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April 15, 2011

Indiana Department of Environmental Management
Voluntary Remediation Program
100 N. Senate Avenue
MC 66-30V IGCN N1101
Indianapolis, IN 46204-2251

Attention: Loan Pham, Project Manager

Subject: **Off-Property Vapor Intrusion Evaluation**
Honeywell Industrial Complex, South Bend, Indiana
IDEM Site Number: 6980601

Dear Ms. Pham:

MACTEC Engineering and Consulting, Inc. (MACTEC), on behalf of Honeywell International, Inc. (Honeywell), is submitting the above-referenced memorandum for your review. Per your request, we have enclosed two (2) hard copies and one electronic copy on CD.

If you have any immediate questions or concerns, please call Craig Kielty at 231 922-9050.

Sincerely,

MACTEC Engineering and Consulting, Inc.

Steven D. Murray, CPG
Principal Project Manager

Craig S. Kielty
Principal Project Scientist

Enclosure

cc: Chuck Geadelmann, Honeywell International
Eric Kloss, Honeywell Aerospace
Marc Nelson, St. Joseph County Health Department

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MACTEC Engineering and Consulting, Inc.

MEMORANDUM

DATE:	**April 15, 2011**
FROM:	Steven Buyze (Mactec Engineering and Consulting, Inc.)
SUBJECT:	**Off-Property Vapor Intrusion Evaluation** **South Bend, Indiana**
PROJECT #:	3310102016
TO:	Ms. Loan Pham – Indiana Department of Environmental Management
COPY TO:	Chuck Geadelmann (Honeywell International); Deborah Barsotti, Steve Murray, Craig Kielty (Mactec)

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 15 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 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.

Following a discussion of the results and a subsequent meeting with IDEM, Honeywell was asked to conduct 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. This memorandum provides the methodology and results of the first sampling event carried out during the winter season (February 2011). The summer season event is tentatively scheduled for late July 2011.

METHODS

Mactec Engineering and Consulting, Inc. (Mactec) 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, Mactec entered the residential structures to install one sub-slab vapor sample 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. Sampling was conducted over a three week period from February 2, 2011 through February 19, 2011. Indoor Air Building Survey Checklists from IDEM's 2006 *Draft Vapor Intrusion Pilot Program Guidance* were completed by the occupants of the dwellings and Mactec field personnel. Copies of completed Indoor Air Building Survey Checklist 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 as follows:

1. 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 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 surface of 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.

Sample Collection

Mactec 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. Dead air space was purged from stainless steel screen and tubing by purging three times the volume of the screen and tubing with a 60 mL luer lock syringe
2. 6-liter summa canister was connected to air train
3. ¼-inch OD polyethylene tubing was attached to empty port of three-way valve with luer lock connection fitting
4. Remaining end of ¼-inch OD tubing was connected to air train with laboratory supplied compression fitting
5. Three-way and summa canister valves were opened
6. 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 8 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. In the case of the sub-slab sample points, the tubing was then removed from the flow regulators and union connection located at the surface concrete. A plug was then used to seal the union. 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.

With the exception of the sub-slab soil vapor sample collected at Home 11, each sub-slab sample was collected at the same time as the corresponding indoor air samples. For Home 11, on February 18, Mactec field personnel arrived on-site to retrieve the sub-slab and ambient air samples and observed that the summa canister regulator had not moved indicating the potential that no sample was collected. After further inspection, the three-way valve was not completely open and no air had been collected into the summa canister. The valve was then activated and summa canister retrieved the following day. No background samples were collected in conjunction with that sample.

RESULTS

Analytical results are presented on Table 1 and analytical laboratory reports are located in Appendix D. 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.

Sub-slab sample analytical results indicated the presence of six VOCs beneath basement concrete slabs. However, none of these detections exceeded an established or calculated sub-slab screening level for the most stringent 30 year exposure duration.

Indoor air sample results indicated the presence of nine VOCs in either the basement or primary living space. RIAALs were not exceeded in six of the 11 residences. One or more RIAAL was exceeded in the remaining five residences. The RIAAL was exceeded for benzene (Home 1 basement and primary, Home 8 basement and primary, and Home 11 primary); 1,2 dichloroethane (1,2 DCA) (Home 2 and Home 6 primary) and TCE (Home 11 basement).

In outdoor air samples, low levels of benzene were detected in each upwind and downwind sample collected for each days sampling. Low levels of tetrachloroethene were detected in the upwind and downwind sample collected on February 3.

CONCLUSIONS

With the completion of the first of two sampling events, Mactec 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 the first sampling event. As a result, although RIAAL exceedances for three VOCs were observed in indoor air, 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. Mactec 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 the first sampling event. 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 three residences. Survey information collected from these three 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. Home 8 has an attached garage and is in closest proximity to the main thoroughfare. 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.

Similarly, the source of 1,2-DCA in Home 2 and Home 6 is likely from an indoor source within the home since no detections were observed 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, paint removers and result from out gassing of molded plastic consumer products.

TCE was detected above the RIAAL in Home 11 basement sample. TCE was also detected in the sub-slab sample at 0.050 ppbv however, well below the sub-slab screening level of 2.3 ppbv. 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.

The second sample event is scheduled to be completed in July of 2011. This round of sampling will identify any seasonal fluctuations in the soil vapors.

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	Home 1 Basement	Home 1 Primary	Home 1 Sub-Slab	Home 2 Basement	Home 2 Primary	Home 2 Sub-Slab	Home 3 Basement	Home 3 Primary	Home 3 Sub-Slab	Home 4 Basement	Home 4 Primary	Home 4 Sub-Slab
			Sample Date	2/2/2011	2/2/2011	2/2/2011	2/2/2011	2/2/2011	2/2/2011	2/2/2011	2/2/2011	2/2/2011	2/3/2011	2/3/2011	2/3/2011
			Analyzed Date	2/11/2011	2/11/2011	2/11/2011	2/11/2011	2/11/2011	2/11/2011	2/11/2011	2/11/2011	2/11/2011	2/11/2011	2/11/2011	2/11/2011
Benzene	0.78	7.8	ppbv	**1.9**	**2.1**	**0.60**	**0.20**	**0.20**	**0.30**	**0.31**	**0.30**	**0.30**	**0.41**	**0.36**	**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	<0.080	<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**	**0.10**	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	**0.15**	<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	**0.26**	<0.16	<0.16	<0.16	<0.16	<0.16	**0.21**	<0.16	<0.16	**0.17**
Tetrachloroethene	0.47	4.7	ppbv	<0.080	<0.080	**0.46**	<0.080	<0.080	**0.39**	<0.080	<0.080	**0.39**	<0.080	<0.080	**0.36**
1,1,1-Trichloroethane	420	4200*	ppbv	<0.080	<0.080	**0.13**	<0.080	<0.080	**0.25**	<0.080	<0.080	**0.10**	<0.080	**0.11**	<0.080
Trichloroethene	0.23	2.3	ppbv	**0.067**	**0.078**	**0.13**	<0.040	<0.040	**0.36**	<0.040	<0.040	**0.14**	<0.040	**0.081**	**0.065**
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	**0.084**	**0.11**	<0.080	<0.080	**0.20**	<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

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	Home 5 Basement	Home 5 Primary	Home 5 Sub-Slab	Home 6 Basement	Home 6 Primary	Home 6 Sub-Slab	Home 7 Basement	Home 7 Primary	Home 7 Sub-Slab	Home 8 Basement	Home 8 Primary	Home 8 Sub-Slab
			Sample Date	2/3/2011	2/3/2011	2/3/2011	2/4/2011	2/4/2011	2/4/2011	2/10/2011	2/10/2011	2/10/2011	2/10/2011	2/10/2011	2/10/2011
			Analyzed Date	2/11/2011	2/11/2011	2/11/2011	2/11/2011	2/11/2011	2/11/2011	2/17/2011	2/17/2011	2/17/2011	2/17/2011	2/17/2011	2/17/2011
Benzene	0.78	7.8	ppbv	**0.28**	**0.35**	**0.22**	**0.33**	**0.31**	**0.35**	**0.34**	**0.34**	**2.80**	**1.7**	**1.7**	**0.54**
sec-Butylbenzene	NC	NC	ppbv	<0.16	**0.71**	<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	**0.60**	<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	**1.90**	**0.23**	<0.16	<0.16	<0.16	<0.16	<0.16	**0.21**	**0.25**	**0.31**	<0.16
Tetrachloroethene	0.47	4.7	ppbv	<0.080	<0.080	**0.87**	<0.080	<0.080	**1.0**	**0.14**	**0.26**	**0.39**	<0.080	<0.080	**0.79**
1,1,1-Trichloroethane	420	4200*	ppbv	<0.080	**0.089**	**1.2**	<0.080	<0.080	<0.080	<0.080	<0.080	**0.26**	<0.080	<0.080	**0.69**
Trichloroethene	0.23	2.3	ppbv	<0.040	<0.040	**0.044**	<0.040	<0.040	**0.060**	<0.040	<0.040	**0.10**	<0.040	<0.040	**0.12**
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	**0.11**	**0.20**	<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

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	Home 9 Basement	Home 9 Primary	Home 9 Sub-Slab	Home 10 Basement	Home 10 Primary	Home 10 Sub-Slab	Home 11 Basement	Home 11 Primary	Home 11 Sub-Slab	BG-1-0211	BG-2-0211	BG-3-0211
			Sample Date	2/10/2011	2/10/2011	2/10/2011	2/18/2011	2/18/2011	2/18/2011	2/18/2011	2/18/2011	2/19/2011	2/2/2011	2/2/2011	2/3/2011
			Analyzed Date	2/17/2011	2/17/2011	2/17/2011	3/1/2011	3/1/2011	3/1/2011	3/1/2011	3/1/2011	2/28/2011	2/11/2011	2/11/2011	2/11/2011
Benzene	0.78	7.8	ppbv	**0.26**	**0.26**	**0.19**	**0.33**	**0.69**	**0.31**	**0.37**	**0.90**	**0.21**	**0.19**	**0.17**	**0.25**
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	**0.089**	<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	**0.096**	<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	**0.34**	<0.16	<0.16	**0.29**	<0.16	<0.16	<0.16
n-Propylbenzene	30	300*	ppbv	<0.16	<0.16	<0.16	<0.16	**0.16**	**0.25**	<0.16	<0.16	**0.17**	<0.16	<0.16	<0.16
Tetrachloroethene	0.47	4.7	ppbv	<0.080	<0.080	**0.22**	<0.080	**0.20**	**0.25**	<0.080	<0.080	**0.19**	<0.080	<0.080	**0.058**
1,1,1-Trichloroethane	420	4200*	ppbv	<0.080	<0.080	**0.25**	<0.080	<0.080	**0.18**	<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**	<0.040	**0.050**	**0.26**	<0.040	**0.050**	<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	<0.080	<0.080	**0.085**	<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

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	BG-4-0211	BG-5-0211	BG-6-0211	BG-7-0211	BG-8-0211	BG-9-0211	BG-10-0211
			Sample Date	2/3/2011	2/4/2011	2/4/2011	2/10/2011	2/10/2011	2/18/2011	2/18/2011
			Analyzed Date	2/11/2011	2/11/2011	2/11/2011	2/17/2011	2/18/2011	3/1/2011	3/1/2011
Benzene	0.78	7.8	ppbv	**0.28**	**0.21**	**0.23**	**0.27**	**0.27**	**0.15**	**0.14**
sec-Butylbenzene	NC	NC	ppbv	<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
1,1-Dichloroethane	130	1300*	ppbv	<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
trans-1,2-Dichloroethene	18	180*	ppbv	<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
1,2-Dichloropropane	0.21	2.1*	ppbv	<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
n-Propylbenzene	30	300*	ppbv	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
Tetrachloroethene	0.47	4.7	ppbv	**0.17**	<0.080	<0.080	<0.080	<0.080	<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
Trichloroethene	0.23	2.3	ppbv	<0.040	<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
tert-Butylbenzene	NC	NC	ppbv	<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

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.

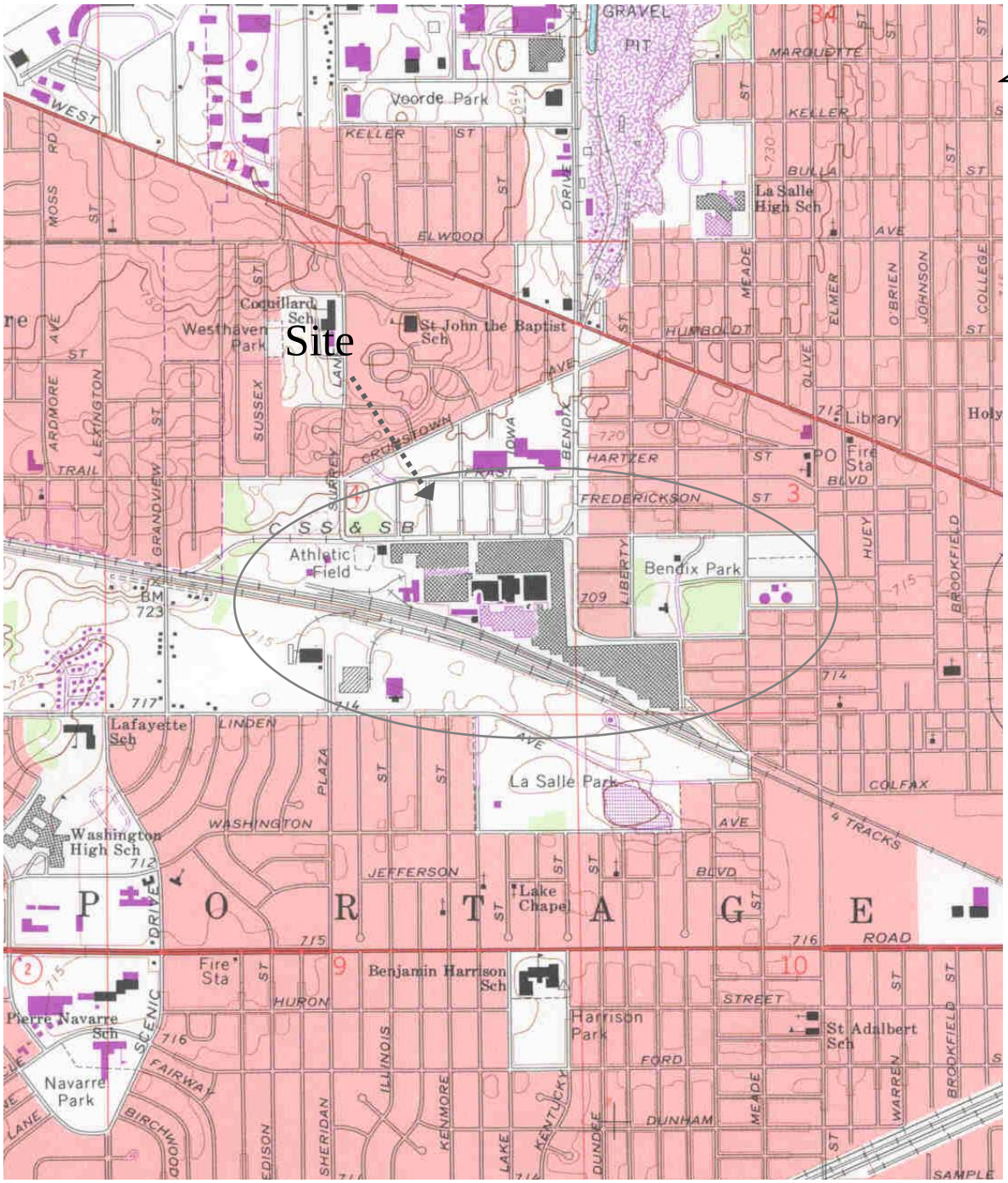
Sample Key:

B = Basement Ambient Air Sample

P = Primary Living Space Ambient Air Sample

SS = Sub-slab soil vapor sample

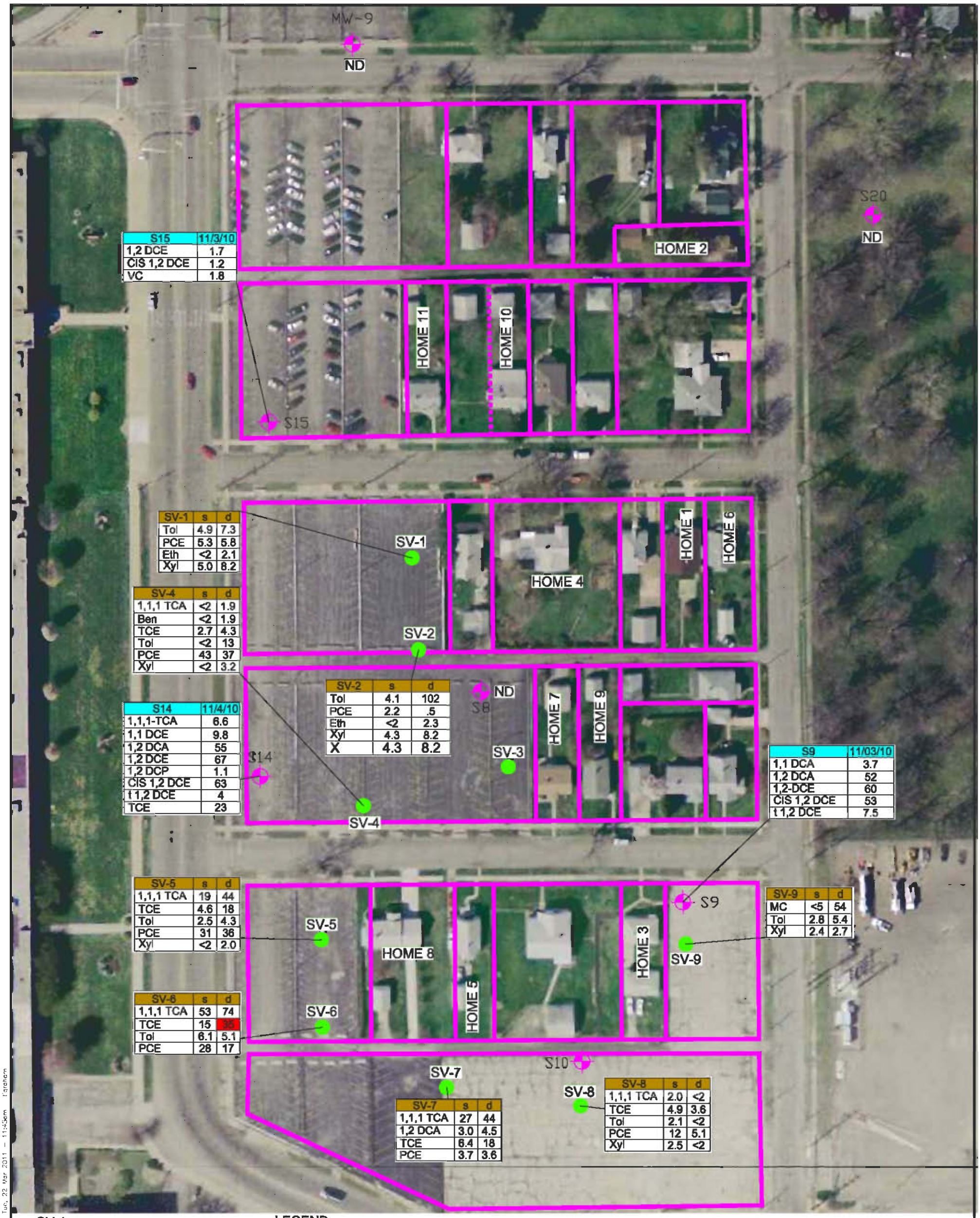
BG = Background Sample



Taken from the South Bend, Indiana 7.5 Series U.S.G.S. Topographic Quadrangle Map

Figure 1
Site Location Map
Honeywell Industrial Complex
South Bend, Indiana

LocationMap.doc



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

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

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

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

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-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-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

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

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).

N

SCALE (FT)

120 0 60 120

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CHKD. BY		

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41 Hughes Drive
Traverse City, Michigan

FIGURE 2

PREVIOUS GROUNDWATER AND SOIL GAS RESULTS

HONEYWELL INDUSTRIAL COMPLEX

SOUTH BEND, INDIANA

P:\hw - South Bend\WMCTEC Drawings & Prints\331010201B.2100.1_0311\FIGURE 2.dwg Tue, 22 Mar 2011 - 11:45am tgraham

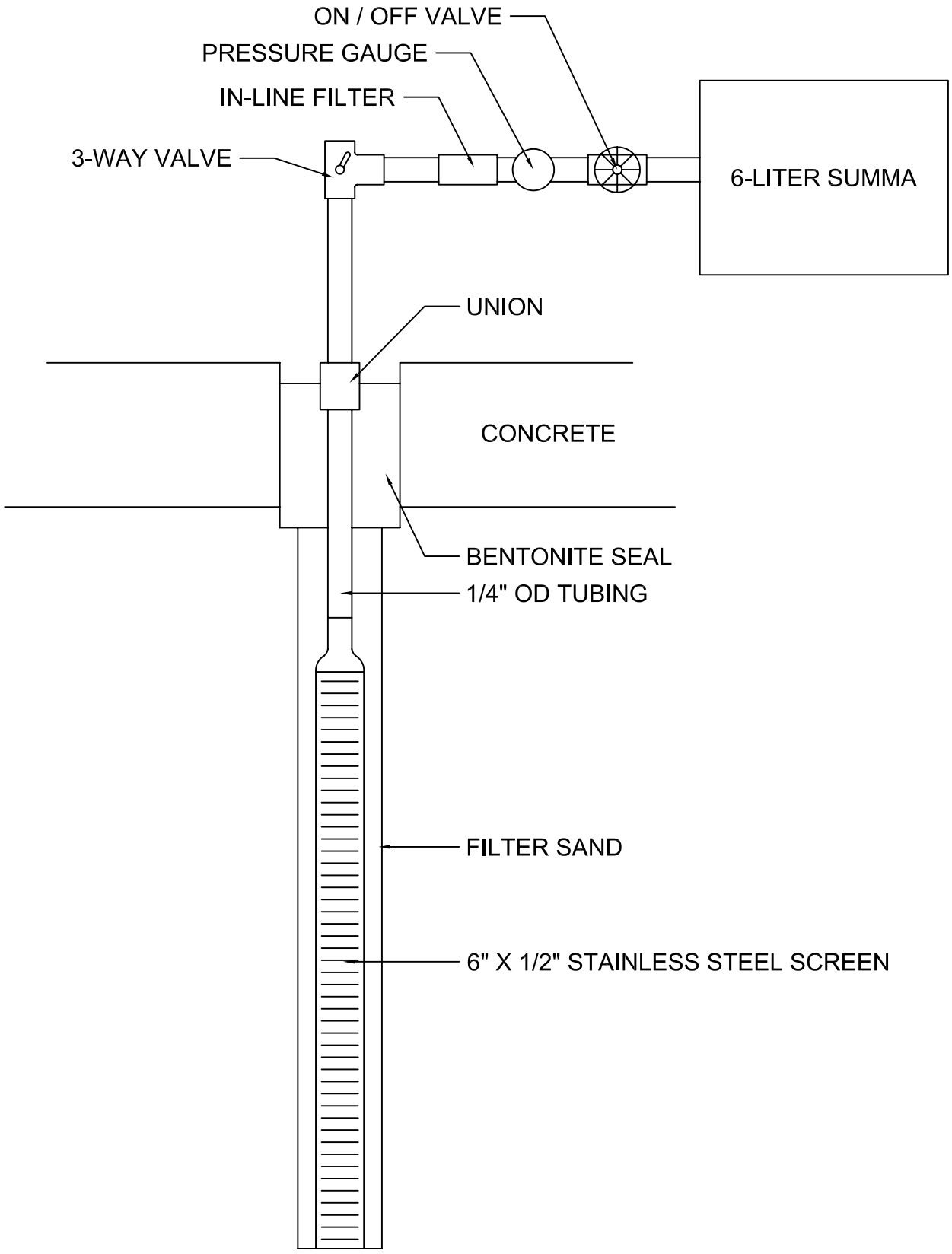

FIGURE 3

SUB-SLAB SOIL VAPOR POINT SCHEMATIC

HONEYWELL INDUSTRIAL COMPLEX

SOUTH BEND, INDIANA

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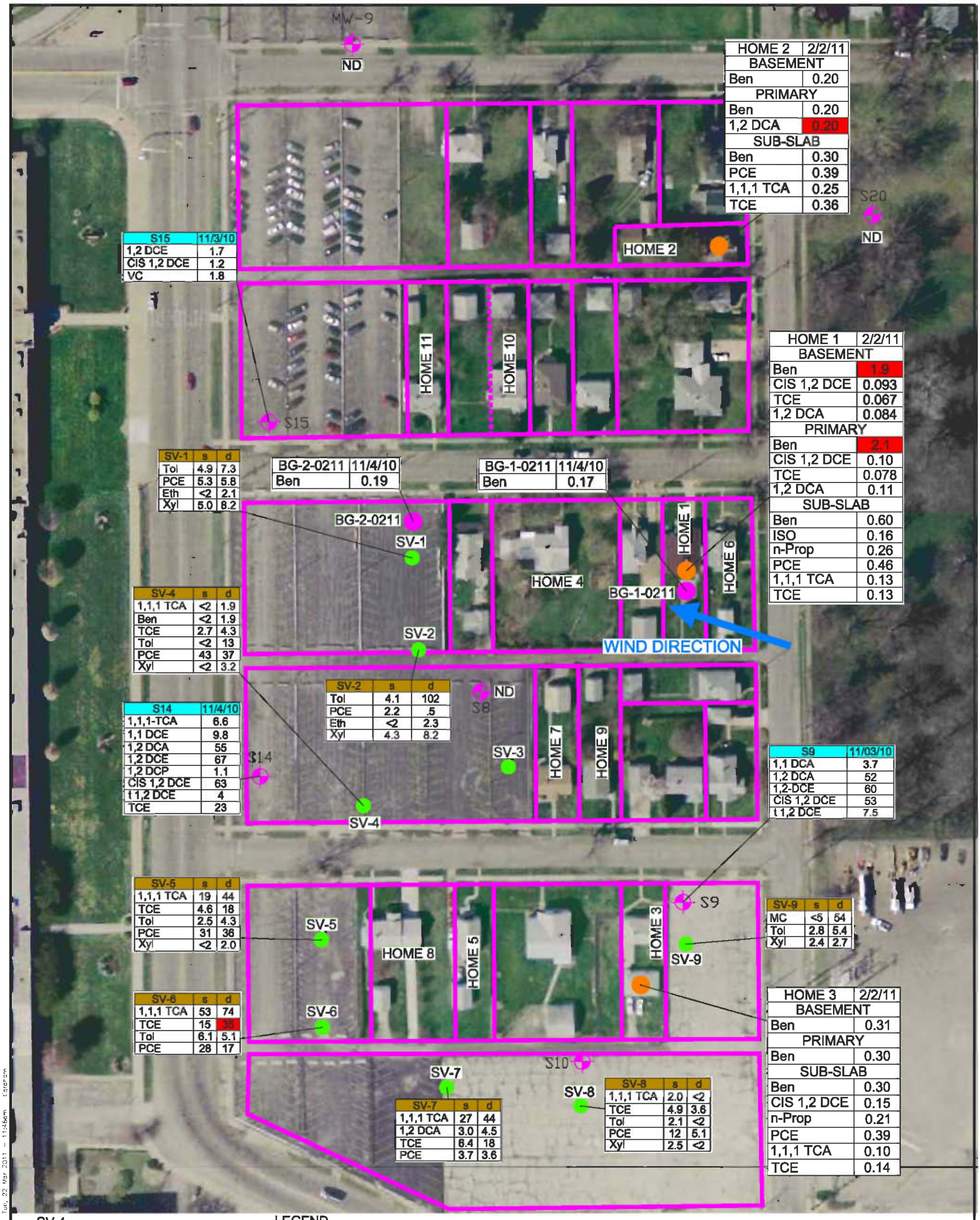
41 Hughes Drive
Traverse City, MI 49696



HOME 2	2/2/11
BASEMENT	
Ben	0.20
PRIMARY	
Ben	0.20
1,2 DCA	0.20
SUB-SLAB	
Ben	0.30
PCE	0.39
1,1,1 TCA	0.25
TCE	0.36

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

HOME 1	2/2/11
BASEMENT	
Ben	1.9
CIS 1,2 DCE	0.093
TCE	0.067
1,2 DCA	0.084
PRIMARY	
Ben	2.1
CIS 1,2 DCE	0.10
TCE	0.078
1,2 DCA	0.11
SUB-SLAB	
Ben	0.60
ISO	0.16
n-Prop	0.26
PCE	0.46
1,1,1 TCA	0.13
TCE	0.13

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

BG-2-0211	11/4/10
Ben	0.19

BG-1-0211	11/4/10
Ben	0.17

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

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

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-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-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

HOME 3	2/2/11
BASEMENT	
Ben	0.31
PRIMARY	
Ben	0.30
SUB-SLAB	
Ben	0.30
CIS 1,2 DCE	0.15
n-Prop	0.21
PCE	0.39
1,1,1 TCA	0.10
TCE	0.14

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

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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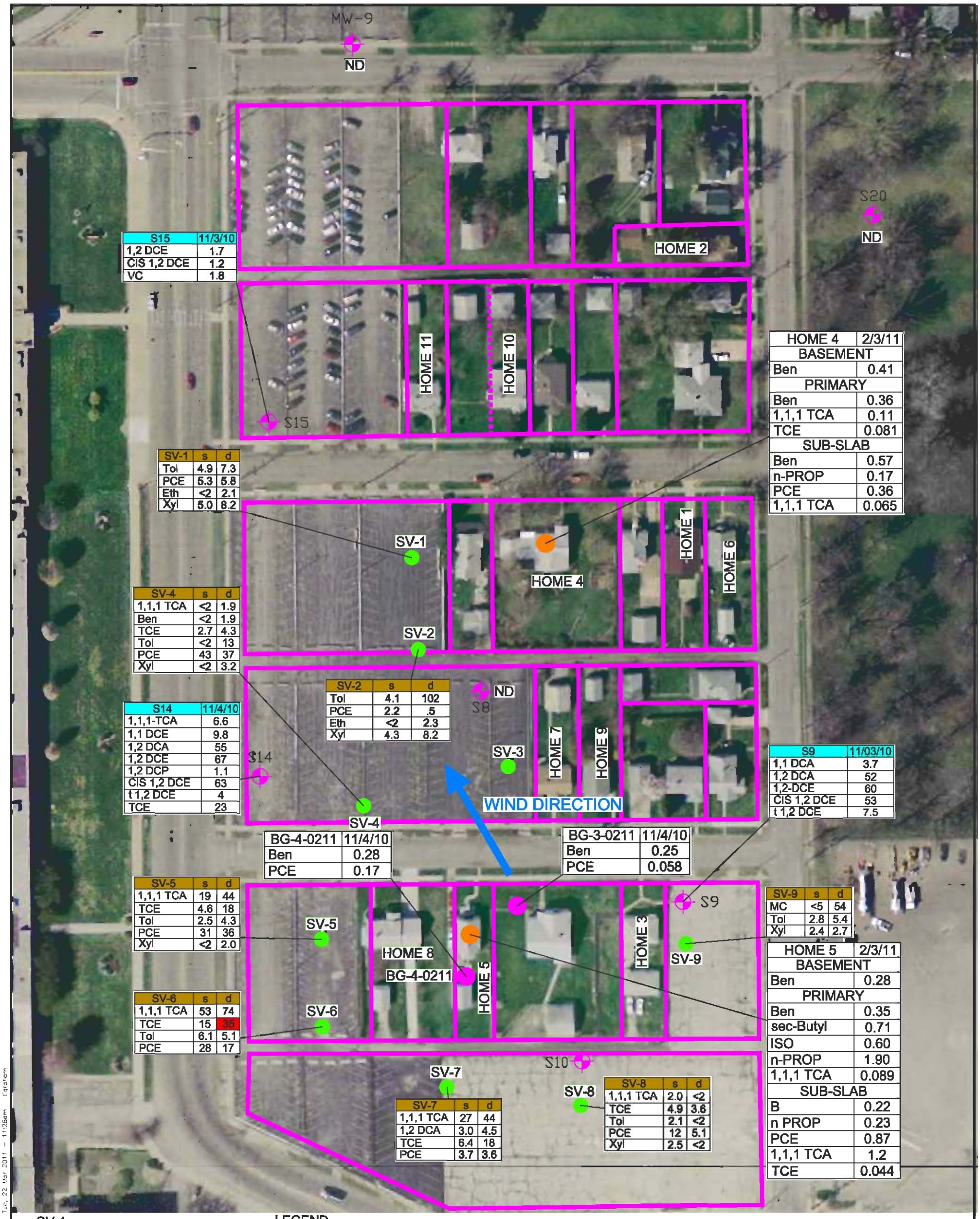
Traverse City, Michigan

FIGURE 4

VAPOR INTRUSION SAMPLING RESULTS
2/2/2011
HONEYWELL INDUSTRIAL COMPLEX

SOUTH BEND, INDIANA

P:\HW - South Bend\MACTEC Drawings & Prints\3310102016.2100.1_0311\FIGURE 4.dwg Tue, 22 Mar 2011 - 11:46am tgraham



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

HOME 4	2/3/11
BASEMENT	
Ben	0.41
PRIMARY	
Ben	0.36
1,1,1 TCA	0.11
TCE	0.081
SUB-SLAB	
Ben	0.57
n-PROP	0.17
PCE	0.36
1,1,1 TCA	0.065

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

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

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

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-4-0211	11/4/10
Ben	0.28
PCE	0.17

BG-3-0211	11/4/10
Ben	0.25
PCE	0.058

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

HOME 5	2/3/11
BASEMENT	
Ben	0.28
PRIMARY	
Ben	0.35
sec-Butyl	0.71
ISO	0.60
n-PROP	1.90
1,1,1 TCA	0.089
SUB-SLAB	
B	0.22
n PROP	0.23
PCE	0.87
1,1,1 TCA	1.2
TCE	0.044

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

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

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
sec-Butyl	sec-Butylbenzene

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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CHKD. BY		

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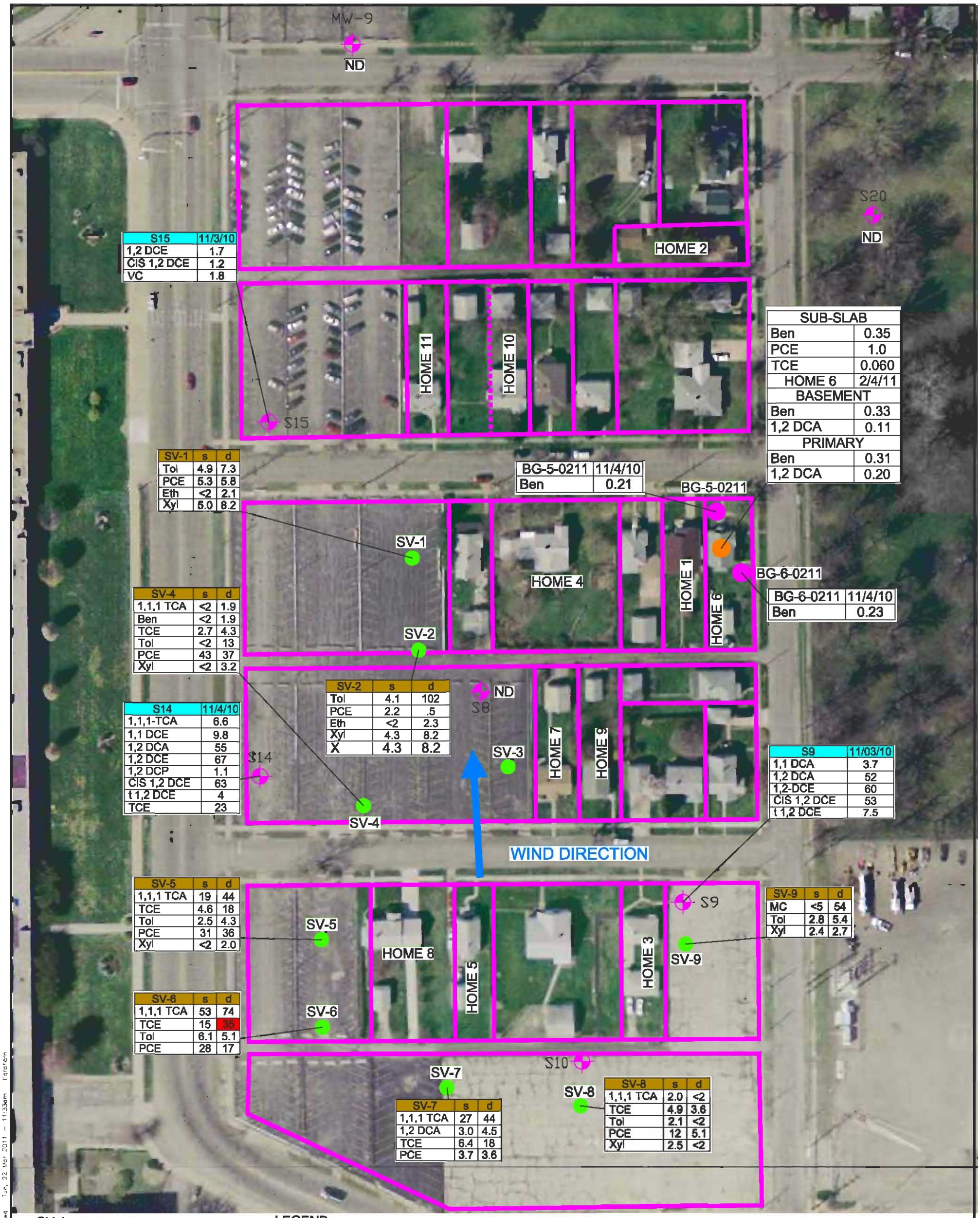
41 Hughes Drive
Traverse City, Michigan

FIGURE 5

VAPOR INTRUSION SAMPLING RESULTS
2/3/2011
HONEYWELL INDUSTRIAL COMPLEX

SOUTH BEND, INDIANA

P:\HW - South Bend\MACTEC Drawings & Proj\3310102016.2100.1_0311\FIGURE 5.dwg Tue, 22 Mar 2011 - 11:28am tgraham



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

SUB-SLAB	
Ben	0.35
PCE	1.0
TCE	0.060
HOME 6	2/4/11
BASEMENT	
Ben	0.33
1,2 DCA	0.11
PRIMARY	
Ben	0.31
1,2 DCA	0.20

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

BG-5-0211	11/4/10
Ben	0.21

BG-6-0211	11/4/10
Ben	0.23

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

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

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

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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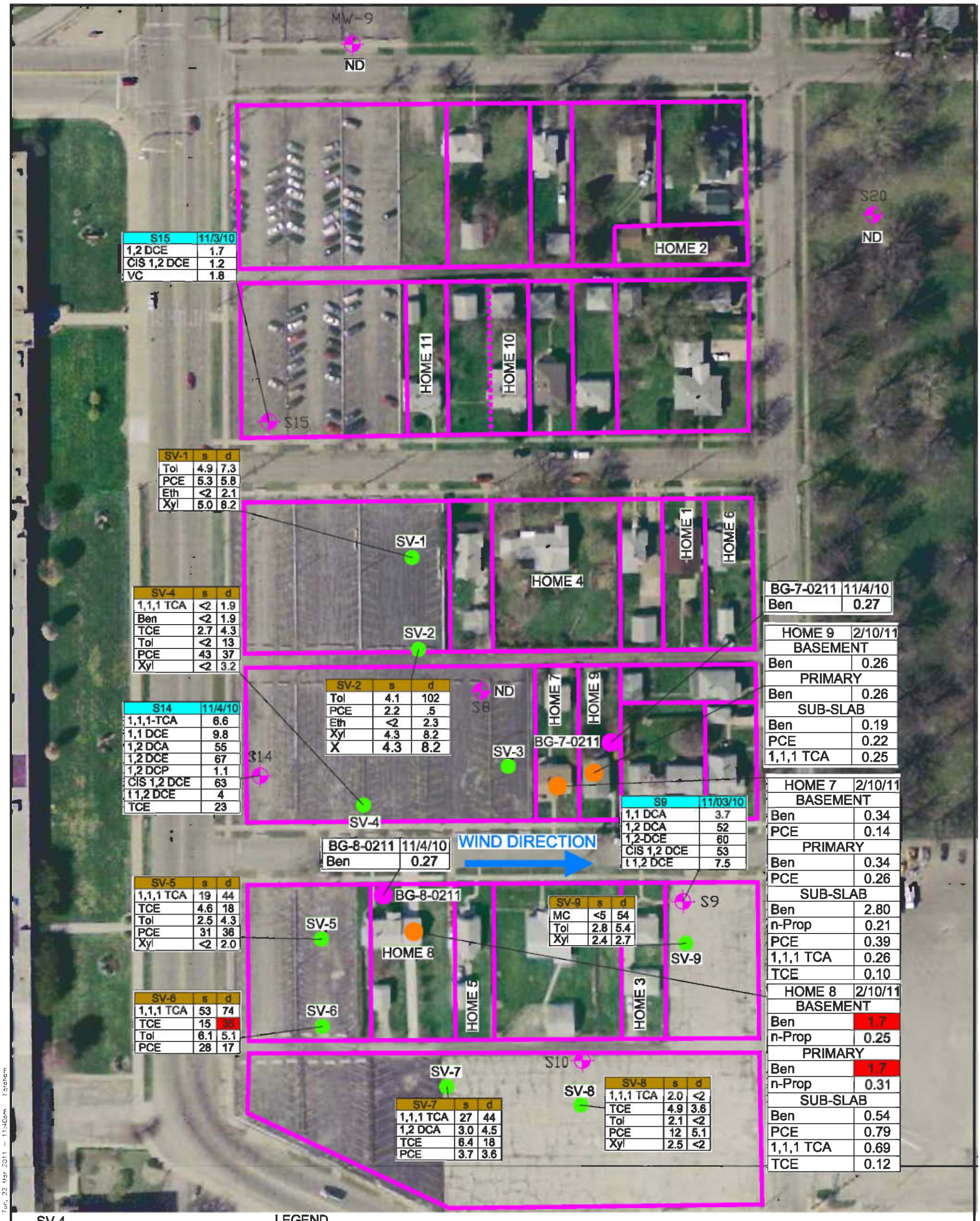
MACTEC
41 Hughes Drive
Traverse City, Michigan

FIGURE 6

VAPOR INTRUSION SAMPLING RESULTS
2/4/2011
HONEYWELL INDUSTRIAL COMPLEX

SOUTH BEND, INDIANA

P:\hw - South Bend\MACTEC Drawings & Print\331010201G\2100.1_0311\FIGURE 6 new.dwg Tue, 22 Mar 2011 - 11:33am tgraham



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

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

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

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

BG-8-0211	11/4/10
Ben	0.27

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-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-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

BG-7-0211	11/4/10
Ben	0.27

HOME 9	2/10/11
BASEMENT	
Ben	0.26
PRIMARY	
Ben	0.26
SUB-SLAB	
Ben	0.19
PCE	0.22
1,1,1 TCA	0.25

HOME 7	2/10/11
BASEMENT	
Ben	0.34
PCE	0.14
PRIMARY	
Ben	0.34
PCE	0.26
SUB-SLAB	
Ben	2.80
n-Prop	0.21
PCE	0.39
1,1,1 TCA	0.26
TCE	0.10

HOME 8	2/10/11
BASEMENT	
Ben	1.7
n-Prop	0.25
PRIMARY	
Ben	1.7
n-Prop	0.31
SUB-SLAB	
Ben	0.54
PCE	0.79
1,1,1 TCA	0.69
TCE	0.12

SV-4

LEGEND

- 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

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

DESIGNED BY		
DRAWN BY		
CHKD. BY		

MACTEC
41 Hughes Drive
Traverse City, Michigan

FIGURE 7
VAPOR INTRUSION SAMPLING RESULTS
2/10/2011
HONEYWELL INDUSTRIAL COMPLEX

SOUTH BEND, INDIANA

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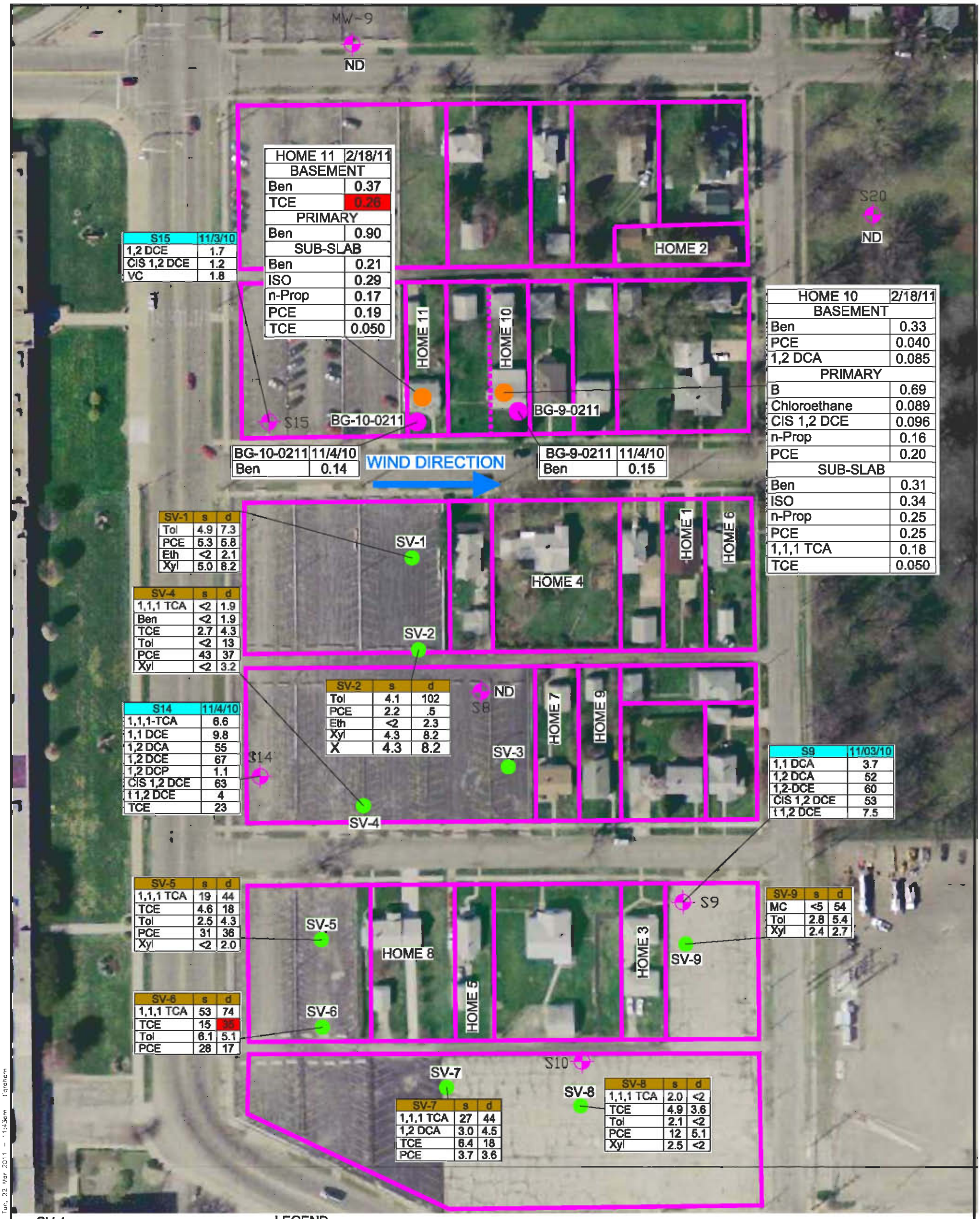

SV-4

LEGEND

- 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

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

DESIGNED BY		
DRAWN BY		
CHKD. BY		

MACTEC
41 Hughes Drive
Traverse City, Michigan

FIGURE 8

VAPOR INTRUSION SAMPLING RESULTS
2/18/2011
HONEYWELL INDUSTRIAL COMPLEX

SOUTH BEND, INDIANA

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APPENDIX A

INDOOR AIR BUILDING SURVEY CHECKLIST

INDOOR AIR BUILDING SURVEY CHECKLIST

Preparer's Name: STEVE BUYZE Date: 2-2-11

Preparer's Affiliation: MACTEC Phone #: 1-231-631-6021

Site Name: HWSB Site # 3310102016

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

Part I – Occupants

List of Current Occupants/Occupation (include children)

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

Part II – Building Characteristics

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

Describe building: 1-STORY ½ BASEMENT / ½ 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: 400 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)* DIDN'T SEE DURING CORING
Type of barrier: _____

Type of heating system (circle all that apply):
(hot air circulation) (hot air radiation) (DOES NOT USE / CANNOT USE 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~~ GARAGE	~~NA~~ NO
Gas-powered equipment (mowers, etc)	GARAGE	NO
Kerosene storage cans	NONE	NA
Paints / thinners / strippers	BASEMENT / GARAGE	NO
Cleaning solvents	NONE	NA
Oven cleaners	NONE	NA
Carpet / upholstery cleaners	NONE	NA
Other house cleaning products	Kitchen	NO
Moth balls	NONE	NA
Polishes / waxes	KITCHEN	NA
Insecticides	KITCHEN	NO
Furniture / floor remover	NONE	NA
Nail polish / polish remover	LIVING ROOM / SPARE ROOM	NO
Hairspray	BATH ROOM	NO
Cologne / perfume	BEDROOM	NO
Air fresheners	LIVING ROOM / BATH ROOM / KITCHEN	NA
Fuel tank (inside building)	2 IN BASEMEN NOT USED IN 30 YRS.	NA
Wood stove or fireplace	DINNING ROOM NOT IN USE	NA
New Furniture / upholstery	~~NONE~~	
New carpeting / flooring	~~NONE~~	NA
Hobbies – glues, paints, lacquers, photographic darkroom chemicals, etc	USED TO PAINT BUT NOT IN FIVE YEARS	NA
Scented trees, wreaths, potpourri, etc.	POT PORRI IN LIVING ROOM	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 2 WKS 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? FOR ANTS BLACK ROUND TRAPS IN KITCHEN

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: MACTEC 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): SUB SLAB, BASEMENT, PRIMARY LIVING SPACE

Field/Sample ID# SS-7196-0211 Field/Sample ID # _____

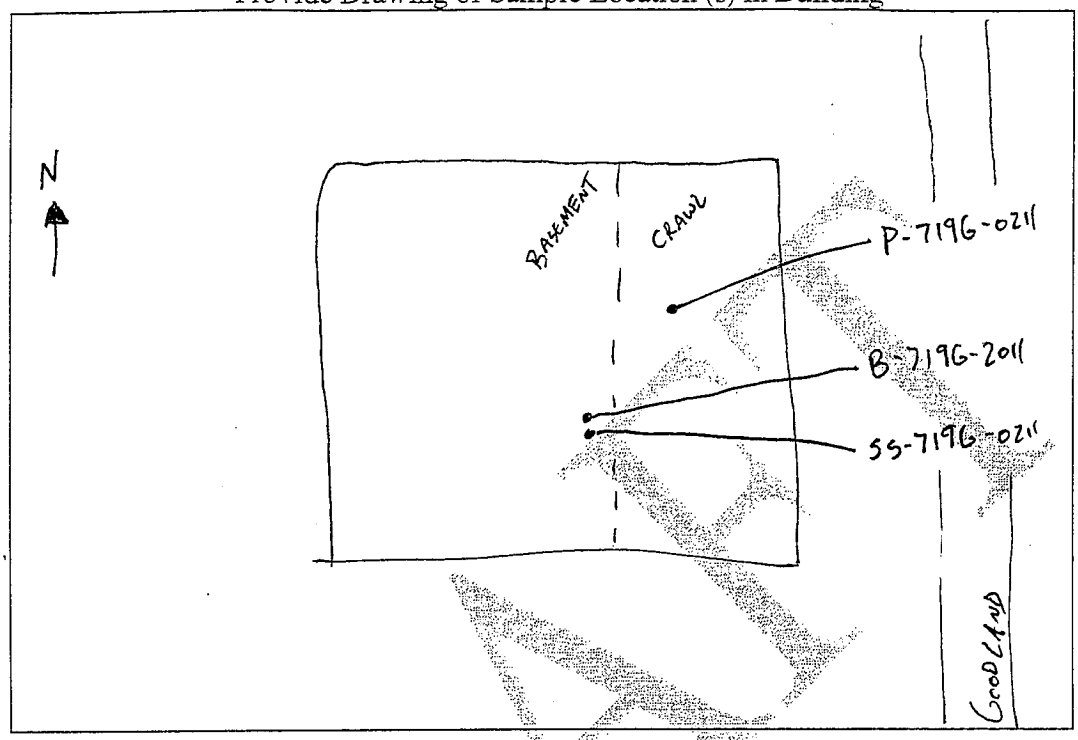
Field/Sample ID# B-7196-0211 Field/Sample ID # _____

Field/Sample ID# P-7196-0211 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 SNOW

Describe the general weather conditions: 15°F, WIND OUT OF THE ~~EAST~~ NORTH

SNOWY

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: 2-3-11

Preparer's Affiliation: MACTEC Phone #: 231-631-6021

Site Name: HWSB Site # 331010 2016

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

Part I – Occupants

List of Current Occupants/Occupation (include children)

Name (Age)	Address: (Lot # or apt. #)	Sex (M/F)	Occupation
Kimberly DAVIS	3002 Longley AVE	F	INSURANCE SPECIALIST
Therese DAVIS	3002 Longley Ave	F	RETIRED

Part II – Building Characteristics

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

Describe building: 1-STORY BUNGLOW 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): EXHAUST FAN IN WASC

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	NO
Kerosene storage cans	NONE	N/A
Paints / thinners / strippers	BACK PORCH	NO
Cleaning solvents	Through out THE House	NO
Oven cleaners	NONE	N/A
Carpet / upholstery cleaners	NONE	N/A
Other house cleaning products	KITCHEN BATHROOM	NO
Moth balls	NONE	N/A
Polishes / waxes	KITCHEN	NO
Insecticides	BATHROOM	NO
Furniture / floor remover	NONE	N/A
Nail polish / polish remover	NONE	N/A
Hairspray	NONE	N/A
Cologne / perfume	LINEN CLOSET	NO
Air fresheners	BATHROOM AUTO MATS IN LIVING RM	NO
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	NO	
Scented trees, wreaths, potpourri, etc.	NO	
Other (specify):	NO	

Part V – Miscellaneous Items

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

Last time someone smoked in the building? 5-6 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: MACTEC 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): SUB-SLAB, BASEMENT, PRIMARY LIVING SPACE

Field/Sample ID# SS-3002L-2011 Field/Sample ID # _____

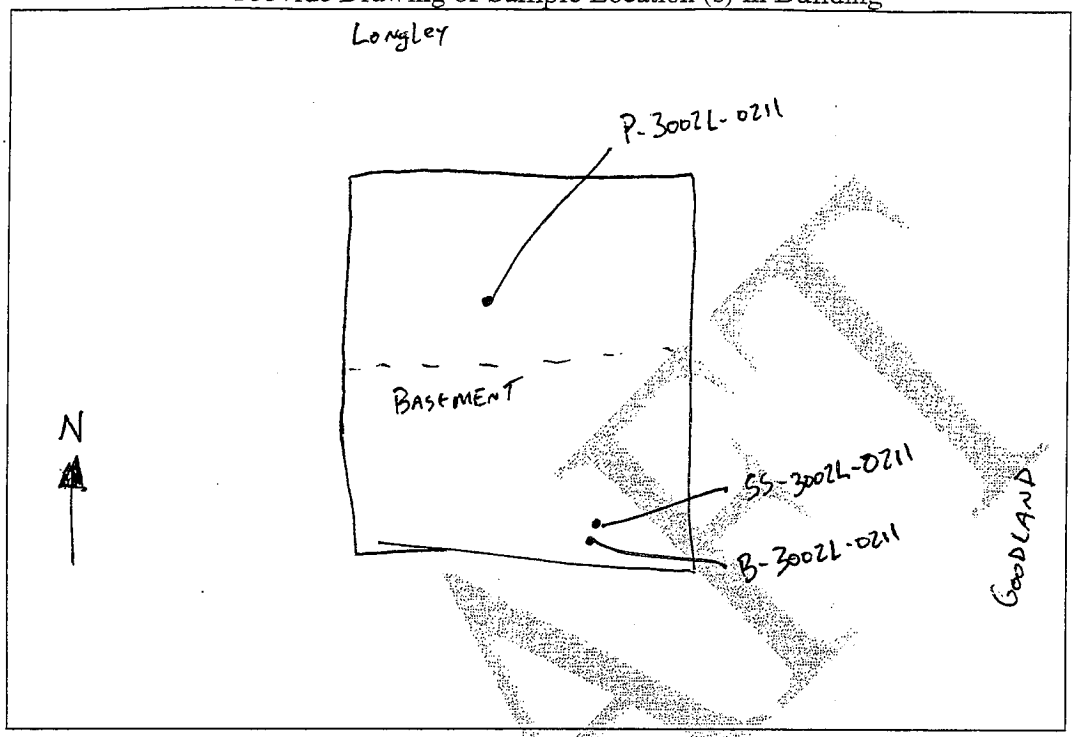
Field/Sample ID# B-3002L-2011 Field/Sample ID # _____

Field/Sample ID# P-3002L-2011 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: 15°F, WIND OUT OF SOUTHWEST

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: 7-1-11

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

Site Name: HWSB Site # 331010016

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

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	GRAD STUDENT
Jesus SERRANO	↓	M	GRAD STUDENT
EMA SERRANO	↓	F	6 MONTHS

Part II – Building Characteristics

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

Describe building: 1-STORY BASEMENT Year constructed: 1968

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

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 MINOR AND 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 Waterproofing

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	NO
Kerosene storage cans		NA
Paints / thinners / strippers	GARAGE / BASEMENT	NO
Cleaning solvents	BASEMENT / KITCHEN SINK (UNDER)	NO
Oven cleaners		N/A
Carpet / upholstery cleaners		N/A
Other house cleaning products	KITCHEN BATHROOM CLOSETS	
Moth balls		N/A
Polishes / waxes	GARAGE	NO
Insecticides		N/A
Furniture / floor remover	BASEMENT	NO
Nail polish / polish remover	~~BAS~~ BATH ROOMS	NO
Hairspray	BATHROOMS	NO
Cologne / perfume	BATHROOM	~~NO~~ ~~NA~~ NO
Air fresheners		NA
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New Furniture / upholstery	NEW BED IN BEDROOM	NO
New carpeting / flooring		NA
Hobbies – glues, paints, lacquers, photographic darkroom chemicals, etc	SOCCER KNITS	
Scented trees, wreaths, potpourri, etc.		NA
Other (specify):	SCENTED CAT LITTER IN BASEMENT, INSENSE	

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* IN WINTER

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? Dec 20-30th and where? Kitchen

Part VI – Sampling Information

Company/Consultant: MACTEC 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# Basement Sub-slab SS-3006L-0211 Field/Sample ID # Basement B-3006L-0211

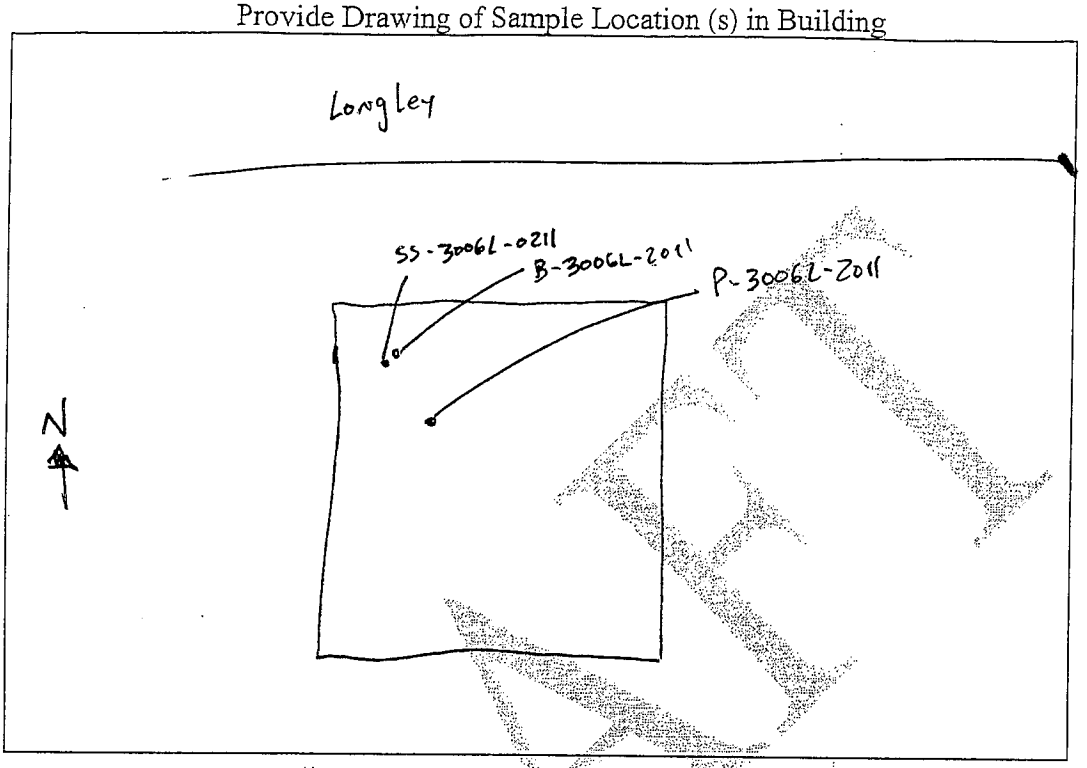
Field/Sample ID# P-3006L-0211 Field/Sample ID # _____

Field/Sample ID# _____ 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: 15°F, WIND OUT OF THE EAST
SNOWY

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: 2-2-11

Preparer's Affiliation: MACTEC Phone #: 231-631-6021

Site Name: HWSB Site # 331010201b

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

Part I – Occupants

List of Current Occupants/Occupation (include children)

Name (Age)	Address: (Lot # or apt. #)	Sex (M/F)	Occupation
Louis Veen	3018 Langley Ave	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) 3/4 BASEMENT / 1/4 CR

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	NO
Kerosene storage cans	NONE	NA
Paints / thinners / strippers	BASEMENT	NO
Cleaning solvents	KITCHEN, BATHROOM, BASEMENT	NO
Oven cleaners	NONE	NO
Carpet / upholstery cleaners	KITCHEN, BASEMENT	NO
Other house cleaning products	KITCHEN	NO
Moth balls	NONE	NO
Polishes / waxes	KITCHEN	NO
Insecticides	KITCHEN BASEMENT	NO
Furniture / floor remover	~~DE~~ BASEMENT	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	
New carpeting / flooring	NONE	NA
Hobbies – glues, paints, lacquers, photographic darkroom chemicals, etc	SEWING	
Scented trees, wreaths, potpourri, etc.	NONE	NO
Other (specify):	LAST THURS. BROKEN GAS VALVE OUTSIDE Bldg.	

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: MACTEC 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): SUB-SLAB, BASEMENT, PRIMARY LIVING SPACE

Field/Sample ID# SS-30181-0211 Field/Sample ID # _____

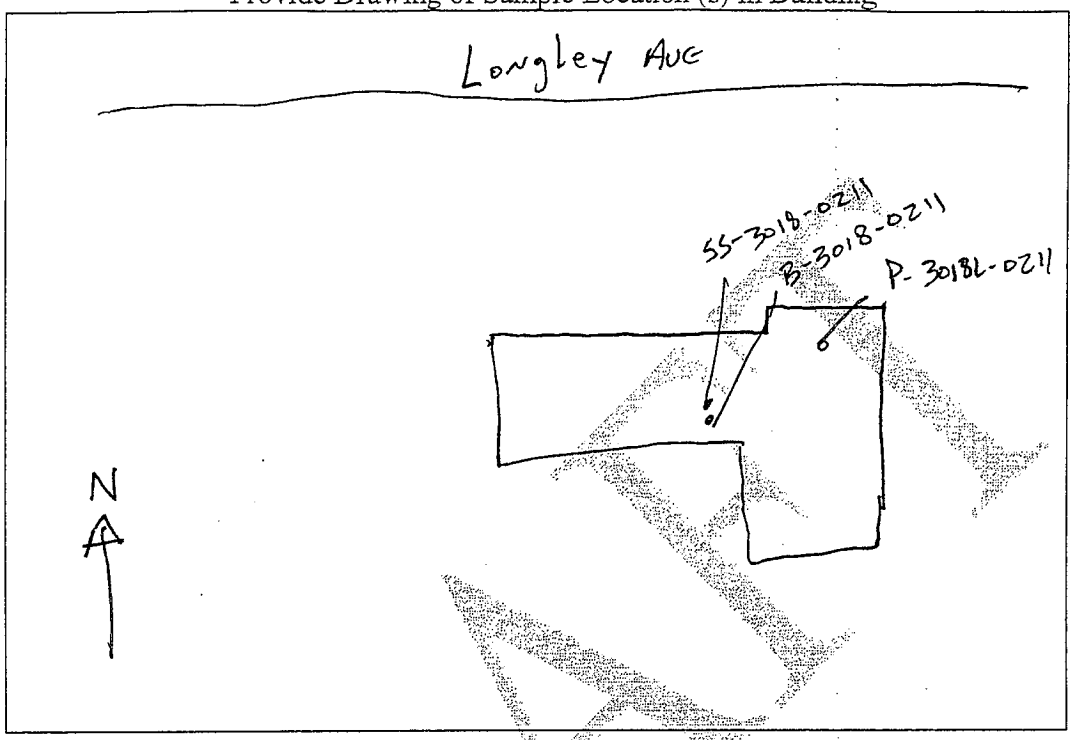
Field/Sample ID# B-30181-0211 Field/Sample ID # _____

Field/Sample ID# P-30181-0211 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: 15°F WIND OUT OF THE NORTH SNOW

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: 2-18-11

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

Site Name: HWSB Site # 3310102016

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

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: MACTEC 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): SUB-SLAB, BASEMENT, PRIMARY LIVING SPACE

Field/Sample ID# ~~SS-3019~~ Longley Field/Sample ID # P-3019L-0211

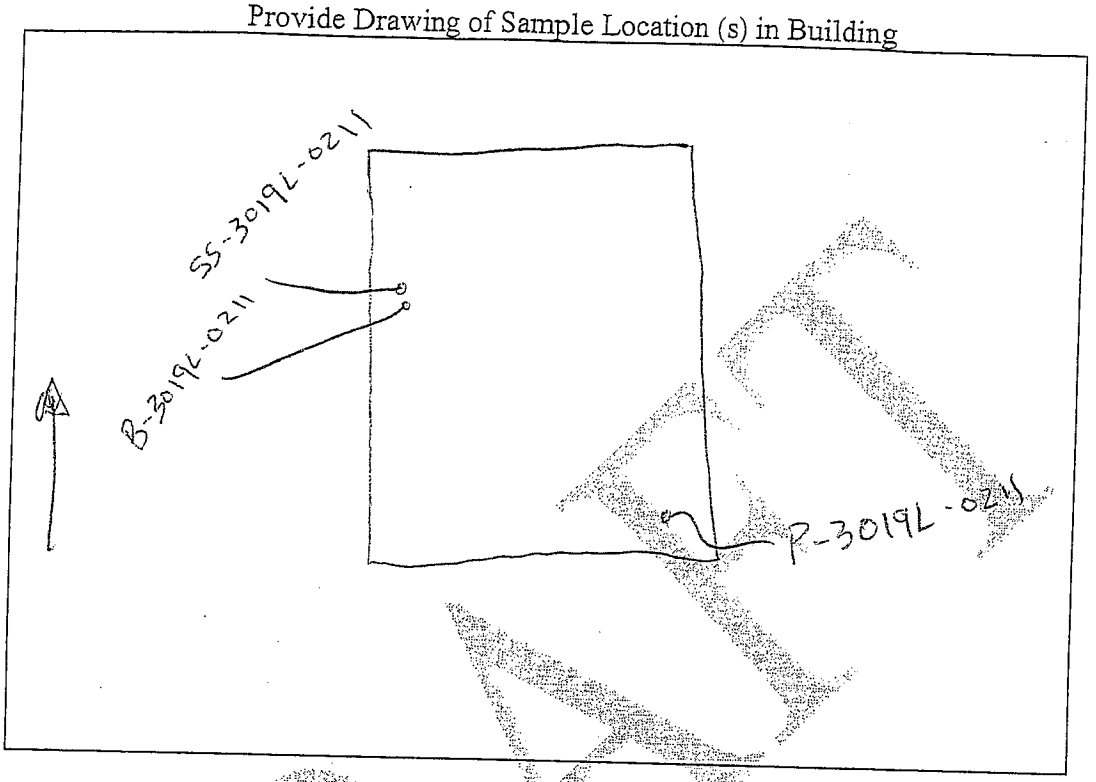
Field/Sample ID# SS-3019L-0211 Field/Sample ID # _____

Field/Sample ID# B-3019L-0211 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: 30°F 10 MPH 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: 2-19-11

Preparer's Affiliation: MACTEC Phone #: 231-631-6021

Site Name: HWSB Site # 331010201G

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

Part I – Occupants

List of Current Occupants/Occupation (include children)

Name (Age)	Address: (Lot # or apt. #)	Sex (M/F)	Occupation
SHAGLA FREDRICK	3029··· LANGLEY	F	COMETALGIST
ROBERT FREDRICK		M	STUDENT
MALIK FREDRICK		M	STUDENT

MAILING PO BOX 791 SOUTH BEND, IN 46624

Part II – Building Characteristics

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

Describe building: 1-STORY, 3bd 2.5bA. 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 VISABLE BECAUSE of PANELING

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 of ventilation system (circle all that apply):
(central air conditioning BROKEN) (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	NO
Kerosene storage cans	NONE	NA
Paints / thinners / strippers	BASEMENT GARAGE	NO
Cleaning solvents	GARAGE HOUSE	NO
Oven cleaners	BASEMENT	NO
Carpet / upholstery cleaners	NONE	N/A
Other house cleaning products	HOUSE	NO
Moth balls	NONE	N/A
Polishes / waxes	BASEMENT	NO
Insecticides	BASEMENT GARAGE	NO
Furniture / floor remover	NONE	NO
Nail polish / polish remover	UPSTAIRS (HOUSE)	NO
Hairspray	UPSTAIRS (HOUSE)	NO
Cologne / perfume	REFRIGRATOR	NO
Air fresheners	UPSTAIRS DOWNSTAIRS	NO
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	PAINTING IN HOUSE	NO
Scented trees, wreaths, potpourri, etc.	NONE	N/A
Other (specify):	—	—

Part V – Miscellaneous Items

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

Last time someone smoked in the building? 2-3 HOURS AGO 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? Polish Remover

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? LAST SUMMER INSECT KILLER AROUND BASE of house

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? OCTOR NOV. and where? FRONT DOOR

Part VI – Sampling Information

Company/Consultant: MACTEC 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-30291-0211 Field/Sample ID # _____

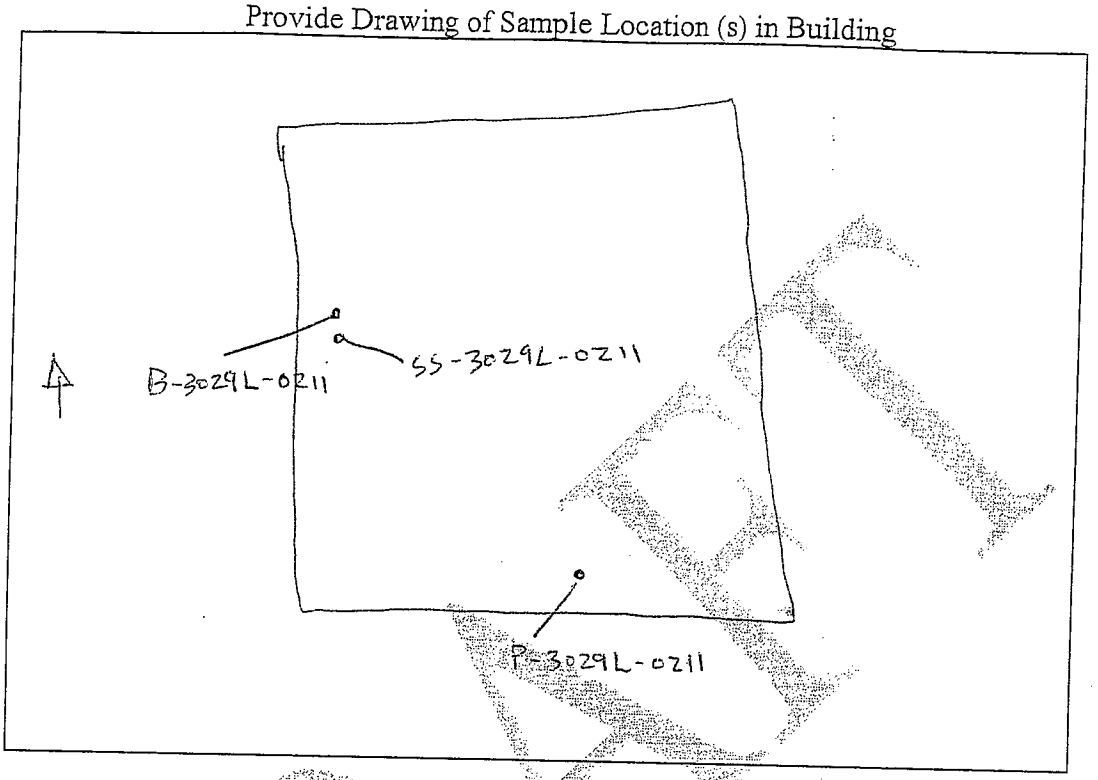
Field/Sample ID# B-30291-0211 Field/Sample ID # _____

Field/Sample ID# P-30291-0211 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: 30°F, 10 mph wind

Part VIII – General Observations

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

WASHER AND DRYER DOWNSTAIRS

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: 2-1-11

Preparer's Affiliation: MACTEC Phone #: 231-631-6021

Site Name: HWSB Site # 331010Z016

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

Part I – Occupants

List of Current Occupants/Occupation (include children)

Name (Age)	Address: (Lot # or apt. #)	Sex (M/F)	Occupation
Michael B. Roseman	3010 Rogers STREET	M	NONE

Part II – Building Characteristics

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

Describe building: 1-STORY, 1/4 BASEMENT Year constructed: 1927

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

Number of floors at or above grade: 1

Number of floors below grade: 1 (full basement / crawl space / slab on grade) 1/4 BASEMENT

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) NOTE: WALLS COVERED WITH WOOD PANEL

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

Is there a whole house fan? Yes / No UPSTAIRS ROOMS HAVE CEILING FANS

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	NA
Paints / thinners / strippers	GARAGE	NO
Cleaning solvents	NONE	NO
Oven cleaners	KITCHEN	NO
Carpet / upholstery cleaners	NONE	~~NO~~ NA
Other house cleaning products	NONE	NA
Moth balls	NONE	NA
Polishes / waxes	NONE	NA
Insecticides	NONE	
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	IN GARAGE GLASS DESIGN	
Scented trees, wreaths, potpourri, etc.	NONE, ~~CANDLES~~	
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? 2-WKS 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: MACTEC 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): SUB SLAB, BASEMENT, PRIMARY LIVING SPACE

Field/Sample ID# SS-3010R-0211 Field/Sample ID # _____

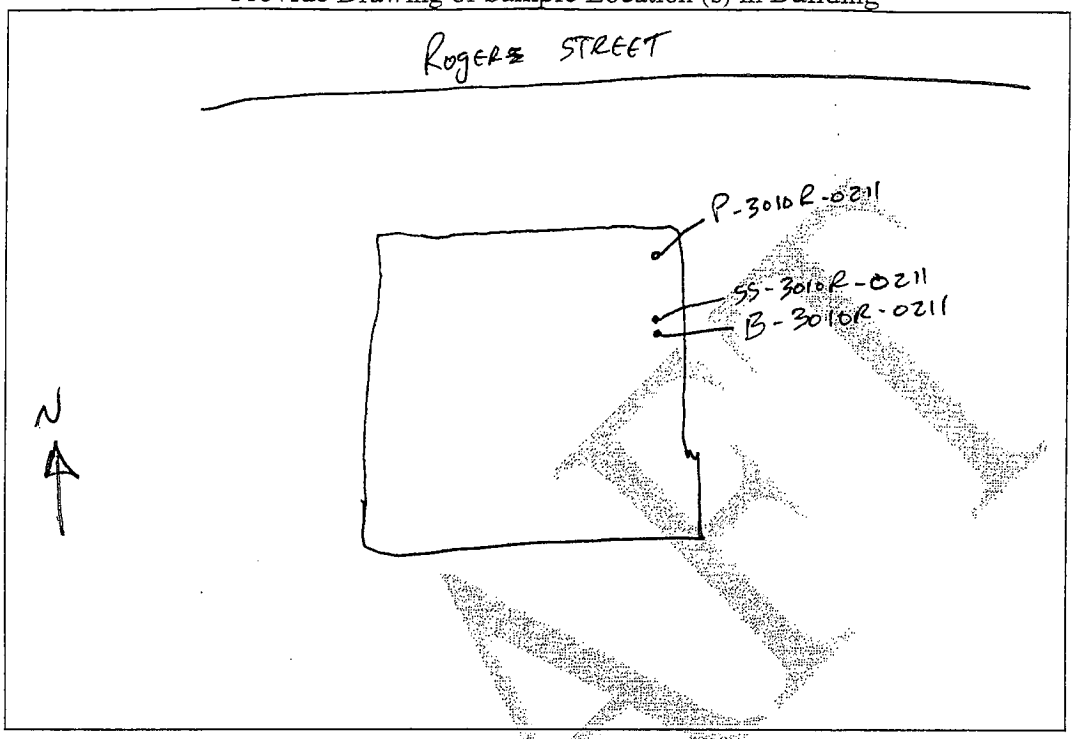
Field/Sample ID# B-3010R-0211 Field/Sample ID # _____

Field/Sample ID# P-3010R-0211 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: 15°F WIND OUT OF THE EAST, SNOWY

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: 2-9-11

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

Site Name: HWSB Site # 331010016

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

Part I – Occupants

List of Current Occupants/Occupation (include children)

Name (Age)	Address: (Lot # or apt. #)	Sex (M/F)	Occupation
PATRICIA (BYRD) DERRICKSON		F	POLICE OFFICER
NOTE: 2 DAYS A WEEK	3013 ROGER STREET		

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 OR 1967

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: @ 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	Detached Garage (Maybe)	NO
Gas-powered equipment (mowers, etc)	NONE	
Kerosene storage cans	NONE	
Paints / thinners / strippers	~~NONE~~ PAINT IN BASEMENT	NO
Cleaning solvents	BASEMENT	
Oven cleaners	NONE	
Carpet / upholstery cleaners	NONE	
Other house cleaning products	BASEMENT	
Moth balls	NONE	
Polishes / waxes	NONE	
Insecticides	NONE	
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	NONE	
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*

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: NAC EC 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): SUB-SLAB, BASEMENT, PRIMARY LIVING SPACE

Field/Sample ID# SS-3013R-0211 Field/Sample ID # _____

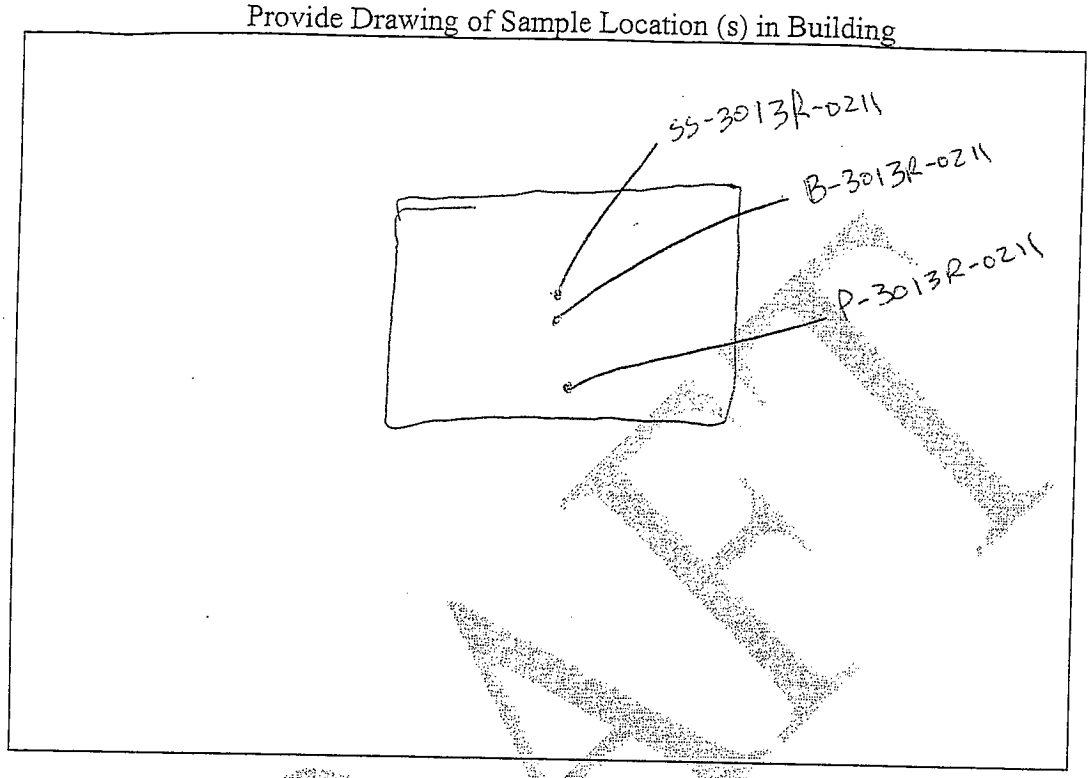
Field/Sample ID# B-3013R-0211 Field/Sample ID # _____

Field/Sample ID# P-3013R-0211 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: 6°F 10 MPH 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: 2-9-11

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

Site Name: HWSB Site # 531010 2016

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

Part I – Occupants

List of Current Occupants/Occupation (include children)

Name (Age)	Address: (Lot # or apt. #)	Sex (M/F)	Occupation
LEANNE FRIELMANN	3017 Rogers ST.	F	Demographer
STEPHENS			
Robert STEPHENS		M	Package Handler Layed-off 2wks
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+ ft²

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* 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 of 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	~~Not~~ GARAGE	NO
Gas-powered equipment (mowers, etc)	GARAGE	NO
Kerosene storage cans	NONE	
Paints / thinners / strippers	GARAGE	NO
Cleaning solvents	KITCHEN BATHROOM	NO
Oven cleaners	NONE	
Carpet / upholstery cleaners	NONE	
Other house cleaning products	KITCHEN BATHROOM	NO
Moth balls	GARAGE	NO
Polishes / waxes	KITCHEN	NO
Insecticides	GARAGE KITCHEN	NO
Furniture / floor remover	KITCHEN	NO
Nail polish / polish remover	NONE	
Hairspray	NONE	
Cologne / perfume	LIVING ROOM BATHROOM	NO
Air fresheners	BATHROOM	
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	
Scented trees, wreaths, potpourri, etc.	NONE	
Other (specify):		

Part V – Miscellaneous Items

Do any occupants of the building smoke? (Yes) / No How often? 1½ DAY OUTSIDE

Last time someone smoked in the building? NEVER 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? 4-5 Months Ago home Defense

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? 6 Months Ago and where? Living Room

Part VI – Sampling Information

Company/Consultant: MACTEC 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): Sub-SLAB, BASEMENT, PRIMARY LIVING SPACE

Field/Sample ID# SS-3017R-0211 Field/Sample ID # _____

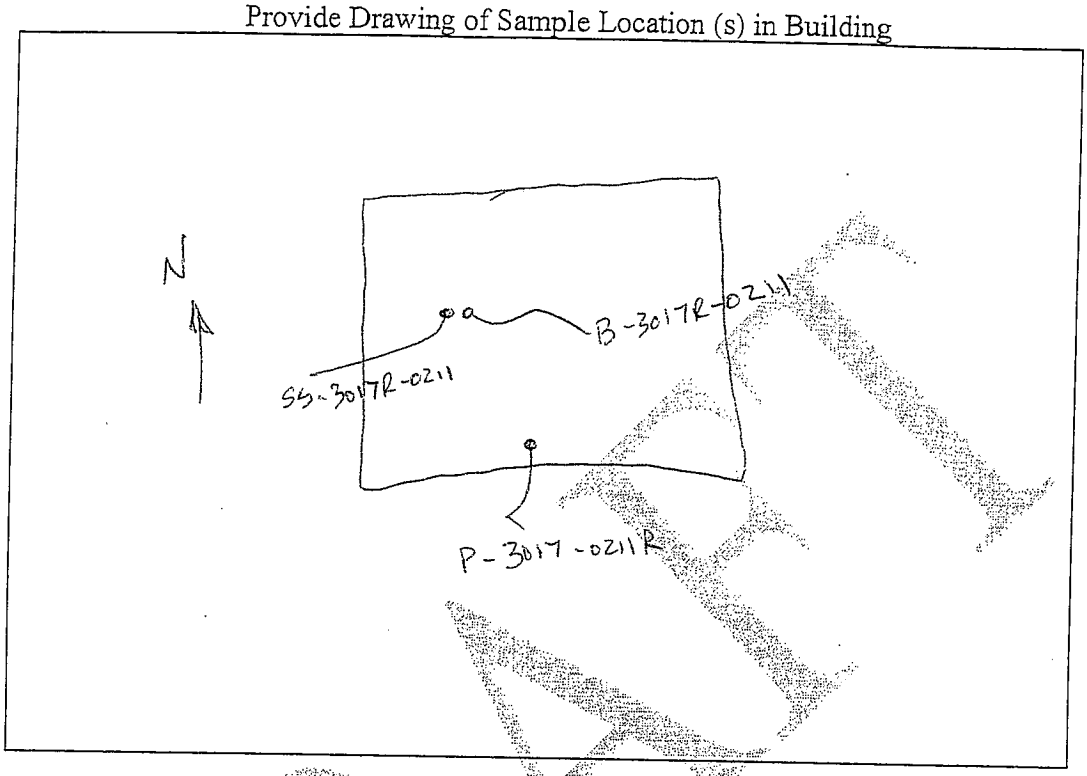
Field/Sample ID# B-3017R-0211 Field/Sample ID # _____

Field/Sample ID# P-3017R-0211 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: 6°F 10 mph 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: 2-9-11

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

Site Name: HWSB Site # 3310102016

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

Part I – Occupants

List of Current Occupants/Occupation (include children)

Name (Age)	Address: (Lot # or apt. #)	Sex (M/F)	Occupation
HAP Kitchen	3034 Rogers STREET	M	RETIRED 16 yrs

Part II – Building Characteristics

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

Describe building: 1-STORY, 1-BASEMENT ATTACHED GARAGE 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): AND BLOCK

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) _____ PATIO

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): _____ BACKUP

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)	ATTACHED GARAGE	
Kerosene storage cans	NONE	
Paints / thinners / strippers	NONE	
Cleaning solvents	NONE	
Oven cleaners	NONE	
Carpet / upholstery cleaners	NONE	
Other house cleaning products	Kitchen BATHROOM	
Moth balls	LIVING ROOM	
Polishes / waxes	ON FLOOR	
Insecticides	NONE	
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	NONE	
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*

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: MACTEC 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): SUB-SLAB, BASEMENT PRIMARY FLOOR

Field/Sample ID# ~~3034 ROGER STREET~~ Field/Sample ID # P-3034R-0211

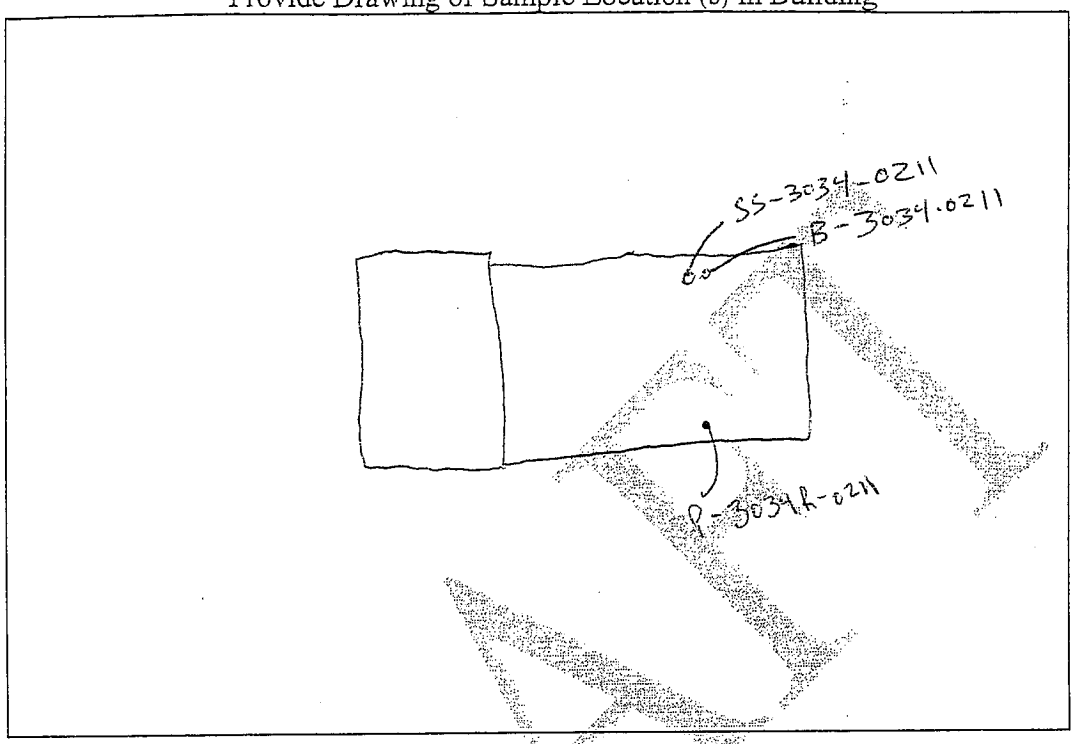
Field/Sample ID# SS-3034R-0211 Field/Sample ID # _____

Field/Sample ID# B-3034R-0211 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: 6°F 10 MPH 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.

APPENDIX B

SAMPLE LOG SHEETS

Sample Log

Sampler: SGB

Site Location: Honeywell South Bend, IN Project Number: 3310102016

DATE	2/1/2011	2/1/2011	2/1/2011	
Sample Identification	SS-3006L-0211	SS-719G-0211	SS-3010R-0211	
Sampling Depth	-3" to -9"	-3" to -9"	-2.5" to 8.5"	
Purge Volume (mL)	924mL	924mL	924mL	
Canister ID	6957	6580	2995	
Flow regulator ID	K478	K473	K397	
Initial Canister Pressure (inches of Hg)	-30	-29	-27	
Initial Time	1133	1511	1656	
Final Canister Pressure (inches of Hg)	-7	-5.5	-5	
Final Time	1158	1601	1713	
Sampler / Notes				
Sample Identification	B-3006L-0211	B-719G-0211	B-3010R-0211	
Sampling Depth	3'	3'	3'	
Purge Volume	n/a	n/a	n/a	
Canister ID	6654	1349	1362	
Flow regulator ID	K148	K115	K128	
Initial Canister Pressure	-31	-29	-29.5	
Initial Time	1138	1515	1658	
Final Canister Pressure	-5	-5	-5.5	
Final Time	1156	1600	1716	
Notes				
Sample Identification	P-3006L-0211	P-719G-0211	P-3010R-0211	
Sampling Depth	3'	3'	3'	
Purge Volume	n/a	n/a	n/a	
Canister ID	1529	1516	1132	
Flow regulator ID	K331	K158	K142	
Initial Canister Pressure	-29	-30	-27	
Initial Time	1141	1522	1702	
Final Canister Pressure	-5.5	-8.5	-6.5	
Final Time	1200	1600	1726	
Notes				
Sample Identification	BG-1-0211	BG-2-0211		
Sampling Depth	6	6		
Purge Volume	n/a	n/a		
Canister ID	92098	1133		
Flow regulator ID	K340	K177		
Initial Canister Pressure	-29.5	-28		
Initial Time	1153	1730		
Final Canister Pressure	0	-5		
Final Time	1328	1736		
Notes				

Sample Log

Sampler: SGB

Site Location: Honeywell South Bend, IN Project Number: 3310102016

DATE	2/2/2011	2/2/2011		
Sample Identification	SS-3018L-0211	SS-3026R-0211		
Sampling Depth	-3" to -9"	-3.5" to -9.5"		
Purge Volume (mL)	924mL	924mL		
Canister ID	6611	6349		
Flow regulator ID	K395	K133		
Initial Canister Pressure (inches of Hg)	-28	-30		
Initial Time	1024	1419		
Final Canister Pressure (inches of Hg)	-7	-5.5		
Final Time	1053	1426		
Sampler / Notes				
Sample Identification	B-3018L-0211	B-3026R-0211		
Sampling Depth	3'	3'		
Purge Volume	n/a	n/a		
Canister ID	6385	0120		
Flow regulator ID	K379	K371		
Initial Canister Pressure	-28	-30		
Initial Time	1027	1421		
Final Canister Pressure	-5	-6.5		
Final Time	1053	1425		
Notes				
Sample Identification	P-3018L-0211	P-3026R-0211		
Sampling Depth	3'	3'		
Purge Volume	n/a	n/a		
Canister ID	0063	9019		
Flow regulator ID	K334	K355		
Initial Canister Pressure	-28.5	-28.5		
Initial Time	1030	1424		
Final Canister Pressure	-6	-3.5		
Final Time	1059	1424		
Notes				
Sample Identification	BG-3-0211	BG-2-0211		
Sampling Depth	5	5		
Purge Volume	n/a	n/a		
Canister ID	12327	1536		
Flow regulator ID	K378	K390		
Initial Canister Pressure	-28.5	-30		
Initial Time	1040	1430		
Final Canister Pressure	-5.5	-6		
Final Time	1106	1436		
Notes				

Sample Log

Sampler: SGB

Site Location: Honeywell South Bend, IN Project Number: 3310102016

DATE	2/3/2011	2/3/2011		
Sample Identification	SS-3002L-0211			
Sampling Depth	-2.5" to -8.5"			
Purge Volume (mL)	924mL			
Canister ID	6587			
Flow regulator ID	K219			
Initial Canister Pressure (inches of Hg)	-29			
Initial Time	1028			
Final Canister Pressure (inches of Hg)	-3.5			
Final Time	1052			
Sampler / Notes				
Sample Identification	B-3002L-0211			
Sampling Depth	3'			
Purge Volume	n/a			
Canister ID	6605			
Flow regulator ID	K122			
Initial Canister Pressure	-29.5			
Initial Time	1030			
Final Canister Pressure	-4.5			
Final Time	1051			
Notes				
Sample Identification	P-3002L-0211			
Sampling Depth	3'			
Purge Volume	n/a			
Canister ID	04399			
Flow regulator ID	K325			
Initial Canister Pressure	-29			
Initial Time	1033			
Final Canister Pressure	0			
Final Time	1050			
Notes				
Sample Identification	BG-5-0211	BG-6-0211		
Sampling Depth	6	6		
Purge Volume	n/a	n/a		
Canister ID	1007N	04329		
Flow regulator ID	K309	K295		
Initial Canister Pressure	-30	-29		
Initial Time	1041	1045		
Final Canister Pressure	-4	-4.5		
Final Time	1100	1101		
Notes				

Sample Log

Sampler: SGB

Site Location: Honeywell South Bend, IN Project Number: 3310102016

DATE	2/9/2011	2/9/2011	2/9/2011	
Sample Identification	SS-3017R-0211	SS-3034R-0211	SS-3013R-0211	
Sampling Depth	-3" to -9"	-3" to -9"	-1.5" to 7.5"	
Purge Volume (mL)	924mL	924mL	924mL	
Canister ID	1115	6381	1362N	
Flow regulator ID	K287	K391	K482	
Initial Canister Pressure (inches of Hg)	-30	-28.5	-28.5	
Initial Time	0921	1504	1302	
Final Canister Pressure (inches of Hg)	-4.0	-0.5	-4.5	
Final Time	0939	1504	1321	
Sampler / Notes				
Sample Identification	B-3017R-0211	B-3034R-0211	B-3013R-0211	
Sampling Depth	3'	3'	3'	
Purge Volume	n/a	n/a	n/a	
Canister ID	12878	1125	S1491	
Flow regulator ID	k477	K174	K316	
Initial Canister Pressure	-28	-30	-29.5	
Initial Time	0924	1504	1304	
Final Canister Pressure	-4.5	-7.5	-4.5	
Final Time	0937	1504	1320	
Notes				
Sample Identification	P-3017R-0211	P-3034R-0211	P-3013R-0211	
Sampling Depth	3'	3'	3'	
Purge Volume	n/a	n/a	n/a	
Canister ID	12462	1403	7473	
Flow regulator ID	k437	K310	K339	
Initial Canister Pressure	-30	-29.5	-30	
Initial Time	0926	1506	1306	
Final Canister Pressure	-5	-6	-1	
Final Time	0943	1510	1329	
Notes				
Sample Identification		BG-8-0211	BG-9-0211	
Sampling Depth		5	5	
Purge Volume		n/a	n/a	
Canister ID		6592	7496	
Flow regulator ID		K388	K110	
Initial Canister Pressure		-28.5	-29	
Initial Time		1515	1317	
Final Canister Pressure		6.5	1332	
Final Time		1515	0	
Notes				

Sample Log

Sampler: SGB

Site Location: Honeywell South Bend, IN Project Number: 3310102016

DATE	2/17/2011	2/17/2011		
Sample Identification	SS-3019L-0211	SS-3029L-0211		
Sampling Depth	-4" to -10"	-4" to -10"		
Purge Volume (mL)	924mL	924mL		
Canister ID	1147	62273		
Flow regulator ID	K483	K168		
Initial Canister Pressure (inches of Hg)	-27.5	-29		
Initial Time	0846	1133		
Final Canister Pressure (inches of Hg)	-4	-6		
Final Time	0856	1137		
Sampler / Notes				
Sample Identification	B-3019L-0211	B-3029L-0211		
Sampling Depth	3'	3'		
Purge Volume	n/a	n/a		
Canister ID	6350	2966		
Flow regulator ID	K462	K124		
Initial Canister Pressure	-29	-28.5		
Initial Time	0846	1133		
Final Canister Pressure	-7	-5.5		
Final Time	0856	1147		
Notes				
Sample Identification	P-3019L-0211	P-3029L-0211		
Sampling Depth	3'	3'		
Purge Volume	n/a	n/a		
Canister ID	6520	93245		
Flow regulator ID	K216	K284		
Initial Canister Pressure	-29	-29		
Initial Time	0849	1132		
Final Canister Pressure	-6	-5.5		
Final Time	0858	1207		
Notes				
Sample Identification	BG-9-0211	BG-10-0211		
Sampling Depth	5	5		
Purge Volume	n/a	n/a		
Canister ID	L4426	6370		
Flow regulator ID	K314	K200		
Initial Canister Pressure	-30	-29		
Initial Time	0858	1137		
Final Canister Pressure	-5.5	-6		
Final Time	0904	1307		
Notes				

APPENDIX C

HISTORIC METEOROLOGICAL INFORMATION

History for KSBN, Indiana

Wednesday, February 2, 2011 — View Current Conditions

Wednesday, February 2, 2011

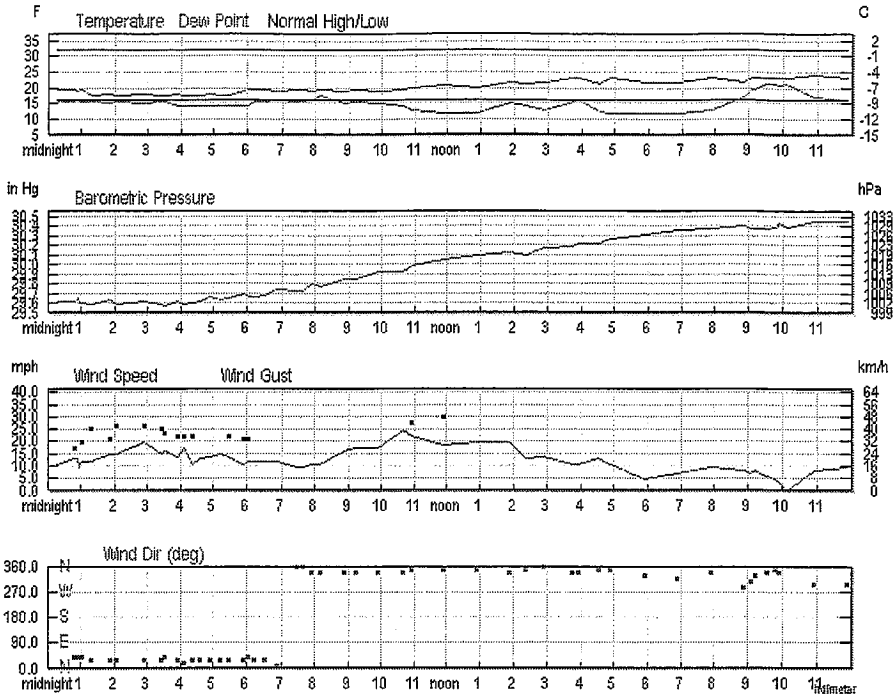
« Previous Day | February 2 2011 View | Next Day »

Daily | Weekly | Monthly | Custom

	Actual	Average	Record
Temperature			
Mean Temperature	21 °F	-	
Max Temperature	24 °F	-	- ()
Min Temperature	18 °F	-	- ()
Degree Days			
Heating Degree Days	44		
Month to date heating degree days	91		
Moisture			
Dew Point	15 °F		
Average Humidity	81		
Maximum Humidity	96		
Minimum Humidity	65		
Precipitation			
Precipitation	-	-	- ()
Month to date precipitation	0.99		
Year to date precipitation	3.15		
Snow			
Snow	5.00 in	-	- ()
Month to date snowfall	13.4		
Snow Depth	12.00 in		
Sea Level Pressure			
Sea Level Pressure	29.93 in		
Wind			
Wind Speed	13 mph (North)		
Max Wind Speed	26 mph		
Max Gust Speed	31 mph		
Visibility	3 miles		
Events	Fog , Snow		

T = Trace of Precipitation, MM = Missing Value

Source: NWS Daily Summary



Hourly Observations

Time (EST)	Temp.	Dew Point	Humidity	Sea Level Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
12:18 AM	19.4 °F	15.8 °F	86%	29.61 in	0.8 miles	NE	10.4 mph	17.3 mph	0.04 in	Snow	Light Snow
12:50 AM	19.4 °F	15.8 °F	86%	29.61 in	0.5 miles	NE	12.7 mph	17.3 mph	0.09 in	Snow	Snow
12:54 AM	19.0 °F	16.0 °F	88%	29.64 in	0.5 miles	NE	12.7 mph	-	0.10 in	Snow	Snow
12:58 AM	19.4 °F	15.8 °F	86%	29.60 in	0.2 miles	NE	9.2 mph	18.4 mph	0.00 in	Snow	Heavy Snow
1:02 AM	19.4 °F	15.8 °F	86%	29.60 in	0.5 miles	NE	11.5 mph	19.6 mph	0.01 in	Snow	Snow
1:19 AM	17.6 °F	15.8 °F	93%	29.58 in	0.8 miles	NNE	11.5 mph	25.3 mph	0.02 in	Snow	Light Snow
1:54 AM	18.0 °F	15.1 °F	88%	29.63 in	0.5 miles	NNE	15.0 mph	20.7 mph	0.07 in	Snow	Snow
2:04 AM	17.6 °F	15.8 °F	93%	29.59 in	0.8 miles	NNE	15.0 mph	26.5 mph	0.02 in	Snow	Light Snow
2:54 AM	18.0 °F	15.1 °F	88%	29.61 in	0.8 miles	NNE	19.6 mph	26.5 mph	0.04 in	Snow	Light Snow
3:25 AM	17.6 °F	15.8 °F	93%	29.58 in	1.0 miles	NNE	15.0 mph	25.3 mph	0.02 in	Snow	Light Snow
3:31 AM	17.6 °F	15.8 °F	93%	29.57 in	1.0 miles	NE	16.1 mph	23.0 mph	0.02 in	Snow	Light Snow
3:54 AM	18.0 °F	14.0 °F	84%	29.62 in	1.5 miles	NNE	13.8 mph	21.9 mph	0.02 in	Snow	Light Snow
4:06 AM	17.6 °F	14.0 °F	86%	29.58 in	1.2 miles	NNE	17.3 mph	21.9 mph	0.00 in	Snow	Light Snow
4:23 AM	17.6 °F	14.0 °F	86%	29.60 in	2.0 miles	NNE	10.4 mph	21.9 mph	0.01 in	Snow	Light Snow
4:34 AM	17.6 °F	14.0 °F	86%	29.61 in	2.0 miles	NNE	12.7 mph	-	0.01 in	Snow	Light Snow
4:54 AM	18.0 °F	14.0 °F	84%	29.66 in	2.0 miles	NNE	13.8 mph	-	0.01 in	Snow	Light Snow
5:13 AM	17.6 °F	14.0 °F	86%	29.63 in	1.8 miles	NNE	15.0 mph	25.3 mph	0.00 in	Snow	Light Snow
5:29 AM	17.6 °F	14.0 °F	86%	29.64 in	1.5 miles	NNE	13.8 mph	21.9 mph	0.01 in	Snow	Light Snow
5:54 AM	19.0 °F	14.0 °F	81%	29.69 in	1.5 miles	NNE	10.4 mph	20.7 mph	0.02 in	Snow	Light Snow
6:02 AM	19.4 °F	14.0 °F	80%	29.66 in	1.2 miles	NE	11.5 mph	20.7 mph	0.00 in	Snow	Light Snow
6:12 AM	19.4 °F	15.8 °F	86%	29.66 in	1.0 miles	NNE	11.5 mph	-	0.00 in	Snow	Light Snow
6:31 AM	19.4 °F	15.8 °F	86%	29.68 in	1.0 miles	NNE	11.5 mph	-	0.00 in	Snow	Light Snow

6:54 AM	19.0 °F	16.0 °F	88%	29.74 in	1.0 miles	North	11.5 mph	-	0.02 in	Snow	Light Snow
7:29 AM	19.4 °F	15.8 °F	86%	29.72 in	1.0 miles	North	9.2 mph	-	0.00 in	Snow	Light Snow
7:37 AM	19.4 °F	15.8 °F	86%	29.73 in	0.8 miles	North	9.2 mph	-	0.01 in	Snow	Light Snow
7:54 AM	19.0 °F	16.0 °F	88%	29.80 in	1.0 miles	NNW	10.4 mph	-	0.02 in	Snow	Light Snow
8:09 AM	19.4 °F	17.6 °F	93%	29.77 in	1.0 miles	NNW	10.4 mph	-	0.00 in	Snow	Light Snow
8:54 AM	19.0 °F	15.1 °F	85%	29.85 in	2.0 miles	NNW	16.1 mph	-	0.01 in	Snow	Light Snow
9:13 AM	19.4 °F	15.8 °F	86%	29.84 in	1.2 miles	NNW	17.3 mph	-	0.00 in	Snow	Light Snow
9:54 AM	19.0 °F	15.1 °F	85%	29.93 in	1.0 miles	NNW	17.3 mph	-	0.00 in	Snow	Light Snow
10:39 AM	19.4 °F	14.0 °F	80%	29.93 in	1.0 miles	NNW	24.2 mph	31.1 mph	0.00 in	Snow	Light Snow
10:54 AM	19.9 °F	12.9 °F	74%	29.99 in	3.0 miles	North	21.9 mph	27.6 mph	0.00 in	Snow	Light Snow
11:54 AM	21.0 °F	12.0 °F	68%	30.05 in	8.0 miles	North	18.4 mph	29.9 mph	0.00 in		Mostly Cloudy
12:54 PM	19.9 °F	12.0 °F	71%	30.09 in	10.0 miles	North	19.6 mph	-	N/A		Mostly Cloudy
1:54 PM	21.9 °F	15.1 °F	75%	30.13 in	9.0 miles	NNW	19.6 mph	-	0.01 in	Snow	Light Snow
2:21 PM	21.2 °F	14.0 °F	74%	30.10 in	9.0 miles	North	12.7 mph	-	0.00 in	Snow	Light Snow
2:54 PM	21.9 °F	12.9 °F	68%	30.17 in	9.0 miles	North	13.8 mph	-	0.00 in		Overcast
3:45 PM	23.0 °F	15.8 °F	74%	30.18 in	7.0 miles	NNW	10.4 mph	-	0.00 in	Snow	Light Snow
3:54 PM	23.0 °F	16.0 °F	74%	30.22 in	6.0 miles	NNW	10.4 mph	-	0.00 in	Snow	Light Snow
4:32 PM	21.2 °F	12.2 °F	68%	30.22 in	9.0 miles	North	12.7 mph	-	0.00 in		Overcast
4:54 PM	23.0 °F	12.0 °F	63%	30.27 in	10.0 miles	North	10.4 mph	-	0.00 in		Overcast
5:54 PM	21.9 °F	12.0 °F	66%	30.31 in	10.0 miles	NNW	4.6 mph	-	N/A		Overcast
6:54 PM	21.9 °F	12.0 °F	66%	30.35 in	10.0 miles	NW	6.9 mph	-	N/A		Mostly Cloudy
7:54 PM	23.0 °F	12.9 °F	65%	30.38 in	10.0 miles	NNW	9.2 mph	-	N/A		Mostly Cloudy
8:54 PM	21.9 °F	17.1 °F	82%	30.41 in	2.5 miles	WNW	8.1 mph	-	0.00 in	Snow	Light Snow
9:07 PM	23.0 °F	19.4 °F	86%	30.37 in	0.8 miles	NW	6.9 mph	-	0.00 in	Snow	Light Snow
9:14 PM	23.0 °F	19.4 °F	86%	30.37 in	0.5 miles	NNW	8.1 mph	-	0.01 in	Fog , Snow	Snow
9:34 PM	23.0 °F	21.2 °F	93%	30.38 in	1.0 miles	NNW	5.8 mph	-	0.04 in	Snow	Light Snow
9:48 PM	23.0 °F	21.2 °F	93%	30.39 in	3.0 miles	North	4.6 mph	-	0.05 in	Snow	Light Snow
9:54 PM	23.0 °F	21.0 °F	92%	30.43 in	5.0 miles	NNW	3.5 mph	-	0.05 in	Snow	Light Snow
10:07 PM	23.0 °F	21.2 °F	93%	30.39 in	5.0 miles	Calm	Calm	-	0.00 in	Snow	Light Snow
10:54 PM	24.1 °F	17.1 °F	75%	30.45 in	10.0 miles	WNW	8.1 mph	-	0.00 in		Overcast
11:54 PM	23.0 °F	16.0 °F	74%	30.45 in	10.0 miles	WNW	9.2 mph	-	0.00 in		Overcast

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History for KSBN, Indiana

Wednesday, February 2, 2011 — View Current Conditions

Wednesday, February 2, 2011

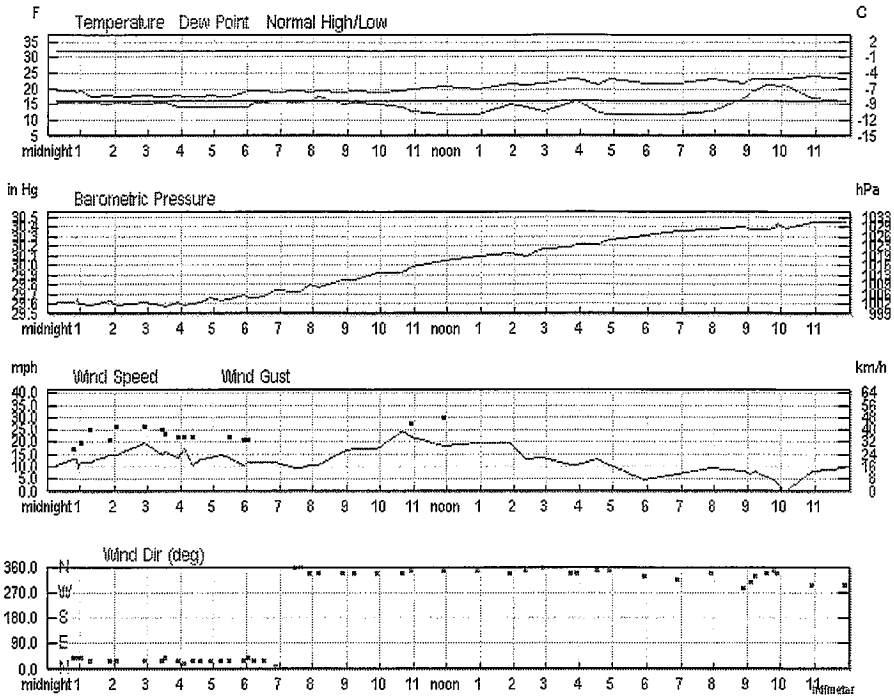
« Previous Day | February 2 2011 View | Next Day »

Daily | Weekly | Monthly | Custom

	Actual	Average	Record
Temperature			
Mean Temperature	21 °F	-	
Max Temperature	24 °F	-	- ()
Min Temperature	18 °F	-	- ()
Degree Days			
Heating Degree Days	44		
Month to date heating degree days	91		
Moisture			
Dew Point	15 °F		
Average Humidity	81		
Maximum Humidity	96		
Minimum Humidity	65		
Precipitation			
Precipitation	-	-	- ()
Month to date precipitation	0.99		
Year to date precipitation	3.15		
Snow			
Snow	5.00 in	-	- ()
Month to date snowfall	13.4		
Snow Depth	12.00 in		
Sea Level Pressure			
Sea Level Pressure	29.93 in		
Wind			
Wind Speed	13 mph (North)		
Max Wind Speed	26 mph		
Max Gust Speed	31 mph		
Visibility	3 miles		
Events	Fog , Snow		

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

Source: NWS Daily Summary



Hourly Observations

Time (EST)	Temp.	Dew Point	Humidity	Sea Level Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
12:18 AM	19.4 °F	15.8 °F	86%	29.61 in	0.8 miles	NE	10.4 mph	17.3 mph	0.04 in	Snow	Light Snow
12:50 AM	19.4 °F	15.8 °F	86%	29.61 in	0.5 miles	NE	12.7 mph	17.3 mph	0.09 in	Snow	Snow
12:54 AM	19.0 °F	16.0 °F	88%	29.64 in	0.5 miles	NE	12.7 mph	-	0.10 in	Snow	Snow
12:58 AM	19.4 °F	15.8 °F	86%	29.60 in	0.2 miles	NE	9.2 mph	18.4 mph	0.00 in	Snow	Heavy Snow
1:02 AM	19.4 °F	15.8 °F	86%	29.60 in	0.5 miles	NE	11.5 mph	19.6 mph	0.01 in	Snow	Snow
1:19 AM	17.6 °F	15.8 °F	93%	29.58 in	0.8 miles	NNE	11.5 mph	25.3 mph	0.02 in	Snow	Light Snow
1:54 AM	18.0 °F	15.1 °F	88%	29.63 in	0.5 miles	NNE	15.0 mph	20.7 mph	0.07 in	Snow	Snow
2:04 AM	17.6 °F	15.8 °F	93%	29.59 in	0.8 miles	NNE	15.0 mph	26.5 mph	0.02 in	Snow	Light Snow
2:54 AM	18.0 °F	15.1 °F	88%	29.61 in	0.8 miles	NNE	19.6 mph	26.5 mph	0.04 in	Snow	Light Snow
3:25 AM	17.6 °F	15.8 °F	93%	29.58 in	1.0 miles	NNE	15.0 mph	25.3 mph	0.02 in	Snow	Light Snow
3:31 AM	17.6 °F	15.8 °F	93%	29.57 in	1.0 miles	NE	16.1 mph	23.0 mph	0.02 in	Snow	Light Snow
3:54 AM	18.0 °F	14.0 °F	84%	29.62 in	1.5 miles	NNE	13.8 mph	21.9 mph	0.02 in	Snow	Light Snow
4:06 AM	17.6 °F	14.0 °F	86%	29.58 in	1.2 miles	NNE	17.3 mph	21.9 mph	0.00 in	Snow	Light Snow
4:23 AM	17.6 °F	14.0 °F	86%	29.60 in	2.0 miles	NNE	10.4 mph	21.9 mph	0.01 in	Snow	Light Snow
4:34 AM	17.6 °F	14.0 °F	86%	29.61 in	2.0 miles	NNE	12.7 mph	-	0.01 in	Snow	Light Snow
4:54 AM	18.0 °F	14.0 °F	84%	29.66 in	2.0 miles	NNE	13.8 mph	-	0.01 in	Snow	Light Snow
5:13 AM	17.6 °F	14.0 °F	86%	29.63 in	1.8 miles	NNE	15.0 mph	25.3 mph	0.00 in	Snow	Light Snow
5:29 AM	17.6 °F	14.0 °F	86%	29.64 in	1.5 miles	NNE	13.8 mph	21.9 mph	0.01 in	Snow	Light Snow
5:54 AM	19.0 °F	14.0 °F	81%	29.69 in	1.5 miles	NNE	10.4 mph	20.7 mph	0.02 in	Snow	Light Snow
6:02 AM	19.4 °F	14.0 °F	80%	29.66 in	1.2 miles	NE	11.5 mph	20.7 mph	0.00 in	Snow	Light Snow
6:12 AM	19.4 °F	15.8 °F	86%	29.66 in	1.0 miles	NNE	11.5 mph	-	0.00 in	Snow	Light Snow
6:31 AM	19.4 °F	15.8 °F	86%	29.68 in	1.0 miles	NNE	11.5 mph	-	0.00 in	Snow	Light Snow

6:54 AM	19.0 °F	16.0 °F	88%	29.74 in	1.0 miles	North	11.5 mph	-	0.02 in	Snow	Light Snow
7:29 AM	19.4 °F	15.8 °F	86%	29.72 in	1.0 miles	North	9.2 mph	-	0.00 in	Snow	Light Snow
7:37 AM	19.4 °F	15.8 °F	86%	29.73 in	0.8 miles	North	9.2 mph	-	0.01 in	Snow	Light Snow
7:54 AM	19.0 °F	16.0 °F	88%	29.80 in	1.0 miles	NNW	10.4 mph	-	0.02 in	Snow	Light Snow
8:09 AM	19.4 °F	17.6 °F	93%	29.77 in	1.0 miles	NNW	10.4 mph	-	0.00 in	Snow	Light Snow
8:54 AM	19.0 °F	15.1 °F	85%	29.85 in	2.0 miles	NNW	16.1 mph	-	0.01 in	Snow	Light Snow
9:13 AM	19.4 °F	15.8 °F	86%	29.84 in	1.2 miles	NNW	17.3 mph	-	0.00 in	Snow	Light Snow
9:54 AM	19.0 °F	15.1 °F	85%	29.93 in	1.0 miles	NNW	17.3 mph	-	0.00 in	Snow	Light Snow
10:39 AM	19.4 °F	14.0 °F	80%	29.93 in	1.0 miles	NNW	24.2 mph	31.1 mph	0.00 in	Snow	Light Snow
10:54 AM	19.9 °F	12.9 °F	74%	29.99 in	3.0 miles	North	21.9 mph	27.6 mph	0.00 in	Snow	Light Snow
11:54 AM	21.0 °F	12.0 °F	68%	30.05 in	8.0 miles	North	18.4 mph	29.9 mph	0.00 in		Mostly Cloudy
12:54 PM	19.9 °F	12.0 °F	71%	30.09 in	10.0 miles	North	19.6 mph	-	N/A		Mostly Cloudy
1:54 PM	21.9 °F	15.1 °F	75%	30.13 in	9.0 miles	NNW	19.6 mph	-	0.01 in	Snow	Light Snow
2:21 PM	21.2 °F	14.0 °F	74%	30.10 in	9.0 miles	North	12.7 mph	-	0.00 in	Snow	Light Snow
2:54 PM	21.9 °F	12.9 °F	68%	30.17 in	9.0 miles	North	13.8 mph	-	0.00 in		Overcast
3:45 PM	23.0 °F	15.8 °F	74%	30.18 in	7.0 miles	NNW	10.4 mph	-	0.00 in	Snow	Light Snow
3:54 PM	23.0 °F	16.0 °F	74%	30.22 in	6.0 miles	NNW	10.4 mph	-	0.00 in	Snow	Light Snow
4:32 PM	21.2 °F	12.2 °F	68%	30.22 in	9.0 miles	North	12.7 mph	-	0.00 in		Overcast
4:54 PM	23.0 °F	12.0 °F	63%	30.27 in	10.0 miles	North	10.4 mph	-	0.00 in		Overcast
5:54 PM	21.9 °F	12.0 °F	66%	30.31 in	10.0 miles	NNW	4.6 mph	-	N/A		Overcast
6:54 PM	21.9 °F	12.0 °F	66%	30.35 in	10.0 miles	NW	6.9 mph	-	N/A		Mostly Cloudy
7:54 PM	23.0 °F	12.9 °F	65%	30.38 in	10.0 miles	NNW	9.2 mph	-	N/A		Mostly Cloudy
8:54 PM	21.9 °F	17.1 °F	82%	30.41 in	2.5 miles	WNW	8.1 mph	-	0.00 in	Snow	Light Snow
9:07 PM	23.0 °F	19.4 °F	86%	30.37 in	0.8 miles	NW	6.9 mph	-	0.00 in	Snow	Light Snow
9:14 PM	23.0 °F	19.4 °F	86%	30.37 in	0.5 miles	NNW	8.1 mph	-	0.01 in	Fog , Snow	Snow
9:34 PM	23.0 °F	21.2 °F	93%	30.38 in	1.0 miles	NNW	5.8 mph	-	0.04 in	Snow	Light Snow
9:48 PM	23.0 °F	21.2 °F	93%	30.39 in	3.0 miles	North	4.6 mph	-	0.05 in	Snow	Light Snow
9:54 PM	23.0 °F	21.0 °F	92%	30.43 in	5.0 miles	NNW	3.5 mph	-	0.05 in	Snow	Light Snow
10:07 PM	23.0 °F	21.2 °F	93%	30.39 in	5.0 miles	Calm	Calm	-	0.00 in	Snow	Light Snow
10:54 PM	24.1 °F	17.1 °F	75%	30.45 in	10.0 miles	WNW	8.1 mph	-	0.00 in		Overcast
11:54 PM	23.0 °F	16.0 °F	74%	30.45 in	10.0 miles	WNW	9.2 mph	-	0.00 in		Overcast

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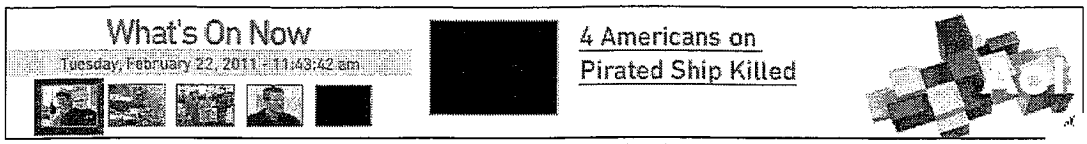


History for KSBN, Indiana

Thursday, February 3, 2011 — View Current Conditions

Thursday, February 3, 2011

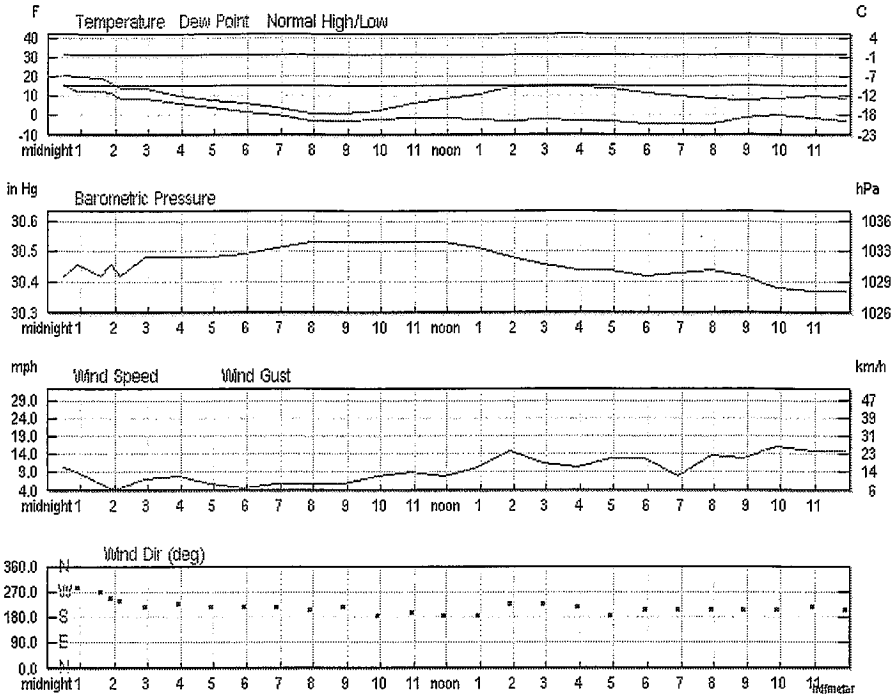
« Previous Day | February 3 2011 View | Next Day »

Daily | Weekly | Monthly | Custom

	Actual	Average	Record
Temperature			
Mean Temperature	12 °F	-	
Max Temperature	23 °F	-	- ()
Min Temperature	0 °F	-	- ()
Degree Days			
Heating Degree Days	53		
Month to date heating degree days	144		
Moisture			
Dew Point	2 °F		
Average Humidity	67		
Maximum Humidity	87		
Minimum Humidity	46		
Precipitation			
Precipitation	-	-	- ()
Month to date precipitation	0.99		
Year to date precipitation	3.15		
Snow			
Snow	0.00 in	-	- ()
Month to date snowfall	13.4		
Snow Depth	10.00 in		
Sea Level Pressure			
Sea Level Pressure	30.46 in		
Wind			
Wind Speed	10 mph (SW)		
Max Wind Speed	18 mph		
Max Gust Speed	24 mph		
Visibility	10 miles		
Events			

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

Source: NWS Daily Summary



Hourly Observations

Time (EST)	Temp.	Dew Point	Humidity	Sea Level Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
12:30 AM	21.2 °F	15.8 °F	80%	30.42 in	10.0 miles	WNW	10.4 mph	-	N/A		Overcast
12:54 AM	19.9 °F	12.9 °F	74%	30.46 in	10.0 miles	WNW	9.2 mph	-	N/A		Mostly Cloudy
1:35 AM	19.4 °F	12.2 °F	74%	30.42 in	10.0 miles	West	5.8 mph	-	N/A		Mostly Cloudy
1:54 AM	17.1 °F	12.0 °F	81%	30.46 in	10.0 miles	WSW	4.6 mph	-	N/A		Mostly Cloudy
2:09 AM	14.0 °F	8.6 °F	79%	30.42 in	10.0 miles	WSW	4.6 mph	-	N/A		Scattered Clouds
2:54 AM	14.0 °F	9.0 °F	80%	30.48 in	10.0 miles	SW	6.9 mph	-	N/A		Clear
3:54 AM	10.0 °F	6.1 °F	84%	30.48 in	10.0 miles	SW	8.1 mph	-	N/A		Clear
4:54 AM	8.1 °F	3.9 °F	83%	30.48 in	10.0 miles	SW	5.8 mph	-	N/A		Clear
5:54 AM	6.1 °F	1.9 °F	83%	30.49 in	10.0 miles	SW	4.6 mph	-	N/A		Clear
6:54 AM	3.9 °F	-0.0 °F	84%	30.51 in	10.0 miles	SW	5.8 mph	-	N/A		Clear
7:54 AM	1.0 °F	-2.9 °F	83%	30.53 in	9.0 miles	SSW	5.8 mph	-	N/A		Clear
8:54 AM	1.0 °F	-2.9 °F	83%	30.53 in	10.0 miles	SW	5.8 mph	-	N/A		Clear
9:54 AM	3.0 °F	-2.0 °F	80%	30.53 in	10.0 miles	South	8.1 mph	-	N/A		Clear
10:54 AM	6.1 °F	-0.9 °F	73%	30.53 in	10.0 miles	SSW	9.2 mph	-	N/A		Clear
11:54 AM	9.0 °F	-0.9 °F	64%	30.53 in	10.0 miles	South	8.1 mph	-	N/A		Clear
12:54 PM	10.9 °F	-2.0 °F	56%	30.51 in	10.0 miles	South	10.4 mph	-	N/A		Clear
1:54 PM	15.1 °F	-2.9 °F	45%	30.48 in	10.0 miles	SW	15.0 mph	-	N/A		Clear
2:54 PM	15.1 °F	-2.0 °F	47%	30.46 in	10.0 miles	SW	11.5 mph	-	N/A		Clear
3:54 PM	15.1 °F	-2.9 °F	45%	30.44 in	10.0 miles	SW	10.4 mph	-	N/A		Clear
4:54 PM	14.0 °F	-2.9 °F	47%	30.44 in	10.0 miles	South	12.7 mph	-	N/A		Clear
5:54 PM	12.0 °F	-4.0 °F	49%	30.42 in	10.0 miles	SSW	12.7 mph	-	N/A		Clear

6:54 PM	10.0 °F	-4.0 °F	53%	30.43 in	10.0 miles	SSW	8.1 mph	-	N/A	Clear
7:54 PM	9.0 °F	-4.0 °F	56%	30.44 in	10.0 miles	SSW	13.8 mph	-	N/A	Clear
8:54 PM	8.1 °F	-0.9 °F	67%	30.42 in	10.0 miles	SSW	12.7 mph	-	N/A	Clear
9:54 PM	9.0 °F	-0.0 °F	67%	30.38 in	10.0 miles	SSW	16.1 mph	-	N/A	Clear
10:54 PM	10.0 °F	-0.9 °F	61%	30.37 in	10.0 miles	SW	15.0 mph	-	N/A	Clear
11:54 PM	9.0 °F	-2.9 °F	59%	30.37 in	10.0 miles	SSW	15.0 mph	21.9 mph	N/A	Clear

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History for KSBN, Indiana

Friday, February 4, 2011 — View Current Conditions

Friday, February 4, 2011

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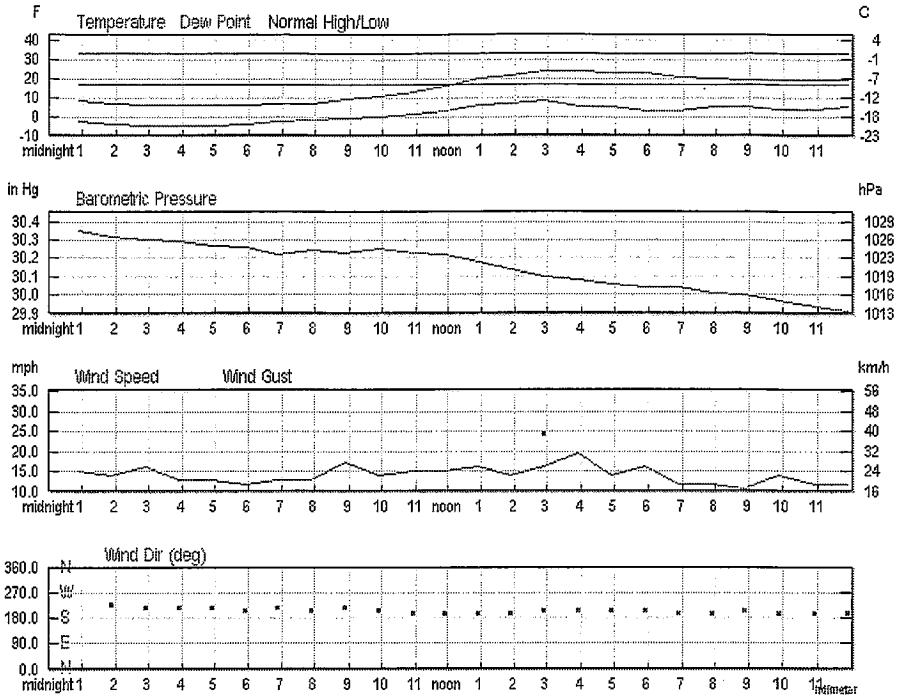
Daily | Weekly | Monthly | Custom

	Actual	Average	Record
Temperature			
Mean Temperature	15 °F	-	
Max Temperature	24 °F	-	- ()
Min Temperature	6 °F	-	- ()
Degree Days			
Heating Degree Days	50		
Month to date heating degree days	194		
Moisture			
Dew Point	1 °F		
Average Humidity	56		
Maximum Humidity	69		
Minimum Humidity	42		
Precipitation			
Precipitation	-	-	- ()
Month to date precipitation	0.99		
Year to date precipitation	3.15		
Snow			
Snow	0.00 in	-	- ()
Month to date snowfall	13.4		
Snow Depth	10.00 in		
Sea Level Pressure			
Sea Level Pressure	30.15 in		
Wind			
Wind Speed	14 mph (SSW)		
Max Wind Speed	22 mph		
Max Gust Speed	26 mph		
Visibility	10 miles		
Events			

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

Source: NWS Daily Summary



Hourly Observations

Time (EST)	Temp.	Dew Point	Humidity	Sea Level Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
12:54 AM	8.1 °F	-2.9 °F	61%	30.35 in	10.0 miles	SW	15.0 mph	-	N/A		Clear
1:54 AM	7.0 °F	-4.0 °F	61%	30.32 in	10.0 miles	SW	13.8 mph	-	N/A		Clear
2:54 AM	6.1 °F	-5.1 °F	60%	30.30 in	10.0 miles	SW	16.1 mph	-	N/A		Clear
3:54 AM	6.1 °F	-5.1 °F	60%	30.29 in	10.0 miles	SW	12.7 mph	-	N/A		Clear
4:54 AM	6.1 °F	-5.1 °F	60%	30.27 in	10.0 miles	SW	12.7 mph	-	N/A		Clear
5:54 AM	6.1 °F	-4.0 °F	63%	30.26 in	10.0 miles	SSW	11.5 mph	-	N/A		Clear
6:54 AM	7.0 °F	-2.9 °F	64%	30.22 in	10.0 miles	SW	12.7 mph	-	N/A		Clear
7:54 AM	7.0 °F	-2.0 °F	67%	30.24 in	10.0 miles	SSW	12.7 mph	-	N/A		Clear
8:54 AM	9.0 °F	-0.9 °F	64%	30.23 in	10.0 miles	SW	17.3 mph	23.0 mph	N/A		Clear
9:54 AM	10.9 °F	-0.0 °F	61%	30.25 in	10.0 miles	SSW	13.8 mph	-	N/A		Clear
10:54 AM	12.9 °F	1.0 °F	59%	30.23 in	10.0 miles	SSW	15.0 mph	-	N/A		Clear
11:54 AM	16.0 °F	3.0 °F	57%	30.22 in	10.0 miles	SSW	15.0 mph	-	N/A		Clear
12:54 PM	19.9 °F	6.1 °F	55%	30.18 in	10.0 miles	SSW	16.1 mph	-	N/A		Clear
1:54 PM	21.9 °F	7.0 °F	53%	30.14 in	9.0 miles	SSW	13.8 mph	20.7 mph	N/A		Clear
2:54 PM	24.1 °F	8.1 °F	51%	30.10 in	10.0 miles	SSW	16.1 mph	24.2 mph	N/A		Clear
3:54 PM	24.1 °F	5.0 °F	44%	30.08 in	10.0 miles	SSW	19.6 mph	-	N/A		Clear
4:54 PM	23.0 °F	5.0 °F	46%	30.06 in	10.0 miles	SSW	13.8 mph	25.3 mph	N/A		Clear
5:54 PM	23.0 °F	3.0 °F	42%	30.04 in	10.0 miles	SSW	16.1 mph	-	N/A		Clear
6:54 PM	21.0 °F	3.0 °F	46%	30.04 in	10.0 miles	SSW	11.5 mph	-	N/A		Clear
7:54 PM	19.9 °F	5.0 °F	52%	30.01 in	10.0 miles	SSW	11.5 mph	-	N/A		Clear
8:54 PM	19.0 °F	5.0 °F	54%	30.00 in	10.0 miles	SSW	10.4 mph	-	N/A		Clear
9:54 PM	19.0 °F	3.9 °F	52%	29.97 in	10.0 miles	SSW	13.8 mph	-	N/A		Clear
10:54 PM	19.0 °F	3.9 °F	52%	29.94 in	10.0 miles	SSW	11.5 mph	-	N/A		Clear

11:54 PM	19.0 °F	5.0 °F	54%	29.91 in	10.0 miles	SSW	11.5 mph	-	N/A	Clear

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History for KSBN, Indiana

Thursday, February 10, 2011 — View Current Conditions

Thursday, February 10, 2011

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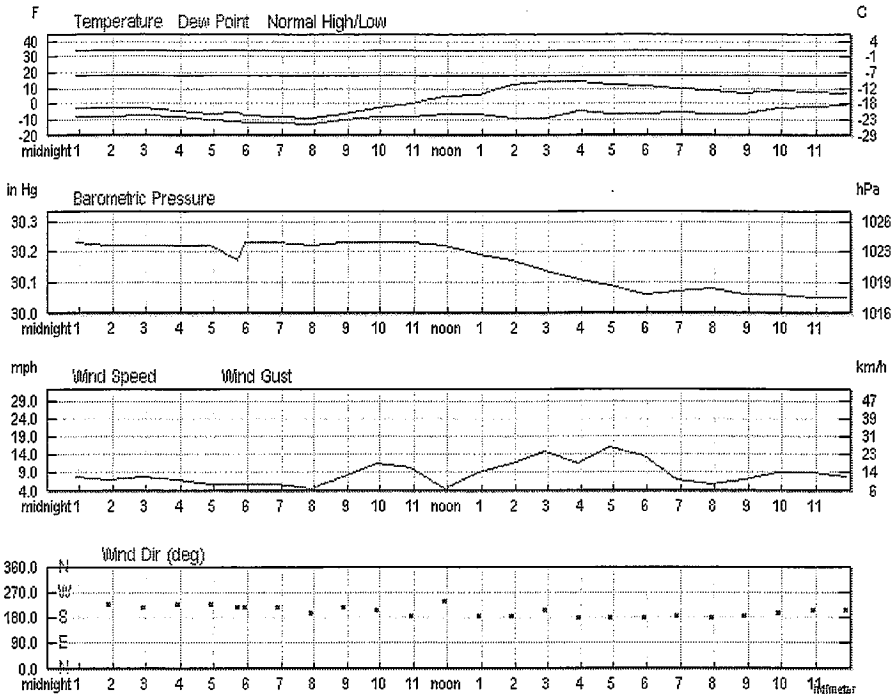
Daily | Weekly | Monthly | Custom

	Actual	Average	Record
Temperature			
Mean Temperature	3 °F	-	
Max Temperature	14 °F	-	- ()
Min Temperature	-9 °F	-	- ()
Degree Days			
Heating Degree Days	62		
Month to date heating degree days	492		
Moisture			
Dew Point	-7 °F		
Average Humidity	60		
Maximum Humidity	83		
Minimum Humidity	36		
Precipitation			
Precipitation	-	-	- ()
Month to date precipitation	1.23		
Year to date precipitation	3.39		
Snow			
Snow	T in	-	- ()
Month to date snowfall	18.5		
Snow Depth	11.00 in		
Sea Level Pressure			
Sea Level Pressure	30.16 in		
Wind			
Wind Speed	9 mph (SSW)		
Max Wind Speed	18 mph		
Max Gust Speed	23 mph		
Visibility	10 miles		
Events	Snow		

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

Source: NWS Daily Summary



Hourly Observations

Time (EST)	Temp.	Dew Point	Humidity	Sea Level Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Conditions
12:54 AM	-2.9 °F	-8.0 °F	79%	30.23 in	10.0 miles	SW	8.1 mph	-	N/A		Scattered Clouds
1:54 AM	-2.9 °F	-8.0 °F	79%	30.22 in	10.0 miles	SW	6.9 mph	-	N/A		Mostly Cloudy
2:54 AM	-2.9 °F	-7.1 °F	82%	30.22 in	9.0 miles	SW	8.1 mph	-	N/A		Mostly Cloudy
3:54 AM	-4.0 °F	-8.0 °F	83%	30.22 in	5.0 miles	SW	6.9 mph	-	0.00 in	Snow	Light Snow
4:54 AM	-6.0 °F	-9.9 °F	83%	30.22 in	7.0 miles	SW	5.8 mph	-	0.00 in	Snow	Light Snow
5:41 AM	-5.8 °F	-11.2 °F	77%	30.17 in	9.0 miles	SW	5.8 mph	-	0.00 in		Scattered Clouds
5:54 AM	-7.1 °F	-11.9 °F	79%	30.23 in	10.0 miles	SW	5.8 mph	-	0.00 in		Partly Cloudy
6:54 AM	-8.0 °F	-11.9 °F	83%	30.23 in	10.0 miles	SW	5.8 mph	-	N/A		Clear
7:54 AM	-9.0 °F	-13.0 °F	83%	30.22 in	9.0 miles	SSW	4.6 mph	-	N/A		Clear
8:54 AM	-6.0 °F	-9.9 °F	83%	30.23 in	8.0 miles	SW	8.1 mph	-	N/A		Clear
9:54 AM	-2.9 °F	-8.0 °F	79%	30.23 in	10.0 miles	SSW	11.5 mph	-	N/A		Clear
10:54 AM	-0.0 °F	-8.0 °F	69%	30.23 in	10.0 miles	South	10.4 mph	-	N/A		Clear
11:54 AM	5.0 °F	-6.0 °F	61%	30.22 in	10.0 miles	WSW	4.6 mph	-	N/A		Clear
12:54 PM	6.1 °F	-6.0 °F	58%	30.19 in	10.0 miles	South	9.2 mph	-	0.00 in		Clear
1:54 PM	12.9 °F	-9.0 °F	37%	30.17 in	10.0 miles	South	11.5 mph	-	N/A		Clear
2:54 PM	14.0 °F	-9.0 °F	35%	30.14 in	10.0 miles	SSW	15.0 mph	21.9 mph	N/A		Clear
3:54 PM	14.0 °F	-4.0 °F	45%	30.11 in	10.0 miles	South	11.5 mph	-	N/A		Clear
4:54 PM	12.9 °F	-6.0 °F	43%	30.09 in	10.0 miles	South	16.1 mph	-	N/A		Clear
5:54 PM	12.0 °F	-6.0 °F	44%	30.06 in	10.0 miles	South	13.8 mph	-	N/A		Clear
6:54 PM	10.0 °F	-5.1 °F	51%	30.07 in	10.0 miles	South	6.9 mph	-	N/A		Clear
7:54 PM	9.0 °F	-6.0 °F	51%	30.08 in	10.0 miles	South	5.8 mph	-	N/A		Clear

8:54 PM	7.0 °F	-6.0 °F	55%	30.06 in	10.0 miles	South	6.9 mph	-	N/A	Clear
9:54 PM	9.0 °F	-2.9 °F	59%	30.06 in	10.0 miles	SSW	9.2 mph	-	N/A	Clear
10:54 PM	8.1 °F	-2.0 °F	64%	30.05 in	10.0 miles	SSW	9.2 mph	-	N/A	Clear
11:54 PM	7.0 °F	-0.9 °F	70%	30.05 in	10.0 miles	SSW	8.1 mph	-	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

(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.

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: 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
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

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: Edward 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

H181100401

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: Terrance J Adkins 2/8/11 940
Samples Relinquished by:	Date/Time:	Received by:
Relinquished by:	Date/Time:	Received by:

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-3026B-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 #: 75525 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	15A	29.02	MD8T5	6668 ~~0120~~ (Pfs 8/14/11)	-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

H1S100401

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	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:

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H1B1D0401

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: Clarence J. Adkins 2/8/11 940
Samples Relinquished by:	Date/Time:	Received by:
Relinquished by:	Date/Time:	Received by:

A

H1B100401 Analytical Report 1
Sample Receipt Documentation 22
Total Number of Pages 25

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

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

1110100402

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
Company: MACTEC	Phone: 231-922-9050	1 of 1 COCs
Address: 41 Hughes Drive	Site Contact: Steve Buyze	
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 # 51332B6	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 Buyze	Date/Time: 2/3/11 1617	Canisters Received by:	
Samples Relinquished by:	Date/Time:	Received by: [signature]	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

L1B100402

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: 231-922-9058			
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: 2/9/11 9:30
Relinquished by:	Date/Time:	Received by:

C

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: HNB1DD402

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	-3.9													9003

Original Chain of Custody Documentation

1110100402

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 Buyze		
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 # 51332B6	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

L41B100402

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 Drive	Site Contact: Steve Burge	
City/State/Zip: Traverse City, MI 49696	TAL Contact: Mark Loeb	
Phone: 231-922-9058		
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-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: 2/9/11 9:30
Relinquished by:	Date/Time:	Received by:

C

H1B100402 Analytical Report 1
Sample Receipt Documentation 25
Total Number of Pages 28

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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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

11022 TestAmerica Norton

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.

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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

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
RH 2/15/11
2bx Fed Ex 873804404814 (MSTR)
12 CANS 12 FLOWS 12 FLOWS
RH 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

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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 49684	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: HIB1350 HIB1505 08 DKD 2-15-11

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 ~~N/A COC SAYS 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)	✓	✓	✓	☑ ~~14a~~ Not relinquished DKD 2-15-11	
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: Kyle Smith Date: 2/15/11

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													b
			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 # 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-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 49686	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)
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:

H1B150508 Analytical Report 1
Sample Receipt Documentation 21
Total Number of Pages 24

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
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Knoxville, TN 37921
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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
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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			

5 boxes No Custody SEALS
RECEIVED @ Ambient Temp
R.H 2/24/11
5 boxes UPS 1Z5403W50345896729

		Pressure (inches of Hg)		
		Interior	Ambient	
	Start			
	Stop			

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:

1-7162410528

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 Hancock 2/24/11 09:45
Relinquished by:	Date/Time:	Received by:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: 410528

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:	NA
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

QA026R22.doc, 012811

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 2-25-11	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

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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Address: 41 HUGHES DRIVE	Site Contact: STEVE BUYZE		
City/State/Zip TRAVERSE CITY MI 49696	TAL Contact: MARK LOEB		
Phone: 231-922-9050			
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Project Name: HONEYWELL SB VAPOR INTRUSION	**Analysis Turnaround Time**		
Site/location: SOUTH BEND, IN	Standard (Specify)		
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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
1Z5403W503478665 07
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:

1-1162405528

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5815 Middlebrook Pike
Knoxville, TN 37921
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Canister Samples Chain of Custody Record

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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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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:

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Sample Receipt Documentation 18
Total Number of Pages 21