Site Investigation Summary Report

Vapor Intrusion Evaluations for New York State Remedial Sites

Bell Aerospace - Textron

NYSDEC Site # 9-32-052

Town of Wheatfield
Niagara County

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NYSDOH Project Manager: Matt Forcucci

October 2006

Table of Contents

Tables

Figures

Attachments

Executive Summary

A preliminary soil vapor investigation was conducted at the Bell Aerospace - Textron site, NYSDEC Site ID # 9-32-052, Town of Wheatfield, Niagara County, NY in June 2006. A total of eight (8) existing groundwater monitoring wells were sampled in addition to collection of three (3) direct-push groundwater grab samples. Additionally, one (1) deep and three (3) shallow soil vapor samples were collected from the vicinity of the site. Based on the information developed during this preliminary investigation, the New York State Department of Environmental Conservation, (NYSDEC), in consultation with the New York State Department of Health (NYSDOH), has determined that:

A limited additional investigation including structure sampling is recommended at this time to fully address the soil vapor intrusion exposure pathway.

1. Site Background and Status

Although the soil vapor pathway has been historically evaluated at New York State sites, improvements in analytical techniques and knowledge gained from sites in New York and in other states has lead to a more complete understanding of soil vapor as an environmental media of concern. Based on this additional information, New York has re-evaluated previous assumptions and decisions regarding the potential for vapor intrusion at sites. To this effort, the State has conducted a limited soil vapor investigation at the site to evaluate the vapor intrusion pathway. The Bell Aerospace-Textron site is currently listed as a Class 4 site and is in a long-term monitoring program with periodic reviews.

1.1 Site Description

The site is located in the Town of Wheatfield on Niagara Falls Boulevard, Niagara County, New York. From 1948 to 1984, a pond constructed at the site was used by Bell Aerospace Textron to collect liquid wastes from rocket test cells at the facility. That pond, which is thought to have served as the primary source of the contaminants, was closed in accordance with a RCRA approved remediation plan in 1988 by excavation to bedrock, backfilling with clean material and construction of a clay cap. Investigations conducted under the RCRA program identified the presence of contaminants in overburden and bedrock groundwater beneath the site, and in the bedrock in adjacent offsite areas. Small quantities of NAPL were also found in the upper zone of the fractured bedrock at the site.

1.2 Site Corrective Actions

As stated above, the pond (which served as the primary source of contamination) was closed under a Department approved plan in 1988. Because residual contamination remained after closure of the pond, (i.e. the Permittee did not achieve “clean closure of the pond”), the Department determined that the pond would be regulated as a "hazardous waste disposal unit", and that a groundwater remedial program was needed.

On the basis of the June 1991 “RCRA Facility Investigation, Neutralization Pond, Textron Realty Operations Wheatfield Plant, Final Report”, releases of hazardous waste constituents may also have occurred from the following areas:

Helicopter Blade Bonding Building

Rocket Test Building

Because those areas are in the vicinity of the neutralization pond, and because they are

hydraulically connected with the groundwater contaminant plume emanating from the pond, they are addressed under the corrective measures program for the pond.

The hazardous waste constituents which were released from the neutralization pond are present in the groundwater as aqueous (dissolved) phase contaminant plumes and as a dense non-aqueous phase liquid (DNAPL) plume. The primary constituents of concern at the site are TCE and its degradation products, 1,2,DCE and VC, and to a lesser degree 1,1,1-TCA.

Subsequent to the 1991 report, Textron Realty Operations (TRO) prepared a Corrective Measures Implementation (CMI) Plan for both the Off-Site and On-Site system. The "Final Report on Corrective Measures Implementation Plan, Off-Site System, Bell Aerospace Textron, Wheatfield Plant" was submitted to the Department in March 1992 and was subsequently approved by the Department in April 1992. Construction for the Off-Site system was initiated in October 1992 and concluded with the system being brought on-line in March 1993. The "Final Report on Corrective Measures Implementation Plan, On-Site System, Bell Aerospace Textron, Wheatfield Plant" was submitted to the Department in March 1993 and was subsequently accepted. Construction for the On-Site system was initiated in September 1993 and has been on-line and operating since April 1995.

The Off-Site system was constructed with six groundwater extraction wells, designated EW-1 through EW-6, placed within a power utility easement (Niagara Mohawk Power Corporation), located south of the site. Each extraction well is connected by a double walled underground pipeline which discharges extracted groundwater to a sanitary sewer inlet for treatment at the Niagara County Sewer District No. 1.

The On-Site system also consists of six groundwater extraction wells, designated EW-7 and EW-8, and DW-9 through DW-12, placed within the site boundary. Each extraction well is connected by a double walled underground pipeline which discharges extracted groundwater to a treatment plant located onsite. Treated groundwater is then discharged to a local storm sewer (outfall 002) under NYPDES Permit No. NY0000-0469.

Specifically, the components of the remedy are as follows:

(a) <u>Off-Site</u>

i. Remediation of the Zone 1 contamination and restoration of the Zone 1 aquifer through the development and operation of a groundwater extraction system.

ii. Remediation of the Zone 3 contamination and restoration of the Zone 3 aquifer through the development and operation of a groundwater extraction system.

iii. Long-term Monitoring of off-site overburden wells to insure that the concentration of hazardous waste constituents remain below the groundwater protection standards specified herein.

iv. Restoration of the overburden aquifer in the event that the groundwater protection standards are exceeded as a result of a release of hazardous waste or hazardous waste constituents from the TRO facility.

(b). On-Site

i. Remediation of the Zone 1 contamination and restoration of the Zone 1 aquifer through the development and operation of a groundwater extraction system.

ii. Remediation of the Zone 3 contamination and restoration of the Zone 3 aquifer through the development and operation of a groundwater extraction system.

iii. Remediation of the overburden contamination and restoration of the overburden aquifer through the development of a groundwater extraction system or an alternative system as needed.

iv. Containment and control of the plume of overburden contamination to prevent its migration off-site of the facility.

v. Containment and control of the DNAPL contamination through the development of a groundwater extraction system or an alternative system as needed.

1.3 Site Geology and Groundwater Flow

The site is located in Niagara County in the Town of Wheatfield on Niagara Falls Boulevard. The site exhibits little relief with an elevation change across the site of less than 20 feet. Soils on site are fine sands and silts of glacio-lacustrine origin. This overburden unit extends approximately 10-15 feet below grade. Below this unit are sedimentary limestones and dolostones of Silurian age. Groundwater at the site is present in the shallow, unconsolidated and unconfined overburden deposits and in the shallow bedrock unit. Prior to implementation of the remedial programs, the natural groundwater flow in the overburden at the site was radially away from the former pond. In the bedrock and off-site areas the natural groundwater flow direction is southeasterly towards the Niagara River. Since the groundwater extraction wells have been in operation, the on-site

groundwater flows towards the on-site extraction wells located along the southern and south-eastern site boundaries. In the vicinity of the off-site extraction wells, the groundwater flow is radial towards these wells and generally from northwest to southeast outside of the radius of influence of these wells.

2. Soil Vapor and Groundwater Investigation

2.1 Groundwater

A total of eight (8) groundwater monitoring wells were sampled as part of the investigation. Groundwater sampling was conducted on June 7 and 8, 2006. All groundwater samples were submitted to Mitkem Corp. of Warwick, Rhode Island, for laboratory analysis of VOCs via USEPA Method 8260.

2.1.1 Groundwater Monitoring Well Samples

All groundwater samples were collected from 2-inch diameter wells constructed of PVC well screen and riser. Groundwater samples were collected with low flow sampling techniques using a peristaltic pump after a minimum of 3 well volumes was purged from the well. All groundwater monitoring wells were sampled by Textron site representatives, with DEC representative oversight. Samples were collected at well pairs from shallow overburden wells ("unit 0" wells) and corresponding shallow bedrock wells ("unit 1" wells). This was arranged to test the hypothesis that the historically "clean" overburden groundwater unit should act as a barrier to upward diffusion of VOCs from the contaminated bedrock groundwater unit beneath it, thus precluding soil vapor contamination from the shallow bedrock unit from reaching the vadose zone.

2.1.2 Groundwater Geoprobe Grab Samples

A total of two (2) groundwater grab samples were collected from the vicinity of the site. Both samples were collected from locations where shallow overburden groundwater monitoring wells were either absent or dry. The borings were installed via geoprobe push technology. At location V-1, located next to extraction well EW-7, the shallow overburden groundwater monitoring well was inaccessible, so the geoprobe was used to install both shallow and deep borings. When vapor sampling was attempted, the deeper implant (12.6 ft bg) yielded a vapor sample, but the shallow implant (4 ft bg) was saturated and provided the shallow overburden groundwater sample. A perched groundwater lens is likely in this area, possibly a result of leakage from nearby sewers. Location V-2 was originally intended to provide soil vapor data in the vicinity of well MW-87-23, but access issues prevented installing the vapor implant in the vicinity of the

wells. Instead, the vapor implant was moved to the right-of-way along Walmore Road and a geoprobe groundwater grab sample was collected at that location. Because the shallow overburden groundwater monitoring well in location V-4, MW-87-22-0, had been previously decommissioned, a geoprobe groundwater grab was collected in this location to correspond with the soil vapor sample.

Refer to Table 1 and Figure 1 for additional field sampling information regarding the groundwater investigation.

2.2 Soil Vapor

A total of three (3) shallow and one (1) deep soil vapor samples were collected from the vicinity of the site. Soil vapor sampling was conducted on June 9, 2006. Approximate depths of the groundwater table at each of the locations was discerned from historical data. This guided the installation depths of the temporary soil vapor implants. Soil vapor implants were installed at depths between 4-13 feet below grade.

Soil vapor samples were collected from temporary soil vapor points installed via geoprobe push technology. The soil vapor points were constructed using 6-inch sampling screens attached to dedicated laboratory grade polyethylene tubing. The borehole was backfilled with filter sand to a minimum of 6 inches above the sampling screen and bentonite chips were placed in a 6-inch interval above the filter pack. A cement-bentonite grout was then placed from the bentonite chips to the ground surface. A minimum of 24 hours was provided to allow the bentonite to sufficiently hydrate and the grout to set prior to sampling. Helium tracer gas was used to verify the integrity of the bentonite seal between the ground surface and the borehole sampling point. The soil vapor samples were collected over a 2-hour period into 6 liter Summa canisters and were submitted to Princeton Laboratories of Flemington, New Jersey for laboratory analysis of Volatile Organic Compounds (VOCs) by USEPA Method TO-15.

In all locations except V-1, the water table was shallow enough to limit vapor sampling to shallow points only. Location V-1 yielded only deep soil vapor, as discussed above. Vapor samples were collected at locations V-2, V-3, and V-5 without any difficulties, however the sample attempted at location V-4 was unattainable due to tight soil conditions.

Refer to Table 1 and Figure 2 for additional field sampling information regarding the soil vapor investigation.

3. Summary of Findings

3.1 Groundwater

The groundwater sampling findings are presented below. Refer to Table 2 and Figure 1 for a summary of the detected groundwater constituents.

No site-related contaminants (1,1,1-TCA, TCE or their degradation products) were detected in any of the overburden groundwater samples, including both monitoring well and geoprobe grab samples.

In the bedrock groundwater monitoring well samples, site-related contaminants were detected in all 5 monitoring wells sampled. Specifically;

- 1,1,1-Trichloroethane (TCA) was detected in MW-87-18-(1) at 28 ppb, MW-89-14-(1) at 10 ppb, and MW-87-20-(1) at 12 ppb.
- Trichloroethene (TCE) was detected in MW-87-18-(1) at 5 ppb, MW-89-14-(1) at 22 ppb, MW-87-23-(1) at 27 ppb, and MW-87-20-(1) at 790 ppb. The sample for MW-87-20-(1) required dilution, value is approximate.
- Vinyl Chloride (VC) was detected in MW-87-18-(1) at 380 ppb (diluted, approximate value), MW-89-14-(1) at 10 ppb, MW-87-22-(1) at 43 ppb, and MW-87-20-(1) at 5 ppb.

3.2 Soil Vapor

The soil vapor sampling findings are presented below. All results are in micrograms per cubic meter (ug/m^3). Refer to Table 3 and Figure 2 for a summary of the detected soil vapor constituents.

Tetrachloroethene (PCE) was detected in sample V-1D at 1.8 ug/m^3, V-2S at 11 ug/m^3, V-3S at 5.95 ug/m^3 (averaged between sample and duplicate), and V-5S at 3.1 ug/m^3.

TCA was detected in sample V-2S at 120 ug/m^3.

Benzene, Toluene, Ethylbenzene, and Xylene (BTEX compounds) were detected in all soil vapor samples, but not at levels of concern.

Impact of Overlying Clean Groundwater

At all locations where site-related VOCs were detected in the deeper zone 1 groundwater, but were **not** detected in the overlying zone 0 groundwater, those same constituents were also non-detect in soil vapor. In other words, and according to recent and historical sampling data, where contaminated groundwater is overlain by clean groundwater, the

soil vapor in the vadose zone is not impacted by the deeper groundwater beneath a clean groundwater unit. The data from wells MW-87-20-0, MW-87-20-1 and vapor point V-5 provide a striking example in support of the hypothesis that the zone of clean overburden groundwater that blankets the contaminated bedrock aquifer limits vapor migration from that source. The data from the other sample locations provide further evidence in support of this hypothesis.

5. Recommendations

Although the site-related primary contaminants of concern (TCE and its degradation products) were not detected in the shallow groundwater or soil gas, the investigation revealed the unexpected presence of other VOCs such as BTEX compounds and PCE. At this time, there is no evidence to indicate those compounds are associated with releases from the site. Based on the distribution of the soil vapor and groundwater concentrations observed, and in accordance with the October 2006 NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, the **NYSDEC and NYSDOH recommend that limited structure sampling including sub-slab, ambient indoor and ambient outdoor air samples be collected at approximately three representative properties to further define potential exposures associated with vapor intrusion.**

TABLE 1

FIELD SAMPLING INFORMATION

New York State Department of Environmental Conservation
Soil Vapor Intrusion Evaluation

Work Assignment # D004433-2
Bell Aerospace-Textron Site
Site # 932052

Table 1. Site Sampling Summary - Bell Aerospace-Textron Site, Wheatfield, New York

Location ID	NYSDEC Sample ID	General Location/Comments	Date	Depth to GW (ft bgs)	Depth to SG Implant Base (ft bgs)	Leak-Test Successful? (yes or no)	Start Vacuum (in. Hg)	End Vacuum (in. Hg)	Start Time	Stop Time	Duration (hours)
Soil Vapor and Groundwater Grab Samples											
932052-V-1S	Not sampled for soil gas	S.E. part of Bell-Textron parking lot/Soil Gas Implant	6/9/2006	Perched at <4	4.0	NA	NA	NA	NA	NA	NA
932052-V-1S	932052-GW-1	S.E. part of Bell-Textron parking lot/GW sample from soil gas implant	6/9/2006	Perched at <4	4.0	NA	NA	NA	NA	NA	NA
932052-V-1D	932052-V-1D	S.E. part of Bell-Textron parking lot/soil gas sample from implant	6/9/2006	>14.5	12.6	Yes	-30	-6	950	1514	5 hrs 24 min.
932052-V-2S	932052-V-2S	6665 Walmore Road /soil gas sample from implant	6/9/2006	7.5	4.0	Yes	-30.0	-5.0	1300	1435	1 hr 35 min.
932052-V-2D	932052-GW-2	6665 Walmore Road /GW sample from 1" dia. PVC screen from 4.25-9.25' bgs	6/9/2006	7.5	NA	NA	NA	NA	NA	NA	NA
932052-V-3S	932052-V-3S	6623 Walmore Road/soil gas sample from implant	6/9/2006	6.2	4.0	Yes	-30	-6	1159	1456	2 hrs 57 min.
932052-V-3S	20060609-FD-1	6623 Walmore Road/Duplicate of soil gas sample 932052-V-3S	6/9/2006	6.2	4.0	Yes	-30	-3	1159	1300	61 min.
932052-V-4S	Not sampled for soil gas	2266 Niagara Road/soil gas sample from implant attempted/unsuccessful-tight soils	6/9/2006	Not observed	4.0	Yes	-29	-28.5	1039	1652	6 hrs 13 min.
932052-V-4D	932052-GW-4	2266 Niagara Road/GW sample from 1" dia. PVC screen set 6-11' bgs	6/9/2006	10	NA	NA	NA	NA	NA	NA	NA
932052-V-5S	932052-V-5S	Dunkin Donuts at Walmore Rd and Niagara Falls Blvd./soil gas sample from implant	6/9/2006	5.5	4.0	Yes	-30	-4	1419	1617	1 hr 58 min.
Groundwater Samples from Monitoring Wells											
932052-MW-87-18-1	932052-MW-87-18-1	S.E. part of Bell-Textron parking lot/GW sample from Monitoring Well 87-18-1	6/7/2006	16.3	NA	NA	NA	NA	NA	NA	NA
932052-MW-87-20-0	932052-MW-87-20-0	Dunkin Donuts at Walmore Rd and Niagara Falls Blvd/GW sample from MW-87-20-0	6/7/2006	5.5	NA	NA	NA	NA	NA	NA	NA
932052-MW-87-20-1	932052-MW-87-20-1	Dunkin Donuts at Walmore Rd and Niagara Falls Blvd./GW sample from MW-87-20-1	6/7/2006	8.5	NA	NA	NA	NA	NA	NA	NA
932052-MW-87-22-1	932052-MW-87-22-1	2266 Niagara Road/GW sample from MW 87-22-1	6/7/2006	13.2	NA	NA	NA	NA	NA	NA	NA
932052-MW-87-23-0	932052-MW-87-23-0	In field east of 6665 Walmore Road /GW sample from MW-87-23-0	6/7/2006	3.8	NA	NA	NA	NA	NA	NA	NA
932052-MW-87-23-1	932052-MW-87-23-1	In field east of 6665 Walmore Road /GW sample from MW-87-23-1	6/7/2006	11.0	NA	NA	NA	NA	NA	NA	NA
932052-MW-89-14-0	932052-MW-89-14-0	6623 Walmore Road/GW sample from MW-89-14-0	6/7/2006	6.1	NA	NA	NA	NA	NA	NA	NA
932052-MW-89-14-1	932052-MW-89-14-1	6623 Walmore Road/GW sample from MW-89-14-1	6/7/2006	7.4	NA	NA	NA	NA	NA	NA	NA
932052-MW-89-14-1	932052-MW-89-14-1-MS	6623 Walmore Road/GW sample from MW-89-14-1	6/7/2006	7.4	NA	NA	NA	NA	NA	NA	NA
932052-MW-89-14-1	932052-MW-89-14-1-MSD	6623 Walmore Road/GW sample from MW-89-14-1	6/7/2006	7.4	NA	NA	NA	NA	NA	NA	NA

NA = Not Applicable
BGS = Below ground surface

TABLE 2

SUMMARY OF DETECTED CONSTITUENTS
GROUNDWATER ANALYTICAL DATA

NOTE

Laboratory Sample IDs relate monitoring well and geoprobe grab samples as follows:

Location 1: MW-87-18, 932052-GW-1
Location 2: 932052-GW-2 (moved away from MW-87-23)
Location 3: MW-89-14
Location 4: MW-87-22, 932052-GW-4
Location 5: MW-87-20

TABLE 2
VALIDATED GROUNDWATER ANALYTICAL RESULTS
BELL AEROSPACE - TEXTRON, SITE # 9-32-052

Location ID			GW-01	GW-02	GW-04	MW-87-18-1	MW-87-20-0
Sample ID			932052-GW-1	932052-GW-2	932052-GW-4	932052-MW-87-18-1	932052-MW-87-20-0
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/09/06	06/09/06	06/09/06	06/07/06	06/07/06
Parameter	**Units**	*					
Volatile Organic Compounds							
1,1,1,2-Tetrachloroethane	UG/L	-	5 U	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane	UG/L	5	5 UJ	5 UJ	5 U	28	5 U
1,1,2,2-Tetrachloroethane	UG/L	5	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	UG/L	1	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	UG/L	5	5 UJ	5 UJ	5 U	18	5 U
1,1-Dichloroethene	UG/L	5	5 UJ	5 UJ	5 U	6	5 U
1,1-Dichloropropene	UG/L	-	5 UJ	5 UJ	5 U	5 U	5 U
1,2,3-Trichlorobenzene	UG/L	-	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
1,2,3-Trichloropropane	UG/L	-	5 U	5 U	5 U	5 U	5 U
1,2,4-Trichlorobenzene	UG/L	5	5 UJ	5 UJ	5 UJ	5 UJ	5 U
1,2,4-Trimethylbenzene	UG/L	-	5 UJ	5 UJ	5 UJ	5 U	5 U
1,2-Dibromo-3-chloropropane	UG/L	0.04	5 U	5 U	5 U	5 U	5 U
1,2-Dibromoethane (Ethylene dibromide)	UG/L	0.006	5 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	UG/L	3	5 UJ	5 UJ	5 UJ	5 U	5 U
1,2-Dichloroethane	UG/L	0.6	5 UJ	5 UJ	5 U	5 U	5 U
1,2-Dichloroethene (cis)	UG/L	5	5 UJ	5 UJ	5 U	2,200 D	5 U
1,2-Dichloroethene (trans)	UG/L	5	5 U	5 U	5 U	6	5 U
1,2-Dichloropropane	UG/L	1	5 U	5 U	5 U	5 U	5 U
1,3,5-Trimethylbenzene (Mesitylene)	UG/L	-	5 UJ	5 UJ	5 UJ	5 U	5 U
1,3-Dichlorobenzene	UG/L	3	5 UJ	5 UJ	5 UJ	5 U	5 U
1,3-Dichloropropane	UG/L	-	5 U	5 U	5 U	5 U	5 U
1,3-Dichloropropene (cis)	UG/L	0.4	5 U	5 U	5 U	5 U	5 U

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds

Made By AMK 8/4/06
Checked By JJL 8/4/06

Detection Limits shown are MDL

TABLE 2
VALIDATED GROUNDWATER ANALYTICAL RESULTS
BELL AEROSPACE - TEXTRON, SITE # 9-32-052

Location ID			GW-01	GW-02	GW-04	MW-87-18-1	MW-87-20-0
Sample ID			932052-GW-1	932052-GW-2	932052-GW-4	932052-MW-87-18-1	932052-MW-87-20-0
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/09/06	06/09/06	06/09/06	06/07/06	06/07/06
Parameter	**Units**	*					
Volatile Organic Compounds							
1,3-Dichloropropene (trans)	UG/L	0.4	5 UJ	5 UJ	5 U	5 U	5 U
1,4-Dichlorobenzene	UG/L	3	5 UJ	5 UJ	5 UJ	5 U	5 U
2,2-Dichloropropane	UG/L	-	5 UJ	5 UJ	5 U	5 U	5 U
2-Chlorotoluene	UG/L	-	5 UJ	5 UJ	5 UJ	5 U	5 U
2-Hexanone	UG/L	50	5 U	5 U	5 U	5 UJ	5 U
4-Chlorotoluene	UG/L	-	5 UJ	5 UJ	5 UJ	5 U	5 U
4-Isopropyltoluene (p-Cymene)	UG/L	-	5 UJ	5 UJ	5 UJ	5 U	5 U
4-Methyl-2-pentanone	UG/L	-	5 U	5 U	5 U	5 U	5 U
Acetone	UG/L	50	100 J	5 UJ	5 U	5 U	5 U
Benzene	UG/L	1	5 UJ	5 UJ	5 UJ	5 U	5 U
Bromobenzene	UG/L	-	5 UJ	5 UJ	5 UJ	5 U	5 U
Bromochloromethane	UG/L	-	5 UJ	5 UJ	5 U	5 U	5 U
Bromodichloromethane	UG/L	50	5 U	5 U	5 U	5 U	5 U
Bromoform	UG/L	50	5 U	5 U	5 U	5 U	5 U
Bromomethane	UG/L	5	5 UJ	5 UJ	5 U	5 U	5 U
Carbon disulfide	UG/L	60	5 UJ	5 UJ	5 U	5 U	5 U
Carbon tetrachloride	UG/L	5	5 UJ	5 UJ	5 U	5 U	5 U
Chlorobenzene	UG/L	5	5 UJ	5 UJ	5 UJ	5 U	5 U
Chloroethane	UG/L	5	5 UJ	5 UJ	5 U	5 U	5 U
Chloroform	UG/L	7	5 UJ	5 UJ	5 U	5 UJ	5 U
Chloromethane	UG/L	5	5 UJ	5 UJ	5 UJ	5 U	5 U
Dibromochloromethane	UG/L	50	5 U	5 U	5 U	5 U	5 U

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.

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Concentration Exceeds

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TABLE 2
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Sample ID			932052-GW-1	932052-GW-2	932052-GW-4	932052-MW-87-18-1	932052-MW-87-20-0
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/09/06	06/09/06	06/09/06	06/07/06	06/07/06
Parameter	**Units**	*					
Volatile Organic Compounds							
Dibromomethane	UG/L	-	5 U	5 U	5 U	5 U	5 U
Dichlorodifluoromethane	UG/L	5	5 UJ	5 UJ	5 UJ	5 U	5 UJ
Ethylbenzene	UG/L	5	5 UJ	5 UJ	5 UJ	5 U	5 U
Hexachlorobutadiene	UG/L	-	5 U	5 U	5 U	5 U	5 U
Iodomethane (Methyl iodide)	UG/L	-	5 UJ	5 UJ	5 U	5 U	5 U
Isopropylbenzene (Cumene)	UG/L	5	5 UJ	5 UJ	5 UJ	5 U	5 U
Methyl ethyl ketone (2-Butanone)	UG/L	50	35 J	55 J	5 U	5 U	5 U
Methyl tert-butyl ether	UG/L	10	5 UJ	5 UJ	5 U	5 U	5 U
Methylene chloride	UG/L	5	5 UJ	5 UJ	5 U	5 U	5 U
Naphthalene	UG/L	-	4 J	5 UJ	5 UJ	5 UJ	5 U
n-Butylbenzene	UG/L	-	5 UJ	5 UJ	5 UJ	5 U	5 U
n-Propylbenzene	UG/L	-	5 UJ	5 UJ	5 UJ	5 U	5 U
sec-Butylbenzene	UG/L	-	5 UJ	5 UJ	5 UJ	5 U	5 U
Styrene	UG/L	5	5 UJ	5 UJ	5 UJ	5 U	5 U
tert-Butylbenzene	UG/L	-	5 UJ	5 UJ	5 UJ	5 U	5 U
Tetrachloroethene	UG/L	5	5 U	5 U	5 U	5 U	5 U
Toluene	UG/L	5	3 J	5 UJ	1 J	5 U	5 U
Trichloroethene	UG/L	5	5 U	5 U	5 U	5	5 U
Trichlorofluoromethane	UG/L	5	5 UJ	5 UJ	5 U	5 UJ	5 U
Vinyl acetate	UG/L	-	5 UJ	5 UJ	5 U	5 U	5 U
Vinyl chloride	UG/L	2	5 UJ	5 UJ	5 U	380 DJ	5 U
Xylene (total)	UG/L	5	1 J	5 UJ	5 UJ	5 U	5 U

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds

Made By AMK 8/4/06
Checked By JJL 8/4/06

Detection Limits shown are MDL

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[MATRIX] = 'WG'

TABLE 2
VALIDATED GROUNDWATER ANALYTICAL RESULTS
BELL AEROSPACE - TEXTRON, SITE # 9-32-052

Location ID			MW-87-20-1	MW-87-22-1	MW-87-23-0	MW-87-23-1	MW-89-14-0
Sample ID			932052-MW-87-20-1	932052-MW-87-22-1	932052-MW-87-23-0	932052-MW-87-23-1	932052-MW-89-14-0
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/07/06	06/07/06	06/07/06	06/07/06	06/07/06
Parameter	**Units**	*					
Volatile Organic Compounds							
1,1,1,2-Tetrachloroethane	UG/L	-	5 U	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane	UG/L	5	12	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	UG/L	5	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	UG/L	1	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	UG/L	5	5	5 U	5 U	5 U	5 U
1,1-Dichloroethene	UG/L	5	6	5 U	5 U	5 U	5 U
1,1-Dichloropropene	UG/L	-	5 U	5 U	5 U	5 U	5 U
1,2,3-Trichlorobenzene	UG/L	-	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
1,2,3-Trichloropropane	UG/L	-	5 U	5 U	5 U	5 U	5 U
1,2,4-Trichlorobenzene	UG/L	5	5 UJ	5 UJ	5 UJ	5 UJ	5 U
1,2,4-Trimethylbenzene	UG/L	-	5 U	5 U	5 U	5 U	5 U
1,2-Dibromo-3-chloropropane	UG/L	0.04	5 U	5 U	5 U	5 U	5 U
1,2-Dibromoethane (Ethylene dibromide)	UG/L	0.006	5 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	UG/L	3	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	UG/L	0.6	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethene (cis)	UG/L	5	4,800 D	300 D	5 U	24	5 U
1,2-Dichloroethene (trans)	UG/L	5	8	2 J	5 U	5 U	5 U
1,2-Dichloropropane	UG/L	1	5 U	5 U	5 U	5 U	5 U
1,3,5-Trimethylbenzene (Mesitylene)	UG/L	-	5 U	5 U	5 U	5 U	5 U
1,3-Dichlorobenzene	UG/L	3	5 U	5 U	5 U	5 U	5 U
1,3-Dichloropropane	UG/L	-	5 U	5 U	5 U	5 U	5 U
1,3-Dichloropropene (cis)	UG/L	0.4	5 U	5 U	5 U	5 U	5 U

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds

Made By AMK 8/4/06
Checked By JJL 8/4/06

Detection Limits shown are MDL

TABLE 2
VALIDATED GROUNDWATER ANALYTICAL RESULTS
BELL AEROSPACE - TEXTRON, SITE # 9-32-052

Location ID			MW-87-20-1	MW-87-22-1	MW-87-23-0	MW-87-23-1	MW-89-14-0
Sample ID			932052-MW-87-20-1	932052-MW-87-22-1	932052-MW-87-23-0	932052-MW-87-23-1	932052-MW-89-14-0
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/07/06	06/07/06	06/07/06	06/07/06	06/07/06
Parameter	**Units**	*					
Volatile Organic Compounds							
1,3-Dichloropropene (trans)	UG/L	0.4	5 U	5 U	5 U	5 U	5 U
1,4-Dichlorobenzene	UG/L	3	5 U	5 U	5 U	5 U	5 U
2,2-Dichloropropane	UG/L	-	5 U	5 U	5 U	5 U	5 U
2-Chlorotoluene	UG/L	-	5 U	5 U	5 U	5 U	5 U
2-Hexanone	UG/L	50	5 UJ	5 UJ	5 UJ	5 UJ	5 U
4-Chlorotoluene	UG/L	-	5 U	5 U	5 U	5 U	5 U
4-Isopropyltoluene (p-Cymene)	UG/L	-	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone	UG/L	-	5 U	5 U	5 U	5 U	5 U
Acetone	UG/L	50	5 U	5 U	5 U	5 U	5 U
Benzene	UG/L	1	5 U	5 U	5 U	5 U	5 U
Bromobenzene	UG/L	-	5 U	5 U	5 U	5 U	5 U
Bromochloromethane	UG/L	-	5 U	5 U	5 U	5 U	5 U
Bromodichloromethane	UG/L	50	5 U	5 U	5 U	5 U	5 U
Bromoform	UG/L	50	5 U	5 U	5 U	5 U	5 U
Bromomethane	UG/L	5	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	UG/L	60	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	UG/L	5	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	UG/L	5	5 U	5 U	5 U	5 U	5 U
Chloroethane	UG/L	5	5 U	5 U	5 U	5 U	5 U
Chloroform	UG/L	7	5 UJ	5 UJ	5 UJ	5 UJ	5 U
Chloromethane	UG/L	5	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	UG/L	50	5 U	5 U	5 U	5 U	5 U

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds

Made By AMK 8/4/06
Checked By JJL 8/4/06

Detection Limits shown are MDL

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TABLE 2
VALIDATED GROUNDWATER ANALYTICAL RESULTS
BELL AEROSPACE - TEXTRON, SITE # 9-32-052

Location ID			MW-87-20-1	MW-87-22-1	MW-87-23-0	MW-87-23-1	MW-89-14-0
Sample ID			932052-MW-87-20-1	932052-MW-87-22-1	932052-MW-87-23-0	932052-MW-87-23-1	932052-MW-89-14-0
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/07/06	06/07/06	06/07/06	06/07/06	06/07/06
Parameter	**Units**	*					
Volatile Organic Compounds							
Dibromomethane	UG/L	-	5 U	5 U	5 U	5 U	5 U
Dichlorodifluoromethane	UG/L	5	5 U	5 U	5 U	5 U	5 UJ
Ethylbenzene	UG/L	5	5 U	5 U	5 U	5 U	5 U
Hexachlorobutadiene	UG/L	-	5 U	5 U	5 U	5 U	5 U
Iodomethane (Methyl iodide)	UG/L	-	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene (Cumene)	UG/L	5	5 U	5 U	5 U	5 U	5 U
Methyl ethyl ketone (2-Butanone)	UG/L	50	5 U	5 U	5 U	5 U	5 U
Methyl tert-butyl ether	UG/L	10	5 U	5 U	5 U	5 U	5 U
Methylene chloride	UG/L	5	5 U	5 U	5 U	5 U	5 U
Naphthalene	UG/L	-	5 UJ	5 UJ	5 UJ	5 UJ	5 U
n-Butylbenzene	UG/L	-	5 U	5 U	5 U	5 U	5 U
n-Propylbenzene	UG/L	-	5 U	5 U	5 U	5 U	5 U
sec-Butylbenzene	UG/L	-	5 U	5 U	5 U	5 U	5 U
Styrene	UG/L	5	5 U	5 U	5 U	5 U	5 U
tert-Butylbenzene	UG/L	-	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	UG/L	5	5 U	5 U	5 U	5 U	5 U
Toluene	UG/L	5	5 U	5 U	5 U	5 U	5 U
Trichloroethene	UG/L	5	790 D	5 U	5 U	27	5 U
Trichlorofluoromethane	UG/L	5	5 UJ	5 UJ	5 UJ	5 UJ	5 U
Vinyl acetate	UG/L	-	5 U	5 U	5 U	5 U	5 U
Vinyl chloride	UG/L	2	5	43	5 U	5 U	5 U
Xylene (total)	UG/L	5	5 U	5 U	5 U	5 U	5 U

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds

Made By AMK 8/4/06
Checked By JJL 8/4/06

Detection Limits shown are MDL

TABLE 2
VALIDATED GROUNDWATER ANALYTICAL RESULTS
BELL AEROSPACE - TEXTRON, SITE # 9-32-052

Location ID			MW-89-14-1
Sample ID			932052-MW-89-14-1
Matrix			Groundwater
Depth Interval (ft)			-
Date Sampled			06/07/06
Parameter	**Units**	*	
Volatile Organic Compounds			
1,1,1,2-Tetrachloroethane	UG/L	-	5 U
1,1,1-Trichloroethane	UG/L	5	10
1,1,2,2-Tetrachloroethane	UG/L	5	5 U
1,1,2-Trichloroethane	UG/L	1	5 U
1,1-Dichloroethane	UG/L	5	8
1,1-Dichloroethene	UG/L	5	2 J
1,1-Dichloropropene	UG/L	-	5 U
1,2,3-Trichlorobenzene	UG/L	-	1 J
1,2,3-Trichloropropane	UG/L	-	5 U
1,2,4-Trichlorobenzene	UG/L	5	5 UJ
1,2,4-Trimethylbenzene	UG/L	-	5 U
1,2-Dibromo-3-chloropropane	UG/L	0.04	5 U
1,2-Dibromoethane (Ethylene dibromide)	UG/L	0.006	5 U
1,2-Dichlorobenzene	UG/L	3	5 U
1,2-Dichloroethane	UG/L	0.6	5 U
1,2-Dichloroethene (cis)	UG/L	5	300 D
1,2-Dichloroethene (trans)	UG/L	5	2 J
1,2-Dichloropropane	UG/L	1	5 U
1,3,5-Trimethylbenzene (Mesitylene)	UG/L	-	5 U
1,3-Dichlorobenzene	UG/L	3	5 U
1,3-Dichloropropane	UG/L	-	5 U
1,3-Dichloropropene (cis)	UG/L	0.4	5 U

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.

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Concentration Exceeds

Made By AMK 8/4/06
Checked By JJL 8/4/06

Detection Limits shown are MDL

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TABLE 2
VALIDATED GROUNDWATER ANALYTICAL RESULTS
BELL AEROSPACE - TEXTRON, SITE # 9-32-052

Location ID			MW-89-14-1
Sample ID			932052-MW-89-14-1
Matrix			Groundwater
Depth Interval (ft)			-
Date Sampled			06/07/06
Parameter	**Units**	*	
Volatile Organic Compounds			
1,3-Dichloropropene (trans)	UG/L	0.4	5 U
1,4-Dichlorobenzene	UG/L	3	5 U
2,2-Dichloropropane	UG/L	-	5 U
2-Chlorotoluene	UG/L	-	5 U
2-Hexanone	UG/L	50	5 UJ
4-Chlorotoluene	UG/L	-	5 U
4-Isopropyltoluene (p-Cymene)	UG/L	-	5 U
4-Methyl-2-pentanone	UG/L	-	5 U
Acetone	UG/L	50	5 U
Benzene	UG/L	1	5 U
Bromobenzene	UG/L	-	5 U
Bromochloromethane	UG/L	-	5 U
Bromodichloromethane	UG/L	50	5 U
Bromoform	UG/L	50	5 U
Bromomethane	UG/L	5	5 U
Carbon disulfide	UG/L	60	5 U
Carbon tetrachloride	UG/L	5	5 U
Chlorobenzene	UG/L	5	5 U
Chloroethane	UG/L	5	5 U
Chloroform	UG/L	7	5 UJ
Chloromethane	UG/L	5	5 U
Dibromochloromethane	UG/L	50	5 U

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.

Flags assigned during chemistry validation are shown.

Concentration Exceeds

Made By AMK 8/4/06
Checked By JJL 8/4/06

Detection Limits shown are MDL

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TABLE 2
VALIDATED GROUNDWATER ANALYTICAL RESULTS
BELL AEROSPACE - TEXTRON, SITE # 9-32-052

Location ID			MW-89-14-1
Sample ID			932052-MW-89-14-1
Matrix			Groundwater
Depth Interval (ft)			-
Date Sampled			06/07/06
Parameter	**Units**	*	
Volatile Organic Compounds			
Dibromomethane	UG/L	-	5 U
Dichlorodifluoromethane	UG/L	5	5 U
Ethylbenzene	UG/L	5	5 U
Hexachlorobutadiene	UG/L	-	5 U
Iodomethane (Methyl iodide)	UG/L	-	5 U
Isopropylbenzene (Cumene)	UG/L	5	5 U
Methyl ethyl ketone (2-Butanone)	UG/L	50	5 U
Methyl tert-butyl ether	UG/L	10	5 U
Methylene chloride	UG/L	5	5 U
Naphthalene	UG/L	-	1 J
n-Butylbenzene	UG/L	-	5 U
n-Propylbenzene	UG/L	-	5 U
sec-Butylbenzene	UG/L	-	5 U
Styrene	UG/L	5	5 U
tert-Butylbenzene	UG/L	-	5 U
Tetrachloroethene	UG/L	5	5 U
Toluene	UG/L	5	5 U
Trichloroethene	UG/L	5	22
Trichlorofluoromethane	UG/L	5	5 UJ
Vinyl acetate	UG/L	-	5 U
Vinyl chloride	UG/L	2	10
Xylene (total)	UG/L	5	5 U

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. April 2000, Class GA.

Flags assigned during chemistry validation are shown.

(oval) Concentration Exceeds

Made By AMK 8/4/06
Checked By JJL 8/4/06

Detection Limits shown are MDL

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TABLE 3

SUMMARY OF DETECTED CONSTITUENTS
SOIL VAPOR ANALYTICAL DATA

TABLE 3
VALIDATED SOIL VAPOR ANALYTICAL RESULTS
BELL AEROSPACE - TEXTRON, SITE # 9-32-052

Location ID		V-01S	V-02S	V-03S	V-03S	V-05S
Sample ID		932052-V-ID	932052-V-2S	932052-V-3S	932052-V-3S-DUP	932052-V-5S
Matrix		Ambient Air	Ambient Air	Ambient Air	Ambient Air	Ambient Air
Depth Interval (ft)		-	-	-	-	-
Date Sampled		06/09/06	06/09/06	06/09/06	06/09/06	06/09/06
Parameter	Units				Field Duplicate (1-1)	
Volatile Organic Compounds						
1,1,1-Trichloroethane	UG/M3	1.0 U	120	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	UG/M3	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/M3	1.6 U	1.8	1.6 U	1.6 U	7.2
1,1,2-Trichloroethane	UG/M3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	UG/M3	0.8 U	1.2	0.8 U	0.8 U	0.8 U
1,1-Dichloroethene	UG/M3	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
1,2,4-Trichlorobenzene	UG/M3	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
1,2,4-Trimethylbenzene	UG/M3	3.9	190	72	150	28
1,2-Dibromoethane (Ethylene dibromide)	UG/M3	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
1,2-Dichlorobenzene	UG/M3	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
1,2-Dichloroethane	UG/M3	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
1,2-Dichloroethene (cis)	UG/M3	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
1,2-Dichloroethene (trans)	UG/M3	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
1,2-Dichloropropane	UG/M3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorotetrafluoroethane	UG/M3	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
1,3,5-Trimethylbenzene (Mesitylene)	UG/M3	1.4	62	25	52	8.8
1,3-Butadiene	UG/M3	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,3-Dichlorobenzene	UG/M3	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
1,3-Dichloropropene (cis)	UG/M3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropene (trans)	UG/M3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	UG/M3	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
2-Hexanone	UG/M3	0.8 UJ	0.8 UJ	0.8 UJ	0.8 UJ	0.8 UJ
4-Ethyltoluene	UG/M3	1.9	65	24	50	12

Flags assigned during chemistry validation are shown.

Made By AMK 8/4/06
Checked By JJL 8/4/06

Detection Limits shown are MDL

TABLE 3
VALIDATED SOIL VAPOR ANALYTICAL RESULTS
BELL AEROSPACE - TEXTRON, SITE # 9-32-052

Location ID		V-01S	V-02S	V-03S	V-03S	V-05S
Sample ID		932052-V-ID	932052-V-2S	932052-V-3S	932052-V-3S-DUP	932052-V-5S
Matrix		Ambient Air	Ambient Air	Ambient Air	Ambient Air	Ambient Air
Depth Interval (ft)		-	-	-	-	-
Date Sampled		06/09/06	06/09/06	06/09/06	06/09/06	06/09/06
Parameter	Units				Field Duplicate (1-1)	
Volatile Organic Compounds						
4-Methyl-2-pentanone	UG/M3	0.8 UJ	17 J	0.8 UJ	0.8 UJ	0.8 UJ
Acetone	UG/M3	360 J	110 J	210 J	100 J	150 J
Benzene	UG/M3	18	41	30	83	18
Bromodichloromethane	UG/M3	1.4 U	1.4 U	5.2	1.4 U	1.4 U
Bromomethane	UG/M3	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Carbon Disulfide	UG/M3	2.1	39	12	41	26
Carbon Tetrachloride	UG/M3	1.4	1.2 U	1.3	1.2 U	1.2 U
Chlorobenzene	UG/M3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	UG/M3	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Chloroform	UG/M3	1.0 U	11	24	50	1.8
Chloromethane	UG/M3	0.4 U	0.4 U	2.4	.8 U	0.4 U
Cyclohexane	UG/M3	1.0	8.2	18	45	8.9
Dibromochloromethane	UG/M3	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
Dichlorodifluoromethane	UG/M3	1.0 U	1.0 U	3.6	3.4	4.6
Ethyl Acetate	UG/M3	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Ethylbenzene	UG/M3	5.9	160	63	150	23
Hexachlorobutadiene	UG/M3	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
Hexane	UG/M3	0.8 U	0.8 U	0.8 U	77	0.8 U
m&p-Xylene	UG/M3	21	650	220	440	94
Methyl ethyl ketone (2-Butanone)	UG/M3	9.8	43	17	21	5.8
Methyl tert-butyl ether	UG/M3	0.8 U	73	31	65	8.5
Methylene Chloride	UG/M3	1.7 UJ	2.4 UJ	2.2 UJ	4.4 J	3.0 UJ
n-Heptane	UG/M3	5.3	52	49	150	20

Flags assigned during chemistry validation are shown.

Made By AMK 8/4/06
Checked By JJL 8/4/06

Detection Limits shown are MDL

TABLE 3
VALIDATED SOIL VAPOR ANALYTICAL RESULTS
BELL AEROSPACE - TEXTRON, SITE # 9-32-052

Location ID		V-01S	V-02S	V-03S	V-03S	V-05S
Sample ID		932052-V-ID	932052-V-2S	932052-V-3S	932052-V-3S-DUP	932052-V-5S
Matrix		Ambient Air	Ambient Air	Ambient Air	Ambient Air	Ambient Air
Depth Interval (ft)		-	-	-	-	-
Date Sampled		06/09/06	06/09/06	06/09/06	06/09/06	06/09/06
Parameter	Units				Field Duplicate (1-1)	
Volatile Organic Compounds						
o-Xylene	UG/M3	4.9	210	83	140	26
Propylene	UG/M3	33	0.4 U	0.4 U	0.4 U	0.4 U
Styrene	UG/M3	0.8 U	2.9	0.8 U	0.8 U	0.8 U
Tetrachloroethene	UG/M3	1.8	11	3.5	8.4	3.1
Tetrahydrofuran	UG/M3	8.2	30	18	34	0.6 U
Toluene	UG/M3	0.8 U	540	190	460	100
Trichloroethene	UG/M3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	UG/M3	2.4	5.7	2.4	2.5	3.5
Vinyl Acetate	UG/M3	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Vinyl Chloride	UG/M3	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Benzyl chloride	UG/M3	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Ethanol	UG/M3	12 J	4.9 J	4.1 J	2.4 J	17 J
Isopropanol	UG/M3	1.2	2.0	1.9	0.4 U	0.4 U

Flags assigned during chemistry validation are shown.

Made By AMK 8/4/06
Checked By JJL 8/4/06

Detection Limits shown are MDL

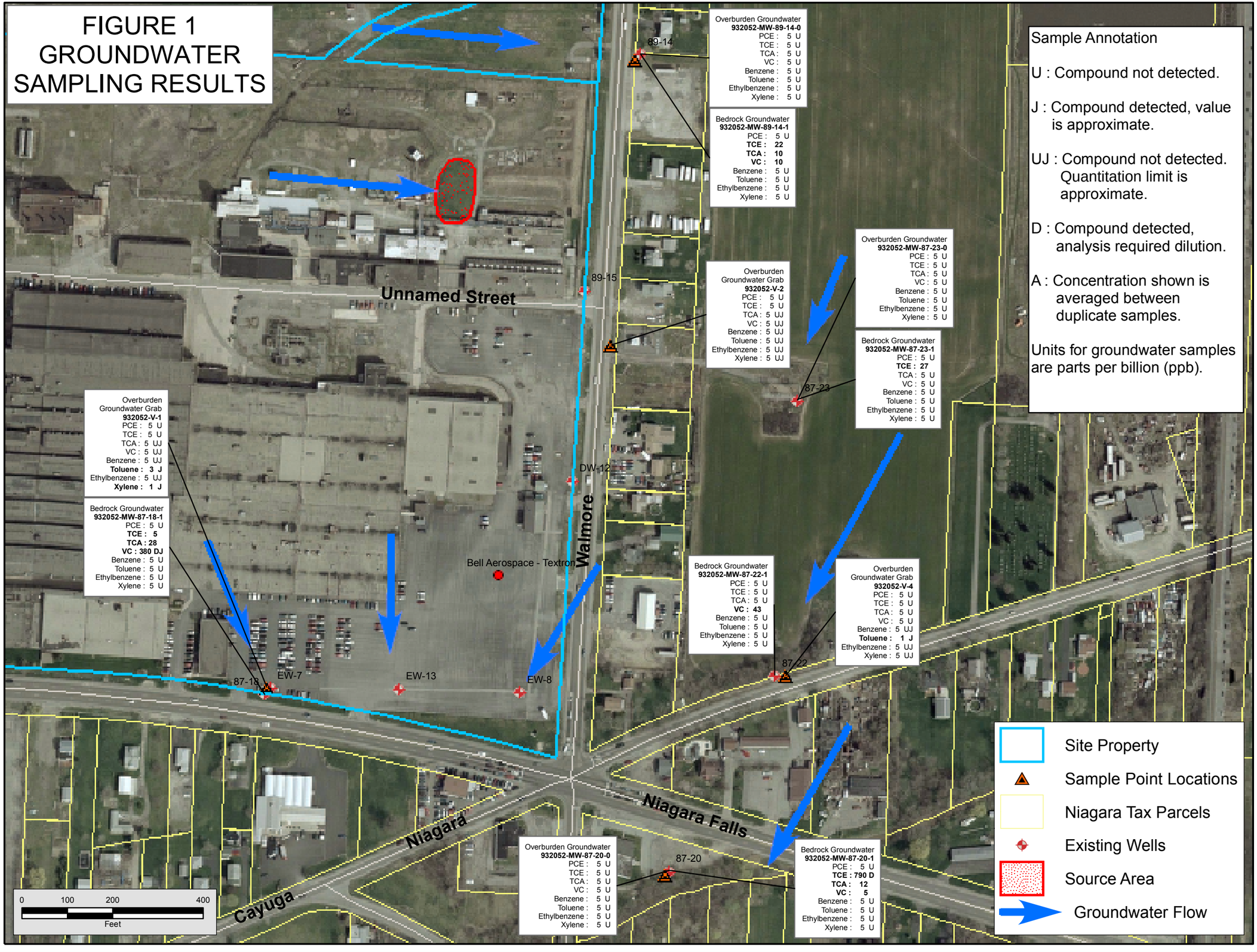
J:\11174771.00000\DB\EDMS.mde
Printed: 8/4/2006 1:09:20 PM
[MATRIX] = 'AA'

FIGURE 1

GROUNDWATER

SAMPLING RESULTS

FIGURE 1
GROUNDWATER SAMPLING RESULTS



Sample Annotation

U : Compound not detected.

J : Compound detected, value is approximate.

UJ : Compound not detected. Quantitation limit is approximate.

D : Compound detected, analysis required dilution.

A : Concentration shown is averaged between duplicate samples.

Units for groundwater samples are parts per billion (ppb).

New York State
Department of Environmental Conservation

Division of Environmental Remediation

Map Details

Created in ArcGIS 9.1

Created by T. Festa

Date of Last Revision: 9/18/2006

Bell Aerospace
Site # 9-32-052

Niagara County
Town of Wheatfield

DEC Contact:
Radon

DOH Contact:
Forcucci

Spring 2002
Aerial Photography

N
W E
S

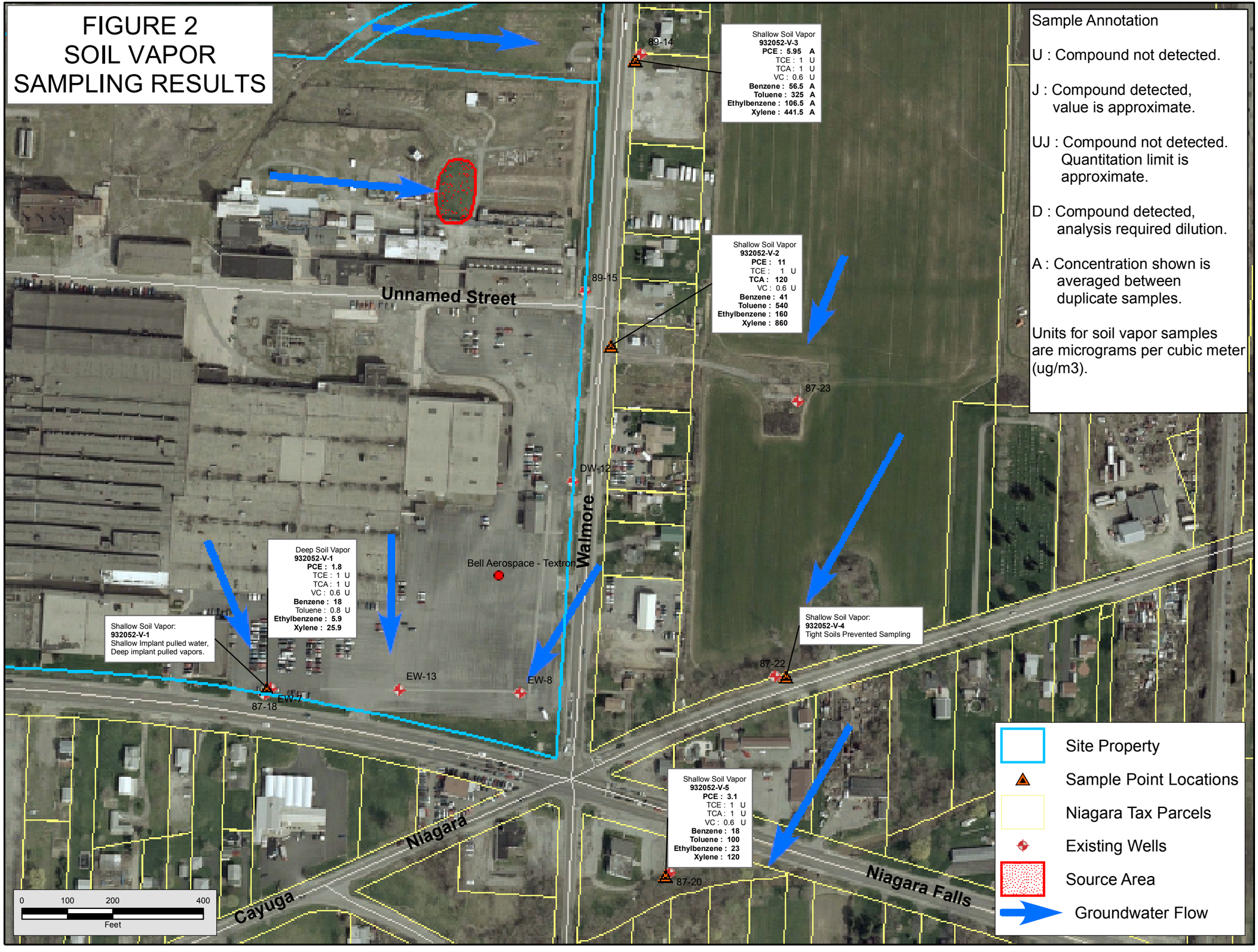
North American Datum 1983
UTM Zone 18N

FIGURE 2

SOIL VAPOR

SAMPLING RESULTS

FIGURE 2
SOIL VAPOR SAMPLING RESULTS



Sample Annotation

U : Compound not detected.

J : Compound detected, value is approximate.

UJ : Compound not detected. Quantitation limit is approximate.

D : Compound detected, analysis required dilution.

A : Concentration shown is averaged between duplicate samples.

Units for soil vapor samples are micrograms per cubic meter (ug/m3).

New York State
Department of Environmental Conservation

Division of Environmental Remediation

Map Details

Created in ArcGIS 9.1

Created by T. Festa

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ATTACHMENT A

URS Corp. Vapor Intrusion Evaluation Letter Report
October, 2006