MEMORANDUM

DATE:	**October 14, 2011**
FROM:	Steven Buyze (Amec)
SUBJECT:	**Off-Property Vapor Intrusion Evaluation** **South Bend, Indiana**
PROJECT #:	3310110016
TO:	Ms. Loan Pham – Indiana Department of Environmental Management
COPY TO:	Chuck Geadelmann (Honeywell International); Deborah Barsotti, Steve Murray, Craig Kielty (Amec)

INTRODUCTION

Historically, low levels of chlorinated solvents have been detected in shallow groundwater northeast of the Honeywell Complex in South Bend, Indiana (Figure 1). This off-property area is occupied by residential homes and a park. The groundwater in this area is 14 to 16 feet below ground surface (bgs) and is not used as drinking water. The shallow groundwater is too deep to permit direct contact exposures (e.g., via digging into the ground), but is shallow enough to be a potential source of vapors to indoor air. Therefore, persons in the residential area have no contact with contaminated groundwater, but could potentially be exposed to vapors that may migrate from the groundwater to soil gas in the unsaturated zone, which in turn may migrate to indoor air within the residential homes (vapor intrusion [VI]). In 2000, Honeywell International, Inc. (Honeywell) performed an off-site soil gas survey as part of voluntary site investigation. Results indicated no detectable volatile organic compounds (VOCs) at a depth of three feet in 11 off-site soil gas sampling locations.

The Indiana Department of Environmental Management (IDEM) has published Draft Vapor Intrusion Guidance (IDEM *Draft Vapor Intrusion Pilot Program Guidance* – April 26, 2006) which identifies a technical approach to evaluate the potential completeness and significance of the VI migration and exposure pathway. For chlorinated VOC groundwater plumes, the IDEM suggests a step-wise approach that consists of first determining if chlorinated VOCs are detected in soil or groundwater within 100 feet of an occupied residence at concentrations greater than the soil and groundwater screening levels presented in the IDEM guidance document. Evaluation of recent groundwater data collected from wells within the residential area indicated that groundwater concentrations at wells S9 and S14 were at or slightly above screening levels for a 30-year exposure scenario. Consequently, Honeywell performed a soil gas investigation in 2009 to further evaluate the VI pathway. Results indicated that of the 16 samples collected; only one sample exhibited a concentration over IDEM soil gas screening criteria. The detection of trichloroethene (TCE) at 35 parts per billion by volume (ppbv) in the deep (10 feet bgs) soil gas sample at location SV-6 slightly exceeded the IDEM soil gas screening level of 22 ppbv. Figure 2 shows recent groundwater analytical results as well as soil gas results from the 2009 investigation. These results are consistent with a limited if not incomplete exposure pathway for subsurface vapor to indoor air.

Following a discussion of the results and a subsequent meeting with IDEM, Honeywell was asked to collect sub-slab soil gas samples in combination with indoor air sampling in residential homes adjacent to the Honeywell Complex to evaluate whether the groundwater to indoor air pathway was complete. The targeted study area would encompass homes within 1,000 feet of groundwater screening level exceedances. Further, IDEM asked that sampling be conducted on two separate occasions (winter and summer) to evaluate seasonal variation. The winter sampling event was completed in February 2011 and is documented in the *Off-Property Vapor Intrusion Evaluation* memorandum dated April 15, 2011. This memorandum provides the methodology and results of the July 2011 (summer) sampling event.

METHODS

AMEC Environment & Infrastructure (Amec) formerly MACTEC Engineering and Consulting, Inc. designed and conducted the VI study utilizing IDEM's 2006 *Draft Vapor Intrusion Pilot Program Guidance.* Access permission was received from 11 of the 25 possible residential dwellings located in the study area. Following access approvals and scheduling, Amec entered the residential structures to sample one existing sub-slab vapor point per basement, one indoor air sample point within each basement, and one indoor air sample point within each primary floor living space. In addition, background ambient air sample locations were selected at outdoor locations for each sampling day. The summer event sampling was conducted from July 25, 2011 through July 29, 2011. Indoor Air Building Survey Checklists from IDEM's 2006 *Draft Vapor Intrusion Pilot Program Guidance* were completed, when possible, by the occupants of the dwellings and Amec field personnel during both winter and summer events. Copies of completed Indoor Air Building Survey Checklists are located in Appendix A.

Sub-Slab Vapor Sample Point Placement

Typical sub-slab soil vapor collection point construction is shown on Figure 3. Sub-slab soil vapor sample points were installed during the winter (February 2009) sampling event as follows:

1. A 2-inch hole was cored through the concrete slab using a hammer drill
2. Soil was removed utilizing a stainless steel push sampler
3. 6-inch by ½-inch stainless steel screen was place in boring connected to ¼-inch outside dimension (OD) polyethylene tubing
4. Sub-slab soil vapor point borings were backfilled with #5 filter sand to within one inch of the bottom of the concrete slab
5. Hydrated bentonite was placed in the remainder of the boring up to the top of the concrete slab
6. A push-connect union was placed on ¼ inch tubing at the surface of the concrete
7. A three-way valve was attached to a luer lock fitting approximately two to three feet from concrete surface
8. Utilizing a 60 milliliter (mL) luer lock syringe, the soil vapor sample point was purged of soil vapor amounting to three times the volume of the soil vapor sample point boring

Summer Event Sample Collection

Amec collected sub-slab samples and ambient indoor air samples into 6-liter summa canisters connected to air trains consisting of a particle filter, flow regulator and pressure gauge. Flow regulators were calibrated in the laboratory to draw samples over a 24 hour period. Sample collection start and stop times and initial and final canister pressures were recorded on a sample log sheet. Sample log sheets are located in Appendix B.

Sub-slab soil vapor samples were collected by the following process:

1. The plug left in union was removed and new tubing, three-way valve, and 60 mL luer lock syringe were attached
2. The concrete patch around the union was chipped out and the bentonite seal was rehydrated
3. Dead air space was purged from the stainless steel screen and tubing by purging three times the volume of the screen with a 60 mL luer lock syringe
4. 6-liter summa canister was connected to the air train
5. ¼-inch OD polyethylene tubing was attached to the empty port of three-way valve with luer lock connection fitting
6. The remaining end of ¼-inch OD tubing was connected to the air train with laboratory supplied compression fitting
7. Three-way and summa canister valves were opened
8. Began collecting sample

Both basement and primary living space sample locations were established and samples were collected at each residence in the same manner. Air trains were connected to the 6-liter summa canisters and then canisters were placed on a stand to elevate the sample port to approximately three feet from the floor surface. Valves located on summa canisters were then opened and sample collection began.

Outdoor background sample locations were also established and samples collected from upwind and downwind of residences being monitored. Background samples were collected into 6-liter summa canisters fitted with air trains, which were left hanging on elevated hooks for the 24-hour collection period. Laboratory supplied "candy canes" (candy cane shaped pieces of stainless steel) were attached to the air trains to prevent moisture from entering the summa canisters.

Figures 4 through 7 present the VI intrusion sample locations by date with wind direction and location of background sample locations. Appendix C contains historic meteorological information from each sampling day.

After the 24-hour collection period, canisters were retrieved from the residences. Stop times and final pressures were noted on the sample logs and valves were closed. During the summer event at the sub-slab sample points, the tubing was then removed from the flow regulators at the union connection located at the concrete surface. The sub-slab sampling points were removed and the core hole was capped with concrete. Sample air trains and canisters were separated and packed for shipment to the laboratory for analysis of select VOCs using USEPA TO-15 low level analysis.

RESULTS

Indoor ambient air results were compared to Residential Indoor Air Action Levels (RIAALs) for a 30 year exposure duration as presented in IDEM's *Draft Vapor Intrusion Pilot Program Guidance Supplement*, dated February 4, 2010. Sub-slab sample results were compared to Residential Sub-Slab Screening Levels for a 30 year exposure duration as presented in the same document. For compounds with no established sub-slab screening level, a factor of ten times the indoor air action level was used to calculate

a sub-slab screening level. Analytical results are presented on Table 1 and analytical laboratory reports are located in Appendix D. For comparison, the winter sampling results are also included on Table 1.

The summer event sub-slab sample analytical results indicated the presence of seven different VOCs beneath basement concrete slabs. However, as observed during the winter event, none of these detections exceeded an established or calculated sub-slab screening level for the most stringent 30 year exposure duration indicating that the pathway to indoor air is likely incomplete.

Summer event indoor air sampling results indicated the presence of 13 VOCs in either the basement or primary living space. However, RIAALs were not exceeded in three of the 11 residences. One or more RIAAL was exceeded in the remaining eight residences. The RIAAL was exceeded for benzene (Homes 1, 4, and 8 - basement and primary; Homes 3 and 6 - basement; and Home 9 - primary); 1,2-dichloroethane (1,2-DCA) (Homes 1, 2, 6, and 9 - basement and primary; and Home 3 - basement); 1,2-dichloropropane (Home 2 - basement); and tetrachloroethene (PCE) (Home 7 - basement and primary, and Home 9 - primary).

In outdoor ambient air samples, TCE was the only VOC detected above a RIAAL in one upwind sample collected on July 29. Low levels of benzene were detected in all background samples.

CONCLUSIONS

With the completion of both the winter and summer sample events, Amec has evaluated the potential for subsurface VI into the residential structures located within the study area. No screening level exceedances have been observed in sub-slab samples collected during either sampling event. As a result, although RIAAL exceedances for five VOCs were observed in indoor air during both events, there is no definitive evidence that the exceedances are related to VI from a subsurface source, i.e., the subsurface to indoor air pathway is not complete. Amec believes the likely source of VOCs in indoor air above RIAALs is attributable to sources and/or activities in the homes and from potential outdoor air contributions.

Benzene was detected in each sample (sub-slab, indoor air, and background air) collected during both sampling events. Benzene has not been detected in off-site groundwater wells located within the study area nor was it observed to exceed the sub-slab screening level; however, benzene was observed to exceed the RIAAL in the indoor air of Home 1, Home 8, and Home 11 during the winter event and Home 1, Home 4, Home 6, Home 8 and Home 9 during the summer event. Survey information collected from residences showed potential sources or activities from within or outside the home. Specifically, Home 1 underwent a recent kitchen renovation which included painting of the entire room and exceeded the benzene RIAAL in both winter and summer events. Home 8 has an attached garage and is in closest proximity to the main thoroughfare also exceeded the benzene RIAAL for both winter and summer events. The resident from Home 11 indicated that her hobbies include painting and she smokes tobacco products on a regular basis. Tobacco smoke is known to contain benzene as well as other VOCs. During the survey process the resident of Home 6 indicated that some had recently smoked cigarette tobacco inside the structure. The resident of Home 4 stores paint, thinners and strippers in the basement and has an attached garage, both of which may have influenced the indoor air results. The Indoor Air Building Survey Checklist completed for Home 9 did not reveal any potential benzene sources.

Similarly, the source of 1,2-DCA in Home 1, Home 2, Home 3, Home 6, and Home 9 is likely from an indoor source within the home since no detections were observed in the sub-slab sample (with the exception of Home 2 which exhibited levels just above the method detection limit in the sub-slab sample). Although no specific products were identified as containing 1,2-DCA during the survey, 1,2-DCA can be found in degreasers and paint removers, and can result from out gassing of molded plastic consumer products.

TCE was detected above the RIAAL in Home 11 basement sample during the winter event and below the RIAAL during the summer event. TCE was detected in the sub-slab sample during both winter and summer events, but below the sub-slab screening level. TCE is found in degreasing solvents, auto parts cleaner, adhesives, paint remover, spot remover, nail polish and polish remover. During the survey, it was noted that the resident is a cosmetologist by occupation and paints as a hobby. These may be factors as to the presence of TCE at this location.

PCE was detected during the summer event above the RIAAL in Home 7, in the primary and basement samples and in Home 9, in the primary sample. PCE was also detected in the sub-slab samples but concentrations were below indoor air concentrations and sub-slab 30 year exposure duration levels. PCE has not been observed in groundwater in any off-property monitoring well to date. PCE is commonly used in dry cleaning and as a degreaser, paint stripper or spot remover.

1,2-Dichloropropane was detected during the summer event just above the RIAAL in the basement of Home 2. It was not detected in any other samples collected during the two event VI evaluation. This compound is typically found in paint removers and thinners, varnishes, and insecticides. The Indoor Air Building Survey Checklist completed for Home 2 indicated the presence of paint and paint thinners in the basement, as well as insecticides in the kitchen.

Final

Table 1
Residential Indoor Ambient Air and Sub-Slab Soil Vapor Comparison Table
Honeywell - South Bend

Compound	RIAALs 30 Year Exposure Duration	Sub-Slab 30 Year Exposure Duration	Sample ID	B-3006L-0211	B-3006L-0711	P-3006L-0211	P-3006L-0711	SS-3006L-0211	SS-3006L-0711	B-719G-0211	B-719G-0711	P-719G-0211	P-719G-0711	SS-719G-0211	SS-719G-0711
				Home 1 Basement	Home 1 Basement	Home 1 Primary	Home 1 Primary	Home 1 Sub-Slab	Home 1 Sub-Slab	Home 2 Basement	Home 2 Basement	Home 2 Primary	Home 2 Primary	Home 2 Sub-Slab	Home 2 Sub-Slab
			Sample Date	2/2/2011	7/27/2011	2/2/2011	7/27/2011	2/2/2011	7/27/2011	2/2/2011	7/28/2011	2/2/2011	7/28/2011	2/2/2011	7/28/2011
			Analyzed Date	2/11/2011	8/3/2011	2/11/2011	8/3/2011	2/11/2011	8/3/2011	2/11/2011	8/4/2011	2/11/2011	8/4/2011	2/11/2011	8/4/2011
Benzene	0.78	7.8	ppbv	**1.9**	**3.8**	**2.1**	**4.2**	**0.60**	**0.68**	**0.20**	**0.67**	**0.20**	**0.18**	**0.30**	**0.40**
sec-Butylbenzene	NC	NC	ppbv	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
Chloroethane	8.8	88*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,1-Dichloroethane	130	1300*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
cis-1,2-Dichloroethene	9.2	92*	ppbv	**0.093**	<0.080	**0.10**	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
trans-1,2-Dichloroethene	18	180*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,1-Dichloroethene	52	520*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,2-Dichloropropane	0.21	2.1*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	**0.24**	<0.080	<0.080	<0.080	<0.080
Isopropylbenzene	82	820*	ppbv	<0.16	**0.23**	<0.16	**0.25**	**0.16**	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
n-Propylbenzene	30	300*	ppbv	<0.16	**0.76**	<0.16	**0.87**	**0.26**	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	**0.28**
Tetrachloroethene	0.47	4.7	ppbv	<0.080	<0.080	<0.080	<0.080	**0.46**	**0.51**	<0.080	**0.094**	<0.080	<0.080	**0.39**	**0.50**
1,1,1-Trichloroethane	420	4200*	ppbv	<0.080	<0.080	<0.080	<0.080	**0.13**	**0.15**	<0.080	**0.12**	<0.080	<0.080	**0.25**	**0.44**
Trichloroethene	0.23	2.3	ppbv	**0.067**	<0.040	**0.078**	<0.040	**0.13**	**0.16**	<0.040	<0.040	<0.040	<0.040	**0.36**	**0.56**
Vinyl chloride	0.85	8.5	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
tert-Butylbenzene	NC	NC	ppbv	<0.20	**0.42**	<0.20	**0.47**	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane	0.18	1.8	ppbv	**0.084**	**0.34**	**0.11**	**0.42**	<0.080	<0.080	<0.080	**2.4**	**0.20**	**1.2**	<0.080	**0.090**

Notes:
RIAALs = Residential Indoor Air Action Level
NC = No criteria given by the Indiana Department of Environmental Management
ppbv = Part Per Billion by Volume
* = Sub-Slab 30 year Exposure Duration screening levels determined by increasing RIAALs by factor of 10
Bold = Exceeds RIAALs 30 year Exposure Duration if a basement or primary living space sample or exceeds Sub-Slab 30 year Exposure Duration if a sub-slab sample.

Sample Key:
B = Basement Ambient Air Sample
P = Primary Living Space Ambient Air Sample
SS = Sub-slab soil vapor sample
BG = Background Sample

Final

Table 1
Residential Indoor Ambient Air and Sub-Slab Soil Vapor Comparison Table
Honeywell - South Bend

Compound	RIAALs 30 Year Exposure Duration	Sub-Slab 30 Year Exposure Duration	Sample ID	B-3010R-0211	B-3010R-0711	P-3010R-0211	P-3010R-0711	SS-3010R-0211	SS-3010R-0711	B-3018L-0211L	B-3018L-0711L	P-3018L-0211L	P-3018L-0711L	SS-3018L-0211	SS-3018L-0711
			Sample ID	Home 3 Basement	Home 3 Basement	Home 3 Primary	Home 3 Primary	Home 3 Sub-Slab	Home 3 Sub-Slab	Home 4 Basement	Home 4 Basement	Home 4 Primary	Home 4 Primary	Home 4 Sub-Slab	Home 4 Sub-Slab
			Sample Date	2/2/2011	7/26/2011	2/2/2011	7/26/2011	2/2/2011	7/26/2011	2/3/2011	7/28/2011	2/3/2011	7/28/2011	2/3/2011	7/28/2011
			Analyzed Date	2/11/2011	8/3/2011	2/11/2011	8/3/2011	2/11/2011	8/3/2011	2/11/2011	8/4/2011	2/11/2011	8/4/2011	2/11/2011	8/4/2011
Benzene	0.78	7.8	ppbv	**0.31**	**1.9**	**0.30**	**0.78**	**0.30**	**0.21**	**0.41**	**5.2**	**0.36**	**7.2**	**0.57**	**0.37**
sec-Butylbenzene	NC	NC	ppbv	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	**0.18**	<0.16	**0.22**	<0.16	<0.16
Chloroethane	8.8	88*	ppbv	<0.080	<0.080	<0.080	**0.083**	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,1-Dichloroethane	130	1300*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
cis-1,2-Dichloroethene	9.2	92*	ppbv	<0.080	<0.080	<0.080	<0.080	**0.15**	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
trans-1,2-Dichloroethene	18	180*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,1-Dichloroethene	52	520*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,2-Dichloropropane	0.21	2.1*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Isopropylbenzene	82	820*	ppbv	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	**0.67**	<0.16	**0.89**	<0.16	<0.16
n-Propylbenzene	30	300*	ppbv	<0.16	**0.44**	<0.16	**0.18**	**0.21**	**0.19**	<0.16	**2.2**	<0.16	**3.0**	**0.17**	**0.21**
Tetrachloroethene	0.47	4.7	ppbv	<0.080	<0.080	<0.080	<0.080	**0.39**	**0.46**	<0.080	<0.080	<0.080	<0.080	**0.36**	<0.080
1,1,1-Trichloroethane	420	4200*	ppbv	<0.080	<0.080	<0.080	<0.080	**0.10**	**0.12**	<0.080	**0.37**	**0.11**	**0.50**	<0.080	**0.12**
Trichloroethene	0.23	2.3	ppbv	<0.040	<0.040	<0.040	<0.040	**0.14**	**0.076**	<0.040	<0.040	**0.081**	<0.040	**0.065**	<0.040
Vinyl chloride	0.85	8.5	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
tert-Butylbenzene	NC	NC	ppbv	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**1.1**	<0.20	**1.6**	<0.20	<0.20
1,2-Dichloroethane	0.18	1.8	ppbv	<0.080	**0.25**	<0.080	<0.080	<0.080	<0.080	<0.080	**0.10**	<0.080	**0.095**	<0.080	<0.080

Notes:
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Bold = Exceeds RIAALs 30 year Exposure Duration if a basement or primary living space sample or exceeds Sub-Slab 30 year Exposure Duration if a sub-slab sample.

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Table 1
Residential Indoor Ambient Air and Sub-Slab Soil Vapor Comparison Table
Honeywell - South Bend

Compound	RIAALs 30 Year Exposure Duration	Sub-Slab 30 Year Exposure Duration	Sample ID	B-3026R-0211	B-3026R-0711	P-3026R-0211	P-3026R-0711	SS-3026R-0211	SS-3026R-0711	B-3002L-0211	B-3002L-0711	P-3002L-0211	P-3002L-0711	SS-3002L-2011	SS-3002L-0711
			Sample ID	Home 5 Basement	Home 5 Basement	Home 5 Primary	Home 5 Primary	Home 5 Sub-Slab	Home 5 Sub-Slab	Home 6 Basement	Home 6 Basement	Home 6 Primary	Home 6 Primary	Home 6 Sub-Slab	Home 6 Sub-Slab
			Sample Date	2/3/2011	7/29/2011	2/3/2011	7/29/2011	2/3/2011	7/29/2011	2/4/2011	7/26/2011	2/4/2011	7/26/2011	2/4/2011	7/27/2011
			Analyzed Date	2/11/2011	8/4/2011	2/11/2011	8/4/2011	2/11/2011	8/4/2011	2/11/2011	8/2/2011	2/11/2011	8/2/2011	2/11/2011	8/2/2011
Benzene	0.78	7.8	ppbv	**0.28**	**0.15**	**0.35**	**0.19**	**0.22**	**0.69**	**0.33**	**0.88**	**0.31**	**0.13**	**0.35**	**0.23**
sec-Butylbenzene	NC	NC	ppbv	<0.16	<0.16	**0.71**	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
Chloroethane	8.8	88*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,1-Dichloroethane	130	1300*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
cis-1,2-Dichloroethene	9.2	92*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	**0.39**	<0.080	<0.080	<0.080	<0.080
trans-1,2-Dichloroethene	18	180*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,1-Dichloroethene	52	520*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,2-Dichloropropane	0.21	2.1*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Isopropylbenzene	82	820*	ppbv	<0.16	<0.16	**0.60**	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
n-Propylbenzene	30	300*	ppbv	<0.16	<0.16	**1.9**	<0.16	**0.23**	**0.28**	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
Tetrachloroethene	0.47	4.7	ppbv	<0.080	<0.080	<0.080	<0.080	**0.87**	**3.4**	<0.080	<0.080	<0.080	<0.080	**1.0**	<0.080
1,1,1-Trichloroethane	420	4200*	ppbv	<0.080	**0.14**	**0.089**	**0.24**	**1.2**	**1.6**	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Trichloroethene	0.23	2.3	ppbv	<0.040	<0.040	<0.040	<0.040	**0.044**	**0.055**	<0.040	**0.11**	<0.040	<0.040	**0.060**	<0.040
Vinyl chloride	0.85	8.5	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
tert-Butylbenzene	NC	NC	ppbv	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane	0.18	1.8	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	**0.11**	**3.2**	**0.20**	**0.27**	<0.080	**1.2**

Notes:
RIAALs = Residential Indoor Air Action Level
NC = No criteria given by the Indiana Department of Environmental Management
ppbv = Part Per Billion by Volume
* = Sub-Slab 30 year Exposure Duration screening levels determined by increasing RIAALs by factor of 10
Bold = Exceeds RIAALs 30 year Exposure Duration if a basement or primary living space sample or exceeds Sub-Slab 30 year Exposure Duration if a sub-slab sample.

Sample Key:
B = Basement Ambient Air Sample
P = Primary Living Space Ambient Air Sample
SS = Sub-slab soil vapor sample
BG = Background Sample

Final

Table 1
Residential Indoor Ambient Air and Sub-Slab Soil Vapor Comparison Table
Honeywell - South Bend

Compound	RIAALs 30 Year Exposure Duration	Sub-Slab 30 Year Exposure Duration	Sample ID	B-3017R-0211	B-3017R-0711	P-3017R-0211	P-3017R-0711	SS-3017R-0211	SS-3017R-0711	B-3034R-0211	B-3034R-0711	P-3034R-0211	P-3034R-0711	SS-3034R-0211	SS-3034R-0711
			Sample ID	Home 7 Basement	Home 7 Basement	Home 7 Primary	Home 7 Primary	Home 7 Sub-Slab	Home 7 Sub-Slab	Home 8 Basement	Home 8 Basement	Home 8 Primary	Home 8 Primary	Home 8 Sub-Slab	Home 8 Sub-Slab
			Sample Date	2/10/2011	7/27/2011	2/10/2011	7/27/2011	2/10/2011	7/27/2011	2/10/2011	7/28/2011	2/10/2011	7/28/2011	2/10/2011	7/28/2011
			Analyzed Date	2/17/2011	8/3/2011	2/17/2011	8/3/2011	2/17/2011	8/3/2011	2/17/2011	8/4/2011	2/17/2011	8/4/2011	2/17/2011	8/4/2011
Benzene	0.78	7.8	ppbv	**0.34**	**0.15**	**0.34**	**0.17**	**2.80**	**0.64**	**1.7**	**5.8**	**1.7**	**9.3**	**0.54**	**0.49**
sec-Butylbenzene	NC	NC	ppbv	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
Chloroethane	8.8	88*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,1-Dichloroethane	130	1300*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
cis-1,2-Dichloroethene	9.2	92*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
trans-1,2-Dichloroethene	18	180*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,1-Dichloroethene	52	520*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,2-Dichloropropane	0.21	2.1*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Isopropylbenzene	82	820*	ppbv	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	**0.41**	<0.16	<0.16
n-Propylbenzene	30	300*	ppbv	<0.16	<0.16	<0.16	<0.16	**0.21**	**0.23**	**0.25**	<0.16	**0.31**	**2.3**	<0.16	**0.27**
Tetrachloroethene	0.47	4.7	ppbv	**0.14**	**0.87**	**0.26**	**1.1**	**0.39**	**0.23**	<0.080	**0.13**	<0.080	<0.080	**0.79**	**3.8**
1,1,1-Trichloroethane	420	4200*	ppbv	<0.080	<0.080	<0.080	<0.080	**0.26**	**0.23**	<0.080	<0.080	<0.080	<0.080	**0.69**	**1.0**
Trichloroethene	0.23	2.3	ppbv	<0.040	<0.040	<0.040	<0.040	**0.10**	<0.040	<0.040	**0.085**	<0.040	<0.040	**0.12**	<0.040
Vinyl chloride	0.85	8.5	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
tert-Butylbenzene	NC	NC	ppbv	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**1.4**	<0.20	<0.20
1,2-Dichloroethane	0.18	1.8	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080

Notes:
RIAALs = Residential Indoor Air Action Level
NC = No criteria given by the Indiana Department of Environmental Management
ppbv = Part Per Billion by Volume
* = Sub-Slab 30 year Exposure Duration screening levels determined by increasing RIAALs by factor of 10
Bold = Exceeds RIAALs 30 year Exposure Duration if a basement or primary living space sample or exceeds Sub-Slab 30 year Exposure Duration if a sub-slab sample.

Sample Key:
B = Basement Ambient Air Sample
P = Primary Living Space Ambient Air Sample
SS = Sub-slab soil vapor sample
BG = Background Sample

Final

Table 1
Residential Indoor Ambient Air and Sub-Slab Soil Vapor Comparison Table
Honeywell - South Bend

Compound	RIAALs 30 Year Exposure Duration	Sub-Slab 30 Year Exposure Duration	Sample ID	B-3013R-0211	B-3013R-0711	P-3013R-0211	P-3013R-0711	SS-3013R-0211	SS-3013R-0711	B-3019L-0211	B-3019L-0711	P-3019L-0211	P-3019L-0711	SS-3019L-0211	SS-3019L-0711
			Sample Date	Home 9 Basement	Home 9 Basement	Home 9 Primary	Home 9 Primary	Home 9 Sub-Slab	Home 9 Sub-Slab	Home 10 Basement	Home 10 Basement	Home 10 Primary	Home 10 Primary	Home 10 Sub-Slab	Home 10 Sub-Slab
			Analyzed Date	2/10/2011	7/26/2011	2/10/2011	7/26/2011	2/10/2011	7/26/2011	2/18/2011	7/27/2011	2/18/2011	7/27/2011	2/18/2011	7/27/2011
				2/17/2011	8/2/2011	2/17/2011	8/3/2011	2/17/2011	8/3/2011	3/1/2011	8/2/2011	3/1/2011	8/2/2011	3/1/2011	8/2/2011
Benzene	0.78	7.8	ppbv	**0.26**	**0.51**	**0.26**	**1.10**	**0.19**	**0.31**	**0.33**	**0.40**	**0.69**	**0.31**	**0.31**	**0.57**
sec-Butylbenzene	NC	NC	ppbv	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
Chloroethane	8.8	88*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	**0.089**	<0.080	<0.080	**0.15**
1,1-Dichloroethane	130	1300*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
cis-1,2-Dichloroethene	9.2	92*	ppbv	<0.080	**0.40**	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	**0.096**	<0.080	<0.080	<0.080
trans-1,2-Dichloroethene	18	180*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,1-Dichloroethene	52	520*	ppbv	<0.080	**0.13**	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,2-Dichloropropane	0.21	2.1*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Isopropylbenzene	82	820*	ppbv	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	**0.34**	<0.16
n-Propylbenzene	30	300*	ppbv	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	**0.16**	<0.16	**0.25**	**0.22**
Tetrachloroethene	0.47	4.7	ppbv	<0.080	**0.34**	<0.080	**0.80**	**0.22**	**0.22**	<0.080	<0.080	**0.20**	<0.080	**0.25**	**0.13**
1,1,1-Trichloroethane	420	4200*	ppbv	<0.080	<0.080	<0.080	<0.080	**0.25**	**0.33**	<0.080	**0.095**	<0.080	<0.080	**0.18**	**0.16**
Trichloroethene	0.23	2.3	ppbv	<0.040	**0.34**	<0.040	<0.040	<0.040	<0.040	**0.040**	<0.040	<0.040	<0.040	**0.050**	<0.040
Vinyl chloride	0.85	8.5	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
tert-Butylbenzene	NC	NC	ppbv	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane	0.18	1.8	ppbv	<0.080	**1.2**	<0.080	**4.10**	<0.080	<0.080	**0.085**	<0.080	<0.080	<0.080	<0.080	<0.080

Notes:
RIAALs = Residential Indoor Air Action Level
NC = No criteria given by the Indiana Department of Environmental Management
ppbv = Part Per Billion by Volume
* = Sub-Slab 30 year Exposure Duration screening levels determined by increasing RIAALs by factor of 10
Bold = Exceeds RIAALs 30 year Exposure Duration if a basement or primary living space sample or exceeds Sub-Slab 30 year Exposure Duration if a sub-slab sample.

Sample Key:
B = Basement Ambient Air Sample
P = Primary Living Space Ambient Air Sample
SS = Sub-slab soil vapor sample
BG = Background Sample

Final

Table 1
Residential Indoor Ambient Air and Sub-Slab Soil Vapor Comparison Table
Honeywell - South Bend

Compound	RIAALs 30 Year Exposure Duration	Sub-Slab 30 Year Exposure Duration		B-3029L-0211	B-3029L-0711	P-3029L-0211	P-3029L-0711	SS-3029L-0211	SS-3029L-0711	BG-1-0211	BG-2-0211	BG-3-0211	BG-4-0211	BG-5-0211	BG-6-0211
			Sample ID	Home 11 Basement	Home 11 Basement	Home 11 Primary	Home 11 Primary	Home 11 Sub-Slab	Home 11 Sub-Slab	BG-1-0211	BG-2-0211	BG-3-0211	BG-4-0211	BG-5-0211	BG-6-0211
			Sample Date	2/18/2011	7/28/2011	2/18/2011	7/28/2011	2/19/2011	7/28/2011	2/2/2011	2/2/2011	2/3/2011	2/3/2011	2/4/2011	2/4/2011
			Analyzed Date	3/1/2011	8/3/2011	3/1/2011	8/3/2011	2/28/2011	8/3/2011	2/11/2011	2/11/2011	2/11/2011	2/11/2011	2/11/2011	2/11/2011
Benzene	0.78	7.8	ppbv	**0.37**	**0.20**	**0.90**	**0.20**	**0.21**	**1.50**	**0.19**	**0.17**	**0.25**	**0.28**	**0.21**	**0.23**
sec-Butylbenzene	NC	NC	ppbv	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
Chloroethane	8.8	88*	ppbv	<0.080	**0.16**	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,1-Dichloroethane	130	1300*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
cis-1,2-Dichloroethene	9.2	92*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
trans-1,2-Dichloroethene	18	180*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,1-Dichloroethene	52	520*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,2-Dichloropropane	0.21	2.1*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Isopropylbenzene	82	820*	ppbv	<0.16	<0.16	<0.16	<0.16	**0.29**	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
n-Propylbenzene	30	300*	ppbv	<0.16	<0.16	<0.16	<0.16	**0.17**	**0.28**	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
Tetrachloroethene	0.47	4.7	ppbv	<0.080	<0.080	<0.080	<0.080	**0.19**	**0.19**	<0.080	<0.080	**0.058**	**0.17**	<0.080	<0.080
1,1,1-Trichloroethane	420	4200*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Trichloroethene	0.23	2.3	ppbv	**0.26**	**0.056**	<0.040	<0.040	**0.050**	**0.054**	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Vinyl chloride	0.85	8.5	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
tert-Butylbenzene	NC	NC	ppbv	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane	0.18	1.8	ppbv	<0.080	**0.15**	<0.080	**0.099**	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080

Notes:
RIAALs = Residential Indoor Air Action Level
NC = No criteria given by the Indiana Department of Environmental Management
ppbv = Part Per Billion by Volume
* = Sub-Slab 30 year Exposure Duration screening levels determined by increasing RIAALs by factor of 10
Bold = Exceeds RIAALs 30 year Exposure Duration if a basement or primary living space sample or exceeds Sub-Slab 30 year Exposure Duration if a sub-slab sample.

Sample Key:
B = Basement Ambient Air Sample
P = Primary Living Space Ambient Air Sample
SS = Sub-slab soil vapor sample
BG = Background Sample

Final

Table 1
Residential Indoor Ambient Air and Sub-Slab Soil Vapor Comparison Table
Honeywell - South Bend

Compound	RIAALs 30 Year Exposure Duration	Sub-Slab 30 Year Exposure Duration		BG-7-0211	BG-8-0211	BG-9-0211	BG-10-0211	BG-1-0711	BG-2-0711	BG-3-0711	BG-4-0711	BG-5-0711	BG-6-0711	BG-7-0711	BG-8-0711
			Sample ID	BG-7-0211	BG-8-0211	BG-9-0211	BG-10-0211	BG-1-0711	BG-2-0711	BG-3-0711	BG-4-0711	BG-5-0711	BG-6-0711	BG-7-0711	BG-8-0711
			Sample Date	2/10/2011	2/10/2011	2/18/2011	2/18/2011	7/26/2011	7/26/2011	7/27/2011	7/27/2011	7/28/2011	7/28/2011	7/29/2011	7/29/2011
			Analyzed Date	2/17/2011	2/18/2011	3/1/2011	3/1/2011	8/3/2011	8/2/2011	8/2/2011	8/2/2011	8/3/2011	8/4/2011	8/4/2011	8/4/2011
Benzene	0.78	7.8	ppbv	**0.27**	**0.27**	**0.15**	**0.14**	**0.14**	**0.14**	**0.11**	**0.098**	**0.150**	**0.15**	**0.35**	**0.12**
sec-Butylbenzene	NC	NC	ppbv	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
Chloroethane	8.8	88*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	**0.085**	<0.080	<0.080	<0.080	<0.080	<0.080
1,1-Dichloroethane	130	1300*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
cis-1,2-Dichloroethene	9.2	92*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
trans-1,2-Dichloroethene	18	180*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,1-Dichloroethene	52	520*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,2-Dichloropropane	0.21	2.1*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Isopropylbenzene	82	820*	ppbv	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
n-Propylbenzene	30	300*	ppbv	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
Tetrachloroethene	0.47	4.7	ppbv	<0.080	<0.080	<0.080	<0.080	**0.16**	<0.080	<0.080	<0.080	<0.080	<0.080	**0.12**	<0.080
1,1,1-Trichloroethane	420	4200*	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Trichloroethene	0.23	2.3	ppbv	<0.040	<0.040	<0.040	<0.040	**0.096**	<0.040	<0.040	<0.040	<0.040	**0.15**	**0.60**	<0.040
Vinyl chloride	0.85	8.5	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
tert-Butylbenzene	NC	NC	ppbv	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane	0.18	1.8	ppbv	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080

Notes:

RIAALs = Residential Indoor Air Action Level

NC = No criteria given by the Indiana Department of Environmental Management

ppbv = Part Per Billion by Volume

* = Sub-Slab 30 year Exposure Duration screening levels determined by increasing RIAALs by factor of 10

Bold = Exceeds RIAALs 30 year Exposure Duration if a basement or primary living space sample or exceeds Sub-Slab 30 year Exposure Duration if a sub-slab sample.

Sample Key:

B = Basement Ambient Air Sample

P = Primary Living Space Ambient Air Sample

SS = Sub-slab soil vapor sample

BG = Background Sample

Created By: SGB Date: 09/15/11

Checked By: CSK Date: 09/22/11

MW-9
ND

S20
ND

HOME 2

S15	11/3/10
1,2 DCE	1.7
CIS 1,2 DCE	1.2
VC	1.8

S15

HOME 11

HOME 10

SV-1	s	d
Tol	4.9	7.3
PCE	5.3	5.8
Eth	<2	2.1
Xyl	5.0	8.2

SV-1

HOME 4

HOME 1

HOME 6

HOME 6	7/26/11
BASEMENT	
Ben	0.88
CIS 1,2 DCE	0.39
TCE	0.11
1,2 DCA	3.2
PRIMARY	
Ben	0.13
1,2 DCA	0.27
SUB-SLAB	
Ben	0.23
1,2 DCA	1.2

SV-4	s	d
1,1,1 TCA	<2	1.9
Ben	<2	1.9
TCE	2.7	4.3
Tol	<2	13
PCE	43	37
Xyl	<2	3.2

SV-2

SV-2	s	d
Tol	4.1	102
PCE	2.2	.5
Eth	<2	2.3
Xyl	4.3	8.2

ND
S8

HOME 7

HOME 9

BG-2-0711	7/26/11
Ben	0.14

BG-2-0711

HOME 9	7/26/11
BASEMENT	
Ben	0.51
CIS 1,2 DCE	0.40
t 1,2 DCE	0.080
1,1 DCE	0.13
PCE	0.34
TCE	0.34
1,2 DCA	1.20
PRIMARY	
Ben	1.10
PCE	0.80
1,2 DCA	4.10
SUB-SLAB	
Ben	0.31

S14	11/4/10
1,1,1-TCA	6.6
1,1 DCE	9.8
1,2 DCA	55
1,2 DCE	67
1,2 DCP	1.1
CIS 1,2 DCE	63
t 1,2 DCE	4
TCE	23

S14

SV-3

SV-4

WIND DIRECTION

S9	11/03/10
1,1 DCA	3.7
1,2 DCA	52
1,2 DCE	60
CIS 1,2 DCE	53
t 1,2 DCE	7.5

S9

BG-1-0711

SV-9

BG-1-0711	7/26/11
Ben	0.14
PCE	0.16
TCE	0.096

SV-5	s	d
1,1,1 TCA	19	44
TCE	4.6	18
Tol	2.5	4.3
PCE	31	36
Xyl	<2	2.0

SV-5

HOME 8

SV-9	s	d
MC	<5	54
Tol	2.8	5.4
Xyl	2.4	2.7

HOME 5

HOME 3

HOME 3	7/26/11
BASEMENT	
Ben	1.9
n-Propyl	0.44
1,2 DCA	0.25
PRIMARY	
Ben	0.78
Chloro	0.083
n-Propyl	0.18
SUB-SLAB	
Ben	0.21
n-Propyl	0.19
PCE	0.46
1,1,1 TCA	0.12
TCE	0.076

SV-6	s	d
1,1,1 TCA	53	74
TCE	15	35
Tol	6.1	5.1
PCE	28	17

SV-6

S10

SV-7

SV-7	s	d
1,1,1 TCA	27	44
1,2 DCA	3.0	4.5
TCE	6.4	18
PCE	3.7	3.6

SV-8

SV-8	s	d
1,1,1 TCA	2.0	<2
TCE	4.9	3.6
Tol	2.1	<2
PCE	12	5.1
Xyl	2.5	<2

LEGEND

SV-4 Previous Soil Gas Sampling Location

S5 Shallow Monitoring Well Location

House Sampled

Outdoor Background Sample

2.1 Value Indicates Exceedance to IDEM 30 Year Exposure Duration Screening Criteria

Chloro	Chlorothane
Ben	Benzene
Tol	Toluene
Eth	Ethylbenzene
Xyl	Xylene
iso-Propyl	Isopropylbenzene
n-Propyl	n-Propylbenzene
1,2 DCA	1,2-Dichloroethane
1,1 DCE	1,1-Dichlorothene
CIS 1,2 DCE	CIS-1,2-Dichloroethene
PCE	Tetrachloroethene
1,1,1 TCA	1,1,1-Trichloroethane
TCE	Trichloroethene
t 1,2 DCE	trans 1,2 Dichloroethene
VC	Vinyl Chloride
MC	Methylene Chloride

NOTE:
1. Soil gas and air sample results in part per billion by volume (ppbV).
2. Groundwater results in microgram per liter (ug/L).

N

SCALE (FT)
120 0 60 120

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FIGURE 4
VAPOR INTRUSION SAMPLING RESULTS
7/26/2011
HONEYWELL INDUSTRIAL COMPLEX

SOUTH BEND, INDIANA

P:\HW - South Bend\MACTEC Drawings & Prints\33101020162100.1_0811\FIGURE 4.dwg Tue, 04 Oct 2011 - 3:39pm tigraham

MW-9
ND

S15	11/3/10
1,2 DCE	1.7
CIS 1,2 DCE	1.2
VC	1.8

S15

HOME 10	7/27/11
BASEMENT	
Ben	0.40
1,1,1 TCA	0.095
PRIMARY	
Ben	0.31

SUB-SLAB	
Ben	0.57
n-Propyl	0.22
PCE	0.13
1,1,1 TCA	0.16

HOME 11
HOME 10
HOME 2
S20
ND
BG-04-0711

BG-04-0711	7/27/11
Ben	0.098

WIND DIRECTION

SV-1	s	d
Tol	4.9	7.3
PCE	5.3	5.8
Eth	<2	2.1
Xyl	5.0	8.2

SV-1
HOME 4
HOME 1
BG-03-0711

BG-03-0711	7/27/11
Ben	0.11
Chloro	0.85

SV-4	s	d
1,1,1 TCA	<2	1.9
Ben	<2	1.9
TCE	2.7	4.3
Tol	<2	13
PCE	43	37
Xyl	<2	3.2

SV-2

HOME 1	7/27/11
BASEMENT	
Ben	3.8
iso-Propyl	0.23
n-Propyl	0.76
tert-Butyl	0.42
1,2 DCA	0.34
PRIMARY	
Ben	4.2
iso-Propyl	0.25
n-Propyl	0.87
tert-Butyl	0.47
1,2 DCA	0.42
SUB-SLAB	
Ben	0.68
PCE	0.51
1,1,1 TCA	0.15
TCE	0.16

SV-2	s	d
Tol	4.1	102
PCE	2.2	.5
Eth	<2	2.3
Xyl	4.3	8.2

ND
S8
HOME 7
HOME 9

S14	11/4/10
1,1,1-TCA	6.6
1,1 DCE	9.8
1,2 DCA	55
1,2 DCE	67
1,2 DCP	1.1
CIS 1,2 DCE	63
t 1,2 DCE	4
TCE	23

S14
SV-3
SV-4

HOME 7	7/27/11
BASEMENT	
Ben	0.15
PCE	0.87
PRIMARY	
Ben	0.17
PCE	1.1
SUB-SLAB	
Ben	0.64
n-Propyl	0.23
PCE	0.23
1,1,1 TCA	0.23

S9	11/03/10
1,1 DCA	3.7
1,2 DCA	52
1,2-DCE	60
CIS 1,2 DCE	53
t 1,2 DCE	7.5

SV-5	s	d
1,1,1 TCA	19	44
TCE	4.6	18
Tol	2.5	4.3
PCE	31	36
Xyl	<2	2.0

SV-5
HOME 8
HOME 5
HOME 3
S9
SV-9

SV-9	s	d
MC	<5	54
Tol	2.8	5.4
Xyl	2.4	2.7

SV-6	s	d
1,1,1 TCA	53	74
TCE	15	35
Tol	6.1	5.1
PCE	28	17

SV-6
S10
SV-7
SV-8

SV-7	s	d
1,1,1 TCA	27	44
1,2 DCA	3.0	4.5
TCE	6.4	18
PCE	3.7	3.6

SV-8	s	d
1,1,1 TCA	2.0	<2
TCE	4.9	3.6
Tol	2.1	<2
PCE	12	5.1
Xyl	2.5	<2

SV-4

LEGEND

- Previous Soil Gas Sampling Location
- S5 — Shallow Monitoring Well Location
- House Sampled
- Outdoor Background Sample
- 0.60 — Value Indicates Exceedance to IDEM 30 Year Exposure Duration Screening Criteria

Chloro	Chlorothane
Ben	Benzene
Tol	Toluene
Eth	Ethylbenzene
Xyl	Xylene
iso-Propyl	Isopropylbenzene
n-Propyl	n-Propylbenzene
1,2 DCA	1,2-Dichloroethane
1,1 DCE	1,1-Dichlorothene
CIS 1,2 DCE	CIS-1,2-Dichloroethene
PCE	Tetrachloroethene
1,1,1 TCA	1,1,1-Trichloroethane
TCE	Trichloroethene
t 1,2 DCE	trans 1,2 Dichloroethene
VC	Vinyl Chloride
MC	Methylene Chloride

NOTE:
1. Soil gas and air sample results in part per billion by volume (ppbV).
2. Groundwater results in microgram per liter (ug/L).

N

SCALE (FT)
120 0 60 120

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FIGURE 5
VAPOR INTRUSION SAMPLING RESULTS
7/27/11
HONEYWELL INDUSTRIAL COMPLEX

SOUTH BEND, INDIANA

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MW-9
ND

HOME 11	7/28/11
BASEMENT	
Ben	0.20
CHLOR	0.16
TCE	0.056
PRIMARY	
Ben	0.20
1,2 DCE	0.099
SUB-SLAB	
Ben	1.50
n-Proply	0.28
PCE	0.19
TCE	0.54

S15	11/3/10
1,2 DCE	1.7
CIS 1,2 DCE	1.2
VC	1.8

S15

HOME 11

HOME 10

HOME 2

BG-5-0711

S20
ND

BG-5-0711	7/28/11
Ben	0.15

HOME 2	7/28/11
BASEMENT	
Ben	0.67
1,2 DCP	0.24
PCE	0.094
1,1,1 TCA	0.12
1,2 DCA	2.4
PRIMARY	
Ben	0.18
1,2 DCA	1.20
SUB-SLAB	
Ben	0.40
n-Proply	0.28
PCE	0.50
1,1,1 TCA	0.44
TCA	0.56
1,2 DCA	0.09

SV-1	s	d
Tol	4.9	7.3
PCE	5.3	5.8
Eth	<2	2.1
Xyl	5.0	8.2

SV-1

HOME 4

HOME 1

HOME 6

HOME 4	7/28/11
BASEMENT	
Ben	5.20
sec-Butyl	0.18
iso-Proply	0.67
n-Proply	2.2
1,1,1 TCA	0.37
tert-Butyl	1.1
1,2 DCA	0.10
PRIMARY	
Ben	7.20
sec-Butyl	0.22
iso-Proply	0.89
n-Proply	3.00
1,1,1 TCA	0.50
tert-Butyle	1.6
1,2 DCA	0.095
SUB-SLAB	
n-Proply	0.37
n-Prop	0.21
1,1,1 TCA	0.12

SV-4	s	d
1,1,1 TCA	<2	1.9
Ben	<2	1.9
TCE	2.7	4.3
Tol	<2	13
PCE	43	37
Xyl	<2	3.2

SV-2

SV-2	s	d
Tol	4.1	102
PCE	2.2	.5
Eth	<2	2.3
Xyl	4.3	8.2

ND
S8

HOME 7

HOME 9

SV-3

S14	11/4/10
1,1,1-TCA	6.6
1,1 DCE	9.8
1,2 DCA	55
1,2 DCE	67
1,2 DCP	1.1
CIS 1,2 DCE	63
t 1,2 DCE	4
TCE	23

S14

SV-4

WIND DIRECTION

S9	11/03/10
1,1 DCA	3.7
1,2 DCA	52
1,2-DCE	60
CIS 1,2 DCE	53
t 1,2 DCE	7.5

SV-5	s	d
1,1,1 TCA	19	44
TCE	4.6	18
Tol	2.5	4.3
PCE	31	36
Xyl	<2	2.0

BG-6-0711

SV-5

HOME 8

SV-9	s	d
MC	<5	54
Tol	2.8	5.4
Xyl	2.4	2.7

S9

SV-9

HOME 5

HOME 3

HOME 8	7/28/11
BASEMENT	
Ben	5.80
PCE	0.13
TCE	0.085
PRIMARY	
Ben	9.30
iso-Proply	0.41
n-Proply	2.30
tert-Butyl	1.4
SUB-SLAB	
Ben	0.49
PCE	3.80
1,1,1 TCA	1.00

SV-6	s	d
1,1,1 TCA	53	74
TCE	15	35
Tol	6.1	5.1
PCE	28	17

SV-6

BG-6-0711	7/28/11
Ben	0.15
TCE	0.15

S10

SV-7

SV-8

SV-7	s	d
1,1,1 TCA	27	44
1,2 DCA	3.0	4.5
TCE	6.4	18
PCE	3.7	3.6

SV-8	s	d
1,1,1 TCA	2.0	<2
TCE	4.9	3.6
Tol	2.1	<2
PCE	12	5.1
Xyl	2.5	<2

LEGEND

SV-4 — Previous Soil Gas Sampling Location

S5 — Shallow Monitoring Well Location

House Sampled

Outdoor Background Sample

2.1 — Value Indicates Exceedance to IDEM 30 Year Exposure Duration Screening Criteria

Chloro	Chlorothane
Ben	Benzene
Tol	Toluene
Eth	Ethylbenzene
Xyl	Xylene
iso-Proply	Isopropylbenzene
n-Proply	n-Propylbenzene
1,2 DCA	1,2-Dichloroethane
1,1 DCE	1,1-Dichlorothene
CIS 1,2 DCE	CIS-1,2-Dichloroethene
PCE	Tetrachloroethene
1,1,1 TCA	1,1,1-Trichloroethane
TCE	Trichloroethene
t 1,2 DCE	trans 1,2 Dichloroethene
VC	Vinyl Chloride
MC	Methylene Chloride
tert-Butyle	tert-Butylbenzene
1,2 DCP	1,2 Dichloropropane

NOTE:
1. Soil gas and air sample results in part per billion by volume (ppbV).
2. Groundwater results in microgram per liter (ug/L).

N

SCALE (FT)
120 0 60 120

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FIGURE 6
VAPOR INTRUSION SAMPLING RESULTS
7/28/2011
HONEYWELL INDUSTRIAL COMPLEX

SOUTH BEND, INDIANA

P:\HW - South Bend\MACTEC Drawings & Prints\33101020162100.1_0811\FIGURE 6.dwg Tue, 04 Oct 2011 - 3:42pm tigraham

MW-9
ND

S20
ND

S15	11/3/10
1,2 DCE	1.7
CIS 1,2 DCE	1.2
VC	1.8

HOME 2
HOME 11
HOME 10
S15

WIND DIRECTION

SV-1	s	d
Tol	4.9	7.3
PCE	5.3	5.8
Eth	<2	2.1
Xyl	5.0	8.2

SV-1
HOME 4
HOME 1
HOME 6

SV-4	s	d
1,1,1 TCA	<2	1.9
Ben	<2	1.9
TCE	2.7	4.3
Tol	<2	13
PCE	43	37
Xyl	<2	3.2

SV-2

SV-2	s	d
Tol	4.1	102
PCE	2.2	.5
Eth	<2	2.3
Xyl	4.3	8.2

ND
S8
SV-3
HOME 7
HOME 9

S14	11/4/10
1,1,1-TCA	6.6
1,1 DCE	9.8
1,2 DCA	55
1,2 DCE	67
1,2 DCP	1.1
CIS 1,2 DCE	63
t 1,2 DCE	4
TCE	23

S14
SV-4

S9	11/03/10
1,1 DCA	3.7
1,2 DCA	52
1,2-DCE	60
CIS 1,2 DCE	53
t 1,2 DCE	7.5

BG-08-0711	7/29/11
Ben	0.12

SV-5	s	d
1,1,1 TCA	19	44
TCE	4.6	18
Tol	2.5	4.3
PCE	31	36
Xyl	<2	2.0

SV-5
HOME 8
BG-07-0711
BG-08-0711
HOME 5
HOME 3
S9
SV-9

SV-9	s	d
MC	<5	54
Tol	2.8	5.4
Xyl	2.4	2.7

SV-6	s	d
1,1,1 TCA	53	74
TCE	15	35
Tol	6.1	5.1
PCE	28	17

SV-6

HOME 5	7/29/11
BASEMENT	
Ben	0.15
1,1,1 TCA	0.14
PRIMARY	
Ben	0.19
1,1,1 TCA	0.24
SUB-SLAB	
Ben	0.69
n-Prop	0.28
PCE	3.4
1,1,1 TCA	1.6
TCE	0.055

BG-07-0711	7/29/11
Ben	0.35
PCE	0.12
TCE	0.60

S10
SV-7

SV-7	s	d
1,1,1 TCA	27	44
1,2 DCA	3.0	4.5
TCE	6.4	18
PCE	3.7	3.6

SV-8

SV-8	s	d
1,1,1 TCA	2.0	<2
TCE	4.9	3.6
Tol	2.1	<2
PCE	12	5.1
Xyl	2.5	<2

SV-4 — Previous Soil Gas Sampling Location

S5 — Shallow Monitoring Well Location

House Sampled

Outdoor Background Sample

0.60 — Value Indicates Exceedance to IDEM 30 Year Exposure Duration Screening Criteria

LEGEND

Ben	Benzene
Tol	Toluene
Eth	Ethylbenzene
Xyl	Xylene
ISO	Isopropylbenzene
n-Prop	n-Propylbenzene
1,2 DCA	1,2-Dichloroethane
1,1 DCE	1,1-Dichlorothene
CIS 1,2 DCE	CIS-1,2-Dichloroethene
PCE	Tetrachloroethene
1,1,1 TCA	1,1,1-Trichloroethane
TCE	Trichloroethene
t 1,2 DCE	trans 1,2 Dichloroethene
VC	Vinyl Chloride
MC	Methylene Chloride

NOTE:
1. Soil gas and air sample results in part per billion by volume (ppbV).
2. Groundwater results in microgram per liter (ug/L).

SCALE (FT)
120 0 60 120

N

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FIGURE 7
VAPOR INTRUSION SAMPLING RESULTS
7/29/2011
HONEYWELL INDUSTRIAL COMPLEX

SOUTH BEND, INDIANA

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APPENDIX A

INDOOR AIR BUILDING SURVEY CHECKLISTS

INDOOR AIR BUILDING SURVEY CHECKLIST

Preparer's Name: STEVEN BYRD Date: 7-25-11

Preparer's Affiliation: AMEC Phone #: 231-922-9050

Site Name: HWSB Site #

Site Address (include city and zip): HONEYWELL SOUTH BEND INDUSTRIAL COMPLEX SOUTH BEND IN.

Part I – Occupants

List of Current Occupants/Occupation (include children)

Name (Age)	Address: (Lot # or apt. #)	Sex (M/F)	Occupation
PATRICIA BYRD	3013 Rogue Street	F	Police Officer

Part II – Building Characteristics

Building type: residential / multi-family residential / office / strip mall / commercial / industrial / other

Describe building: 1-STORY FULL BASEMENT Year constructed: 1957

Sensitive population: day care / nursing home / hospital / school / other (specify): ACROSS ST.

Number of floors at or above grade: 1

Number of floors below grade: 1 (full basement / crawl space / slab on grade)

Depth of basement below grade surface: 6 ft. Basement size: 900 ft^2

Basement floor construction: concrete / dirt / slab / stone / other (specify): _____

Foundation walls: poured concrete / cinder blocks / stone / other (specify): _____

Basement sump present? *Yes / No* Sump pump? *Yes / No* Water in sump? *Yes / No*

Significant cracks present in basement floor? *Yes / No*

Significant cracks present in basement walls? *Yes / No*

Are the basement walls or floor sealed with waterproof paint or epoxy coatings? *Yes / No* PAINT

Is there a whole house fan? *Yes / No*

Septic system? *Yes / Yes (but not used) / No*

Irrigation/private well? *Yes / Yes (but not used) / No*

Type of ground cover outside of building: grass / concrete / asphalt / other (specify) _____

Sub-slab vapor/moisture barrier in place? *Yes / No / Don't know*

Type of barrier: _____

Type of heating system (circle all that apply):

hot air circulation — hot air radiation — wood — steam radiation

heat pump — hot water radiation — kerosene heater — electric baseboard

other (specify): _____

Type or ventilation system (circle all that apply):

central air conditioning — mechanical fans — bathroom ventilation fans

individual air conditioning units — kitchen range hood fan — outside air intake

other (specify): _____

Type of fuel utilized (circle all that apply):

Natural gas / electric / fuel oil / wood / coal / solar / kerosene / other (specify): _____

Part III – Outside Contaminant Sources

Contaminated site within 50-ft (BTEX) or 100-ft (Chlorinated)? _____

If yes: Site Name: _____ Site Number: _____

Other stationary sources nearby (gas stations, emission stacks, etc.): _____

Heavy vehicular traffic nearby (or other mobile sources): _____

Part IV – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item was removed from the building 48 hours prior to the indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the start of the indoor air sampling event.

Potential Sources	Location (s)	Removed (Yes / No / NA)
Gasoline storage cans		NO
Gas-powered equipment (mowers, etc)		NO
Kerosene storage cans		NO
Paints / thinners / strippers		NO
Cleaning solvents		NO
Oven cleaners		NO
Carpet / upholstery cleaners		NO
Other house cleaning products	DISH SOAP ONLY KITCHEN	YES
Moth balls		NO
Polishes / waxes		NO
Insecticides		NO
Furniture / floor remover		NO
Nail polish / polish remover		NO
Hairspray		NO
Cologne / perfume	BATHROOM "EMPTY"	
Air fresheners		NO
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New Furniture / upholstery		NO
New carpeting / flooring		NA
Hobbies – glues, paints, lacquers, photographic darkroom chemicals, etc		NO
Scented trees, wreaths, potpourri, etc.		NO
Other (specify):		

Part V – Miscellaneous Items

Do any occupants of the building smoke? *Yes / (No)* How often? _____

Last time someone smoked in the building? _____ hours / days ago

Does the building have an attached garage directly connected to living space? *Yes / (No)*

If so, is a car usually parked in the garage? *Yes / No*

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? *Yes / No*

Do the occupants of the building have their clothes dry cleaned? *Yes* (*No*)

If yes, how often? Weekly / monthly / 3-4 times a year

When was the last dry cleaned garment brought home? _____

Do any of the occupants use solvents in work? *Yes* / (*No*)

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? *Yes / No*

Have any pesticides/herbicides been applied around the building or in the yard? *Yes* / (*No*)

If so, when and which chemicals? _____

Has there ever been a fire in the building? *Yes* (*No*) If yes, when? _____

Has painting or staining been done in the building in the last 6 months? *Yes* / (*No*)

If yes, when? _____ and where? _____

Part VI – Sampling Information

Company/Consultant: AMEC Phone number: (231) 922 - 9050

Sample Source: Indoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas

Sampler Type: 400 mL – 1.0 L Summa Canister / 6 L Summa Canister / Other (specify): _____

Analytical Method: TO-14A / TO-15 / TO-15 SIM / other: _____

Laboratory: TEST AMERICA

Sample locations (floor, room):

Field/Sample ID# P-3013R-0711 Field/Sample ID # _____

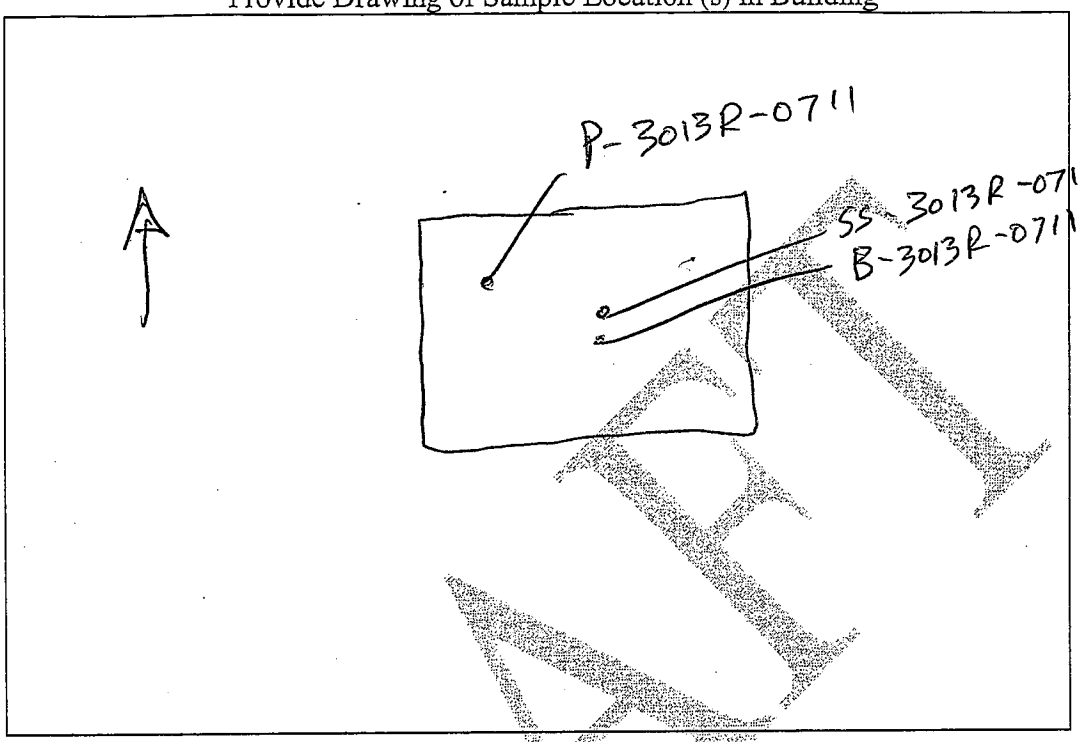
Field/Sample ID# B-3013R-0711 Field/Sample ID # _____

Field/Sample ID# SS-3013R-0711 Field/Sample ID # _____

Were "Instructions for Occupants" followed? *Yes / No*

If not, describe modifications: _____

Provide Drawing of Sample Location (s) in Building



Part VII – Metrological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event?
Yes / (No)

Describe the general weather conditions: 75°F WIND NW

Part VIII – General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

Recommended Instructions for Residents

The following is a suggested list for residents to follow (to the extent practical) in order to reduce interference in obtaining representative samples. IDEM suggests that these items be followed starting at least 48 hours prior to and during the sampling event.

- Do not open windows, fireplace opening or vents
- Do not keep doors open.
- Do not operate ventilation fans.
- Do not use air fresheners or odor eliminators.
- Do not smoke in the house to the extent practical.
- Do not use wood stoves, fireplace or auxiliary heating equipment (e.g., kerosene heater)
- Do not use paints or varnishes.
- Do not use cleaning products (e.g., bathroom cleaners, furniture polish, appliance cleaners, and floor cleaners).
- Do not use cosmetics, including hair spray, nail polish, nail polish remover, perfume, etc.
- Do not partake in indoor hobbies that use solvents.
- Do not apply pesticides.
- Do not store containers of gasoline, oil or petroleum-based or other solvents within the house or attached garage (except for fuel oil tanks).
- Do not operate or store automobiles in an attached garage.

INDOOR AIR BUILDING SURVEY CHECKLIST

Preparer's Name: STEVEN BOYZE Date: 7-25-11

Preparer's Affiliation: AMEC Phone #: 1-231-922-9050

Site Name: HWSIB Site #

Site Address (include city and zip): ~~3010 Roger Street~~ HONEY WELL SOUTH BEND INDUSTRIAL COMPLEX SOUTH BEND IN

Part I – Occupants

List of Current Occupants/Occupation (include children)

Name (Age)	Address: (Lot # or apt. #)	Sex (M/F)	Occupation
Mr. ROSEMAN	3010 ROGERS	M	DISABILITY

Part II – Building Characteristics

Building type: residential / multi-family residential / office / strip mall / commercial / industrial / other

Describe building: _____ Year constructed: 1928

Sensitive population: day care / nursing home / hospital / school / other (specify): _____

Number of floors at or above grade: 1

Number of floors below grade: 1 (full basement / crawl space / slab on grade)

Depth of basement below grade surface: 6 ft. Basement size: 800 ft^2

Basement floor construction: concrete / dirt / slab / stone / other (specify): _____

Foundation walls: poured concrete / cinder blocks / stone / other (specify): _____

Basement sump present? *Yes / (No)* Sump pump? *Yes / No* Water in sump? *Yes / No*

Significant cracks present in basement floor? *Yes / (No)*

Significant cracks present in basement walls? *Yes / (No)* WALLS COVERED W/ WOOD PANEL

Are the basement walls or floor sealed with waterproof paint or epoxy coatings? *(Yes) / No*

Is there a whole house fan? *Yes / (No)*

Septic system? *Yes / Yes (but not used) / (No)*

Irrigation/private well? *Yes / Yes (but not used) / (No)*

Type of ground cover outside of building: (grass) / concrete / asphalt / other (specify) _____

Sub-slab vapor/moisture barrier in place? *Yes / (No) / Don't know*

Type of barrier: _____

Type of heating system (circle all that apply):

(hot air circulation) hot air radiation wood steam radiation

heat pump hot water radiation kerosene heater electric baseboard

other (specify): _____

Type or ventilation system (circle all that apply):

(central air conditioning) mechanical fans bathroom ventilation fans

individual air conditioning units (kitchen range hood fan) (outside air intake)

other (specify): _____

Type of fuel utilized (circle all that apply):

(Natural gas) / electric / fuel oil / wood / coal / solar / kerosene / other (specify): _____

Part III – Outside Contaminant Sources

Contaminated site within 50-ft (BTEX) or 100-ft (Chlorinated)? _____

If yes: Site Name: _____ Site Number: _____

Other stationary sources nearby (gas stations, emission stacks, etc.): _____

Heavy vehicular traffic nearby (or other mobile sources): _____

Part IV – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item was removed from the building 48 hours prior to the indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the start of the indoor air sampling event.

Potential Sources	Location (s)	Removed (Yes / No / NA)
Gasoline storage cans	NONE	NO
Gas-powered equipment (mowers, etc)	NONE	NO
Kerosene storage cans	NONE	NO
Paints / thinners / strippers	NONE	NO
Cleaning solvents	NONE	NO
Oven cleaners	UNDER KITCHEN SINK	YES
Carpet / upholstery cleaners	NONE	NO
Other house cleaning products	NONE	NO
Moth balls	NONE	NO
Polishes / waxes	NONE	NO
Insecticides	NONE	NO
Furniture / floor remover	NONE	NO
Nail polish / polish remover	NONE	NO
Hairspray	NONE	NO
Cologne / perfume	NONE	NO
Air fresheners	NONE	NO
Fuel tank (inside building)	NONE	NA
Wood stove or fireplace	NONE	NA
New Furniture / upholstery	NONE	NO
New carpeting / flooring	NONE	NA
Hobbies – glues, paints, lacquers, photographic darkroom chemicals, etc	NONE	IN STUDIO OUT BACK
Scented trees, wreaths, potpourri, etc.	NONE	NO
Other (specify):	NONE	

Part V – Miscellaneous Items

Do any occupants of the building smoke? *Yes / (No)* How often? _____

Last time someone smoked in the building? _____ hours / days ago

Does the building have an attached garage directly connected to living space? *Yes / (No)*

If so, is a car usually parked in the garage? *Yes / No*

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? *Yes / No*

Do the occupants of the building have their clothes dry cleaned? (Yes) / No

If yes, how often? Weekly / (monthly) / 3-4 times a year

When was the last dry cleaned garment brought home? 6 MONTHS Ago

Do any of the occupants use solvents in work? Yes / (No)

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Yes / No

Have any pesticides/herbicides been applied around the building or in the yard? Yes / (No)

If so, when and which chemicals? _____

Has there ever been a fire in the building? Yes / (No) If yes, when? _____

Has painting or staining been done in the building in the last 6 months? Yes / (No)

If yes, when? _____ and where? _____

Part VI – Sampling Information

Company/Consultant: AMEC Phone number: (231) 922-9050

Sample Source: Indoor Air / (Sub-Slab) / Near Slab Soil Gas / Exterior Soil Gas

Sampler Type: 400 mL – 1.0 L Summa Canister / (6 L Summa Canister) / Other (specify): _____

Analytical Method: TO-14A / (TO-15) / TO-15 SIM / other: _____

Laboratory: TEST AMERICA

Sample locations (floor, room):

Field/Sample ID# SS-3010R-0711 Field/Sample ID # _____

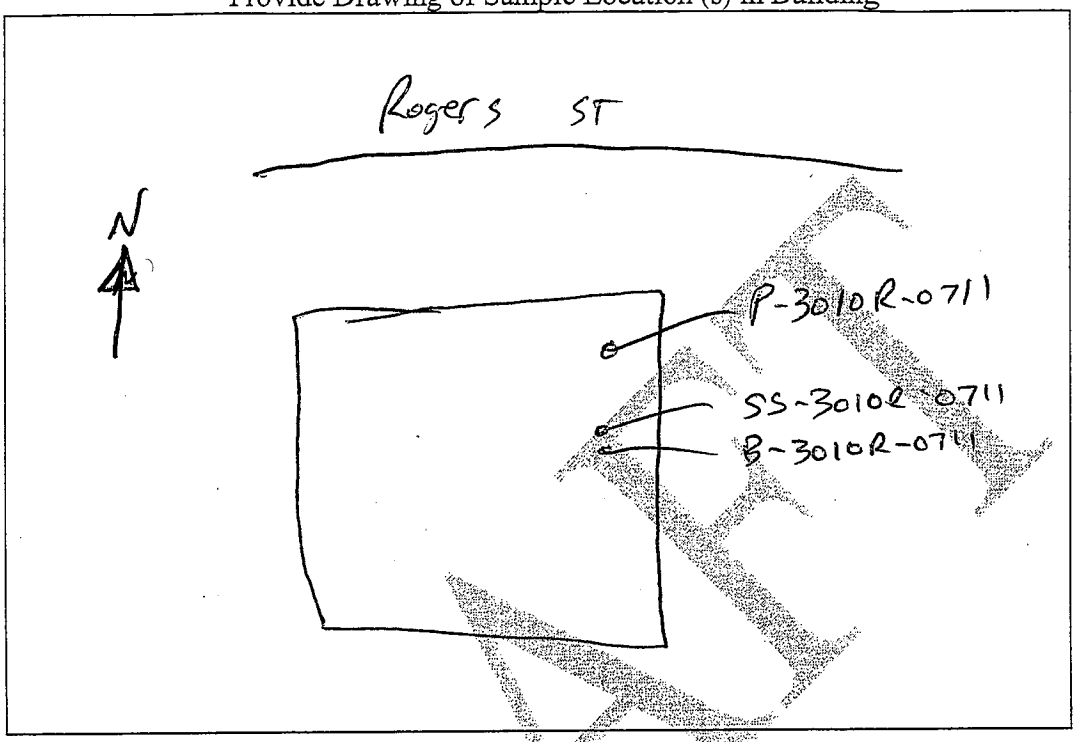
Field/Sample ID# P-3010R-0711 Field/Sample ID # _____

Field/Sample ID# B-3010R-0711 Field/Sample ID # _____

Were "Instructions for Occupants" followed? Yes / No

If not, describe modifications: _____

Provide Drawing of Sample Location (s) in Building



Part VII – Metrological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event?
Yes / No

Describe the general weather conditions: 75° HUMID WIND NW

Part VIII – General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

Recommended Instructions for Residents

The following is a suggested list for residents to follow (to the extent practical) in order to reduce interference in obtaining representative samples. IDEM suggests that these items be followed starting at least 48 hours prior to and during the sampling event.

- Do not open windows, fireplace opening or vents
- Do not keep doors open.
- Do not operate ventilation fans.
- Do not use air fresheners or odor eliminators.
- Do not smoke in the house to the extent practical.
- Do not use wood stoves, fireplace or auxiliary heating equipment (e.g., kerosene heater)
- Do not use paints or varnishes.
- Do not use cleaning products (e.g., bathroom cleaners, furniture polish, appliance cleaners, and floor cleaners).
- Do not use cosmetics, including hair spray, nail polish, nail polish remover, perfume, etc.
- Do not partake in indoor hobbies that use solvents.
- Do not apply pesticides.
- Do not store containers of gasoline, oil or petroleum-based or other solvents within the house or attached garage (except for fuel oil tanks).
- Do not operate or store automobiles in an attached garage.

INDOOR AIR BUILDING SURVEY CHECKLIST

Preparer's Name: STEVEN BUYZE Date: 2-26-2011

Preparer's Affiliation: AMEC Phone #: 1-231-922-9050

Site Name: HWSB Site #

Site Address (include city and zip): HONEYWELL INDUSTRIAL COMPLEX SOUTH BEND IN

Part I – Occupants

List of Current Occupants/Occupation (include children)

Name (Age)	Address: (Lot # or apt. #)	Sex (M/F)	Occupation
STEPHENIE GRUNDY	3019 - Longley	F	UNAVAILABLE

Part II – Building Characteristics

Building type: residential / multi-family residential / office / strip mall / commercial / industrial / other

Describe building: _____ Year constructed: _____

Sensitive population: day care / nursing home / hospital / school / other (specify): _____

Number of floors at or above grade: _____

Number of floors below grade: _____ (full basement / crawl space / slab on grade)

Depth of basement below grade surface: _____ ft. Basement size: _____ ft^2

Basement floor construction: concrete / dirt / slab / stone / other (specify): _____

Foundation walls: poured concrete / cinder blocks / stone / other (specify): _____

Basement sump present? *Yes / No* Sump pump? *Yes / No* Water in sump? *Yes / No*

Significant cracks present in basement floor? *Yes / No*

Significant cracks present in basement walls? *Yes / No*

Are the basement walls or floor sealed with waterproof paint or epoxy coatings? *Yes / No*

Is there a whole house fan? *Yes / No*

Septic system? *Yes / Yes (but not used) / No*

Irrigation/private well? *Yes / Yes (but not used) / No*

Type of ground cover outside of building: grass / concrete / asphalt / other (specify) _____

Sub-slab vapor/moisture barrier in place? *Yes / No / Don't know*
Type of barrier: _____

Type of heating system (circle all that apply):
hot air circulation hot air radiation wood steam radiation
heat pump hot water radiation kerosene heater electric baseboard
other (specify): _____

Type or ventilation system (circle all that apply):
central air conditioning mechanical fans bathroom ventilation fans
individual air conditioning units kitchen range hood fan outside air intake
other (specify): _____

Type of fuel utilized (circle all that apply):
Natural gas / electric / fuel oil / wood / coal / solar / kerosene / other (specify):_____

Part III – Outside Contaminant Sources

Contaminated site within 50-ft (BTEX) or 100-ft (Chlorinated)? _____

If yes: Site Name: _____ Site Number:_____

Other stationary sources nearby (gas stations, emission stacks, etc.): _____

Heavy vehicular traffic nearby (or other mobile sources): _____

Part IV – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item was removed from the building 48 hours prior to the indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the start of the indoor air sampling event.

Potential Sources	Location (s)	Removed (Yes / No / NA)
Gasoline storage cans		
Gas-powered equipment (mowers, etc)		
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor remover		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New Furniture / upholstery		
New carpeting / flooring		NA
Hobbies – glues, paints, lacquers, photographic darkroom chemicals, etc		
Scented trees, wreaths, potpourri, etc.		
Other (specify):		

Part V – Miscellaneous Items

Do any occupants of the building smoke? *Yes / No* How often? _____

Last time someone smoked in the building? _____ hours / days ago

Does the building have an attached garage directly connected to living space? *Yes / No*

If so, is a car usually parked in the garage? *Yes / No*

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? *Yes / No*

Do the occupants of the building have their clothes dry cleaned? *Yes / No*

If yes, how often? Weekly / monthly / 3-4 times a year

When was the last dry cleaned garment brought home? _____

Do any of the occupants use solvents in work? *Yes / No*

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? *Yes / No*

Have any pesticides/herbicides been applied around the building or in the yard? *Yes / No*

If so, when and which chemicals? _____

Has there ever been a fire in the building? *Yes / No* If yes, when? _____

Has painting or staining been done in the building in the last 6 months? *Yes / No*

If yes, when? _____ and where? _____

Part VI – Sampling Information

Company/Consultant: AMEC Phone number: (231) 922-9050

Sample Source: Indoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas

Sampler Type: 400 mL – 1.0 L Summa Canister / 6 L Summa Canister / Other (specify): _____

Analytical Method: TO-14A / TO-15 / TO-15 SIM / other: _____

Laboratory: TEST AMERICA

Sample locations (floor, room):

Field/Sample ID# SS-3019L-0711 Field/Sample ID # _____

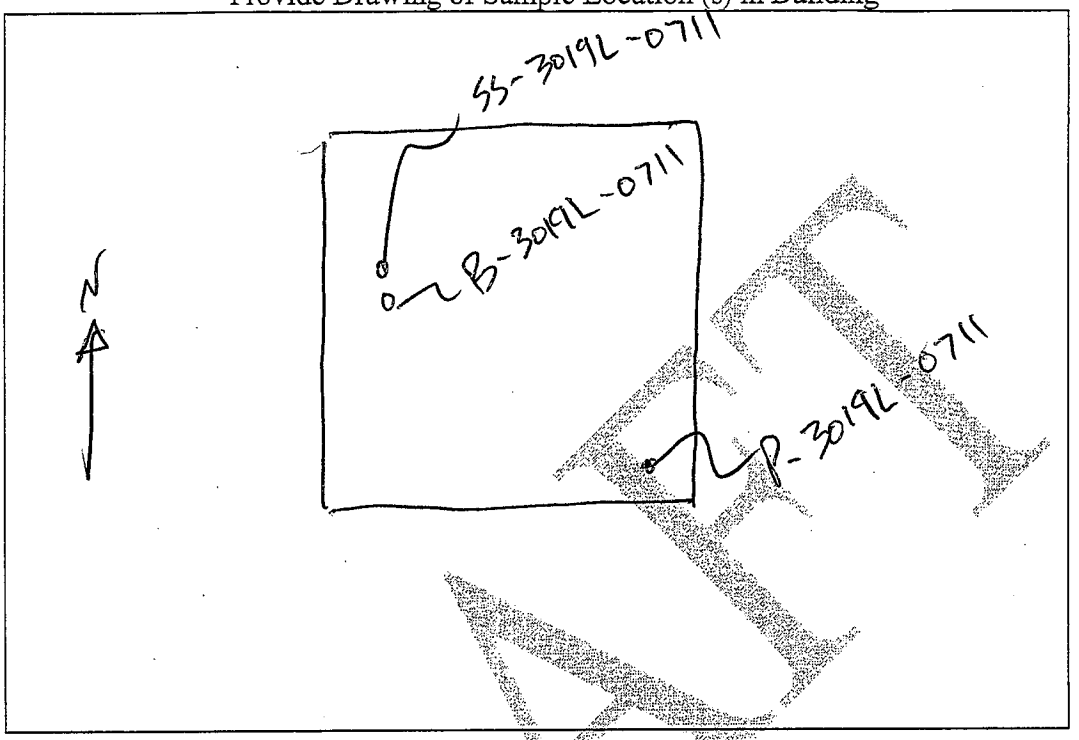
Field/Sample ID# P-3019L-0711 Field/Sample ID # _____

Field/Sample ID# B-3019L-0711 Field/Sample ID # _____

Were "Instructions for Occupants" followed? *Yes / No*

If not, describe modifications: _____

Provide Drawing of Sample Location (s) in Building



Part VII – Metrological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event?
Yes / No

Describe the general weather conditions: 75° HUMID WIND NW

Part VIII – General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

Recommended Instructions for Residents

The following is a suggested list for residents to follow (to the extent practical) in order to reduce interference in obtaining representative samples. IDEM suggests that these items be followed starting at least 48 hours prior to and during the sampling event.

- Do not open windows, fireplace opening or vents
- Do not keep doors open.
- Do not operate ventilation fans.
- Do not use air fresheners or odor eliminators.
- Do not smoke in the house to the extent practical.
- Do not use wood stoves, fireplace or auxiliary heating equipment (e.g., kerosene heater)
- Do not use paints or varnishes.
- Do not use cleaning products (e.g., bathroom cleaners, furniture polish, appliance cleaners, and floor cleaners).
- Do not use cosmetics, including hair spray, nail polish, nail polish remover, perfume, etc.
- Do not partake in indoor hobbies that use solvents.
- Do not apply pesticides.
- Do not store containers of gasoline, oil or petroleum-based or other solvents within the house or attached garage (except for fuel oil tanks).
- Do not operate or store automobiles in an attached garage.

INDOOR AIR BUILDING SURVEY CHECKLIST

Preparer's Name: STEVEN BUYZE Date: 7-26-11

Preparer's Affiliation: AMEC Phone #: 1-231-922-9050

Site Name: HWSB Site # 331011000116

Site Address (include city and zip): HONEYWELL SOUTH BEND INDUSTRIAL COMPLEX SOUTH BEND IN

Part I – Occupants

List of Current Occupants/Occupation (include children)

Name (Age)	Address: (Lot # or apt. #)	Sex (M/F)	Occupation
JAMIE SERRANO	3006 Longley Ave	F	STUDENT
JESUS SERRANO		M	STUDENT
EMA SERRANO		F	BABY

Part II – Building Characteristics

Building type: residential / multi-family residential / office / strip mall / commercial / industrial / other

Describe building: 1-STORY FULL BASEMENT Year constructed: 1968

Sensitive population: day care / nursing home / hospital / school / other (specify): _____

Number of floors at or above grade: 1

Number of floors below grade: 1 (full basement / crawl space / slab on grade)

Depth of basement below grade surface: 7 ft. Basement size: 1000 ft^2

Basement floor construction: concrete / dirt / slab / stone / other (specify): _____

Foundation walls: poured concrete / cinder blocks / stone / other (specify): _____

Basement sump present? *Yes / No* Sump pump? *Yes / No* Water in sump? *Yes / No*

Significant cracks present in basement floor? *Yes / No* PATCHED

Significant cracks present in basement walls? *Yes / No* PATCHED

Are the basement walls or floor sealed with waterproof paint or epoxy coatings? *Yes / No*

Is there a whole house fan? *Yes / No*

Septic system? *Yes / Yes (but not used) / No*

Irrigation/private well? *Yes / Yes (but not used) / No*

Type of ground cover outside of building: grass / concrete / asphalt / other (specify) _____

Sub-slab vapor/moisture barrier in place? *Yes / No / Don't know*

Type of barrier: _____

Type of heating system (circle all that apply):

hot air circulation — hot air radiation — wood — steam radiation

heat pump — hot water radiation — kerosene heater — electric baseboard

other (specify): _____

Type or ventilation system (circle all that apply):

central air conditioning — mechanical fans — bathroom ventilation fans

individual air conditioning units — kitchen range hood fan — outside air intake

other (specify): _____

Type of fuel utilized (circle all that apply):

Natural gas / electric / fuel oil / wood / coal / solar / kerosene / other (specify): _____

Part III – Outside Contaminant Sources

Contaminated site within 50-ft (BTEX) or 100-ft (Chlorinated)? _____

If yes: Site Name: _____ Site Number: _____

Other stationary sources nearby (gas stations, emission stacks, etc.): _____

Heavy vehicular traffic nearby (or other mobile sources): _____

Part IV – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item was removed from the building 48 hours prior to the indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the start of the indoor air sampling event.

Potential Sources	Location (s)	Removed (Yes / No / NA)
Gasoline storage cans	GARAGE	YES
Gas-powered equipment (mowers, etc)	GARAGE	Yes
Kerosene storage cans	NONE	NO
Paints / thinners / strippers	BASEMENT GARAGE	Yes
Cleaning solvents	BATHROOM KITCHEN	Yes
Oven cleaners	NONE	NO
Carpet / upholstery cleaners	NONE	NO
Other house cleaning products	BATHROOM KITCHEN	Yes
Moth balls	NONE	NO
Polishes / waxes	NONE	NO
Insecticides	NONE	NO
Furniture / floor remover	NONE	NO
Nail polish / polish remover	BATHROOM	YES
Hairspray	BATH ROOM	YES
Cologne / perfume	BATHROOM	YES
Air fresheners	NONE	NO
Fuel tank (inside building)	NONE	NA
Wood stove or fireplace	NONE	NA
New Furniture / upholstery	NONE	NO
New carpeting / flooring	NONE	NA
Hobbies – glues, paints, lacquers, photographic darkroom chemicals, etc	NONE	NO
Scented trees, wreaths, potpourri, etc.	NONE	NO
Other (specify):	NONE	

Part V – Miscellaneous Items

Do any occupants of the building smoke? *Yes / (No)* How often? _____

Last time someone smoked in the building? _____ hours / days ago

Does the building have an attached garage directly connected to living space? *(Yes) / No*

If so, is a car usually parked in the garage? *(Yes) / No* AT NIGHT OR HOME

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? *(Yes) / No*

Do the occupants of the building have their clothes dry cleaned? *Yes / (No)*

If yes, how often? Weekly / monthly / 3-4 times a year

When was the last dry cleaned garment brought home? _____

Do any of the occupants use solvents in work? *Yes / (No)*

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? *Yes / No*

Have any pesticides/herbicides been applied around the building or in the yard? *Yes / (No)*

If so, when and which chemicals? _____

Has there ever been a fire in the building? *Yes / (No)* If yes, when? _____

Has painting or staining been done in the building in the last 6 months? *Yes / (No)*

If yes, when? _____ and where? _____

Part VI – Sampling Information

Company/Consultant: AMEC Phone number: (231) 922 - 9050

Sample Source: Indoor Air / (Sub-Slab) / Near Slab Soil Gas / Exterior Soil Gas

Sampler Type: 400 mL – 1.0 L Summa Canister / (6 L Summa Canister) / Other (specify): _____

Analytical Method: TO-14A / (TO-15) / TO-15 SIM / other: _____

Laboratory: TEST AMERICA

Sample locations (floor, room):

Field/Sample ID# P-3006L-0711 Field/Sample ID # _____

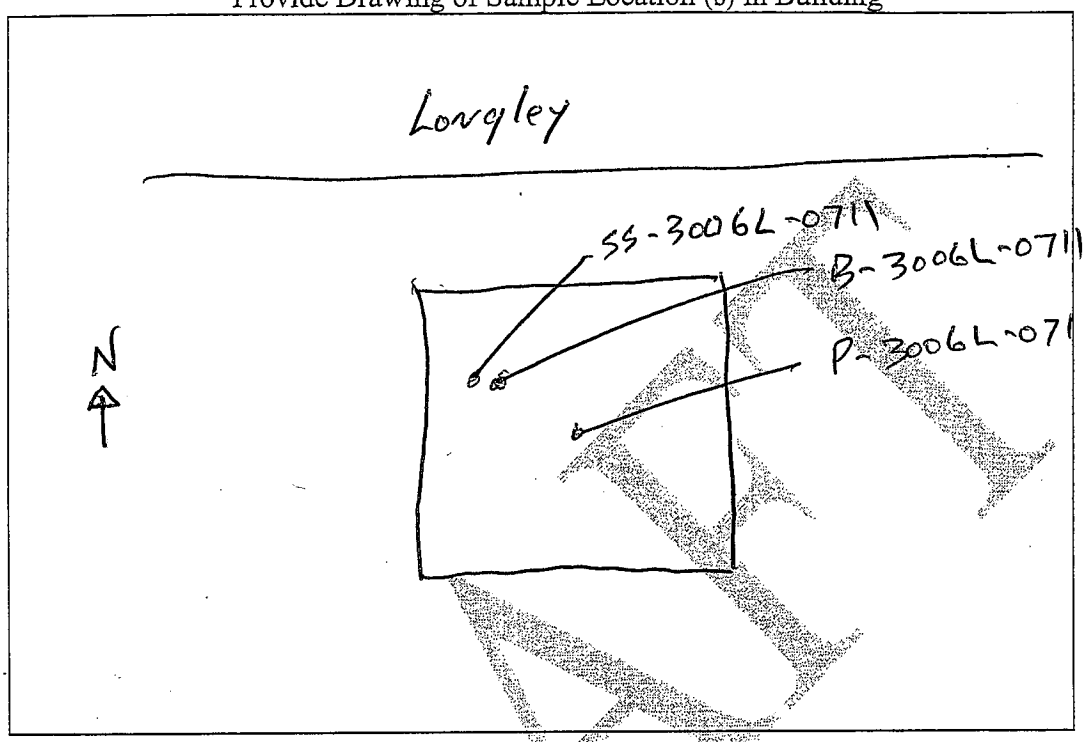
Field/Sample ID# B-3006L-0711 Field/Sample ID # _____

Field/Sample ID# SS-3006L-0711 Field/Sample ID # _____

Were "Instructions for Occupants" followed? *Yes / No*

If not, describe modifications: _____

Provide Drawing of Sample Location (s) in Building



Part VII – Metrological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event?
Yes / (No)

Describe the general weather conditions: 75°F HUMID WIND NW

Part VIII – General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

Recommended Instructions for Residents

The following is a suggested list for residents to follow (to the extent practical) in order to reduce interference in obtaining representative samples. IDEM suggests that these items be followed starting at least 48 hours prior to and during the sampling event.

- Do not open windows, fireplace opening or vents
- Do not keep doors open.
- Do not operate ventilation fans.
- Do not use air fresheners or odor eliminators.
- Do not smoke in the house to the extent practical.
- Do not use wood stoves, fireplace or auxiliary heating equipment (e.g., kerosene heater)
- Do not use paints or varnishes.
- Do not use cleaning products (e.g., bathroom cleaners, furniture polish, appliance cleaners, and floor cleaners).
- Do not use cosmetics, including hair spray, nail polish, nail polish remover, perfume, etc.
- Do not partake in indoor hobbies that use solvents.
- Do not apply pesticides.
- Do not store containers of gasoline, oil or petroleum-based or other solvents within the house or attached garage (except for fuel oil tanks).
- Do not operate or store automobiles in an attached garage.

INDOOR AIR BUILDING SURVEY CHECKLIST

Preparer's Name: STEVEN BUYZE Date: 7-26-11

Preparer's Affiliation: AMEC Phone #: 1-231-922-9050

Site Name: HONEYWELL SOUTH BEND Site # 332011000016

Site Address (include city and zip): HONEYWELL SOUTH BEND INDUSTRIAL COMPLEX SOUTH BEND IN.

Part I – Occupants

List of Current Occupants/Occupation (include children)

Name (Age)	Address: (Lot # or apt. #)	Sex (M/F)	Occupation
KIM DAVIS	3002 Long Ln	F	INSURANCE AGENT
THERESE		F	DAVIS

Part II – Building Characteristics

Building type: residential / multi-family residential / office / strip mall / commercial / industrial / other

Describe building: 1-STORY Bungalow 3/4 BASEMENT Year constructed: 1930

Sensitive population: day care / nursing home / hospital / school / other (specify): _____

Number of floors at or above grade: 1

Number of floors below grade: 1 (full basement / crawl space / slab on grade)

Depth of basement below grade surface: 6 ft. Basement size: 450 ft^2

Basement floor construction: concrete / dirt / slab / stone / other (specify): _____

Foundation walls: poured concrete / cinder blocks / stone / other (specify): _____

Basement sump present? *Yes / No* Sump pump? *Yes / No* Water in sump? *Yes / No*

Significant cracks present in basement floor? *Yes / No*

Significant cracks present in basement walls? *Yes / No*

Are the basement walls or floor sealed with waterproof paint or epoxy coatings? *Yes / No*

Is there a whole house fan? *Yes / No*

Septic system? *Yes / Yes (but not used) / No*

Irrigation/private well? *Yes / Yes (but not used) / No*

Type of ground cover outside of building: grass / concrete / asphalt / other (specify) _____

Sub-slab vapor/moisture barrier in place? *Yes / No / Don't know*
Type of barrier: _____

Type of heating system (circle all that apply):
hot air circulation hot air radiation wood steam radiation
heat pump hot water radiation kerosene heater electric baseboard
other (specify): _____

Type or ventilation system (circle all that apply):
central air conditioning mechanical fans bathroom ventilation fans
individual air conditioning units kitchen range hood fan outside air intake
other (specify): _____ WINDOW AIR CONDITIONERS (2)

Type of fuel utilized (circle all that apply):
Natural gas / electric / fuel oil / wood / coal / solar / kerosene / other (specify):_____

Part III – Outside Contaminant Sources

Contaminated site within 50-ft (BTEX) or 100-ft (Chlorinated)? _____

If yes: Site Name: _____ Site Number:_____

Other stationary sources nearby (gas stations, emission stacks, etc.): _____

Heavy vehicular traffic nearby (or other mobile sources): _____

Part IV – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item was removed from the building 48 hours prior to the indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the start of the indoor air sampling event.

Potential Sources	Location (s)	Removed (Yes / No / NA)
Gasoline storage cans		NO
Gas-powered equipment (mowers, etc)	IN GARAGE	Yes
Kerosene storage cans		NO
Paints / thinners / strippers	BACK PORCH & KITCHEN	Yes
Cleaning solvents	KITCHEN & BATHROOM	Yes
Oven cleaners		NO
Carpet / upholstery cleaners		NO
Other house cleaning products	HOUSEHOLD CLEANERS KITCHEN & BATH	Yes
Moth balls		NO
Polishes / waxes	KITCHEN	Yes
Insecticides	Bug SPRAY KITCHEN BATHROOM	Yes
Furniture / floor remover		NO
Nail polish / polish remover		NO
Hairspray		NO
Cologne / perfume	BEDROOM	Yes
Air fresheners	ALL OVER HOUSE	YES
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New Furniture / upholstery		NO
New carpeting / flooring		NA
Hobbies – glues, paints, lacquers, photographic darkroom chemicals, etc		NO
Scented trees, wreaths, potpourri, etc.		NO
Other (specify):		

Part V – Miscellaneous Items

Do any occupants of the building smoke? *Yes / (No)* How often? _____

Last time someone smoked in the building? 1 CIG. THIS MORNING hours / days ago

Does the building have an attached garage directly connected to living space? *Yes / (No)*

If so, is a car usually parked in the garage? *Yes / No*

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? *Yes / No*

Do the occupants of the building have their clothes dry cleaned? *Yes / (No)*

If yes, how often? Weekly / monthly / 3-4 times a year

When was the last dry cleaned garment brought home? _____

Do any of the occupants use solvents in work? *Yes / (No)*

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? *Yes / No*

Have any pesticides/herbicides been applied around the building or in the yard? *(Yes) / No*

If so, when and which chemicals? 2 WEEK AGO MIRICLE GROW IN GARDEN & BACK YARD

Has there ever been a fire in the building? *Yes / (No)* If yes, when? _____

Has painting or staining been done in the building in the last 6 months? *Yes (No)*

If yes, when? _____ and where? _____

Part VI – Sampling Information

Company/Consultant: AMEC Phone number: (231) 922-9050

Sample Source: Indoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas

Sampler Type: 400 mL – 1.0 L Summa Canister / 6 L Summa Canister / Other (specify): _____

Analytical Method: TO-14A / TO-15 / TO-15 SIM / other: _____

Laboratory: TEST AMERICA

Sample locations (floor, room):

Field/Sample ID# P-30022-0711 Field/Sample ID # _____

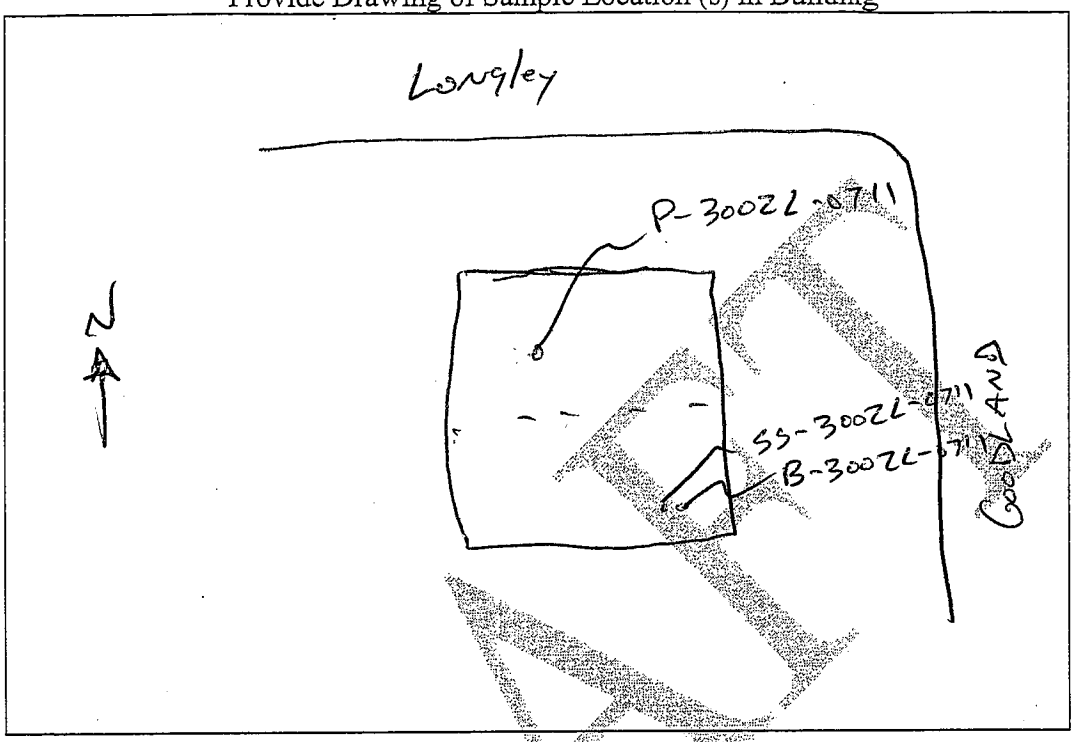
Field/Sample ID# B-30022-0711 Field/Sample ID # _____

Field/Sample ID# SS-30022-0711 Field/Sample ID # _____

Were "Instructions for Occupants" followed? *Yes / No*

If not, describe modifications: _____

Provide Drawing of Sample Location (s) in Building



Part VII – Metrological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event?
Yes / (No)

Describe the general weather conditions: 75° HUMID NW WIND

Part VIII – General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

Recommended Instructions for Residents

The following is a suggested list for residents to follow (to the extent practical) in order to reduce interference in obtaining representative samples. IDEM suggests that these items be followed starting at least 48 hours prior to and during the sampling event.

- Do not open windows, fireplace opening or vents
- Do not keep doors open.
- Do not operate ventilation fans.
- Do not use air fresheners or odor eliminators.
- Do not smoke in the house to the extent practical.
- Do not use wood stoves, fireplace or auxiliary heating equipment (e.g., kerosene heater)
- Do not use paints or varnishes.
- Do not use cleaning products (e.g., bathroom cleaners, furniture polish, appliance cleaners, and floor cleaners).
- Do not use cosmetics, including hair spray, nail polish, nail polish remover, perfume, etc.
- Do not partake in indoor hobbies that use solvents.
- Do not apply pesticides.
- Do not store containers of gasoline, oil or petroleum-based or other solvents within the house or attached garage (except for fuel oil tanks).
- Do not operate or store automobiles in an attached garage.

INDOOR AIR BUILDING SURVEY CHECKLIST

Preparer's Name: STEVEN BUYZE Date: 7-26-11

Preparer's Affiliation: AMEC Phone #: 1-231-922-9050

Site Name: HONEYWELL SOUTH BEND Site # 331011006

Site Address (include city and zip): HONEY WELL INDUSTRIAL COMPLEX SOUTH BEND IN.

Part I – Occupants

List of Current Occupants/Occupation (include children)

Name (Age)	Address: (Lot # or apt. #)	Sex (M/F)	Occupation
RICH ~~STEPHENS~~ STEPHENS	3017 ROGER		LAID OFF
LEEANNE STEPHENS		F	DEMOGRAPHER
NOAH STEPHENS		M	

Part II – Building Characteristics

Building type: residential / multi-family residential / office / strip mall / commercial / industrial / other

Describe building: 1 STORY, 2 BD, 1 BA Year constructed: 1929

Sensitive population: day care / nursing home / hospital / school / other (specify): _____

Number of floors at or above grade: 1

Number of floors below grade: 1 (full basement / crawl space / slab on grade)

Depth of basement below grade surface: 5.5 ft. Basement size: 700 ft^2

Basement floor construction: concrete / dirt / slab / stone / other (specify): _____

Foundation walls: poured concrete / cinder blocks / stone / other (specify): _____

Basement sump present? *Yes / No* Sump pump? *Yes / No* Water in sump? *Yes / No*

Significant cracks present in basement floor? *Yes / No*

Significant cracks present in basement walls? *Yes / No* REPAIRED

Are the basement walls or floor sealed with waterproof paint or epoxy coatings? *Yes / No*

Is there a whole house fan? *Yes / No*

Septic system? *Yes / Yes (but not used) / No*

Irrigation/private well? *Yes / Yes (but not used) / No*

Type of ground cover outside of building: grass / concrete / asphalt / other (specify) _____

Sub-slab vapor/moisture barrier in place? *Yes / No / Don't know*
Type of barrier: _____

Type of ~~heating system~~ (circle all that apply):
hot air circulation ~~hot air radiation~~ wood steam radiation
~~heat pump~~ ~~hot water radiation~~ ~~kerosene heater~~ electric baseboard
other (specify): _____

Type or ventilation ~~system~~ (circle all that apply):
central air conditioning mechanical fans bathroom ventilation fans
individual air conditioning units ~~kitchen range hood fan~~ outside air intake
other (specify): _____

Type of ~~fuel utilized~~ (circle all that apply):
Natural gas / electric / fuel oil / wood / coal / solar / kerosene / other (specify): _____

Part III – Outside Contaminant Sources

Contaminated site within 50-ft (BTEX) or 100-ft (Chlorinated)? _____

If yes: Site Name: _____ Site Number: _____

Other stationary sources nearby (gas stations, emission stacks, etc.): _____

Heavy vehicular traffic nearby (or other mobile sources): _____

Part IV – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item was removed from the building 48 hours prior to the indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the start of the indoor air sampling event.

Potential Sources	Location (s)	Removed (Yes / No / NA)
Gasoline storage cans	GARAGE UNATTACHED	No
Gas-powered equipment (mowers, etc)	GARAGE	NO
Kerosene storage cans	NONE	NA
Paints / thinners / strippers	GARAGE MAYBE BASEMENT	NO
Cleaning solvents	KITCHEN BATHROOM	NO
Oven cleaners	NONE	NA
Carpet / upholstery cleaners	NONE	NA
Other house cleaning products	KITCHEN	NO
Moth balls	NONE	NA
Polishes / waxes	KITCHEN	NO
Insecticides	GARAGE BASEMENT	NO
Furniture / floor remover	KITCHEN	NO
Nail polish / polish remover	BATHROOM	NO
Hairspray	BATHROOM	NO
Cologne / perfume	BATHROOM	NO
Air fresheners	BATHROOM	NO
Fuel tank (inside building)	NO	NA
Wood stove or fireplace	NO	NA
New Furniture / upholstery	NEW CARPET	NO
New carpeting / flooring	NEW CARPET	NA
Hobbies – glues, paints, lacquers, photographic darkroom chemicals, etc	NONE	NA
Scented trees, wreaths, potpourri, etc.	NONE	NA
Other (specify):		

Part V – Miscellaneous Items

Do any occupants of the building smoke? (Yes) / No NOT IN HOUSE How often? _____

Last time someone smoked in the building? _____ hours / days ago

Does the building have an attached garage directly connected to living space? (Yes) / (No)

If so, is a car usually parked in the garage? *Yes / No*

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? *Yes / No*

Do the occupants of the building have their clothes dry cleaned? *Yes / (No)*

If yes, how often? Weekly / monthly / 3-4 times a year

When was the last dry cleaned garment brought home? _____

Do any of the occupants use solvents in work? *Yes / (No)*

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? *Yes / No*

Have any pesticides/herbicides been applied around the building or in the yard? *Yes / (No)*

If so, when and which chemicals? _____

Has there ever been a fire in the building? *Yes / (No)* If yes, when? _____

Has painting or staining been done in the building in the last 6 months? *Yes / (No)*

If yes, when? _____ and where? _____

Part VI – Sampling Information

Company/Consultant: AMEC Phone number: (231) 922 - 9050

Sample Source: Indoor Air / (Sub-Slab) / Near Slab Soil Gas / Exterior Soil Gas

Sampler Type: 400 mL – 1.0 L Summa Canister / (6 L Summa Canister) / Other (specify): _____

Analytical Method: TO-14A / (TO-15) / TO-15 SIM / other: _____

Laboratory: TEST AMERICA

Sample locations (floor, room): P.

Field/Sample ID# P-3017R-0711 Field/Sample ID # _____

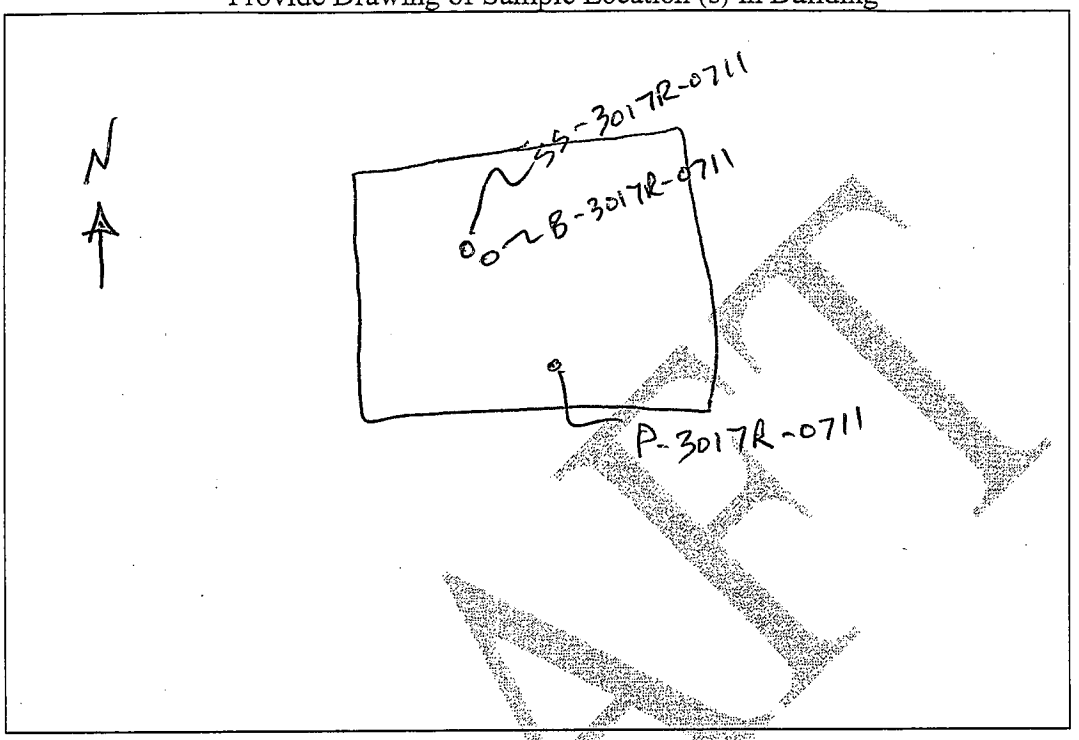
Field/Sample ID# B-3017R-0711 Field/Sample ID # _____

Field/Sample ID# SS-3017R-0711 Field/Sample ID # _____

Were "Instructions for Occupants" followed? *Yes / No*

If not, describe modifications: _____

Provide Drawing of Sample Location (s) in Building



Part VII – Metrological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event?
Yes / (No)

Describe the general weather conditions: 75°F Humid SE WIND

Part VIII – General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

Recommended Instructions for Residents

The following is a suggested list for residents to follow (to the extent practical) in order to reduce interference in obtaining representative samples. IDEM suggests that these items be followed starting at least 48 hours prior to and during the sampling event.

- Do not open windows, fireplace opening or vents
- Do not keep doors open.
- Do not operate ventilation fans.
- Do not use air fresheners or odor eliminators.
- Do not smoke in the house to the extent practical.
- Do not use wood stoves, fireplace or auxiliary heating equipment (e.g., kerosene heater)
- Do not use paints or varnishes.
- Do not use cleaning products (e.g., bathroom cleaners, furniture polish, appliance cleaners, and floor cleaners).
- Do not use cosmetics, including hair spray, nail polish, nail polish remover, perfume, etc.
- Do not partake in indoor hobbies that use solvents.
- Do not apply pesticides.
- Do not store containers of gasoline, oil or petroleum-based or other solvents within the house or attached garage (except for fuel oil tanks).
- Do not operate or store automobiles in an attached garage.

INDOOR AIR BUILDING SURVEY CHECKLIST

Preparer's Name: STEVE BUYZE Date: 7-27-11

Preparer's Affiliation: AMEC Phone #: 1-231-922-9050

Site Name: Honeywell South Bend Site # 331011000 16

Site Address (include city and zip): SOUTH BEND IN.

Part I – Occupants

List of Current Occupants/Occupation (include children)

Name (Age)	Address: (Lot # or apt. #)	Sex (M/F)	Occupation
MALACHI STALLING	3026 Rogers	M	DISABILITY
CHANTEL PAM		F	LOOKING
PHYLLIS PAM		F	LOOKING

Part II – Building Characteristics

Building type: residential / multi-family residential / office / strip mall / commercial / industrial / other

Describe building: 1 STORY FULL BASEMENT Year constructed: UNKNOWN

Sensitive population: day care / nursing home / hospital / school / other (specify): _____

Number of floors at or above grade: 1

Number of floors below grade: 1 (full basement / crawl space / slab on grade)

Depth of basement below grade surface: ~~8~~ 6 ft. Basement size: 800 ft^2

Basement floor construction: concrete / dirt / slab / stone / other (specify): _____

Foundation walls: poured concrete / cinder blocks / stone / other (specify): _____

Basement sump present? *Yes* / (*No*) Sump pump? *Yes / No* Water in sump? *Yes / No*

Significant cracks present in basement floor? *Yes* / (*No*)

Significant cracks present in basement walls? (*Yes*) / *No*

Are the basement walls or floor sealed with waterproof paint or epoxy coatings? *Yes* / (*No*)

Is there a whole house fan? *Yes* / (*No*)

Septic system? *Yes / Yes (but not used)* / (*No*)

Irrigation/private well? *Yes / Yes (but not used)* / (*No*)

Type of ground cover outside of building: (grass) / concrete / asphalt / other (specify) _____

Sub-slab vapor/moisture barrier in place? *Yes* / (*No*) / *Don't know*

Type of barrier: _____

Type of heating system (circle all that apply):

(hot air circulation) hot air radiation wood steam radiation
heat pump hot water radiation kerosene heater electric baseboard
other (specify): _____

Type or ventilation system (circle all that apply):

(central air conditioning) mechanical fans bathroom ventilation fans
individual air conditioning units kitchen range hood fan outside air intake
other (specify): _____

Type of fuel utilized (circle all that apply):

(Natural gas) / electric / fuel oil / wood / coal / solar / kerosene / other (specify): _____

Part III – Outside Contaminant Sources

Contaminated site within 50-ft (BTEX) or 100-ft (Chlorinated)? _____

If yes: Site Name: _____ Site Number: _____

Other stationary sources nearby (gas stations, emission stacks, etc.): _____

Heavy vehicular traffic nearby (or other mobile sources): _____

Part IV – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item was removed from the building 48 hours prior to the indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the start of the indoor air sampling event.

Potential Sources	Location (s)	Removed (Yes / No / NA)
Gasoline storage cans	NONE	
Gas-powered equipment (mowers, etc)	NONE	
Kerosene storage cans	NONE	
Paints / thinners / strippers	GARAGE	
Cleaning solvents	KITCHEN	
Oven cleaners	NONE	
Carpet / upholstery cleaners	NONE	
Other house cleaning products	KITCHEN	
Moth balls	NONE	
Polishes / waxes	NONE	
Insecticides	KITCHEN	
Furniture / floor remover	NONE	
Nail polish / polish remover	BATHROOM	
Hairspray	NONE	
Cologne / perfume	NONE	
Air fresheners	KITCHEN	
Fuel tank (inside building)	NONE	NA
Wood stove or fireplace	NONE	NA
New Furniture / upholstery	NONE	
New carpeting / flooring	NONE	NA
Hobbies – glues, paints, lacquers, photographic darkroom chemicals, etc	NONE	
Scented trees, wreaths, potpourri, etc.	NONE	
Other (specify):		

Part V – Miscellaneous Items

Do any occupants of the building smoke? (Yes) / No How often? Every Two hours

Last time someone smoked in the building? _____ hours / days ago

Does the building have an attached garage directly connected to living space? Yes / (No)

If so, is a car usually parked in the garage? *Yes / No*

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? *Yes / No*

Do the occupants of the building have their clothes dry cleaned? *Yes / (No)*

If yes, how often? Weekly / monthly / 3-4 times a year

When was the last dry cleaned garment brought home? _____

Do any of the occupants use solvents in work? *Yes / (No)*

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? *Yes / No*

Have any pesticides/herbicides been applied around the building or in the yard? *Yes / (No)*

If so, when and which chemicals? _____

Has there ever been a fire in the building? *Yes / (No)* If yes, when? _____

Has painting or staining been done in the building in the last 6 months? *Yes / (No)*

If yes, when? _____ and where? _____

Part VI – Sampling Information

Company/Consultant: AMEC Phone number: (231) 922-9050

Sample Source: Indoor Air / (Sub-Slab) / Near Slab Soil Gas / Exterior Soil Gas

Sampler Type: 400 mL – 1.0 L Summa Canister / (6 L Summa Canister) / Other (specify): _____

Analytical Method: TO-14A / (TO-15) / TO-15 SIM / other: _____

Laboratory: TEST AMERICA

Sample locations (floor, room):

Field/Sample ID# P-3026R-0711 Field/Sample ID # _____

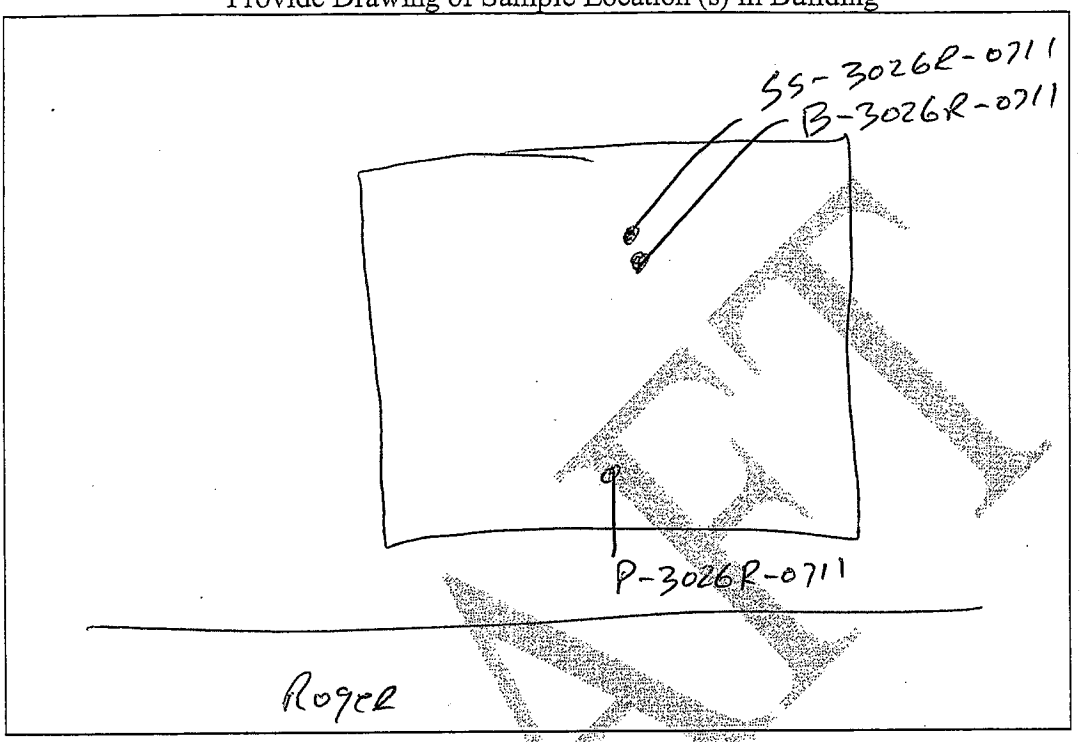
Field/Sample ID# B-3026R-0711 Field/Sample ID # _____

Field/Sample ID# SS-3026R-0711 Field/Sample ID # _____

Were "Instructions for Occupants" followed? *Yes / No*

If not, describe modifications: _____

Provide Drawing of Sample Location (s) in Building



Part VII – Metrological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event?
Yes / No RAIN NIGHT OF SAMPLING CAUSE BASEMENT TO FLOOD

Describe the general weather conditions: 75°F WIND> WNW

Part VIII – General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

Recommended Instructions for Residents

The following is a suggested list for residents to follow (to the extent practical) in order to reduce interference in obtaining representative samples. IDEM suggests that these items be followed starting at least 48 hours prior to and during the sampling event.

- Do not open windows, fireplace opening or vents
- Do not keep doors open.
- Do not operate ventilation fans.
- Do not use air fresheners or odor eliminators.
- Do not smoke in the house to the extent practical.
- Do not use wood stoves, fireplace or auxiliary heating equipment (e.g., kerosene heater)
- Do not use paints or varnishes.
- Do not use cleaning products (e.g., bathroom cleaners, furniture polish, appliance cleaners, and floor cleaners).
- Do not use cosmetics, including hair spray, nail polish, nail polish remover, perfume, etc.
- Do not partake in indoor hobbies that use solvents.
- Do not apply pesticides.
- Do not store containers of gasoline, oil or petroleum-based or other solvents within the house or attached garage (except for fuel oil tanks).
- Do not operate or store automobiles in an attached garage.

INDOOR AIR BUILDING SURVEY CHECKLIST

Preparer's Name: STEVEN BOYCE Date: 7-27-11

Preparer's Affiliation: AMEC Phone #: 231-922-9050

Site Name: HWSB Site #

Site Address (include city and zip): HONEY WELL SOUTH BEND INDUSTRIAL COMPLEX SOUTH BEND IN

Part I – Occupants

List of Current Occupants/Occupation (include children)

Name (Age)	Address: (Lot # or apt. #)	Sex (M/F)	Occupation
SHAELA FREDRICK	3029 LONGLEY	F	COMPTALGIST
ROBERT FREDRICK		M	
MALIK FREDRICK		M	

Part II – Building Characteristics FROM 2-9-11 SURVEY

Building type: (residential) / multi-family residential / office / strip mall / commercial / industrial / other

Describe building: 1-STORY, 3 bd, 2 bA Year constructed: 1940's

Sensitive population: day care / nursing home / hospital / school / other (specify): _____

Number of floors at or above grade: 1

Number of floors below grade: 1 (full basement) / crawl space / slab on grade)

Depth of basement below grade surface: 6 ft. Basement size: 950 ft^2

Basement floor construction: (concrete) / dirt / slab / stone / other (specify): _____

Foundation walls: poured concrete / (cinder blocks) / stone / other (specify): _____

Basement sump present? *Yes / No* Sump pump? *Yes / No* Water in sump? *Yes / No*

Significant cracks present in basement floor? *Yes / No*

Significant cracks present in basement walls? *Yes / No* NOT visible because of PANELING

Are the basement walls or floor sealed with waterproof paint or epoxy coatings? *Yes / No*

Is there a whole house fan? *Yes / No*

Septic system? *Yes / Yes (but not used) / No*

Irrigation/private well? *Yes / Yes (but not used) / No*

Type of ground cover outside of building: grass / concrete / asphalt / other (specify) _____

Sub-slab vapor/moisture barrier in place? *Yes / No / Don't know*

Type of barrier: _____

Type of ~~heating system~~ (circle all that apply):

hot air circulation | hot air radiation | wood | steam radiation

heat pump | hot water radiation | kerosene heater | electric baseboard

other (specify): _____

Type or ventilation system (circle all that apply):

central air conditioning | mechanical fans | bathroom ventilation fans

individual air conditioning units | kitchen range hood fan | outside air intake

other (specify): _____

Type of fuel utilized (circle all that apply):

Natural gas / electric / fuel oil / wood / coal / solar / kerosene / other (specify): _____

Part III – Outside Contaminant Sources

Contaminated site within 50-ft (BTEX) or 100-ft (Chlorinated)? _____

If yes: Site Name: _____ Site Number: _____

Other stationary sources nearby (gas stations, emission stacks, etc.): _____

Heavy vehicular traffic nearby (or other mobile sources): _____

Part IV – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item was removed from the building 48 hours prior to the indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the start of the indoor air sampling event.

Potential Sources	Location (s)	Removed (Yes / No / NA)
Gasoline storage cans		
Gas-powered equipment (mowers, etc)		
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor remover		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New Furniture / upholstery		
New carpeting / flooring		NA
Hobbies – glues, paints, lacquers, photographic darkroom chemicals, etc		
Scented trees, wreaths, potpourri, etc.		
Other (specify):		

Part V – Miscellaneous Items

Do any occupants of the building smoke? *Yes / No* How often? _____

Last time someone smoked in the building? _____ hours / days ago

Does the building have an attached garage directly connected to living space? *Yes / No*

If so, is a car usually parked in the garage? *Yes / No*

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? *Yes / No*

Do the occupants of the building have their clothes dry cleaned? *Yes / No*

If yes, how often? Weekly / monthly / 3-4 times a year

When was the last dry cleaned garment brought home? _____

Do any of the occupants use solvents in work? *Yes / No*

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? *Yes / No*

Have any pesticides/herbicides been applied around the building or in the yard? *Yes / No*

If so, when and which chemicals? _____

Has there ever been a fire in the building? *Yes / No* If yes, when? _____

Has painting or staining been done in the building in the last 6 months? *Yes / No*

If yes, when? _____ and where? _____

Part VI – Sampling Information

Company/Consultant: AMEC Phone number: (231) 922 - 9050

Sample Source: Indoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas

Sampler Type: 400 mL – 1.0 L Summa Canister / 6 L Summa Canister / Other (specify): _____

Analytical Method: TO-14A / TO-15 / TO-15 SIM / other: _____

Laboratory: TEST AMERICA

Sample locations (floor, room):

Field/Sample ID# SS-30292-0711 Field/Sample ID # _____

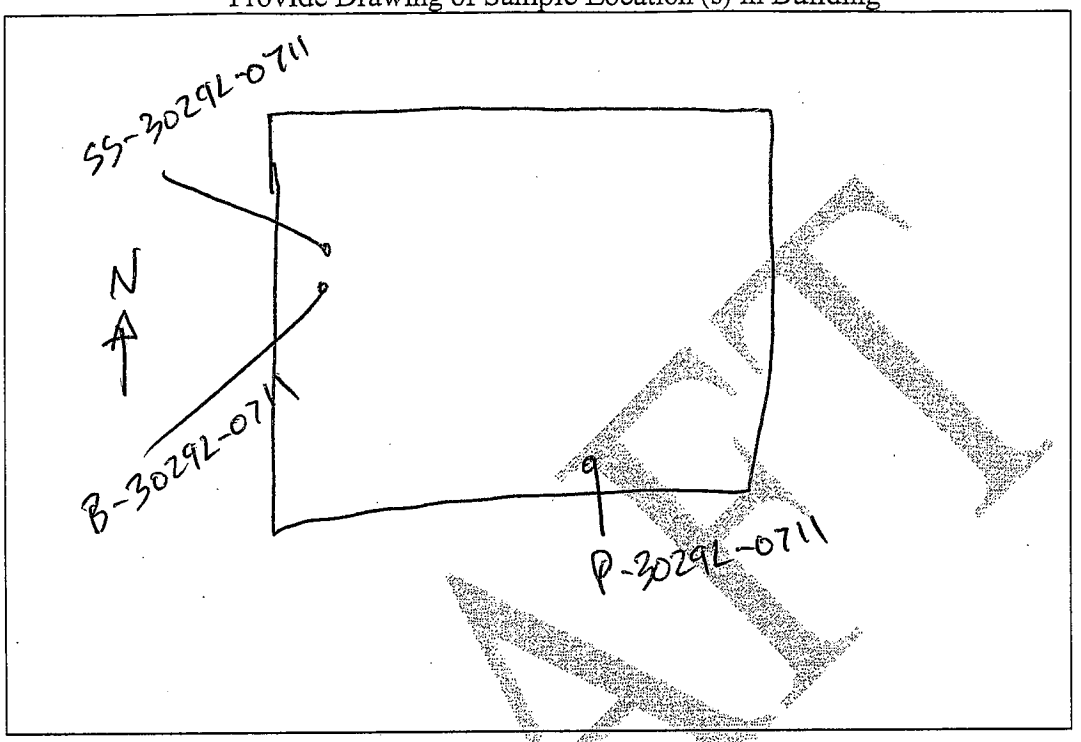
Field/Sample ID# B-3029L-0711 Field/Sample ID # _____

Field/Sample ID# P-3029L-0711 Field/Sample ID # _____

Were "Instructions for Occupants" followed? *Yes / No*

If not, describe modifications: _____

Provide Drawing of Sample Location (s) in Building



Part VII – Metrological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event?
Yes / (No)

Describe the general weather conditions: 75°F HUMID WIND SE

Part VIII – General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

Recommended Instructions for Residents

The following is a suggested list for residents to follow (to the extent practical) in order to reduce interference in obtaining representative samples. IDEM suggests that these items be followed starting at least 48 hours prior to and during the sampling event.

- Do not open windows, fireplace opening or vents
- Do not keep doors open.
- Do not operate ventilation fans.
- Do not use air fresheners or odor eliminators.
- Do not smoke in the house to the extent practical.
- Do not use wood stoves, fireplace or auxiliary heating equipment (e.g., kerosene heater)
- Do not use paints or varnishes.
- Do not use cleaning products (e.g., bathroom cleaners, furniture polish, appliance cleaners, and floor cleaners).
- Do not use cosmetics, including hair spray, nail polish, nail polish remover, perfume, etc.
- Do not partake in indoor hobbies that use solvents.
- Do not apply pesticides.
- Do not store containers of gasoline, oil or petroleum-based or other solvents within the house or attached garage (except for fuel oil tanks).
- Do not operate or store automobiles in an attached garage.

INDOOR AIR BUILDING SURVEY CHECKLIST

Preparer's Name: STEVEN BUYZE Date: 7-27-11

Preparer's Affiliation: AMEC Phone #: 1-231-922-9050

Site Name: HONEY WELL SOUTH BEND Site #

Site Address (include city and zip): HONEY WELL SOUTH BEND INDUSTRIAL Complex SOUTH BEND, IN

Part I – Occupants

List of Current Occupants/Occupation (include children)

Name (Age)	Address: (Lot # or apt. #)	Sex (M/F)	Occupation
LOUIS VEEN	3018 LONGLEY	F	RETIRED

Part II – Building Characteristics

Building type: ~~residential~~ / multi-family residential / office / strip mall / commercial / industrial / other

Describe building: 1 STORY 3/4 BASEMENT Year constructed: 1934

Sensitive population: day care / nursing home / hospital / school / other (specify):

Number of floors at or above grade: 1

Number of floors below grade: 1 (full basement / crawl space / slab on grade)

Depth of basement below grade surface: 6 ft. Basement size: 1200 ft^2

Basement floor construction: concrete / dirt / slab / stone / other (specify):

Foundation walls: poured concrete / cinder blocks / stone / other (specify):

Basement sump present? *Yes / No* Sump pump? *Yes / No* Water in sump? *Yes / No*

Significant cracks present in basement floor? *Yes / No*

Significant cracks present in basement walls? *Yes / No*

Are the basement walls or floor sealed with waterproof paint or epoxy coatings? *Yes / No* PAINT

Is there a whole house fan? *Yes / No*

Septic system? *Yes / Yes (but not used) / No*

Irrigation/private well? *Yes / Yes (but not used) / No*

Type of ground cover outside of building: grass / concrete / asphalt / other (specify) _____

Sub-slab vapor/moisture barrier in place? *Yes / No / Don't know*
Type of barrier: _____

Type of heating system (circle all that apply):
hot air circulation hot air radiation wood steam radiation
heat pump hot water radiation kerosene heater electric baseboard
other (specify): _____

Type or ventilation system (circle all that apply):
central air conditioning mechanical fans bathroom ventilation fans
individual air conditioning units kitchen range hood fan outside air intake
other (specify): _____

Type of fuel utilized (circle all that apply):
Natural gas / electric / fuel oil / wood / coal / solar / kerosene / other (specify):_____

Part III – Outside Contaminant Sources

Contaminated site within 50-ft (BTEX) or 100-ft (Chlorinated)? _____

If yes: Site Name: _____ Site Number:_____

Other stationary sources nearby (gas stations, emission stacks, etc.): _____

Heavy vehicular traffic nearby (or other mobile sources): _____

Part IV – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item was removed from the building 48 hours prior to the indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the start of the indoor air sampling event.

Potential Sources	Location (s)	Removed (Yes / No / NA)
Gasoline storage cans	GARAGE	NO
Gas-powered equipment (mowers, etc)	GARAGE	
Kerosene storage cans	NONE	
Paints / thinners / strippers	BASEMENT	
Cleaning solvents	HOUSEHOLD CLEANERS KITCHEN-BATHROOM	
Oven cleaners	NONE	
Carpet / upholstery cleaners	KITCHEN	
Other house cleaning products		
Moth balls	NONE	
Polishes / waxes	KITCHEN	
Insecticides	NONE GARAGE	
Furniture / floor remover	NONE	
Nail polish / polish remover	NONE	
Hairspray	NONE	
Cologne / perfume	NONE	
Air fresheners	NONE	
Fuel tank (inside building)	NONE	NA
Wood stove or fireplace	NONE	NA
New Furniture / upholstery	NONE	
New carpeting / flooring	NONE	NA
Hobbies – glues, paints, lacquers, photographic darkroom chemicals, etc	SPRAY PAINT IN GARAGE	
Scented trees, wreaths, potpourri, etc.	NONE	
Other (specify):		

Part V – Miscellaneous Items

Do any occupants of the building smoke? *Yes* / (*No*) How often? _____

Last time someone smoked in the building? _____ hours / days ago

Does the building have an attached garage directly connected to living space? (*Yes*) / *No*

If so, is a car usually parked in the garage? (*Yes*) / *No* BUT NOT IN 6 MONTHS

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? (*Yes*) / *No*

Do the occupants of the building have their clothes dry cleaned? *Yes / (No)*

If yes, how often? Weekly / monthly / 3-4 times a year

When was the last dry cleaned garment brought home? _____

Do any of the occupants use solvents in work? *Yes / (No)*

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? *Yes / No*

Have any pesticides/herbicides been applied around the building or in the yard? *Yes / (No)*

If so, when and which chemicals? _____

Has there ever been a fire in the building? *Yes / (No)* If yes, when? _____

Has painting or staining been done in the building in the last 6 months? *Yes / (No)*

If yes, when? _____ and where? _____

Part VI – Sampling Information

Company/Consultant: AMEC Phone number: (231) 922-9050

Sample Source: Indoor Air / (Sub-Slab) / Near Slab Soil Gas / Exterior Soil Gas

Sampler Type: 400 mL – 1.0 L Summa Canister / (6 L Summa Canister) / Other (specify): _____

Analytical Method: TO-14A / (TO-15) / TO-15 SIM / other: _____

Laboratory: TEST AMERICA

Sample locations (floor, room):

Field/Sample ID# P-3018L-0711 Field/Sample ID # _____

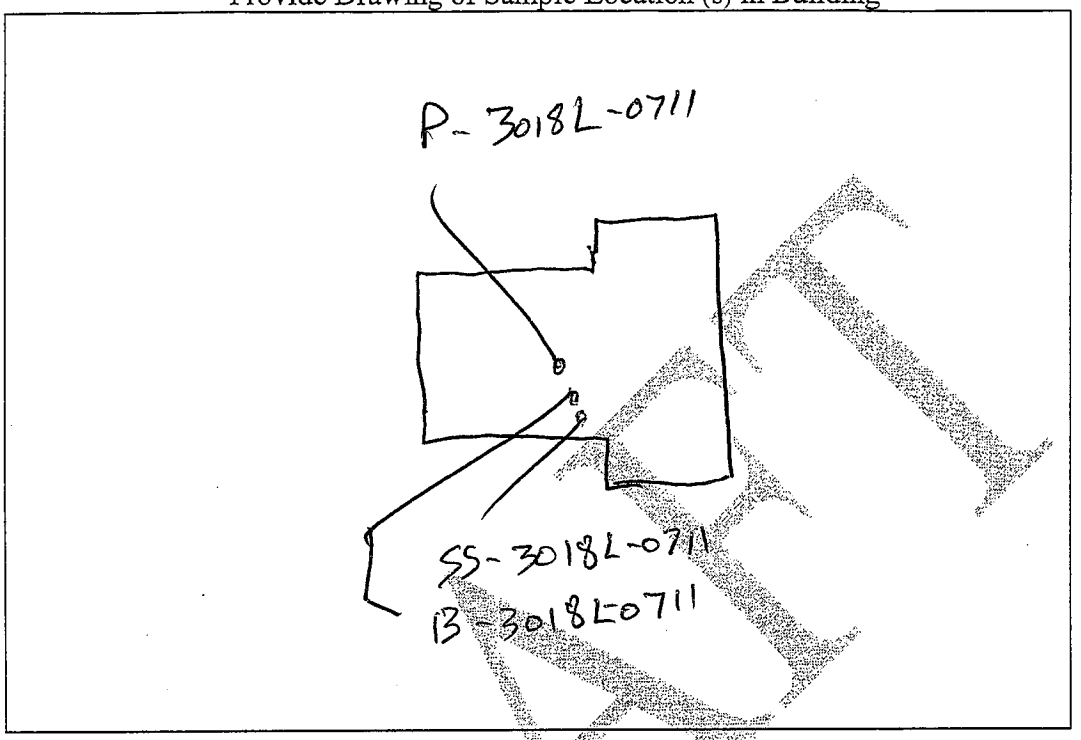
Field/Sample ID# B-3018L-0711 Field/Sample ID # _____

Field/Sample ID# SS-3018L-0711 Field/Sample ID # _____

Were "Instructions for Occupants" followed? *Yes / No*

If not, describe modifications: _____

Provide Drawing of Sample Location (s) in Building



Part VII – Metrological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event?
Yes / (No)

Describe the general weather conditions: 75°F HUMID WIND SE

Part VIII – General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

Recommended Instructions for Residents

The following is a suggested list for residents to follow (to the extent practical) in order to reduce interference in obtaining representative samples. IDEM suggests that these items be followed starting at least 48 hours prior to and during the sampling event.

- Do not open windows, fireplace opening or vents
- Do not keep doors open.
- Do not operate ventilation fans.
- Do not use air fresheners or odor eliminators.
- Do not smoke in the house to the extent practical.
- Do not use wood stoves, fireplace or auxiliary heating equipment (e.g., kerosene heater)
- Do not use paints or varnishes.
- Do not use cleaning products (e.g., bathroom cleaners, furniture polish, appliance cleaners, and floor cleaners).
- Do not use cosmetics, including hair spray, nail polish, nail polish remover, perfume, etc.
- Do not partake in indoor hobbies that use solvents.
- Do not apply pesticides.
- Do not store containers of gasoline, oil or petroleum-based or other solvents within the house or attached garage (except for fuel oil tanks).
- Do not operate or store automobiles in an attached garage.

INDOOR AIR BUILDING SURVEY CHECKLIST

Preparer's Name: STEVEN BUYZE Date: 7-27-11

Preparer's Affiliation: AMEC Phone #: 1-231-922-9050

Site Name: HONEYWELL SOUTH BEND Site # 333071001G

Site Address (include city and zip): SOUTH BEND IN.

Part I – Occupants

List of Current Occupants/Occupation (include children)

Name (Age)	Address: (Lot # or apt. #)	Sex (M/F)	Occupation
HAP KITCHEN	3034 Rogers ST.	M	RETIRED

Part II – Building Characteristics

Building type: (residential) / multi-family residential / office / strip mall / commercial / industrial / other

Describe building: 1 STORY 1 BASEMENT Year constructed: 1929

Sensitive population: day care / nursing home / hospital / school / other (specify): _____

Number of floors at or above grade: 1

Number of floors below grade: 1 (full basement / crawl space / slab on grade)

Depth of basement below grade surface: 6 ft. Basement size: 800 ft^2

Basement floor construction: (concrete) / dirt / slab / stone / other (specify): _____

Foundation walls: poured concrete / (cinder blocks) / stone / other (specify): _____

Basement sump present? *Yes / No* Sump pump? *Yes / No* Water in sump? *Yes / No*

Significant cracks present in basement floor? *Yes / No*

Significant cracks present in basement walls? *Yes / No*

Are the basement walls or floor sealed with waterproof paint or epoxy coatings? *Yes / No*

Is there a whole house fan? *Yes / No*

Septic system? *Yes / Yes (but not used) / No*

Irrigation/private well? *Yes / Yes (but not used) / No*

Type of ground cover outside of building: grass / concrete / asphalt / other (specify) _____

Sub-slab vapor/moisture barrier in place? *Yes / No / Don't know*

Type of barrier: _____

Type of heating system (circle all that apply):

hot air circulation hot air radiation wood steam radiation
heat pump hot water radiation kerosene heater electric baseboard
other (specify): _____

Type or ventilation system (circle all that apply):

central air conditioning mechanical fans bathroom ventilation fans
individual air conditioning units kitchen range hood fan outside air intake
other (specify): _____

Type of fuel utilized (circle all that apply):

Natural gas / electric / fuel oil / wood / coal / solar / kerosene / other (specify):_____

Part III – Outside Contaminant Sources

Contaminated site within 50-ft (BTEX) or 100-ft (Chlorinated)? _____

If yes: Site Name: _____ Site Number:_____

Other stationary sources nearby (gas stations, emission stacks, etc.): _____

Heavy vehicular traffic nearby (or other mobile sources): _____

Part IV – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item was removed from the building 48 hours prior to the indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the start of the indoor air sampling event.

Potential Sources	Location (s)	Removed (Yes / No / NA)
Gasoline storage cans	NONE	NA
Gas-powered equipment (mowers, etc)	ATTACHED GARAGE	NO
Kerosene storage cans	NONE	NA
Paints / thinners / strippers	NONE	NA
Cleaning solvents	NONE	NA
Oven cleaners	NONE	NA
Carpet / upholstery cleaners	NONE	NA
Other house cleaning products	KITCHEN BATHROOM	NO
Moth balls	LIVING ROOM	NO
Polishes / waxes	NONE	NA
Insecticides	NONE	NA
Furniture / floor remover	NONE	NA
Nail polish / polish remover	NONE	NA
Hairspray	NONE	NA
Cologne / perfume	NONE	NA
Air fresheners	NONE	NA
Fuel tank (inside building)	NONE	NA
Wood stove or fireplace	NONE	NA
New Furniture / upholstery	NONE	NA
New carpeting / flooring	NONE	NA
Hobbies – glues, paints, lacquers, photographic darkroom chemicals, etc	NONE	NA
Scented trees, wreaths, potpourri, etc.	NONE	NA
Other (specify):	NONE	NA

Part V – Miscellaneous Items

Do any occupants of the building smoke? *Yes / (No)* How often? _____

Last time someone smoked in the building? _____ hours / days ago

Does the building have an attached garage directly connected to living space? *(Yes) / No*

If so, is a car usually parked in the garage? *(Yes) / No*

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? *Yes / (No)*

Do the occupants of the building have their clothes dry cleaned? *Yes / No*

If yes, how often? Weekly / monthly / 3-4 times a year

When was the last dry cleaned garment brought home? _____

Do any of the occupants use solvents in work? *Yes / No*

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? *Yes / No*

Have any pesticides/herbicides been applied around the building or in the yard? *Yes / No*

If so, when and which chemicals? _____

Has there ever been a fire in the building? *Yes / No* If yes, when? _____

Has painting or staining been done in the building in the last 6 months? *Yes / No*

If yes, when? _____ and where? _____

Part VI – Sampling Information

Company/Consultant: AMEC Phone number: (231) 922-9050

Sample Source: Indoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas

Sampler Type: 400 mL – 1.0 L Summa Canister / 6 L Summa Canister / Other (specify): _____

Analytical Method: TO-14A / TO-15 / TO-15 SIM / other: _____

Laboratory: TEST AMERICA

Sample locations (floor, room):

Field/Sample ID# P-3034R-0711 Field/Sample ID # _____

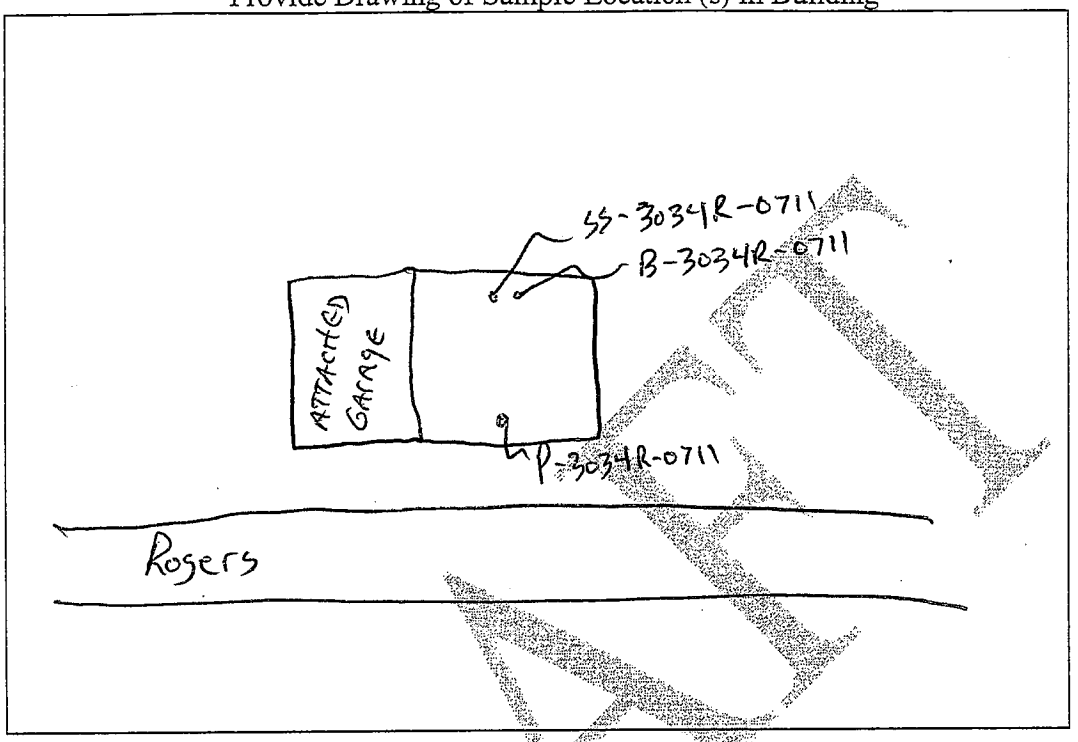
Field/Sample ID# B-3034R-0711 Field/Sample ID # _____

Field/Sample ID# SS-3034R-0711 Field/Sample ID # _____

Were "Instructions for Occupants" followed? *Yes / No*

If not, describe modifications: _____

Provide Drawing of Sample Location (s) in Building



Part VII – Metrological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event?
Yes / No

Describe the general weather conditions: 75°F HUMID SE WIND

Part VIII – General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

Recommended Instructions for Residents

The following is a suggested list for residents to follow (to the extent practical) in order to reduce interference in obtaining representative samples. IDEM suggests that these items be followed starting at least 48 hours prior to and during the sampling event.

- Do not open windows, fireplace opening or vents
- Do not keep doors open.
- Do not operate ventilation fans.
- Do not use air fresheners or odor eliminators.
- Do not smoke in the house to the extent practical.
- Do not use wood stoves, fireplace or auxiliary heating equipment (e.g., kerosene heater)
- Do not use paints or varnishes.
- Do not use cleaning products (e.g., bathroom cleaners, furniture polish, appliance cleaners, and floor cleaners).
- Do not use cosmetics, including hair spray, nail polish, nail polish remover, perfume, etc.
- Do not partake in indoor hobbies that use solvents.
- Do not apply pesticides.
- Do not store containers of gasoline, oil or petroleum-based or other solvents within the house or attached garage (except for fuel oil tanks).
- Do not operate or store automobiles in an attached garage.

INDOOR AIR BUILDING SURVEY CHECKLIST

Preparer's Name: STEVE BUYZE Date: 7-27-11

Preparer's Affiliation: AMEC Phone #: 1-231-922-9050

Site Name: HONEYWELL SOUTH BEND Site # 3310110016

Site Address (include city and zip): HONEYWELL INDUSTRIAL COMPLEX SOUTH BEND IN

Part I – Occupants

List of Current Occupants/Occupation (include children)

Name (Age)	Address: (Lot # or apt. #)	Sex (M/F)	Occupation
EILA M RITTEL	719 GOODLAND	F	RETIRED

Part II – Building Characteristics

Building type: residential / multi-family residential / office / strip mall / commercial / industrial / other

Describe building: 1-STORY 1/2 BASEMENT/1/2 CRAWL Year constructed: 1930

Sensitive population: day care / nursing home / hospital / school / other (specify): _____

Number of floors at or above grade: 1

Number of floors below grade: 1 (full basement / crawl space / slab on grade) SEE ABOVE

Depth of basement below grade surface: 6 ft. Basement size: 1/00 ft^2

Basement floor construction: concrete / dirt / slab / stone / other (specify): _____

Foundation walls: poured concrete / cinder blocks / stone / other (specify): _____

Basement sump present? *Yes / No* Sump pump? *Yes / No* Water in sump? *Yes / No*

Significant cracks present in basement floor? *Yes / No*

Significant cracks present in basement walls? *Yes / No*

Are the basement walls or floor sealed with waterproof paint or epoxy coatings? *Yes / No*

Is there a whole house fan? *Yes / No*

Septic system? *Yes / Yes (but not used) / No*

Irrigation/private well? *Yes / Yes (but not used) / No*

Type of ground cover outside of building: grass / concrete / asphalt / other (specify) _____

Sub-slab vapor/moisture barrier in place? *Yes / No / Don't know* Didn't see during coring

Type of barrier: _____

Type of heating system (circle all that apply):

hot air circulation | hot air radiation | wood - NOT in use | steam radiation
heat pump | hot water radiation | kerosene heater | electric baseboard
other (specify): _____

Type or ventilation system (circle all that apply):

central air conditioning | mechanical fans | bathroom ventilation fans
individual air conditioning units | kitchen range hood fan | outside air intake
other (specify): _____

Type of fuel utilized (circle all that apply):

Natural gas / electric / fuel oil / wood / coal / solar / kerosene / other (specify): _____

Part III – Outside Contaminant Sources

Contaminated site within 50-ft (BTEX) or 100-ft (Chlorinated)? _____

If yes: Site Name: _____ Site Number: _____

Other stationary sources nearby (gas stations, emission stacks, etc.): _____

Heavy vehicular traffic nearby (or other mobile sources): _____

Part IV – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor & room), and whether the item was removed from the building 48 hours prior to the indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the start of the indoor air sampling event.

Potential Sources	Location (s)	Removed (Yes / No / NA)
Gasoline storage cans	GARAGE	
Gas-powered equipment (mowers, etc)	GARAGE	
Kerosene storage cans	NONE	
Paints / thinners / strippers	BASEMENT	
Cleaning solvents	KITCHEN	
Oven cleaners	NONE	
Carpet / upholstery cleaners	NONE	
Other house cleaning products	KITCHEN	
Moth balls	NONE	
Polishes / waxes	KITCHEN	
Insecticides	KITCHEN	
Furniture / floor remover	KITCHEN	
Nail polish / polish remover	LIVING ROOM + SPARE ROOM	
Hairspray	BATHROOM	
Cologne / perfume	BEDROOM	
Air fresheners	BATHROOM KITCHEN S	
Fuel tank (inside building)	BASEMENT (EMPTY)	NA
Wood stove or fireplace	LIVING ROOM NOT USED	NA
New Furniture / upholstery	NO	
New carpeting / flooring	NO	NA
Hobbies – glues, paints, lacquers, photographic darkroom chemicals, etc	Craft paint, Glue, in spare room	
Scented trees, wreaths, potpourri, etc.	Potpourri bedroom, diningroom, Livingroom	
Other (specify):		

Part V – Miscellaneous Items

Do any occupants of the building smoke? (Yes) / No How often? _____

Last time someone smoked in the building? _____ hours / days ago

Does the building have an attached garage directly connected to living space? Yes / (No)

If so, is a car usually parked in the garage? Yes / No

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? (Yes) / No

Do the occupants of the building have their clothes dry cleaned? *Yes / (No)*

If yes, how often? Weekly / monthly / 3-4 times a year

When was the last dry cleaned garment brought home? _____

Do any of the occupants use solvents in work? *Yes / (No)*

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? *Yes / No*

Have any pesticides/herbicides been applied around the building or in the yard? *(Yes) / No*

If so, when and which chemicals? weed killer on yard in spring, ant traps under kitchen sink, Bug killer ground front door

Has there ever been a fire in the building? *Yes / (No)* If yes, when? _____

Has painting or staining been done in the building in the last 6 months? *Yes / (No)*

If yes, when? _____ and where? _____

Part VI – Sampling Information

Company/Consultant: AMEC Phone number: (231) 922-9050

Sample Source: Indoor Air / (Sub-Slab) / Near Slab Soil Gas / Exterior Soil Gas

Sampler Type: 400 mL – 1.0 L Summa Canister / (6 L Summa Canister) / Other (specify): ~~TEST AMERICA~~ SGB

Analytical Method: TO-14A / (TO-15) / TO-15 SIM / other: _____

Laboratory: TEST AMERICA

Sample locations (floor, room):

Field/Sample ID# P-7196-0711 Field/Sample ID # _____

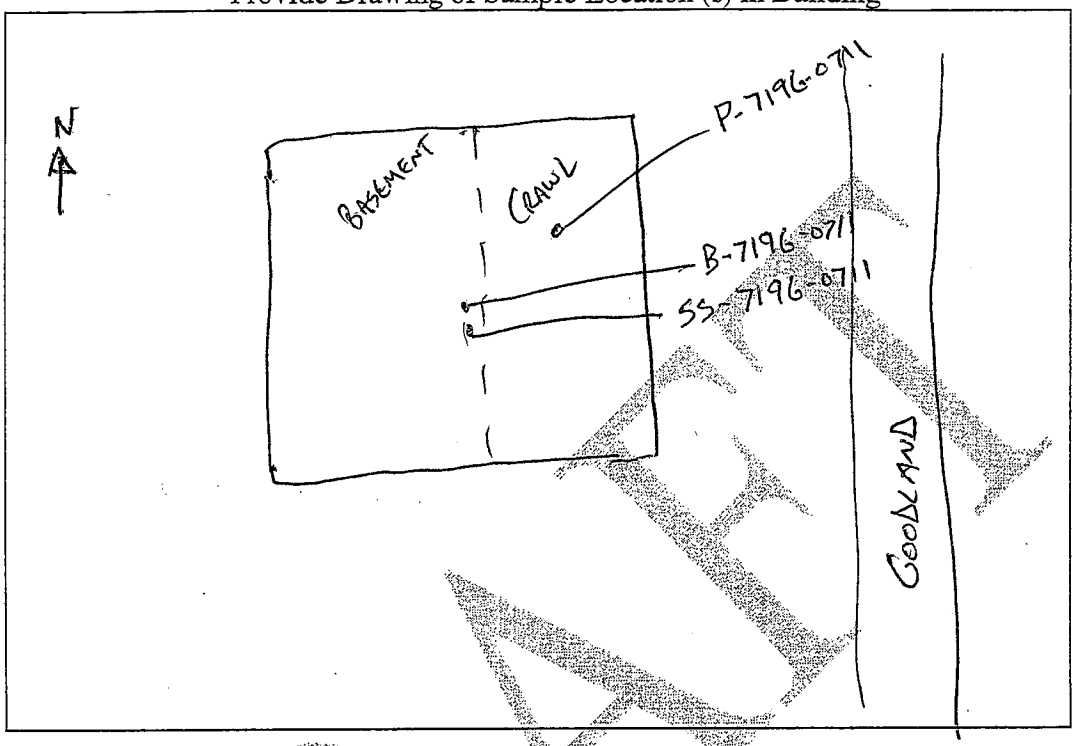
Field/Sample ID# B-7196-0711 Field/Sample ID # _____

Field/Sample ID# SS-7196-0711 Field/Sample ID # _____

Were "Instructions for Occupants" followed? *Yes / No*

If not, describe modifications: _____

Provide Drawing of Sample Location (s) in Building



Part VII – Metrological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event?
Yes / No

Describe the general weather conditions: 75°F Humid Wind out of SE

Part VIII – General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

Recommended Instructions for Residents

The following is a suggested list for residents to follow (to the extent practical) in order to reduce interference in obtaining representative samples. IDEM suggests that these items be followed starting at least 48 hours prior to and during the sampling event.

- Do not open windows, fireplace opening or vents
- Do not keep doors open.
- Do not operate ventilation fans.
- Do not use air fresheners or odor eliminators.
- Do not smoke in the house to the extent practical.
- Do not use wood stoves, fireplace or auxiliary heating equipment (e.g., kerosene heater)
- Do not use paints or varnishes.
- Do not use cleaning products (e.g., bathroom cleaners, furniture polish, appliance cleaners, and floor cleaners).
- Do not use cosmetics, including hair spray, nail polish, nail polish remover, perfume, etc.
- Do not partake in indoor hobbies that use solvents.
- Do not apply pesticides.
- Do not store containers of gasoline, oil or petroleum-based or other solvents within the house or attached garage (except for fuel oil tanks).
- Do not operate or store automobiles in an attached garage.

APPENDIX B

SAMPLE LOG SHEETS

Sample Log

Sampler: SGB

Site Location: Honeywell South Bend, IN Project Number: 3310110016

DATE	7/25/2011	7/25/2011		
Sample Identification	SS-3010R-0711	SS-3013R-0711		
Sampling Depth	-6"	-6"		
Purge Volume (mL)	180	180		
Canister ID	12639	6382		
Flow regulator ID	K303A	K352		
Initial Canister Pressure (inches of Hg)	-30	-30		
Initial Time	1423	1543		
Final Canister Pressure (inches of Hg)	-5.5	-5		
Final Time	1412	1552		
Sampler / Notes				
Sample Identification	B-3010R-0711	B-3013R-0711		
Sampling Depth	3'	3'		
Purge Volume	n/a	n/a		
Canister ID	62352	L4426		
Flow regulator ID	K506	K217		
Initial Canister Pressure	-30	-30		
Initial Time	1426	1543		
Final Canister Pressure	-5.5	-4.5		
Final Time	1412	1552		
Notes				
Sample Identification	P-3010R-0711	B-3013R-0711		
Sampling Depth	3'	3'		
Purge Volume	n/a	n/a		
Canister ID	6629	1330		
Flow regulator ID	K419	K425		
Initial Canister Pressure	-30	-30		
Initial Time	1430	1545		
Final Canister Pressure	-6	-5		
Final Time	1411	1551		
Notes				
Sample Identification	BG-1-0711	BG-2-0711		
Sampling Depth	5'	5'		
Purge Volume	n/a	n/a		
Canister ID	6364	12523		
Flow regulator ID	K412	K900		
Initial Canister Pressure	-30	-30		
Initial Time	1432	1555		
Final Canister Pressure	-5	-1.5		
Final Time	1410	1556		
Notes				

Sample Log

Sampler: SGB

Site Location: Honeywell South Bend, IN

Project Number: 3310110016

DATE	7/26/2011	7/26/2011	7/26/2011	7/26/2011
Sample Identification	SS-3002L-0711	SS-3019L-0711	SS-3006L-0711	SS-3017R-0711
Sampling Depth	-6"	-6"	-6"	-6"
Purge Volume (mL)	180	180	180	180
Canister ID	1122	1367	03863	11345
Flow regulator ID	K126	K334	K388	K126
Initial Canister Pressure (inches of Hg)	-29	-30	-29	-30
Initial Time	0906	0953	1044	1109
Final Canister Pressure (inches of Hg)	-4	-0.5	-1	-5
Final Time	0912	1004	1047	1113
Sampler / Notes				
Sample Identification	B-3002L-0711	B-3019L-0711	B-3006L-0711	B-3017R-0711
Sampling Depth	3'	3'	3'	3'
Purge Volume	n/a	n/a	n/a	n/a
Canister ID	7496	04186	1523	6642
Flow regulator ID	K227	K308	K236	K201
Initial Canister Pressure	-30	-30	-28	-30
Initial Time	0907	0953	1044	1110
Final Canister Pressure	-3	-5	-3.5	-3.5
Final Time	0913	1004	1047	1112
Notes				
Sample Identification	P-3002L-0711	P-3019L-0711	P-3006L-0711	P-3017R-0711
Sampling Depth	3'	3'	3'	3'
Purge Volume	n/a	n/a	n/a	n/a
Canister ID	6134	6660	6385	S-1492
Flow regulator ID	K253	K342	K256	K133
Initial Canister Pressure	-29.5	-30	-30	-30
Initial Time	0909	0955	1046	1111
Final Canister Pressure	-7.5	-6.5	-7.5	-6.5
Final Time	0914	1006	1049	1114
Notes				
Sample Identification	BG-3-0711	BG-4-0711		
Sampling Depth	5'	-4		
Purge Volume	n/a	n/a		
Canister ID	7512	12340		
Flow regulator ID	K500	K447		
Initial Canister Pressure	-30	-30		
Initial Time	0920	0956		
Final Canister Pressure	-6	-6.5		
Final Time	0920	1014		
Notes				

Sample Log

Sampler: SGB

Site Location: Honeywell South Bend, IN Project Number: 3310110016

DATE	7/27/2011	7/27/2011	7/27/2011	7/27/2011
Sample Identification	SS-3018L-0711	SS-719G-0711	SS-3029L-0711	SS-3034R-0711
Sampling Depth	-6"	-6"	-6"	-6"
Purge Volume (mL)	180	180	180	180
Canister ID	12451	1403	93239	1311N
Flow regulator ID	K099	K398	K215	K284
Initial Canister Pressure (inches of Hg)	-29.5	-29.5	-30	-30
Initial Time	0806	0943	1139	1239
Final Canister Pressure (inches of Hg)	-2.5	-3.5	-11	-5
Final Time	0806	0948	1144	1244
Sampler / Notes				
Sample Identification	B-3018L-0711	B-719GL-0711	B-3029L-0711	B-3034R-0711
Sampling Depth	3'	3'	3'	3'
Purge Volume	n/a	n/a	n/a	n/a
Canister ID	7502	0077	6654	6355
Flow regulator ID	K330	K295	K397	K364
Initial Canister Pressure	-30	-30	-29.5	-30
Initial Time	0806	0943	1140	1239
Final Canister Pressure	-5.5	-3	-4	-6
Final Time	0806	0948	1145	1244
Notes				
Sample Identification	P-3018L-0711	P-719G-0711	P-3029L-0711	P-3034R-0711
Sampling Depth	3'	3'	3'	3'
Purge Volume	n/a	n/a	n/a	n/a
Canister ID	12406	3298N	7510	1127
Flow regulator ID	K470	K134	K349	K279B
Initial Canister Pressure	-30	-30	-30	-30
Initial Time	0808	0945	1141	1241
Final Canister Pressure	-5	-6	-11	-6
Final Time	0807	0949	1146	1245
Notes				
Sample Identification		BG-5-0711		BG-6-0711
Sampling Depth		5'		5'
Purge Volume		n/a		n/a
Canister ID		51534		62356N
Flow regulator ID		K148		K428
Initial Canister Pressure		-30		-30
Initial Time		0959		1245
Final Canister Pressure		-6		-6.5
Final Time		0950		1246
Notes				

Sample Log

Sampler: SGB

Site Location: Honeywell South Bend, IN Project Number: 3310110016

DATE	7/28/2011			
Sample Identification	SS-3026R-0711			
Sampling Depth	-6"			
Purge Volume (mL)	180			
Canister ID	6619			
Flow regulator ID	K371			
Initial Canister Pressure (inches of Hg)	-29			
Initial Time	1017			
Final Canister Pressure (inches of Hg)	-4			
Final Time	1014			
Sampler / Notes				
Sample Identification	B-3026R-0711			
Sampling Depth	3'			
Purge Volume	n/a			
Canister ID	6601			
Flow regulator ID	K429			
Initial Canister Pressure	-30			
Initial Time	1013			
Final Canister Pressure	-5.5			
Final Time	1015			
Notes				
Sample Identification	P-3026R-0711			
Sampling Depth	3'			
Purge Volume	n/a			
Canister ID	6242N			
Flow regulator ID	K259			
Initial Canister Pressure	-30			
Initial Time	1015			
Final Canister Pressure	-4.5			
Final Time	1015			
Notes				
Sample Identification	BG-7-0711	BG-8-0711		
Sampling Depth	5'	5'		
Purge Volume	n/a	n/a		
Canister ID	7484	1427		
Flow regulator ID	K501	K438		
Initial Canister Pressure	-30	-30		
Initial Time	1029	1028		
Final Canister Pressure	-6.5	-6.5		
Final Time	1019	1017		
Notes				

APPENDIX C

HISTORIC METEOROLOGICAL INFORMATION

History for South Bend, IN

Monday, July 25, 2011 — View Current Conditions

Monday, July 25, 2011

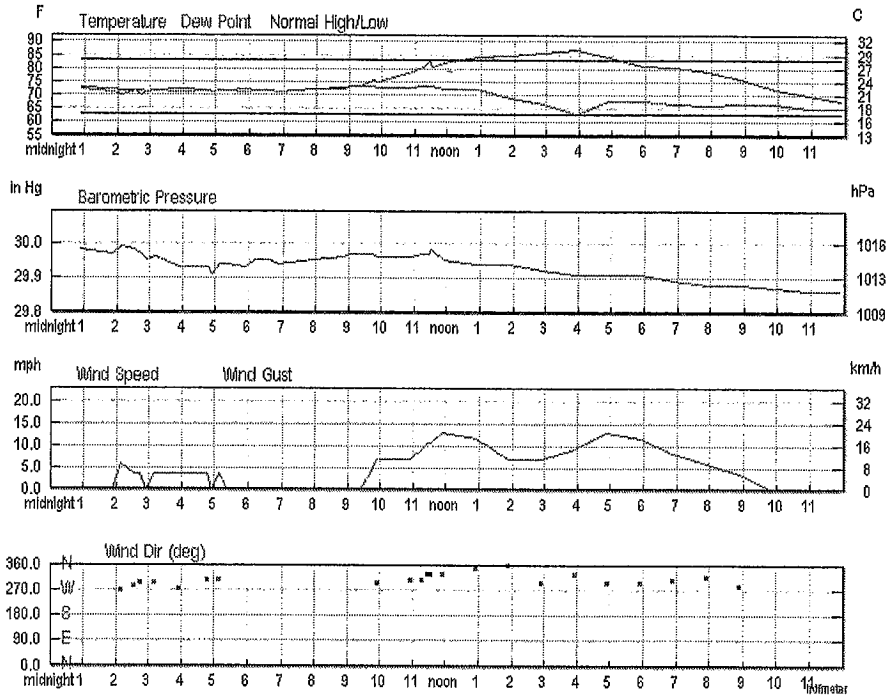
« Previous Day | July 25 2011 View | Next Day »

Daily | Weekly | Monthly | Custom

	Actual	Average	Record
Temperature			
Mean Temperature	**77** °F	**73** °F	
Max Temperature	**87** °F	**83** °F	**105** °F (1934)
Min Temperature	**67** °F	**63** °F	**48** °F (1911)
Degree Days			
Heating Degree Days	0	0	
Month to date heating degree days	0	6	
Since 1 June heating degree days	12	47	
Since 1 July heating degree days	0	6	
Cooling Degree Days	12	9	
Month to date cooling degree days	316	216	
Year to date cooling degree days	575	452	
Since 1 June cooling degree days	497	388	
Growing Degree Days	28 (Base 50)		
Moisture			
Dew Point	**70** °F		
Average Humidity	72		
Maximum Humidity	100		
Minimum Humidity	43		
Precipitation			
Precipitation	**0.00** in	**0.12** in	**2.15** in (2007)
Month to date precipitation	1.73	3.01	
Year to date precipitation	29.45	21.46	
Snow			
Snow	**0.00** in	**0.00** in	**0.00** in (2002)
Month to date snowfall	0.0	0.0	
Since 1 July snowfall	0.0	0.0	
Snow Depth	**0.00** in		
Sea Level Pressure			
Sea Level Pressure	**29.94** in		
Wind			
Wind Speed	4 mph (NW)		
Max Wind Speed	**15** mph		
Max Gust Speed	**18** mph		
Visibility	**5** miles		
Events	Fog		

T = Trace of Precipitation, **MM** = Missing Value

Source: NWS Daily Summary



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Hourly Observations

Time (EDT)	Temp.	Heat Index	Dew Point	Humidity	Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
12:54 AM	73.0 °F	-	72.0 °F	96%	29.98 in	5.0 mi	Calm	Calm	-	N/A		Clear
1:54 AM	72.0 °F	-	71.1 °F	97%	29.97 in	3.0 mi	Calm	Calm	-	N/A		Clear
2:09 AM	71.6 °F	-	69.8 °F	94%	29.99 in	2.0 mi	West	5.8 mph	-	N/A		Clear
2:32 AM	71.6 °F	-	71.6 °F	100%	29.98 in	1.2 mi	WNW	3.5 mph	-	N/A		Partly Cloudy
2:43 AM	71.6 °F	-	69.8 °F	94%	29.97 in	0.8 mi	WNW	3.5 mph	-	N/A		Mist
2:54 AM	71.1 °F	-	71.1 °F	100%	29.95 in	0.5 mi	Calm	Calm	-	N/A	Fog	Fog
3:10 AM	71.6 °F	-	71.6 °F	100%	29.96 in	0.2 mi	WNW	3.5 mph	-	N/A	Fog	Fog
3:54 AM	72.0 °F	-	71.1 °F	97%	29.93 in	0.2 mi	West	3.5 mph	-	N/A	Fog	Fog
4:45 AM	71.6 °F	-	71.6 °F	100%	29.93 in	0.8 mi	NW	3.5 mph	-	N/A		Mist
4:54 AM	71.1 °F	-	71.1 °F	100%	29.91 in	2.0 mi	Calm	Calm	-	N/A		Overcast
5:08 AM	71.6 °F	-	71.6 °F	100%	29.94 in	3.0 mi	NW	3.5 mph	-	N/A		Overcast
5:23 AM	71.6 °F	-	71.6 °F	100%	29.94 in	1.0 mi	Calm	Calm	-	N/A		Overcast
5:54 AM	72.0 °F	-	71.1 °F	97%	29.93 in	1.5 mi	Calm	Calm	-	N/A		Overcast
6:10 AM	71.6 °F	-	71.6 °F	100%	29.95 in	0.5 mi	Calm	Calm	-	N/A		Overcast
6:36 AM	71.6 °F	-	71.6 °F	100%	29.95 in	0.1 mi	Calm	Calm	-	N/A	Fog	Fog
6:54 AM	71.1 °F	-	71.1 °F	100%	29.94 in	0.1 mi	Calm	Calm	-	N/A	Fog	Fog
7:54 AM	72.0 °F	-	72.0 °F	100%	29.95 in	0.1 mi	Calm	Calm	-	N/A	Fog	Fog
8:54 AM	73.0 °F	-	72.0 °F	96%	29.96 in	0.1 mi	Calm	Calm	-	N/A	Fog	Fog
9:01 AM	73.4 °F	-	73.4 °F	100%	29.97 in	0.5 mi	Calm	Calm	-	N/A		Overcast
9:09 AM	73.4 °F	-	73.4 °F	100%	29.97 in	1.0 mi	Calm	Calm	-	N/A		Overcast
9:22 AM	73.4 °F	-	73.4 °F	100%	29.97 in	1.5 mi	Calm	Calm	-	N/A		Overcast
9:41 AM	75.2 °F	-	73.4 °F	94%	29.97 in	2.5 mi	Variable	3.5 mph	-	N/A		Overcast

9:54 AM	75.0 °F	-	73.0 °F	94%	29.96 in	4.0 mi	WNW	6.9 mph	-	N/A	Overcast
10:54 AM	79.0 °F	-	73.0 °F	82%	29.96 in	6.0 mi	NW	6.9 mph	-	N/A	Haze
11:16 AM	80.6 °F	85.4 °F	73.4 °F	79%	29.97 in	8.0 mi	NW	9.2 mph	-	N/A	Mostly Cloudy
11:26 AM	82.4 °F	88.2 °F	73.4 °F	74%	29.97 in	9.0 mi	NNW	10.4 mph	-	N/A	Mostly Cloudy
11:33 AM	80.6 °F	85.4 °F	73.4 °F	79%	29.98 in	10.0 mi	NNW	10.4 mph	-	N/A	Mostly Cloudy
11:54 AM	82.0 °F	86.7 °F	72.0 °F	71%	29.95 in	10.0 mi	NNW	12.7 mph	-	N/A	Mostly Cloudy
12:54 PM	84.0 °F	89.6 °F	72.0 °F	67%	29.94 in	10.0 mi	North	11.5 mph	-	N/A	Mostly Cloudy
1:54 PM	84.9 °F	88.8 °F	69.1 °F	59%	29.94 in	10.0 mi	North	6.9 mph	-	N/A	Scattered Clouds
2:54 PM	86.0 °F	88.8 °F	66.9 °F	53%	29.92 in	10.0 mi	WNW	6.9 mph	-	N/A	Partly Cloudy
3:54 PM	87.1 °F	87.8 °F	63.0 °F	44%	29.91 in	10.0 mi	NNW	9.2 mph	-	N/A	Partly Cloudy
4:54 PM	84.0 °F	87.0 °F	68.0 °F	58%	29.91 in	10.0 mi	WNW	12.7 mph	-	N/A	Partly Cloudy
5:54 PM	81.0 °F	83.8 °F	68.0 °F	65%	29.91 in	10.0 mi	WNW	11.5 mph	-	N/A	Clear
6:54 PM	80.1 °F	82.3 °F	66.9 °F	64%	29.89 in	10.0 mi	NW	8.1 mph	-	N/A	Clear
7:54 PM	79.0 °F	-	66.0 °F	64%	29.88 in	10.0 mi	NW	5.8 mph	-	N/A	Clear
8:54 PM	75.9 °F	-	66.9 °F	74%	29.88 in	10.0 mi	WNW	3.5 mph	-	N/A	Clear
9:54 PM	72.0 °F	-	66.9 °F	84%	29.87 in	10.0 mi	Calm	Calm	-	N/A	Clear
10:54 PM	70.0 °F	-	64.9 °F	84%	29.86 in	10.0 mi	Calm	Calm	-	N/A	Clear
11:54 PM	68.0 °F	-	64.9 °F	90%	29.86 in	10.0 mi	Calm	Calm	-	N/A	Clear

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History for South Bend, IN

Tuesday, July 26, 2011 — View Current Conditions

Tuesday, July 26, 2011

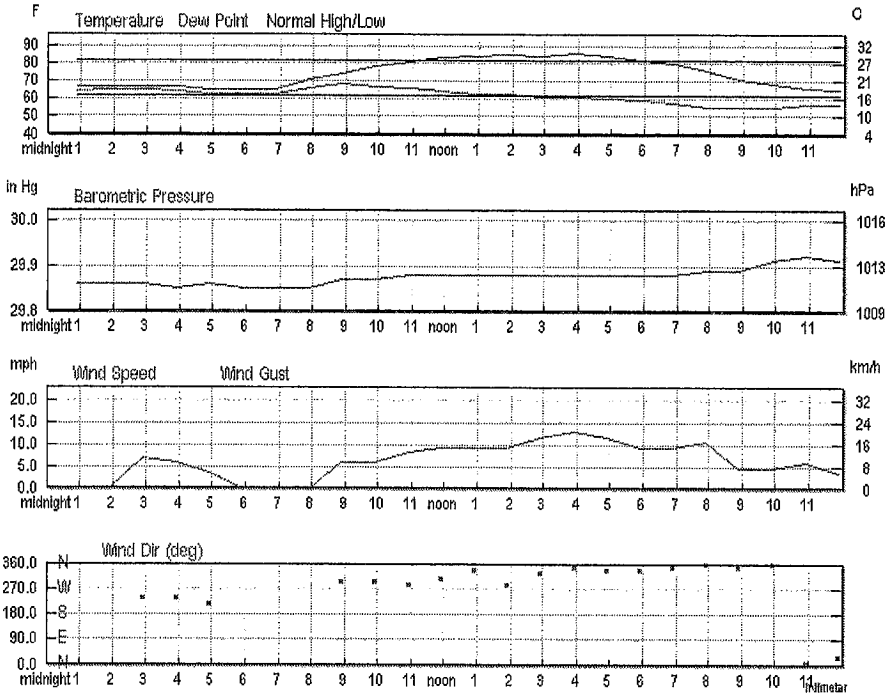
« Previous Day | July 26 2011 View | Next Day »

Daily | Weekly | Monthly | Custom

	Actual	Average	Record
Temperature			
Mean Temperature	**76** °F	**73** °F	
Max Temperature	**87** °F	**83** °F	**102** °F (1936)
Min Temperature	**65** °F	**63** °F	**49** °F (1911)
Degree Days			
Heating Degree Days	0	0	
Month to date heating degree days	0	6	
Since 1 June heating degree days	12	47	
Since 1 July heating degree days	0	6	
Cooling Degree Days	11	9	
Month to date cooling degree days	327	225	
Year to date cooling degree days	586	461	
Since 1 June cooling degree days	508	397	
Growing Degree Days	26 (Base 50)		
Moisture			
Dew Point	**63** °F		
Average Humidity	68		
Maximum Humidity	93		
Minimum Humidity	43		
Precipitation			
Precipitation	**0.00** in	**0.12** in	**2.29** in (1969)
Month to date precipitation	1.73	3.13	
Year to date precipitation	29.45	21.58	
Snow			
Snow	**0.00** in	**0.00** in	**0.00** in (2002)
Month to date snowfall	0.0	0.0	
Since 1 July snowfall	0.0	0.0	
Snow Depth	**0.00** in		
Sea Level Pressure			
Sea Level Pressure	**29.88** in		
Wind			
Wind Speed	**6** mph (NW)		
Max Wind Speed	**15** mph		
Max Gust Speed	**18** mph		
Visibility	**10** miles		
Events			

T = Trace of Precipitation, **MM** = Missing Value

Source: NWS Daily Summary



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Hourly Observations

Time (EDT)	Temp.	Heat Index	Dew Point	Humidity	Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
12:54 AM	68.0 °F	-	64.9 °F	90%	29.86 in	10.0 mi	Calm	Calm	-	N/A		Clear
1:54 AM	68.0 °F	-	66.0 °F	93%	29.86 in	10.0 mi	Calm	Calm	-	N/A		Clear
2:54 AM	68.0 °F	-	66.0 °F	93%	29.86 in	9.0 mi	WSW	6.9 mph	-	N/A		Clear
3:54 AM	68.0 °F	-	64.9 °F	90%	29.85 in	10.0 mi	WSW	5.8 mph	-	N/A		Clear
4:54 AM	66.0 °F	-	64.0 °F	93%	29.86 in	9.0 mi	SW	3.5 mph	-	N/A		Clear
5:54 AM	66.0 °F	-	64.0 °F	93%	29.85 in	7.0 mi	Calm	Calm	-	N/A		Clear
6:54 AM	66.0 °F	-	64.0 °F	93%	29.85 in	5.0 mi	Calm	Calm	-	N/A		Clear
7:54 AM	72.0 °F	-	66.9 °F	84%	29.85 in	10.0 mi	Calm	Calm	-	N/A		Clear
8:54 AM	75.0 °F	-	69.1 °F	82%	29.87 in	10.0 mi	WNW	5.8 mph	-	N/A		Clear
9:54 AM	79.0 °F	-	68.0 °F	69%	29.87 in	10.0 mi	WNW	5.8 mph	-	N/A		Clear
10:54 AM	82.0 °F	84.5 °F	66.9 °F	60%	29.88 in	10.0 mi	WNW	8.1 mph	-	N/A		Clear
11:54 AM	84.0 °F	85.8 °F	64.9 °F	53%	29.88 in	10.0 mi	NW	9.2 mph	-	N/A		Clear
12:54 PM	84.9 °F	86.1 °F	64.0 °F	49%	29.88 in	10.0 mi	NNW	9.2 mph	-	N/A		Partly Cloudy
1:54 PM	86.0 °F	87.3 °F	64.0 °F	48%	29.88 in	10.0 mi	WNW	9.2 mph	-	N/A		Partly Cloudy
2:54 PM	84.9 °F	85.4 °F	62.1 °F	46%	29.88 in	10.0 mi	NNW	11.5 mph	-	N/A		Partly Cloudy
3:54 PM	87.1 °F	87.5 °F	62.1 °F	43%	29.88 in	10.0 mi	North	12.7 mph	-	N/A		Partly Cloudy
4:54 PM	84.9 °F	85.0 °F	61.0 °F	44%	29.88 in	10.0 mi	NNW	11.5 mph	-	N/A		Clear
5:54 PM	82.9 °F	83.2 °F	60.1 °F	46%	29.88 in	10.0 mi	NNW	9.2 mph	-	N/A		Clear
6:54 PM	81.0 °F	81.3 °F	59.0 °F	47%	29.88 in	10.0 mi	North	9.2 mph	-	N/A		Clear
7:54 PM	77.0 °F	-	55.9 °F	48%	29.89 in	10.0 mi	North	10.4 mph	-	N/A		Clear
8:54 PM	72.0 °F	-	55.9 °F	57%	29.89 in	10.0 mi	North	4.6 mph	-	N/A		Clear
9:54 PM	69.1 °F	-	55.9 °F	63%	29.91 in	10.0 mi	North	4.6 mph	-	N/A		Clear

10:54 PM	66.9 °F	-	57.9 °F	73%	29.92 in	10.0 mi	North	5.8 mph	-	N/A	Scattered Clouds
11:54 PM	66.0 °F	-	57.9 °F	75%	29.91 in	10.0 mi	NNE	3.5 mph	-	N/A	Partly Cloudy

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History for South Bend, IN

Wednesday, July 27, 2011 — View Current Conditions

Wednesday, July 27, 2011

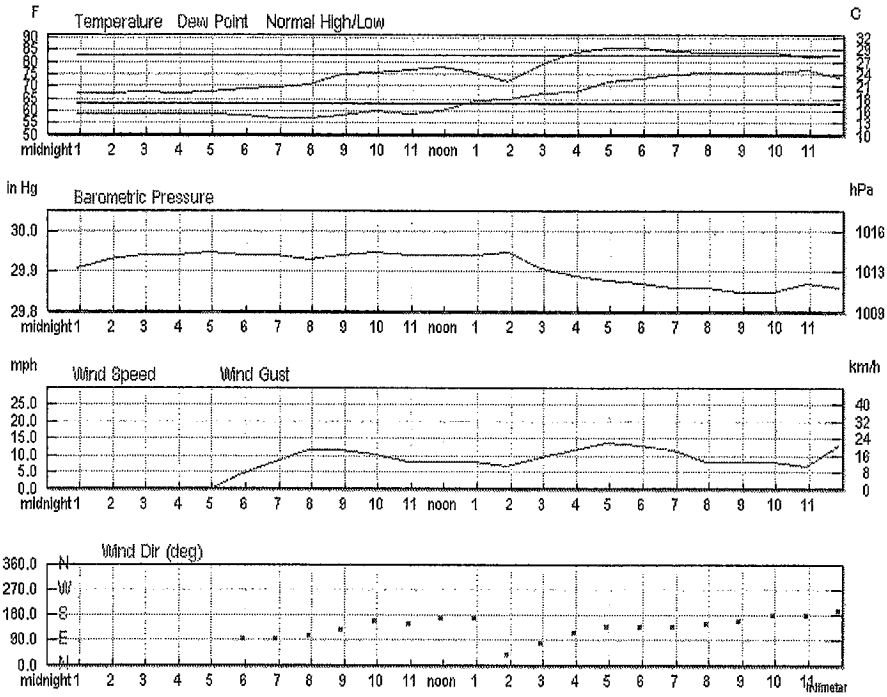
« Previous Day | July 27 2011 View | Next Day »

Daily | Weekly | Monthly | Custom

	Actual	Average	Record
Temperature			
Mean Temperature	77 °F	73 °F	
Max Temperature	87 °F	83 °F	100 °F (1916)
Min Temperature	67 °F	63 °F	46 °F (1937)
Degree Days			
Heating Degree Days	0	0	
Month to date heating degree days	0	6	
Since 1 June heating degree days	12	47	
Since 1 July heating degree days	0	6	
Cooling Degree Days	12	9	
Month to date cooling degree days	339	234	
Year to date cooling degree days	598	470	
Since 1 June cooling degree days	520	406	
Growing Degree Days	26 (Base 50)		
Moisture			
Dew Point	65 °F		
Average Humidity	70		
Maximum Humidity	85		
Minimum Humidity	54		
Precipitation			
Precipitation	T in	0.12 in	2.51 in (2006)
Month to date precipitation	1.73	3.25	
Year to date precipitation	29.45	21.70	
Snow			
Snow	0.00 in	0.00 in	0.00 in (2002)
Month to date snowfall	0.0	0.0	
Since 1 July snowfall	0.0	0.0	
Snow Depth	0.00 in		
Sea Level Pressure			
Sea Level Pressure	29.91 in		
Wind			
Wind Speed	8 mph (SE)		
Max Wind Speed	24 mph		
Max Gust Speed	41 mph		
Visibility	9 miles		
Events			

T = Trace of Precipitation, MM = Missing Value

Source: NWS Daily Summary



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Hourly Observations

Time (EDT)	Temp.	Heat Index	Dew Point	Humidity	Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
12:54 AM	66.9 °F	-	59.0 °F	76%	29.91 in	10.0 mi	Calm	Calm	-	N/A		Partly Cloudy
1:54 AM	66.9 °F	-	59.0 °F	76%	29.93 in	10.0 mi	Calm	Calm	-	N/A		Overcast
2:54 AM	68.0 °F	-	59.0 °F	73%	29.94 in	10.0 mi	Calm	Calm	-	N/A		Mostly Cloudy
3:54 AM	66.9 °F	-	59.0 °F	76%	29.94 in	10.0 mi	Calm	Calm	-	N/A		Mostly Cloudy
4:54 AM	68.0 °F	-	59.0 °F	73%	29.95 in	10.0 mi	Calm	Calm	-	N/A		Mostly Cloudy
5:54 AM	69.1 °F	-	57.9 °F	68%	29.94 in	10.0 mi	East	4.6 mph	-	N/A		Mostly Cloudy
6:54 AM	69.8 °F	-	57.2 °F	64%	29.94 in	10.0 mi	East	8.1 mph	-	N/A		Overcast
7:54 AM	71.1 °F	-	57.0 °F	61%	29.93 in	10.0 mi	ESE	11.5 mph	-	N/A		Clear
8:54 AM	75.0 °F	-	57.9 °F	55%	29.94 in	10.0 mi	SE	11.5 mph	-	N/A		Clear
9:54 AM	75.9 °F	-	60.1 °F	58%	29.95 in	10.0 mi	SSE	10.4 mph	-	N/A		Clear
10:54 AM	77.0 °F	-	59.0 °F	54%	29.94 in	10.0 mi	SSE	8.1 mph	-	N/A		Clear
11:54 AM	78.1 °F	-	60.1 °F	54%	29.94 in	10.0 mi	South	8.1 mph	-	N/A		Clear
12:54 PM	75.9 °F	-	64.0 °F	67%	29.94 in	10.0 mi	South	8.1 mph	-	N/A		Scattered Clouds
1:54 PM	72.0 °F	-	64.9 °F	78%	29.95 in	10.0 mi	NE	6.9 mph	-	0.00 in		Scattered Clouds
2:54 PM	79.0 °F	-	66.9 °F	66%	29.91 in	10.0 mi	East	9.2 mph	-	N/A		Clear
3:54 PM	84.0 °F	87.0 °F	68.0 °F	58%	29.89 in	10.0 mi	ESE	11.5 mph	-	N/A		Partly Cloudy
4:54 PM	86.0 °F	92.2 °F	72.0 °F	63%	29.88 in	10.0 mi	SE	13.8 mph	-	N/A		Clear
5:54 PM	86.0 °F	93.0 °F	73.0 °F	65%	29.87 in	10.0 mi	SE	12.7 mph	-	N/A		Partly Cloudy
6:54 PM	84.9 °F	93.3 °F	75.0 °F	72%	29.86 in	10.0 mi	SE	11.5 mph	19.6 mph	N/A		Clear
7:54 PM	84.0 °F	92.6 °F	75.9 °F	76%	29.86 in	10.0 mi	SSE	8.1 mph	-	N/A		Clear
8:54 PM	84.0 °F	92.6 °F	75.9 °F	76%	29.85 in	8.0 mi	SSE	8.1 mph	-	N/A		Clear

9:54 PM	84.0 °F	92.6 °F	75.9 °F	76%	29.85 in	6.0 mi	South	8.1 mph	-	N/A	Haze
10:54 PM	82.0 °F	90.2 °F	77.0 °F	85%	29.87 in	4.0 mi	South	6.9 mph	-	0.00 in	Haze
11:54 PM	82.9 °F	89.4 °F	73.9 °F	74%	29.86 in	6.0 mi	SSW	12.7 mph	-	N/A	Haze

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History for South Bend, IN

Thursday, July 28, 2011 — View Current Conditions

Thursday, July 28, 2011

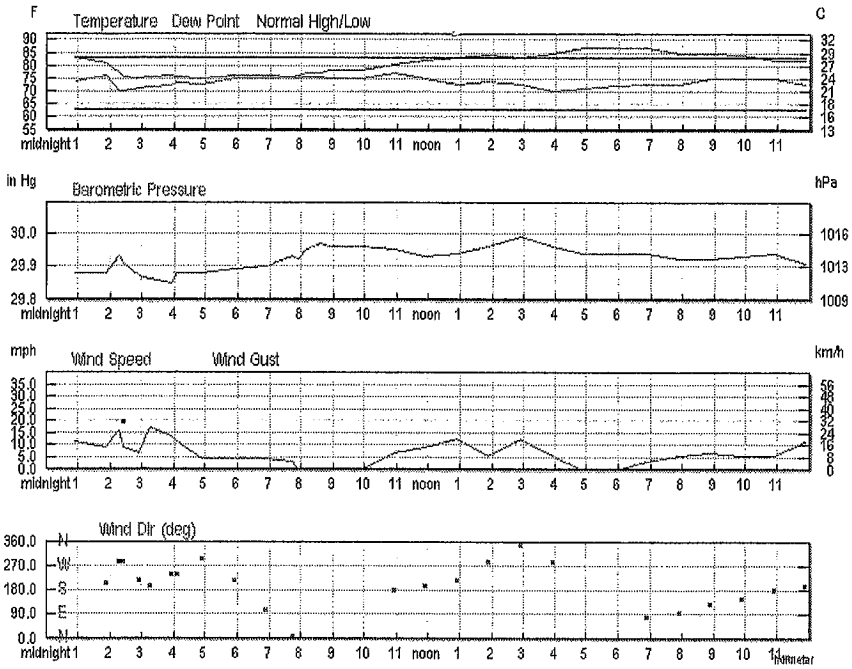
« Previous Day | July 28 2011 View | Next Day »

Daily | Weekly | Monthly | Custom

	Actual	Average	Record
	Temperature		
Mean Temperature	**82** °F	**73** °F	
Max Temperature	**88** °F	**83** °F	**100** °F (1983)
Min Temperature	**75** °F	**63** °F	**47** °F (1925)
	Degree Days		
Heating Degree Days	0	0	
Month to date heating degree days	0	6	
Since 1 June heating degree days	12	47	
Since 1 July heating degree days	0	6	
Cooling Degree Days	17	9	
Month to date cooling degree days	356	243	
Year to date cooling degree days	616	479	
Since 1 June cooling degree days	537	415	
Growing Degree Days	31 (Base 50)		
	Moisture		
Dew Point	**74** °F		
Average Humidity	80		
Maximum Humidity	100		
Minimum Humidity	59		
	Precipitation		
Precipitation	**0.05** in	**0.12** in	**1.78** in (1971)
Month to date precipitation	1.78	3.37	
Year to date precipitation	29.50	21.82	
	Snow		
Snow	**0.00** in	**0.00** in	**0.00** in (2002)
Month to date snowfall	0.0	0.0	
Since 1 July snowfall	0.0	0.0	
Snow Depth	**0.00** in		
	Sea Level Pressure		
Sea Level Pressure	**29.92** in		
	Wind		
Wind Speed	6 mph (SW)		
Max Wind Speed	**23** mph		
Max Gust Speed	**30** mph		
Visibility	7 miles		
Events	Rain , Thunderstorm		

T = Trace of Precipitation, **MM** = Missing Value

Source: NWS Daily Summary



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Hourly Observations

Time (EDT)	Temp.	Heat Index	Dew Point	Humidity	Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
12:54 AM	82.9 °F	89.4 °F	73.9 °F	74%	29.88 in	6.0 mi	SW	11.5 mph	-	N/A		Haze
1:54 AM	81.0 °F	87.3 °F	75.9 °F	85%	29.88 in	6.0 mi	SSW	9.2 mph	-	0.01 in		Haze
2:17 AM	77.0 °F	-	69.8 °F	78%	29.93 in	10.0 mi	WNW	16.1 mph	29.9 mph	0.00 in	Rain	Light Rain
2:26 AM	75.2 °F	-	69.8 °F	83%	29.91 in	10.0 mi	WNW	9.2 mph	19.6 mph	0.00 in	Rain , Thunderstorm	Light Thunderstorms and Rain
2:54 AM	75.0 °F	-	71.1 °F	87%	29.87 in	10.0 mi	SW	6.9 mph	-	0.00 in		Mostly Cloudy
3:16 AM	75.2 °F	-	71.6 °F	89%	29.86 in	10.0 mi	SSW	17.3 mph	26.5 mph	0.00 in	Rain , Thunderstorm	Light Thunderstorms and Rain
3:54 AM	75.9 °F	-	72.0 °F	87%	29.85 in	9.0 mi	WSW	13.8 mph	-	0.02 in	Rain , Thunderstorm	Light Thunderstorms and Rain
4:07 AM	75.2 °F	-	73.4 °F	94%	29.88 in	9.0 mi	WSW	11.5 mph	-	0.00 in	Rain	Light Rain
4:54 AM	75.0 °F	-	73.0 °F	94%	29.88 in	6.0 mi	WNW	4.6 mph	-	0.01 in		Clear
5:54 AM	75.9 °F	-	75.0 °F	97%	29.89 in	4.0 mi	SW	4.6 mph	-	0.00 in	Rain	Light Rain
6:54 AM	75.9 °F	-	75.0 °F	97%	29.90 in	2.0 mi	ESE	4.6 mph	-	0.01 in	Rain	Light Rain
7:44 AM	75.2 °F	-	75.2 °F	100%	29.93 in	1.8 mi	North	3.5 mph	-	0.00 in		Partly Cloudy
7:54 AM	75.9 °F	-	75.0 °F	97%	29.92 in	1.8 mi	Calm	Calm	-	0.00 in		Clear
8:10 AM	77.0 °F	-	75.2 °F	94%	29.95 in	2.5 mi	Calm	Calm	-	N/A		Partly Cloudy
8:36 AM	77.0 °F	-	75.2 °F	94%	29.97 in	3.0 mi	Calm	Calm	-	N/A		Scattered Clouds
8:54 AM	78.1 °F	-	75.0 °F	90%	29.96 in	3.0 mi	Calm	Calm	-	N/A		Scattered Clouds
9:54 AM	78.1 °F	-	75.0 °F	90%	29.96 in	4.0 mi	Calm	Calm	-	N/A		Scattered Clouds
10:54 AM	80.1 °F	85.8 °F	77.0 °F	90%	29.95 in	3.0 mi	South	6.9 mph	-	0.00 in		Scattered Clouds
11:54 AM	82.0 °F	88.6 °F	75.0 °F	79%	29.93 in	7.0 mi	SSW	9.2 mph	-	N/A		Partly Cloudy
12:54 PM	82.9 °F	88.8 °F	73.0 °F	72%	29.94 in	10.0 mi	SW	12.7 mph	-	0.00 in		Partly Cloudy

1:54 PM	84.0 °F	91.2 °F	73.9 °F	72%	29.96 in	10.0 mi	WNW	5.8 mph	-	0.00 in	Partly Cloudy
2:54 PM	82.9 °F	88.8 °F	73.0 °F	72%	29.99 in	10.0 mi	North	12.7 mph	-	N/A	Clear
3:54 PM	84.9 °F	89.4 °F	70.0 °F	61%	29.96 in	10.0 mi	WNW	5.8 mph	-	N/A	Clear
4:54 PM	87.1 °F	92.8 °F	71.1 °F	59%	29.94 in	10.0 mi	Calm	Calm	-	N/A	Clear
5:54 PM	87.1 °F	93.6 °F	72.0 °F	61%	29.94 in	10.0 mi	Calm	Calm	-	N/A	Partly Cloudy
6:54 PM	87.1 °F	94.5 °F	73.0 °F	63%	29.94 in	10.0 mi	East	3.5 mph	-	N/A	Clear
7:54 PM	84.9 °F	91.4 °F	73.0 °F	67%	29.92 in	10.0 mi	East	5.8 mph	-	N/A	Partly Cloudy
8:54 PM	84.9 °F	93.3 °F	75.0 °F	72%	29.92 in	10.0 mi	SE	6.9 mph	-	0.00 in	Partly Cloudy
9:54 PM	84.0 °F	91.9 °F	75.0 °F	74%	29.93 in	10.0 mi	SSE	5.8 mph	-	N/A	Scattered Clouds
10:54 PM	82.0 °F	88.6 °F	75.0 °F	79%	29.94 in	10.0 mi	South	5.8 mph	-	N/A	Partly Cloudy
11:54 PM	82.0 °F	87.4 °F	73.0 °F	74%	29.91 in	10.0 mi	SSW	11.5 mph	-	N/A	Partly Cloudy

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History for South Bend, IN

Friday, July 29, 2011 — View Current Conditions

Friday, July 29, 2011

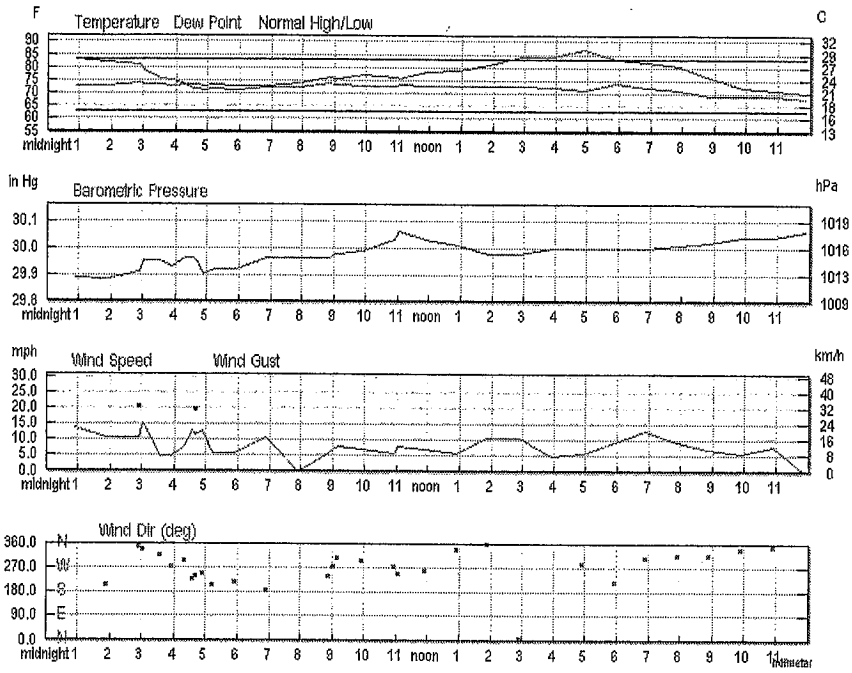
« Previous Day | July 29 2011 View | Next Day »

Daily | Weekly | Monthly | Custom

	Actual	Average	Record
	Temperature		
Mean Temperature	**78** °F	**73** °F	
Max Temperature	**87** °F	**83** °F	**102** °F (1916)
Min Temperature	**69** °F	**63** °F	**46** °F (1928)
	Degree Days		
Heating Degree Days	0	0	
Month to date heating degree days	0	6	
Since 1 June heating degree days	12	47	
Since 1 July heating degree days	0	6	
Cooling Degree Days	13	9	
Month to date cooling degree days	369	252	
Year to date cooling degree days	628	488	
Since 1 June cooling degree days	550	424	
Growing Degree Days	29 (Base 50)		
	Moisture		
Dew Point	**72** °F		
Average Humidity	78		
Maximum Humidity	97		
Minimum Humidity	59		
	Precipitation		
Precipitation	**0.74** in	**0.12** in	**2.25** in (1906)
Month to date precipitation	2.52	3.49	
Year to date precipitation	30.24	21.94	
	Snow		
Snow	**0.00** in	**0.00** in	**0.00** in (2002)
Month to date snowfall	0.0	0.0	
Since 1 July snowfall	0.0	0.0	
Snow Depth	**0.00** in		
	Sea Level Pressure		
Sea Level Pressure	**29.98** in		
	Wind		
Wind Speed	**7** mph (WNW)		
Max Wind Speed	**18** mph		
Max Gust Speed	**22** mph		
Visibility	**8** miles		
Events	Rain , Thunderstorm		

T = Trace of Precipitation, **MM** = Missing Value

Source: NWS Daily Summary



Certify This Report

Hourly Observations

Time (EDT)	Temp.	Heat Index	Dew Point	Humidity	Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
12:54 AM	82.9 °F	88.8 °F	73.0 °F	72%	29.89 in	10.0 mi	SSW	13.8 mph	-	N/A		Partly Cloudy
1:54 AM	82.0 °F	87.4 °F	73.0 °F	74%	29.88 in	10.0 mi	SSW	10.4 mph	19.6 mph	N/A		Partly Cloudy
2:54 AM	81.0 °F	86.2 °F	73.9 °F	79%	29.91 in	10.0 mi	North	10.4 mph	20.7 mph	N/A		Mostly Cloudy
3:03 AM	78.8 °F	-	73.4 °F	83%	29.95 in	9.0 mi	NNW	15.0 mph	-	0.00 in	Rain , Thunderstorm	Light Thunderstorms and Rain
3:35 AM	75.2 °F	-	73.4 °F	94%	29.95 in	2.5 mi	NW	4.6 mph	-	0.11 in	Rain , Thunderstorm	Heavy Thunderstorms and Rain
3:54 AM	75.0 °F	-	73.0 °F	94%	29.93 in	4.0 mi	West	4.6 mph	-	0.20 in	Rain , Thunderstorm	Light Thunderstorms and Rain
4:18 AM	73.4 °F	-	73.4 °F	100%	29.96 in	1.8 mi	WNW	8.1 mph	-	0.17 in	Rain , Thunderstorm	Heavy Thunderstorms and Rain
4:35 AM	73.4 °F	-	71.6 °F	94%	29.96 in	2.5 mi	SW	12.7 mph	19.6 mph	0.41 in	Rain , Thunderstorm	Heavy Thunderstorms and Rain
4:40 AM	73.4 °F	-	71.6 °F	94%	29.95 in	3.0 mi	WSW	11.5 mph	19.6 mph	0.45 in	Rain , Thunderstorm	Heavy Thunderstorms and Rain
4:54 AM	73.0 °F	-	71.1 °F	93%	29.90 in	4.0 mi	WSW	12.7 mph	-	0.52 in	Rain , Thunderstorm	Thunderstorms and Rain
5:13 AM	73.4 °F	-	71.6 °F	94%	29.92 in	9.0 mi	SSW	5.8 mph	-	0.01 in	Rain , Thunderstorm	Light Thunderstorms and Rain
5:54 AM	73.0 °F	-	71.1 °F	93%	29.92 in	10.0 mi	SW	5.8 mph	-	0.02 in		Scattered Clouds
6:54 AM	73.0 °F	-	72.0 °F	96%	29.96 in	10.0 mi	South	10.4 mph	-	0.00 in	Rain	Light Rain
7:54 AM	73.9 °F	-	72.0 °F	93%	29.96 in	9.0 mi	Calm	Calm	-	0.00 in		Partly Cloudy
8:54 AM	75.9 °F	-	73.9 °F	94%	29.96 in	10.0 mi	WSW	5.8 mph	-	N/A		Clear
9:00 AM	75.2 °F	-	73.4 °F	94%	29.98 in	10.0 mi	West	6.9 mph	-	N/A		Partly Cloudy
9:09 AM	75.2 °F	-	73.4 °F	94%	29.98 in	10.0 mi	NW	8.1 mph	-	N/A		Mostly Cloudy

9:54 AM	77.0 °F	-	73.0 °F	88%	29.99 in	10.0 mi	WNW	6.9 mph	-	N/A	Mostly Cloudy
10:54 AM	75.9 °F	-	73.0 °F	91%	30.03 in	10.0 mi	West	5.8 mph	-	N/A	Mostly Cloudy
11:04 AM	75.2 °F	-	73.4 °F	94%	30.06 in	9.0 mi	WSW	8.1 mph	-	N/A	Mostly Cloudy
11:54 AM	78.1 °F	-	73.0 °F	84%	30.03 in	9.0 mi	West	6.9 mph	-	N/A	Mostly Cloudy
12:54 PM	79.0 °F	-	73.0 °F	82%	30.01 in	10.0 mi	NNW	5.8 mph	-	N/A	Mostly Cloudy
1:54 PM	81.0 °F	85.8 °F	73.0 °F	77%	29.98 in	10.0 mi	North	10.4 mph	-	N/A	Scattered Clouds
2:54 PM	84.0 °F	90.2 °F	73.0 °F	69%	29.98 in	10.0 mi	North	10.4 mph	-	N/A	Clear
3:54 PM	84.0 °F	89.6 °F	72.0 °F	67%	30.00 in	10.0 mi	Variable	4.6 mph	-	N/A	Partly Cloudy
4:54 PM	87.1 °F	92.8 °F	71.1 °F	59%	30.00 in	10.0 mi	WNW	5.8 mph	-	N/A	Scattered Clouds
5:54 PM	82.9 °F	89.4 °F	73.9 °F	74%	30.00 in	10.0 mi	SW	9.2 mph	-	N/A	Scattered Clouds
6:54 PM	82.0 °F	86.7 °F	72.0 °F	71%	30.00 in	10.0 mi	NW	12.7 mph	-	N/A	Partly Cloudy
7:54 PM	80.1 °F	83.6 °F	71.1 °F	74%	30.01 in	10.0 mi	NW	9.2 mph	-	N/A	Clear
8:54 PM	75.9 °F	-	69.1 °F	79%	30.02 in	10.0 mi	NW	6.9 mph	-	N/A	Clear
9:54 PM	72.0 °F	-	69.1 °F	91%	30.04 in	10.0 mi	NNW	5.8 mph	-	N/A	Clear
10:54 PM	71.1 °F	-	69.1 °F	93%	30.04 in	9.0 mi	North	8.1 mph	-	N/A	Clear
11:54 PM	70.0 °F	-	68.0 °F	93%	30.06 in	5.0 mi	Calm	Calm	-	N/A	Clear

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APPENDIX D

LABORATORY ANALYTICAL REPORTS

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

Honeywell - South Bend

Lot #: H1B100401

Steven Murray

Mactec Engineering & Consultan
41 Hughes Drive
Traverse City, MI 49686

TESTAMERICA LABORATORIES, INC.

Jamie A. McKinney
Project Manager

ORIGINAL
116215 TestAmerica (1) 102011

February 15, 2011

EXECUTIVE SUMMARY - Detection Highlights

H1B100401

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
P-3026R-0211 02/03/11 14:25 001				
Benzene	0.35	0.080	ppb(v/v)	EPA-2 TO-15
sec-Butylbenzene	0.71	0.16	ppb(v/v)	EPA-2 TO-15
Isopropylbenzene	0.60	0.16	ppb(v/v)	EPA-2 TO-15
n-Propylbenzene	1.9	0.16	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	0.089	0.080	ppb(v/v)	EPA-2 TO-15
SS-3002L-0211 02/04/11 10:52 002				
Benzene	0.35	0.080	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	1.0	0.080	ppb(v/v)	EPA-2 TO-15
Trichloroethene	0.060	0.040	ppb(v/v)	EPA-2 TO-15
B-3002L-0211 02/04/11 10:51 003				
Benzene	0.33	0.080	ppb(v/v)	EPA-2 TO-15
1,2-Dichloroethane	0.11	0.080	ppb(v/v)	EPA-2 TO-15
P-3002L-0211 02/04/11 10:50 004				
Benzene	0.31	0.080	ppb(v/v)	EPA-2 TO-15
1,2-Dichloroethane	0.20	0.080	ppb(v/v)	EPA-2 TO-15
BG-5-0211 02/04/11 11:00 005				
Benzene	0.21	0.080	ppb(v/v)	EPA-2 TO-15
BG-6-0211 02/04/11 11:01 006				
Benzene	0.23	0.080	ppb(v/v)	EPA-2 TO-15
B-719G-0211 02/02/11 16:00 007				
Benzene	0.20	0.080	ppb(v/v)	EPA-2 TO-15
B-3010R-0211 02/02/11 17:16 008				
Benzene	0.31	0.080	ppb(v/v)	EPA-2 TO-15
P-3010R-0211 02/02/11 17:26 009				
Benzene	0.30	0.080	ppb(v/v)	EPA-2 TO-15

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

H1B100401

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
SS-3010R-0211 02/02/11 17:13 010				
Benzene	0.30	0.080	ppb(v/v)	EPA-2 TO-15
cis-1,2-Dichloroethene	0.15	0.080	ppb(v/v)	EPA-2 TO-15
n-Propylbenzene	0.21	0.16	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	0.39	0.080	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	0.10	0.080	ppb(v/v)	EPA-2 TO-15
Trichloroethene	0.14	0.040	ppb(v/v)	EPA-2 TO-15
P-719G-0211 02/02/11 16:00 011				
Benzene	0.20	0.080	ppb(v/v)	EPA-2 TO-15
1,2-Dichloroethane	0.20	0.080	ppb(v/v)	EPA-2 TO-15
SS-719G-0211 02/02/11 16:01 012				
Benzene	0.30	0.080	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	0.39	0.080	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	0.25	0.080	ppb(v/v)	EPA-2 TO-15
Trichloroethene	0.36	0.040	ppb(v/v)	EPA-2 TO-15

ANALYTICAL METHODS SUMMARY

H1B100401

PARAMETER	ANALYTICAL METHOD
Volatile Organics by TO15	EPA-2 TO-15

References:

EPA-2 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999.

SAMPLE SUMMARY

H1B100401

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MD8T5	001	P-3026R-0211	02/03/11	14:25
MD8T7	002	SS-3002L-0211	02/04/11	10:52
MD8T8	003	B-3002L-0211	02/04/11	10:51
MD8T9	004	P-3002L-0211	02/04/11	10:50
MD8VA	005	BG-5-0211	02/04/11	11:00
MD8VD	006	BG-6-0211	02/04/11	11:01
MD8VE	007	B-719G-0211	02/02/11	16:00
MD8VF	008	B-3010R-0211	02/02/11	17:16
MD8VG	009	P-3010R-0211	02/02/11	17:26
MD8VJ	010	SS-3010R-0211	02/02/11	17:13
MD8VK	011	P-719G-0211	02/02/11	16:00
MD8VM	012	SS-719G-0211	02/02/11	16:01

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H1B100401

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

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The original chain of custody documentation is included with this report.

Sample Receipt

Custody seals were not present.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

MACTEC Engineering and Consulting Inc

Client Sample ID: P-3026R-0211

GC/MS Volatiles

Lot-Sample #...: H1B100401-001	**Work Order #...:** MD8T51AA	**Matrix.....:** AIR	
Date Sampled...: 02/03/11 14:25	**Date Received..:** 02/08/11		
Prep Date.....: 02/11/11	**Analysis Date..:** 02/11/11		
Prep Batch #...: 1045116			
Dilution Factor: 1	**Method.....:** EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.35**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	**0.71**	**0.16**	**ppb(v/v)**
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	**0.60**	**0.16**	**ppb(v/v)**
n-Propylbenzene	**1.9**	**0.16**	**ppb(v/v)**
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	**0.089**	**0.080**	**ppb(v/v)**
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	120	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: SS-3002L-0211

GC/MS Volatiles

Lot-Sample #...: H1B100401-002 **Work Order #...:** MD8T71AA **Matrix.....:** AIR
Date Sampled...: 02/04/11 10:52 **Date Received..:** 02/08/11
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045116
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.35**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	**1.0**	**0.080**	**ppb(v/v)**
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	**0.060**	**0.040**	**ppb(v/v)**
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	114	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: B-3002L-0211

GC/MS Volatiles

Lot-Sample #...: H1B100401-003 **Work Order #...:** MD8T81AA **Matrix.....:** AIR
Date Sampled...: 02/04/11 10:51 **Date Received..:** 02/08/11
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045116
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.33**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	**0.11**	**0.080**	**ppb(v/v)**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	111	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: P-3002L-0211

GC/MS Volatiles

Lot-Sample #...: H1B100401-004 **Work Order #...:** MD8T91AA **Matrix.....:** AIR
Date Sampled...: 02/04/11 10:50 **Date Received..:** 02/08/11
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045116
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Benzene	**0.31**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	**0.20**	**0.080**	**ppb(v/v)**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	112	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: BG-5-0211

GC/MS Volatiles

Lot-Sample #...: H1B100401-005 **Work Order #...:** MD8VA1AA **Matrix.....:** AIR
Date Sampled...: 02/04/11 11:00 **Date Received..:** 02/08/11
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045116
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.21**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	109	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: BG-6-0211

GC/MS Volatiles

Lot-Sample #...: H1B100401-006 **Work Order #...:** MD8VD1AA **Matrix.....:** AIR
Date Sampled...: 02/04/11 11:01 **Date Received..:** 02/08/11
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045116
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.23**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	110	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: B-719G-0211

GC/MS Volatiles

Lot-Sample #...:	H1B100401-007	**Work Order #...:**	MD8VE1AA	**Matrix.....:**	AIR
Date Sampled...:	02/02/11 16:00	**Date Received..:**	02/08/11		
Prep Date.....:	02/11/11	**Analysis Date..:**	02/11/11		
Prep Batch #...:	1045116				
Dilution Factor:	1	**Method.....:**	EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.20**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	112	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: B-3010R-0211

GC/MS Volatiles

Lot-Sample #...: H1B100401-008 **Work Order #...:** MD8VF1AA **Matrix.....:** AIR
Date Sampled...: 02/02/11 17:16 **Date Received..:** 02/08/11
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045116
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.31**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	111	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: P-3010R-0211

GC/MS Volatiles

Lot-Sample #...: H1B100401-009 **Work Order #...:** MD8VG1AA **Matrix.....:** AIR
Date Sampled...: 02/02/11 17:26 **Date Received..:** 02/08/11
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045116
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)
Benzene	**0.30**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	111	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: SS-3010R-0211

GC/MS Volatiles

Lot-Sample #...: H1B100401-010 **Work Order #...:** MD8VJ1AA **Matrix.....:** AIR
Date Sampled...: 02/02/11 17:13 **Date Received..:** 02/08/11
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045116
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.30**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	**0.15**	**0.080**	**ppb(v/v)**
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	**0.21**	**0.16**	**ppb(v/v)**
Tetrachloroethene	**0.39**	**0.080**	**ppb(v/v)**
1,1,1-Trichloroethane	**0.10**	**0.080**	**ppb(v/v)**
Trichloroethene	**0.14**	**0.040**	**ppb(v/v)**
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	117	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: P-719G-0211

GC/MS Volatiles

Lot-Sample #...: H1B100401-011 **Work Order #...:** MD8VK1AA **Matrix.....:** AIR
Date Sampled...: 02/02/11 16:00 **Date Received..:** 02/08/11
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045116
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.20**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	**0.20**	**0.080**	**ppb(v/v)**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	111	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: SS-719G-0211

GC/MS Volatiles

Lot-Sample #...: H1B100401-012 **Work Order #...:** MD8VM1AA **Matrix.....:** AIR
Date Sampled...: 02/02/11 16:01 **Date Received..:** 02/08/11
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045116
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)
Benzene	**0.30**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	**0.39**	**0.080**	**ppb(v/v)**
1,1,1-Trichloroethane	**0.25**	**0.080**	**ppb(v/v)**
Trichloroethene	**0.36**	**0.040**	**ppb(v/v)**
Vinyl chloride	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	113	(60 - 140)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: H1B100401 **Work Order #...:** MEDV91AA **Matrix.....:** AIR
MB Lot-Sample #: H1B140000-116

Prep Date.....: 02/11/11
Analysis Date..: 02/11/11 **Prep Batch #...:** 1045116
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	0.080	ppb(v/v)	EPA-2 TO-15
sec-Butylbenzene	ND	0.16	ppb(v/v)	EPA-2 TO-15
tert-Butylbenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
Chloroethane	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,1-Dichloroethane	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,2-Dichloroethane	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,1-Dichloroethene	ND	0.080	ppb(v/v)	EPA-2 TO-15
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)	EPA-2 TO-15
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,2-Dichloropropane	ND	0.080	ppb(v/v)	EPA-2 TO-15
Isopropylbenzene	ND	0.16	ppb(v/v)	EPA-2 TO-15
n-Propylbenzene	ND	0.16	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)	EPA-2 TO-15
Trichloroethene	ND	0.040	ppb(v/v)	EPA-2 TO-15
Vinyl chloride	ND	0.080	ppb(v/v)	EPA-2 TO-15

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	111	(60 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: H1B100401 **Work Order #...:** MEDV91AC **Matrix.....:** AIR
LCS Lot-Sample#: H1B140000-116
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045116
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Vinyl chloride	**102**	**(70 - 130)**	**EPA-2 TO-15**
Chloroethane	**94**	**(70 - 130)**	**EPA-2 TO-15**
1,1-Dichloroethene	**108**	**(70 - 130)**	**EPA-2 TO-15**
trans-1,2-Dichloroethene	**109**	**(70 - 130)**	**EPA-2 TO-15**
1,1-Dichloroethane	**101**	**(70 - 130)**	**EPA-2 TO-15**
cis-1,2-Dichloroethene	**104**	**(70 - 130)**	**EPA-2 TO-15**
1,1,1-Trichloroethane	**108**	**(70 - 130)**	**EPA-2 TO-15**
1,2-Dichloroethane	**93**	**(70 - 130)**	**EPA-2 TO-15**
Benzene	**102**	**(70 - 130)**	**EPA-2 TO-15**
1,2-Dichloropropane	**98**	**(70 - 130)**	**EPA-2 TO-15**
Trichloroethene	**98**	**(70 - 130)**	**EPA-2 TO-15**
Tetrachloroethene	**93**	**(70 - 130)**	**EPA-2 TO-15**
Isopropylbenzene	**106**	**(70 - 130)**	**EPA-2 TO-15**
n-Propylbenzene	**108**	**(70 - 130)**	**EPA-2 TO-15**
tert-Butylbenzene	**103**	**(70 - 130)**	**EPA-2 TO-15**
sec-Butylbenzene	**106**	**(70 - 130)**	**EPA-2 TO-15**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	116	(60 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: H1B100401 Work Order #...: MEDV91AC Matrix.....: AIR
LCS Lot-Sample#: H1B140000-116
Prep Date.....: 02/11/11 Analysis Date..: 02/11/11
Prep Batch #...: 1045116
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Vinyl chloride	**5.0**	**5.1**	**ppb(v/v)**	**102**	**EPA-2 TO-15**
Chloroethane	**5.0**	**4.7**	**ppb(v/v)**	**94**	**EPA-2 TO-15**
1,1-Dichloroethene	**5.0**	**5.4**	**ppb(v/v)**	**108**	**EPA-2 TO-15**
trans-1,2-Dichloroethene	**5.0**	**5.5**	**ppb(v/v)**	**109**	**EPA-2 TO-15**
1,1-Dichloroethane	**5.0**	**5.0**	**ppb(v/v)**	**101**	**EPA-2 TO-15**
cis-1,2-Dichloroethene	**5.0**	**5.2**	**ppb(v/v)**	**104**	**EPA-2 TO-15**
1,1,1-Trichloroethane	**5.0**	**5.4**	**ppb(v/v)**	**108**	**EPA-2 TO-15**
1,2-Dichloroethane	**5.0**	**4.7**	**ppb(v/v)**	**93**	**EPA-2 TO-15**
Benzene	**5.0**	**5.1**	**ppb(v/v)**	**102**	**EPA-2 TO-15**
1,2-Dichloropropane	**5.0**	**4.9**	**ppb(v/v)**	**98**	**EPA-2 TO-15**
Trichloroethene	**5.0**	**4.9**	**ppb(v/v)**	**98**	**EPA-2 TO-15**
Tetrachloroethene	**5.0**	**4.7**	**ppb(v/v)**	**93**	**EPA-2 TO-15**
Isopropylbenzene	**5.0**	**5.3**	**ppb(v/v)**	**106**	**EPA-2 TO-15**
n-Propylbenzene	**5.0**	**5.4**	**ppb(v/v)**	**108**	**EPA-2 TO-15**
tert-Butylbenzene	**5.0**	**5.2**	**ppb(v/v)**	**103**	**EPA-2 TO-15**
sec-Butylbenzene	**5.0**	**5.3**	**ppb(v/v)**	**106**	**EPA-2 TO-15**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	116	(60 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

TAL Knoxville
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Knoxville, TN 37921
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Canister Samples Chain of Custody Record

H1B100401

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Steve Murray	Sampled By: SGB	1 of 1 COCs
Company: MACTEC	Phone: 231-922-9050		
Address: 41 Hughes Drive	Site Contact: Steve Buyze		
City/State/Zip: Traverse City, MI 49696	TAL Contact: Mark Loeb		
Phone: 231-922-9050			
FAX: 231-922-9055			
Project Name: Honeywell SB Vapor Intrusion	Analysis Turnaround Time		
Site/location: South Bend, IN	Standard (Specify)		
PO # 5133286	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type:	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
P-3026R-0211	2/2/11 → 2/3/11	14:21	14:25	-30	-6.5	K371	0120	X											
SS-3002L-0211	2/3/11 → 2/4/11	10:28	10:52	-29	-3.5	K219	6587	X											
B-3002L-0211	↓	10:30	10:51	-29.5	-4.5	K122	6605	X											
P-3002L-0211		10:33	10:50	-29	0	K325	04399	X											
BG-5-0211		10:41	11:00	-30	-4	K309	1007N	X											
BG-6-0211	↓	10:45	11:01	-29	-4.5	K295	04329	X											

Sampled by :

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

2 Boxes Received @ Ambient + CBA 2/8/11
12 Cans, 12 Flows, 2 T-Bars
FedEx 878 873804403016
CBA 2/8/11 Custody Seals not present.

Special Instructions/QC Requirements & Comments:

RUN TO-15 LIST B CONSTITUENTS (ATTACHED)

Canisters Shipped by:	Date/Time: 2/4/2011 12:00 pm	Canisters Received by: Courtney Adkins 2/8/11 0940
Samples Relinquished by:	Date/Time:	Received by:
Relinquished by:	Date/Time:	Received by:

H1B110401

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Steve Murray	Sampled By: SGB	1 of 1 COCs
Company: MACTEC	Phone: 231-922-9050		
Address: 41 Hughes Dr.	Site Contact: Steve Buyze		
City/State/Zip: Traverse City, MI 49696	TAL Contact: Mark Loeb		
Phone: 231-922-9050			
FAX: 231-922-9055			
Project Name: Honeywell SB Vapor Intrusion	Analysis Turnaround Time		
Site/location: South Bend, IN	Standard (Specify) X		
PO # 5133286	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
B-719G-0211	2-1-11 → 2-2-11	1515	1600	-29	-5	K115	1349	X											
B-3010R-0211	2-1-11 → 2-2-11	1658	1716	-29.5	-5.5	K128	1362	X											
P-3010R-0211	2-1-11 → 2-2-11	1702	1726	-27	-6.5	K142	1132	X											
SS-3010R-0211	2-1-11 → 2-2-11	1656	1713	-27	-5	K397	2995	X											
P-719G-0211	2-1-11 → 2-2-11	1522	1600	-30	-8.5	K158	1516	X											
SS-719G-0211	2-1-11 → 2-2-11	1511	1601	-29	-5.5	K473	6580	X											

Sampled by :

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments:

RUN TO-15 LIST B CONSTITUENTS (ATTACHED)

Canisters Shipped by: Steve Buyze	Date/Time: 2/3/11 1617	Canisters Received by: Clarence J. Adkins 2/8/11 940
Samples Relinquished by:	Date/Time:	Received by:
Relinquished by:	Date/Time:	Received by:

A 23

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: H1B100401

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)		✓		☑ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:	1aP-3026R-0211 Chain says 1425 Stop Time. Tag says 1424 Stop Time. 4a
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C)			✓	☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?		✓		☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:	
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken	
7. Were VOA samples received without headspace?			✓	☐ **7a** Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container	
9. Did you check for residual chlorine, if necessary?			✓	☐ **9a** Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired	
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information	
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information	
19. Was the sampler identified on the COC?	✓				

Quote #: 75524 PM Instructions: NA

Sample Receiving Associate: Courtney Adkins Date: 2/8/11

QA026R22.doc, 012811

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H1B100401*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (-in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
DDF 2-10-11	1SA	29.02	MD8T5	8/14/11 6668 ~~0120~~	-2.8													9019
			MD8T7	6587	-2.5													〃
			MD8T8	6605	-3.2													8984
			MD8T9	04399	+0.3													9019
			MD8VA	1007N	-0.8													8984
			MD8VD	04329	-3.1													9019
			MD8VE	1349	-2.9													9037
			MD8VF	1362	-3.9													9022
			MD8VG	1132	-6.5													9028
			MD8VJ	2995	-7.5													9039
			MD8VK	1516	-4.9													〃
〃	〃	〃	MD8VM	6580	-4.5													9047

Original Chain of Custody Documentation

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H1B100401

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Steve Murray	Sampled By: SGB	1 of 1 COCs
Company: MACTEC	Phone: 231-922-9050		
Address: 41 Hughes Drive	Site Contact: Steve Buyze		
City/State/Zip: Traverse City, MI 49696	TAL Contact: Mark Loeb		
Phone: 231-922-9050			
FAX: 231-922-9055			
Project Name: Honeywell SB Vapor Intrusion	Analysis Turnaround Time		
Site/location: South Bend, IN	Standard (Specify)		
PO # 5133286	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
P-3026R-0211	2/2/11 → 2/3/11	14:21	14:25	-30	-6.5	K371	01200	X											
SS-3002L-0211	2/3/11 → 2/4/11	10:28	10:52	-29	-3.5	K219	6587	X											
B-3002L-0211		10:30	10:51	-29.5	-4.5	K122	6605	X											
P-3002L-0211		10:33	10:50	-29	0	K325	04399	X											
BG-5-0211		10:41	11:00	-30	-4	K309	1007N	X											
BG-6-0211	↓	10:45	11:01	-29	-4.5	K295	04329	X											

Sampled by :

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

2 ~~Boxes~~ Received @ Ambient CBA 2/8/11
12 Cans, 12 Flows, 2 T-Bars
FedEx ~~878~~ 873804403016
CBA 2/8/11 Custody Seals not present.

Special Instructions/QC Requirements & Comments:

RUN TO-15 LIST B CONSTITUENTS (ATTACHED)

Canisters Shipped by:	Date/Time: 2/4/2011 12:00 pm	Canisters Received by: Laurence Adkins 2/8/11 0940
Samples Relinquished by:	Date/Time:	Received by:
Relinquished by:	Date/Time:	Received by:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

HIB1D0401

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Steve Murray	Sampled By: SGB
Company: MACTEC	Phone: 231-922-9050	1 of 1 COCs
Address: 41 Hughes Dr.	Site Contact: Steve Buyze	
City/State/Zip: Traverse City, MI 49696	TAL Contact: Mark Loeb	
Phone: 231-922-9050		
FAX: 231-922-9055		
Project Name: Honeywell SB Vapor Intrusion	Analysis Turnaround Time	
Site/location: South Bend, IN	Standard (Specify) X	
PO # 5133286	Rush (Specify)	

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
B-719G-0211	2-1-11 → 2-2-11	1515	1600	-29	-5	K115	1349	X											
B-3010R-0211	2-1-11 → 2-2-11	1658	1716	-29.5	-5.5	K128	1362	X											
P-3010R-0211	2-1-11 → 2-2-11	1702	1726	-27	-6.5	K142	1132	X											
SS-3010R-0211	2-1-11 → 2-2-11	1656	1713	-27	-5	K397	2995	X											
P-719G-0211	2-1-11 → 2-2-11	1522	1600	-30	-8.5	K158	1516	X											
SS-719G-0211	2-1-11 → 2-2-11	1511	1601	-29	-5.5	K473	6580	X											

Sampled by :

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments:

RUN TO-15 LIST B CONSTITUENTS (ATTACHED)

Canisters Shipped by: Steve Buyze	Date/Time: 2/3/11 1617	Canisters Received by: Courtney Adkins 2/8/11 940
Samples Relinquished by:	Date/Time:	Received by:
Relinquished by:	Date/Time:	Received by:

A

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

Honeywell - South Bend

Lot #: H1B100402

Steven Murray

Mactec Engineering & Consultan
41 Hughes Drive
Traverse City, MI 49686

TESTAMERICA LABORATORIES, INC.

Jamie A. McKinney
Project Manager

110215 TestAmerica (2) 102017

February 15, 2011

EXECUTIVE SUMMARY - Detection Highlights

H1B100402

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
P-3018L-0211 02/03/11 10:59 001				
Benzene	0.36	0.080	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	0.11	0.080	ppb(v/v)	EPA-2 TO-15
Trichloroethene	0.081	0.040	ppb(v/v)	EPA-2 TO-15
BG-3-0211 02/03/11 11:06 002				
Benzene	0.25	0.080	ppb(v/v)	EPA-2 TO-15
Trichloroethene	0.058	0.040	ppb(v/v)	EPA-2 TO-15
BG-4-0211 02/03/11 14:36 003				
Benzene	0.28	0.080	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	0.17	0.080	ppb(v/v)	EPA-2 TO-15
B-3018L-0211 02/03/11 10:53 004				
Benzene	0.41	0.080	ppb(v/v)	EPA-2 TO-15
SS-3018L-0211 02/03/11 10:53 005				
Benzene	0.57	0.080	ppb(v/v)	EPA-2 TO-15
n-Propylbenzene	0.17	0.16	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	0.36	0.080	ppb(v/v)	EPA-2 TO-15
Trichloroethene	0.065	0.040	ppb(v/v)	EPA-2 TO-15
SS-3026R-0211 02/03/11 14:26 006				
Benzene	0.22	0.080	ppb(v/v)	EPA-2 TO-15
n-Propylbenzene	0.23	0.16	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	0.87	0.080	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	1.2	0.080	ppb(v/v)	EPA-2 TO-15
Trichloroethene	0.044	0.040	ppb(v/v)	EPA-2 TO-15
SS-3006L-0211 02/02/11 11:58 007				
Benzene	0.60	0.080	ppb(v/v)	EPA-2 TO-15
Isopropylbenzene	0.16	0.16	ppb(v/v)	EPA-2 TO-15
n-Propylbenzene	0.26	0.16	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	0.46	0.080	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	0.13	0.080	ppb(v/v)	EPA-2 TO-15
Trichloroethene	0.13	0.040	ppb(v/v)	EPA-2 TO-15

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

H1B100402

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
B-3006L-0211 02/02/11 11:56 008				
Benzene	1.9	0.080	ppb(v/v)	EPA-2 TO-15
cis-1,2-Dichloroethene	0.093	0.080	ppb(v/v)	EPA-2 TO-15
Trichloroethene	0.067	0.040	ppb(v/v)	EPA-2 TO-15
1,2-Dichloroethane	0.084	0.080	ppb(v/v)	EPA-2 TO-15
P-3006L-0211 02/02/11 12:00 009				
Benzene	2.1	0.080	ppb(v/v)	EPA-2 TO-15
cis-1,2-Dichloroethene	0.10	0.080	ppb(v/v)	EPA-2 TO-15
Trichloroethene	0.078	0.040	ppb(v/v)	EPA-2 TO-15
1,2-Dichloroethane	0.11	0.080	ppb(v/v)	EPA-2 TO-15
BG-1-0211 02/02/11 13:20 010				
Benzene	0.19	0.080	ppb(v/v)	EPA-2 TO-15
BG-2-0211 02/02/11 17:36 011				
Benzene	0.17	0.080	ppb(v/v)	EPA-2 TO-15
B-3026R-0211 02/03/11 14:25 012				
Benzene	0.28	0.080	ppb(v/v)	EPA-2 TO-15

ANALYTICAL METHODS SUMMARY

H1B100402

PARAMETER	ANALYTICAL METHOD
Volatile Organics by TO15	EPA-2 TO-15

References:

EPA-2 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999.

SAMPLE SUMMARY

H1B100402

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MD8V0	001	P-3018L-0211	02/03/11	10:59
MD8V3	002	BG-3-0211	02/03/11	11:06
MD8V4	003	BG-4-0211	02/03/11	14:36
MD8V5	004	B-3018L-0211	02/03/11	10:53
MD8V6	005	SS-3018L-0211	02/03/11	10:53
MD8V7	006	SS-3026R-0211	02/03/11	14:26
MD8V8	007	SS-3006L-0211	02/02/11	11:58
MD8V9	008	B-3006L-0211	02/02/11	11:56
MD8WA	009	P-3006L-0211	02/02/11	12:00
MD8WC	010	BG-1-0211	02/02/11	13:20
MD8WD	011	BG-2-0211	02/02/11	17:36
MD8WE	012	B-3026R-0211	02/03/11	14:25

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H1B100402

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

MACTEC Engineering and Consulting Inc

Client Sample ID: P-3018L-0211

GC/MS Volatiles

Lot-Sample #...: H1B100402-001 **Work Order #...:** MD8V01AA **Matrix.....:** AIR
Date Sampled...: 02/03/11 10:59 **Date Received..:** 02/09/11
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045116
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.36**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	**0.11**	**0.080**	**ppb(v/v)**
Trichloroethene	**0.081**	**0.040**	**ppb(v/v)**
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	111	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: BG-3-0211

GC/MS Volatiles

Lot-Sample #...: H1B100402-002 **Work Order #...:** MD8V31AA **Matrix.....:** AIR
Date Sampled...: 02/03/11 11:06 **Date Received..:** 02/09/11
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045116
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.25**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	**0.058**	**0.040**	**ppb(v/v)**
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	109	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: BG-4-0211

GC/MS Volatiles

Lot-Sample #...: H1B100402-003 **Work Order #...:** MD8V41AA **Matrix.....:** AIR
Date Sampled...: 02/03/11 14:36 **Date Received..:** 02/09/11
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045116
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.28**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	**0.17**	**0.080**	**ppb(v/v)**
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	109	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: B-3018L-0211

GC/MS Volatiles

Lot-Sample #...: H1B100402-004 **Work Order #...:** MD8V51AA **Matrix.....:** AIR
Date Sampled...: 02/03/11 10:53 **Date Received..:** 02/09/11
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045118
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.41**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	97	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: SS-3018L-0211

GC/MS Volatiles

Lot-Sample #...: H1B100402-005 Work Order #...: MD8V61AA Matrix.....: AIR
Date Sampled...: 02/03/11 10:53 Date Received..: 02/09/11
Prep Date.....: 02/11/11 Analysis Date..: 02/11/11
Prep Batch #...: 1045118
Dilution Factor: 1 Method.....: EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.57**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	**0.17**	**0.16**	**ppb(v/v)**
Tetrachloroethene	**0.36**	**0.080**	**ppb(v/v)**
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	**0.065**	**0.040**	**ppb(v/v)**
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	100	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: SS-3026R-0211

GC/MS Volatiles

Lot-Sample #...: H1B100402-006 **Work Order #...:** MD8V71AA **Matrix.....:** AIR
Date Sampled...: 02/03/11 14:26 **Date Received..:** 02/09/11
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045118
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.22**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	**0.23**	**0.16**	**ppb(v/v)**
Tetrachloroethene	**0.87**	**0.080**	**ppb(v/v)**
1,1,1-Trichloroethane	**1.2**	**0.080**	**ppb(v/v)**
Trichloroethene	**0.044**	**0.040**	**ppb(v/v)**
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	98	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: SS-3006L-0211

GC/MS Volatiles

Lot-Sample #...: H1B100402-007 **Work Order #...:** MD8V81AA **Matrix.....:** AIR
Date Sampled...: 02/02/11 11:58 **Date Received..:** 02/09/11
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045118
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.60**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	**0.16**	**0.16**	**ppb(v/v)**
n-Propylbenzene	**0.26**	**0.16**	**ppb(v/v)**
Tetrachloroethene	**0.46**	**0.080**	**ppb(v/v)**
1,1,1-Trichloroethane	**0.13**	**0.080**	**ppb(v/v)**
Trichloroethene	**0.13**	**0.040**	**ppb(v/v)**
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	99	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: B-3006L-0211

GC/MS Volatiles

Lot-Sample #...: H1B100402-008 **Work Order #...:** MD8V91AA **Matrix.....:** AIR
Date Sampled...: 02/02/11 11:56 **Date Received..:** 02/09/11
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045118
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**1.9**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	**0.093**	**0.080**	**ppb(v/v)**
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	**0.067**	**0.040**	**ppb(v/v)**
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	**0.084**	**0.080**	**ppb(v/v)**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	98	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: P-3006L-0211

GC/MS Volatiles

Lot-Sample #...:	H1B100402-009	**Work Order #...:**	MD8WA1AA	**Matrix.....:**	AIR
Date Sampled...:	02/02/11 12:00	**Date Received..:**	02/09/11		
Prep Date.....:	02/11/11	**Analysis Date..:**	02/11/11		
Prep Batch #...:	1045118				
Dilution Factor:	1	**Method.....:**	EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**2.1**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	**0.10**	**0.080**	**ppb(v/v)**
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	**0.078**	**0.040**	**ppb(v/v)**
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	**0.11**	**0.080**	**ppb(v/v)**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	97	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: BG-1-0211

GC/MS Volatiles

Lot-Sample #...: H1B100402-010 **Work Order #...:** MD8WC1AA **Matrix.....:** AIR
Date Sampled...: 02/02/11 13:20 **Date Received..:** 02/09/11
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045118
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.19**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	95	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: BG-2-0211

GC/MS Volatiles

Lot-Sample #...: H1B100402-011 **Work Order #...:** MD8WD1AA **Matrix.....:** AIR
Date Sampled...: 02/02/11 17:36 **Date Received..:** 02/09/11
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045118
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.17**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	97	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: B-3026R-0211

GC/MS Volatiles

Lot-Sample #...: H1B100402-012 **Work Order #...:** MD8WE1AA **Matrix.....:** AIR
Date Sampled...: 02/03/11 14:25 **Date Received..:** 02/09/11
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045118
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.28**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	98	(60 - 140)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: H1B100402 **Work Order #...:** MEDV91AA **Matrix.....:** AIR
MB Lot-Sample #: H1B140000-116

Prep Date.....: 02/11/11
Analysis Date..: 02/11/11 **Prep Batch #...:** 1045116
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	0.080	ppb(v/v)	EPA-2 TO-15
sec-Butylbenzene	ND	0.16	ppb(v/v)	EPA-2 TO-15
tert-Butylbenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
Chloroethane	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,1-Dichloroethane	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,2-Dichloroethane	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,1-Dichloroethene	ND	0.080	ppb(v/v)	EPA-2 TO-15
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)	EPA-2 TO-15
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,2-Dichloropropane	ND	0.080	ppb(v/v)	EPA-2 TO-15
Isopropylbenzene	ND	0.16	ppb(v/v)	EPA-2 TO-15
n-Propylbenzene	ND	0.16	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)	EPA-2 TO-15
Trichloroethene	ND	0.040	ppb(v/v)	EPA-2 TO-15
Vinyl chloride	ND	0.080	ppb(v/v)	EPA-2 TO-15

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	111	(60 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: H1B100402 **Work Order #...:** MEDV91AC **Matrix.....:** AIR
LCS Lot-Sample#: H1B140000-116
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045116
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Vinyl chloride	**102**	**(70 - 130)**	**EPA-2 TO-15**
Chloroethane	**94**	**(70 - 130)**	**EPA-2 TO-15**
1,1-Dichloroethene	**108**	**(70 - 130)**	**EPA-2 TO-15**
trans-1,2-Dichloroethene	**109**	**(70 - 130)**	**EPA-2 TO-15**
1,1-Dichloroethane	**101**	**(70 - 130)**	**EPA-2 TO-15**
cis-1,2-Dichloroethene	**104**	**(70 - 130)**	**EPA-2 TO-15**
1,1,1-Trichloroethane	**108**	**(70 - 130)**	**EPA-2 TO-15**
1,2-Dichloroethane	**93**	**(70 - 130)**	**EPA-2 TO-15**
Benzene	**102**	**(70 - 130)**	**EPA-2 TO-15**
1,2-Dichloropropane	**98**	**(70 - 130)**	**EPA-2 TO-15**
Trichloroethene	**98**	**(70 - 130)**	**EPA-2 TO-15**
Tetrachloroethene	**93**	**(70 - 130)**	**EPA-2 TO-15**
Isopropylbenzene	**106**	**(70 - 130)**	**EPA-2 TO-15**
n-Propylbenzene	**108**	**(70 - 130)**	**EPA-2 TO-15**
tert-Butylbenzene	**103**	**(70 - 130)**	**EPA-2 TO-15**
sec-Butylbenzene	**106**	**(70 - 130)**	**EPA-2 TO-15**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	116	(60 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: H1B100402 **Work Order #...:** MEDV91AC **Matrix.....:** AIR
LCS Lot-Sample#: H1B140000-116
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045116
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Vinyl chloride	**5.0**	**5.1**	**ppb(v/v)**	**102**	**EPA-2 TO-15**
Chloroethane	**5.0**	**4.7**	**ppb(v/v)**	**94**	**EPA-2 TO-15**
1,1-Dichloroethene	**5.0**	**5.4**	**ppb(v/v)**	**108**	**EPA-2 TO-15**
trans-1,2-Dichloroethene	**5.0**	**5.5**	**ppb(v/v)**	**109**	**EPA-2 TO-15**
1,1-Dichloroethane	**5.0**	**5.0**	**ppb(v/v)**	**101**	**EPA-2 TO-15**
cis-1,2-Dichloroethene	**5.0**	**5.2**	**ppb(v/v)**	**104**	**EPA-2 TO-15**
1,1,1-Trichloroethane	**5.0**	**5.4**	**ppb(v/v)**	**108**	**EPA-2 TO-15**
1,2-Dichloroethane	**5.0**	**4.7**	**ppb(v/v)**	**93**	**EPA-2 TO-15**
Benzene	**5.0**	**5.1**	**ppb(v/v)**	**102**	**EPA-2 TO-15**
1,2-Dichloropropane	**5.0**	**4.9**	**ppb(v/v)**	**98**	**EPA-2 TO-15**
Trichloroethene	**5.0**	**4.9**	**ppb(v/v)**	**98**	**EPA-2 TO-15**
Tetrachloroethene	**5.0**	**4.7**	**ppb(v/v)**	**93**	**EPA-2 TO-15**
Isopropylbenzene	**5.0**	**5.3**	**ppb(v/v)**	**106**	**EPA-2 TO-15**
n-Propylbenzene	**5.0**	**5.4**	**ppb(v/v)**	**108**	**EPA-2 TO-15**
tert-Butylbenzene	**5.0**	**5.2**	**ppb(v/v)**	**103**	**EPA-2 TO-15**
sec-Butylbenzene	**5.0**	**5.3**	**ppb(v/v)**	**106**	**EPA-2 TO-15**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	116	(60 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: H1B100402 **Work Order #...:** MEDW21AA **Matrix.....:** AIR
MB Lot-Sample #: H1B140000-118

Prep Date.....: 02/11/11
Analysis Date..: 02/11/11 **Prep Batch #...:** 1045118
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	0.080	ppb(v/v)	EPA-2 TO-15
sec-Butylbenzene	ND	0.16	ppb(v/v)	EPA-2 TO-15
tert-Butylbenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
Chloroethane	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,1-Dichloroethane	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,2-Dichloroethane	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,1-Dichloroethene	ND	0.080	ppb(v/v)	EPA-2 TO-15
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)	EPA-2 TO-15
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,2-Dichloropropane	ND	0.080	ppb(v/v)	EPA-2 TO-15
Isopropylbenzene	ND	0.16	ppb(v/v)	EPA-2 TO-15
n-Propylbenzene	ND	0.16	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)	EPA-2 TO-15
Trichloroethene	ND	0.040	ppb(v/v)	EPA-2 TO-15
Vinyl chloride	ND	0.080	ppb(v/v)	EPA-2 TO-15

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	99	(60 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: H1B100402 **Work Order #...:** MEDW21AC **Matrix.....:** AIR
LCS Lot-Sample#: H1B140000-118
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045118
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Vinyl chloride	**82**	**(70 - 130)**	**EPA-2 TO-15**
Chloroethane	**92**	**(70 - 130)**	**EPA-2 TO-15**
1,1-Dichloroethene	**100**	**(70 - 130)**	**EPA-2 TO-15**
trans-1,2-Dichloroethene	**100**	**(70 - 130)**	**EPA-2 TO-15**
1,1-Dichloroethane	**99**	**(70 - 130)**	**EPA-2 TO-15**
cis-1,2-Dichloroethene	**101**	**(70 - 130)**	**EPA-2 TO-15**
1,1,1-Trichloroethane	**109**	**(70 - 130)**	**EPA-2 TO-15**
1,2-Dichloroethane	**94**	**(70 - 130)**	**EPA-2 TO-15**
Benzene	**92**	**(70 - 130)**	**EPA-2 TO-15**
1,2-Dichloropropane	**88**	**(70 - 130)**	**EPA-2 TO-15**
Trichloroethene	**92**	**(70 - 130)**	**EPA-2 TO-15**
Tetrachloroethene	**92**	**(70 - 130)**	**EPA-2 TO-15**
Isopropylbenzene	**103**	**(70 - 130)**	**EPA-2 TO-15**
n-Propylbenzene	**105**	**(70 - 130)**	**EPA-2 TO-15**
tert-Butylbenzene	**102**	**(70 - 130)**	**EPA-2 TO-15**
sec-Butylbenzene	**104**	**(70 - 130)**	**EPA-2 TO-15**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	96	(60 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: H1B100402 **Work Order #...:** MEDW21AC **Matrix.....:** AIR
LCS Lot-Sample#: H1B140000-118
Prep Date.....: 02/11/11 **Analysis Date..:** 02/11/11
Prep Batch #...: 1045118
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Vinyl chloride	**5.0**	**4.1**	**ppb(v/v)**	**82**	**EPA-2 TO-15**
Chloroethane	**5.0**	**4.6**	**ppb(v/v)**	**92**	**EPA-2 TO-15**
1,1-Dichloroethene	**5.0**	**5.0**	**ppb(v/v)**	**100**	**EPA-2 TO-15**
trans-1,2-Dichloroethene	**5.0**	**5.0**	**ppb(v/v)**	**100**	**EPA-2 TO-15**
1,1-Dichloroethane	**5.0**	**5.0**	**ppb(v/v)**	**99**	**EPA-2 TO-15**
cis-1,2-Dichloroethene	**5.0**	**5.1**	**ppb(v/v)**	**101**	**EPA-2 TO-15**
1,1,1-Trichloroethane	**5.0**	**5.4**	**ppb(v/v)**	**109**	**EPA-2 TO-15**
1,2-Dichloroethane	**5.0**	**4.7**	**ppb(v/v)**	**94**	**EPA-2 TO-15**
Benzene	**5.0**	**4.6**	**ppb(v/v)**	**92**	**EPA-2 TO-15**
1,2-Dichloropropane	**5.0**	**4.4**	**ppb(v/v)**	**88**	**EPA-2 TO-15**
Trichloroethene	**5.0**	**4.6**	**ppb(v/v)**	**92**	**EPA-2 TO-15**
Tetrachloroethene	**5.0**	**4.6**	**ppb(v/v)**	**92**	**EPA-2 TO-15**
Isopropylbenzene	**5.0**	**5.1**	**ppb(v/v)**	**103**	**EPA-2 TO-15**
n-Propylbenzene	**5.0**	**5.2**	**ppb(v/v)**	**105**	**EPA-2 TO-15**
tert-Butylbenzene	**5.0**	**5.1**	**ppb(v/v)**	**102**	**EPA-2 TO-15**
sec-Butylbenzene	**5.0**	**5.2**	**ppb(v/v)**	**104**	**EPA-2 TO-15**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	96	(60 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

TAL-Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

1-H101004O2

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** ~~Mark Loeb~~ Steve Murray	**Sampled By:** SGB	1 of 1 COCs
Company: MACTEC	Phone: 231-922-9050		
Address: 41 Hughes Drive	Site Contact: Steve Buyze		
City/State/Zip: Traverse City, MI 49696	TAL Contact: Mark Loeb		
Phone: 231-922-9050			
FAX: 231-922-9055			
Project Name: Honeywell SB Vapor Intrusion	**Analysis Turnaround Time**		
Site/location: South Bend, IN	Standard (Specify) X		
PO # 51332886	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
P-3018L-0211	2-2-11 → 2-3-11	1030	1059	-28.5	-6	K334	0063	X											
BG-3-0211	2-2-11 → 2-3-11	1040	1106	-28.5	-5.5	K378	12327	X											
BG-4-0211	2-2-11 → 2-3-11	1430	1436	-30	-6	K390	1536	X											
B-3018L-0211	2-2-11 → 2-3-11	1027	1053	-28	-5	K379	6385	X											
SS-3018L-0211	2-2-11 → 2-3-11	1024	1053	-28	-7	K395	6611	X											
SS-3026R-0211	2-3-11 → 2-3-11	1419	1426	-30	-5.5	K133	6349	X											

Sampled by :	Temperature (Fahrenheit)	Interior	Ambient
	Start		
	Stop		

	Pressure (inches of Hg)	Interior	Ambient
	Start		
	Stop		

2 BOXES RECEIVED AMBIENT
FEDEX #8717 3476 9975
CUSTODY SEALS INTACT
12 CANS, 12 FLOWS
TS 2/9/11

Special Instructions/QC Requirements & Comments:
RUN TO-15 LIST B CONSTITUENTS (ATTACHED)

Canisters Shipped by: Steve Buyze	Date/Time: 2/3/11 1617	Canisters Received by:	
Samples Relinquished by:	Date/Time:	Received by:	2/9/11 9:30
Relinquished by:	Date/Time:	Received by:	

B

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

LJB100402

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** Steve Murray	**Sampled By:** SGB	1 of 1 COCs
Company: MACTEC	Phone: 231-922-9050		
Address: 41 Hughes Drive	Site Contact: Steve Burge		
City/State/Zip: Traverse City, MI 49696	TAL Contact: Mark Loeb		
Phone: 231-922-9050			
FAX: 231-922-9055			
Project Name: Honeywell SB Vapor Intrusion	**Analysis Turnaround Time**		
Site/location: South Bend, IN	Standard (Specify)		
PO # 5133786	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SS-3006L-0211	2-1-11 → 2-2-11	1130	1158	-30	-7	K478	6957	X											
B-3006L-0211	2-1-11 → 2-2-11	1138	1156	-31	-5	K148	6654	X											
P-3006L-0211	2-1-11 → 2-2-11	1141	1200	-29	-5.5	K331	1529	X											
BG-1-0211	2-1-11 → 2-2-11	1153	1320	-29.5	0	K340	92098	X											
BG-2-0211	2-1-11 → 2-2-11	1730	1736	-28	-5	K177	1133	X											
B-3026R-0211	2-2-11 → 2-3-11	1421	1425	-30	-6.5	K371	0120	X											

Sampled by :	Temperature (Fahrenheit)	Interior	Ambient
	Start		
	Stop		

	Pressure (inches of Hg)	Interior	Ambient
	Start		
	Stop		

Special Instructions/QC Requirements & Comments:

RUN TO-15 LIST B CONSTITUENTS (ATTACHED)

Canisters Shipped by: Steve Burge	Date/Time: 2/3/11 1617	Canisters Received by:
Samples Relinquished by:	Date/Time:	Received by: 2/4/11 0930
Relinquished by:	Date/Time:	Received by:

C

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: H11100402

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ 1a Do not match COC ☐ 1b Incomplete information ☐ 1c Marking smeared ☐ 1d Label torn ☐ 1e No label ☐ 1f COC not received ☐ 1g Other:	
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C)			✓	☐ 2a Temp Blank = _____ ☐ 2b Cooler Temp = _____ ☐ 2c Cooling initiated for recently collected samples, ice present. ✓	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ 3a Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ 4a Not present ☐ 4b Not intact ☐ 4c Other:	
5. Were all of the samples listed on the COC received?	✓			☐ 5a Samples received-not on COC ☐ 5b Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ 6a Leaking ☐ 6b Broken	
7. Were VOA samples received without headspace?			✓	☐ 7a Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ 8a Improper container	
9. Did you check for residual chlorine, if necessary?			✓	☐ 9a Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ 10a Holding time expired	
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	
13. Are the shipping containers intact?	✓			☐ 13a Leaking ☐ 13b Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ 14a Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ 15a Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ 15a Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ 15a Incomplete information	
18. Is the client and project name/# identified?	✓			☐ 15a Incomplete information	
19. Was the sampler identified on the COC?	✓				

Quote #: 75525 PM Instructions: MA

Sample Receiving Associate: [signature] Date: 2/9/11

QA026R22.doc, 012811

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H1B100402*

Initial Can Pressure							Subsequent Dilutions												
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (-in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
DDF 2-10-11	NA	29.02	MD8V0	0063	-4.1													9019
			MD8V3	12327	-1.7													9017
			MD8V4	1536	-3.5													8989
			MD8V5	6385	-3.5													9014
			MD8V6	6611	-5.7													9040
			MD8V7	6349	-3.6													9013
			MD8V8	6957	-5.7													9047
			MD8V9	6654	-4.3													9033
			MD8WA	1529	-5.8													9044
			MD8WC	92098	+1.2													9047
			MD8WD	1133	-1.8													9038
↓	↓	↓	MD8WE	0120	-39													9003

Original Chain of Custody Documentation

1-H1B100402

TAL-Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** ~~Mark Lord~~ Steve Murray	**Sampled By:** SGB	1 of 1 COCs
Company: MACTEC	Phone: 231-922-9050		
Address: 41 Hughes Drive	Site Contact: Steve Boyze		
City/State/Zip: Traverse City, MI 49696	TAL Contact: Mark Lord		
Phone: 231-922-9058			
FAX: 231-922-9055			
Project Name: Honeywell SB Vapor Intrusion	**Analysis Turnaround Time**		
Site/location: South Bend, IN	Standard (Specify) X		
PO # 51332886	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
P-3018L-0211	2-2-11 → 2-3-11	1030	1059	-28.5	-6	K334	0063	X											
BG-3-0211	2-2-11 → 2-3-11	1040	1106	-28.5	-5.5	K378	12327	X											
BG-4-0211	2-2-11 → 2-3-11	1430	1436	-30	-6	K390	1536	X											
B-3018L-0211	2-2-11 → 2-3-11	1027	1053	-28	-5	K379	6385	X											
SS-3018L-0211	2-2-11 → 2-3-11	1024	1053	-28	-7	K395	6611	X											
SS-3026R-0211	2-3-11 → 2-3-11	1419	1426	-30	-5.5	K133	6349	X											

Sampled by :

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

2 BOXES RECEIVED AMBIENT
FEDEX #8717 3476 9975
CUSTODY SEALS INTACT
12 CANS, 12 FLOWS
TO 2/9/11

Special Instructions/QC Requirements & Comments:
RUN TO-15 LIST B CONSTITUENTS (ATTACHED)

Canisters Shipped by: Steve Boyze	Date/Time: 2/3/11 1617	Canisters Received by:
Samples Relinquished by:	Date/Time:	Received by: 2/9/11 9:30
Relinquished by:	Date/Time:	Received by:

B

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H1B100402

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information
Company: MACTEC
Address: 41 Hughes Drive
City/State/Zip: Traverse City, MI 49696
Phone: 231-922-9050
FAX: 231-922-9055
Project Name: Honeywell SB Vapor Intrusion
Site/location: South Bend, IN
PO # 5133786

Project Manager: Steve Murray
Phone: 231-922-9050
Site Contact: Steve Buyze
TAL Contact: Mark Loeb

Analysis Turnaround Time
Standard (Specify) ______
Rush (Specify) ______

Sampled By: SGB

1 of 1 COCs

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SS-3006L-0211	2-1-11 → 2-2-11	1130	1158	-30	-7	K478	6957	X											
B-3006L-0211	2-1-11 → 2-2-11	1138	1156	-31	-5	K148	6654	X											
P-3006L-0211	2-1-11 → 2-2-11	1141	1200	-29	-5.5	K331	1529	X											
BG-1-0211	2-1-11 → 2-2-11	1153	1320	-29.5	0	K340	92098	X											
BG-2-0211	2-1-11 → 2-2-11	1730	1736	-28	-5	K177	1133	X											
B-3026R-0211	2-2-11 → 2-3-11	1421	1425	-30	-6.5	K371	0120	X											

Sampled by :

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:

RUN TO-15 LIST B CONSTITUENTS (ATTACHED)

Canisters Shipped by: Steve Buyze	Date/Time: 2/3/11 1617	Canisters Received by:
Samples Relinquished by:	Date/Time:	Received by: [signature] 2/9/11 0930
Relinquished by:	Date/Time:	Received by:

C

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

RECEIVED
FEB 25 2011
By

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

Honeywell - South Bend

Lot #: H1B150508

Steven Murray

Mactec Engineering & Consultan
41 Hughes Drive
Traverse City, MI 49686

TESTAMERICA LABORATORIES, INC.

Jamie A. McKinney
Project Manager

February 22, 2011

EXECUTIVE SUMMARY - Detection Highlights

H1B150508

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
SS-3017R-0211 02/10/11 09:39 001				
Benzene	2.8	0.080	ppb(v/v)	EPA-2 TO-15
n-Propylbenzene	0.21	0.16	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	0.39	0.080	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	0.26	0.080	ppb(v/v)	EPA-2 TO-15
Trichloroethene	0.10	0.040	ppb(v/v)	EPA-2 TO-15
B-3017R-0211 02/10/11 09:37 002				
Benzene	0.34	0.080	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	0.14	0.080	ppb(v/v)	EPA-2 TO-15
P-3017R-0211 02/10/11 09:43 003				
Benzene	0.34	0.080	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	0.26	0.080	ppb(v/v)	EPA-2 TO-15
SS-3013R-0211 02/10/11 13:21 004				
Benzene	0.19	0.080	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	0.22	0.080	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	0.25	0.080	ppb(v/v)	EPA-2 TO-15
B-3013R-0211 02/10/11 13:20 005				
Benzene	0.26	0.080	ppb(v/v)	EPA-2 TO-15
P-3013R-0211 02/10/11 13:29 006				
Benzene	0.26	0.080	ppb(v/v)	EPA-2 TO-15
BG-7-0211 02/10/11 13:32 007				
Benzene	0.27	0.080	ppb(v/v)	EPA-2 TO-15
SS-3034R-0211 02/10/11 15:04 008				
Benzene	0.54	0.080	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	0.79	0.080	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	0.69	0.080	ppb(v/v)	EPA-2 TO-15
Trichloroethene	0.12	0.040	ppb(v/v)	EPA-2 TO-15

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

H1B150508

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
B-3034R-0211 02/10/11 15:04 009				
Benzene	1.7	0.080	ppb(v/v)	EPA-2 TO-15
n-Propylbenzene	0.25	0.16	ppb(v/v)	EPA-2 TO-15
P-3034R-0211 02/10/11 15:10 010				
Benzene	1.7	0.080	ppb(v/v)	EPA-2 TO-15
n-Propylbenzene	0.31	0.16	ppb(v/v)	EPA-2 TO-15
BG-8-0211 02/10/11 15:15 011				
Benzene	0.27	0.080	ppb(v/v)	EPA-2 TO-15

ANALYTICAL METHODS SUMMARY

H1B150508

PARAMETER	ANALYTICAL METHOD
Volatile Organics by TO15	EPA-2 TO-15

References:

EPA-2 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999.

SAMPLE SUMMARY

H1B150508

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MEF04	001	SS-3017R-0211	02/10/11	09:39
MEF05	002	B-3017R-0211	02/10/11	09:37
MEF06	003	P-3017R-0211	02/10/11	09:43
MEF07	004	SS-3013R-0211	02/10/11	13:21
MEF08	005	B-3013R-0211	02/10/11	13:20
MEF09	006	P-3013R-0211	02/10/11	13:29
MEF1A	007	BG-7-0211	02/10/11	13:32
MEF1C	008	SS-3034R-0211	02/10/11	15:04
MEF1D	009	B-3034R-0211	02/10/11	15:04
MEF1E	010	P-3034R-0211	02/10/11	15:10
MEF1G	011	BG-8-0211	02/10/11	15:15

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H1B150508

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

The container label for sample P-3013R-0211 was received without a sample ID listed.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

MACTEC Engineering and Consulting Inc

Client Sample ID: SS-3017R-0211

GC/MS Volatiles

Lot-Sample #...: H1B150508-001 **Work Order #...:** MEF041AA **Matrix.....:** AIR
Date Sampled...: 02/10/11 09:39 **Date Received..:** 02/15/11
Prep Date.....: 02/17/11 **Analysis Date..:** 02/17/11
Prep Batch #...: 1048373
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**2.8**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	**0.21**	**0.16**	**ppb(v/v)**
Tetrachloroethene	**0.39**	**0.080**	**ppb(v/v)**
1,1,1-Trichloroethane	**0.26**	**0.080**	**ppb(v/v)**
Trichloroethene	**0.10**	**0.040**	**ppb(v/v)**
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	106	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: B-3017R-0211

GC/MS Volatiles

Lot-Sample #...: H1B150508-002 **Work Order #...:** MEF051AA **Matrix.....:** AIR
Date Sampled...: 02/10/11 09:37 **Date Received..:** 02/15/11
Prep Date.....: 02/17/11 **Analysis Date..:** 02/17/11
Prep Batch #...: 1048373
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.34**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	**0.14**	**0.080**	**ppb(v/v)**
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	99	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: P-3017R-0211

GC/MS Volatiles

Lot-Sample #...: H1B150508-003 **Work Order #...:** MEF061AA **Matrix.....:** AIR
Date Sampled...: 02/10/11 09:43 **Date Received..:** 02/15/11
Prep Date.....: 02/17/11 **Analysis Date..:** 02/17/11
Prep Batch #...: 1048373
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)
Benzene	**0.34**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	**0.26**	**0.080**	**ppb(v/v)**
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	99	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: SS-3013R-0211

GC/MS Volatiles

Lot-Sample #...: H1B150508-004 **Work Order #...:** MEF071AA **Matrix.....:** AIR
Date Sampled...: 02/10/11 13:21 **Date Received..:** 02/15/11
Prep Date.....: 02/17/11 **Analysis Date..:** 02/17/11
Prep Batch #...: 1048373
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.19**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	**0.22**	**0.080**	**ppb(v/v)**
1,1,1-Trichloroethane	**0.25**	**0.080**	**ppb(v/v)**
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	102	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: B-3013R-0211

GC/MS Volatiles

Lot-Sample #...:	H1B150508-005	**Work Order #...:**	MEF081AA	**Matrix.....:**	AIR
Date Sampled...:	02/10/11 13:20	**Date Received..:**	02/15/11		
Prep Date.....:	02/17/11	**Analysis Date..:**	02/17/11		
Prep Batch #...:	1048373				
Dilution Factor:	1	**Method.....:**	EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.26**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	98	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: P-3013R-0211

GC/MS Volatiles

Lot-Sample #...: H1B150508-006 **Work Order #...:** MEF091AA **Matrix.....:** AIR
Date Sampled...: 02/10/11 13:29 **Date Received..:** 02/15/11
Prep Date.....: 02/17/11 **Analysis Date..:** 02/17/11
Prep Batch #...: 1048373
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.26**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	99	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: BG-7-0211

GC/MS Volatiles

Lot-Sample #...: H1B150508-007 **Work Order #...:** MEF1A1AA **Matrix.....:** AIR
Date Sampled...: 02/10/11 13:32 **Date Received..:** 02/15/11
Prep Date.....: 02/17/11 **Analysis Date..:** 02/17/11
Prep Batch #...: 1048373
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.27**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	98	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: SS-3034R-0211

GC/MS Volatiles

Lot-Sample #...: H1B150508-008 **Work Order #...:** MEF1C1AA **Matrix.....:** AIR
Date Sampled...: 02/10/11 15:04 **Date Received..:** 02/15/11
Prep Date.....: 02/17/11 **Analysis Date..:** 02/17/11
Prep Batch #...: 1048373
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.54**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	**0.79**	**0.080**	**ppb(v/v)**
1,1,1-Trichloroethane	**0.69**	**0.080**	**ppb(v/v)**
Trichloroethene	**0.12**	**0.040**	**ppb(v/v)**
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	101	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: B-3034R-0211

GC/MS Volatiles

Lot-Sample #...: H1B150508-009 **Work Order #...:** MEF1D1AA **Matrix.....:** AIR
Date Sampled...: 02/10/11 15:04 **Date Received..:** 02/15/11
Prep Date.....: 02/17/11 **Analysis Date..:** 02/17/11
Prep Batch #...: 1048373
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**1.7**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	**0.25**	**0.16**	**ppb(v/v)**
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	99	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: P-3034R-0211

GC/MS Volatiles

Lot-Sample #...: H1B150508-010 **Work Order #...:** MEF1E1AA **Matrix.....:** AIR
Date Sampled...: 02/10/11 15:10 **Date Received..:** 02/15/11
Prep Date.....: 02/17/11 **Analysis Date..:** 02/17/11
Prep Batch #...: 1048373
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**1.7**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	**0.31**	**0.16**	**ppb(v/v)**
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	102	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: BG-8-0211

GC/MS Volatiles

Lot-Sample #...: H1B150508-011 **Work Order #...:** MEF1G1AA **Matrix.....:** AIR
Date Sampled...: 02/10/11 15:15 **Date Received..:** 02/15/11
Prep Date.....: 02/17/11 **Analysis Date..:** 02/18/11
Prep Batch #...: 1048373
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**0.27**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	99	(60 - 140)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: H1B150508 **Work Order #...:** MEJ8M1AA **Matrix.....:** AIR
MB Lot-Sample #: H1B170000-373

Prep Date.....: 02/17/11
Analysis Date..: 02/17/11 **Prep Batch #...:** 1048373
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	0.080	ppb(v/v)	EPA-2 TO-15
sec-Butylbenzene	ND	0.16	ppb(v/v)	EPA-2 TO-15
tert-Butylbenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
Chloroethane	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,1-Dichloroethane	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,2-Dichloroethane	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,1-Dichloroethene	ND	0.080	ppb(v/v)	EPA-2 TO-15
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)	EPA-2 TO-15
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,2-Dichloropropane	ND	0.080	ppb(v/v)	EPA-2 TO-15
Isopropylbenzene	ND	0.16	ppb(v/v)	EPA-2 TO-15
n-Propylbenzene	ND	0.16	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)	EPA-2 TO-15
Trichloroethene	ND	0.040	ppb(v/v)	EPA-2 TO-15
Vinyl chloride	ND	0.080	ppb(v/v)	EPA-2 TO-15

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	99	(60 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: H1B150508 Work Order #...: MEJ8M1AC Matrix.....: AIR
LCS Lot-Sample#: H1B170000-373
Prep Date.....: 02/17/11 Analysis Date..: 02/17/11
Prep Batch #...: 1048373
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
cis-1,2-Dichloroethene	**105**	**(70 - 130)**	**EPA-2 TO-15**
1,1,1-Trichloroethane	**114**	**(70 - 130)**	**EPA-2 TO-15**
1,2-Dichloroethane	**96**	**(70 - 130)**	**EPA-2 TO-15**
Benzene	**90**	**(70 - 130)**	**EPA-2 TO-15**
1,2-Dichloropropane	**80**	**(70 - 130)**	**EPA-2 TO-15**
Trichloroethene	**104**	**(70 - 130)**	**EPA-2 TO-15**
Tetrachloroethene	**92**	**(70 - 130)**	**EPA-2 TO-15**
Isopropylbenzene	**81**	**(70 - 130)**	**EPA-2 TO-15**
n-Propylbenzene	**78**	**(70 - 130)**	**EPA-2 TO-15**
tert-Butylbenzene	**77**	**(70 - 130)**	**EPA-2 TO-15**
sec-Butylbenzene	**79**	**(70 - 130)**	**EPA-2 TO-15**
Vinyl chloride	**85**	**(70 - 130)**	**EPA-2 TO-15**
Chloroethane	**95**	**(70 - 130)**	**EPA-2 TO-15**
1,1-Dichloroethene	**105**	**(70 - 130)**	**EPA-2 TO-15**
trans-1,2-Dichloroethene	**103**	**(70 - 130)**	**EPA-2 TO-15**
1,1-Dichloroethane	**103**	**(70 - 130)**	**EPA-2 TO-15**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	104	(60 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: H1B150508 Work Order #...: MEJ8M1AC Matrix.....: AIR
LCS Lot-Sample#: H1B170000-373
Prep Date.....: 02/17/11 Analysis Date..: 02/17/11
Prep Batch #...: 1048373
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
cis-1,2-Dichloroethene	**5.0**	**5.2**	**ppb(v/v)**	**105**	**EPA-2 TO-15**
1,1,1-Trichloroethane	**5.0**	**5.7**	**ppb(v/v)**	**114**	**EPA-2 TO-15**
1,2-Dichloroethane	**5.0**	**4.8**	**ppb(v/v)**	**96**	**EPA-2 TO-15**
Benzene	**5.0**	**4.5**	**ppb(v/v)**	**90**	**EPA-2 TO-15**
1,2-Dichloropropane	**5.0**	**4.0**	**ppb(v/v)**	**80**	**EPA-2 TO-15**
Trichloroethene	**5.0**	**5.2**	**ppb(v/v)**	**104**	**EPA-2 TO-15**
Tetrachloroethene	**5.0**	**4.6**	**ppb(v/v)**	**92**	**EPA-2 TO-15**
Isopropylbenzene	**5.0**	**4.0**	**ppb(v/v)**	**81**	**EPA-2 TO-15**
n-Propylbenzene	**5.0**	**3.9**	**ppb(v/v)**	**78**	**EPA-2 TO-15**
tert-Butylbenzene	**5.0**	**3.9**	**ppb(v/v)**	**77**	**EPA-2 TO-15**
sec-Butylbenzene	**5.0**	**3.9**	**ppb(v/v)**	**79**	**EPA-2 TO-15**
Vinyl chloride	**5.0**	**4.2**	**ppb(v/v)**	**85**	**EPA-2 TO-15**
Chloroethane	**5.0**	**4.8**	**ppb(v/v)**	**95**	**EPA-2 TO-15**
1,1-Dichloroethene	**5.0**	**5.3**	**ppb(v/v)**	**105**	**EPA-2 TO-15**
trans-1,2-Dichloroethene	**5.0**	**5.2**	**ppb(v/v)**	**103**	**EPA-2 TO-15**
1,1-Dichloroethane	**5.0**	**5.1**	**ppb(v/v)**	**103**	**EPA-2 TO-15**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	104	(60 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

H1B150308

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Steve Murray	Sampled By: SGB	1 of 1 COCs
Company: MACTEC	Phone: 231-922-9050		
Address: 41 Hughes Drive	Site Contact: Steve Buyze		
City/State/Zip: Traverse City, MI 49696	TAL Contact: Mark Loeb		
Phone: 231-922-9050			
FAX: 231-922-9055			
Project Name: Honeywell SB Vapor Intrusion	Analysis Turnaround Time		
Site/location: South Bend, IN	Standard (Specify)		
PO # 5133286	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SS-3017R-0211	2/9/11 → 2/10/11	9:21	9:39	-30	-4.0	K287	1115	X											
B-3017R-0211	↓	9:24	9:37	-28	-4.5	K477	12878	X											
P-3017R-0211		9:26	9:43	-30	-5.0	K437	12462	X											
SS-3013R-0211		13:02	13:21	-28.5	-4.5	K482	1362N	X											
B-3013R-0211		13:04	13:20	-29.5	-4.5	K316	S1491	X											
P-3013R-0211	↓	13:06	13:29	-30	-1.0	K339	7473	X											

Sampled by :

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

2 boxes with custody seals
Received @ Ambient Temp
R# 2/15/11
2bx Fed Ex 873804404814 (MSTR)
12 CANS 12 Flows 12 Flows
R# 2/15/11 2 T-Bars

Special Instructions/QC Requirements & Comments:

RUN TO-15 LIST B CONSTITUENTS (ATTACHED) - LOW LEVEL

Canisters Shipped by:	Date/Time: 2/10/2011 15:45	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/15/11 10AM	Received by: Rita Hancock
Relinquished by:	Date/Time:	Received by:

HIB1505D8

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Steve Murray	Sampled By: SGB	1 of 1 COCs
Company: MACTEC	Phone: 231-922-9050		
Address: 41 Hughes Drive	Site Contact: Steve Buyze		
City/State/Zip: Traverse City, MI 49685	TAL Contact: Mark Loeb		
Phone: 231-922-9050			
FAX: 231-922-9055			
Project Name: Honeywell SB Vapor Intrusion	Analysis Turnaround Time		
Site/location: South Bend, IN	Standard (Specify)		
PO # 5133286	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
BG-7-0211	2/9/11 → 2/10/11	13:17	13:32	-29	-0	K110	7496	X											
SS-3034R-0211	↓	15:04	15:04	-28.5	-0.5	K391	6381	X											
B-3034R-0211		15:04	15:04	-30	-7.5	K174	1125	X											
P-3034R-0211		15:06	15:10	-29.5	-6.0	K310	1403	X											
BG-8-0211	↓	15:15	15:15	-28.5	-6.5	K388	6592	X											

Sampled by :	Temperature (Fahrenheit)		
	Interior	Ambient	
Start			
Stop			

	Pressure (inches of Hg)		
	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:

RUN TO-15 LIST B CONSTITUENTS (ATTACHED) - LOW LEVEL

Canisters Shipped by:	Date/Time: 2/10/2011 15:45	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/15/11 10AM	Received by: Rita Hancock
Relinquished by:	Date/Time:	Received by:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: ~~H18150~~ H1B150508

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)		√		☐ 1a Do not match COC ☒ 1b Incomplete information ☐ 1c Marking smeared ☐ 1d Label torn ☐ 1e No label ☐ 1f COC not received ☐ 1g Other:	1B NO CLIENT ID LISTED ON CAN # 7473; MATCHED BY CAN ID ~~F&A COC STATES CANISTERS SHIPPED BY; SAMPLES RELINQUISHED~~ SPACE
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C)			√	☐ 2a Temp Blank = _____ ☐ 2b Cooler Temp = _____ ☐ 2c Cooling initiated for recently collected samples, ice present.	IS BLANK DKD 2-15-11
3. Were samples received with correct chemical preservative (excluding Encore)?			√	☐ 3a Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?	√			☐ 4a Not present ☐ 4b Not intact ☐ 4c Other:	
5. Were all of the samples listed on the COC received?	√			☐ 5a Samples received-not on COC ☐ 5b Samples not received-on COC	
6. Were all of the sample containers received intact?	√			☐ 6a Leaking ☐ 6b Broken	
7. Were VOA samples received without headspace?	√		√	☐ 7a Headspace (VOA only)	
8. Were samples received in appropriate containers?	√			☐ 8a Improper container	
9. Did you check for residual chlorine, if necessary?			√	☐ 9a Could not be determined due to matrix interference	
10. Were samples received within holding time?	√			☐ 10a Holding time expired	
11. For rad samples, was sample activity info. provided?			√	☐ Incomplete information	
12. For 1613B water samples is pH<9?			√	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	
13. Are the shipping containers intact?	√			☐ 13a Leaking ☐ 13b Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	√	X	DKD 2-15-11	☒ 14a Not relinquished	
15. Are tests/parameters listed for each sample?	√			☐ 15a Incomplete information	
16. Is the matrix of the samples noted?	√			☐ 15a Incomplete information	
17. Is the date/time of sample collection noted?	√			☐ 15a Incomplete information	
18. Is the client and project name/# identified?	√			☐ 15a Incomplete information	
19. Was the sampler identified on the COC?	√				

Quote #: TSS25 PM Instructions: NA

Sample Receiving Associate: _____ Date: 2/15/11

QA026R22.doc, 012811

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H1B150508*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (-in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
DDF 2-16-11	NA	29.11	MEF04	1115	-2.8													9019
↓	↓	↓	MEF05	12878	-3.8													8989
			MEF06	12462	-4.1													6
			MEF07	1362N	-3.2													9026
			MEF08	S1491	-2.2													9025
			MEF09	7473	-0.8													9018
			MEF1A	7496	0													9024
			MEF1C	6381	0													8983
			MEF1D	1125	-5.4													9017
			MEF1E	1403	-5.0													9019
↓	↓	↓	MEF1G	6592	-4.3													9027

Original Chain of Custody Documentation

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H1B150508

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Steve Murray	Sampled By: SGB	1 of 1 COCs
Company: MACTEC	Phone: 231-922-9050		
Address: 41 Hughes Drive	Site Contact: Steve Buyze		
City/State/Zip: Traverse City, MI 49696	TAL Contact: Mark Loeb		
Phone: 231-922-9050			
FAX: 231-922-9055			
Project Name: Honeywell SB Vapor Intrusion	Analysis Turnaround Time		
Site/location: South Bend, IN	Standard (Specify)		
PO # 5133286	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SS-3017R-0211	2/9/11 → 2/10/11	9:21	9:39	-30	-4.0	K287	1115	X											
B-3017R-0211		9:24	9:37	-28	-4.5	K477	12878	X											
P-3017R-0211		9:26	9:43	-30	-5.0	K437	12462	X											
SS-3013R-0211		13:02	13:21	-28.5	-4.5	K482	1362N	X											
B-3013R-0211		13:04	13:20	-29.5	-4.5	K316	S1491	X											
P-3013R-0211		13:06	13:29	-30	-1.0	K339	7473	X											

Sampled by :

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

2 boxes with CUSTODY SEALS
RECEIVED @ AMBIENT TEMP
R# 2/15/11
2bx Fed Ex 873804404814 (MSTR)
12 CANS ~~13~~ FLOWS 12 FLOWS
R# 2/15/11 2 T-BARS

Special Instructions/QC Requirements & Comments:

RUN TO-15, LIST B CONSTITUENTS (ATTACHED) - LOW LEVEL

Canisters Shipped by:	Date/Time: 2/10/2011 15:45	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/15/11 10AM	Received by: Rita Hancock
Relinquished by:	Date/Time:	Received by:

HIB1505D8

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Steve Murray	Sampled By: SGB	1 of 1 COCs
Company: MACTEC	Phone: 231-922-9050		
Address: 41 Hughes Drive	Site Contact: Steve Buyze		
City/State/Zip: Traverse City, MI 49685	TAL Contact: Mark Lorb		
Phone: 231-922-9050			
FAX: 231-922-9055			
Project Name: Honeywell SB Vapor Intrusion	Analysis Turnaround Time		
Site/location: South Bend, IN	Standard (Specify)		
PO # 5133286	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
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SS-3034R-0211	↓	15:04	15:04	-28.5	-0.5	K391	6381	X											
B-3034R-0211		15:04	15:04	-30	-7.5	K174	1125	X											
P-3034R-0211		15:06	15:10	-29.5	-6.0	K310	1403	X											
BG-8-0211	↓	15:15	15:15	-28.5	-6.5	K388	6592	X											

Sampled by :	Temperature (Fahrenheit)			
		Interior	Ambient	
	Start			
	Stop			

	Pressure (inches of Hg)			
		Interior	Ambient	
	Start			
	Stop			

Special Instructions/QC Requirements & Comments:

RUN TO-15 LIST B CONSTITUENTS (ATTACHED) - LOW LEVEL

Canisters Shipped by:	Date/Time: 2/10/2011 15:45	Canisters Received by:
Samples Relinquished by:	Date/Time: 2/15/11 10AM	Received by: Rita Hancock
Relinquished by:	Date/Time:	Received by:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

Honeywell - South Bend

Lot #: H1B240528

Steven Murray

Mactec Engineering & Consultan
41 Hughes Drive
Traverse City, MI 49686

TESTAMERICA LABORATORIES, INC.

Jamie A. McKinney
Project Manager

March 7, 2011

EXECUTIVE SUMMARY - Detection Highlights

H1B240528

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
SS-3029L-0211 02/19/11 11:37 001				
Isopropylbenzene	0.29	0.16	ppb(v/v)	EPA-2 TO-15
n-Propylbenzene	0.17	0.16	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	0.19	0.080	ppb(v/v)	EPA-2 TO-15
Trichloroethene	0.050	0.040	ppb(v/v)	EPA-2 TO-15
Benzene	0.21	0.080	ppb(v/v)	EPA-2 TO-15
BG-10-0211 02/18/11 13:07 002				
Benzene	0.14	0.080	ppb(v/v)	EPA-2 TO-15
B-3029L-0211 02/18/11 11:47 003				
Trichloroethene	0.26	0.040	ppb(v/v)	EPA-2 TO-15
Benzene	0.37	0.080	ppb(v/v)	EPA-2 TO-15
P-3029L-0211 02/18/11 12:07 004				
Benzene	0.90	0.080	ppb(v/v)	EPA-2 TO-15
B-3019L-0211 02/18/11 08:56 005				
Trichloroethene	0.040	0.040	ppb(v/v)	EPA-2 TO-15
1,2-Dichloroethane	0.085	0.080	ppb(v/v)	EPA-2 TO-15
Benzene	0.33	0.080	ppb(v/v)	EPA-2 TO-15
P-3019L-0211 02/18/11 08:58 006				
Chloroethane	0.089	0.080	ppb(v/v)	EPA-2 TO-15
cis-1,2-Dichloroethene	0.096	0.080	ppb(v/v)	EPA-2 TO-15
n-Propylbenzene	0.16	0.16	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	0.20	0.080	ppb(v/v)	EPA-2 TO-15
Benzene	0.69	0.080	ppb(v/v)	EPA-2 TO-15
BG-9-0211 02/18/11 09:04 007				
Benzene	0.15	0.080	ppb(v/v)	EPA-2 TO-15
SS-3019L-0211 02/18/11 08:56 008				
Isopropylbenzene	0.34	0.16	ppb(v/v)	EPA-2 TO-15
n-Propylbenzene	0.25	0.16	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	0.25	0.080	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	0.18	0.080	ppb(v/v)	EPA-2 TO-15

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

H1B240528

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
SS-3019L-0211 02/18/11 08:56 008				
Trichloroethene	0.050	0.040	ppb(v/v)	EPA-2 TO-15
Benzene	0.31	0.080	ppb(v/v)	EPA-2 TO-15

ANALYTICAL METHODS SUMMARY

H1B240528

PARAMETER	ANALYTICAL METHOD
Volatile Organics by TO15	EPA-2 TO-15

References:

EPA-2 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999.

SAMPLE SUMMARY

H1B240528

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
METW9	001	SS-3029L-0211	02/19/11	11:37
METXD	002	BG-10-0211	02/18/11	13:07
METXF	003	B-3029L-0211	02/18/11	11:47
METXH	004	P-3029L-0211	02/18/11	12:07
METXK	005	B-3019L-0211	02/18/11	08:56
METXL	006	P-3019L-0211	02/18/11	08:58
METXM	007	BG-9-0211	02/18/11	09:04
METXN	008	SS-3019L-0211	02/18/11	08:56

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H1B240528

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

Custody seals were not present.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

MACTEC Engineering and Consulting Inc

Client Sample ID: SS-3029L-0211

GC/MS Volatiles

Lot-Sample #...: H1B240528-001 **Work Order #...:** METW91AA **Matrix.....:** AIR
Date Sampled...: 02/19/11 11:37 **Date Received..:** 02/24/11
Prep Date.....: 02/28/11 **Analysis Date..:** 02/28/11
Prep Batch #...: 1060109
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	**0.29**	**0.16**	**ppb(v/v)**
n-Propylbenzene	**0.17**	**0.16**	**ppb(v/v)**
Tetrachloroethene	**0.19**	**0.080**	**ppb(v/v)**
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	**0.050**	**0.040**	**ppb(v/v)**
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)
Benzene	**0.21**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	103	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: BG-10-0211

GC/MS Volatiles

Lot-Sample #...:	H1B240528-002	**Work Order #...:**	METXD1AA	**Matrix.....:**	AIR
Date Sampled...:	02/18/11 13:07	**Date Received..:**	02/24/11		
Prep Date.....:	02/28/11	**Analysis Date..:**	03/01/11		
Prep Batch #...:	1060109				
Dilution Factor:	1	**Method.....:**	EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)
Benzene	**0.14**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	99	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: B-3029L-0211

GC/MS Volatiles

Lot-Sample #...: H1B240528-003 **Work Order #...:** METXF1AA **Matrix.....:** AIR
Date Sampled...: 02/18/11 11:47 **Date Received..:** 02/24/11
Prep Date.....: 02/28/11 **Analysis Date..:** 03/01/11
Prep Batch #...: 1060109
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	**0.26**	**0.040**	**ppb(v/v)**
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)
Benzene	**0.37**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	100	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: P-3029L-0211

GC/MS Volatiles

Lot-Sample #...: H1B240528-004 **Work Order #...:** METXH1AA **Matrix.....:** AIR
Date Sampled...: 02/18/11 12:07 **Date Received..:** 02/24/11
Prep Date.....: 02/28/11 **Analysis Date..:** 03/01/11
Prep Batch #...: 1060109
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)
Benzene	**0.90**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	100	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: B-3019L-0211

GC/MS Volatiles

Lot-Sample #...: H1B240528-005	**Work Order #...:** METXK1AA	**Matrix.....:** AIR	
Date Sampled...: 02/18/11 08:56	**Date Received..:** 02/24/11		
Prep Date.....: 02/28/11	**Analysis Date..:** 03/01/11		
Prep Batch #...: 1060109			
Dilution Factor: 1	**Method.....:** EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	**0.040**	**0.040**	**ppb(v/v)**
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	**0.085**	**0.080**	**ppb(v/v)**
Benzene	**0.33**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	101	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: P-3019L-0211

GC/MS Volatiles

Lot-Sample #...:	H1B240528-006	**Work Order #...:**	METXL1AA	**Matrix.....:**	AIR
Date Sampled...:	02/18/11 08:58	**Date Received..:**	02/24/11		
Prep Date.....:	02/28/11	**Analysis Date..:**	03/01/11		
Prep Batch #...:	1060109				
Dilution Factor:	1	**Method.....:**	EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloroethane	**0.089**	**0.080**	**ppb(v/v)**
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	**0.096**	**0.080**	**ppb(v/v)**
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	**0.16**	**0.16**	**ppb(v/v)**
Tetrachloroethene	**0.20**	**0.080**	**ppb(v/v)**
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)
Benzene	**0.69**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	105	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: BG-9-0211

GC/MS Volatiles

Lot-Sample #...: H1B240528-007 **Work Order #...:** METXM1AA **Matrix.....:** AIR
Date Sampled...: 02/18/11 09:04 **Date Received..:** 02/24/11
Prep Date.....: 02/28/11 **Analysis Date..:** 03/01/11
Prep Batch #...: 1060109
Dilution Factor: 1 **Method.....:** EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	ND	0.16	ppb(v/v)
n-Propylbenzene	ND	0.16	ppb(v/v)
Tetrachloroethene	ND	0.080	ppb(v/v)
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)
Trichloroethene	ND	0.040	ppb(v/v)
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)
Benzene	**0.15**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	101	(60 - 140)

MACTEC Engineering and Consulting Inc

Client Sample ID: SS-3019L-0211

GC/MS Volatiles

Lot-Sample #...: H1B240528-008 Work Order #...: METXN1AA Matrix.....: AIR
Date Sampled...: 02/18/11 08:56 Date Received..: 02/24/11
Prep Date.....: 02/28/11 Analysis Date..: 03/01/11
Prep Batch #...: 1060109
Dilution Factor: 1 Method.....: EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloroethane	ND	0.080	ppb(v/v)
1,1-Dichloroethane	ND	0.080	ppb(v/v)
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)
1,1-Dichloroethene	ND	0.080	ppb(v/v)
1,2-Dichloropropane	ND	0.080	ppb(v/v)
Isopropylbenzene	**0.34**	**0.16**	**ppb(v/v)**
n-Propylbenzene	**0.25**	**0.16**	**ppb(v/v)**
Tetrachloroethene	**0.25**	**0.080**	**ppb(v/v)**
1,1,1-Trichloroethane	**0.18**	**0.080**	**ppb(v/v)**
Trichloroethene	**0.050**	**0.040**	**ppb(v/v)**
Vinyl chloride	ND	0.080	ppb(v/v)
tert-Butylbenzene	ND	0.20	ppb(v/v)
1,2-Dichloroethane	ND	0.080	ppb(v/v)
Benzene	**0.31**	**0.080**	**ppb(v/v)**
sec-Butylbenzene	ND	0.16	ppb(v/v)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	100	(60 - 140)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: H1B240528 **Work Order #...:** ME1GL1AA **Matrix.....:** AIR
MB Lot-Sample #: H1C010000-109

Prep Date.....: 02/28/11
Analysis Date..: 02/28/11 **Prep Batch #...:** 1060109
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Vinyl chloride	ND	0.080	ppb(v/v)	EPA-2 TO-15
Benzene	ND	0.080	ppb(v/v)	EPA-2 TO-15
sec-Butylbenzene	ND	0.16	ppb(v/v)	EPA-2 TO-15
tert-Butylbenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
Chloroethane	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,1-Dichloroethane	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,2-Dichloroethane	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,1-Dichloroethene	ND	0.080	ppb(v/v)	EPA-2 TO-15
cis-1,2-Dichloroethene	ND	0.080	ppb(v/v)	EPA-2 TO-15
trans-1,2-Dichloroethene	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,2-Dichloropropane	ND	0.080	ppb(v/v)	EPA-2 TO-15
Isopropylbenzene	ND	0.16	ppb(v/v)	EPA-2 TO-15
n-Propylbenzene	ND	0.16	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	ND	0.080	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	ND	0.080	ppb(v/v)	EPA-2 TO-15
Trichloroethene	ND	0.040	ppb(v/v)	EPA-2 TO-15

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	98	(60 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: H1B240528 Work Order #...: ME1GL1AC Matrix.....: AIR
LCS Lot-Sample#: H1C010000-109
Prep Date.....: 02/28/11 Analysis Date..: 02/28/11
Prep Batch #...: 1060109
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Vinyl chloride	**93**	**(70 - 130)**	**EPA-2 TO-15**
Chloroethane	**102**	**(70 - 130)**	**EPA-2 TO-15**
1,1-Dichloroethene	**93**	**(70 - 130)**	**EPA-2 TO-15**
trans-1,2-Dichloroethene	**108**	**(70 - 130)**	**EPA-2 TO-15**
1,1-Dichloroethane	**100**	**(70 - 130)**	**EPA-2 TO-15**
cis-1,2-Dichloroethene	**96**	**(70 - 130)**	**EPA-2 TO-15**
1,1,1-Trichloroethane	**114**	**(70 - 130)**	**EPA-2 TO-15**
1,2-Dichloroethane	**101**	**(70 - 130)**	**EPA-2 TO-15**
Benzene	**86**	**(70 - 130)**	**EPA-2 TO-15**
1,2-Dichloropropane	**79**	**(70 - 130)**	**EPA-2 TO-15**
Trichloroethene	**99**	**(70 - 130)**	**EPA-2 TO-15**
Tetrachloroethene	**97**	**(70 - 130)**	**EPA-2 TO-15**
Isopropylbenzene	**86**	**(70 - 130)**	**EPA-2 TO-15**
n-Propylbenzene	**83**	**(70 - 130)**	**EPA-2 TO-15**
tert-Butylbenzene	**85**	**(70 - 130)**	**EPA-2 TO-15**
sec-Butylbenzene	**87**	**(70 - 130)**	**EPA-2 TO-15**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	105	(60 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: H1B240528 Work Order #...: ME1GL1AC Matrix.....: AIR
LCS Lot-Sample#: H1C010000-109
Prep Date.....: 02/28/11 Analysis Date..: 02/28/11
Prep Batch #...: 1060109
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Vinyl chloride	**5.0**	**4.6**	**ppb(v/v)**	**93**	**EPA-2 TO-15**
Chloroethane	**5.0**	**5.1**	**ppb(v/v)**	**102**	**EPA-2 TO-15**
1,1-Dichloroethene	**5.0**	**4.6**	**ppb(v/v)**	**93**	**EPA-2 TO-15**
trans-1,2-Dichloroethene	**5.0**	**5.4**	**ppb(v/v)**	**108**	**EPA-2 TO-15**
1,1-Dichloroethane	**5.0**	**5.0**	**ppb(v/v)**	**100**	**EPA-2 TO-15**
cis-1,2-Dichloroethene	**5.0**	**4.8**	**ppb(v/v)**	**96**	**EPA-2 TO-15**
1,1,1-Trichloroethane	**5.0**	**5.7**	**ppb(v/v)**	**114**	**EPA-2 TO-15**
1,2-Dichloroethane	**5.0**	**5.0**	**ppb(v/v)**	**101**	**EPA-2 TO-15**
Benzene	**5.0**	**4.3**	**ppb(v/v)**	**86**	**EPA-2 TO-15**
1,2-Dichloropropane	**5.0**	**4.0**	**ppb(v/v)**	**79**	**EPA-2 TO-15**
Trichloroethene	**5.0**	**5.0**	**ppb(v/v)**	**99**	**EPA-2 TO-15**
Tetrachloroethene	**5.0**	**4.9**	**ppb(v/v)**	**97**	**EPA-2 TO-15**
Isopropylbenzene	**5.0**	**4.3**	**ppb(v/v)**	**86**	**EPA-2 TO-15**
n-Propylbenzene	**5.0**	**4.1**	**ppb(v/v)**	**83**	**EPA-2 TO-15**
tert-Butylbenzene	**5.0**	**4.3**	**ppb(v/v)**	**85**	**EPA-2 TO-15**
sec-Butylbenzene	**5.0**	**4.4**	**ppb(v/v)**	**87**	**EPA-2 TO-15**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	105	(60 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H1B240528

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** STEVE MURRAY	**Sampled By:** Steven Buyze	1 of 1 COCs
Company: MACTEC	Phone: 231-922-9050		
Address: 41 Hughes DRIVE	Site Contact: STEVE BUYZE		
City/State/Zip TRAVERSE CITY MI 49696	TAL Contact: MARK LOEB		
Phone: 231-922-9050			
FAX: 231-922-9055			
Project Name: HONEYWELL SB VAPOR INTRUSION	**Analysis Turnaround Time**		
Site/location: SOUTH BEND, IN	Standard (Specify)		
PO # 51332286	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SS-3029L-0211	2-18-11 → 2-19-11	1133	11:37	-29	-6	K168	62273	X											
BG-10-0211	2-17-11 → 2-18-11	1137	1307	-29	-6	K200	6370	X											
B-3029L-0211	2-17-11 → 2-18-11	1133	1147	-28.5	-5.5	K124	2966	X											
P-3029L-0211	2-17-11 2-18-11	1132	1207	-29	-5.5	K284	93245	X											

Sampled by :

	Temperature (Fahrenheit)	
	Interior	Ambient
Start		
Stop		

	Pressure (inches of Hg)	
	Interior	Ambient
Start		
Stop		

5 boxes NO Custody SEALS
RECEIVED @ Ambient Temp
R.H 2/24/11
5 boxes UPS 1Z5403W503458967 29
1Z5403W503478665O7
1Z5403W503450333 39
1Z5403W503460509 43
1Z5403W503465411 18

Special Instructions/QC Requirements & Comments:
RUN TO-15 LOW LEVEL LIST B CONSTITUENTS ATTACHED
24 CANS 24 FLOWS

Canisters Shipped by: Steve Buyze	Date/Time: 2-21-11 1130	Canisters Received by:
Samples Relinquished by:	Date/Time:	Received by: Rita Hancock 2/24/11 09:45
Relinquished by:	Date/Time:	Received by:

1716240528

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: STEVE MURRAY	Sampled By: Steven Buyze	1 of 1 COCs
Company: MACTEC	Phone: 231-922-9050		
Address: 41 HUGHES DRIVE	Site Contact: STEVE BUYZE		
City/State/Zip TRAVERSE CITY, MI 49696	TAL Contact: MARK LOEB		
Phone: 231-922-9050			
FAX: 231-922-9055			
Project Name: HONEYWELL SB VAPOR INTRUSION	Analysis Turnaround Time		
Site/location: SOUTH BEND IN	Standard (Specify)		
PO # 5133286	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample type:	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
B-3019L-0211	2-17-11 → 2-18-11	0846	0856	-29	-7	K462	6350	X											
P-3019L-0211	2-17-11 → 2-18-11	0849	0858	-29	-6	K216	6520	X											
BG-9-0211	2-17-11 → 2-18-11	0858	0904	-30	-5.5	K314	L4926	X											
SS-3019L-0211	2-17-11 → 2-18-11	0846	0856	-27.5	-4	K483	1147	X											

Sampled by :

Temperature (Fahrenheit)			
	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)			
	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
RUN TO-15 LIST B CONSTITUENTS (ATTACHED)

Canisters Shipped by: Steven Buyze	Date/Time: 2/21/2011 1146	Canisters Received by:
Samples Relinquished by:	Date/Time:	Received by: Rita Yancock 2/24/11 09:45
Relinquished by:	Date/Time:	Received by:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: H1B240528

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ 1a Do not match COC ☐ 1b Incomplete information ☐ 1c Marking smeared ☐ 1d Label torn ☐ 1e No label ☐ 1f COC not received ☐ 1g Other:	4A
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C)			✓	☐ 2a Temp Blank = ______ ☐ 2b Cooler Temp = ______ ☐ 2c Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ 3a Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?		✓		☑ 4a Not present ☐ 4b Not intact ☐ 4c Other:	
5. Were all of the samples listed on the COC received?	✓			☐ 5a Samples received-not on COC ☐ 5b Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ 6a Leaking ☐ 6b Broken	
7. Were VOA samples received without headspace?			✓	☐ 7a Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ 8a Improper container	
9. Did you check for residual chlorine, if necessary?			✓	☐ 9a Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ 10a Holding time expired	
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? ______	
13. Are the shipping containers intact?	✓			☐ 13a Leaking ☐ 13b Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ 14a Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ 15a Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ 15a Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ 15a Incomplete information	
18. Is the client and project name/# identified?	✓			☐ 15a Incomplete information	
19. Was the sampler identified on the COC?	✓				

Quote #: 75525 PM Instructions: NA

Sample Receiving Associate: [signature] Date: 2-24-11

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Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H1B240528*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Tedlar Bag Time	Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (-in or + psig)	Analyst/Date	I / S	Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
JDF 225-11	NA	28.61	METW9	62273	-4.7													8989
			METXD	6370	-4.3													9000
			METXF	2966	-4.9													8976
			METXH	93245	-4.4													9019
			METXK	6350	-6.6													8984
			METXL	6520	-5.8													8990
			METXM	L4426	-3.6													8996
			METXN	1147	-4.9													9020

Original Chain of Custody Documentation

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H1B240528

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** STEVE MURRAY	**Sampled By:** Steven Buyze	1 of 1 COCs
Company: MACTEC	Phone: 231-922-9050		
Address: 41 HUGHES DRIVE	Site Contact: STEVE BUYZE		
City/State/Zip TRAVERSE CITY MI 49696	TAL Contact: MARK LOCB		
Phone: 231-922-9050			
FAX: 231-922-9055			
Project Name: HONEYWELL SB VAPOR INTRUSION	**Analysis Turnaround Time**		
Site/location: SOUTH BEND, IN	Standard (Specify)		
PO # 51332286	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SS-3029L-0211	2-18-11 → 2-19-11	1133	11:37	-29	-6	K168	62273	X											
BG-10-0211	2-17-11 → 2-18-11	1137	1307	-29	-6	K200	6370	X											
B-3029L-0211	2-17-11 → 2-18-11	1133	1147	-28.5	-5.5	K124	2966	X											
P-3029L-0211	2-17-11 2-18-11	1132	1207	-29	-5.5	K284	93245	X											

Sampled by :

	Temperature (Fahrenheit)	
	Interior	Ambient
Start		
Stop		

	Pressure (inches of Hg)	
	Interior	Ambient
Start		
Stop		

5 boxes NO Custody SEALS
RECEIVED @ Ambient Temp
R.H 2/24/11
5 boxes UPS 1Z5403W50345896729
1Z5403W50347866507
1Z5403W50345033339
1Z5403W50346050943
1Z5403W50346541118

Special Instructions/QC Requirements & Comments:
RUN TO-15 LOW LEVEL LIST B CONSTITUENTS ATTACHED
24 CANS 24 FLOWS

Canisters Shipped by: Steve Buyze	Date/Time: 2-21-11 1130	Canisters Received by:
Samples Relinquished by:	Date/Time:	Received by: Rita Hancock 2/24/11 09:45
Relinquished by:	Date/Time:	Received by:

1-7162405528

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager:** STEVE MURRAY	**Sampled By:** Steven Buyze	1 of 1 COCs
Company: MACTEC	Phone: 231-922-9050		
Address: 41 HUGHES DRIVE	Site Contact: STEVE BUYZE		
City/State/Zip TRAVERSE CITY MI 49696	TAL Contact: MARK LOEB		
Phone: 231-922-9050			
FAX: 231-922-9055			
Project Name: HONEYWELL SB VAPOR INTRUSION	**Analysis Turnaround Time**		
Site/location: SOUTH BEND IN	Standard (Specify)_____		
PO # 5133286	Rush (Specify)_____		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
B-3019L-0211	2-17-11 → 2-18-11	0846	0856	-29	-7	K462	6350	X											
P-3019L-0211	2-17-11 → 2-18-11	0849	0858	-29	-6	K216	6520	X											
BG-9-0211	2-17-11 → 2-18-11	0858	0904	-30	-5.5	K314	L4426	X											
SS-3019L-0211	2-17-11 → 2-18-11	0846	0856	-27.5	-4	K483	1147	X											

Sampled by :

Temperature (Fahrenheit)			
	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)			
	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
RUN TO-15 LIST B CONSTITUENTS (ATTACHED)

Canisters Shipped by: Steven Buyze	Date/Time: 2/21/2011 1146	Canisters Received by:
Samples Relinquished by:	Date/Time:	Received by: Rita Hancock 2/24/11 09:45
Relinquished by:	Date/Time:	Received by: