

ENVIRON

November 10, 2008

MEMORANDUM

To: Geraldine Barnuevo
Cc: Marilyn Dedyne
From: Francis Ramacciotti
Subject: Evaluation of Soil Data
Pontiac Centerpoint – East, Pontiac, Michigan

ENVIRON has performed an evaluation of the soil data collected by Conestoga-Rovers & Associates (CRA) on behalf of General Motors (GM) at Pontiac Centerpoint Campus – East (Site) as part of a potential property transaction. The data were collected by CRA as split samples of those collected by ASTI Environmental (ASTI) to characterize potential historic fill at the Site. Our evaluation of data from the Site consisted of conducting a risk-based screening of the GM data and comparing metals to statewide background ranges.

Methodology

Soil screening criteria considered in this evaluation included the following Michigan Department of Environmental Quality (MDEQ) generic Part 201 screening criteria developed for commercial/industrial exposures:

- volatilization to indoor air inhalation criteria;
- volatilization to ambient air inhalation criteria for an infinite source;
- particulate inhalation criteria; and,
- direct contact criteria.

The criteria used for screening soil data and the screening results are presented on Table 1.

Summary of Results

The soil data from the Site were first compared to the screening criteria discussed above to identify potentially significant releases. Specifically, the concentrations of constituents detected in soil were compared to screening criteria; concentrations higher than the screening criteria are highlighted on Table 1. The screening results presented on Table 1 were reviewed for those instances where detected concentrations exceed the criteria for commercial/industrial criteria based on the existing deed restriction that limits Site use to commercial/industrial.

As shown on Table 1, the only constituent exceeding the MDEQ generic screening criteria for commercial/industrial use is arsenic; the specific sample in which arsenic was detected above the

generic direct contact screening criteria was collected from 18 feet below ground surface (bgs) at location SS-11. While no other split samples were collected by GM at this location, ASTI collected a sample at 13 feet bgs and the arsenic concentration was approximately 4 mg/kg. Therefore, the potentially significant concentrations of arsenic at 18 feet bgs from location SS-11 is not representative of shallower concentrations and thus commercial/industrial exposure via direct contact is not expected under the current and proposed use of the property. No other detected constituents in soil exceeded any of these generic MDEQ screening criteria.

The arsenic concentrations in soil were further evaluated to determine whether they are within the range of typical background values for Michigan. This evaluation was performed using the upper end of the typical range of data from the Michigan Background Soil Survey¹. The maximum arsenic concentration in soil (39.4 mg/kg) was slightly above the upper end of the typical range of background soil concentrations (27.7 mg/kg). Therefore, the arsenic concentrations at the Site were further evaluated using Upper Confidence Limits (UCL) on the mean. The calculated UCLs are nonparametric bias-corrected and accelerated (BCa) bootstrap confidence limit on the mean calculated from 4,000 bootstrap replications and at a 0.05 level of significance². The 95% UCLs for arsenic in soil is calculated using the maximum concentration from each location GM sampled. Table 2 presents all data considered for the UCL calculation and identifies the data that were used. The conservative estimate of the 95% UCL for arsenic in soil is 15.4 mg/kg, also shown on Table 2.

The conservative estimate of 95% UCL for arsenic in soil is lower than the generic MDEQ commercial/industrial criteria identified above and within the typical range of background data for arsenic in soil (Table 2). Therefore, these concentrations of arsenic in soil at the Site should be considered within the range of naturally occurring background and not as an indication of a potentially significant release.

The data collected by ASTI were also reviewed using the methodology described above. As shown on Table 3, the results from ASTI's data did not exceed the MDEQ generic screening criteria for commercial/industrial use.

Enclosure

¹ Michigan Background Soil Survey 2005, DEQ Hazardous Waste Technical Support Unit.

² An Introduction to the Bootstrap, Chapman & Hall/CRC, Boca Raton, Efron, B. and R. J. Tibshirani 1998.

Table 1: Soil Data Summary, PCC - East

Location Name	Michigan Act 451, Part 201 Industrial and Commercial II, III, IV ^(b)					GP-1	GP-3	GP-3	GP-5	GP-7	GP-8
Sample Name	Soil Volatilization	Infinite Source	Particulate	Direct Contact		SO-7097-100208-CB-009	SO-7097-100208-CB-010	SO-7097-100208-CB-011	SO-7097-100208-CB-015	SO-7097-100208-CB-012	SO-7097-100208-CB-013
Sample Date	to Indoor Air	Volatile Soil	Soil Inhalation	Industrial and		10/02/2008	10/02/2008	10/02/2008	10/02/2008	10/02/2008	10/02/2008
Sample Depth	Inhalation	Inhalation	Soil Inhalation	Commercial II		(22.5-24) ft bgs	(16-18) ft bgs	(16-18) ft bgs	(12-14) ft bgs	(4-6) ft bgs	(16-18) ft bgs
	c	d	e	f				Duplicate			
Units											
Metals											
Arsenic	mg/kg	NLV	NLV	910	37	9.8	5.3	6.3	5.3	4.2	5.6
Barium	mg/kg	NLV	NLV	150000	130000	93.9	36.4	37.7	36.5	29.5	32.9
Cadmium	mg/kg	NLV	NLV	2200	2100	2.5	0.20	0.19	0.53	0.37	0.19
Chromium Total	mg/kg	NLV	NLV	240	9200	24.6	12.4	12.2	9.0	11.0	10
Copper	mg/kg	NLV	NLV	59000	73000	53.5	12.8	12.9	15.1	11.6	13.4
Lead	mg/kg	NLV	NLV	44000	900	243 J	10 J	10.5 J	30.8 J	221 J	13.9 J
Mercury	mg/kg	89	62	8800	580	0.18	0.044 U	0.044 U	0.090 U	0.022 J	0.045 U
Selenium	mg/kg	NLV	NLV	59000	9600	1.6	0.66	0.61	0.48	0.55	0.62
Silver	mg/kg	NLV	NLV	2900	9000	0.46	0.088 U	0.087 U	0.091 U	0.089 U	0.090 U
Zinc	mg/kg	NLV	NLV	ID	630000	214	33.5	32.8	40.4	55.5	40.6
PCBs											
Aroclor-1016 (PCB-1016)	mg/kg	16000	810	6500	16	0.88 U	0.036 U	0.036 U	0.038 U	0.037 U	0.037 U
Aroclor-1221 (PCB-1221)	mg/kg	16000	810	6500	16	0.88 U	0.036 U	0.036 U	0.038 U	0.037 U	0.037 U
Aroclor-1232 (PCB-1232)	mg/kg	16000	810	6500	16	0.88 U	0.036 U	0.036 U	0.038 U	0.037 U	0.037 U
Aroclor-1242 (PCB-1242)	mg/kg	16000	810	6500	16	0.88 U	0.036 U	0.036 U	0.038 U	0.037 U	0.037 U
Aroclor-1248 (PCB-1248)	mg/kg	16000	810	6500	16	0.88 U	0.036 U	0.036 U	0.038 U	0.037 U	0.037 U
Aroclor-1254 (PCB-1254)	mg/kg	16000	810	6500	16	6.9	0.14	0.12	0.4	0.037 U	0.051
Aroclor-1260 (PCB-1260)	mg/kg	16000	810	6500	16	0.88 U	0.036 U	0.036 U	0.038 U	0.1	0.037 U
Semi-Volatile Organic Compounds											
2,2'-oxybis[1-Chloropropane)	mg/kg	NA	NA	NA	NA	--	--	--	--	--	--
2,4,5-Trichlorophenol	mg/kg	NLV	NLV	1000000	73000	--	--	--	--	--	--
2,4,6-Trichlorophenol	mg/kg	NLV	NLV	1300000	3300	--	--	--	--	--	--
2,4-Dichlorophenol	mg/kg	NLV	NLV	2300000	1800	--	--	--	--	--	--
2,4-Dimethylphenol	mg/kg	NLV	NLV	2100000	36000	--	--	--	--	--	--
2,4-Dinitrophenol	mg/kg	NA	NA	NA	NA	--	--	--	--	--	--
2,4-Dinitrotoluene	mg/kg	NLV	NLV	20000	220	--	--	--	--	--	--
2,6-Dinitrotoluene	mg/kg	NA	NA	NA	NA	--	--	--	--	--	--
2-Chloronaphthalene	mg/kg	ID	ID	ID	180000	--	--	--	--	--	--
2-Chlorophenol	mg/kg	ID	ID	ID	4500	--	--	--	--	--	--
2-Methylnaphthalene	mg/kg	ID	ID	ID	26000	3.5 U	0.0083 J	0.29 U	0.019 J	0.29 U	0.014 J
2-Methylphenol	mg/kg	NLV	NLV	2900000	36000	--	--	--	--	--	--
2-Nitroaniline	mg/kg	NA	NA	NA	NA	--	--	--	--	--	--
2-Nitrophenol	mg/kg	NLV	NLV	ID	2000	--	--	--	--	--	--
3,3'-Dichlorobenzidine	mg/kg	NLV	NLV	8200	30	--	--	--	--	--	--
3-Nitroaniline	mg/kg	NA	NA	NA	NA	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	mg/kg	NLV	NLV	ID	260	--	--	--	--	--	--
4-Bromophenyl phenyl ether	mg/kg	NA	NA	NA	NA	--	--	--	--	--	--
4-Chloro-3-methylphenol	mg/kg	NLV	NLV	ID	15000	--	--	--	--	--	--
4-Chloroaniline	mg/kg	NA	NA	NA	NA	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	mg/kg	NA	NA	NA	NA	--	--	--	--	--	--
4-Methylphenol	mg/kg	NLV	NLV	2900000	36000	--	--	--	--	--	--
4-Nitroaniline	mg/kg	NA	NA	NA	NA	--	--	--	--	--	--
4-Nitrophenol	mg/kg	NA	NA	NA	NA	--	--	--	--	--	--
Acenaphthene	mg/kg	350000	97000	6200000	130000	3.5 U	0.012 J	0.29 U	0.014 J	0.022 J	0.022 J
Acenaphthylene	mg/kg	3000	2700	1000000	5200	3.5 U	0.29 U	0.29 U	0.3 U	0.29 U	0.0079 J
Acetophenone	mg/kg	1100	52000	14000000	1100	--	--	--	--	--	--
Anthracene	mg/kg	1000000	1600000	29000000	730000	3.5 U	0.0093 J	0.29 U	0.3 U	0.039 J	0.04 J
Atrazine	mg/kg	NLV	NLV	ID	330	--	--	--	--	--	--
Benzaldehyde	mg/kg	NA	NA	NA	NA	--	--	--	--	--	--
Benzo(a)anthracene	mg/kg	NLV	NLV	ID	80	0.15 J	0.036 J	0.043 J	0.019 J	0.19 J	0.12 J
Benzo(a)pyrene	mg/kg	NLV	NLV	1900	8	0.17 J	0.03 J	0.033 J	0.02 J	0.21 J	0.11 J
Benzo(b)fluoranthene	mg/kg	ID	ID	ID	80	0.32 J	0.045 J	0.046 J	0.035 J	0.35	0.17 J
Benzo(g,h,i)perylene	mg/kg	NLV	NLV	350000	7000	0.15 J	0.022 J	0.021 J	0.017 J	0.14 J	0.073 J
Benzo(k)fluoranthene	mg/kg	NLV	NLV	ID	800	0.1 J	0.018 J	0.02 J	0.013 J	0.095 J	0.056 J
Biphenyl	mg/kg	NA	NA	NA	NA	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	mg/kg	NA	NA	NA	NA	--	--	--	--	--	--
bis(2-Chloroethyl)ether	mg/kg	44	13	12000	58	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	mg/kg	NLV	NLV	890000	10000	--	--	--	--	--	--
Butyl benzylphthalate	mg/kg	NLV	NLV	21000000	310	--	--	--	--	--	--
Caprolactam	mg/kg	NLV	NLV	290000	310000	--	--	--	--	--	--
Carbazole	mg/kg	NLV	NLV	ID	2400	--	--	--	--	--	--
Chrysene	mg/kg	ID	ID	ID	8000	0.15 J	0.05 J	0.044 J	0.031 J	0.25 J	0.14 J
Dibenz(a,h)anthracene	mg/kg	NLV	NLV	ID	8	3.5 U	0.29 U	0.012 J	0.3 U	0.043 J	0.025 J
Dibenzofuran	mg/kg	ID	ID	ID	ID	--	--	--	--	--	--
Diethyl phthalate	mg/kg	NLV	NLV	1500000	740	--	--	--	--	--	--
Dimethyl phthalate	mg/kg	NLV	NLV	1500000	790	--	--	--	--	--	--
Di-n-butylphthalate	mg/kg	NLV	NLV	1500000	760	--	--	--	--	--	--
Di-n-octyl phthalate	mg/kg	NLV	NLV	ID	20000	--	--	--	--	--	--
Fluoranthene	mg/kg	1000000	890000	4100000	130000	0.59 J	0.076 J	0.058 J	0.039 J	0.44	0.31
Fluorene	mg/kg	1000000	150000	4100000	87000	3.5 U	0.29 U	0.29 U	0.3 U	0.013 J	0.012 J
Hexachlorobenzene	mg/kg	220	56	8500	37	--	--	--	--	--	--
Hexachlorobutadiene	mg/kg	350	460	180000	350	--	--	--	--	--	--
Hexachlorocyclopentadiene	mg/kg	56	60	5900	720	--	--	--	--	--	--
Hexachloroethane	mg/kg	79	660	100000	730	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	mg/kg	NLV	NLV	ID	80	0.1 J	0.019 J	0.017 J	0.012 J	0.12 J	0.06 J
Isophorone	mg/kg	NLV	NLV	8200000	2400	--	--	--	--	--	--
Naphthalene	mg/kg	470	350	88000	52000	3.5 U	0.29 U	0.29 U	0.0086 J	0.29 U	0.0094 J
Nitrobenzene	mg/kg	170	64	21000	340	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	mg/kg	NLV	NLV	2000	5.4	--	--	--	--	--	--

Table 1: Soil Data Summary, PCC - East

Location Name	Michigan Act 451, Part 201 Industrial and Commercial II, III, IV ⁽¹⁾					GP-1	GP-3	GP-3	GP-5	GP-7	GP-8
Sample Name	Soil Volatilization	Infinite Source	Particulate	Direct Contact		SO-7097-100208-CB-009	SO-7097-100208-CB-010	SO-7097-100208-CB-011	SO-7097-100208-CB-015	SO-7097-100208-CB-012	SO-7097-100208-CB-013
Sample Date	to Indoor Air	Volatile Soil	Soil Inhalation	Industrial and		10/02/2008	10/02/2008	10/02/2008	10/02/2008	10/02/2008	10/02/2008
Sample Depth	Inhalation	Inhalation	Soil Inhalation	Commercial II		(22.5-24) ft bgs	(16-18) ft bgs	(16-18) ft bgs	(12-14) ft bgs	(4-6) ft bgs	(16-18) ft bgs
	c	d	e	f				Duplicate			
	Units										
N-Nitrosodiphenylamine	mg/kg	NLV	NLV	ID	7800	--	--	--	--	--	--
Pentachlorophenol	mg/kg	NLV	NLV	130000	320	--	--	--	--	--	--
Phenanthrene	mg/kg	5100	190	2900	5200	0.33 J	0.043 J	0.021 J	0.024 J	0.21 J	0.16 J
Phenol	mg/kg	NLV	NLV	18000000	12000	--	--	--	--	--	--
Pyrene	mg/kg	1000000	780000	2900000	84000	0.5 J	0.063 J	0.053 J	0.035 J	0.33	0.25 J
Pyridine	mg/kg	2	9.8	100000	37	--	--	--	--	--	--
Volatile Organic Compounds											
1,1,1-Trichloroethane	mg/kg	460	4500	29000000	460	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	mg/kg	23	34	68000	240	--	--	--	--	--	--
1,1,2-Trichloroethane	mg/kg	24	57	250000	840	--	--	--	--	--	--
1,1-Dichloroethane	mg/kg	430	2500	15000000	890	--	--	--	--	--	--
1,1-Dichloroethene	mg/kg	0.33	3.7	78000	570	--	--	--	--	--	--
1,2,4-Trichlorobenzene	mg/kg	1100	34000	11000000	1100	--	--	--	--	--	--
1,2,4-Trimethylbenzene	mg/kg	110	25000	36000000	110	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	1.2	15	5900	1.2	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	3.6	5.8	18000	0.43	--	--	--	--	--	--
1,2-Dichlorobenzene	mg/kg	210	46000	44000000	210	--	--	--	--	--	--
1,2-Dichloroethane	mg/kg	11	21	150000	420	--	--	--	--	--	--
1,2-Dichloropropane	mg/kg	7.4	30	120000	550	--	--	--	--	--	--
1,3,5-Trimethylbenzene	mg/kg	94	19000	36000000	94	--	--	--	--	--	--
1,3-Dichlorobenzene	mg/kg	ID	ID	ID	170	--	--	--	--	--	--
1,4-Dichlorobenzene	mg/kg	100	260	570000	1900	--	--	--	--	--	--
2-Butanone (Methyl Ethyl Ketone)	mg/kg	27000	35000	29000000	27000	--	--	--	--	--	--
2-Hexanone	mg/kg	1800	1300	1200000	2500	--	--	--	--	--	--
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	2700	53000	60000000	2700	--	--	--	--	--	--
Acetone	mg/kg	110000	160000	170000000	73000	--	--	--	--	--	--
Benzene	mg/kg	8.4	45	470000	400	--	--	--	--	--	--
Bromodichloromethane	mg/kg	6.4	31	110000	490	--	--	--	--	--	--
Bromoform	mg/kg	770	3100	3600000	870	--	--	--	--	--	--
Bromomethane (Methyl Bromide)	mg/kg	1.6	13	150000	1000	--	--	--	--	--	--
Carbon disulfide	mg/kg	140	1600	21000000	280	--	--	--	--	--	--
Carbon tetrachloride	mg/kg	0.99	12	170000	390	--	--	--	--	--	--
Chlorobenzene	mg/kg	220	920	2100000	260	--	--	--	--	--	--
Chloroethane	mg/kg	950	36000	290000000	950	--	--	--	--	--	--
Chloroform (Trichloromethane)	mg/kg	38	150	1600000	1500	--	--	--	--	--	--
Chloromethane (Methyl Chloride)	mg/kg	10	120	2600000	1100	--	--	--	--	--	--
cis-1,2-Dichloroethene	mg/kg	41	210	1000000	640	--	--	--	--	--	--
cis-1,3-Dichloropropene	mg/kg	NA	NA	NA	NA	--	--	--	--	--	--
Cyclohexane	mg/kg	NA	NA	NA	NA	--	--	--	--	--	--
Dibromochloromethane	mg/kg	21	80	160000	500	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	mg/kg	1700	63000	150000000	1000	--	--	--	--	--	--
Ethylbenzene	mg/kg	140	2400	13000000	140	--	--	--	--	--	--
Isopropylbenzene	mg/kg	390	2000	2600000	390	--	--	--	--	--	--
Methyl acetate	mg/kg	NA	NA	NA	NA	--	--	--	--	--	--
Methyl cyclohexane	mg/kg	NA	NA	NA	NA	--	--	--	--	--	--
Methyl Tert Butyl Ether	mg/kg	59000	30000	88000000	5900	--	--	--	--	--	--
Methylene chloride	mg/kg	240	700	8300000	2300	--	--	--	--	--	--
Styrene	mg/kg	520	3300	6900000	520	--	--	--	--	--	--
Tetrachloroethene	mg/kg	60	600	6800000	88	--	--	--	--	--	--
Toluene	mg/kg	250	3300	12000000	250	--	--	--	--	--	--
trans-1,2-Dichloroethene	mg/kg	43	330	2100000	1400	--	--	--	--	--	--
trans-1,3-Dichloropropene	mg/kg	NA	NA	NA	NA	--	--	--	--	--	--
Trichloroethene	mg/kg	37	260	2300000	500	--	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	mg/kg	560	110000	170000000	560	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	mg/kg	550	210000	230000000	550	--	--	--	--	--	--
Vinyl chloride	mg/kg	2.8	29	890000	34	--	--	--	--	--	--
Xylene (total)	mg/kg	150	54000	13000000	150	--	--	--	--	--	--

Notes:

(1) Cleanup criteria identified by MDEQ RRD Op Memo No. 1, updated 1/23/2006, pursuant to 1994 PA 451 as amended.

Boxed, highlighted data: Value exceeds specified criteria

c: Associated value exceeds Soil Volatilization to Indoor Air Inhalation criteria

d: Associated value exceeds Infinite Source Volatile Soil Inhalation criteria

e: Associated value exceeds Particulate Soil Inhalation Criteria

f: Associated value exceeds Direct Contact Industrial and Commercial II criteria

U - Not present at or above the associated value.

UJ - Estimated reporting limit.

J - Estimated concentration.

R - Rejected.

NA- Not Available

NLV - hazardous substance is not likely to volatilize under most conditions.

Table 1: Soil Data Summary, PCC - East

Location Name		GP-9	SS-1	SS-4	SS-4	SS-6	SS-7	SS-8	SS-9	SS-11	SS-14
Sample Name		SO-7997-100208-CB-014	SO-7997-082808-CB-005	SO-7997-082808-CB-002	SO-7997-082808-CB-003	SO-7997-082808-CB-001	SO-7997-082808-CB-006	SO-7997-082808-CB-004	SO-7997-082908-CB-010	SO-7997-082808-CB-009	SO-7997-082808-CB-008
Sample Date		10/02/2008	08/28/2008	08/28/2008	08/28/2008	08/28/2008	08/28/2008	08/28/2008	08/28/2008	08/28/2008	08/28/2008
Sample Depth		(14-16) ft bgs	(4-6) ft bgs	(8-10) ft bgs	(8-10) ft bgs	(6-8) ft bgs	(8-10) ft bgs	(0.5-2) ft bgs	(14-16) ft bgs	(18-20) ft bgs	(7-8) ft bgs
	Units				Duplicate						
Metals											
Arsenic	mg/kg	6.6	5.5	4.9	5.9	3.9	4.8	5.4	6.0	39.4 ¹	4.0
Barium	mg/kg	58.2	45.4	45.2	53.1	26.6	43.4	40.4	36.3	33.1	23.5
Cadmium	mg/kg	0.54	0.39	0.34	0.36	0.25	0.39	0.35	0.59	0.44	0.30
Chromium Total	mg/kg	12.4	15.3	13.9	16.0	8.8	14.3	13.3	9.8	10.5	9.6
Copper	mg/kg	25.1	15.7	15.1	17.2	10.1	16.5	14.8	22.4	14.8	12.4
Lead	mg/kg	38.6 J	8.7	9.6	10.7	4.3	6.1	8.0	27.6	17.0	4.7
Mercury	mg/kg	0.047 U	0.033 J	0.025 J	0.028 J	0.033 J	0.025 J	0.035 J	0.031 J	0.031 J	0.044 U
Selenium	mg/kg	0.86	0.44	0.48	0.56	0.23	0.33	0.41	0.38	0.37	0.37
Silver	mg/kg	0.094 U	0.019 J	0.021 J	0.024 J	0.090 U	0.091 U	0.091 U	0.027 J	0.020 J	0.021 J
Zinc	mg/kg	104	40.9	37.6	42.5	24.5	35.9	35.7	37.3	35.0	29.0
PCBs											
Aroclor-1016 (PCB-1016)	mg/kg	0.039 U	0.038 U	0.039 U	0.038 U	0.037 U	0.038 U	--	0.37 U	0.19 U	--
Aroclor-1221 (PCB-1221)	mg/kg	0.039 U	0.038 U	0.039 U	0.038 U	0.037 U	0.038 U	--	0.37 U	0.19 U	--
Aroclor-1232 (PCB-1232)	mg/kg	0.039 U	0.038 U	0.039 U	0.038 U	0.037 U	0.038 U	--	0.37 U	0.19 U	--
Aroclor-1242 (PCB-1242)	mg/kg	0.039 U	0.038 U	0.039 U	0.038 U	0.037 U	0.038 U	--	0.37 U	0.19 U	--
Aroclor-1248 (PCB-1248)	mg/kg	0.039 U	0.038 U	0.039 U	0.038 U	0.037 U	0.038 U	--	0.37 U	0.19 U	--
Aroclor-1254 (PCB-1254)	mg/kg	0.054 J	0.038 U	0.039 U	0.038 U	0.037 U	0.038 U	--	1.6	0.42	--
Aroclor-1260 (PCB-1260)	mg/kg	0.039 U	0.038 U	0.039 U	0.038 U	0.037 U	0.038 U	--	0.37 U	0.19 U	--
Semi-Volatile Organic Compounds											
2,2'-oxybis[1-Chloropropane)	mg/kg	--	0.11 U	0.12 U	0.12 U	0.11 U	0.11 U	--	0.11 U	0.11 U	--
2,4,5-Trichlorophenol	mg/kg	--	0.17 U	0.18 U	0.17 U	0.17 U	0.17 U	--	0.17 U	0.17 U	--
2,4,6-Trichlorophenol	mg/kg	--	0.17 U	0.18 U	0.17 U	0.17 U	0.17 U	--	0.17 U	0.17 U	--
2,4-Dichlorophenol	mg/kg	--	0.17 U	0.18 U	0.17 U	0.17 U	0.17 U	--	0.17 U	0.17 U	--
2,4-Dimethylphenol	mg/kg	--	0.17 U	0.18 U	0.17 U	0.17 U	0.17 U	--	0.17 U	0.17 U	--
2,4-Dinitrophenol	mg/kg	--	0.38 U	0.39 U	0.38 U	0.37 U	R	--	0.37 UJ	0.37 UJ	--
2,4-Dinitrotoluene	mg/kg	--	0.23 U	0.23 U	0.23 U	0.22 U	0.23 U	--	0.22 U	0.23 U	--
2,6-Dinitrotoluene	mg/kg	--	0.23 U	0.23 U	0.23 U	0.22 U	0.23 U	--	0.22 U	0.23 U	--
2-Chloronaphthalene	mg/kg	--	0.057 U	0.059 U	0.058 U	0.056 U	0.057 U	--	0.056 U	0.056 U	--
2-Chlorophenol	mg/kg	--	0.057 U	0.059 U	0.058 U	0.056 U	0.057 U	--	0.056 U	0.056 U	--
2-Methylnaphthalene	mg/kg	0.31 U	0.0076 U	0.0078 U	0.0077 U	0.0075 U	0.0076 U	0.3 U	0.034	0.0082	0.29 U
2-Methylphenol	mg/kg	--	0.23 U	0.23 U	0.23 U	0.22 U	0.23 U	--	0.22 U	0.23 U	--
2-Nitroaniline	mg/kg	--	0.23 U	0.23 U	0.23 U	0.22 U	0.23 U	--	0.22 U	0.23 U	--
2-Nitrophenol	mg/kg	--	0.057 U	0.059 U	0.058 U	0.056 U	0.057 U	--	0.056 U	0.056 U	--
3,3'-Dichlorobenzidine	mg/kg	--	0.11 U	0.12 U	0.12 U	0.11 U	0.11 U	--	0.11 U	0.11 U	--
3-Nitroaniline	mg/kg	--	0.23 U	0.23 U	0.23 U	0.22 U	0.23 U	--	0.22 U	0.23 U	--
4,6-Dinitro-2-methylphenol	mg/kg	--	0.17 U	0.18 U	0.17 U	0.17 U	0.17 U	--	0.17 U	0.17 U	--
4-Bromophenyl phenyl ether	mg/kg	--	0.057 U	0.059 U	0.058 U	0.056 U	0.057 U	--	0.056 U	0.056 U	--
4-Chloro-3-methylphenol	mg/kg	--	0.17 U	0.18 U	0.17 U	0.17 U	0.17 U	--	0.17 U	0.17 U	--
4-Chloroaniline	mg/kg	--	0.17 U	0.18 U	0.17 U	0.17 U	0.17 U	--	0.17 U	0.17 U	--
4-Chlorophenyl phenyl ether	mg/kg	--	0.057 U	0.059 U	0.058 U	0.056 U	0.057 U	--	0.056 U	0.056 U	--
4-Methylphenol	mg/kg	--	0.23 U	0.23 U	0.23 U	0.22 U	0.23 U	--	0.22 U	0.23 U	--
4-Nitroaniline	mg/kg	--	0.23 U	0.23 U	0.23 U	0.22 U	0.23 U	--	0.22 U	0.23 U	--
4-Nitrophenol	mg/kg	--	0.38 U	0.39 U	0.38 U	0.37 U	0.38 U	--	0.37 U	0.37 U	--
Acenaphthene	mg/kg	0.012 J	0.0076 U	0.0078 U	0.0077 U	0.0075 U	0.0076 U	0.3 U	0.0075 U	0.0075 U	0.29 U
Acenaphthylene	mg/kg	0.31 U	0.0076 U	0.0078 U	0.0077 U	0.0075 U	0.0076 U	0.3 U	0.0075 U	0.0075 U	0.29 U
Acetophenone	mg/kg	--	0.11 U	0.12 U	0.12 U	0.11 U	0.11 U	--	0.11 U	0.11 U	--
Anthracene	mg/kg	0.021 J	0.0076 U	0.0078 U	0.0077 U	0.0075 U	0.0076 U	0.3 U	0.014	0.0075 U	0.29 U
Atrazine	mg/kg	--	0.23 U	0.23 U	0.23 U	0.22 U	0.23 U	--	0.22 U	0.23 U	--
Benzaldehyde	mg/kg	--	0.11 U	0.12 U	0.12 U	0.11 U	0.11 U	--	0.11 U	0.11 U	--
Benzo(a)anthracene	mg/kg	0.1 J	0.024	0.0078 U	0.0077 U	0.0075 U	0.0076 U	0.3 U	0.046	0.0075 U	0.29 U
Benzo(a)pyrene	mg/kg	0.092 J	0.042	0.0078 U	0.0077 U	0.0075 U	0.0076 U	0.3 U	0.038	0.017	0.29 U
Benzo(b)fluoranthene	mg/kg	0.14 J	0.034	0.0078 U	0.0077 U	0.0075 U	0.0076 U	0.3 U	0.058	0.027	0.29 U
Benzo(g,h,i)perylene	mg/kg	0.064 J	0.016	0.0078 U	0.0077 U	0.0075 U	0.0076 U	0.3 U	0.032	0.019	0.29 U
Benzo(k)fluoranthene	mg/kg	0.049 J	0.011	0.0078 U	0.0077 U	0.0075 U	0.0076 U	0.3 U	0.03	0.01	0.29 U
Biphenyl	mg/kg	--	0.057 U	0.059 U	0.058 U	0.056 U	0.057 U	--	0.056 U	0.056 U	--
bis(2-Chloroethoxy)methane	mg/kg	--	0.11 U	0.12 U	0.12 U	0.11 U	0.11 U	--	0.11 U	0.11 U	--
bis(2-Chloroethyl)ether	mg/kg	--	0.11 U	0.12 U	0.12 U	0.11 U	0.11 U	--	0.11 U	0.11 U	--
bis(2-Ethylhexyl)phthalate	mg/kg	--	0.05 J	0.047 J	0.048 J	0.056 U	0.048 J	--	0.056 U	0.056 U	--
Butyl benzylphthalate	mg/kg	--	0.057 U	0.059 U	0.058 U	0.056 U	0.057 U	--	0.056 U	0.056 U	--
Caprolactam	mg/kg	--	0.38 U	0.39 U	0.38 U	0.37 U	0.38 U	--	0.37 U	0.37 U	--
Carbazole	mg/kg	--	0.057 U	0.059 U	0.058 U	0.056 U	0.057 U	--	0.056 U	0.056 U	--
Chrysene	mg/kg	0.11 J	0.03	0.0078 U	0.0077 U	0.0075 U	0.0076 U	0.3 U	0.059	0.0075 U	0.29 U
Dibenz(a,h)anthracene	mg/kg	0.024 J	0.0076 U	0.0078 U	0.0077 U	0.0075 U	0.0076 U	0.3 U	0.0075 U	0.0075 U	0.29 U
Dibenzofuran	mg/kg	--	0.057 U	0.059 U	0.058 U	0.056 U	0.057 U	--	0.056 U	0.056 U	--
Diethyl phthalate	mg/kg	--	0.057 U	0.059 U	0.058 U	0.056 U	0.057 U	--	0.056 U	0.056 U	--
Dimethyl phthalate	mg/kg	--	0.057 U	0.059 U	0.058 U	0.056 U	0.057 U	--	0.056 U	0.056 U	--
Di-n-butylphthalate	mg/kg	--	0.057 U	0.043 J	0.043 J	0.042 J	0.057 U	--	0.056 U	0.056 U	--
Di-n-octyl phthalate	mg/kg	--	0.057 U	0.059 U	0.058 U	0.056 U	0.057 U	--	0.056 U	0.056 U	--
Fluoranthene	mg/kg	0.21 J	0.064	0.0078 U	0.0077 U	0.0075 U	0.0076 U	0.3 U	0.12	0.031	0.29 U
Fluorene	mg/kg	0.31 U	0.0076 U	0.0078 U	0.0077 U	0.0075 U	0.0076 U	0.3 U	0.0075 U	0.0075 U	0.29 U
Hexachlorobenzene	mg/kg	--	0.0076 U	0.0078 U	0.0077 U	0.0075 U	0.0076 U	--	0.0075 U	0.0075 U	--
Hexachlorobutadiene	mg/kg	--	0.057 U	0.059 U	0.058 U	0.056 U	0.057 U	--	0.056 U	0.056 U	--
Hexachlorocyclopentadiene	mg/kg	--	0.38 U	0.39 U	0.38 U	0.37 U	0.38 U	--	0.37 UJ	0.37 UJ	--
Hexachloroethane	mg/kg	--	0.057 U	0.059 U	0.058 U	0.056 U	0.057 U	--	0.056 U	0.056 U	--
Indeno(1,2,3-cd)pyrene	mg/kg	0.057 J	0.032	0.0078 U	0.0077 U	0.0075 U	0.0076 U	0.3 U	0.026	0.014	0.29 U
Isophorone	mg/kg	--	0.057 U	0.059 U	0.058 U	0.056 U	0.057 U	--	0.056 U	0.056 U	--
Naphthalene	mg/kg	0.31 U	0.0076 U	0.0078 U	0.0077 U	0.0075 U	0.0076 U	0.3 U	0.012	0.0075 U	0.29 U
Nitrobenzene	mg/kg	--	0.11 U	0.12 U	0.12 U	0.11 U	0.11 U	--	0.11 U	0.11 U	--
N-Nitrosodi-n-propylamine	mg/kg	--	0.057 U	0.059 U	0.058 U	0.056 U	0.057 U	--	0.056 U	0.056 U	--

Table 1: Soil Data Summary, PCC - East

Location Name		GP-9	SS-1	SS-4	SS-4	SS-6	SS-7	SS-8	SS-9	SS-11	SS-14
Sample Name		SO-797-100208-CB-014	SO-797-082808-CB-005	SO-797-082808-CB-002	SO-797-082808-CB-003	SO-797-082808-CB-001	SO-797-082808-CB-006	SO-797-082808-CB-004	SO-797-082908-CB-010	SO-797-082908-CB-009	SO-797-082808-CB-008
Sample Date		10/02/2008	08/28/2008	08/28/2008	08/28/2008	08/28/2008	08/28/2008	08/28/2008	08/29/2008	08/29/2008	08/28/2008
Sample Depth		(14-16) ft bgs	(4-6) ft bgs	(8-10) ft bgs	(8-10) ft bgs	(6-8) ft bgs	(8-10) ft bgs	(0.5-2) ft bgs	(14-16) ft bgs	(18-20) ft bgs	(7-8) ft bgs
	Units				Duplicate						
N-Nitrosodiphenylamine	mg/kg	--	0.057 U	0.059 U	0.058 U	0.056 U	0.057 U	--	0.056 U	0.056 U	--
Pentachlorophenol	mg/kg	--	0.17 U	0.18 U	0.17 U	0.17 U	0.17 U	--	0.17 U	0.17 U	--
Phenanthrene	mg/kg	0.072 J	0.026	0.0078 U	0.0077 U	0.0075 U	0.0076 U	0.3 U	0.071	0.017	0.29 U
Phenol	mg/kg	--	0.057 U	0.059 U	0.058 U	0.056 U	0.057 U	--	0.056 U	0.056 U	--
Pyrene	mg/kg	0.17 J	0.049	0.0078 U	0.0077 U	0.0075 U	0.0076 U	0.3 U	0.099	0.031	0.29 U
Pyridine	mg/kg	--	0.11 U	0.12 U	0.12 U	0.11 U	0.11 U	--	0.11 U	0.11 U	--
Volatile Organic Compounds											
1,1,1-Trichloroethane	mg/kg	--	0.046 U	0.047 U	0.046 U	0.045 U	0.046 U	0.045 U	0.045 UJ	0.042 UJ	0.044 U
1,1,2,2-Tetrachloroethane	mg/kg	--	0.046 U	0.047 U	0.046 U	0.045 U	0.046 U	0.045 U	0.045 UJ	0.042 UJ	0.044 U
1,1,2-Trichloroethane	mg/kg	--	0.046 U	0.047 U	0.046 U	0.045 U	0.046 U	0.045 U	0.045 U	0.042 U	0.044 U
1,1-Dichloroethane	mg/kg	--	0.046 U	0.047 U	0.046 U	0.045 U	0.046 U	0.045 U	0.045 U	0.042 U	0.044 U
1,1-Dichloroethene	mg/kg	--	0.046 U	0.047 U	0.046 U	0.045 U	0.046 U	0.045 U	0.045 U	0.042 U	0.044 U
1,2,4-Trichlorobenzene	mg/kg	--	0.23 U	0.23 U	0.23 U	0.22 U	0.23 U	0.23 U	0.22 UJ	0.21 UJ	0.22 U
1,2,4-Trimethylbenzene	mg/kg	--	0.092 U	0.094 U	0.093 U	0.09 U	0.091 U	0.091 U	0.09 U	0.083 U	0.089 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	--	0.23 U	0.23 U	0.23 U	0.22 U	0.23 U	0.23 U	0.22 UJ	0.21 UJ	0.22 U
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	--	0.23 U	0.23 U	0.23 U	0.22 U	0.23 U	0.23 U	0.22 U	0.21 U	0.22 U
1,2-Dichlorobenzene	mg/kg	--	0.092 U	0.094 U	0.093 U	0.09 U	0.091 U	0.091 U	0.09 U	0.083 U	0.089 U
1,2-Dichloroethane	mg/kg	--	0.046 U	0.047 U	0.046 U	0.045 U	0.046 U	0.045 U	0.045 U	0.042 U	0.044 U
1,2-Dichloropropane	mg/kg	--	0.046 U	0.047 U	0.046 U	0.045 U	0.046 U	0.045 U	0.045 U	0.042 U	0.044 U
1,3,5-Trimethylbenzene	mg/kg	--	0.092 U	0.094 U	0.093 U	0.09 U	0.091 U	0.091 U	0.09 U	0.083 U	0.089 U
1,3-Dichlorobenzene	mg/kg	--	0.092 U	0.094 U	0.093 U	0.09 U	0.091 U	0.091 U	0.09 U	0.083 U	0.089 U
1,4-Dichlorobenzene	mg/kg	--	0.092 U	0.094 U	0.093 U	0.09 U	0.091 U	0.091 U	0.09 U	0.083 U	0.089 U
2-Butanone (Methyl Ethyl Ketone)	mg/kg	--	0.69 U	0.7 U	0.7 U	0.67 U	0.68 U	0.68 U	0.67 U	0.62 U	0.67 U
2-Hexanone	mg/kg	--	2.3 U	2.3 U	2.3 U	2.2 U	2.3 U	2.3 U	2.2 U	2.1 U	2.2 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	--	2.3 U	2.3 U	2.3 U	2.2 U	2.3 U	2.3 U	2.2 U	2.1 U	2.2 U
Acetone	mg/kg	--	0.69 U	0.7 U	0.7 U	0.67 U	0.68 U	0.68 U	0.67 U	0.62 U	0.67 U
Benzene	mg/kg	--	0.046 U	0.047 U	0.046 U	0.045 U	0.046 U	0.045 U	0.045 U	0.042 U	0.044 U
Bromodichloromethane	mg/kg	--	0.092 U	0.094 U	0.093 U	0.09 U	0.091 U	0.091 U	0.09 U	0.083 U	0.089 U
Bromoform	mg/kg	--	0.092 U	0.094 U	0.093 U	0.09 U	0.091 U	0.091 U	0.09 U	0.083 U	0.089 U
Bromomethane (Methyl Bromide)	mg/kg	--	0.23 U	0.23 U	0.23 U	0.22 U	0.23 U	0.23 U	0.22 U	0.21 U	0.22 U
Carbon disulfide	mg/kg	--	0.23 U	0.23 U	0.23 U	0.22 U	0.23 U	0.23 U	0.22 U	0.21 U	0.22 U
Carbon tetrachloride	mg/kg	--	0.046 U	0.047 U	0.046 U	0.045 U	0.046 U	0.045 U	0.045 UJ	0.042 UJ	0.044 U
Chlorobenzene	mg/kg	--	0.046 U	0.047 U	0.046 U	0.045 U	0.046 U	0.045 U	0.045 U	0.042 U	0.044 U
Chloroethane	mg/kg	--	0.23 U	0.23 U	0.23 U	0.22 U	0.23 U	0.23 U	0.22 U	0.21 U	0.22 U
Chloroform (Trichloromethane)	mg/kg	--	0.046 U	0.047 U	0.046 U	0.045 U	0.046 U	0.045 U	0.045 U	0.042 U	0.044 U
Chloromethane (Methyl Chloride)	mg/kg	--	0.23 U	0.23 U	0.23 U	0.22 U	0.23 U	0.23 U	0.22 U	0.21 U	0.22 U
cis-1,2-Dichloroethene	mg/kg	--	0.046 U	0.047 U	0.046 U	0.045 U	0.046 U	0.045 U	0.045 U	0.042 U	0.044 U
cis-1,3-Dichloropropene	mg/kg	--	0.046 UJ	0.047 UJ	0.046 UJ	0.045 UJ	0.046 UJ	0.045 UJ	0.045 UJ	0.042 UJ	0.044 UJ
Cyclohexane	mg/kg	--	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1.1 U
Dibromochloromethane	mg/kg	--	0.046 U	0.047 U	0.046 U	0.045 U	0.046 U	0.045 U	0.045 UJ	0.042 UJ	0.044 U
Dichlorodifluoromethane (CFC-12)	mg/kg	--	0.092 U	0.094 U	0.093 U	0.09 U	0.091 U	0.091 U	0.09 U	0.083 U	0.089 U
Ethylbenzene	mg/kg	--	0.046 U	0.047 U	0.046 U	0.045 U	0.046 U	0.045 U	0.045 U	0.042 U	0.044 U
Isopropylbenzene	mg/kg	--	0.23 U	0.23 U	0.23 U	0.22 U	0.23 U	0.23 U	0.22 U	0.21 U	0.22 U
Methyl acetate	mg/kg	--	0.072 J	0.072 J	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1.1 U
Methyl cyclohexane	mg/kg	--	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.049 J	1 U	0.035 J
Methyl Tert Butyl Ether	mg/kg	--	0.23 U	0.23 U	0.23 U	0.22 U	0.23 U	0.23 U	0.22 U	0.21 U	0.22 U
Methylene chloride	mg/kg	--	0.23 U	0.23 U	0.23 U	0.22 U	0.23 U	0.23 U	0.22 U	0.21 U	0.22 U
Styrene	mg/kg	--	0.046 U	0.047 U	0.046 U	0.045 U	0.046 U	0.045 U	0.045 U	0.042 U	0.044 U
Tetrachloroethene	mg/kg	--	0.046 U	0.047 U	0.046 U	0.045 U	0.046 U	0.045 U	0.045 U	0.042 U	0.044 U
Toluene	mg/kg	--	0.092 U	0.094 U	0.093 U	0.09 U	0.091 U	0.091 U	0.09 U	0.083 U	0.089 U
trans-1,2-Dichloroethene	mg/kg	--	0.046 U	0.047 U	0.046 U	0.045 U	0.046 U	0.045 U	0.045 U	0.042 U	0.044 U
trans-1,3-Dichloropropene	mg/kg	--	0.046 UJ	0.047 UJ	0.046 UJ	0.045 UJ	0.046 UJ	0.045 UJ	0.045 UJ	0.042 UJ	0.044 UJ
Trichloroethene	mg/kg	--	0.046 U	0.047 U	0.046 U	0.045 U	0.046 U	0.045 U	0.045 U	0.042 U	0.044 U
Trichlorofluoromethane (CFC-11)	mg/kg	--	0.092 U	0.094 U	0.093 U	0.09 U	0.091 U	0.091 U	0.09 U	0.083 U	0.089 U
Trifluorotrchloroethane (Freon 113)	mg/kg	--	0.23 U	0.23 U	0.23 U	0.22 U	0.23 U	0.23 U	0.22 U	0.21 U	0.22 U
Vinyl chloride	mg/kg	--	0.037 U	0.037 U	0.037 U	0.036 U	0.036 U	0.036 U	0.036 U	0.033 U	0.036 U
Xylene (total)	mg/kg	--	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.14 U	0.13 U	0.12 U	0.13 U

Table 2: Data for Calculation of 95% UCL for Arsenic Pontiac Centerpoint Campus - East			
Location	Sample Date	Depth Interval (ft bgs)	Arsenic Conc (mg/kg)
GP-1	10/02/2008	22.5-24	9.8
GP-3	10/02/2008	16-18	5.3
GP-3	10/02/2008	16-18 (FD)	6.3
GP-5	10/02/2008	12-14	5.3
GP-7	10/02/2008	4-6	4.2
GP-8	10/02/2008	16-18	5.6
GP-9	10/02/2008	14-16	6.6
SS-1	08/28/2008	4-6	5.5
SS-4	08/28/2008	8-10	4.9
SS-4	08/28/2008	8-10 (FD)	5.9
SS-6	08/28/2008	6-8	3.9
SS-7	08/28/2008	8-10	4.8
SS-8	08/28/2008	0.5-2	5.4
SS-9	08/29/2008	14-16	6
SS-11	08/29/2008	18-20	39.4
SS-14	08/28/2008	7-8	4
		95% UCL (mg/kg):	15.4
		MDEQ Bkg Range (mg/kg):	0.47 - 27.7
Notes:			
FD - Field duplicate sample.			
Arsenic concentrations in bold are the maximum concentration from each soil boring used to conservatively calculate the 95% UCL.			
Range of background soil concentrations are from Table 1 of MDEQ's Michigan Background Soil Survey 2005.			

Table 3: Summary of ASTI Soil Sample Analytical Results
Pontiac Centerpoint Campus - East

	MDEQ, Part 201 Industrial and Commercial II, III, IV				SS-1	SS-2	SS-3	SS-3	SS-4	SS-5	SS-5	SS-6	SS-7	SS-8	SS-8	SS-9
Location	Soil Volatilization to Indoor Air Inhalation	Infinite Source Volatile Soil Inhalation	Particulate Soil Inhalation	Direct Contact	4'-6'	6'-8'	8'-10'	8'-10'	8'-10'	4'-5'	6'-8'	6'-8'	8'-10'	0.5'-2'	2'-4'	14'-16'
Depth					8/28/2008	8/28/2008	8/28/2008	8/28/2008	8/28/2008	8/28/2008	8/28/2008	8/28/2008	8/28/2008	8/28/2008	8/28/2008	8/29/2008
Sample Date								Field Duplicate								
Comments																
Inorg																
Arsenic			910,000	37,000	8,300	10,000	6,000	6,700	7,200	4,800	5,200	7,400	9,900	5,400	29,000	17,000
Barium			150,000,000	130,000,000	57,000	52,000	37,000	45,000	85,000	75,000	40,000	36,000	70,000	44,000	46,000	54,000
Cadmium			2,200,000	2,100,000	350	230	240	250	280	160	200	230	270	210	210	510
Chromium			240,000	9,200,000	17,000	15,000	11,000	13,000	17,000	20,000	12,000	12,000	22,000	14,000	13,000	12,000
Copper			59,000,000	73,000,000	17,000	13,000	11,000	12,000	15,000	14,000	10,000	13,000	20,000	14,000	13,000	15,000
Lead			44,000,000	900,000	11,000	15,000	6,600	15,000	12,000	7,100	5,700	6,300	11,000	24,000	9,400	37,000
Mercury	89,000	62,000	8,800,000	580,000	U (50)	U (50)	U (50)	U (50)	U (50)	U (50)	U (50)	U (50)	U (50)	U (50)	U (50)	U (50)
Selenium			59,000,000	9,600,000	400	470	390	480	500	350	290	U (200)	430	500	230	460
Silver			2,900,000	9,000,000	U (100)	U (100)	U (100)	U (100)	U (100)	U (100)	130	U (100)	U (100)	U (100)	U (100)	U (100)
Zinc				630,000,000	51,000	45,000	36,000	44,000	48,000	42,000	31,000	48,000	61,000	44,000	41,000	45,000
PCB																
Aroclor 1254	16,000,000	810,000	6,500,000	16,000	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	~	~	U (330)
SVOC																
Benzo(a)anthracene				80,000	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)
Benzo(a)pyrene			1,900,000	8,000	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)
Benzo(b)fluoranthene				80,000	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)
Benzo(g,h,i)perylene			350,000,000	7,000,000	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)
Benzo(k)fluoranthene				800,000	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)
Chrysene				8,000,000	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)
Fluoranthene	1,000,000,000	890,000,000	4,100,000,000	130,000,000	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)
Phenanthrene	5,100,000	190,000	2,900,000	5,200,000	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)
Pyrene	1,000,000,000	780,000,000	2,900,000,000	84,000,000	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)
Notes																
All concentrations presented are in ug/kg (ppb).																
Only detected concentrations are shown.																
No concentrations exceed any of the MDEQ, Part 201 Industrial and Commercial II, III, IV criteria.																
Abbreviations																
U -- Not detected																
() -- Detection Limit.																
~ -- Not analyzed																

Table 3: Summary of ASTI Soil Sample Analytical Results
Pontiac Centerpoint Campus - East

	MDEQ, Part 201 Industrial and Commercial II, III, IV															
Location	Soil Volatilization to Indoor Air Inhalation	Infinite Source Volatile Soil Inhalation	Particulate Soil Inhalation	Direct Contact	SS-10	SS-10	SS-11	SS-11	SS-11	SS-12	SS-13	SS-14	SS-15	SS-16	GP-1	GP-1
Depth					7'-8'	10'-12'	13'-15'	18'-20'	18'-20'	4'-6'	7'-8'	7'-8'	4'-6'	2'-4'	1'-3'	23'-24'
Sample Date					8/29/2008	8/29/2008	8/29/2008	8/29/2008	8/29/2008	8/28/2008	8/28/2008	8/28/2008	8/28/2008	8/28/2008	10/2/2008	10/2/2008
Comments									Field Duplicate							
Inorg																
Arsenic			910,000	37,000	5,800	11,000	4,100	9,200	8,200	7,900	5,700	3,700	6,600	8,400	5,800	8,300
Barium			150,000,000	130,000,000	34,000	47,000	3,000	37,000	45,000	26,000	28,000	17,000	70,000	34,000	47,000	100,000
Cadmium			2,200,000	2,100,000	310	310	350	410	390	220	210	170	260	410	400	1,800
Chromium			240,000	9,200,000	9,400	14,000	10,000	13,000	13,000	10,000	10,000	5,000	13,000	13,000	13,000	26,000
Copper			59,000,000	73,000,000	12,000	15,000	12,000	15,000	17,000	14,000	11,000	52,000	11,000	15,000	12,000	31,000
Lead			44,000,000	900,000	12,000	14,000	35,000	14,000	22,000	5,500	5,300	3,000	5,900	15,000	17,000	220,000
Mercury	89,000	62,000	8,800,000	580,000	U (50)	U (50)	U (50)	67	U (50)	U (50)	U (50)	U (50)	U (50)	U (50)	U (50)	67
Selenium			59,000,000	9,600,000	510	370	250	470	340	380	330	300	280	360	270	1,000
Silver			2,900,000	9,000,000	130	U (100)	U (100)	U (100)	U (100)	U (100)	U (100)	U (100)	U (100)	U (100)	U (100)	270
Zinc				630,000,000	35,000	50,000	40,000	44,000	49,000	39,000	34,000	17,000	33,000	55,000	42,000	170,000
PCB																
Aroclor 1254	16,000,000	810,000	6,500,000	16,000	U (330)	U (330)	U (330)	U (330)	U (330)	~	~	~	~	~	U (330)	3,300
SVOC																
Benzo(a)anthracene				80,000	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	510	330	U (330)
Benzo(a)pyrene			1,900,000	8,000	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	500	U (330)	U (330)
Benzo(b)fluoranthene				80,000	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	360	U (330)	U (330)
Benzo(g,h,i)perylene			350,000,000	7,000,000	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	410	U (330)	U (330)
Benzo(k)fluoranthene				800,000	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	520	360	U (330)
Chrysene				8,000,000	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	630	400	490
Fluoranthene	1,000,000,000	890,000,000	4,100,000,000	130,000,000	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	1500	910	870
Phenanthrene	5,100,000	190,000	2,900,000	5,200,000	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	970	630	430
Pyrene	1,000,000,000	780,000,000	2,900,000,000	84,000,000	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	1000	660	580
Notes																
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Abbreviations																
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Table 3: Summary of ASTI Soil Sample Analytical Results
Pontiac Centerpoint Campus - East

	MDEQ, Part 201 Industrial and Commercial II, III, IV															
Location	Soil Volatilization to Indoor Air Inhalation	Infinite Source Volatile Soil Inhalation	Particulate Soil Inhalation	Direct Contact	GP-2	GP-2	GP-2	GP-3	GP-3	GP-4	GP-4	GP-5	GP-5	GP-6	GP-6	GP-7
Depth					13'-15'	20'-21'	20'-21'	16'-18'	22'-24'	1'-2'	13.5'-15'	12'-14'	18'-20'	0.5'-2'	14'-16'	4'-6'
Sample Date					10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008
Comments							Field Duplicate									
Inorg																
Arsenic			910,000	37,000	6,100	10,000	14,000	6,900	6,600	7,300	7,600	5,600	7,900	5,500	6,200	6,000
Barium			150,000,000	130,000,000	39,000	55,000	57,000	52,000	41,000	53,000	62,000	48,000	55,000	51,000	40,000	40,000
Cadmium			2,200,000	2,100,000	350	740	920	240	520	390	510	680	700	640	440	550
Chromium			240,000	9,200,000	13,000	16,000	16,000	14,000	13,000	16,000	24,000	13,000	16,000	13,000	14,000	15,000
Copper			59,000,000	73,000,000	14,000	19,000	25,000	14,000	13,000	15,000	16,000	19,000	18,000	13,000	16,000	14,000
Lead			44,000,000	900,000	13,000	16,000	40,000	14,000	9,600	29,000	8,200	34,000	35,000	29,000	15,000	78,000
Mercury	89,000	62,000	8,800,000	580,000	U (50)	U (50)	U (50)	U (50)	U (50)	U (50)	U (50)	78	U (50)	U (50)	U (50)	U (50)
Selenium			59,000,000	9,600,000	250	250	440	220	290	330	370	260	290	270	260	320
Silver			2,900,000	9,000,000	120	120	120	U (100)	140	U (100)	210	U (100)	140	U (100)	U (100)	U (100)
Zinc				630,000,000	34,000	34,000	80,000	37,000	37,000	46,000	42,000	52,000	56,000	38,000	40,000	71,000
PCB																
Aroclor 1254	16,000,000	810,000	6,500,000	16,000	U (330)	340	410	U (330)	U (330)	1,600	U (330)	U (330)	U (330)	440	U (330)	U (330)
SVOC																
Benzo(a)anthracene				80,000	U (330)	U (330)	U (330)	390	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)
Benzo(a)pyrene			1,900,000	8,000	U (330)	U (330)	U (330)	370	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)
Benzo(b)fluoranthene				80,000	U (330)	U (330)	U (330)	330	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)
Benzo(g,h,i)perylene			350,000,000	7,000,000	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)
Benzo(k)fluoranthene				800,000	U (330)	U (330)	U (330)	370	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)
Chrysene				8,000,000	U (330)	U (330)	U (330)	400	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)
Fluoranthene	1,000,000,000	890,000,000	4,100,000,000	130,000,000	U (330)	U (330)	U (330)	540	U (330)	470	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)
Phenanthrene	5,100,000	190,000	2,900,000	5,200,000	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)
Pyrene	1,000,000,000	780,000,000	2,900,000,000	84,000,000	U (330)	U (330)	U (330)	470	U (330)	370	U (330)	U (330)	U (330)	U (330)	U (330)	U (330)
Notes																
All concentrations presented are in ug/kg (ppb).																
Only detected concentrations are shown.																
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Abbreviations																
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Table 3: Summary of ASTI Soil Sample Analytical Results
Pontiac Centerpoint Campus - East

	MDEQ, Part 201 Industrial and Commercial II, III, IV								
Location	Soil Volatilization to Indoor Air Inhalation	Infinite Source Volatile Soil Inhalation	Particulate Soil Inhalation	Direct Contact	GP-7	GP-8	GP-8	GP-9	GP-9
Depth					18'-20'	5'-17'	16'-18'	3'-5'	14'-16'
Sample Date					10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008
Comments									
Inorg									
Arsenic			910,000	37,000	8,800	7,100	6,400	6,100	6,000
Barium			150,000,000	130,000,000	41,000	35,000	34,000	35,000	42,000
Cadmium			2,200,000	2,100,000	270	500	460	610	880
Chromium			240,000	9,200,000	18,000	11,000	12,000	12,000	16,000
Copper			59,000,000	73,000,000	18,000	21,000	15,000	13,000	40,000
Lead			44,000,000	900,000	21,000	15,000	20,000	16,000	95,000
Mercury	89,000	62,000	8,800,000	580,000	84	U (50)	U (50)	U (50)	U (50)
Selenium			59,000,000	9,600,000	400	240	290	290	410
Silver			2,900,000	9,000,000	U (100)	U (100)	U (100)	U (100)	U (100)
Zinc				630,000,000	42,000	45,000	48,000	41,000	160,000
PCB									
Aroclor 1254	16,000,000	810,000	6,500,000	16,000	U (330)	U (330)	U (330)	U (330)	U (330)
SVOC									
Benzo(a)anthracene				80,000	U (330)	U (330)	U (330)	610	U (330)
Benzo(a)pyrene			1,900,000	8,000	U (330)	U (330)	U (330)	560	U (330)
Benzo(b)fluoranthene				80,000	U (330)	U (330)	U (330)	390	U (330)
Benzo(g,h,i)perylene			350,000,000	7,000,000	U (330)	U (330)	U (330)	370	U (330)
Benzo(k)fluoranthene				800,000	U (330)	U (330)	U (330)	570	U (330)
Chrysene				8,000,000	U (330)	U (330)	U (330)	700	U (330)
Fluoranthene	1,000,000,000	890,000,000	4,100,000,000	130,000,000	U (330)	490	U (330)	1600	U (330)
Phenanthrene	5,100,000	190,000	2,900,000	5,200,000	U (330)	U (330)	U (330)	910	U (330)
Pyrene	1,000,000,000	780,000,000	2,900,000,000	84,000,000	U (330)	U (330)	U (330)	1100	U (330)
Notes									
All concentrations presented are in ug/kg (ppb).									
Only detected concentrations are shown.									
No concentrations exceed any of the MDEQ, Part 201 Industrial and Commercial II, III, IV criteria.									
Abbreviations									
U -- Not detected									
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