client Sample Description, Method, Parameter, Concentration, Reporting Limit, Units, Analysis Date, Analyst. Includes sample description Franklin-Grn-Wipe1 and one analysis for Lead.

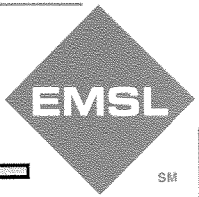
Table with 7 columns: Client Sample Description, Method, Parameter, Concentration, Reporting Limit, Units, Analysis Date, Analyst. Includes sample description Franklin-Grn-Wipe2 and one analysis for Lead.



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Table with 7 columns: Client Sample Description, Method, Parameter, Concentration, Reporting Limit, Units, Analysis Date, Analyst. Row 1: Franklin-Wht-Wipe3, 6010B, Lead, 1.7, 0.50, µg/wipe, 7/24/2009, iacevedo.

Table with 7 columns: Client Sample Description, Method, Parameter, Concentration, Reporting Limit, Units, Analysis Date, Analyst. Row 1: Franklin-Wht-Wipe4, 6010B, Lead, 1.5, 0.50, µg/wipe, 7/24/2009, iacevedo.

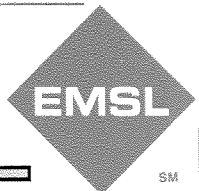
Table with 7 columns: Client Sample Description, Method, Parameter, Concentration, Reporting Limit, Units, Analysis Date, Analyst. Row 1: Youngblood-Coleman-Grn-Fiber, 6010B, Aluminum, 1400, 10, mg/Kg, 7/16/2009, iacevedo. Rows 2-20 list various elements like Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium.



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Table with 6 columns: Client Sample Description, Method, Parameter, Concentration, Reporting Limit Units, Analysis Date, Analyst. Row 1: Youngblood-Coleman-Grn-Fiber, 6010B, Vanadium, 1.2, 1.0 mg/Kg, 7/21/2009, iacevedo.

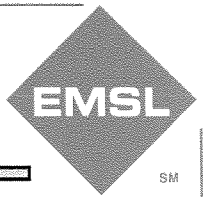
Table with 6 columns: Client Sample Description, Method, Parameter, Concentration, Reporting Limit Units, Analysis Date, Analyst. Row 1: Youngblood-Coleman-Wht-Fiber, 6010B, Aluminum, 530, 9.9 mg/Kg, 7/16/2009, iacevedo.



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Table with columns: Client Sample Description, Method, Parameter, Concentration, Reporting Limit, Units, Analysis Date, Analyst. Includes data for Youngblood-Coleman-Infil sample.

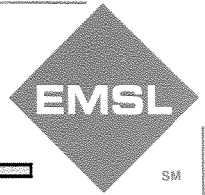
Table with columns: Client Sample Description, Method, Parameter, Concentration, Reporting Limit, Units, Analysis Date, Analyst. Includes data for Youngblood-Coleman-Grn-Wipe1 sample.



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EMSL Order: 010903527

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EMSL Proj: 055528-111

Client Sample Description Youngblood-Coleman-Grn-Wipe2 *Collected:* 7/8/2009 *Lab ID:* 0012
1:45:00 PM

<i>Method</i>	<i>Parameter</i>	<i>Concentration</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Analysis Date</i>	<i>Analyst</i>
6010B	Lead	1.3	0.50	µg/wipe	7/25/2009	iacevedo

Client Sample Description Youngblood-Coleman-Wht-Wipe3 *Collected:* 7/8/2009 *Lab ID:* 0013
1:55:00 PM

<i>Method</i>	<i>Parameter</i>	<i>Concentration</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Analysis Date</i>	<i>Analyst</i>
6010B	Lead	2.3	0.50	µg/wipe	7/25/2009	iacevedo

Client Sample Description Youngblood-Coleman-Wht-Wipe4 *Collected:* 7/8/2009 *Lab ID:* 0014
2:10:00 PM

<i>Method</i>	<i>Parameter</i>	<i>Concentration</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Analysis Date</i>	<i>Analyst</i>
6010B	Lead	1.6	0.50	µg/wipe	7/25/2009	iacevedo

Client Sample Description South-Sunset-Grn-Wipe1 *Collected:* 7/9/2009 *Lab ID:* 0015
10:36:00 AM

<i>Method</i>	<i>Parameter</i>	<i>Concentration</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Analysis Date</i>	<i>Analyst</i>
6010B	Lead	0.95	0.50	µg/wipe	7/25/2009	iacevedo

Client Sample Description South-Sunset-Grn-Wipe2 *Collected:* 7/9/2009 *Lab ID:* 0016
10:50:00 AM

<i>Method</i>	<i>Parameter</i>	<i>Concentration</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Analysis Date</i>	<i>Analyst</i>
6010B	Lead	0.98	0.50	µg/wipe	7/25/2009	iacevedo

Client Sample Description South-Sunset-Wht-Wipe3 *Collected:* 7/9/2009 *Lab ID:* 0017
11:06:00 AM

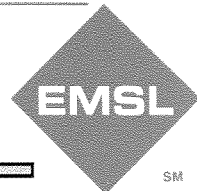
<i>Method</i>	<i>Parameter</i>	<i>Concentration</i>	<i>Reporting Limit</i>	<i>Units</i>	<i>Analysis Date</i>	<i>Analyst</i>
6010B	Lead	0.73	0.50	µg/wipe	7/25/2009	iacevedo



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Client Sample Description South-Sunset-Wht-Wipe4 Collected: 7/9/2009 11:20:00 AM Lab ID: 0018

Table with 7 columns: Method, Parameter, Concentration, Reporting Limit, Units, Analysis Date, Analyst. Row 1: 6010B, Lead, 0.78, 0.50, ug/wipe, 7/25/2009, iacevedo

Client Sample Description South-Sunset-Grn-Fiber Collected: 7/9/2009 12:14:00 PM Lab ID: 0019

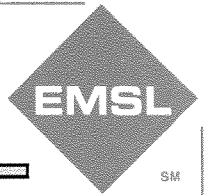
Table with 7 columns: Method, Parameter, Concentration, Reporting Limit, Units, Analysis Date, Analyst. Rows include Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Mercury.



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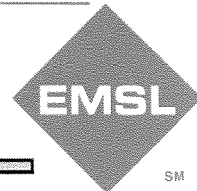
Table with 7 columns: Client Sample Description, Method, Parameter, Concentration, Reporting Limit Units, Analysis Date, Analyst. Includes data for South-Sunset-Wht-Fiber and South-Sunset-Infil.



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EMSL Order: 010903527

Fax: (716) 297-2265 Phone: (716) 297-2160

EMSL Proj: 055528-111

Table with 7 columns: Method, Parameter, Concentration, Reporting Limit, Units, Analysis Date, Analyst. Row 1: Client Sample Description: South-Sunset-Infil, Collected: 7/9/2009 1:18:00 PM, Lab ID: 0021. Rows 2-20: Various elements like Barium, Beryllium, Cadmium, etc.

Table with 7 columns: Method, Parameter, Concentration, Reporting Limit, Units, Analysis Date, Analyst. Row 1: Client Sample Description: Garfield-Grn-Wipe1, Collected: 7/10/2009 7:43:00 AM, Lab ID: 0022. Row 2: Method: 6010B, Parameter: Lead, Concentration: 2.3, Reporting Limit: 0.50, Units: µg/wipe, Analysis Date: 7/25/2009, Analyst: iacevedo

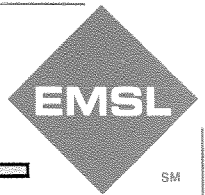
Table with 7 columns: Method, Parameter, Concentration, Reporting Limit, Units, Analysis Date, Analyst. Row 1: Client Sample Description: Garfield-Grn-Wipe2, Collected: 7/10/2009 7:54:00 AM, Lab ID: 0023. Row 2: Method: 6010B, Parameter: Lead, Concentration: 1.9, Reporting Limit: 0.50, Units: µg/wipe, Analysis Date: 7/25/2009, Analyst: iacevedo



EMSL Analytical, Inc.

3 Cooper St., Westmont, NJ 08108

Phone: (856) 858-4800 Fax: (856) 858-4571 Email: jsmith@emsl.com



SM

Attn: SUSAN SCROCCHI
CRA (Conestoga Rovers & Associates)
2055 Niagara Falls Blvd.
Suite 3
Niagara Falls, NY 14304

Customer ID: CONE53
Customer PO:
Received: 07/15/09 9:56 AM
EMSL Order: 010903527

Fax: (716) 297-2265 Phone: (716) 297-2160

EMSL Proj: 055528-111

Table with 6 columns: Client Sample Description, Method, Parameter, Concentration, Reporting Limit Units, Analysis Date, Analyst. Row 1: Garfield-Wht-Wipe3, 6010B, Lead, 4.0, 0.50 µg/wipe, 7/25/2009, iacevedo.

Table with 6 columns: Client Sample Description, Method, Parameter, Concentration, Reporting Limit Units, Analysis Date, Analyst. Row 1: Garfield-Wht-Wipe4, 6010B, Lead, 2.9, 0.50 µg/wipe, 7/20/2009, iacevedo.

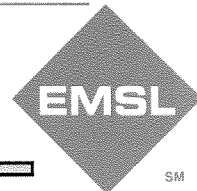
Table with 6 columns: Client Sample Description, Method, Parameter, Concentration, Reporting Limit Units, Analysis Date, Analyst. Row 1: Garfield-Grn-Fiber, 6010B, Aluminum, 290, 9.8 mg/Kg, 7/16/2009, iacevedo. Rows 2-18 list various elements like Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium.



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EMSL Order: 010903527

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EMSL Proj: 055528-111

Table with 7 columns: Client Sample Description, Method, Parameter, Concentration, Reporting Limit, Units, Analysis Date, Analyst. Row 1: Garfield-Grn-Fiber, 6010B, Vanadium, <0.98, 0.98 mg/Kg, 7/21/2009, iacevedo.

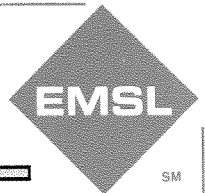
Table with 7 columns: Client Sample Description, Method, Parameter, Concentration, Reporting Limit, Units, Analysis Date, Analyst. Row 1: Garfield-Wht-Fiber, 6010B, Aluminum, 140, 9.6 mg/Kg, 7/16/2009, iacevedo.



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Table with columns: Client Sample Description, Garfield-Infil, Collected: 7/10/2009 8:50:00 AM, Lab ID: 0028, Method, Parameter, Concentration, Reporting Limit Units, Analysis Date, Analyst. Lists various elements like Aluminum, Antimony, Arsenic, etc.

010903527

REPORT MICROGRAMS/WIPE PER SUSAN

CONESTOGA-ROVERS & ASSOCIATES
2055 Niagara Falls Blvd., Suite 3
Niagara Falls, N.Y. 14304 (716) 297-6150

SHIPPED TO (Laboratory Name):
GMSL Analytical (Sample Receipt)
3 Cooper St.
Westmont, NJ 08108

REFERENCE NUMBER:
055528-111

*ALL ONE PROJECT
TAL METALS
STD TAT PER

SAMPLER'S SIGNATURE: <i>Bryan A. Feag</i>		PRINTED NAME: Bryan A. Feag		No. of Containers	PARAMETERS	REMARKS
SEQ. No.	DATE	TIME	SAMPLE No.			
1	7/8/09	11:00	Franklin - Grn - Fiber	1	X	LEAD (USEPA 82846 3050/6008)
2	7/8/09	11:33	Franklin - Wht - Fiber	1	X	METALS (USEPA 82846 30508/6008)
3	7/8/09	11:30	Franklin - Infil	1	X	HEAVY (USEPA 82846 7471A)
4	7/8/09	10:10	Franklin - Grn - Wipe 1	1	X	
5	7/8/09	10:26	Franklin - Grn - Wipe 2	1	X	
6	7/8/09	10:44	Franklin - Wht - Wipe 3	1	X	
7	7/8/09	11:00	Franklin - Wht - Wipe 4	1	X	* Please send analytical report to:
8	7/8/09	14:01	Youngblood - Coleman - Grn - Fiber	1	X	Ms. Susan Scacchi
9	7/8/09	15:00	Youngblood - Coleman - Wht - Fiber	1	X	Conestoga - Rovers' Associates
10	7/8/09	14:13	Youngblood - Coleman - Infil	1	X	2055 Niagara Falls Blvd
11	7/8/09	13:30	Youngblood - Coleman - Grn - Wipe 1	1	X	Soak 3
12	7/8/09	13:45	Youngblood - Coleman - Grn - Wipe 2	1	X	Niagara Falls, NY
13	7/8/09	13:55	Youngblood - Coleman - Wht - Wipe 3	1	X	14304
14	7/8/09	14:10	Youngblood - Coleman - Wht - Wipe 4	1	X	

TOTAL NUMBER OF CONTAINERS

HEALTH/CHEMICAL HAZARDS

RELINQUISHED BY: ① <i>Bryan A. Feag</i>	DATE: 7/13/09 TIME: 15:00	RECEIVED BY: ① _____	DATE: 7/15/09 TIME: _____
RELINQUISHED BY: ② _____	DATE: _____ TIME: _____	RECEIVED BY: ② _____	DATE: _____ TIME: _____
RELINQUISHED BY: ③ _____	DATE: _____ TIME: _____	RECEIVED BY: ③ _____	DATE: _____ TIME: _____

METHOD OF SHIPMENT: _____

WAY BILL No. _____

SAMPLE TEAM:
- Fully Executed Copy
- Receiving Laboratory Copy
- Shipper Copy
- Sampler Copy

RECEIVED FOR LABORATORY BY: _____

No N 4289

DATE: _____ TIME: _____

LEFT MESS. FOR METALS & TAT - 7/15/09 10:02 AM

010903527



CONESTOGA-ROVERS & ASSOCIATES
2055 Niagara Falls Blvd., Suite 3
Niagara Falls, N.Y. 14304 (716) 297-6150

SHIPPED TO (Laboratory Name):
EMSL Analytical (Sample Receipt)
3 Cooper St.
Westmont, NJ 08108

REFERENCE NUMBER:
055528-111

09 JUL 15 10:11:59 AM

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE TYPE	No. of Containers	PARAMETERS			REMARKS
						Lead	Metals	Mercury	
15	7/9/09	10:36	South-Sunset - Gm - Wipe 1	Wipe	1	X			LEAD (USEPA 503846 3050/6010 B)
16	7/9/09	10:50	South-Sunset - Gm - Wipe 2	Wipe	1	X			HEAVY METALS (USEPA 503846 3050 B/503846 6010 B)
17	7/9/09	11:00	South-Sunset - Wht - Wipe 3	Wipe	1	X			Mercury (503846 7471A)
18	7/9/09	11:20	South-Sunset - Wht - Wipe 4	Wipe	1	X			
19	7/9/09	12:14	South-Sunset - Gm - Fiber	Fiber	1	X	X		
20	7/9/09	12:53	South-Sunset - Gm - South-Sunset - Wht - Fiber	Fiber	1	X	X		* Please send analytical report to:
21	7/9/09	13:18	South-Sunset - Intl	Intl	1	X	X		
									Ms. Susan Secacchi
									Conestoga-Rovers & Associates
									2055 Niagara Falls Blvd
									Suite 3
									Niagara Falls, NY
									14304
TOTAL NUMBER OF CONTAINERS						HEALTH/CHEMICAL HAZARDS			
RELINQUISHED BY:				DATE: 7/13/09		RECEIVED BY:		DATE: 7/15/09	
① <i>Susan Secacchi</i>				TIME: 15:00		①		TIME:	
RELINQUISHED BY:				DATE:		RECEIVED BY:		DATE:	
②				TIME:		②		TIME:	
RELINQUISHED BY:				DATE:		RECEIVED BY:		DATE:	
③				TIME:		③		TIME:	
METHOD OF SHIPMENT: WAY BILL No.									
White				SAMPLE TEAM:				RECEIVED FOR LABORATORY BY:	
Yellow				-Fully Executed Copy				No N 4289	
Pink				-Receiving Laboratory Copy				DATE: TIME:	
Goldenrod				-Shipper Copy				DATE: TIME:	
				-Sampler Copy				DATE: TIME:	

* LEFT MESS. FOR METALS a TAT- 7/15/09 10:02 AM CA

010903527



CONESTOGA-ROVERS & ASSOCIATES
 2055 Niagara Falls Blvd., Suite 3
 Niagara Falls, N.Y. 14304 (716) 297-6150

SHIPPED TO (Laboratory Name):
 EMSL Analytical (Sample Receipt)
 3 Cooper St.
 Westmont, NJ 08108

REFERENCE NUMBER:
 055528-111

09 JUL 15 AM 9:56

SAMPLER'S SIGNATURE: *Bryan A. Feary*
PRINTED NAME: Bryan A. Feary

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE TYPE	No. of Containers	PARAMETERS			REMARKS
						LEAD	METALS	MERCURY	
20	7/10/09	7:43	Garfield - Grn - Wipe 1	Wipe	1	X			LEAD (USEPA 820846 3050 / 60106)
21	7/10/09	7:54	Garfield - Grn - Wipe 2	Wipe	1	X			METALS (SW 846 30506 / SW 846 600)
22	7/10/09	8:07	Garfield - Whit - Wipe 3	Wipe	1	X			MERCURY (820846 7471A)
23	7/10/09	8:19	Garfield - Whit - Wipe 4	Wipe	1	X			
24	7/10/09	8:23	Garfield - Grn - Fiber	Fiber	1	X	X		
25	7/10/09	9:00	Garfield - Whit - Fiber	Fiber	1	X	X		* Please send analytical report to:
26	7/10/09	8:50	Garfield - Intl	Intl	1	X	X		
									Ms Susan Sorocchi
									Conestoga-Rovers & Associates
									2055 Niagara Falls Blvd
									Suite 3
									Niagara Falls, NY
									14304

TOTAL NUMBER OF CONTAINERS

HEALTH/CHEMICAL HAZARDS

RELINQUISHED BY: ① <i>Bryan A. Feary</i>	DATE: 7/13/09 TIME: 15:00	RECEIVED BY:	DATE: 7/15/09 TIME:
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY:	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY:	DATE: TIME:

METHOD OF SHIPMENT:

White - Fully Executed Copy
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WAY BILL No.

RECEIVED FOR LABORATORY BY:

SAMPLE TEAM:

No N 4289

* LEFT MESS. FOR METALS + TAT - 7/15/09 10:02 AM