

**Work Plan Addendum
Indoor Air and Sub-Slab Vapor Sampling
Round 15
August 2013
Lockheed Martin Middle River Complex
2323 Eastern Boulevard
Middle River, Maryland**

Prepared for:

Lockheed Martin Corporation

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ACRONYMS

COC	contaminant(s) of concern
IA	indoor air
IAQ	indoor air quality
Lockheed Martin	Lockheed Martin Corporation
MPL	mechanical prototype lab
MRC	Middle River Complex
MST	Mission Systems and Training
SV	sub-slab vapor
VLS	vertical-launch system
VMP	vapor monitoring point
VOC	volatile organic compound

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Section 1

Introduction and Scope

This technical memorandum proposes field activities to support the August 2013 indoor air-quality (IAQ) and sub-slab-vapor (SV) sampling round at the Lockheed Martin Corporation (Lockheed

1.1 PROPOSED SUB-SLAB-VAPOR MONITORING-POINT LOCATIONS

No new vapor-monitoring points (VMPs) will be installed for the August 2013 sampling round. Results from Round 14 (February 2013) indicate that the VMP locations proposed for Round 15 are appropriate, except for the following changes:

Two additional IA samples (128-C, 144-C) will be collected in the Mission Systems and Training (MST) mechanical prototype lab (MPL) machine shop on the northeastern side of the Building C basement.

A visual inspection of the MST MPL machine Shop will be performed during the pre-sampling inspection of VMPs. The objective of this inspection will be to identify any cracks or other penetrations of the building envelope that might facilitate sub-slab vapor intrusion at this location.

Two VMPs in the western part of Building B (033-B and 101-B) will be sampled in this round to evaluate contamination east and northeast of 121-B and 136-A. Elevated levels of TCE were identified at 136-A in the eastern part of Building A in February 2013 (Round 14).

As stated earlier, VMPs sampled in Round 15 will be the same as those sampled during the previous round (Round 14); the rationale for using the same locations includes the following:

VMPs installed during Round 14 have only been sampled once

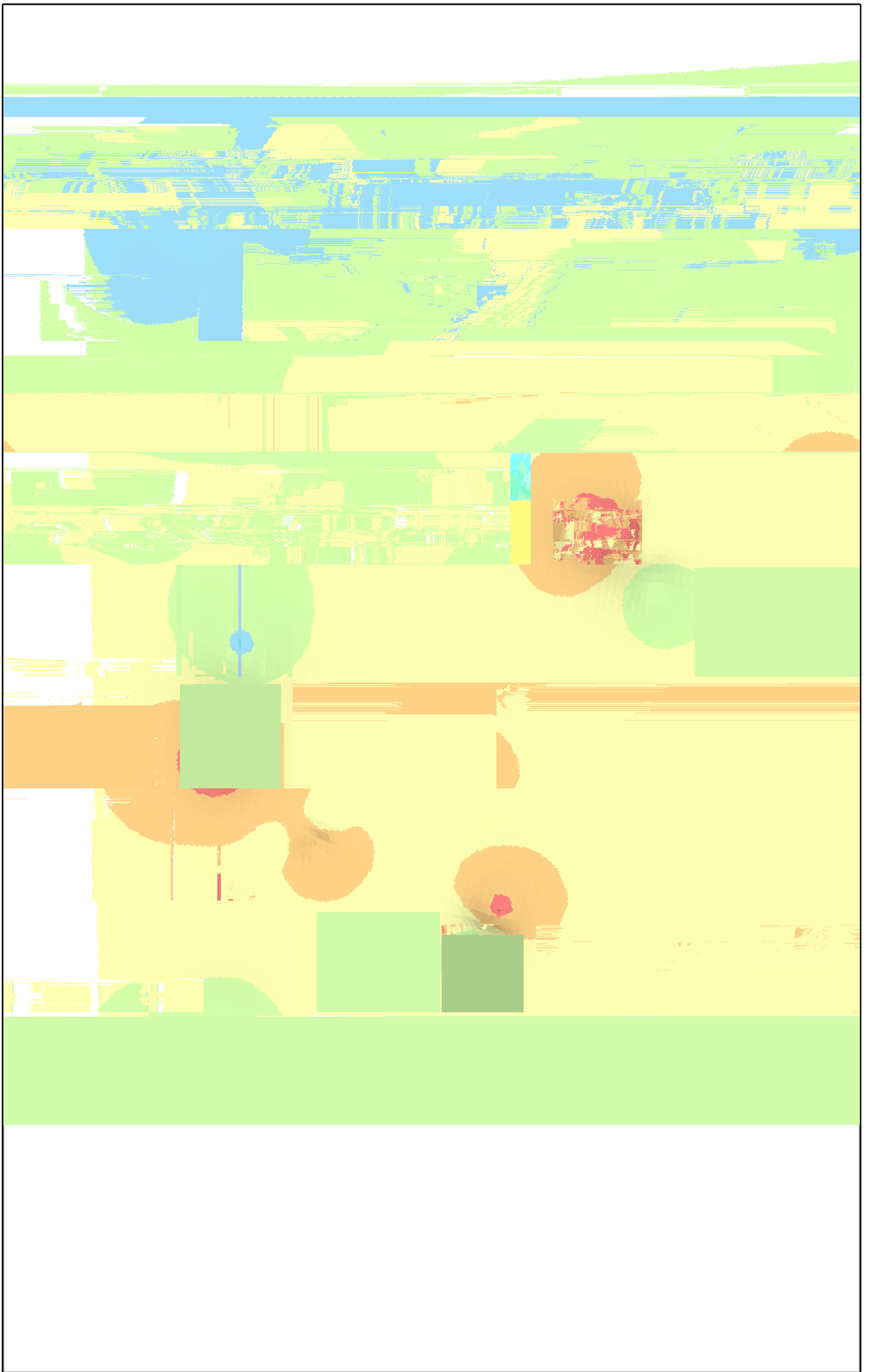
contaminants of concern (COC), including naphthalene and chlorinated compounds, were detected at multiple locations that were sampled during Round 14

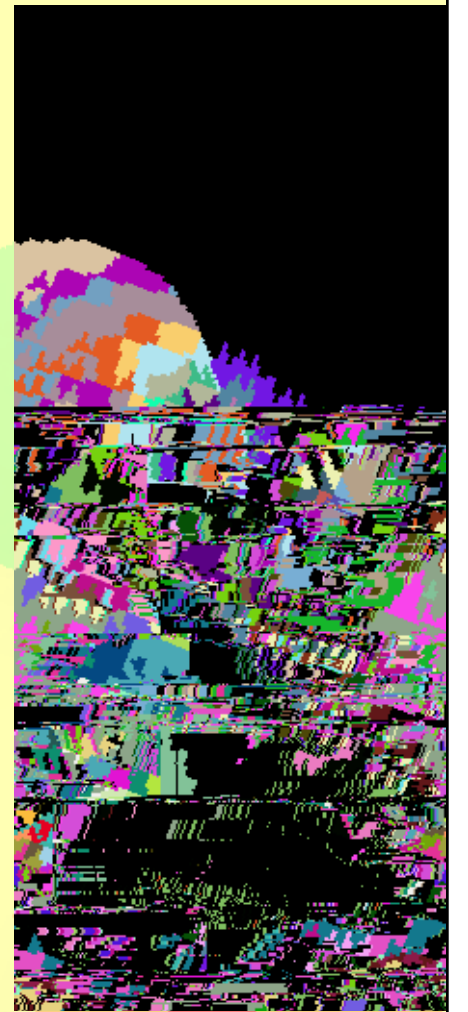
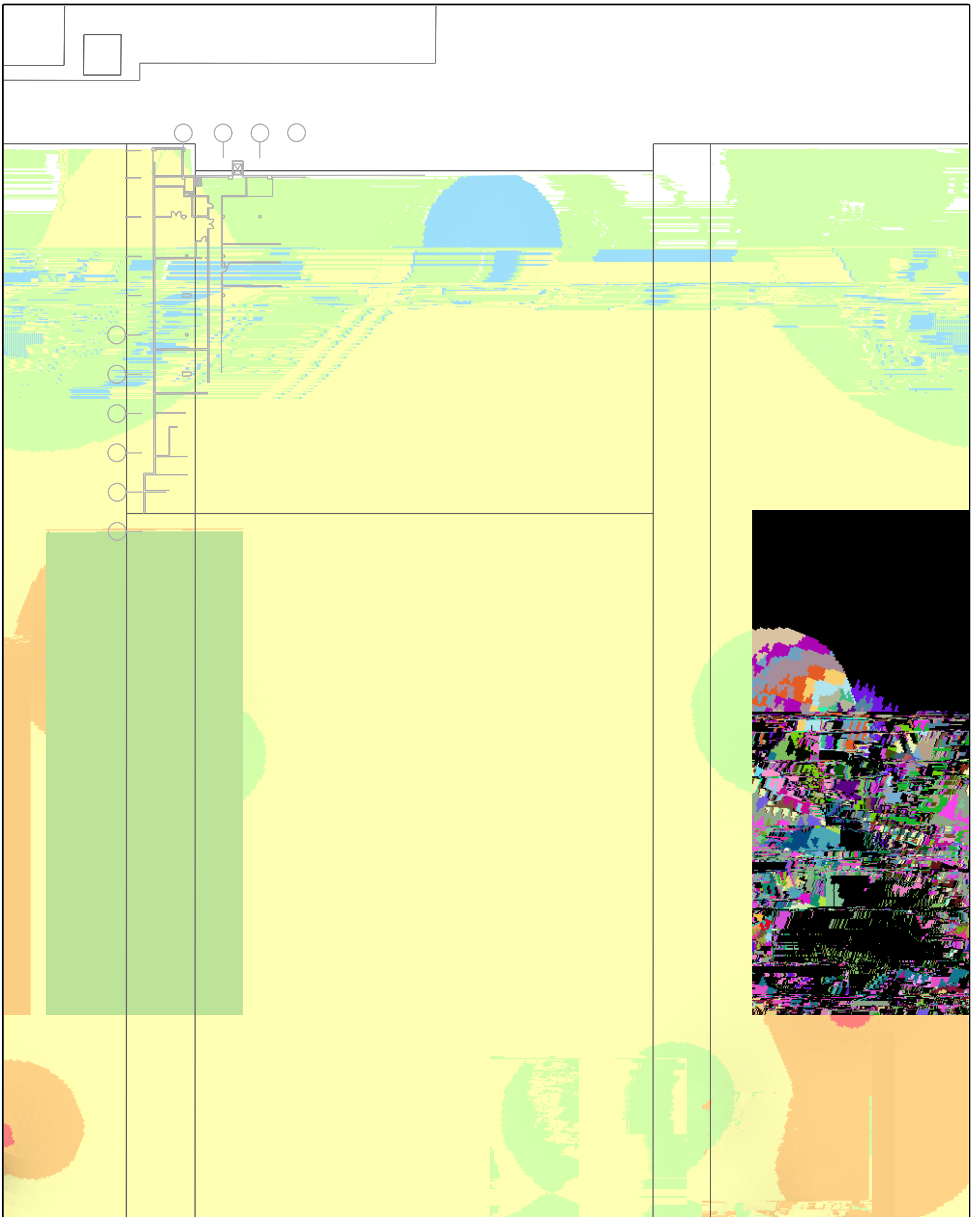


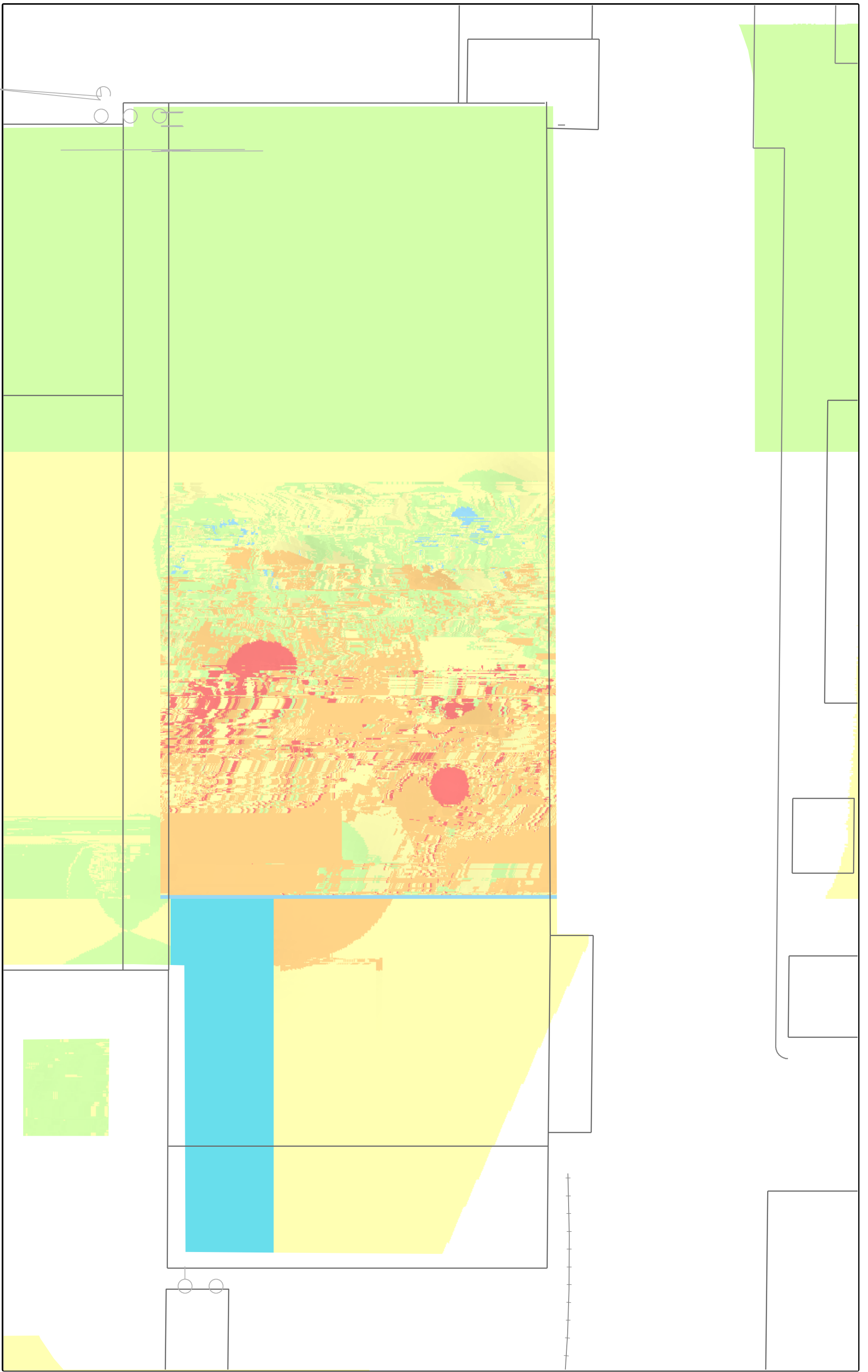
Co-located IAQ and SV sampling locations will share the same numerical identifier (based on when the location was first sampled), a building identifier (i.e., A, B, C, or Z for outlying buildings), the type of sample (IA for indoor air, SV for sub-slab vapor), and the sampling round (i.e., R15 for Round 15). For example, a sub-slab sample collected during Round 15 at the ninth sub-slab sampling location installed in the Building C Basement (during the 2006 site characterization study) would be 009-C-SV-R15. The co-located indoor air sample for this SV location would be 009-C-IA-R15. Final sampling locations will be determined based on conditions at the time of sampling.

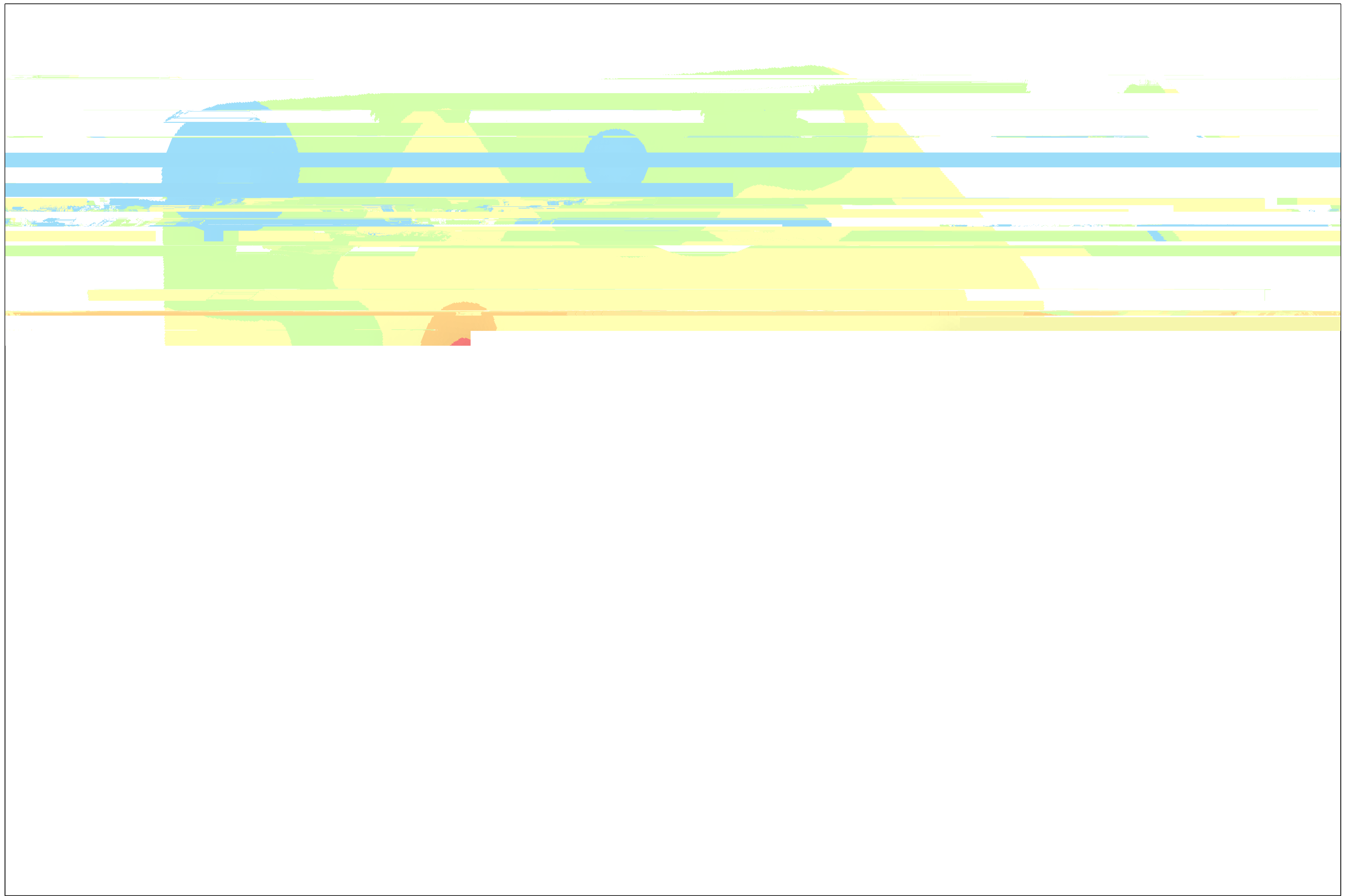
After sampling is complete, each canister will be closed and sent to an off-site laboratory under proper chain of custody procedures. Each sample will be submitted for analysis by USEPA Method TO-15. The current analytical parameter list used for indoor-air, sub-slab vapor, and background monitoring was agreed upon by the team in late 2011, and includes the following:

benzene	naphthalene
carbon tetrachloride	tetrachloroethene (PCE)
chlorodifluoromethane (Freon 22)	toluene
chloroform	1,2,4-trichlorobenzene
dichlorodifluoromethane	1,1,1-trichloroethane (1,1,1-TCA)
1,1-dichloroethane (1,1-DCA)	1,2,3-trimethylbenzene (1,2,3-TMB)
1,2-dichloroethane (1,2-DCA)	1,2,4-trimethylbenzene (1,2,4-TMB)
1,1-dichloroethene (1,1-DCE)	1,3,5-trimethylbenzene (1,3,5-TMB)
cis-1,2-dichloroethene (cis-1,2-DCE)	trichloroethene (TCE)
trans-1,2-dichloroethene (trans-1,2-DCE)	1,1,2-trichloroethane (1,1,2-TCA)
ethylbenzene	vinyl chloride (VC)
methyl-tertiary-butyl ether (MTBE)	xylenes (total)
methylene chloride	









Section 2

References

1. Tetra Tech, Inc., 2006. *Indoor Air Quality Assessment Work Plan for Buildings A, B, C, and VLS, Lockheed Martin Middle River Complex*. November.
2. Tetra Tech, Inc., 2008. *Phase II Investigation Work Plan, Block I, Lockheed Martin Middle River Complex*. August.

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