Table K.3
Response to USEPA Comments
J&E Results Using Default Air Filled Porosity for Sandy Loam
On-Site Buildings

	Screening Levels		Sample ID	B01SB01A	B01SB01B	B08SB02	B13SB01	B45SB01A
	Residential	Non-Residential (derived)	Sample Depth Interval (ft)	5-10	10-15	12-15	10-15	10-15
			Depth Below Foundation (ft)	1	6	7	6	6
Depth below grade to enclosed space floor †			cm	200				
Soil gas sampling depth below grade			cm	228.6	381	411.48	381	381
Average soil temperature			°C	11.1				
Vadose zone soil vapor permeability			cm^2	1.34E-12	1.34E-12	7.07E-11	9.87E-12	9.87E-12
Vadose zone soil dry bulk density			g/cm^3	1.504	1.504	1.351	1.427	1.427
Vadose zone soil total porosity			unitless	0.429	0.429	0.523	0.476	0.476
Vadose zone soil water-filled porosity			unitless	0.145	0.145	0.239	0.192	0.192
Vadose zone soil DEFAULT air-filled porosity				**0.284**				
Soil-building pressure differential			$g/cm\text{-}s^2$	40				
Enclosed space floor length			cm	1517	1517			
Enclosed space floor width			cm	13009	13009	1725	1483	1983
Indoor air exchange rate.			cm^3/sec	1.69E-04				
Chloroform								
Soil-Gas Concentration	11	18	Input	15	NA	NA	NA	NA
Model Predicted Indoor Air Concentration	1.1	1.8	Output	0.00247	NA	NA	NA	NA
Trichloroethene								
Soil-Gas Concentration	22	37	Input	210	43	2300	NA	NA
Model Predicted Indoor Air Concentration	2.2	3.7	Output	0.0344	0.00655	0.538	NA	NA
Tetrachloroethene								
Soil-Gas Concentration	81	136	Input	440	NA	120	NA	NA
Model Predicted Indoor Air Concentration	8.1	13.6	Output	0.072	NA	0.0275	NA	NA
1,3-Butadiene								
Soil-Gas Concentration	0.87	1.5	Input	3.1	4.9	NA	4.2	3.3
Model Predicted Indoor Air Concentration	0.087	0.15	Output	0.000513	0.000791	NA	0.00176	0.000509
cis-1,2 Dichlroethene								
Soil-Gas Concentration	350	350	Input	NA	NA	515	NA	NA
Model Predicted Indoor Air Concentration	35	35	Output	NA	NA	0.119	NA	NA

NOTES:

The residential screening level for soil gas is the Target Shallow Soil-gas concentration for risk = 10^{-5} (risk = 10^{-4} for trichloroethene) with a soil attenuation factor of 0.1.

The residential screening levels for indoor air is the Target Indoor Air concentration for risk = 10^{-5} (risk = 10^{-4} for trichloroethene).

The non-residential screening level for soil gas was derived using PA default non-residential exposure assumptions for risk = 10^{-5} (risk = 10^{-4} for trichloroethene) with a soil attenuation factor of 0.1.

The non-residential screening level for indoor air was derived using PA default non-residential exposure assumptions for risk = 10^{-5} (risk = 10^{-4} for trichloroethene).

= Concentration exceeds the corresponding residential screening level.

= Concentration exceeds the corresponding non-residential screening level.

All Concentrations are shown in ug/m^3.

NA - Not applicable, soil-gas concentration below respective USEPA screening value.

† Modeling conservatively assumed buildings had full basements though not necessarily true for all buildings.