DSS ___

MOOG

ME Letter # 017-08
July 15, 2008

NYS Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue
Buffalo, NY 14203-2999
Attention: Mr. David Szymanski

Dear Mr. Szymanski:

Attached are the results of the Soil Vapor Intrusion (SVI) investigation conducted by URS at Plant 11 on May 19, 2008. The results did indicate that VOCs could be intruding on the building.

Moog is currently evaluating its options regarding further investigation or remedial action involving soil vapor intrusion. Any input the DEC has for Moog is welcomed.

Please contact myself at (716) 805-2110 or Robin Young at (716) 687-4157.

Sincerely,

Christopher D. Russin
Environmental Process Engineer

CC: Martin Doster, NYSDEC
Chad Stanizewski, NYSDEC
Robin Young, Moog
Dave Bauchat, Moog

URS

July 14, 2008

Mr. Christopher Russin
Environmental Process Engineer
Moog Corporate Group
East Aurora, New York 14052

Re: Soil Vapor Intrusion Sampling
East Aurora, New York Facility
May 19 and 20, 2008

Dear Mr. Russin:

URS Corporation is pleased to present this letter report documenting the soil vapor intrusion (SVI) investigation at the Moog, Incorporated (Moog) facility, Building 11, in East Aurora, Erie County, New York (Figure 1). All work performed during this investigation followed the procedures specified in the URS Corporation Field Sampling Plan (FSP) dated February 2008 and in general accordance with the New York State Department of Health (NYSDOH) Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October 2006).

Background

A spill at the eastern portion of Plant 11 in the past resulted in groundwater contamination with chlorinated solvents, principally 1,1-dichloroethane (1,1-DCA) with lower levels of other chlorinated ethanes, chlorinated ethenes, and freon. Historically, monitoring well MW-2B (Figure 2), located east of the plant, has had the highest concentration of chlorinated solvents. A groundwater collection and treatment system has been operating for over ten years, resulting in a significant decrease in solvent concentrations in the groundwater. However, 1,1-DCA levels remain as high as 210 µg/L in monitoring well MW-2B suggesting that soil vapor intrusion (SVI) may be an exposure pathway of concern at this site. Concentrations in wells MW-4 and MW-6, located north and northeast of the spill areas, respectively, show lower levels of 1,1-DCA, but are located downgradient of the groundwater collection trench and thus may not reflect groundwater concentrations beneath the plant slab.

This SVI study has been limited in scope to Plant 11 in the area of a former waste oil/solvent release to groundwater, as shown in Figure 2. The source of the groundwater contamination in this area is assumed to be a former underground waste oil storage tank. Because the source of the groundwater plume is located outside of, and side-gradient to, the building, Moog has elected to pursue an iterative approach to evaluating vapor intrusion. The SVI sampling described herein was limited to the collection of three sub-slab samples from the east end of building 11, near the source of solvent groundwater contamination.

URS Corporation
77 Goodell Street
Buffalo, NY 14203
Tel: 716.856.5636
Fax: 716.856.2545

Sub-slab Sampling

On May 19, 2008, URS collected three sub-slab samples in Building 11 at the locations shown on Figure 2. Sub-slab samples were designated Moog-SSA, Moog-SSB and Moog-SSC. A duplicate sample of sample Moog-SSA was also collected and designated 20080519-FD-1.

Each sub-slab sample was collected by first drilling a 5/8-inch diameter hole one inch into the building's concrete floor using an electric hammer drill. The hole was then drilled through the rest of the concrete using a ½-inch diameter drill bit. A Teflon tube was then inserted into the hole and sealed to the floor's surface using modeling clay. The clay surface seal was tested for leakage using the helium tracer gas test procedure presented in the FSP. After purging the sample tubing, a 6-liter summa canister with 24-hour regulator was then attached to the Teflon tube and the canister's regulator turned on. The canister was turned off approximately 24-hours later, and the canisters were shipped under Chain-of-Custody to Columbia analytical services in Rochester, New York. Each canister was analyzed for VOCs by EPA Method TO-15. Following sampling, all three of the drilled holes were filled with hydraulic cement.

Field sampling forms and Chain of Custody Forms are provided in Attachment 1. A copy of the field notebook notations is provided in Attachment 2. Photographs of the sub-slab samples are provided in Attachment 3.

Analytical Results

A URS chemist validated the analytical results. The data usability summary report (DUSR) is provided as Attachment 4. A summary of the laboratory analytical results is provided below.

Table 1
Soil Vapor Intrusion Results
Moog Building 11
East Aurora, NY

Parameter	Sample ID Numbers			
	SSA	SSA (Duplicate)	SSB	SSC
1,1,1-Trichloroethane	68	65	610	420
1,1,2-Trichloro-1,2,2-trifluoroethane	650	640	120	59
1,1-Dichloroethane	2.2 J	2.2 J	2.0 J	0.56 J
1,1-Dichloroethene	5.2 U	5.4 U	6.7 U	5.5 U
1,2-Dichloroethene (cis)	5.2 U	5.4 U	6.7 U	5.5 U
1,2-Dichloroethene (trans)	5.2 U	5.4 U	6.7 U	5.5 U
Tetrachloroethene	33	33	140	71
Trichloroethene	18	18	29	4.6
Vinyl chloride	3.4 U	3.5 U	4.3 U	3.5 U

All results reported in UG/M3
U - Not detected above the reported quantitation limit
J - The reported concentration is an estimated value

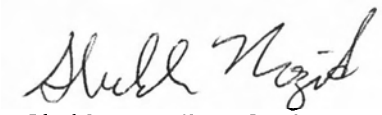
Discussion

Laboratory results show the presence of five chlorinated compounds at all three sub-slab sampling locations. The detected compounds are 1,1,1-trichloroethane (1,1,1-TCA), 1,1,2-trichloro-1,2,2-trifluoroethane, 1,1-DCA, tetrachloroethene (PCE) and trichloroethene (TCE). Concentrations of 1,1,1-TCA, TCE and PCE were highest in the sample from location SSB. Concentrations of 1,1,2-trichloro-1,2,2-trifluoroethane, (also known as Freon 113) was highest in the sample from location SSA. Concentrations of 1,1-DCA, a principal chlorinated solvent found in nearby monitoring wells, was detected at low concentrations that never exceeded an estimated 2.2 UG/M3.

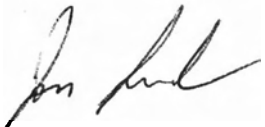
URS is pleased to have assisted Moog with this project. Should you have any questions or would like to discuss further, please do not hesitate to contact the undersigned.

Sincerely,

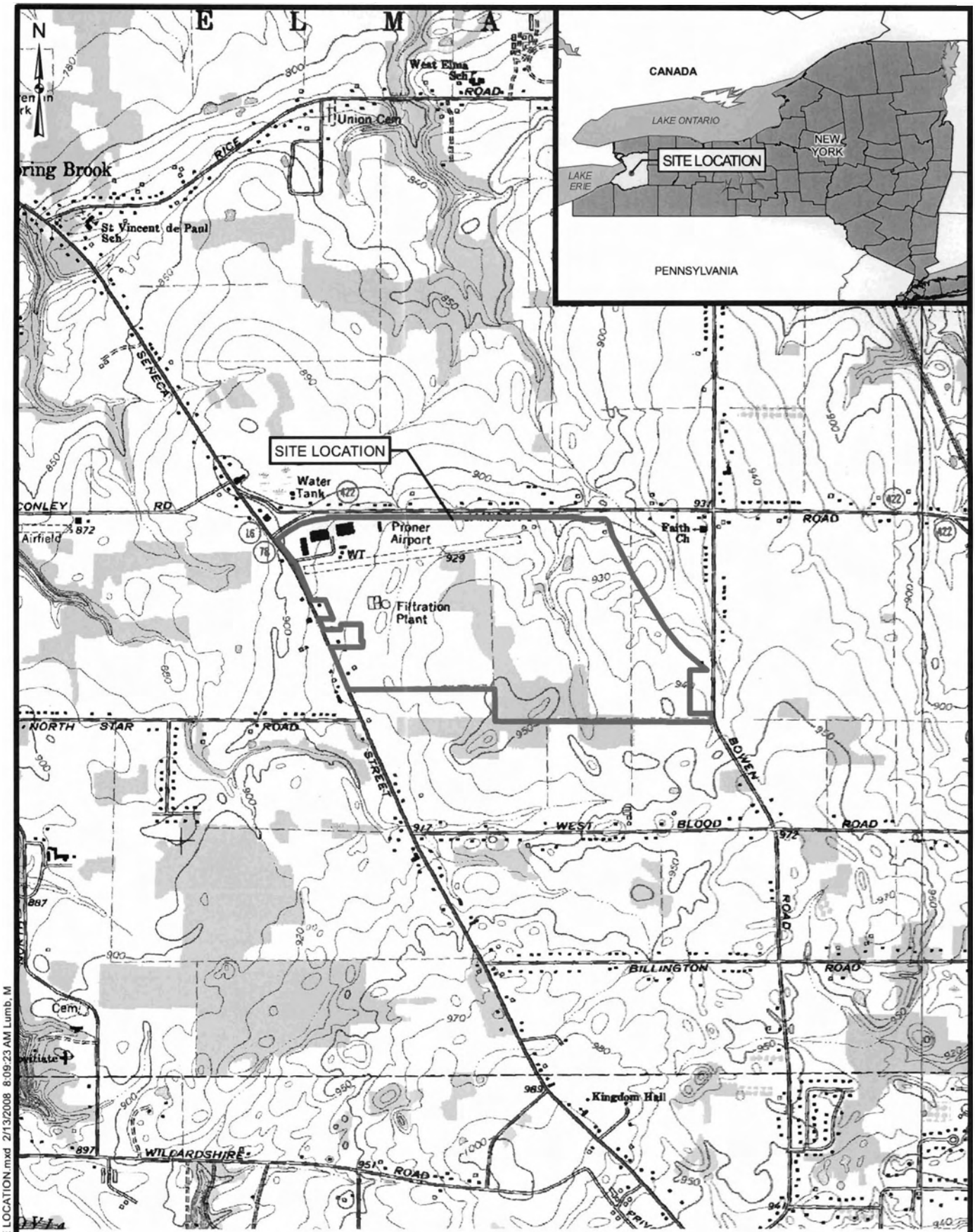
URS Corporation – New York



Sheldon Nozik, P.G., CHMM
Sr. Environmental Scientist



Jon Sundquist, PhD
Sr. Project Manager

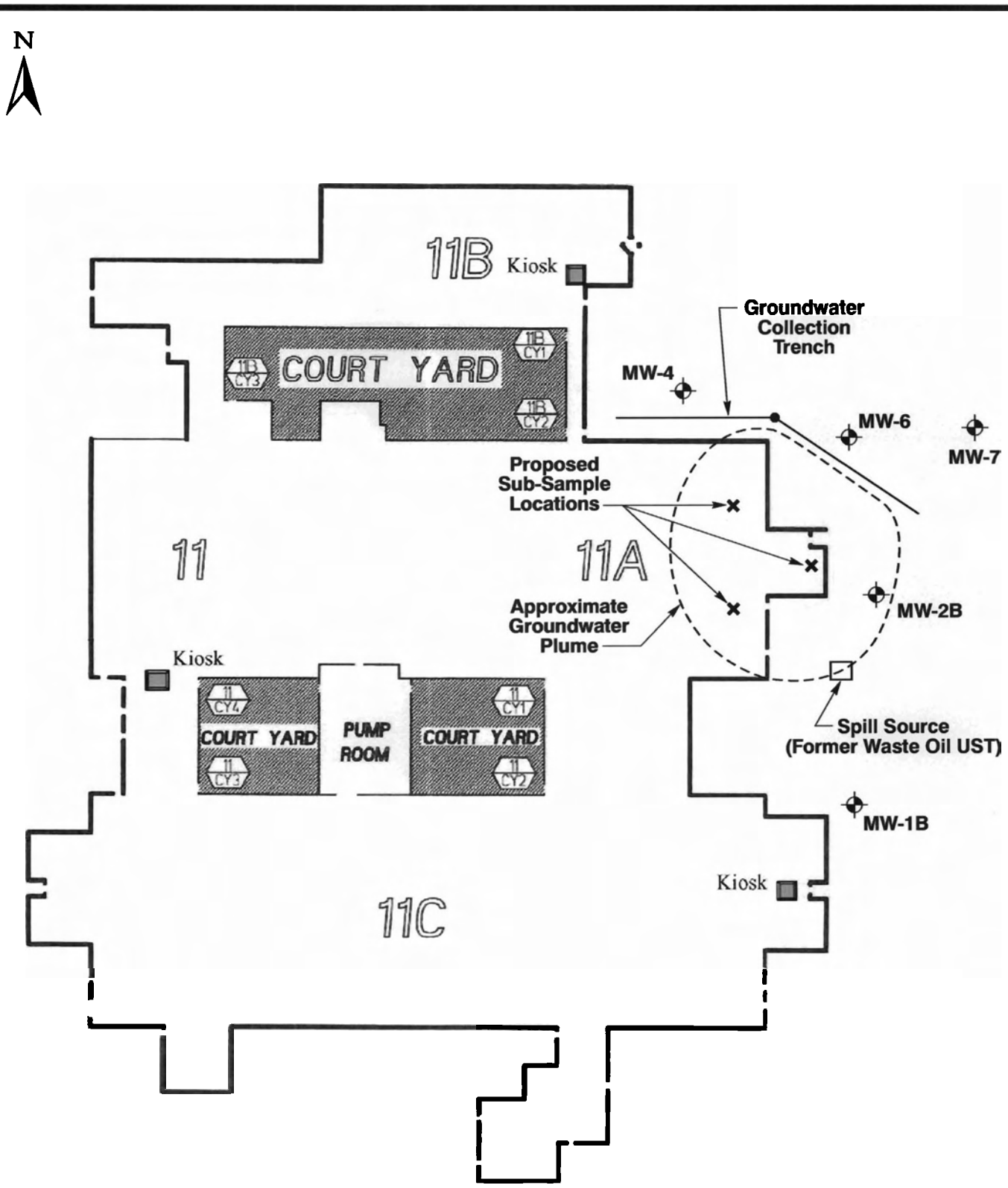


SOURCE:
USGS 7.5 Minute Topographic Quadrangles
Orchard Park - 1965 East Aurora - 1965

2,000 0 2,000 Feet

URS	SITE LOCATION MAP MOOG, INC EAST AURORA, NEW YORK	FIGURE 1

J:\11750046.00000\DB\GIS\SITE LOCATION.mxd 2/13/2008 8:09:23 AM Lumb, M



46-021208-GCM

AG19982-

URS	MOOG, INC. SAMPLE LOCATION MAP	FIGURE 2

ATTACHMENT 1

FIELD SAMPLING FORMS AND CHAIN OF CUSTODY FORMS

Summa Canister Data Sheet

Site: Moog Corporate Group

Samplers: John Boyd

Date: 5/19/08 – 5/20/08

Sample #	MOOG-SSA	20080519-FD	MOOG-SSB	MOOG-SSC	
Location	TREATMENT Room.	Treatment Room	Model Shop	Stock Room	
Summa Canister ID	2571	7806	2802	2933	
Flow Controller ID	7336711	7310254	7321842	7308370	
Additional Tubing Added	NO/ (YES) - How much 2'	NO/ (YES) - How much 2'	NO/ (YES) - How much 2'	NO/ (YES) - How much 2'	NO/ YES - How much
Purge Time (Start)	1032	1032	1108	~~1132~~ 1135	
Purge Time (Stop)	1036	1036	1113	1139	
Total Purge Time (min)	4	4	5 MIN	5 MIN	
Purge Volume	1 LITER	1 LITER	1 LITER	1 LITER	
Initial Tracer Gas Results	0 ppm	0 ppm	0 ppm	0 ppm	
Pressure Gauge - before sampling	-29	-29	-29	-29	
Sample Time (Start)	1147	1147	1146	1143	
Sample Time (Stop)	1117	1117	1114	1116	
Total Sample Time (min)	1410	1410	1408	1413	
Pressure Gauge - after sampling	-5	-5	-5	-6	
Sample Volume	6 LITERS	6 LITERS	6 LITERS	6 LITER	
Canister Pressure Went To Ambient Pressure?	YES / (NO)	YES / (NO)	YES / (NO)	YES / (NO)	YES / NO
Final Tracer Gas Results	—	—	—	—	
Weather 24 hours before and during sampling	5/19/08 Cloudy, Light INTERMITTENT Rain AM. PM WAS Cloudy to Partly Cldy. Temps in high 40's. SW Breeze				
General Comments:	5/20/08- Partly Cloudy. Temps MID 50's AM. W-SW Breeze.				

AIR SAMPLE
CHAIN OF CUSTODY RECORD

URS CORPORATION
77 GOODELL STREET
BUFFALO, NY 14203
PHONE: 716-856-5636

URS CONTACT: Jim Lehnen 716-856-5636

PROJECT NUMBER: 11754810.00000
SITE NAME: MOOG, E. AURORA, NY
SAMPLERS (PRINT/SIGNATURE): John Boyd
DELIVERY SERVICE: ~~Fed Ex~~ Courier AIRBILL NO.:

LAB: Columbia Analytical Services
SHIPPING CONTAINER: 1 of 1
PAGE: 1 of 1

LOCATION IDENTIFIER	SAMPLE DATE	SAMPLE TIME	SAMPLE ID	MATRIX CODE	CANISTER (LITERS)	CANISTER ID	FLOW CONTROLLER ID	INITIAL PRESSURE/ VACUUM (" Hg)	FINAL PRESSURE/ VACUUM (" Hg)	PRESSURE/VACUUM UPON LAB RECEIPT (" Hg)	REQUIRED ANALYSIS: TO-15	REMARKS	SAMPLE TYPE CODE
	5/19/08	1147	MOOG-SSA	AS	6L	2571	7336711	-29	-5		✓		N
	5/19/08	1146	MOOG-SSB	AS	6L	2802	7321842	-29	-5		✓		N
	5/19/08	1143	MOOG-SSC	AS	6L	292	7308370	-29	-6		✓		N
	5/19/08	—	20080519-FD-1	AS	6L	7806	7310254	-29	-5		✓		FD-1

MATRIX CODES: AA - AMBIENT AIR; AI - INDOOR AIR; AQ - FIELD QC; AS - SUB-SLAB AIR; GS - SOIL GAS

SAMPLE TYPE CODES: N# - NORMAL ENVIRONMENTAL SAMPLE; FD# - FIELD DUPLICATE; MS# - MATRIX SPIKE; (# - SEQUENTIAL NUMBER (FROM 1 TO 9) TO ACCOMMODATE MULTIPLE SAMPLES IN A SINGLE DAY)

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
John Boyd	5/20/08	1330	J. Hall CMS	5/21/08	1125
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LAB BY (SIGNATURE)	DATE	TIME

SPECIAL INSTRUCTIONS: See Attached parameter List, or contact Jim Lehnen, URS, if Questions.

Distribution: Original accompanies shipment, copy to project file

URSF-075K/1 OF 1/ColCR/GCM

AIR SAMPLE
CHAIN OF CUSTODY RECORD

URS CORPORATION
77 GOODELL STREET
BUFFALO, NY 14203
PHONE: 716-856-5636

URS CONTACT: Jim Lehnen

PROJECT NUMBER: 11175481.00000

SITE NAME: Moog, E. Aurora

SAMPLERS (PRINT/SIGNATURE): John Boyd

DELIVERY SERVICE: Courier AIRBILL NO.:

LAB: Columbia Analytical Services

SHIPPING CONTAINER 1 of 1

PAGE 1 of 1

LOCATION IDENTIFIER	SAMPLE DATE	SAMPLE TIME	SAMPLE ID	MATRIX CODE	CANISTER (LITERS)	CANISTER ID	FLOW CONTROLLER ID	INITIAL PRESSURE/ VACUUM (" Hg)	FINAL PRESSURE/ VACUUM (" Hg)	PRESSURE/VACUUM UPON LAB RECEIPT (" Hg)	REQUIRED ANALYSIS	REMARKS	SAMPLE TYPE CODE
			NOT USED - DO NOT Analyze			2935	7309963					DO NOT Analyze - NOT USED	

MATRIX CODES: AA - AMBIENT AIR; AI - INDOOR AIR; AQ - FIELD QC; AS - SUB-SLAB AIR; GS - SOIL GAS

SAMPLE TYPE CODES: N# - NORMAL ENVIRONMENTAL SAMPLE; FD# - FIELD DUPLICATE; MS# - MATRIX SPIKE; (# - SEQUENTIAL NUMBER (FROM 1 TO 9) TO ACCOMMODATE MULTIPLE SAMPLES IN A SINGLE DAY)

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
John Boyd	5/20/08	1330		5/21/08	1125
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LAB BY (SIGNATURE)	DATE	TIME

SPECIAL INSTRUCTIONS

Distribution: Original accompanies shipment, copy to project file

ATTACHMENT 2

COPY OF FIELD NOTEBOOK

MOOG, E. AURORA

MAy 19, 2008 WX. Cloudy 40° F. SW Breeze

0730 — John Boyd, URS Corp arrived at Enterprise Rent-A-CAR. Picked up rental car

0750. arrived at office. Picked up CAR.

0815 - Left office - Drove TO MOOG

0900 — arrived at MOOG. Set up sampling canisters — BEGAN TO RAIN - Light RAIN

0950 Called CHRIS RUSSIN - will meet me at 1000

1000 Met Chris Russin + Robin. Took equipment INTO Building - SAmpled three LOCATIONS — MOOG-SSA, SSB, SSC. - All SUB-SLAB LOCATIONS.

Samples Started as follows:

ID	Time	Comments
MOOG-SSA	1147	DUP IS 20080519-FD-1
MOOG-SSB	1146	
MOOG-SSC	1143	

Photos Taken at Time of set up - NOT The start, except MOOG-SSC.

1155 Left The building - Drove to Office

1240 arrived at office.

MOOG, E. AURORA

MAy 20, 2008 WX. Partly Cloudy. Temps MID 50°F. Breeze from W-SW.

Personnel: JOHN BOYD, URS.

1010 - Left office + drove TO SITE.

1038 - arrived at MOOG - Bldg 11. Cleaned cement PATCHING Trowels. Prepared Equipment.

1050 Met Chris Russin from Moog. Entered building + prepared to Shut down samples.

1114. Shut down Moog - SSB

1116 Shut down Moog - SSC

1117 Shut down Moog - SSA and 20080519-FD-1

~~1158~~ PATched holes.

1158 Left Building. Packed up samples and Equipment in PARKING LOT

1235. Left The SITE for The office

130 - arrived at office. Unpacked VAN. Prepared Equipment for Shipment until 1400.

Two boxes (5 CANS) sent to Columbia ANALYTICAL SERVICES. One can NOT used - a spare.

ATTACHMENT 3

PHOTOGRAPHS OF SAMPLE LOCATIONS

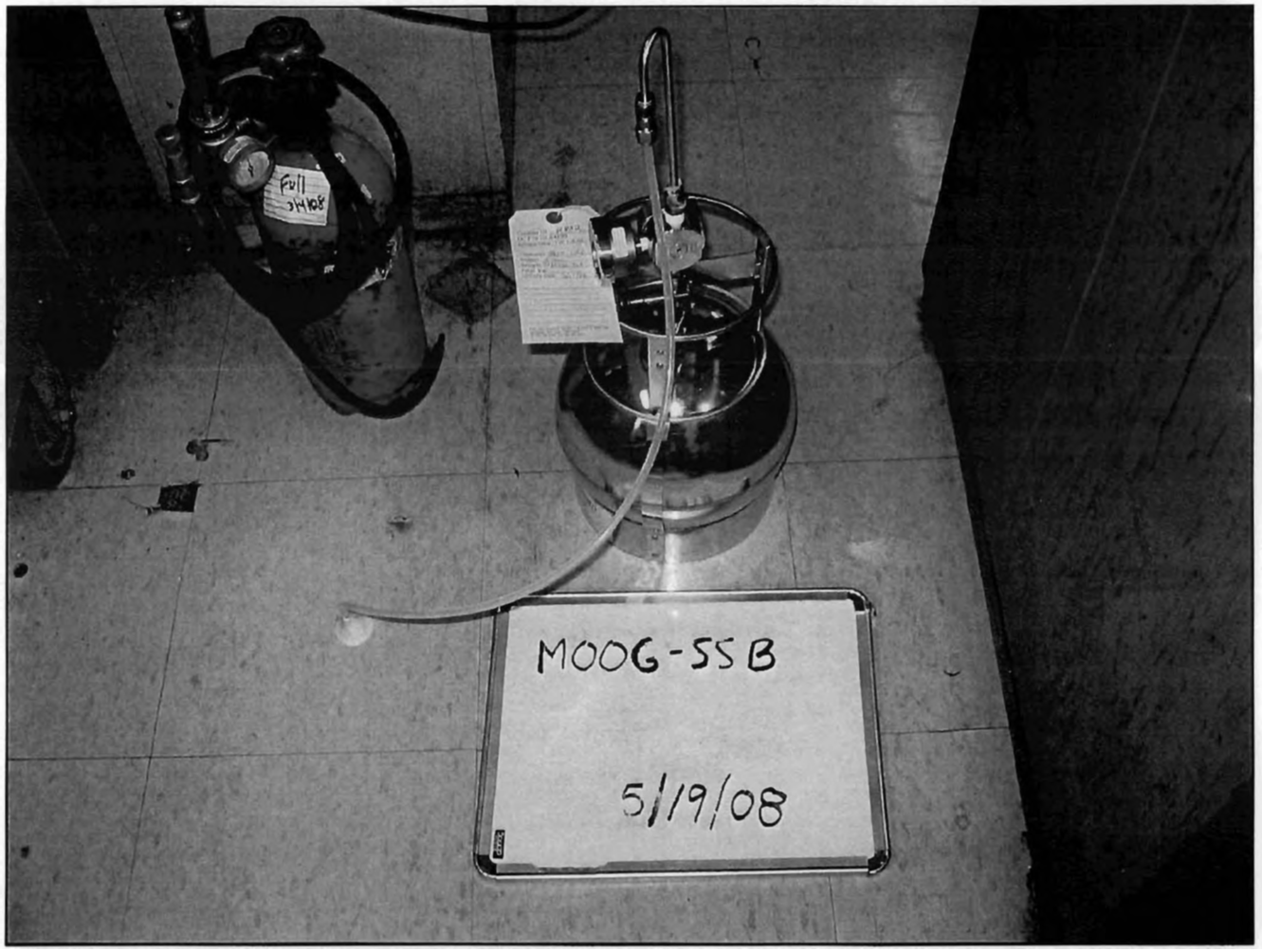
SUB-SLAB SAMPLE MOOG-SSA
DUPLICATE SAMPLE 20080519-FD-1
05/19/2008

Moog, Inc.
East Aurora, New York

URS

SUB-SLAB SAMPLE MOOG-SSB
05/19/2008

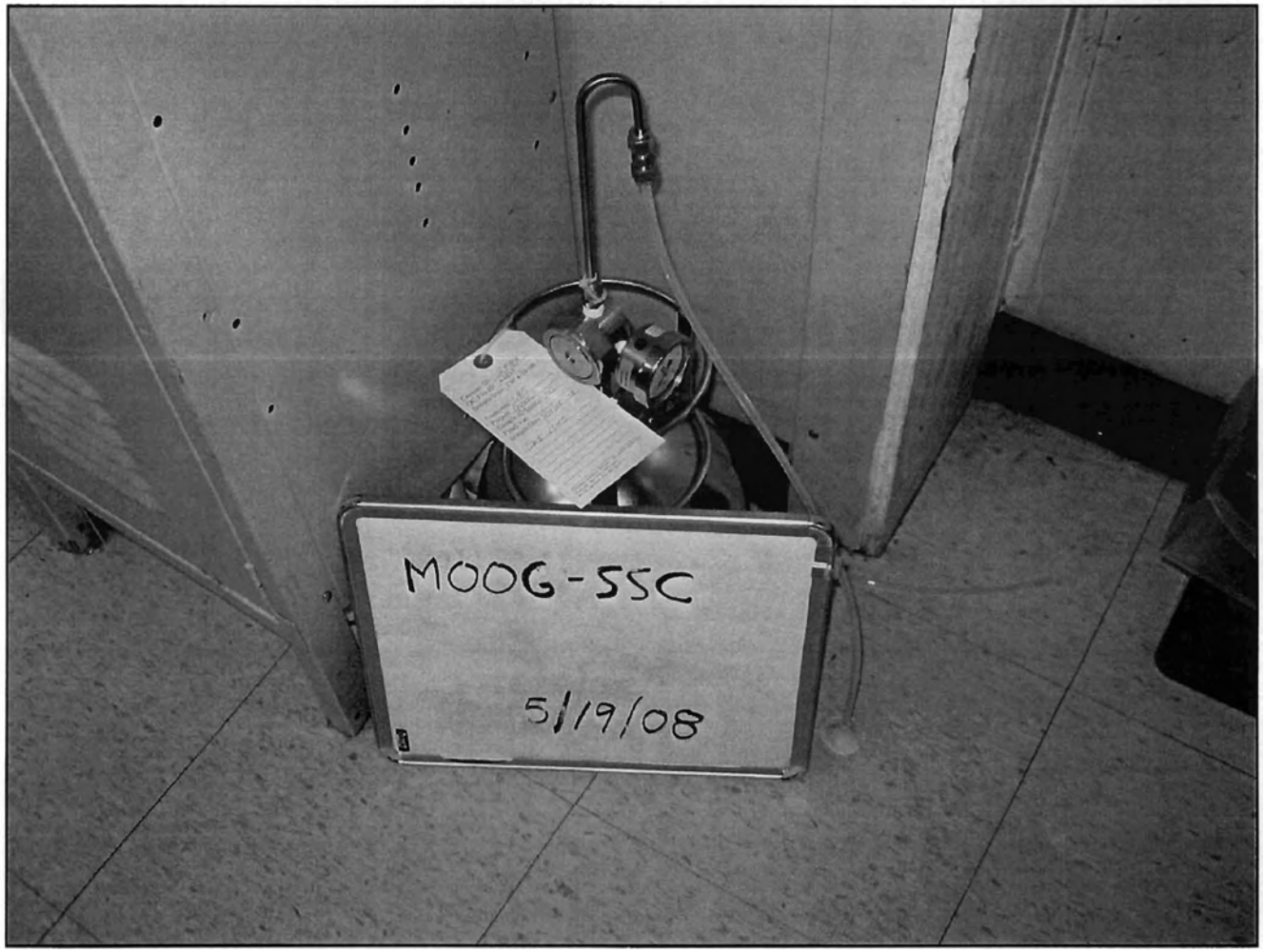
Moog, Inc.
East Aurora, New York



URS

SUB-SLAB SAMPLE MOOG-SSC
05/19/2008

Moog, Inc.
East Aurora, New York



URS

ATTACHMENT 4

DATA USABILITY SUMMARY REPORT

DATA USABILITY SUMMARY REPORT

VAPOR INTRUSION INVESTIGATION AT THE MOOG FACILITY JAMISON ROAD AND SENECA STREET EAST AURORA, ERIE COUNTY, NEW YORK

Prepared For

MOOG, INCORPORATED
JAMISON ROAD AND SENECA STREET
EAST AURORA, NEW YORK

Prepared by:

URS CORPORATION
77 GOODELL STREET
BUFFALO, NY 14203

JULY 2008

TABLE OF CONTENTS

I. INTRODUCTION

This Data Usability Summary Report (DUSR) has been prepared following the guidelines provided in New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation *Draft DER-10, Technical Guidance for Site Investigation and Remediation, Appendix 2B - Guidance for the Development of Data Usability Summary Reports*, December 2002. Analytical data for the three sub-slab soil vapor samples plus one field duplicate collected by URS personnel on May 19, 2008 as part of the soil vapor intrusion investigation are discussed in this DUSR.

II. ANALYTICAL METHODOLOGIES AND DATA VALIDATION

The analytical laboratory that performed the analyses is Columbia Analytical Services, Inc., located in Rochester, NY. The samples were analyzed for a site-specific list of volatile organic compounds (VOCs), as identified in Table 1, following USEPA Compendium Method TO-15, *Determination of VOCs in Air Collected in Specially Prepared Canisters and Analyzed By Gas Chromatography/Mass Spectrometry (GC/MS)*, January 1999.

A limited data validation was performed on the samples following the guidelines in USEPA Region II *Validating Air Samples – Volatile Organic Analysis of Ambient Air in Canister By Method TO-15, SOP HW-31, Rev. 4*, October 2006. The limited data validation included a review of holding times; completeness of all required deliverables; quality control (QC) results (blanks, instrument tunes, calibration standards, duplicate analyses, and laboratory control sample recoveries) to determine if the data are within the protocol-required QC limits and specifications; a determination that all samples were analyzed using established and agreed upon analytical protocols; an evaluation of the raw data to confirm the results provided in the data summary sheets; and a review of laboratory data qualifiers.

The validated analytical results are presented in Table 1. Copies of the validated laboratory results (i.e., Form 1's) are presented in Attachment A. Documentation supporting the qualification of data (where applicable), along with copies of the chain-of-custody (COC) records and laboratory report case narrative, is presented in Attachment B. Only problems affecting data usability are discussed in this report.

III. DATA DELIVERABLE COMPLETENESS

A full deliverable data package (i.e., NYSDEC ASP Category B or equivalent) was provided by the laboratory, and included all reporting forms and raw data necessary to fully evaluate and verify the reported analytical results.

IV. SAMPLE HANDLING AND RECEIPT/HOLDING TIMES

All samples were received by the laboratories intact and under proper chain-of-custody, and were analyzed within the required holding times.

V. NON-CONFORMANCES

There were no non-conformances identified during validation, and no data were qualified.

VI. SAMPLE RESULTS AND REPORTING

All sample results were reported in accordance with method requirements and were adjusted for sample size and dilution factors. The quantitation limits reported in Table 1 for the non-detect results represent the lowest achievable at the level of dilution used for each sample.

VII. SUMMARY

All sample analyses were found to be compliant with the method criteria and all results are usable as reported. URS does not recommend the re-collection of any samples at this time.

Prepared By: James J. Lehnen, Senior Chemist JJL **Date:** 7/1/08

Reviewed By: Mary E. Bitka, Principal Chemist MEB **Date:** 7/2/08

DEFINITIONS OF USEPA REGION II DATA QUALIFIERS

U – The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J – The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ – The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R – The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

D – The sample results are reported from a separate secondary dilution analysis.

NJ – The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

TABLE 1
VALIDATED SUB-SLAB SOIL VAPOR SAMPLE ANALYTICAL RESULTS
MOOG, INC. - EAST AURORA, NEW YORK
MAY 2008

Location ID		SSA	SSA	SSB	SSC
Sample ID		20080519-FD-1	MOOG-SSA	MOOG-SSB	MOOG-SSC
Matrix		Sub-slab Vapor	Sub-slab Vapor	Sub-slab Vapor	Sub-slab Vapor
Depth Interval (ft)		-	-	-	-
Date Sampled		05/19/08	05/19/08	05/19/08	05/19/08
Parameter	Units	Field Duplicate (1-1)			
Volatile Organic Compounds					
1,1,1-Trichloroethane	UG/M3	65	68	610	420
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/M3	640	650	120	59
1,1-Dichloroethane	UG/M3	2.2 J	2.2 J	2.0 J	0.56 J
1,1-Dichloroethene	UG/M3	5.4 U	5.2 U	6.7 U	5.5 U
1,2-Dichloroethene (cis)	UG/M3	5.4 U	5.2 U	6.7 U	5.5 U
1,2-Dichloroethene (trans)	UG/M3	5.4 U	5.2 U	6.7 U	5.5 U
Tetrachloroethene	UG/M3	33	33	140	71
Trichloroethene	UG/M3	18	18	29	4.6
Vinyl chloride	UG/M3	3.5 U	3.4 U	4.3 U	3.5 U

Flags assigned during chemistry validation are shown

UG/M3 - Micrograms per cubic meter.
U - Not detected above the reported quantitation limit.
J - The reported concentration is an estimated value.
Made By: JJL 6/23/2008 **Checked By:** MEB 6/23/2008

Detection Limits shown are PQL

J:\Small_Chemistry_Jobs\DB\Program\EDMS.md
Printed: 6/23/2008 1:17:07 PM
[SITEID] = '11175481' AND [LOGDATE] = #5/19/2008#

ATTACHMENT A

VALIDATED FORM 1'S

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD TO-15
Reported: 06/23/08

URS Corporation
Project Reference: MOOG - E. AURORA, NY
Client Sample ID : 20080519-FD-1

Date Sampled : 05/19/08 : **Order #:** 1102587 **Sample Matrix:** AIR
Date Received: 05/21/08 **Submission #:** R2844019 **Analytical Run** 162223

DATE ANALYZED : 05/29/08
ANALYTICAL DILUTION: 8.00
CAN DILUTION : 1.54 Pi= -5.5 Pf= 7.7

ANALYTE	MRL UG/M3	RESULT UG/M3	MRL PPBv	RESULT PPBv
1,1-DICHLOROETHANE	0.45	2.2 J	0.11	0.53 J
1,1-DICHLOROETHENE	0.44	5.4 U	0.11	1.4 U
TRANS-1,2-DICHLOROETHENE	0.44	5.4 U	0.11	1.4 U
CIS-1,2-DICHLOROETHENE	0.44	5.4 U	0.11	1.4 U
TETRACHLOROETHENE	0.15	33	0.022	4.9
1,1,1-TRICHLOROETHANE	0.60	65	0.11	12
TRICHLOROETHENE	0.12	18	0.022	3.3
1,1,2-TRICLORO-1,2,2-TRIFLUOROETHAN	0.17	640	0.022	83
VINYL CHLORIDE	0.28	3.5 U	0.11	1.4 U

SURROGATE RECOVERIES	QC LIMITS		
BROMOFLUOROBENZENE	(70 - 130 %)	100	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD TO-15
Reported: 06/23/08

URS Corporation
Project Reference: MOOG - E. AURORA, NY
Client Sample ID : MOOG-SSA

Date Sampled : 05/19/08 11:47 **Order #:** 1102584 **Sample Matrix:** AIR
Date Received: 05/21/08 **Submission #:** R2844019 **Analytical Run** 162223

DATE ANALYZED : 05/29/08
ANALYTICAL DILUTION: 8.00
CAN DILUTION : 1.50 Pi= -5.1 Pf= 7.2

ANALYTE	MRL UG/M3	RESULT UG/M3	MRL PPBv	RESULT PPBv
1,1-DICHLOROETHANE	0.45	2.2 J	0.11	0.55 J
1,1-DICHLOROETHENE	0.44	5.2 U	0.11	1.3 U
TRANS-1,2-DICHLOROETHENE	0.44	5.2 U	0.11	1.3 U
CIS-1,2-DICHLOROETHENE	0.44	5.2 U	0.11	1.3 U
TETRACHLOROETHENE	0.15	33	0.022	4.9
1,1,1-TRICHLOROETHANE	0.60	68	0.11	13
TRICHLOROETHENE	0.12	18	0.022	3.4
1,1,2-TRICLORO-1,2,2-TRIFLUOROETHAN	0.17	650	0.022	85
VINYL CHLORIDE	0.28	3.4 U	0.11	1.3 U

SURROGATE RECOVERIES	QC LIMITS		
BROMOFLUOROBENZENE	(70 - 130 %)	100	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD TO-15
Reported: 06/23/08

URS Corporation
Project Reference: MOOG - E. AURORA, NY
Client Sample ID : MOOG-SSB

Date Sampled : 05/19/08 11:46 **Order #:** 1102585 **Sample Matrix:** AIR
Date Received: 05/21/08 **Submission #:** R2844019 **Analytical Run** 162223

DATE ANALYZED : 05/29/08
ANALYTICAL DILUTION: 10.00
CAN DILUTION : 1.54 Pi= -5.8 Pf= 7.3

ANALYTE	MRL UG/M3	RESULT UG/M3	MRL PPBv	RESULT PPBv
1,1-DICHLOROETHANE	0.45	2.0 J	0.11	0.51 J
1,1-DICHLOROETHENE	0.44	6.7 U	0.11	1.7 U
TRANS-1,2-DICHLOROETHENE	0.44	6.7 U	0.11	1.7 U
CIS-1,2-DICHLOROETHENE	0.44	6.7 U	0.11	1.7 U
TETRACHLOROETHENE	0.15	140	0.022	20
1,1,1-TRICHLOROETHANE	0.60	610	0.11	110
TRICHLOROETHENE	0.12	29	0.022	5.4
1,1,2-TRICLORO-1,2,2-TRIFLUOROETHAN	0.17	120	0.022	16
VINYL CHLORIDE	0.28	4.3 U	0.11	1.7 U

SURROGATE RECOVERIES	QC LIMITS		
BROMOFLUOROBENZENE	(70 - 130 %)	104	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD TO-15
Reported: 06/23/08

URS Corporation
Project Reference: MOOG - E. AURORA, NY
Client Sample ID : MOOG-SSC

Date Sampled : 05/19/08 11:43 **Order #:** 1102586 **Sample Matrix:** AIR
Date Received: 05/21/08 **Submission #:** R2844019 **Analytical Run** 162223

DATE ANALYZED : 05/29/08
ANALYTICAL DILUTION: 8.00
CAN DILUTION : 1.57 Pi= -6.4 Pf= 7.1

ANALYTE	MRL UG/M3	RESULT UG/M3	MRL PPBv	RESULT PPBv
1,1-DICHLOROETHANE	0.45	0.56 J	0.11	0.14 J
1,1-DICHLOROETHENE	0.44	5.5 U	0.11	1.4 U
TRANS-1,2-DICHLOROETHENE	0.44	5.5 U	0.11	1.4 U
CIS-1,2-DICHLOROETHENE	0.44	5.5 U	0.11	1.4 U
TETRACHLOROETHENE	0.15	71	0.022	11
1,1,1-TRICHLOROETHANE	0.60	420	0.11	76
TRICHLOROETHENE	0.12	4.6	0.022	0.86
1,1,2-TRICLORO-1,2,2-TRIFLUOROETHAN	0.17	59	0.022	7.8
VINYL CHLORIDE	0.28	3.5 U	0.11	1.4 U

SURROGATE RECOVERIES	QC LIMITS		
BROMOFLUOROBENZENE	(70 - 130 %)	104	%

ATTACHMENT B

SUPPORT DOCUMENTATION

CASE NARRATIVE

COMPANY: URS Corp.
PROJECT: MOOG
SUBMISSION #: R2844019

URS air samples were collected on 5/19/08 received at CAS on 5/21/08 in good condition. An ASP-B validation report has been prepared. One empty SUMMA canister was returned.

TO - 15 INDOOR AIR ANALYSIS

Four samples were analyzed for a site list of Volatile Organics by EPA method TO-15.

All initial and continuing calibrations were compliant.

The Blank Spike (LCS) recoveries were all within QC limits of 70 – 130 %.

No analytical or QC problems were encountered with these analyses.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the details conditioned above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

AIR SAMPLE
CHAIN OF CUSTODY RECORD

URS CORPORATION
77 GOODELL STREET
BUFFALO, NY 14203
PHONE: 716-856-5636

URS CONTACT: Jim Lehnen 716-856-5636

PROJECT NUMBER: 11754810.00000

SITE NAME: MOOG, E. AURORA, NY

LAB: Columbia Analytical Services

SHIPPING CONTAINER: 1 of 1

PAGE: 1 of 1

SAMPLERS (PRINT/SIGNATURE): John Boyd

DELIVERY SERVICE: ~~Fed Ex~~ Courier AIRBILL NO.:

SAMPLE INFORMATION

LOCATION IDENTIFIER	SAMPLE DATE	SAMPLE TIME	SAMPLE ID	MATRIX CODE	CANISTER SIZE (LITERS)	CANISTER ID	FLOW CONTROLLER ID	INITIAL PRESSURE/ VACUUM (" Hg)	FINAL PRESSURE/ VACUUM (" Hg)	PRESSURE/VACUUM UPON LAB RECEIPT (" Hg)	REQUIRED ANALYSIS: TO-15	REMARKS	SAMPLE TYPE CODE
	5/19/08	1147	MOOG-SSA	AS	6L	2571	7336711	-29	-5		✓		N
	5/19/08	1146	MOOG-SSB	AS	6L	2802	7321842	-29	-5		✓		N
	5/19/08	1143	MOOG-SSC	AS	6L	2933	7308370	-29	-6		✓		N
	5/19/08	—	20080519-FD-1	AS	6L	7806	7310254	-29	-5		✓		FD-1

CODES: AA - AMBIENT AIR; AI - INDOOR AIR; AQ - FIELD QC; AS - SUB-SLAB AIR; GS - SOIL GAS

SAMPLE TYPE CODES: N# - NORMAL ENVIRONMENTAL SAMPLE; FD# - FIELD DUPLICATE; MS# - MATRIX SPIKE; (# SEQUENTIAL NUMBER (FROM 1 TO 9) TO ACCOMMODATE MULTIPLE SAMPLES IN A SINGLE DAY)

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
John Boyd	5/20/08	1330	J. Mitchell CAS	5/21/08	1125
J. Mitchell CAS	5/21/08	1405	Debby Kelly CAS	5/21/08	1405

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LAB BY (SIGNATURE)	DATE	TIME

SPECIAL INSTRUCTIONS: See Attached parameter List, or contact Jim Lehnen, URS, if Questions.

15°C R2844019

Distribution: Original accompanies shipment, copy to project file

URSF-075K/1 OF 1/ColCR/GCM

000007

AIR SAMPLE
CHAIN OF CUSTODY RECORD

URS CORPORATION
77 GOODELL STREET
BUFFALO, NY 14203
PHONE: 716-856-5636

URS CONTACT: Jim Lehnen

PROJECT NUMBER: 11175481.00000

SITE NAME: Moog, E. Aurora

SAMPLERS (PRINT/SIGNATURE): John Boyd

DELIVERY SERVICE: Courier AIRBILL NO.:

LAB: Columbia Analytical Services

SHIPPING CONTAINER 1 of 1

PAGE 1 of 1

LOCATION IDENTIFIER	SAMPLE DATE	SAMPLE TIME	SAMPLE ID	MATRIX CODE	CANISTER SIZE (LITERS)	CANISTER ID	FLOW CONTROLLER ID	INITIAL PRESSURE/ VACUUM (" Hg)	FINAL PRESSURE/ VACUUM (" Hg)	PRESSURE/VACUUM UPON LAB RECEIPT (" Hg)	REQUIRED ANALYSIS	REMARKS	SAMPLE TYPE CODE
			NOT USED - DO NOT ANALYZE			2935	7309963					DO NOT ANALYZE - NOT USED	

SAMPLE INFORMATION

MATRIX CODES	AA - AMBIENT AIR	AI - INDOOR AIR	AQ - FIELD QC	AS - SUB-SLAB AIR	GS - SOIL GAS

SAMPLE TYPE CODES	N# - NORMAL ENVIRONMENTAL SAMPLE	FD# - FIELD DUPLICATE	MS# - MATRIX SPIKE	(# - SEQUENTIAL NUMBER (FROM 1 TO 9) TO ACCOMMODATE MULTIPLE SAMPLES IN A SINGLE DAY)

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
John Boyd	5/20/08	1330	J. Hyatt CAS	5/21/08	1125
J. Hyatt CAS	5/21/08	1409	Debby Pratt CAS	5/21/08	1405

RELINQUISHED BY (SIGNATURE) / RECEIVED FOR LAB BY (SIGNATURE)

SPECIAL INSTRUCTIONS

Distribution: Original accompanies shipment, copy to project file

URSF-075K/1 OF 1/ColCR/GCM

Cooler Receipt And Preservation Check Form

Project/Client _____ Submission Number R2844019.

Cooler received on 5/21/08 by: HP COURIER: CAS UPS FEDEX VELOCITY CLIENT

1.	Were custody seals on outside of cooler?	YES	NO			
2.	Were custody papers properly filled out (ink, signed, etc.)?	YES	NO			
3.	Did all bottles arrive in good condition (unbroken)?	YES	NO			
4.	Did any VOA vials have significant* air bubbles?	YES	NO	N/A		
5.	Were **Ice** or **Ice packs** present?	YES	NO			
6.	Where did the bottles originate?	CAS/ROC,	CLIENT			
7.	Temperature of cooler(s) upon receipt:	15				
	Is the temperature within 0° - 6° C?:	Yes	Yes	Yes	Yes	Yes
	If No, Explain Below	No	No	No	No	No

Date/Time Temperatures Taken: 5/21/08 1411

Thermometer ID: 161 / ~~IR GUN#2~~ / IR GUN#3 Reading From: Temp Blank / ~~Sample Bottle~~

If out of Temperature, note packing/ice condition, Client Approval to Run Samples: _____

PC Secondary Review: MM 5/21/08

Cooler Breakdown: Date: 5/21/08 by: AMM

1.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	YES	NO
2.	Did all bottle labels and tags agree with custody papers?	YES	NO
3.	Were correct containers used for the tests indicated?	YES	NO
4.	Air Samples: Cassettes / Tubes Intact	Canisters Pressurized	Tedlar® Bags Inflated N/A

Explain any discrepancies: _____

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3								
≤2	H_2SO_4								
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid					
	$Na_2S_2O_3$	-	-			*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet			
	Zn Aceta	-							
	HCl	*	*						

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust: _____

Bottle lot numbers: _____

Other Comments:

PC Secondary Review: _____

*significant air bubbles are greater than 5-6 mm