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Superfund - HW
Spills - SP
ERP - E
VCP - V
BCP - C

Golder Associates

Golder Associates Inc.

2221 Niagara Falls Boulevard, Suite 9
Niagara Falls, NY USA 14304
Telephone (716) 731-1560
Fax (716) 731-1652

REPORT ON

INDOOR SAMPLING
AIR AND GROUNDWATER QUALITY
WHEATFIELD BUSINESS PARK
WHEATFIELD, NEW YORK

Submitted to:

Textron Inc.
40 Westminster Street
Providence, Rhode Island 02903-6028

DISTRIBUTION:

1 Copy - Textron Inc.; Providence, Rhode Island
1 Copy - New York State Department of Health, Buffalo, New York
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May 2000 003-9242

Golder Associates Inc.

2221 Niagara Falls Boulevard, Suite 9
Niagara Falls, NY USA 14304
Telephone (716) 731-1560
Fax (716) 731-1652

May 2, 2000

003-9242

Textron Inc.
40 Westminster Street
Providence, Rhode Island 02903-6028

Attention: Ms. Leslie Alden

RE: INDOOR SAMPLING REPORT
AIR AND GROUNDWATER QUALITY
WHEATFIELD BUSINESS PARK
WHEATFIELD, NEW YORK

Dear Ms. Alden:

Golder Associates Inc. (Golder) is pleased to submit this report on indoor air and groundwater quality sampling at the Wheatfield Business Park (formerly the Bell Aerospace Textron facility) to Textron Inc. (Textron).

The sampling event was completed on March 16, 2000 in accordance with the approved work plan prepared by Golder, dated February 8, 2000. The sampling activities were performed by Golder personnel, the chemical analyses of the air quality were performed by Air Toxics Ltd. of Folsom, California and the chemical analyses of the groundwater were performed by Friend Laboratory, Inc. of Waverly, New York.

As always, Golder appreciates the opportunity to provide continuing services to Textron. If you have any questions, please call.

Very truly yours,

GOLDER ASSOCIATES INC.

Anthony L. Grasso, P.G.
Associate

ALG:mlb

Attachments

F/N: G:\Projects\003-9242\Reports\finalairsampling.doc

Cover Letter

Table of Contents i

1. INTRODUCTION

Golder Associates Inc. (Golder) has been retained by Textron Inc. (Textron) to provide consulting services to evaluate the potential presence of indoor airborne constituents that may have migrated from contaminated soil/groundwater beneath the Wheatfield Business Park complex and into the building. As part of these evaluations, Golder conducted air and groundwater quality sampling in a storage room that houses the open pit, located in the basement of the complex. This report presents the results of the sampling conducted in the storage room at the facility. This report also provides a brief discussion of the relevant background information, describes the sample collection procedures, presents the analytical results, and provides a summary and conclusions for the work performed.

2. BACKGROUND

The Wheatfield Business Park complex consists of three levels: a basement, first and second floor. The complex consists of over 2,000,000 square feet and over 30 tenants lease a majority of that space. Figure 1 presents the layout of the first and second floor and Figure 2 presents the basement of the complex.

The first floor is divided between office and warehouse space while the second floor is office space only. There are two freight elevators in the complex, as shown on Figure 1. The elevator at column 43E services all three floors at the complex and is used a few times a month. The elevator at column 37N services the first and second floor and is used a few times a year. The heating system at the complex is varied from area to area. Figure 1 illustrates the several types of heating units used at the facility.

The first floor warehouse space does not have any air conditioning units. The first and second floor office space is air-conditioned. The office space is air-conditioned by window mounted units and stationary units located on the first floor. The air handling units used to transfer heat to the second floor are also used to transfer air-conditioned air to the second floor (see Figure 1).

The basement is currently unoccupied, has been for several years, and has no heating system. The basement area previously housed offices, a cafeteria, a bakery, and research work stations. The complex's electrical power substation and sanitary lift station are located on this floor. Two decommissioned ventilation shafts are located in the basement and outside air can enter the basement through these vents. Maintenance personnel infrequently access the basement (approximately 8 times a month). Refer to Figures 1 and 2 for the location of these features.

Volatile Organic Compounds (VOCs) have been documented to be present in the soil and groundwater at the Wheatfield Business Park complex. The VOCs of concern in the soil and groundwater are trichloroethene (TCE), cis-1,2-dichloroethene (cis-DCE), vinyl

chloride (VC), and methylene chloride (MC). The New York State Department of Environmental Conservation (NYSDEC) was concerned that the air quality in the complex may be impacted by the contaminated soil/groundwater beneath the complex. On December 7, 1999, members of the NYSDEC (Dr. William Wertz and Mr. Stan Radon) toured the Wheatfield Business Park complex (Figures 1 and 2) and decided that obtaining an indoor air quality sample from the basement floor at the complex would be appropriate.

3. SAMPLE COLLECTION PROCEDURES

3.1 General

Golder performed the air and groundwater sampling activities on March 16, 2000. The sampling activities were completed in accordance with the NYSDEC approved work plan dated February 8, 2000. The air quality sample was collected from an unused storage room that contains an open pit. The NYSDEC agreed that an air quality sample taken from this location is considered a "worst-case" scenario for the complex. The room is approximately 8 feet (ft) by 12 ft and the pit is approximately 6 ft square and 5 ft deep (Figure 2). The pit was observed to be full of groundwater from seepage into it. The air sample was analyzed for the VOCs of concern (TCE, cis-1,2-DCE, VC, and MC) according to the United States Environmental Protection Agency (USEPA) Method TO-15 and the groundwater sample was analyzed for the VOCs of concern according to USEPA Method 8260.

There was no noticeable air flow in the section of the basement where the sample was collected and the ambient air was subjected to potential airborne constituents from the groundwater in the pit. Earlier in the morning prior to sampling, a forklift was used in the main hallway of the basement that left a slight odor in the hallway. The storage area did not contain any noticeable odors from operation of the forklift. The maintenance staff used the elevator by column 43E in the morning prior to sampling. The temperature outside was approximately 0^{o} Celsius causing the complex heating units to operate during sampling. The sample area was inventoried for potential VOC containing materials prior to sampling and one possible source was detected consisting of a 55-gallon plastic drum partially filled with dry sediments. The drum was located approximately 30 ft outside of the storage area. No other potential VOC containing materials were observed by Golder in the vicinity of the sampling area. The following paragraphs describe the sample collection procedures and field documentation protocols that were followed.

3.2 Air Sample Collection Procedure

The sampling protocol for collection of the air quality sample was performed in general accordance with the protocol established under the "Draft Indoor Air Sampling and Analysis Protocol" prepared by the New York State Department of Health, dated January 3, 1997. The protocol is targeted for air quality sampling in residential homes, not for an industrial/commercial complex like the Wheatfield Business Park. However, Golder adhered to the applicable protocol as stated in this draft document for the proposed indoor air quality sample. The following procedures were followed during sampling:

- The sample collected consisted of one 6 liter Summa™ canister sample (Sample I.D. - AIR-00-01). The sample collection airflow rate was adjusted to allow for a one-hour sampling period using a flow controller device provided by Air Toxics. The sample (AIR-00-01) was obtained from a level of approximately three feet above the storage room floor. The storage room door was closed during the sampling event and the room was not vented before sampling. The ambient air temperature inside the storage room at the time of sampling was 18° Celsius;
- A laboratory prepared trip blank (Sample I.D. - TRIP BLANK) was placed in the storage room during air sampling and accompanied the air sample in the sample shuttle. The trip blank also consisted of a 6 liter Summa™ canister;
- Proper chain-of-custody procedures were followed and the chain-of custody record is included in Appendix A; and
- The samples were sealed in the shuttle and the filled shuttle was then relinquished to Air Toxics Ltd. via overnight courier.

3.3 Groundwater Sample Collection Procedures

3.3.1 Purging

Prior to purging, the depth to water in the sump pit was measured using a tape measure. Purging of the sump pit was performed using a submersible pump and was performed by

the facility maintenance staff. The sump pit was purged for a total of 24-hours with an estimated volume of 14,400 gallons removed. The following table represents the measured draw down of the water during purging:

Depth to Water from Grate (ft)	Date	Time	Remarks
1.20	03/13/00	1:00 PM	Pump Turned On
1.75	03/14/00	10:00 AM	
3.75	03/14/00	1:10 PM	Pump Turned Off

The sump had two 6-inch diameter concrete conduits enter the pit (one from the east and one from the west) approximately 1.5 ft below the top of grate. The concrete conduits continually drained groundwater to the sump while purging. During the initial 21 hours of purging, the water level in the sump only dropped 0.55 ft due to the amount of groundwater stored inside the 6-inch diameter concrete conduits that enter the sump. During the final 3 hours of purging, the water level dropped approximately 2 ft due to the depletion of groundwater stored in the 6-inch concrete conduits.

The following recovery rates were measured after purging:

Depth to Water from Grate (ft)	Date	Time	Remarks
3.75	03/14/00	1:10 PM	Pump Turned Off
3.25	03/14/00	2:10 PM	
3.10	03/14/00	2:50 PM	
1.20	03/16/00	9:20 AM	Time of Sampling

3.3.2 Sampling

Prior to sampling, the groundwater in the sump pit had fully recharged back to its initial elevation. The groundwater sample was collected after the air sample was collected. A groundwater sample was collected from the sump and measured for the following field parameters: pH, Eh, specific conductance, and temperature. The field parameter results were recorded on a sample collection information form and is included in Appendix B. A groundwater grab sample was then collected from the sump pit in pre-labeled (Sample I.D. - SUMP-00-01), laboratory-prepared, sample containers. The sample was collected within forty-eight hours of purging. The filled sample containers were then placed in a sturdy shuttle (insulated cooler) with sufficient ice to maintain the sample temperature at approximately 4° Celsius. A chain-of-custody form was completed and sealed in the shuttle and the filled shuttle was then relinquished to Friend Laboratory, Inc. (FLI) via overnight courier. The chain-of custody record is included in Appendix A.

One laboratory prepared trip blank sample was placed in the storage room during groundwater sampling and accompanied the groundwater sample in the sample shuttle. The sample was designated "TRIP BLANK" on the chain-of-custody form.

4. ANALYTICAL RESULTS

4.1 General

Laboratory analytical services were provided by Air Toxics for the air sample and FLI for the groundwater sample. The air samples were analyzed for the VOCs of concern (TCE, cis-1,2-DCE, VC, and MC) according to USEPA Method TO-15. A copy of the analytical results for air is included in Appendix C. The groundwater samples were analyzed for the VOCs of concern in accordance with USEPA Method 8260 and the analytical results are included in Appendix D.

4.2 Summary of Results

4.2.1 Air Results

The results of the VOC analysis for the March 16, 2000 air sampling event was compared to the permissible exposure limits (PELs) established by the Occupational Safety and Health Administration (OSHA) for the 8-hour time weighted average (TWAs), as described in 29 Code of Federal Regulations (CFR) Part 1910.1000. The results of the sampling are summarized below:

VOC	Result	OSHA PEL for the 8-hour TWA
Trichloroethene	1.2 ppbv	100 ppmv
Cis-1,2-dichloroethene	ND	200 ppmv
Vinyl Chloride	ND	1 ppmv
Methylene Chloride	1.7 ppbv	25 ppmv

Notes: ppmv - parts per million by volume
ppbv - parts per billion by volume
ND - not detected above method detection limit
OSHA - Occupational Safety and Health Administration
PEL - Permissible Exposure Limit
TWA - Time Weighted Average

The above results indicate that detections were encountered slightly above the method detection limit for TCE and MC while cis-DCE and VC were not detected above the method detection limit. However, the detections were significantly below the allowed OSHA PELs for the 8-hour TWA.

4.2.2 Groundwater Results

The results of the VOC analysis for the March 16, 2000 groundwater sampling event was compared to the class GA groundwater standards (New York State Ambient Water Quality Standards and Guidance Values, Division of Water Technical and Operational Guidance Series 1.1.1, June 1998). The sampling results are summarized below:

VOC	Result	Standard
Trichloroethene	ND	5 µg/L
Cis-1,2-dichloroethene	ND	5 µg/L
Vinyl Chloride	ND	2 µg/L
Methylene Chloride	ND	5 µg/L

Notes: ND - None Detected
µg/L - micrograms per liter (equivalent to parts per billion)

As identified by the laboratory analytical results, the VOCs of concern were not detected in the groundwater sample collected from the sump pit. The method detection limit used by the laboratory was, in all cases, below the required Standard.

4.3 Data Review

A data review was performed on the laboratory analytical results and consisted of verifying that the method holding times were not violated and that the method detection limits were achieved. Method detection limits for the parameters required for the sampling event were achieved. Holding times for the parameters required for the sampling event were not exceeded. As indicated in the Air Toxics and FLI laboratory reports, all recoveries were within the method acceptance limits.

4.4 Quality Assurance/Quality Control

Quality Assurance/Quality Control (QA/QC) samples included trip blanks for the air and groundwater sampling events. Analyses of the trip blanks did not indicate any detections of the VOCs of concern.

5. SUMMARY AND CONCLUSIONS

This report presents the results of air and groundwater samples collected on March 16, 2000 from the basement of the Wheatfield Business Park complex. The analytical results from the air sampling event was compared to the required OSHA regulations for air quality and the analytical results for the groundwater sampling event was compared to New York State class GA groundwater standards. The comparison indicates that based on the analytical results, the air quality in the storage room at the time of testing was not impacted. Furthermore, the groundwater sampled in the sump pit of the storage room was not impacted. Based on these data, the contaminated groundwater/soil beneath the facility has not appeared to have impacted the air quality in the Wheatfield Business Park complex nor the groundwater that enters the sump pit in the storage room of the complex.

GOLDER ASSOCIATES INC.

Michael L. Bracci
Project Engineer

Anthony L. Grasso, P.G.
Associate

ALG/MLB:mlb

F/N: G:\Projects\003-9242\Reports\finalairsampling.doc

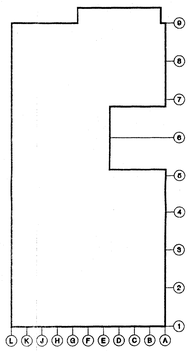
LEGEND

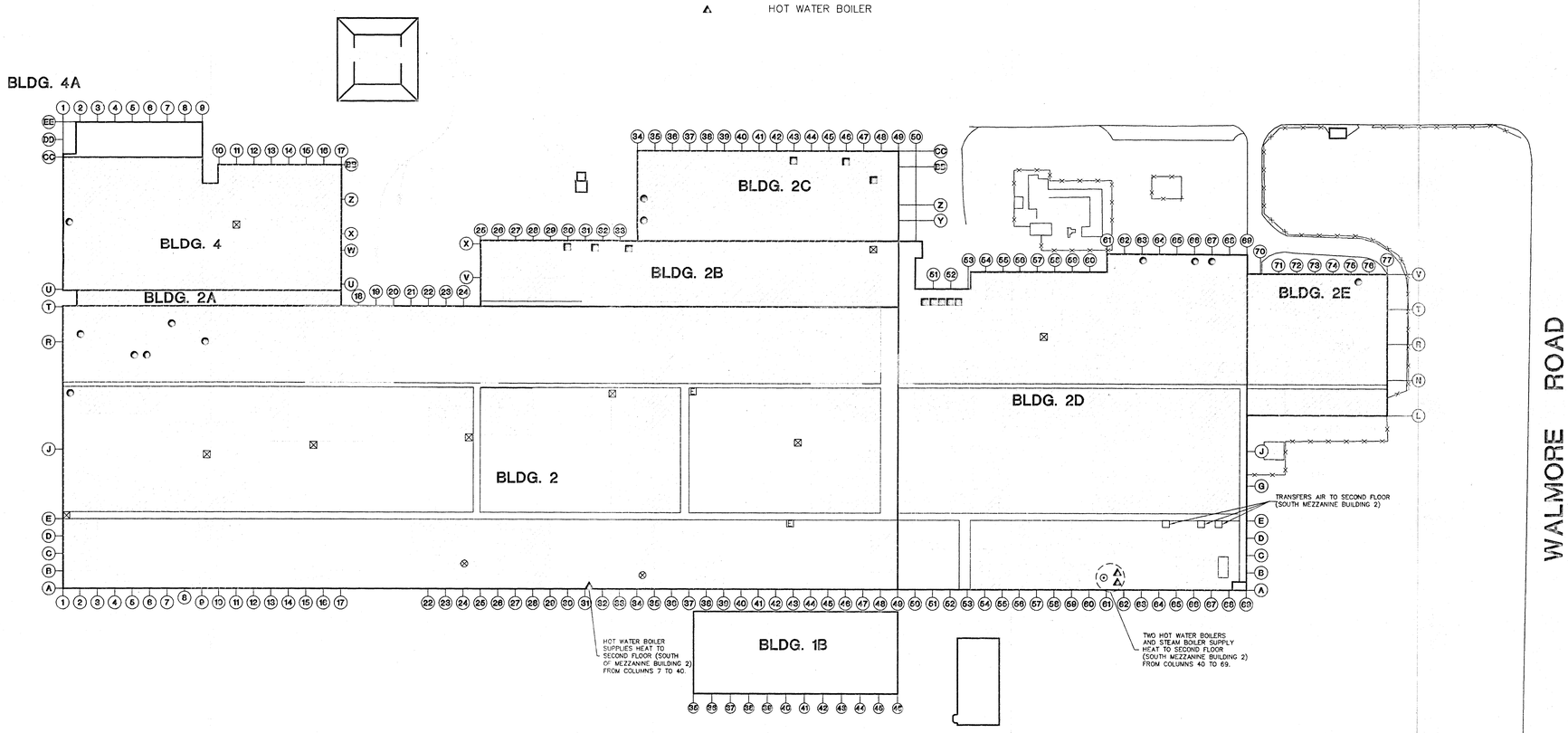
- AIR HANDLING UNITS
- ELEVATOR
- GAS FIRED AIR ROTATION UNIT
- CEILING SUSPENDED ELECTRIC RADIANT HEATER
- ELECTRIC FURNACE
- STEAM BOILER
- CEILING SUSPENDED GAS HEATER
- HOT WATER BOILER

OCCUPIED PROPERTY (APPROXIMATE.)

ALL SPACE WITH WHITE BACKGROUND INDICATES AVAILABLE SPACE FOR RENT.

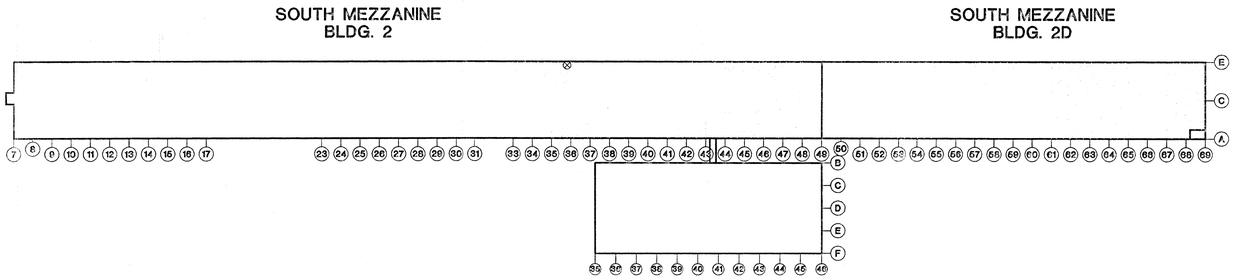
N



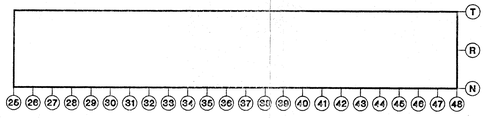


WALMORE ROAD

NIAGARA FALLS BLVD.



SECOND FLOOR
BLDG. 1B



BUILDING 2 - NORTH MEZZANINE

SCALE IN FEET
0 80 160 240 320

CLIENT/PROJECT
WHEATFIELD BUSINESS PARK COMPLEX

TITLE
PROPERTY LAYOUT
(FIRST AND SECOND FLOORS)

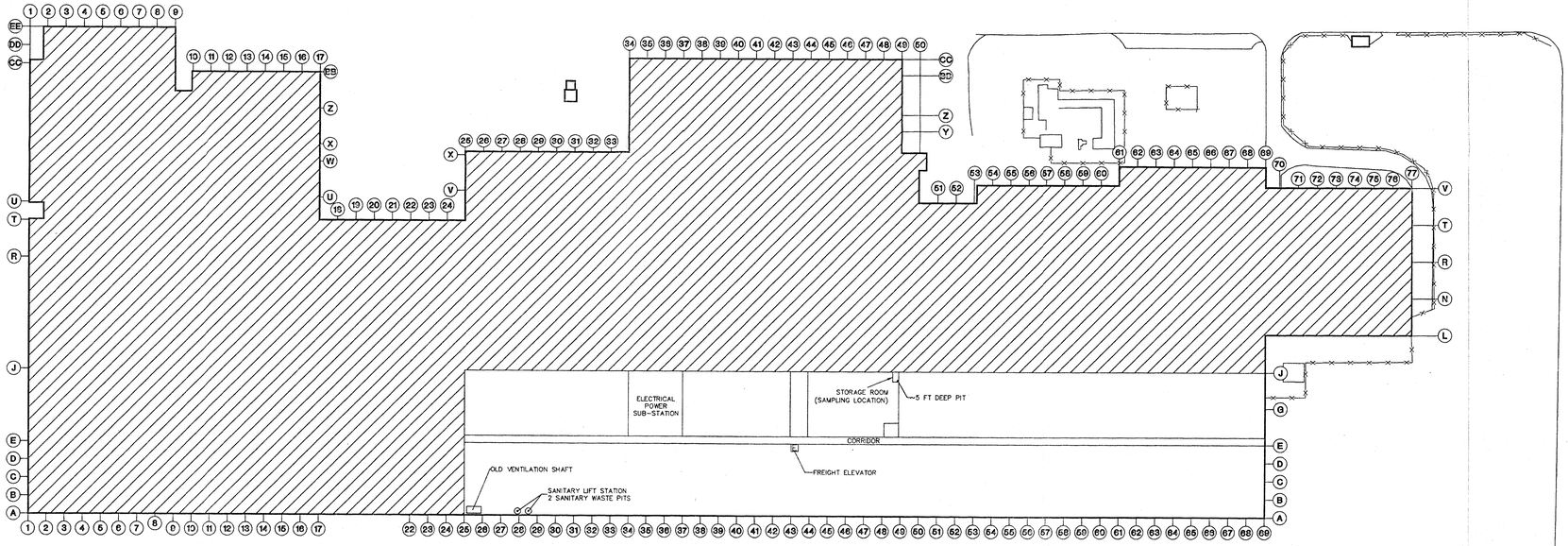
Buffalo, New York

Golder Associates

DRAWN	LPG	DATE	2/1/00
CHECKED	ALG	SCALE	AS SHOWN
REVIEWED	ALG	JOB NO.	
APPROVED	ALG	DWG. NO.	BELL149
FILE NO.		FIGURE	1

N

BLDG. 4A



WALMORE ROAD

NIAGARA FALLS BLVD.

LEGEND

OUTLINE OF BUILDING

BASEMENT

SCALE IN FEET

0 80 160 240 320

CLIENT/PROJECT

WHEATFIELD BUSINESS PARK COMPLEX

TITLE

PROPERTY LAYOUT (BASEMENT)

Buffalo, New York

Golder Associates

DRAWN	LPG	DATE	2/2/00
CHECKED	ALG	SCALE	AS SHOWN
REVIEWED	ALG	JOB NO.	
APPROVED	ALG	DWG. NO.	BELL150
FILE NO.		FIGURE	2

APPENDIX A

CHAIN-OF CUSTODY RECORDS

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Sample Transportation Notice
Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by completed written disclosure of presence of any hazardous substances known or suspected by client. Client further warrants that any sample containing any hazardous substance which is to be delivered to LAB will be packaged, labeled, transported and delivered properly and in accordance with applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. D.O.T. HAZMAT Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX: (916) 985-1020

CHAIN-OF-CUSTODY RECORD

Nº 025949

Page 1 of 1

Contact Person: ANTHONY GRASSO
Company: GOLDER ASSOCIATES
Address: 2221 NIAGARA FALLS BLVD SUITE 9 City: NIAGARA FALLS State: NY Zip: 14304
Phone: 716 731-1560 FAX: 716 731-1652
Collected By: Signature: Michael Bacci

Project info:
P.O. # 003-9242
Project # ~~G73-9158~~ 003-9242
Project Name: TEXTRON/AIR SAMPLING

Turn Around Time:
☒ Normal
☐ Rush _____ Specify

Lab I.D.	Field Sample I.D.	Date & Time	Analyses Requested	Canister Pressure / Vacuum Initial	Final	Receipt
-01A	AIR-00-01	3/16/00 09:20	USEPA METHOD TO-15 (TEST FOR ONLY: TCE, CIS-1,2-DCE, VC, + MC)	28	9	9.4 Hg
-02A	TRIP BLANK	3/16/00 09:20	USEPA METHOD TO-15 (")	—	—	27.5 "Hg

Relinquished By: (Signature) Date/Time: Michael Bacci 3/16/00 11:00 Print Name: MICHAEL BACCI
Relinquished By: (Signature) Date/Time:
Relinquished By: (Signature) Date/Time:
Received By: (Signature) Date/Time: [illegible]-AIR 3/17/00 1047
Received By: (Signature) Date/Time:

Notes: ONE-HOUR FLOW CONTROLLER USED.

Lab Use Only

Shipper Name	Air Bill #	Opened By:	Date/Time	Temp. (°C)	Condition	Custody Seals Intact?	Work Order #
FedEx	8185 0352 2715	[illegible]	3-17-00 1047	ambient	good	Yes No (None) N/A	0003240

Form 1293 rev. 06

CUSTOMER CODE # _____

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

FLI
FRIEND LABORATORY I • N • C

ONE RESEARCH CIRCLE
WAVERLY NY 14892-1532
Telephone (607) 565 3500
Fax (607) 565 7160

Sample Site: TEXTRON Sump

P.O. #

Untreated	Sodium thiosulfate	HCl pH <2	Ascorbic acid & HCl pH <2	HNO_3 pH <2	H_2SO_4 pH <2	NaOH pH >12	NaOH & Zinc acetate pH >9	Acetic Buffer pH <3	Sodium sulfite

CLIENT: GOLDER
ADDRESS: 2221 NIAGARA FALLS BLVD STE 9 NIAGARA FALLS, NY 14304
PHONE: 716 731 4560 FAX: 731-1652

INVOICE TO:
ADDRESS: SAME

PROJECT NO. / NAME
003-9242
TEXTRON/AIR SAMPLING/NY

COPY TO:
ADDRESS: SAME

147207

DATE & TIME OF SAMPLE COLLECTION	SAMPLE DESCRIPTION	NUMBER OF CONTAINERS	ANALYSES / TESTS REQUESTED	SAMPLE NUMBER
3/16/00 10:33	SUMP-00-01	3 Description: Grab Composite Other Matrix: DW WW MW Soil Air Other	USEPA METHOD 8260 (VOC's) FOR ONLY: TCE, cis-1,2-DCE, VC, + MC	-1 LAB USE ONLY
3/16/00 —	TRIP BLANK	2 Description: Grab Composite Other Matrix: DW WW MW Soil Air Other	USEPA METHOD 8260 (VOC's) FOR ONLY: TCE, cis-1,2-DCE, VC, + MC	-2
		Description: Grab Composite Other Matrix: DW WW MW Soil Air Other		
		Description: Grab Composite Other Matrix: DW WW MW Soil Air Other		

RELINQUISHED BY	DATE /TIME	ACCEPTED BY	DATE/TIME	NOTES TO LABORATORY
SAMPLER: Michael Bracci	3/16/00 11:15	Shannon M Bennett	3-17-00 11:49	
				SUSPECTED CONTAMINATION LEVEL

NONE SLIGHT MODERATE HIGH (please circle)

APPENDIX B

GROUNDWATER SAMPLE COLLECTION INFORMATION FORM

Golder Associates

SAMPLE COLLECTION INFORMATION FORM

GAI PROJECT NAME: TEXTRON / OU-02 GWTP / NY GAI PROJECT NO.: 003-9242

SAMPLE ID.: SUMP-00-01 SOURCE CODES: RIVER OR STREAM, WELL, SOIL, (OTHER) (CIRCLE ONE

PURGING INFORMATION (IF APPLICABLE)

PURGE DATE (yy/mm/dd)	031400	TIME (24 HR CLOCK)	1320	ELAPSED HRS.	24 Hrs
CASING VOL.(Gal.)	2400	GAL. PURGED (Gal.)	14,400		
PURGING DEVICE (SEE BELOW)	Pump	PURGING DEVICE MATERIAL	—	DEDICATED (Y/(N))	

SAMPLE COLLECTION INFORMATION

SAMPLING DATE (yy/mm/dd)	031600	TIME (24 HR CLOCK)	1033	MATRIX	
SAMPLING DEVICE (SEE BELOW	—	DEDICATED-(Y/N)		FILTERED (Y/N)	
SAMPLING DEVICE MATERIAL	—	SAMPLE TYPE - (GRAB) COMPOSITE (CIRCLE ONE)			

(A) AIR-LIFT PUMP (B) BLADDER PUMP (C) PERISTALTIC PUMP (D) SCOOP/SHOVEL (E) BAILER (F) OTHER (SPECIFY)

WELL INFORMATION (IF APPLICABLE)

REFERENCE POINT		LAND ELEVATION (FT./MSL)	
REF. PT. ELEV.(FT. MSL)		WELL DEPTH (FT.)	
DEPTH TO WATER (REF. PT.)		STICKUP (FT.)	
GW. ELEV.(FT. MSL.)		WELL DIAMETER (INCHES)	

FIELD MEASURMENTS (FOUR REPLICATES)

		Final Sample		
pH (STD)		7.4		
SPEC. COND.(~~UMHOS/CM~~) (mS)		628		
TEMPERATURE (C)		18		
~~OTHER (SPECIFY)~~ eH (eV)		145		

COMMENTS/CALCULATIONS

WEATHER CONDITIONS: SAMPLE TAKEN INDOORS

SAMPLE APPEARANCE: CLEAR

2" DIA. CASING CONTAINS .163 Gal./Ft.
4" DIA. CASING CONTAINS .652 Gal./Ft.

PLEASE INCLUDE SAMPLE BOTTLE SIZE, BOTTLE COLOR, BOTTLE MATERIAL, PRESERVATIVES AND ANALYTICAL METHODS ON LABORATORY CUSTODY FORMS.

SAMPLER SIGNATURE: [signature] DATE: 3/16/00

APPENDIX C

LABORATORY REPORTS FROM AIR TOXICS LTD.

@AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0003240

Work Order Summary

CLIENT:	Mr. Tony Grasso Golder & Associates 2221 Niagra Falls Blvd. Niagra Falls, NY 14304	**BILL TO:** Same	
PHONE:	716-731-1560	**P.O. #** 003-9242	
FAX:	716-731-1652	**PROJECT #** 003-9242 TEXTRON/Air Sampling	
DATE RECEIVED:	3/17/00		
DATE COMPLETED:	3/29/00		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	AIR-00-01	TO-15	9.0 "Hg
02A	TRIP BLANK	TO-15	27.5 "Hg
03A	Lab Blank	TO-15	NA

CERTIFIED BY: _____ Laboratory Director

DATE: 3/30/00

Certification numbers: CA ELAP - 1149, NY ELAP - 11291, UT ELAP - E-217

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA 95630
(916) 985-1000 • (800) 985-5955 • FAX (916) 985-1020

LABORATORY NARRATIVE
Analysis of Volatile Organic Compounds by EPA Method TO-14
Golder & Associates
Work Order # 0003240

Two 6L Summa™ Canister samples were received on March 17, 2000. The laboratory performed analysis via EPA Methods TO-14/TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis. See the data sheets for the reporting limits for each compound.

Method modifications taken to run these samples include:

Requirement	*TO-14/TO-14A*	*TO-15*	*Air Toxics Ltd. Modification*
Concentration of internal standard spike	Not specified	10 ppbv	25 - 50 ppbv
Dilutions for initial calibration	Dynamic or static dilutions using canisters	Dynamic or static dilutions using canisters	Syringe and flow controller dilutions
Internal standard recoveries	Not specified	Within 40% of mean of calibration curve for blanks, and within 40% of daily CCV for samples	Within 40% of the daily CCV internal standard area for blanks and samples
Internal standard retention times	Not specified	Within 0.33 minutes from most recent calibration	Within 0.50 minutes of most recent daily CCV internal standards
Initial calibration criteria	Not specified	RSD of 30% or less	RSD of 30% or less for standard compounds, 40% or less for non-standard and polar compounds
Continuing calibration verification criteria	Not specified	70 - 130%	70 - 130% for at least 90% of standard compounds, 60 - 140% for at least 80% of non-standard and polar compounds
Response factor for quantitation	Average response factor (ICAL)	Daily response factor (CCV)	Average response factor (ICAL)

During the five-point calibration, two low level standards are used. The low level standard for non-polar compounds is spiked at 0.5 ppbv and represents the reporting limit for these compounds. The low level standard for the polar compounds is spiked at 2.0 ppbv and represents the reporting limit for these compounds. Non-polar TO-14 compounds are present in both standards but are excluded from reporting in the 2.0 ppbv standard since a lower level is already included in the curve.

There were no out of the ordinary circumstances to report.

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

- B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
- J - Estimated value.
- E - Exceeds instrument calibration range.

S - Saturated Peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit.
N - The identification is based on presumptive evidence.

AIR TOXICS LTD.

SAMPLE NAME : AIR-00-01

ID#: 0003240-01A

EPA METHOD TO-15 GC/MS Full Scan

File Name:	g032716	Date of Collection:	3/16/00
Dil. Factor:	1.91	Date of Analysis:	3/27/00

Compound	Det. Limit (ppbv)	Det. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Trichloroethene	0.96	5.2	1.2	6.7
cis-1,2-Dichloroethene	0.96	3.8	Not Detected	Not Detected
Vinyl Chloride	0.96	2.5	Not Detected	Not Detected
Methylene Chloride	0.96	3.4	1.7	6.1

Container Type: 6 Liter Summa Canister

Surrogates	% Recovery	Method Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	95	70-130

AIR TOXICS LTD.

SAMPLE NAME : TRIP BLANK

ID#: 0003240-02A

EPA METHOD TO-15 GC/MS Full Scan

File Name: g032717 Date of Collection: 3/16/00

Dil. Factor: 1.00 Date of Analysis: 3/27/00

Compound	Det. Limit (ppbv)	Det. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Trichloroethene	0.50	2.7	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.50	2.0	Not Detected	Not Detected
Vinyl Chloride	0.50	1.3	Not Detected	Not Detected
Methylene Chloride	0.50	1.8	Not Detected	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	% Recovery	Method Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	85	70-130

AIR TOXICS LTD.

SAMPLE NAME : Lab Blank

ID#: 0003240-03A

EPA METHOD TO-15 GC/MS Full Scan

File Name:	g032705	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 3/27/00	

Compound	Det. Limit (ppbv)	Det. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Trichloroethene	0.50	2.7	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.50	2.0	Not Detected	Not Detected
Vinyl Chloride	0.50	1.3	Not Detected	Not Detected
Methylene Chloride	0.50	1.8	Not Detected	Not Detected

Container Type: NA

Surrogates	% Recovery	Method Limits
1,2-Dichloroethane-d4	124	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	89	70-130

APPENDIX D

LABORATORY REPORTS FROM FRIEND LABORATORY, INC.

FLI
FRIEND LABORATORY I · N · C

ONE RESEARCH CIRCLE WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

DATE 29-MAR-2000

LAB SAMPLE ID : L47207-1

Golder Associates, Inc.
Jonathan Rizzo
2221 Niagara Falls Boulevard
Suite 9
Niagara Falls, NY 14304-4069

SAMPLE SOURCE	TEXTRON SUMP
ORIGIN	SUMP-00-01
DESCRIPTION	GRAB
SAMPLED ON	16-MAR-00 10:33 by CLIENT
DATE RECEIVED	17-MAR-00 11:49
P.O. NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
EPA 8260						
Vinyl chloride	U	ug/l	2	24-MAR-00 12:52	EPA 8260	00-035-141
Methylene chloride	U	ug/l	5	24-MAR-00 12:52	EPA 8260	00-035-141
C-1,2-Dichloroethene	U	ug/l	5	24-MAR-00 12:52	EPA 8260	00-035-141
Trichloroethene	U	ug/l	5	24-MAR-00 12:52	EPA 8260	00-035-141
Surrogate Recovery:						
Dibromofluoromethane	99	%				00-035-1413
Toluene-d8	97	%				00-035-1413
4-Bromofluorobenzene	97	%				00-035-1413

C NY 10252 NJ 73168 PA 68180 EPA NY 00033

Approved by: _____
Lab Director

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligrams per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
B = analyte was detected in the method or trip blank J = result estimated below the quantitation limit

FLI
FRIEND LABORATORY · N · C

ONE RESEARCH CIRCLE WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

DATE 29-MAR-2000

LAB SAMPLE ID : L47207-2

Golder Associates, Inc.
Jonathan Rizzo
2221 Niagara Falls Boulevard
Suite 9
Niagara Falls, NY 14304-4069

SAMPLE SOURCE	FRIEND LABORATORY, INC.
ORIGIN	95-045-95-06
DESCRIPTION	TRIP BLANK
SAMPLED ON	16-MAR-00 00:00 by CLIENT
DATE RECEIVED	17-MAR-00 11:49
P.O. NO.	N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
EPA 8260						
Vinyl chloride	U	ug/l	2	24-MAR-00 12:19	EPA 8260	00-035-141
Methylene chloride	U	ug/l	5	24-MAR-00 12:19	EPA 8260	00-035-141
C-1,2-Dichloroethene	U	ug/l	5	24-MAR-00 12:19	EPA 8260	00-035-141
Trichloroethene	U	ug/l	5	24-MAR-00 12:19	EPA 8260	00-035-141
Surrogate Recovery:						
Dibromofluoromethane	100	%				00-035-1412
Toluene-d8	99	%				00-035-1412
4-Bromofluorobenzene	97	%				00-035-1412

NY 10252 NJ 73168 PA 68180 EPA NY 00033

Approved by: _____
Lab Director

KEY:
ND or U = None Detected
< = less than
ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligrams per liter (equivalent to parts per million)
mg/kg = milligrams per kilogram (equivalent to parts per million)
B = analyte was detected in the method or trip blank
J = result estimated below the quantitation limit