

# **Quemetco, Inc.**

## **HEALTH RISK ASSESSMENT REPORT SCAQMD ID Number 008547**

**Original Submittal: April, 2009  
Update: October, 2009**

Prepared by:

Quemetco, Inc.  
720 S. 7th Avenue  
City of Industry, CA 91746

Privileged and Confidential

## Table of Contents

Executive Summary .....	1
Description of Facility Operations.....	1
Health Impacts & Rule 1402.....	1
List Identifying Emitted Substances .....	2
Table 1 - List of Emitted Substances .....	2
Multipathway Substances .....	4
Table 2 - Multipathway Pollutants & Pathways .....	4
Summary of Results.....	5
Table 3 - Summary of Results .....	5
Summary of Cancer Risk.....	5
Summary of Chronic Risk .....	6
Summary of Acute Health Risk .....	6
Subpopulations.....	6
Summary of Cancer Burden (Population Exposure) .....	6
Dispersion Modeling & Exposure Assessment.....	6
Hazard Identification .....	6
Information on the Facility and Its Surroundings.....	7
Source Description and Release Parameters.....	7
Table 4 - Source Description and Release Parameter Information.....	7
Source Operating Schedule.....	7
Emission Control Equipment.....	7
Emissions Data Grouped By Source.....	8
Emissions Data Grouped By Substance.....	8
Emission Estimation Methods .....	8
Meteorological Data.....	8
Model Selection and Modeling Rationale.....	8
Air Dispersion Modeling Results.....	9
Health Risk Assessment Results and Reports.....	9
Risk Characterization.....	9

### List of Tables:

- Table 1 - List of Emitted Substances
- Table 2 - Multipathway Pollutants & Pathways
- Table 3 - Summary of Results
- Table 4 - Source Description and Release Parameter Information

### Attachments:

- A – August 7, 2009 Correspondence from SCAQMD
- B – Compounds Evaluated and Emission Rates
- C – Additional Source Tests Approved and Under Review at SCAQMD
- D – Individual Risk Assessment Results (PMI, MEIR, MEIW, HIC, HIA, Cancer Burden)
- E – Drawings of Plant Area, Risk Isopleths and Zones of Impact
- F – Receptors in Zone of Impact, Sensitive Receptors in Zone of Impact

Executive Summary:

Facility Name: Quemetco, Inc.  
Facility Address: 720 S. 7<sup>th</sup> Avenue  
City of Industry, CA 91746  
Facility Identification Number: 008547

Description of Facility Operations:

Quemetco, Inc. operates a battery recycling and lead recovery facility in Industry, California. At this facility, used batteries are received, fragmented and the lead-containing materials are recovered and purified. Various processes are employed to purify the lead until the final alloys are produced. Four of the processes at the facility include the Rotary Kiln, Reverberatory Furnace, Electric Arc Furnace and Refining Kettles. Together, these four processes have historically accounted for the majority of the health risk associated with facility operations. Other emission sources include nine housekeeping baghouses referred to as “Busch Units”.

In order to comply with the provisions of South Coast Air Quality Management District Rule 1402 (Control of Toxic Air Contaminants from Existing Sources) Quemetco has recently installed additional air pollution control equipment to mitigate emissions from the four main processes. This includes a Regenerative Thermal Oxidizer (RTO) to reduce emissions from the Rotary Kiln and a Wet Electrostatic Precipitator (WESP) to reduce emissions from all four processes.

Health Impacts & Rule 1402:

Rule 1402 is intended to reduce health risk associated with emissions of toxic air contaminants from existing sources by specifying limits for Maximum Individual Cancer Risk (MICR), Cancer Burden, and noncancer Acute Hazard Index (HIA) and Chronic Hazard Index (HIC).

Maximum Individual Cancer Risk (MICR) is the estimated probability of a potentially maximally exposed individual contracting cancer as a result of exposure to toxic air contaminants over a period of 70 years for residential receptor locations. The MICR for worker receptor locations must also be calculated.

Cancer Burden is the estimated increase in the occurrence of cancer cases in a population subject to an MICR of greater than or equal to one in one million ( $1 \times 10^{-6}$ ) resulting from exposure to toxic air contaminants.

Acute Hazard Index (HIA) is the ratio of the estimated maximum one-hour concentration of a toxic air contaminant at a receptor location to its acute reference exposure level.

Chronic Hazard Index (HIC) is the ratio of the long-term level of exposure to a toxic air contaminant for a potentially maximally exposed individual to the chronic reference exposure level for the toxic air contaminant.

Rule 1402 establishes Action Risk Levels of 25 in one million for MICR, 0.5 for Cancer Burden and 3.0 for HIA and HIC.

List Identifying Emitted Substances:

Table 1 identifies historically and currently emitted substances which are evaluated as potential contributors to cancer and non-cancer risk. The list contains the names of 85 compounds as well as their respective CAS numbers.

**Table 1 – List of Emitted Substances**

<b>CHEM</b>	<b>CAS</b>	<b>Abbreviation</b>	<b>Pollutant Name</b>
0001	7439921	Lead	Lead
0002	7782492	Selenium	Selenium
0003	50000	Formaldehyde	Formaldehyde
0004	50328	B[a]P	Benzo[a]pyrene
0005	56235	CCl4	Carbon tetrachloride
0006	56553	B[a]anthracene	Benz[a]anthracene
0007	67663	Chloroform	Chloroform
0008	71432	Benzene	Benzene
0009	75014	Vinyl Chloride	Vinyl chloride
0010	75070	Acetaldehyde	Acetaldehyde
0011	75092	Methylene Chlor	Methylene chloride {Dichloromethane}
0012	75354	Vinylid Chlorid	Vinylidene chloride
0013	79016	TCE	Trichloroethylene
0014	91203	Naphthalene	Naphthalene
0015	100414	Ethyl Benzene	Ethyl benzene
0016	100425	Styrene	Styrene
0017	106990	1,3-Butadiene	1,3-Butadiene
0018	108883	Toluene	Toluene
0019	108907	Chlorobenzn	Chlorobenzene
0020	123911	1,4-Dioxane	1,4-Dioxane
0021	127184	Perc	Perchloroethylene {Tetrachloroethene}
0022	1330207	Xylenes	Xylenes (mixed)
0023	1336363	PCBs	PCBs {Polychlorinated biphenyls}
0024	1746016	2,3,7,8-TCDD	2,3,7,8-Tetrachlorodibenzo-p-dioxin
0025	7439965	Manganese	Manganese
0026	7439976	Mercury	Mercury
0027	7440020	Nickel	Nickel
0028	7440382	Arsenic	Arsenic
0029	115071	Propylene	Propylene
0030	120821	1,2,4TriClBenz	1,2,4-Trichlorobenzene
0031	7440417	Beryllium	Beryllium
0032	7440439	Cadmium	Cadmium
0033	7440508	Copper	Copper

<b>CHEM</b>	<b>CAS</b>	<b>Abbreviation</b>	<b>Pollutant Name</b>
0034	7440666	Zinc	Zinc
0035	7783064	H2S	Hydrogen sulfide
0036	18540299	Cr(VI)	Chromium, hexavalent (& compounds)
0037	40321764	1-3,7,8PeCDD	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
0038	51207319	2,3,7,8-TCDF	2,3,7,8-Tetrachlorodibenzofuran
0039	57117314	2-4,7,8PeCDF	2,3,4,7,8-Pentachlorodibenzofuran
0040	57117416	1-3,7,8PeCDF	1,2,3,7,8-Pentachlorodibenzofuran
0041	74839	Methyl Bromide	Methyl bromide {Bromomethane}
0042	91576	2MeNaphthalene	2-Methyl naphthalene
0043	208968	Acenaphthylene	Acenaphthylene
0044	83329	Acenaphthene	Acenaphthene
0045	86737	Fluorene	Fluorene
0046	85018	Phenanthrene	Phenanthrene
0047	120127	Anthracene	Anthracene
0048	206440	Fluoranthene	Fluoranthene
0049	129000	Pyrene	Pyrene
0050	218019	Chrysene	Chrysene
0051	205992	B[b]fluoranthen	Benzo[b]fluoranthene
0052	207089	B[k]fluoranthen	Benzo[k]fluoranthene
0053	192972	B[e]pyrene	Benzo[e]pyrene
0054	198550	Perylene	Perylene
0055	193395	In[1,2,3-cd]pyr	Indeno[1,2,3-cd]pyrene
0056	53703	D[a,h]anthracen	Dibenz[a,h]anthracene
0057	191242	B[g,h,i]perylene	Benzo[g,h,i]perylene
0058	39227286	1-4,7,8HxCDD	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
0059	57653857	1-3,6-8HxCDD	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
0060	19408743	1-3,7-9HxCDD	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
0061	35822469	1-4,6-8HpCDD	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
0062	3268879	1-8OctaCDD	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin
0063	70648269	1-4,7,8HxCDF	1,2,3,4,7,8-Hexachlorodibenzofuran
0064	57117449	1-3,6-8HxCDF	1,2,3,6,7,8-Hexachlorodibenzofuran
0065	60851345	2-4,6-8HxCDF	2,3,4,6,7,8-Hexachlorodibenzofuran
0066	72918219	1-3,7-9HxCDF	1,2,3,7,8,9-Hexachlorodibenzofuran
0067	67562394	1-4,6-8HpCDF	1,2,3,4,6,7,8-Heptachlorodibenzofuran
0068	55673897	1-4,7-9HpCDF	1,2,3,4,7,8,9-Heptachlorodibenzofuran
0069	39001020	1-8OctaCDF	1,2,3,4,6,7,8,9-Octachlorodibenzofuran
0070	107062	EDC	Ethylene dichloride {EDC}
0071	79005	1,1,2TriClEthn	1,1,2-Trichloroethane
0072	106934	EDB	Ethylene dibromide {EDB}

CHEM	CAS	Abbreviation	Pollutant Name
0073	79345	TetraClEthane	1,1,2,2-Tetrachloroethane
0074	106467	p-DiClBenzene	p-Dichlorobenzene
0075	95476	o-Xylene	o-Xylene
0076	74873	Methyl Chloride	Methyl chloride {Chloromethane}
0077	75003	Ethyl Chloride	Ethyl chloride {Chloroethane}
0078	25321226	DiClBenzenes	Dichlorobenzenes (mixed isomers)
0079	75694	TriClFluorMetha	Trichlorofluoromethane {Freon 11}
0080	76131	CFC-113	Chlorinated Fluorocarbon {CFC-113} {1,1,2-Trichloro-1,2,2-trifluoroethane}
0081	78875	1,2-DiClPropane	1,2-Dichloropropane
0082	107028	Acrolein	Acrolein
0083	1151	PAHs-w/o	PAHs, total, w/o individ. components reported [Treated as B(a)P for HRA]
0084	7440224	Silver	Silver
0085	7440360	Antimony	Antimony

Emission rates, expressed in pounds per hour and pounds per year, for each emission source and contaminant are provided in Attachment B. Facility total emissions are also presented. Attachment C presents updated emission rates that have been approved by SCAQMD (or are submitted and pending approval) which will be incorporated in future Health Risk Assessments.

#### Multipathway Substances:

A list of multipathway substances evaluated and the pathways each impacts is displayed below. Possible pathways for this analysis include inhalation, soil (dermal), mother's milk, home-grown vegetables and oral (injection).

**Table 2 – Multipathway Pollutants & Pathways**

Substance	Inhalation	Soil	Mother's Milk	Vegetables	Oral
PAHs	X	X		X	X
PCBs	X	X	X	X	X
Cadmium	X	X		X	X
Chromium	X	X		X	X
Beryllium	X	X		X	X
Lead	X	X		X	X
Mercury	X	X		X	X
Nickel	X	X		X	X
Dioxins & Furans	X	X	X	X	X

Note that PCBs are not a suspected contaminant from the facility. PCBs are included in this table because they could not be definitively ruled out during the November, 2008 test because they were collected in the same sampling train as Dioxins and Furans. PCBs will be sampled individually during the upcoming testing in November, 2009 for the purpose of establishing them as “non-detect” and below the method detection limit for AB2588 reporting purposes.

Summary of Results:

A summary of the results of the exposure assessment is presented below. Multi-pathway exposure was considered. The Summary of Results includes a location (including UTM coordinates) and description for the point of maximum impact (PMI), maximum exposed individual resident (MEIR), maximum exposed individual worker (MEIW) chronic hazard index (HIC) and acute health index (HIA).

**Table 3 - Summary of Results**

<b>Exposure Assessment</b>	<b>Result</b>	<b>Location (UTME, UTMN)</b>
Off-Site Point of Maximum Impact (PMI)	9.11	0.14 miles East of facility center (409488, 3765313)
Maximum Exposed Individual Resident (MEIR)	2.88	0.64 miles NW of facility center (408950, 3765891)
Maximum Exposed Individual Worker (MEIW)	2.43	0.14 miles East of facility center (409488, 3765313)
Cancer Burden	0.034	See 1 In One Million Isopleth
Chronic Health Index (HIC)	0.287	At MEIR, 0.64 miles NW of facility center (408950, 3765891)
Acute Health Index (HIA)	0.055	At MEIR, 0.64 miles NW of facility center (408950, 3765891)

Attachment D contains detailed results, including multipathway results, for each exposure assessment contained in Table 3.

Separate maps have been provided (see Attachment E) for residential risk, worker risk, non-cancer acute risk and non-cancer chronic risk. Additionally, a single map has been included depicting the residential and worker one in one million isopleths as well as the PMI, MEIR and MEIW.

No sensitive receptors are above a multipathway cancer risk of ten in one million or about a noncancer health hazard index of one. A list of schools and hospitals above one in one million is presented in Attachment E.

Summary of Cancer Risk:

Attachment D contains tables presenting an overview of the total potential multipathway cancer risk, by substance, at the PMI, MEIR and MEIW. The risk at the MEIR is 2.88 in one million. The risk at the MEIW is 2.43 in one million.

In each location, Arsenic is the primary contributor to risk and Cadmium is the second highest contributor to risk. For each of the three (3) evaluations (PMI, MEIR and MEIW) the top seven (7) risk drivers are the same:

1. Arsenic
2. Cadmium
3. Lead
4. Chromium (VI)
5. PCBs
6. Nickel
7. Formaldehyde

For each evaluation greater than 95% of the facility risk is associated with these compounds.

Summary of Chronic Risk:

Maximum Chronic Health Risk at the PMI is 0.882. The inhalation pathway provides the greatest chronic health risk with Arsenic as the primary contributor.

Maximum Chronic Health Risk at the MEIR location is 0.284. The inhalation pathway provides the greatest chronic health risk with Arsenic as the primary contributor.

Summary of Acute Health Risk:

Maximum Acute Health Risk is 0.152. The location is at receptor 9366, UTM 408988, 376713. The eye is the organ with the highest impact. Acrolein is the primary contributor to acute health risk.

Acute Health Risk at the MEIR is 0.052. The eye is the organ with the highest impact. Acrolein is the primary contributor to acute health risk.

Subpopulations:

No subpopulations of concern were identified when reviewing the areas within the one in one million isopleth.

Summary of Cancer Burden (Population Exposure):

The Cumulative Cancer Burden associated with facility operations is 0.023. Based on the data contained in the HARP program, a population of approximately 15,265 is located within the boundary of the 1 In One Million Isopleth (see Attachment D). Cancer burden and population estimates from HARP are included as Attachment "C".

Dispersion Modeling & Exposure Assessment:

All modeling and exposure assessments were performed using the California Air Resources Board's Hotspots Analysis and Reporting Program (HARP), Version 1.4a. Exposure assessment was performed according to the procedures outlined in the document, "Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act (AB2588)", SCAQMD, July, 2005.

Hazard Identification:

In performing the Health Risk Assessment, the substances identified in Table 1 (presented earlier) were evaluated. Substances were selected for evaluation based on historical emissions, process knowledge and direction by South Coast Air Quality Management District to include specific substances in testing programs designed to determine the effectiveness of new control devices. Each substance listed in Table 1 was evaluated for cancer risk and/or noncancer acute and chronic health impacts. Refer to Attachment B for 1-hour and annual emission rates (where applicable) for each substance listed in Table 1.



Information on the Facility and Its Surroundings:

Facility Name: Quemetco, Inc.

Facility Identification Number: 008547

Facility Location: 720 S. 7<sup>th</sup> Avenue  
City of Industry, CA 91746

UTM Coordinates: 409087.73 E 3765313.27 N, Zone 11 (Southwest Corner of Facility)

Land Use Type: Urban

Source Description and Release Parameters:

Table 6 contains the source description and release parameter information for each source of emissions at the facility.

**Table 4 - Source Description and Release Parameter Information**

Source ID	Stack ID	Stack Name	Release Type	UTM East (m)	UTM North (m)	Elevation (ft)	Release Height (ft)	Temp. (Deg F)	Velocity (ft/min)	Stack Diameter (ft)
S001	22	Battery Wrecker	Point	409260.5	3765352	298.5	27.88714	75	4,681	0.5
S002	23	WESP Stack	Point	409269.3	3765291	303.9	70	100	2,919	6.67
S003	24	Refinery Combustion Stack	Point	409175.5	3765387	298.5	39.67	700	1,389	2.291
S004	5	Busch Unit A	Point	409169.0	3765361	301.8	33.13648	100	3,191	3.871
S005	6	Busch Unit B	Point	409173.0	3765358	301.8	33.13648	85	3,219	3.871
S006	7	Busch Unit C	Point	409176.9	3765354	301.8	33.13648	93	2,093	3.871
S007	8	Busch Unit D	Point	409180.8	3765350	301.8	33.13648	110	2,660	3.871
S008	9	Busch Unit E	Point	409281.1	3765383	298.5	33.13648	77	3,802	3.871
S009	10	Busch Unit F	Point	409284.5	3765387	298.5	33.13648	88	2,990	3.871
S010	11	Busch Unit G	Point	409287.9	3765391	297.4	33.13648	96	3,463	3.871
S011	12	Busch Unit H	Point	409291.4	3765395	295.9	33.13648	77	3,442	3.871
S012	13	Busch Unit I	Point	409294.8	3765399	295.2	33.13648	99	3,428	3.871

Source Operating Schedule:

The operating schedule is defined by a permit condition limiting production to 600 tons per day. The facility operates up to 24 hours per day.

Emission Control Equipment:

Emissions are reduced by baghouses and scrubbers throughout the facility. The four main processing units are controlled by the WESP which achieves 92%+ reduction of Arsenic and Lead as well as approximately 50% reductions of Cadmium and Nickel. The RTO reduces organic emissions from the Rotary Kiln by greater than 90%. Busch Units significantly reduce particulate emissions from the general ventilation areas.

Emissions Data Grouped By Source:

Refer to Attachment D.

Emissions Data Grouped By Substance:

Refer to Attachment D.

Emission Estimation Methods:

Emissions from the WESP and the Busch Units are based on source tests performed on each unit. Emissions from the previous Battery Wrecker Scrubber Stack are no longer included as a separate source as this source is now vented into the Batch House where they are controlled by the Busch Units. Combustion emissions from the Refinery are also the same as those utilized in the previously approved Health Risk Assessment. However, Refinery combustion emissions have now been manifolded into a single-stack release point. Previously, Refinery combustion emissions were reported as released from multiple stacks. Emissions previously reported from each of these stacks have been combined and reported as released from the new Refinery combustion stack (Source ID S003, Stack ID 24).

As directed in August 7, 2009 correspondence received from SCAQMD, emission rates for the Wet Electrostatic Precipitator (WESP) were taken directly from PR08413 as evaluated by Scott Wilson (SCAQMD) on May 11, 2009. However, it is important to note that emission rates for certain compounds, particularly metals, have been superseded by emission rates in PR09052 as evaluated by Scott Wilson on July 21, 2009. The Source Test Report Evaluation for PR09052 is provided in Attachment C.

Additionally, emission rates for Lead, Arsenic, Cadmium and Nickel were evaluated for Busch Units A, D, F, G and I in April and May, 2009. The source test report for these Busch Units was submitted to SCAQMD on July 6, 2009 (original to Marco Polo, copies to Scott Wilson and Pierre Sycip) and is currently under review (also included in Attachment C). Although this HRA submittal does not include these updated emission rates, before a final HRA is approved by SCAQMD, these most current emission rates should be considered. Finally, as required by the facility permit, a second round of WESP/HRA testing is scheduled for November, 2009 which may cause the results of this Health Risk Assessment to change.

Meteorological Data:

The source of meteorological data is on-site met station information. The three-year data set (1999 through 2001) has been previously evaluated and approved for use by South Coast Air Quality Management District. The electronic meteorological data file is included on the CD provided with the Health Risk Assessment submittal.

Model Selection and Modeling Rationale:

All modeling and exposure assessments were performed using the California Air Resources Board's Hotspots Analysis and Reporting Program (HARP), Version 1.4a. A 6,500 meter x 6,500 meter grid was established around the facility with receptors placed at 100 meter intervals. The grid size was more than sufficient to encompass the 1 In One Million ( $1 \times 10^{-6}$ ) isopleth.

Air Dispersion Modeling Results:

All air dispersion modeling results are provided on the CD provided with the Health Risk Assessment submittal. The source and the time period used are described in the Meteorological Data section of this report. As required, all modeling and exposure assessments were performed using the California Air Resources Board's Hotspots Analysis and Reporting Program (HARP), Version 1.4a. Model options reflect the directives stipulated by SCAQMD in their August 7, 2009 correspondence. A 6,500 meter x 6,500 meter grid was established around the facility with receptors placed at 100 meter intervals. The grid size was more than sufficient to encompass the 1 In One Million ( $1 \times 10^{-6}$ ) isopleth.

Health Risk Assessment Results and Reports:

The results of the Health Risk Assessment are presented in the Executive Summary. All electronic files required to confirm the results of the Health Risk Assessment are included on the CDs accompanying this submittal.

Risk Characterization:

All information describing multipathway cancer and non-cancer risks are discussed in the Executive Summary. Supporting documentation is provided in Attachments A through F and on the CDs which accompany this submittal. With the exception of the 1 in one million cancer risk contour, no other cancer or non-cancer risk contours were required as risk levels were below their respective action levels.



**South Coast Air Quality Management District**  
 21865 Copley Drive, Diamond Bar, CA 91765-4182  
 (909) 396-2000 • www.aqmd.gov

## HEALTH RISK ASSESSMENT SUMMARY FORM

(Required in Executive Summary of HRA)

Facility Name : Quemetco, Inc.  
 Facility Address: 720 S. 7th Avenue  
City of Industry, CA 91746  
 Type of Business: Secondary Lead Smelter  
 SCAQMD ID No.: 008547

### A. Cancer Risk

*(One in a million means one chance in a million of getting cancer from being constantly exposed to a certain level of a chemical over 70 years)*

1. Inventory Reporting Year : 2008
2. Maximum Cancer Risk to Receptors :
 

a. Offsite	<u>9.11</u>	in a million	Location:	<u>409488E, 3765313N, 0.14 miles E of facility center</u>
b. Residence	<u>2.88</u>	in a million	Location:	<u>408950E, 3765891N, 0.64 miles NW of facility center</u>
c. Worker	<u>2.43</u>	in a million	Location:	<u>409488E, 3765313N, 0.14 miles E of facility center</u>
3. Substances Accounting for 90% of Cancer Risk: As, Cd, Pb, Cr (VI), PCBs, Ni, Formaldehyde  
 Processes Accounting for 90% of Cancer Risk: Reverb, Kiln, Refinery, EAF, Busch Units
4. Estimated Population Exposed to Specific Risk Levels
 

a. 1 to <10 in a million	<u>15,265</u>
b. 10 to <100 in a million	<u>0</u>
c. 100 to <1000 in a million	<u>0</u>
d. >=1000 in a million	<u>0</u>
e. Total >= 1 in a million	<u>15,265</u>
5. Cancer Burden: 0.023  
 Cancer Burden = (cancer risk) x (no. of people exposed to specific cancer risk)
6. Maximum Distance to Edge of  $1 \times 10^{-6}$  Cancer Risk Isopleth (meters) 2,752

### B. Hazard Indices

*[Long Term Effects(chronic) and Short Term Effects (acute)]*

*(non-carcinogenic impacts are estimated by comparing calculated concentration to identified reference exposure levels, and expressing this comparison in terms of a "Hazard Index")*

1. Maximum Chronic Hazard Indices:
 

a. Residence HI:	<u>0.287</u>	Location:	<u>408950E, 3765891N</u>	toxicological endpoint: _____
b. Worker HI :	<u>0.882</u>	Location:	<u>409488E, 3765313N</u>	toxicological endpoint: _____
2. Substances Accounting for 90% of Chronic Hazard Index: Arsenic, Mercury
3. Maximum Acute Hazard Index:
 

PMI:	<u>0.152</u>	Location:	<u>408988E, 3764713N</u>	toxicological endpoint: _____
------	--------------	-----------	--------------------------	-------------------------------
4. Substances Accounting for 90% of Acute Hazard Index: Acrolein, Arsenic



# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • www.aqmd.gov

*Via Certified Mail and return receipt*

August 7, 2009

Therese Cirone  
RSR Corporation  
2777 Stemmons Fwy, Ste 1900  
Dallas, TX 75207

Dear Ms. Cirone:

Subject: Rule 1402 Health Risk Assessment  
for **Quemetco, Inc., City of Industry (008547)**

This purpose of this letter is to require revision of the April 8, 2009 health risk assessment (HRA) submitted by Quemetco (008547) to demonstrate compliance with Rule 1402, Control of Toxic Air Contaminants from Existing Sources. Pursuant to Health and Safety Code 44362(a), the revised HRA is due on or before **October 7, 2009** (60 days from the date of this letter).

South Coast Air Quality Management District (AQMD) staff has reviewed the HRA submitted and require that the following issues be addressed. Please refer to the *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act (AB2588)* for guidance: [http://www.aqmd.gov/prdas/AB2588/pdf/AB2588\\_Guidelines.pdf](http://www.aqmd.gov/prdas/AB2588/pdf/AB2588_Guidelines.pdf).

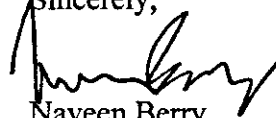
1. Please use the North American Datum 1983 (NAD83) coordinate system. The HotSpots Analysis and Reporting Program (HARP) default is and AQMD staff use the NAD83 coordinate system.
2. The Source Test Report Approval Memorandum with approved emission rates is attached (Attachment 1). Use the approved emission rates. Mike Buckantz (Quemetco) and Pierre Sycip (AQMD) met on April 28, 2009. As discussed and agreed, the approved emission rates from the source test do not agree with the emission rates in HARP for xylenes (pollutant ID 133000207), mercury (7439976), zinc (7440666), hydrogen sulfide (7783064), vinylidene chloride (75354), ethylbenzene (100414), and styrene (100425). As discussed and agreed, the emissions (detected by the source test) of chrysene (218019), benzo[b]fluoranthene (205992), indeno[123cd]pyrene (193395), octachlorinated dibenzo-p-dioxin (OCDD, 3268879), 123478-hexachlorinated dibenzo-p-dioxin (123478HxCDF, 100414), 123678-hexachlorinated dibenzo-p-dioxin (123678HxCDF, 100414), and octachlorinated dibenzofuran (OCDF, 100414) are

missing from HARP. As discussed and agreed, the pollutants below detection limits and their reporting requirements would be revisited. Please document all differences from these agreements in the HRA.

3. Do not use the regulatory default or calm processing modeling options. (AQMD Supplemental Guidelines, page 13)
4. Identify the modeling receptors selected (by modeling name, number, and/or coordinate) to represent the maximum exposed individual resident (MEIR) and worker (MEIW) for all risk values: cancer risk and chronic and acute hazard indices. (Guidelines p31)
5. Use the **derived adjusted** risk calculations when evaluating the **residential** cancer risk. (Guidelines p17)
6. "Separate maps should be provided for each of the three risk variables: cancer risks, non-cancer acute risks, and non-cancer chronic risks." (Guidelines p11)
7. "The land uses in the vicinity of the point of maximum impact (off-site) must be shown in detail. This may require a separate map." (Guidelines p11)
8. "The location of schools, hospitals, day-care centers, other sensitive receptors, residential areas and work-sites within the zone of impact must be identified on the map" and "[i]f sensitive receptors are located within the zone of impact, then risk and hazard index values must also be presented in the form of a table including all the sensitive receptors." (Guidelines p11)
9. "The reporting format for the HRA must follow the detailed outline presented in Appendix C." (Guidelines p9) The narrative discussion and the tabular and graphical material contained in the HRA fell unacceptably short of AQMD's reporting requirements outlined in the Supplemental Guidelines; refer specifically to Appendix C of that document.
10. "A completed Health Risk Assessment Summary must be included in the executive summary [...]" (Guidelines p9) A blank HRA Summary Form is attached (Attachment 2).
11. "Three (3) copies of the HRA [in written form] and two (2) copies of CD(s) should be sent [...]" (Guidelines p9) The modeling runs or printouts are not necessary for the HRA hardcopy.
12. "[...] Appendix C [V. Computer Files] lists the HARP computer files to be included in a CD with the HRA", especially the transaction file (tra extension). "The HRA, in electronic form (i.e., pdf format), should also be included on the CD." (Guidelines p9)

If you need more information, please contact Pierre Sycip at (909) 396-3095.

Sincerely,



Naveen Berry  
Planning Manager

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
MONITORING & ANALYSIS DIVISION \* SOURCE TEST ENGINEERING BRANCH**

**SOURCE TEST REPORT EVALUATION**

**ST ID:** PR08413  
**AQMD ID:** FACILITY ID NO. 8547  
**COMPANY:** Quemetco Inc., Industry  
**EQUIPMENT:** WESP (S159)  
RTO (C161)  
Refining Kettles (D16, D17, D18, D19, D20, D99, D100), Sanitary Kiln (D3), Reverberatory Furnace (D8), Electric Arc Furnace (D84)  
**LOCATION:** 720 S. 7th Ave., City of Industry, CA 91746  
**REQUESTED BY:** Marco Polo (Memo Dated 1/27/09)  
**TYPE OF TEST:** PERFORMANCE/COMPLIANCE REPORT  
**DOCUMENT DATE:** 1/16/09 (addendum's-5/11/09)  
**REASON FOR TEST:** TESTING SUBJECT TO THE FOLLOWING RULE, PERMIT, OR SPECIFIED CONDITIONS:  
- R401, R404, R405, R407, R1303(b)(2), R1401, R1402, R1420, R2011, R2012  
- PC# D182.4, D182.5, D182.6, D182.7  
- 40CFR60 Subpart L, 40CFR63 Subpart X  
**REQUESTED EVAL:** **TOXICS:** Multi Metals, Cr <sup>(tot)</sup> & Cr <sup>(+6)</sup>, TO-15 Toxic Organic compounds, PCDD/PCDF, PCB, PAH, H<sub>2</sub>S, Aldehydes, 1,3-Butadiene, 1,4-Dioxane, TGNMEOC, NO<sub>x</sub>, SO<sub>x</sub>, CO, PM, PM<sub>(10)</sub>  
**TEST FIRM:** EMC2 (Prime): , Mariner, Almega (Subcontract)  
Mike Fukuda (714) 227-3142  
**TEST DATE:** November 2008 & March 2009  
**STE EVALUATOR:** Scott A. Wilson EXT: 2257  
**EXPEDITED REVIEW:**  YES  NO **REVIEW DATE:** 5/11/09

**OVERVIEW OF EVALUATION:**

**OVERALL CONFIDENCE IN REPORTED TEST RESULTS:**  ACCEPTABLE  **CONDITIONALLY ACCEPTABLE**  UNACCEPTABLE

**RESTRICTIONS FOR USE OF REPORTED RESULTS:**

- Due to modifications required to be made to the reported emissions data, the accepted values are attached to this evaluation and must be referenced for accurate emissions interpretation.
- Results for all emissions, as reported in the attached emissions summary tables, are in compliance by an acceptable margin<sup>1</sup>, with the Rules/Permit Compliance Limits specified above.

**COMPLIANCE DETERMINATION:**

(REFER TO NEXT SECTION FOR COMPLETE DISCUSSION OF TEST RESULTS AND CORRECTED EMISSION INFORMATION, IF APPLICABLE)

<sup>1</sup> **NOTE:** STE assigns a 10% "margin of error" to most compliance limits when evaluating emissions for compliance determination. This is due to uncertainties assigned to source testing, in general, and errors associated with individual analytical procedures. As a result, some reported emissions may be judged as being in compliance although they appear to be non-compliant or marginally non-compliant. Similarly, non-compliance is judged using the same margin-of-error.

**SOURCE TEST REPORT EVALUATION****DETAILED REVIEW**

This source test report has been reviewed by the Evaluations Unit staff. The following specifically explains the restrictions concerning the treatment of the reported source test information:

- Equipment/Process/Test Overview
- Completeness of Application/Protocol/Report.
- Representativeness of Data & Process.
- Rule/Permit Fulfillment.
- Sampling & Analytical Methods.
- Quality Assurance
- Calculations.

**EQUIPMENT/PROCESS/TEST OVERVIEW**

- This test program was conducted due to numerous Rule and Permit requirements, verifying the emissions after plant modifications which routed the four main emission sources through a new Wet Electrostatic Precipitator (WESP) control device. The testing met the requirements of the Health Risk Assessment (HRA) programs of both the AQMD R1401 & 1402 as well as the State AB2588. Due to the changes made to the originally reported emission values, Source Test Engineering (STE) has attached to this evaluation summary tables of the accepted emissions data from this test program for ease of reference.

**COMPLETENESS OF REPORT**

- Review of the reported noted that certain raw testing and analytical supporting data was missing in the original submittal, this documentation was submitted as an addendum and found to be acceptable.
- Incomplete facility process operating data was included in the report, an addendum was submitted which documented the process operating conditions for all equipment vented to the WESP.
- Engineering & Compliance (E&C) and Planning & Rules (AB2588) will be supplied with a revised electronic copy of the report and supporting addendum's for their files.

**REPRESENTATIVENESS OF DATA & PROCESS**

- The supporting process operating conditions submitted with the report and as bolstered by the addendum, document that the process' were operating near maximum capacity as required for applicable HRA determination.

**RULE/PERMIT FULFILLMENT**

Testing must satisfy the following Rule/Permit requirements:

- R401, R404, R405, R407, R1303(b)(2), R1401, R1402, R1420, R2011, R2012
- PC# D182.4, D182.5, D182.6, D182.7
- 40CFR60 Subpart L, 40CFR63 Subpart X



**SOURCE TEST REPORT EVALUATION**

All required testing has been performed and is properly formatted, except where noted in this evaluation.

**SAMPLING & ANALYTICAL METHODS / RESULTS**

- STE determined that the total organic (TGNMEOC) testing did not meet the permit or method requirements, inlet/outlet were not sampled simultaneously and M25.3 was used at the inlet where the concentration exceeded the method's upper limits. Additionally, STE noted that the original aldehyde emissions were based on the method stipulated blank to sample ratio due to ND values determined from the sample runs. Further investigation determined that the sampling probes/lines were not pre-cleaned in the laboratory, rather they were recovered/cleaned and re-used in the field, resulting in excessive contamination. Due to these issues, STE required re-testing for TGNMEOC & aldehydes to be conducted for acceptable emissions reporting. This testing was conducted in March 2009, the results are listed in the attached summary tables and the "supplemental testing" report is included in the revised report package supplied electronically to E&C & AB2588.

**QUALITY ASSURANCE**

- All reported testing results were well supported and documented with respect to raw data, calibrations, calculations, and lab analyses.

**CALCULATIONS**

- As noted above, the summary emissions tables have been verified as acceptable for emissions reporting and HRA determination.



**TABLE 1-2. CRITERIA POLLUTANT EMISSIONS, WESP STACK (revised 8 May 2009)**

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 5-24 Nov. 2008, 12-13 Mar. 2009

TEST DATA	units	Average Result		units	Emission Factors, Ef	AB2588 Reporting Limit for HRA ++		
			(HRA)					ER(lb/hr)
Run Number	-		(HRA)	-		(HRA)		
<b>Stack Constituents and Emissions</b>								
<u>Stack Diluent Gases</u>								
Oxygen, O <sub>2</sub> , as measured	%		20.0					
Carbon Dioxide, as measured	%		2.1					
<u>Oxides of Nitrogen, NO<sub>x</sub></u>								
PPMV, as measured	ppmv		2.87					
Emission Rate	lb/hr		2.21	lb/ton	0.0897		none	
<u>Carbon Monoxide, CO</u>								
PPMV, as measured	ppmv		4.9					
Emission Rate	lb/hr		2.31	lb/ton	0.0937		none	
<b>EPA Method 201A/202 - PM10 (revised 8 May 2009)</b>								
<u>PM10 + Condensibles</u>								
Cyclone Cut Size	um		10.0					
Concentration	gr/dscf		7.93E-04					
Concentration	mg/dscm		1.82					
Emission Rate	lb/hr		0.700	lb/ton	0.0284		none	
<b>SCAQMD Method 25.x - Total Hydrocarbons (measured on 12 Mar. 2009)</b>								
<u>TGNMO, as Methane</u>								
PPMV, as measured	ppmv	(1)	4.39					
Emission Rate	lb/hr	(1)	0.960	lb/ton	(1) 0.0318		none	
<b>SCAQMD Method 6.1 - Sulfur Oxides, as SO<sub>2</sub></b>								
<u>Total Sulfur Oxides, as SO<sub>2</sub></u>								
Concentration	mg/dscm		0.362					
PPMV, as measured	ppmv		0.134					
Emission Rate	lb/hr		0.129	lb/ton	0.00380		none	

\* Performed during isokinetic sampling (e.g. CARB Method 425, 428, 429, 436, sCAQMD Methods, etc.).  
 Average: (MEAN) = arithmetic mean; (HRA) = calculated per AB2588 Criteria (see Test Protocol).  
 B - Blank-corrected value.  
 ND or "<" - None detected, RL is reported.  
 (1) Per SCAQMD Guidance for Method 25.3, use greater value if RPD exceeds 20%.  
 PM10 Data from test conducted in Nov.2008 (not blank-corrected); Test results for Mar.2009 pending STE approval.

Privileged & Confidential - Do Not Disclose to Third Parties

PROPRIETARY AND CONFIDENTIAL  
 Not to be disclosed to third parties



TABLE 1-3. HAZARDOUS AIR POLLUTANTS, WESP STACK (revised 8 May 2009)

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 5-24 Nov. 2008, 12-13 Mar. 2009

TEST DATA	units	Average Result	units	Emission Factors, Ef	AB2588 Reporting Limit for HRA ++	
Run Number	-	(HRA)	-	(HRA)	ER(lb/hr)	Ef(lb/ton)
<b>SCAOMD Method 6.2 - Hydrogen Sulfide</b>						
Mass Concentration	mg/dscm	< 0.211				
Volumetric Concentration	ppmv	< 0.147				
Mass Emission Rate	lb/hr	< 0.0791	lb/ton	< 0.00323	none	
<b>CARB Method 430 (measured on 13 Mar.2009)</b>						
<b>Formaldehyde</b>						
Concentration	mg/dscm	< 0.381				
PPMV, as measured	ppmv	< 0.300				
Emission Rate	lb/hr	< 0.117	lb/ton	< 0.00418	0.117	0.00418
<b>Acetaldehyde</b>						
Concentration	mg/dscm	< 0.381				
PPMV, as measured	ppmv	< 0.205				
Emission Rate	lb/hr	< 0.117	lb/ton	< 0.00418	0	
<b>CARB Method 425 - Hexavalent Chromium</b>						
Chromium, Hexavalent	ug/dscm	0.0261				
Chromium, Hexavalent	lb/hr	9.61E-06	lb/ton	3.58E-07	9.61E-06	3.58E-07
<b>CARB Method 436 &amp; 101</b>						
<b>CONCENTRATION</b>						
Arsenic, As	ug/dscm	2.79				
Beryllium, Be	ug/dscm	< 0.107				
Cadmium, Cd	ug/dscm	0.327				
Copper, Cu	ug/dscm	0.794				
Lead, Pb	ug/dscm	2.85				
Manganese, Mn	ug/dscm	0.229				
Mercury, Hg ***	ug/dscm	5.94				
Nickel, Ni	ug/dscm	0.729				
Selenium, Se	ug/dscm	7.71				
Zinc, Zn	ug/dscm	8.45				
<b>EMISSION RATE</b>						
Arsenic, As	lb/hr	0.00106	lb/ton	3.96E-05	0.00106	3.96E-05
Beryllium, Be	lb/hr	< 4.09E-05	lb/ton	< 1.49E-06	4.09E-05	1.49E-06
Cadmium, Cd	lb/hr	1.24E-04	lb/ton	4.62E-06	1.24E-04	4.62E-06
Copper, Cu	lb/hr	3.02E-04	lb/ton	1.10E-05	none	
Lead, Pb	lb/hr	0.00109	lb/ton	3.92E-05	0.00109	3.92E-05
Manganese, Mn	lb/hr	8.72E-05	lb/ton	3.18E-06	none	
Mercury, Hg ***	lb/hr	0.00225	lb/ton	7.59E-05	none	
Nickel, Ni	lb/hr	2.78E-04	lb/ton	1.00E-05	2.78E-04	1.00E-05
Selenium, Se	lb/hr	0.00293	lb/ton	1.10E-04	none	
Zinc, Zn	lb/hr	3.21E-03	lb/ton	1.20E-04	none	

PROPRIETARY AND CONFIDENTIAL

Not to be disclosed to third parties



TABLE 1-3. HAZARDOUS AIR POLLUTANTS, WESP STACK (revised 8 May 2009)

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 5-24 Nov. 2008, 12-13 Mar. 2009

TEST DATA	units	Average Result	units	Emission Factors, Ef	AB2588 Reporting Limit for HRA ++	
Run Number	-	(HRA)	-	(HRA)	ER(lb/hr)	Ef(lb/ton)
<b>CARB Method 429 - PAHs</b>						
<b>CONCENTRATION</b>						
Napthalene	ug/dscm	8.83				
Methylnaphthalene, 2-	ug/dscm	0.997				
Acenaphthylene	ug/dscm	0.0589				
Acenaphthene	ug/dscm	0.0243				
Fluorene	ug/dscm	0.121				
Phenanthrene	ug/dscm	5.56				
Anthracene	ug/dscm	0.0891				
Fluoranthene	ug/dscm	0.711				
Pyrene	ug/dscm	0.487				
Benzo(a)anthracene	ug/dscm	0.00273				
Chrysene	ug/dscm	0.115				
Benzo(b)fluoranthene	ug/dscm	0.00172				
Benzo(k)fluoranthene	ug/dscm	< 6.73E-04				
Benzo(e)pyrene	ug/dscm	0.00181				
Benzo(a)pyrene, BaP	ug/dscm	0.00104				
Perylene	ug/dscm	< 9.11E-04				
Indenopyrene	ug/dscm	0.00101				
Dibenz(a,h)anthracene	ug/dscm	< 0.00111				
Benzo(g,i,h)perylene	ug/dscm	0.00276				
<b>EMISSION RATE</b>						
Napthalene	lb/hr	0.00330	lb/ton	1.24E-04	none	
Methylnaphthalene, 2-	lb/hr	3.72E-04	lb/ton	1.40E-05	none	
Acenaphthylene	lb/hr	2.20E-05	lb/ton	8.27E-07	none	
Acenaphthene	lb/hr	9.09E-06	lb/ton	3.41E-07	none	
Fluorene	lb/hr	4.53E-05	lb/ton	1.71E-06	none	
Phenanthrene	lb/hr	0.00208	lb/ton	7.76E-05	none	
Anthracene	lb/hr	3.33E-05	lb/ton	1.25E-06	none	
Fluoranthene	lb/hr	2.66E-04	lb/ton	9.91E-06	none	
Pyrene	lb/hr	1.82E-04	lb/ton	6.85E-06	none	
Benzo(a)anthracene	lb/hr	1.02E-06	lb/ton	3.79E-08	1.02E-06	3.79E-08
Chrysene	lb/hr	4.28E-05	lb/ton	1.60E-06	4.28E-05	1.60E-06
Benzo(b)fluoranthene	lb/hr	6.41E-07	lb/ton	2.46E-08	6.41E-07	2.46E-08
Benzo(k)fluoranthene	lb/hr	< 2.51E-07	lb/ton	< 9.58E-09	0	
Benzo(e)pyrene	lb/hr	6.75E-07	lb/ton	2.61E-08	none	
Benzo(a)pyrene, BaP	lb/hr	3.84E-07	lb/ton	1.50E-08	3.84E-07	1.50E-08
Perylene	lb/hr	< 3.40E-07	lb/ton	< 1.29E-08	none	
Indenopyrene	lb/hr	3.75E-07	lb/ton	1.45E-08	3.75E-07	1.45E-08
Dibenz(a,h)anthracene	lb/hr	< 4.13E-07	lb/ton	< 1.58E-08	0	
Benzo(g,i,h)perylene	lb/hr	1.02E-06	lb/ton	3.96E-08	none	

PROPRIETARY AND CONFIDENTIAL

Not to be disclosed to third parties



TABLE 1-3. HAZARDOUS AIR POLLUTANTS, WESP STACK (revised 8 May 2009)

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 5-24 Nov. 2008, 12-13 Mar. 2009

TEST DATA	units	Average Result	units	Emission Factors, Ef	AB2588 Reporting Limit for HRA ++	
Run Number	-	(HRA)	-	(HRA)	ER(lb/hr)	Ef(lb/ton)
<b>CARB Method 428 - PCBs</b>						
Total PCBs, as monoCB						
Mass Concentration	ug/dscm	0.804				
Mass Emission Rate	lb/hr	2.86E-04	lb/ton	1.08E-05	2.86E-04	1.08E-05
<b>CARB Method 428 - PCDD/PCDF</b>						
<b>CONCENTRATION</b>						
TCDD, 2,3,7,8-	ug/dscm	2.89E-07				
PeCDD, 1,2,3,7,8-	ug/dscm	< 6.14E-07				
HxCDD, 1,2,3,4,7,8-	ug/dscm	< 6.53E-07				
HxCDD, 1,2,3,6,7,8-	ug/dscm	< 6.71E-07				
HxCDD, 1,2,3,7,8,9-	ug/dscm	< 6.50E-07				
HpCDD, 1,2,3,4,6,7,8,-	ug/dscm	< 7.87E-07				
OCDD	ug/dscm	1.05E-06				
TCDF, 2,3,7,8-	ug/dscm	2.69E-05				
PeCDF, 1,2,3,7,8-	ug/dscm	3.08E-06				
PeCDF, 2,3,4,7,8-	ug/dscm	2.62E-06				
HxCDF, 1,2,3,4,7,8-	ug/dscm	3.82E-07				
HxCDF, 1,2,3,6,7,8-	ug/dscm	2.49E-07				
HxCDF, 2,3,4,6,7,8-	ug/dscm	< 2.63E-07				
HxCDF, 1,2,3,7,8,9-	ug/dscm	< 2.73E-07				
HpCDF, 1,2,3,4,6,7,8-	ug/dscm	< 3.58E-07				
HpCDF, 1,2,3,4,7,8,9-	ug/dscm	< 3.55E-07				
OCDF	ug/dscm	4.97E-07				
<b>EMISSION RATE</b>						
TCDD, 2,3,7,8-	lb/hr	1.03E-10	lb/ton	3.81E-12	1.03E-10	3.81E-12
PeCDD, 1,2,3,7,8-	lb/hr	< 2.18E-10	lb/ton	< 7.85E-12	0	0
HxCDD, 1,2,3,4,7,8-	lb/hr	< 2.32E-10	lb/ton	< 8.46E-12	0	0
HxCDD, 1,2,3,6,7,8-	lb/hr	< 2.38E-10	lb/ton	< 8.71E-12	0	0
HxCDD, 1,2,3,7,8,9-	lb/hr	< 2.31E-10	lb/ton	< 8.43E-12	0	0
HpCDD, 1,2,3,4,6,7,8,-	lb/hr	< 2.80E-10	lb/ton	< 1.03E-11	0	0
OCDD	lb/hr	3.72E-10	lb/ton	1.32E-11	3.72E-10	1.32E-11
TCDF, 2,3,7,8-	lb/hr	9.54E-09	lb/ton	3.51E-10	9.54E-09	3.51E-10
PeCDF, 1,2,3,7,8-	lb/hr	1.09E-09	lb/ton	4.03E-11	1.09E-09	4.03E-11
PeCDF, 2,3,4,7,8-	lb/hr	9.29E-10	lb/ton	3.42E-11	9.29E-10	3.42E-11
HxCDF, 1,2,3,4,7,8-	lb/hr	1.36E-10	lb/ton	5.07E-12	1.36E-10	5.07E-12
HxCDF, 1,2,3,6,7,8-	lb/hr	8.85E-11	lb/ton	3.35E-12	8.85E-11	3.35E-12
HxCDF, 2,3,4,6,7,8-	lb/hr	< 9.34E-11	lb/ton	< 3.41E-12	0	0
HxCDF, 1,2,3,7,8,9-	lb/hr	< 9.71E-11	lb/ton	< 3.55E-12	0	0
HpCDF, 1,2,3,4,6,7,8-	lb/hr	< 1.27E-10	lb/ton	< 4.69E-12	0	0
HpCDF, 1,2,3,4,7,8,9-	lb/hr	< 1.26E-10	lb/ton	< 4.64E-12	0	0
OCDF	lb/hr	1.76E-10	lb/ton	6.27E-12	1.76E-10	6.27E-12

PROPRIETARY AND CONFIDENTIAL

Not to be disclosed to third parties



**TABLE 1-3. HAZARDOUS AIR POLLUTANTS, WESP STACK (revised 8 May 2009)**

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 5-24 Nov. 2008, 12-13 Mar. 2009

TEST DATA	units	Average Result	units	Emission Factors, Ef	AB2588 Reporting Limit for HRA ++	
Run Number	-	(HRA)	-	(HRA)	ER(lb/hr)	Ef(lb/ton)
<b>EPA Method TO-14/15</b>						
<b>CONCENTRATION</b>						
Vinyl Chloride	PPBv	< 1.89				
1,1-Dichloroethene	PPBv	< 2.44				
Methylene Chloride	PPBv	< 2.79				
Chloroform	PPBv	< 1.98				
1,2-Dichloroethane	PPBv	< 2.39				
Benzene	PPBv	7.38				
Carbon Tetrachloride (CCl4)	PPBv	< 1.54				
Trichloroethene	PPBv	< 1.80				
Toluene	PPBv	107				
1,1,2-Trichloroethane	PPBv	< 1.77				
Tetrachloroethene	PPBv	< 1.43				
1,2-Dibromoethane (EDB)	PPBv	< 1.26				
1,1,1,2-Tetrachloroethane	PPBv	< 1.41				
Chlorobenzene	PPBv	< 2.10				
Ethylbenzene	PPBv	2.01				
m,p-Xylenes (mixture)	PPBv	1.71				
Styrene	PPBv	2.84				
o-Xylene	PPBv	< 2.23				
1,4-Dichlorobenzene (para-)	PPBv	< 2.42				
<b>EMISSION RATE</b>						
Vinyl Chloride	lb/hr	< 0.00192	lb/ton	< 7.60E-05	none	
1,1-Dichloroethene	lb/hr	< 0.00383	lb/ton	< 1.52E-04	none	
Methylene Chloride	lb/hr	< 0.00383	lb/ton	< 1.52E-04	none	
Chloroform	lb/hr	< 0.00383	lb/ton	< 1.52E-04	0	
1,2-Dichloroethane	lb/hr	< 0.00383	lb/ton	< 1.52E-04	0	
Benzene	lb/hr	0.00949	lb/ton	4.10E-04	0.00949	4.10E-04
Carbon Tetrachloride (CCl4)	lb/hr	< 0.00383	lb/ton	< 1.52E-04	0	
Trichloroethene	lb/hr	< 0.00383	lb/ton	< 1.52E-04	0	
Toluene	lb/hr	0.163	lb/ton	7.19E-03	none	
1,1,2-Trichloroethane	lb/hr	< 0.00383	lb/ton	< 1.52E-04	0	
Tetrachloroethene	lb/hr	< 0.00383	lb/ton	< 1.52E-04	0	
1,2-Dibromoethane (EDB)	lb/hr	< 0.00383	lb/ton	< 1.52E-04	0	
1,1,1,2-Tetrachloroethane	lb/hr	< 0.00383	lb/ton	< 1.52E-04	0	
Chlorobenzene	lb/hr	< 0.00383	lb/ton	< 1.52E-04	none	
Ethylbenzene	lb/hr	0.00348	lb/ton	1.45E-04	none	
m,p-Xylenes (mixture)	lb/hr	0.00296	lb/ton	1.22E-04	none	
Styrene	lb/hr	0.00486	lb/ton	2.06E-04	none	
o-Xylene	lb/hr	< 0.00383	lb/ton	< 1.52E-04	none	
1,4-Dichlorobenzene (para-)	lb/hr	< 0.00575	lb/ton	< 2.28E-04	0	

**PROPRIETARY AND CONFIDENTIAL**

Not to be disclosed to third parties



TABLE 1-3. HAZARDOUS AIR POLLUTANTS, WESP STACK (revised 8 May 2009)

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 5-24 Nov. 2008, 12-13 Mar. 2009

TEST DATA	units	Average Result	units	Emission Factors, Ef	AB2588 Reporting Limit for HRA ++	
Run Number	-	(HRA)	-	(HRA)	ER(lb/hr)	Ef(lb/ton)
<b>VOCs, misc.</b>						
<b>1,3-Butadiene</b>						
Mass Concentration	ug/dscm	< 10				
Volumetric Concentration	PPBv	< 4.38				
Mass Emission Rate	lb/hr	< 0.00383	lb/ton	< 1.52E-04	0.00383	1.52E-04
<b>1,4-Dioxane</b>						
Mass Concentration	ug/dscm	< 10				
Volumetric Concentration	PPBv	< 2.69				
Mass Emission Rate	lb/hr	< 0.00383	lb/ton	< 1.52E-04	0	

\* Performed during isokinetic sampling (e.g. CARB Method 425, 428, 429, 436, sCAQMD Methods, etc.).

Average: (MEAN) = arithmetic mean; (HRA) = calculated per AB2588 Criteria (see Test Protocol).

B - Blank-corrected value.

ND or "<" - None detected, RL is reported.

PM10 Data from test conducted in Nov.2008 (not blank-corrected); Test results for Mar.2009 pending STE approval.

++ Use zero (0) if all runs "ND" and estimated result < SCAQMD Rule 1402 Tier 2 MICR Limit.

+++ Risk does not apply to "total" value because Risk calculated based on individual compounds.

Privileged & Confidential - Do Not Disclose to Third Parties

PROPRIETARY AND CONFIDENTIAL

Not to be disclosed to third parties



**TABLE 1-5. SUMMARY OF RESULTS, RTO INLET (revised 8 May 2009)**

Facility: Quemetco, Inc.  
 Unit: RTO Inlet

Test Date(s): 19, 24 Nov. 2008, 12-13 Mar. 2009

TEST DATA	units	Average Result	units	Emission Factors, Ef
Run Number	-	(MEAN)	-	(MEAN)
<b>Process Data/Rate</b>				
Rate for: M422, TO-15	ton/hr	28.52		
M25.1, ROG	ton/hr	30.16		
CO	ton/hr	33.20		
<b>Stack Constituents and Emissions</b>				
<u>Stack Diluent Gases</u>				
Oxygen, O <sub>2</sub> , as measured	%	18.9		
Carbon Dioxide, as measured	%	1.3		
<u>Carbon Monoxide, CO</u>				
PPMV, as measured	ppmv	< 0.3		
Emission Rate	lb/hr	< 0.0262	lb/ton	< 7.89E-04
<b>SCAQMD Method 25.x - Total Hydrocarbons (measured on 12 Mar. 2009)</b>				
TGNMO, as Methane				
PPMV, as measured	ppmv	324		
Emission Rate	lb/hr	16.4	lb/ton	0.544
<b>VOCs, misc.</b>				
<u>1,3-Butadiene</u>				
Mass Concentration	ug/dscm	3,933		
Volumetric Concentration	PPBv	1,722		
Mass Emission Rate	lb/hr	0.292	lb/ton	0.0101
<u>Benzene</u>				
Mass Concentration				
Volumetric Concentration	PPBv	955		
Mass Emission Rate	lb/hr	0.234		

\* Performed during isokinetic sampling (e.g. CARB Method 436).

Average: (MEAN) = arithmetic mean; (HRA) = calculated per AB2588 Criteria (see Test Protocol).

B - Blank-corrected value.

ND or "<" - None detected, RL is reported.

**Privileged & Confidential - Do Not Disclose to Third Parties**

**PROPRIETARY AND CONFIDENTIAL**

Not to be disclosed to third parties





**TABLE 3-1. TEST RESULTS, WESP STACK (revised 8 May 2009)**

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 5-24 Nov. 2008, 12-13 Mar. 2009

TEST DATA	units	Test Results			Average (MEAN)	Average (HRA)
		Run 1	Run 2	Run 3		
Run Number	-					
<b>Process Data/Rate</b>						
Rate for: CARB M429	ton/hr	25.30	26.84	28.46	26.86	26.86
CARB M436	ton/hr	26.71	26.04	29.63	27.46	27.46
CARB M428	ton/hr	25.62	26.54	29.92	27.36	27.36
CARB M425	ton/hr	26.42	26.81	29.19	27.47	27.47
CARB M430	ton/hr	28.07	28.07	28.07	28.07	28.07
CARB M101	ton/hr	25.78	27.19	32.06	28.34	28.34
CARB M422, TO-15	ton/hr	22.69	25.82	27.72	25.41	25.41
AQMD M6.2	ton/hr	24.52	24.52	24.52	24.52	24.52
ROG/TGNMO, CEMS	ton/hr	30.16	30.16	24.65	28.32	28.32
PM10/cond.PM, SOx	ton/hr	21.35	28.52	34.01	27.96	27.96
<b>Stack Constituents and Emissions</b>						
<b>Stack Diluent Gases</b>						
Oxygen, O2, as measured	%			7 Nov.2008	20.0	20.0
Carbon Dioxide, as measured	%				2.1	2.1
<b>Oxides of Nitrogen, NOx</b>						
PPMV, as measured	ppmv				2.87	2.87
Emission Rate	lb/hr				2.21	2.21
<b>Carbon Monoxide, CO</b>						
PPMV, as measured	ppmv				4.9	4.9
Emission Rate	lb/hr				2.31	2.31
<b>EPA Method 201A/202 - PM10 (revised 8 May 2009)</b>						
PM10 + Condensibles		5 Nov.2008	7 Nov.2008			
Cyclone Cut Size	um	9.8	10.2		10.0	10.0
Concentration	gr/dscf	7.60E-04	8.27E-04		7.93E-04	7.93E-04
Concentration	mg/dscm	1.74	1.89		1.82	1.82
Emission Rate	lb/hr	0.659	0.742		0.700	0.700
<b>SCAQMD Method 25.x - Total Hydrocarbons (measured on 12 Mar.2009)</b>						
TGNMO, as Methane		Run 1A	Run 1B	n/a		
PPMV, as measured	ppmv	(1) 3.06	(1) 4.39		(1) 4.39	(1) 4.39
Emission Rate	lb/hr	(1) 0.670	(1) 0.960		(1) 0.960	(1) 0.960
<b>SCAQMD Method 6.1 - Sulfur Oxides, as SO2</b>						
Total Sulfur Oxides, as SO2				20 Nov.2008		
Concentration	mg/dscm				0.362	0.362
PPMV, as measured	ppmv				0.134	0.134
Emission Rate	lb/hr				0.129	0.129

PROPRIETARY AND CONFIDENTIAL

Not to be disclosed to third parties

5/10/09 1:30 PM



**TABLE 3-1. TEST RESULTS, WESP STACK (revised 8 May 2009)**

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 5-24 Nov. 2008, 12-13 Mar. 2009

TEST DATA	units	Test Results			Average (MEAN)	Average (HRA)			
		Run 1	Run 2	Run 3					
<b>SCAOMD Method 6.2 - Hydrogen Sulfide</b>									
Run Number	-	19 Nov.2008	19 Nov.2008	19 Nov.2008					
Mass Concentration	mg/dscm	ND 0.211	ND 0.207	ND 0.216	< 0.211	< 0.211			
Volumetric Concentration	ppmv	ND 0.147	ND 0.144	ND 0.150	< 0.147	< 0.147			
Mass Emission Rate	lb/hr	ND 0.0786	ND 0.0774	ND 0.0813	< 0.0791	< 0.0791			
<b>CARB Method 430 (measured on 13 Mar.2009)</b>									
<b>Formaldehyde</b>			M430-1	M430-3	M430-4				
Concentration	mg/dscm	ND	0.387	ND 0.384	ND 0.371	< 0.381			
PPMV, as measured	ppmv	ND	0.305	ND 0.303	ND 0.293	< 0.300			
Emission Rate	lb/hr	ND	0.122	ND 0.119	ND 0.111	< 0.117			
<b>Acetaldehyde</b>									
Concentration	mg/dscm	ND	0.387	ND 0.384	ND 0.371	< 0.381			
PPMV, as measured	ppmv	ND	0.208	ND 0.207	ND 0.200	< 0.205			
Emission Rate	lb/hr	ND	0.122	ND 0.119	ND 0.111	< 0.117			
<b>CARB Method 425 - Hexavalent Chromium</b>									
Chromium, Hexavalent	ug/dscm	12 Nov.2008	0.0362	13 Nov.2008	0.0350	14 Nov.2008	0.0143	0.0285	0.0261
Chromium, Hexavalent	lb/hr		1.33E-05		1.29E-05	NDb 5.22E-06	1.05E-05	9.61E-06	
<b>CARB Method 436 &amp; 101</b>									
<b>CONCENTRATION</b>			10 Nov.2008	11 Nov.2008	11 Nov.2008				
Arsenic, As	ug/dscm		4.943	2.584	0.854	2.79	2.79		
Beryllium, Be	ug/dscm	ND	0.107	ND 0.108	ND 0.107	< 0.107	< 0.107		
Cadmium, Cd	ug/dscm		0.387	0.431	0.162	0.327	0.327		
Copper, Cu	ug/dscm		0.881	0.710	0.790	0.794	0.794		
Lead, Pb	ug/dscm	B	3.74	B 1.31	B 3.50	2.85	2.85		
Manganese, Mn	ug/dscm		0.215	0.237	0.235	0.229	0.229		
Mercury, Hg ***	ug/dscm	ND	7.18	ND 6.45	11.01	8.22	5.94		
Nickel, Ni	ug/dscm		0.817	0.474	0.896	0.729	0.729		
Selenium, Se	ug/dscm		7.307	13.779	2.049	7.71	7.71		
Zinc, Zn	ug/dscm		6.23	13.78	5.34	8.45	8.45		
<b>EMISSION RATE</b>			10 Nov.2008	11 Nov.2008	11 Nov.2008				
Arsenic, As	lb/hr		1.87E-03	9.82E-04	3.29E-04	0.00106	0.00106		
Beryllium, Be	lb/hr	ND	4.06E-05	ND 4.09E-05	ND 4.11E-05	< 4.09E-05	< 4.09E-05		
Cadmium, Cd	lb/hr		1.46E-04	1.64E-04	6.25E-05	1.24E-04	1.24E-04		
Copper, Cu	lb/hr		3.33E-04	2.70E-04	3.04E-04	3.02E-04	3.02E-04		
Lead, Pb	lb/hr	B	1.41E-03	B 4.99E-04	B 1.35E-03	0.00109	0.00109		
Manganese, Mn	lb/hr		8.12E-05	9.00E-05	9.05E-05	8.72E-05	8.72E-05		
Mercury, Hg ***	lb/hr	ND	0.00267	ND 0.00243	0.00421	0.00310	0.00225		
Nickel, Ni	lb/hr		3.08E-04	1.80E-04	3.46E-04	2.78E-04	2.78E-04		
Selenium, Se	lb/hr		2.76E-03	5.23E-03	7.90E-04	0.00293	0.00293		
Zinc, Zn	lb/hr		0.00235	0.00523	0.00206	3.21E-03	0.00321		

PROPRIETARY AND CONFIDENTIAL

Not to be disclosed to third parties



TABLE 3-1. TEST RESULTS, WESP STACK (revised 8 May 2009)

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 5-24 Nov. 2008, 12-13 Mar. 2009

TEST DATA Run Number	units -	Test Results			Average (MEAN)	Average (HRA)
		Run 1	Run 2	Run 3		
<b>CARB Method 429 - PAHs</b>						
<b>CONCENTRATION</b>						
	ug/dscm	10 Nov.2008	11 Nov.2008	11 Nov.2008		
Napthalene	ug/dscm	B 7.65	B 14.95	B 3.88	8.83	8.83
Methylnaphthalene, 2-	ug/dscm	1.025	1.459	0.506	0.997	0.997
Acenaphthylene	ug/dscm	0.0617	0.0797	0.0353	0.0589	0.0589
Acenaphthene	ug/dscm	0.0255	0.0303	0.0172	0.0243	0.0243
Fluorene	ug/dscm	0.1535	0.1398	0.0706	0.121	0.121
Phenanthrene	ug/dscm	3.76	9.17	3.76	5.56	5.56
Anthracene	ug/dscm	0.0789	0.1400	0.0484	0.0891	0.0891
Fluoranthene	ug/dscm	0.689	0.725	0.718	0.711	0.711
Pyrene	ug/dscm	0.634	0.454	0.374	0.487	0.487
Benzo(a)anthracene	ug/dscm	0.00300	0.00180	0.00338	0.00273	0.00273
Chrysene	ug/dscm	0.1305	0.0965	0.1167	0.115	0.115
Benzo(b)fluoranthene	ug/dscm	0.00336	ND 0.00166	ND 0.00195	0.00232	0.00172
Benzo(k)fluoranthene	ug/dscm	ND 1.278E-03	ND 3.17E-04	ND 4.23E-04	< 6.73E-04	< 6.73E-04
Benzo(e)pyrene	ug/dscm	0.00389	ND 0.00192	ND 0.00118	0.00233	0.00181
Benzo(a)pyrene, BaP	ug/dscm	2.573E-03	ND 8.28E-04	ND 2.39E-04	0.00121	0.00104
Perylene	ug/dscm	ND 1.661E-03	ND 3.89E-04	ND 6.85E-04	< 9.11E-04	< 9.11E-04
Indenopyrene	ug/dscm	2.232E-03	ND 8.83E-04	ND 7.00E-04	0.00127	0.00101
Dibenz(a,h)anthracene	ug/dscm	ND 2.096E-03	ND 4.29E-04	ND 8.01E-04	< 0.00111	< 0.00111
Benzo(g,i,h)perylene	ug/dscm	0.00557	0.00217	ND 0.00106	0.00293	0.00276
<b>EMISSION RATE</b>	lb/hr					
Napthalene	lb/hr	B 0.00284	B 0.00560	B 0.00146	0.00330	0.00330
Methylnaphthalene, 2-	lb/hr	3.80E-04	5.46E-04	1.91E-04	3.72E-04	3.72E-04
Acenaphthylene	lb/hr	2.28E-05	2.98E-05	1.33E-05	2.20E-05	2.20E-05
Acenaphthene	lb/hr	9.45E-06	1.134E-05	6.47E-06	9.09E-06	9.09E-06
Fluorene	lb/hr	5.69E-05	5.24E-05	2.66E-05	4.53E-05	4.53E-05
Phenanthrene	lb/hr	0.00139	0.00343	0.00142	0.00208	0.00208
Anthracene	lb/hr	2.92E-05	5.24E-05	1.82E-05	3.33E-05	3.33E-05
Fluoranthene	lb/hr	2.55E-04	2.72E-04	2.71E-04	2.66E-04	2.66E-04
Pyrene	lb/hr	2.35E-04	1.70E-04	1.41E-04	1.82E-04	1.82E-04
Benzo(a)anthracene	lb/hr	1.110E-06	6.75E-07	1.275E-06	1.02E-06	1.02E-06
Chrysene	lb/hr	4.84E-05	3.61E-05	4.40E-05	4.28E-05	4.28E-05
Benzo(b)fluoranthene	lb/hr	1.244E-06	ND 6.23E-07	ND 7.34E-07	8.67E-07	6.41E-07
Benzo(k)fluoranthene	lb/hr	ND 4.73E-07	ND 1.19E-07	ND 1.60E-07	< 2.51E-07	< 2.51E-07
Benzo(e)pyrene	lb/hr	1.441E-06	ND 7.20E-07	ND 4.44E-07	8.69E-07	6.75E-07
Benzo(a)pyrene, BaP	lb/hr	9.529E-07	ND 3.102E-07	ND 9.00E-08	4.51E-07	3.84E-07
Perylene	lb/hr	ND 6.15E-07	ND 1.46E-07	ND 2.58E-07	< 3.40E-07	< 3.40E-07
Indenopyrene	lb/hr	8.27E-07	ND 3.31E-07	ND 2.64E-07	4.74E-07	3.75E-07
Dibenz(a,h)anthracene	lb/hr	ND 7.77E-07	ND 1.61E-07	ND 3.02E-07	< 4.13E-07	< 4.13E-07
Benzo(g,i,h)perylene	lb/hr	2.063E-06	8.11E-07	ND 4.00E-07	1.09E-06	1.02E-06



TABLE 3-1. TEST RESULTS, WESP STACK (revised 8 May 2009)

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 5-24 Nov. 2008, 12-13 Mar. 2009

TEST DATA	units	Test Results			Average (MEAN)	Average (HRA)
		Run 1	Run 2	Run 3		
<b>CARB Method 428 - PCBs</b>						
Run Number	-					
Total PCBs, as monoCB		12 Nov. 2008	13 Nov. 2008	14 Nov. 2008		
Mass Concentration	ug/dscm	0.894	1.187	0.330	0.804	0.804
Mass Emission Rate	lb/hr	3.19E-04	4.22E-04	1.17E-04	2.86E-04	2.86E-04
<b>CARB Method 428 - PCDD/PCDF</b>						
CONCENTRATION	ug/dscm	12 Nov. 2008	13 Nov. 2008	14 Nov. 2008		
TCDD, 2,3,7,8-	ug/dscm	ND 4.17E-07	4.70E-07	ND 3.78E-07	4.22E-07	2.89E-07
PeCDD, 1,2,3,7,8-	ug/dscm	ND 4.54E-07	ND 5.40E-07	ND 8.47E-07	< 6.14E-07	< 6.14E-07
HxCDD, 1,2,3,4,7,8-	ug/dscm	ND 5.27E-07	ND 7.31E-07	ND 7.00E-07	< 6.53E-07	< 6.53E-07
HxCDD, 1,2,3,6,7,8-	ug/dscm	ND 5.42E-07	ND 7.52E-07	ND 7.20E-07	< 6.71E-07	< 6.71E-07
HxCDD, 1,2,3,7,8,9-	ug/dscm	ND 5.24E-07	ND 7.29E-07	ND 6.97E-07	< 6.50E-07	< 6.50E-07
HpCDD, 1,2,3,4,6,7,8,-	ug/dscm	ND 8.99E-07	ND 7.63E-07	ND 6.98E-07	< 7.87E-07	< 7.87E-07
OCDD	ug/dscm	ND 1.14E-06	ND 1.65E-06	1.76E-06	1.52E-06	1.05E-06
TCDF, 2,3,7,8-	ug/dscm	2.68E-05	2.88E-05	2.50E-05	2.69E-05	2.69E-05
PeCDF, 1,2,3,7,8-	ug/dscm	3.19E-06	3.18E-06	2.87E-06	3.08E-06	3.08E-06
PeCDF, 2,3,4,7,8-	ug/dscm	2.84E-06	2.50E-06	2.51E-06	2.62E-06	2.62E-06
HxCDF, 1,2,3,4,7,8-	ug/dscm	ND 4.95E-07	7.22E-07	ND 3.55E-07	5.24E-07	3.82E-07
HxCDF, 1,2,3,6,7,8-	ug/dscm	4.73E-07	ND 2.94E-07	ND 2.52E-07	3.40E-07	2.49E-07
HxCDF, 2,3,4,6,7,8-	ug/dscm	ND 1.99E-07	ND 3.18E-07	ND 2.72E-07	< 2.63E-07	< 2.63E-07
HxCDF, 1,2,3,7,8,9-	ug/dscm	ND 2.06E-07	ND 3.31E-07	ND 2.83E-07	< 2.73E-07	< 2.73E-07
HpCDF, 1,2,3,4,6,7,8-	ug/dscm	ND 3.43E-07	ND 4.01E-07	ND 3.30E-07	< 3.58E-07	< 3.58E-07
HpCDF, 1,2,3,4,7,8,9-	ug/dscm	ND 3.40E-07	ND 3.97E-07	ND 3.27E-07	< 3.55E-07	< 3.55E-07
OCDF	ug/dscm	ND 4.95E-07	ND 8.50E-07	8.20E-07	7.21E-07	4.97E-07
<b>EMISSION RATE</b>						
TCDD, 2,3,7,8-	lb/hr	ND 1.49E-10	1.67E-10	ND 1.33E-10	1.50E-10	1.03E-10
PeCDD, 1,2,3,7,8-	lb/hr	ND 1.62E-10	ND 1.92E-10	ND 2.99E-10	< 2.18E-10	< 2.18E-10
HxCDD, 1,2,3,4,7,8-	lb/hr	ND 1.88E-10	ND 2.60E-10	ND 2.47E-10	< 2.32E-10	< 2.32E-10
HxCDD, 1,2,3,6,7,8-	lb/hr	ND 1.93E-10	ND 2.68E-10	ND 2.54E-10	< 2.38E-10	< 2.38E-10
HxCDD, 1,2,3,7,8,9-	lb/hr	ND 1.87E-10	ND 2.59E-10	ND 2.46E-10	< 2.31E-10	< 2.31E-10
HpCDD, 1,2,3,4,6,7,8,-	lb/hr	ND 3.21E-10	ND 2.71E-10	ND 2.46E-10	< 2.80E-10	< 2.80E-10
OCDD	lb/hr	ND 4.07E-10	ND 5.88E-10	6.20E-10	5.38E-10	3.72E-10
TCDF, 2,3,7,8-	lb/hr	9.55E-09	1.03E-08	8.83E-09	9.54E-09	9.54E-09
PeCDF, 1,2,3,7,8-	lb/hr	1.14E-09	1.13E-09	1.01E-09	1.09E-09	1.09E-09
PeCDF, 2,3,4,7,8-	lb/hr	1.01E-09	8.88E-10	8.87E-10	9.29E-10	9.29E-10
HxCDF, 1,2,3,4,7,8-	lb/hr	ND 1.76E-10	2.57E-10	ND 1.25E-10	1.86E-10	1.36E-10
HxCDF, 1,2,3,6,7,8-	lb/hr	1.69E-10	ND 1.05E-10	ND 8.91E-11	1.21E-10	8.85E-11
HxCDF, 2,3,4,6,7,8-	lb/hr	ND 7.08E-11	ND 1.13E-10	ND 9.61E-11	< 9.34E-11	< 9.34E-11
HxCDF, 1,2,3,7,8,9-	lb/hr	ND 7.36E-11	ND 1.18E-10	ND 1.00E-10	< 9.71E-11	< 9.71E-11
HpCDF, 1,2,3,4,6,7,8-	lb/hr	ND 1.22E-10	ND 1.43E-10	ND 1.17E-10	< 1.27E-10	< 1.27E-10
HpCDF, 1,2,3,4,7,8,9-	lb/hr	ND 1.21E-10	ND 1.41E-10	ND 1.15E-10	< 1.26E-10	< 1.26E-10
OCDF	lb/hr	ND 1.76E-10	ND 3.02E-10	2.90E-10	2.56E-10	1.76E-10

PROPRIETARY AND CONFIDENTIAL

Not to be disclosed to third parties



TABLE 3-1. TEST RESULTS, WESP STACK (revised 8 May 2009)

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 5-24 Nov. 2008, 12-13 Mar. 2009

TEST DATA Run Number	units -	Test Results			Average (MEAN)	Average (HRA)
		Run 1	Run 2	Run 3		
<b>EPA Method TO-14/15</b>						
<b>CONCENTRATION</b>						
	PPBv	24 Nov. 2008	24 Nov. 2008	24 Nov. 2008		
Vinyl Chloride	PPBv	ND 1.89	ND 1.89	ND 1.89	< 1.89	< 1.89
1,1-Dichloroethene	PPBv	ND 2.44	ND 2.44	ND 2.44	< 2.44	< 2.44
Methylene Chloride	PPBv	ND 2.79	ND 2.79	ND 2.79	< 2.79	< 2.79
Chloroform	PPBv	ND 1.98	ND 1.98	ND 1.98	< 1.98	< 1.98
1,2-Dichloroethane	PPBv	ND 2.39	ND 2.39	ND 2.39	< 2.39	< 2.39
Benzene	PPBv	19.10	ND 3.03	ND 3.03	8.39	7.38
Carbon Tetrachloride (CCl4)	PPBv	ND 1.54	ND 1.54	ND 1.54	< 1.54	< 1.54
Trichloroethene	PPBv	ND 1.80	ND 1.80	ND 1.80	< 1.80	< 1.80
Toluene	PPBv	318.59	ND 2.57	ND 2.57	108	107
1,1,2-Trichloroethane	PPBv	ND 1.77	ND 1.77	ND 1.77	< 1.77	< 1.77
Tetrachloroethene	PPBv	ND 1.43	ND 1.43	ND 1.43	< 1.43	< 1.43
1,2-Dibromoethane (EDB)	PPBv	ND 1.26	ND 1.26	ND 1.26	< 1.26	< 1.26
1,1,1,2-Tetrachloroethane	PPBv	ND 1.41	ND 1.41	ND 1.41	< 1.41	< 1.41
Chlorobenzene	PPBv	ND 2.10	ND 2.10	ND 2.10	< 2.10	< 2.10
Ethylbenzene	PPBv	3.79	ND 2.23	ND 2.23	2.75	2.01
m,p-Xylenes (mixture)	PPBv	2.90	ND 2.23	ND 2.23	2.45	1.71
Styrene	PPBv	6.25	ND 2.27	ND 2.27	3.60	2.84
o-Xylene	PPBv	ND 2.23	ND 2.23	ND 2.23	< 2.23	< 2.23
1,4-Dichlorobenzene (para-)	PPBv	ND 2.42	ND 2.42	ND 2.42	< 2.42	< 2.42
<b>EMISSION RATE</b>						
	lb/hr	24 Nov. 2008	24 Nov. 2008	24 Nov. 2008		
Vinyl Chloride	lb/hr	ND 0.00196	ND 0.00191	ND 0.00187	< 0.00192	< 0.00192
1,1-Dichloroethene	lb/hr	ND 0.00392	ND 0.00383	ND 0.00374	< 0.00383	< 0.00383
Methylene Chloride	lb/hr	ND 0.00392	ND 0.00383	ND 0.00374	< 0.00383	< 0.00383
Chloroform	lb/hr	ND 0.00392	ND 0.00383	ND 0.00374	< 0.00383	< 0.00383
1,2-Dichloroethane	lb/hr	ND 0.00392	ND 0.00383	ND 0.00374	< 0.00383	< 0.00383
Benzene	lb/hr	0.02470	ND 0.00383	ND 0.00374	0.0108	0.00949
Carbon Tetrachloride (CCl4)	lb/hr	ND 0.00392	ND 0.00383	ND 0.00374	< 0.00383	< 0.00383
Trichloroethene	lb/hr	ND 0.00392	ND 0.00383	ND 0.00374	< 0.00383	< 0.00383
Toluene	lb/hr	0.48606	ND 0.00383	ND 0.00374	0.165	0.163
1,1,2-Trichloroethane	lb/hr	ND 0.00392	ND 0.00383	ND 0.00374	< 0.00383	< 0.00383
Tetrachloroethene	lb/hr	ND 0.00392	ND 0.00383	ND 0.00374	< 0.00383	< 0.00383
1,2-Dibromoethane (EDB)	lb/hr	ND 0.00392	ND 0.00383	ND 0.00374	< 0.00383	< 0.00383
1,1,1,2-Tetrachloroethane	lb/hr	ND 0.00392	ND 0.00383	ND 0.00374	< 0.00383	< 0.00383
Chlorobenzene	lb/hr	ND 0.00392	ND 0.00383	ND 0.00374	< 0.00383	< 0.00383
Ethylbenzene	lb/hr	0.00666	ND 0.00383	ND 0.00374	0.00475	0.00348
m,p-Xylenes (mixture)	lb/hr	0.00510	ND 0.00383	ND 0.00374	0.00422	0.00296
Styrene	lb/hr	0.01078	ND 0.00383	ND 0.00374	0.00612	0.00486
o-Xylene	lb/hr	ND 0.00392	ND 0.00383	ND 0.00374	< 0.00383	< 0.00383
1,4-Dichlorobenzene (para-)	lb/hr	ND 0.00588	ND 0.00574	ND 0.00562	< 0.00575	< 0.00575

PROPRIETARY AND CONFIDENTIAL

Not to be disclosed to third parties



TABLE 3-1. TEST RESULTS, WESP STACK (revised 8 May 2009)

Facility: Quemetco, Inc.  
Unit: WESP Stack

Test Date(s): 5-24 Nov. 2008, 12-13 Mar. 2009

TEST DATA Run Number	units -	Test Results			Average (MEAN)	Average (HRA)
		Run 1	Run 2	Run 3		
<b>VOCS, misc.</b>						
<b>1,3-Butadiene</b>		24 Nov.2008	24 Nov.2008	24 Nov.2008		
Mass Concentration	ug/dscm	ND 10	ND 10	ND 10	< 10	< 10
Volumetric Concentration	PPBv	ND 4.38	ND 4.38	ND 4.38	< 4.38	< 4.38
Mass Emission Rate	lb/hr	ND 3.92E-03	ND 3.83E-03	ND 3.74E-03	< 0.00383	< 0.00383
<b>1,4-Dioxane</b>		24 Nov.2008	24 Nov.2008	24 Nov.2008		
Mass Concentration	ug/dscm	ND 10	ND 10	ND 10	< 10	< 10
Volumetric Concentration	PPBv	ND 2.69	ND 2.69	ND 2.69	< 2.69	< 2.69
Mass Emission Rate	lb/hr	ND 3.92E-03	ND 3.83E-03	ND 3.74E-03	< 0.00383	< 0.00383

\* Performed during isokinetic sampling (e.g. CARB Method 425, 428, 429, 436, sCAQMD Methods, etc.).

Average: (MEAN) = arithmetic mean; (HRA) = calculated per AB2588 Criteria (see Test Protocol).

B - Blank-corrected value.

ND or "<" - None detected, RL is reported.

NDb - Blank-corrected result is less than RL. RL is substituted.

(1) Per SCAQMD Guidance for Method 25.3, use greater value if RPD exceeds 20%.

PM10 Data from test conducted in Nov.2008 (not blank-corrected); Test results for Mar.2009 pending STE approval.

Privileged & Confidential - Do Not Disclose to Third Parties

PROPRIETARY AND CONFIDENTIAL

Not to be disclosed to third parties

5/11/09 2:20 PM



TABLE 3-3. TEST RESULTS, RTO INLET (revised 8 May 2009)

Facility: Quemetco, Inc.  
 Unit: RTO Inlet

Test Date(s): 19, 24 Nov. 2008, 12-13 Mar.2009

TEST DATA	units	Test Results			Average (MEAN)
		Run 1	Run 2	Run 3	
Run Number	-				
<b>Process Data/Rate</b>					
Rate for: M422, TO-15	ton/hr	29.17	29.49	26.90	28.52
M25.1, ROG	ton/hr	30.16	30.16		30.16
CO	ton/hr	33.20	33.20		33.20
<b>Stack Constituents and Emissions</b>					
<b>Stack Diluent Gases</b>		20 Nov.2008	20 Nov.2008		
Oxygen, O2, as measured	%	18.9	18.8		18.9
Carbon Dioxide, as measured	%	1.3	1.2		1.3
<b>Carbon Monoxide, CO</b>					
PPMV, as measured	ppmv	ND 0.3	ND 0.3	ND	< 0.3
Emission Rate	lb/hr	ND 0.0262	ND 0.0262	ND	< 0.0262
<b>SCAQMD Method 25.x - Total Hydrocarbons (measured on 12 Mar.2009)</b>					
<b>TGNMO, as Methane</b>		Run 1A	Run 1B	n/a	
PPMV, as measured	ppmv	346	302		324
Emission Rate	lb/hr	17.53	15.30		16.4
<b>VOCs, misc.</b>					
<b>1,3-Butadiene</b>		24 Nov.2008	24 Nov.2008	24 Nov.2008	
Mass Concentration	ug/dscm	2,050	8,050	1,700	3,933
Volumetric Concentration	PPBv	897	3,524	744	1,722
Mass Emission Rate	lb/hr	0.149	0.602	0.126	0.292
<b>Benzene</b>					
Mass Concentration	ug/dscm	2,100	5,700	1,650	3,150
Volumetric Concentration	PPBv	637	1,728	500	955
Mass Emission Rate	lb/hr	0.153	0.426	0.122	0.234

\* Performed during isokinetic sampling (e.g. CARB Method 436).

Average: (MEAN) = arithmetic mean; (HRA) = calculated per AB2588 Criteria (see Test Protocol).

B - Blank-corrected value.

ND or "<" - None detected, RL is reported.

Privileged & Confidential - Do Not Disclose to Third Parties

PROPRIETARY AND CONFIDENTIAL

Not to be disclosed to third parties

5/10/09 11:59 PM



TABLE 3-3. TEST RESULTS, RTO INLET (revised 8 May 2009)

Facility: Quemetco, Inc.  
 Unit: RTO Inlet

Test Date(s): 19, 24 Nov. 2008, 12-13 Mar.2009

TEST DATA	units	Emission Factors, Ef			Average (MEAN)
		Run 1	Run 2	Run 3	
Run Number	-				
<b>Process Data/Rate</b>					
Rate for: M422, TO-15	ton/hr	29.17	29.49	26.90	28.52
M25.1, ROG	ton/hr	30.16	30.16		30.16
CO	ton/hr	33.20	33.20		33.20
<b>Stack Constituents and Emiss</b>					
<b>Carbon Monoxide, CO</b>					
Emission Factor	lb/ton	ND 7.89E-04	ND 7.89E-04	ND	< 7.89E-04
<b>SCAQMD Method 25.x - Total Hydrocarbons (measured on 12 Mar.2009)</b>					
<b>TGNMO, as Methane</b>					
Emission Factor	lb/ton	Run 1A 0.581	Run 1B 0.507	n/a	0.544
<b>VOCs, misc.</b>					
<b>1,3-Butadiene</b>					
Emission Factor	lb/ton	0.00513	0.02041	0.00467	0.0101
<b>Benzene</b>					
Emission Factor	lb/ton	0.00525	0.01445	0.00453	0.00808

\* Performed during isokinetic sampling (e.g. CARB Method 436).

Average: (MEAN) = arithmetic mean; (HRA) = calculated per AB2588 Criteria (see Test Protocol).

B - Blank-corrected value.

ND or "<" - None detected, RL is reported.

Privileged & Confidential - Do Not Disclose to Third Parties





TABLE 3-4. EMISSION FACTORS, WESP STACK (revised 8 May 2009)

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 5-24 Nov. 2008, 12-13 Mar. 2009

TEST DATA	units	Emission Factors, Ef			Average (MEAN)	Average (HRA)
		Run 1	Run 2	Run 3		
Run Number	-					
<b>Process Data/Rate</b>						
Rate for: CARB M429	ton/hr	25.30	26.84	28.46	26.86	26.86
CARB M436	ton/hr	26.71	26.04	29.63	27.46	27.46
CARB M428	ton/hr	25.62	26.54	29.92	27.36	27.36
CARB M425	ton/hr	26.42	26.81	29.19	27.47	27.47
CARB M430	ton/hr	28.07	28.07	28.07	28.07	28.07
CARB M101	ton/hr	25.78	27.19	32.06	28.34	28.34
CARB M422, TO-15	ton/hr	22.69	25.82	27.72	25.41	25.41
AQMD M6.2	ton/hr	24.52	24.52	24.52	24.52	24.52
ROG/TGNMO, CEMS	ton/hr	30.16	30.16	24.65	28.32	28.32
PM10/cond.PM, SOx	ton/hr	21.35	28.52	34.01	27.96	27.96
<b>Stack Constituents and Emissions</b>						
<b>Oxides of Nitrogen, NOx</b>						
Emission Factor	lb/ton			0.0897	0.0897	0.0897
<b>Carbon Monoxide, CO</b>						
Emission Factor	lb/ton			0.0937	0.0937	0.0937
<b>EPA Method 201A/202 - PM10 (revised 8 May 2009)</b>						
<b>PM10 + Condensibles</b>						
Emission Factor	lb/ton	0.0308	0.0260		0.0284	0.0284
<b>SCAQMD Method 25.x - Total Hydrocarbons (measured on 12 Mar.2009)</b>						
<b>TGNMO, as Methane</b>						
Emission Factor	lb/ton	(1) 0.0222	(1) 0.0318	n/a	(1) 0.0318	(1) 0.0318
<b>SCAQMD Method 6.1 - Sulfur Oxides, as SO2</b>						
<b>Total Sulfur Oxides, as SO2</b>						
Emission Factor	lb/ton			0.00380	0.00380	0.00380
<b>SCAQMD Method 6.2 - Hydrogen Sulfide</b>						
Emission Factor	lb/ton	ND 0.00321	ND 0.00316	ND 0.00332	< 0.00323	< 0.00323
<b>CARB Method 430 (measured on 13 Mar.2009)</b>						
<b>Formaldehyde</b>						
Emission Factor	lb/ton	ND 0.00436	ND 0.00423	ND 0.00395	< 0.00418	< 0.00418
<b>Acetaldehyde</b>						
Emission Factor	lb/ton	ND 0.00436	ND 0.00423	ND 0.00395	< 0.00418	< 0.00418
<b>CARB Method 425 - Hexavalent Chromium</b>						
Chromium, Hexavalent	lb/ton	5.05E-07	4.80E-07	ND <sup>b</sup> 1.79E-07	3.88E-07	3.58E-07
<b>CARB Method 436 &amp; 101</b>						
Arsenic, As	lb/ton	6.99E-05	3.77E-05	1.11E-05	3.96E-05	3.96E-05
Beryllium, Be	lb/ton	ND 1.52E-06	ND 1.57E-06	ND 1.39E-06	< 1.49E-06	< 1.49E-06
Cadmium, Cd	lb/ton	5.47E-06	6.28E-06	2.11E-06	4.62E-06	4.62E-06
Copper, Cu	lb/ton	1.25E-05	1.04E-05	1.03E-05	1.10E-05	1.10E-05
Lead, Pb	lb/ton	B 5.29E-05	B 1.92E-05	B 4.55E-05	3.92E-05	3.92E-05
Manganese, Mn	lb/ton	3.04E-06	3.45E-06	3.05E-06	3.18E-06	3.18E-06
Mercury, Hg ***	lb/ton	ND 1.04E-04	ND 8.93E-05	1.31E-04	1.08E-04	7.59E-05
Nickel, Ni	lb/ton	1.15E-05	6.91E-06	1.17E-05	1.00E-05	1.00E-05
Selenium, Se	lb/ton	1.03E-04	2.01E-04	2.67E-05	1.10E-04	1.10E-04
Zinc, Zn	lb/ton	8.81E-05	2.010E-04	6.94E-05	1.20E-04	1.20E-04

PROPRIETARY AND CONFIDENTIAL

Not to be disclosed to third parties



TABLE 3-4. EMISSION FACTORS, WESP STACK (revised 8 May 2009)

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 5-24 Nov. 2008, 12-13 Mar. 2009

TEST DATA	units	Emission Factors, Ef			Average (MEAN)	Average (HRA)
		Run 1	Run 2	Run 3		
<b>CARB Method 429 - PAHs</b>						
Napthalene	lb/ton	B 1.121E-04	B 2.086E-04	B 5.14E-05	1.24E-04	1.24E-04
Methylnaphthalene, 2-	lb/ton	1.500E-05	2.036E-05	6.71E-06	1.40E-05	1.40E-05
Acenaphthylene	lb/ton	9.03E-07	1.112E-06	4.67E-07	8.27E-07	8.27E-07
Acenaphthene	lb/ton	3.74E-07	4.22E-07	2.27E-07	3.41E-07	3.41E-07
Fluorene	lb/ton	2.248E-06	1.951E-06	9.35E-07	1.71E-06	1.71E-06
Phenanthrene	lb/ton	5.51E-05	1.279E-04	4.98E-05	7.76E-05	7.76E-05
Anthracene	lb/ton	1.155E-06	1.954E-06	6.40E-07	1.25E-06	1.25E-06
Fluoranthene	lb/ton	1.009E-05	1.012E-05	9.51E-06	9.91E-06	9.91E-06
Pyrene	lb/ton	9.28E-06	6.34E-06	4.95E-06	6.85E-06	6.85E-06
Benzo(a)anthracene	lb/ton	4.39E-08	2.51E-08	4.48E-08	3.79E-08	3.79E-08
Chrysene	lb/ton	1.91E-06	1.35E-06	1.54E-06	1.60E-06	1.60E-06
Benzo(b)fluoranthene	lb/ton	4.92E-08	ND 2.32E-08	ND 2.58E-08	3.27E-08	2.46E-08
Benzo(k)fluoranthene	lb/ton	ND 1.871E-08	ND 4.43E-09	ND 5.61E-09	< 9.58E-09	< 9.58E-09
Benzo(e)pyrene	lb/ton	5.70E-08	ND 2.68E-08	ND 1.56E-08	3.31E-08	2.61E-08
Benzo(a)pyrene, BaP	lb/ton	3.767E-08	ND 1.156E-08	ND 3.16E-09	1.75E-08	1.50E-08
Perylene	lb/ton	ND 2.431E-08	ND 5.43E-09	ND 9.07E-09	< 1.29E-08	< 1.29E-08
Indenopyrene	lb/ton	3.269E-08	ND 1.232E-08	ND 9.26E-09	1.81E-08	1.45E-08
Dibenz(a,h)anthracene	lb/ton	ND 3.069E-08	ND 5.98E-09	ND 1.061E-08	< 1.58E-08	< 1.58E-08
Benzo(g,i,h)perylene	lb/ton	8.16E-08	3.02E-08	ND 1.40E-08	4.19E-08	3.96E-08
<b>CARB Method 428 - PCBs</b>						
Total PCBs, as monoCB						
Emission Factor	lb/ton	1.25E-05	1.59E-05	3.89E-06	1.08E-05	1.08E-05
<b>CARB Method 428 - PCDD/PCDF</b>						
TCDD, 2,3,7,8-	lb/ton	ND 5.81E-12	6.30E-12	ND 4.46E-12	5.52E-12	3.81E-12
PeCDD, 1,2,3,7,8-	lb/ton	ND 6.32E-12	ND 7.24E-12	ND 9.99E-12	< 7.85E-12	< 7.85E-12
HxCDD, 1,2,3,4,7,8-	lb/ton	ND 7.33E-12	ND 9.80E-12	ND 8.26E-12	< 8.46E-12	< 8.46E-12
HxCDD, 1,2,3,6,7,8-	lb/ton	ND 7.55E-12	ND 1.01E-11	ND 8.50E-12	< 8.71E-12	< 8.71E-12
HxCDD, 1,2,3,7,8,9-	lb/ton	ND 7.30E-12	ND 9.77E-12	ND 8.22E-12	< 8.43E-12	< 8.43E-12
HpCDD, 1,2,3,4,6,7,8,-	lb/ton	ND 1.25E-11	ND 1.02E-11	ND 8.23E-12	< 1.03E-11	< 1.03E-11
OCDD	lb/ton	ND 1.59E-11	ND 2.22E-11	2.07E-11	1.96E-11	1.32E-11
TCDF, 2,3,7,8-	lb/ton	3.73E-10	3.87E-10	2.95E-10	3.51E-10	3.51E-10
PeCDF, 1,2,3,7,8-	lb/ton	4.45E-11	4.27E-11	3.38E-11	4.03E-11	4.03E-11
PeCDF, 2,3,4,7,8-	lb/ton	3.96E-11	3.35E-11	2.96E-11	3.42E-11	3.42E-11
HxCDF, 1,2,3,4,7,8-	lb/ton	ND 6.89E-12	9.68E-12	ND 4.18E-12	6.92E-12	5.07E-12
HxCDF, 1,2,3,6,7,8-	lb/ton	6.58E-12	ND 3.94E-12	ND 2.98E-12	4.50E-12	3.35E-12
HxCDF, 2,3,4,6,7,8-	lb/ton	ND 2.77E-12	ND 4.27E-12	ND 3.21E-12	< 3.41E-12	< 3.41E-12
HxCDF, 1,2,3,7,8,9-	lb/ton	ND 2.87E-12	ND 4.43E-12	ND 3.34E-12	< 3.55E-12	< 3.55E-12
HpCDF, 1,2,3,4,6,7,8-	lb/ton	ND 4.78E-12	ND 5.38E-12	ND 3.89E-12	< 4.69E-12	< 4.69E-12
HpCDF, 1,2,3,4,7,8,9-	lb/ton	ND 4.74E-12	ND 5.32E-12	ND 3.85E-12	< 4.64E-12	< 4.64E-12
OCDF	lb/ton	ND 6.89E-12	ND 1.14E-11	9.68E-12	9.32E-12	6.27E-12

PROPRIETARY AND CONFIDENTIAL

Not to be disclosed to third parties



TABLE 3-4. EMISSION FACTORS, WESP STACK (revised 8 May 2009)

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 5-24 Nov. 2008, 12-13 Mar. 2009

TEST DATA	units	Emission Factors, Ef						Average (MEAN)	Average (HRA)
		Run 1		Run 2		Run 3			
Run Number	-								
<u>EPA Method TO-14/15</u>									
Vinyl Chloride	lb/ton	ND	8.64E-05	ND	7.42E-05	ND	6.75E-05	< 7.60E-05	< 7.60E-05
1,1-Dichloroethene	lb/ton	ND	1.73E-04	ND	1.48E-04	ND	1.35E-04	< 1.52E-04	< 1.52E-04
Methylene Chloride	lb/ton	ND	1.73E-04	ND	1.48E-04	ND	1.35E-04	< 1.52E-04	< 1.52E-04
Chloroform	lb/ton	ND	1.73E-04	ND	1.48E-04	ND	1.35E-04	< 1.52E-04	< 1.52E-04
1,2-Dichloroethane	lb/ton	ND	1.73E-04	ND	1.48E-04	ND	1.35E-04	< 1.52E-04	< 1.52E-04
Benzene	lb/ton		1.09E-03	ND	1.48E-04	ND	1.35E-04	4.57E-04	4.10E-04
Carbon Tetrachloride (CCl4)	lb/ton	ND	1.73E-04	ND	1.48E-04	ND	1.35E-04	< 1.52E-04	< 1.52E-04
Trichloroethene	lb/ton	ND	1.73E-04	ND	1.48E-04	ND	1.35E-04	< 1.52E-04	< 1.52E-04
Toluene	lb/ton		2.14E-02	ND	1.48E-04	ND	1.35E-04	7.24E-03	7.19E-03
1,1,2-Trichloroethane	lb/ton	ND	1.73E-04	ND	1.48E-04	ND	1.35E-04	< 1.52E-04	< 1.52E-04
Tetrachloroethene	lb/ton	ND	1.73E-04	ND	1.48E-04	ND	1.35E-04	< 1.52E-04	< 1.52E-04
1,2-Dibromoethane (EDB)	lb/ton	ND	1.73E-04	ND	1.48E-04	ND	1.35E-04	< 1.52E-04	< 1.52E-04
1,1,1,2-Tetrachloroethane	lb/ton	ND	1.73E-04	ND	1.48E-04	ND	1.35E-04	< 1.52E-04	< 1.52E-04
Chlorobenzene	lb/ton	ND	1.73E-04	ND	1.48E-04	ND	1.35E-04	< 1.52E-04	< 1.52E-04
Ethylbenzene	lb/ton		2.94E-04	ND	1.48E-04	ND	1.35E-04	1.92E-04	1.45E-04
m,p-Xylenes (mixture)	lb/ton		2.25E-04	ND	1.48E-04	ND	1.35E-04	1.69E-04	1.22E-04
Styrene	lb/ton		4.75E-04	ND	1.48E-04	ND	1.35E-04	2.53E-04	2.06E-04
o-Xylene	lb/ton	ND	1.73E-04	ND	1.48E-04	ND	1.35E-04	< 1.52E-04	< 1.52E-04
1,4-Dichlorobenzene (para-)	lb/ton	ND	2.59E-04	ND	2.22E-04	ND	2.03E-04	< 2.28E-04	< 2.28E-04
<u>VOCs, misc.</u>									
<u>1,3-Butadiene</u>									
Emission Factor	lb/ton	ND	1.73E-04	ND	1.48E-04	ND	1.35E-04	< 1.52E-04	< 1.52E-04
<u>1,4-Dioxane</u>									
Emission Factor	lb/ton	ND	1.73E-04	ND	1.48E-04	ND	1.35E-04	< 1.52E-04	< 1.52E-04

\* Performed during isokinetic sampling (e.g. CARB Method 425, 428, 429, 436, sCAQMD Methods, etc.).

Average: (MEAN) = arithmetic mean; (HRA) = calculated per AB2588 Criteria (see Test Protocol).

B - Blank-corrected value.

ND or "<" - None detected, RL is reported.

NDb - Blank-corrected result is less than RL. RL is substituted.

(1) Per SCAQMD Guidance for Method 25.3, use greater value if RPD exceeds 20%.

PM10 Data from test conducted in Nov.2008 (not blank-corrected); Test results for Mar.2009 pending STE approval.

Privileged & Confidential - Do Not Disclose to Third Parties

PROPRIETARY AND CONFIDENTIAL

Not to be disclosed to third parties

5/11/09 2:21 PM



**South Coast Air Quality Management District**  
 21865 Copley Drive, Diamond Bar, CA 91765-4182  
 (909) 396-2000 • www.aqmd.gov

## HEALTH RISK ASSESSMENT SUMMARY FORM

(Required in Executive Summary of HRA)

Facility Name : \_\_\_\_\_  
 Facility Address: \_\_\_\_\_  
 \_\_\_\_\_  
 Type of Business: \_\_\_\_\_  
 SCAQMD ID No.: \_\_\_\_\_

### A. Cancer Risk

*(One in a million means one chance in a million of getting cancer from being constantly exposed to a certain level of a chemical over 70 years)*

1. Inventory Reporting Year : \_\_\_\_\_
2. Maximum Cancer Risk to Receptors :
  - a. Offsite \_\_\_\_\_ in a million    Location: \_\_\_\_\_
  - b. Residence \_\_\_\_\_ in a million    Location: \_\_\_\_\_
  - c. Worker \_\_\_\_\_ in a million    Location: \_\_\_\_\_
3. Substances Accounting for 90% of Cancer Risk: \_\_\_\_\_  
 Processes Accounting for 90% of Cancer Risk: \_\_\_\_\_
4. Estimated Population Exposed to Specific Risk Levels
  - a. 1 to <10 in a million    \_\_\_\_\_
  - b. 10 to <100 in a million    \_\_\_\_\_
  - c. 100 to <1000 in a million    \_\_\_\_\_
  - d. >=1000 in a million    \_\_\_\_\_
  - e. Total >= 1 in a million    \_\_\_\_\_
5. Cancer Burden: \_\_\_\_\_  
 Cancer Burden = (cancer risk) x (no. of people exposed to specific cancer risk)
6. Maximum Distance to Edge of  $1 \times 10^{-6}$  Cancer Risk Isopleth (meters) \_\_\_\_\_

### B. Hazard Indices

*[Long Term Effects(chronic) and Short Term Effects (acute)]*

*(non-carcinogenic impacts are estimated by comparing calculated concentration to identified reference exposure levels, and expressing this comparison in terms of a "Hazard Index")*

1. Maximum Chronic Hazard Indices:
  - a. Residence HI: \_\_\_\_\_ Location: \_\_\_\_\_ toxicological endpoint: \_\_\_\_\_
  - b. Worker HI : \_\_\_\_\_ Location: \_\_\_\_\_ toxicological endpoint: \_\_\_\_\_
2. Substances Accounting for 90% of Chronic Hazard Index: \_\_\_\_\_
3. Maximum Acute Hazard Index:
 

PMI: \_\_\_\_\_ Location: \_\_\_\_\_ toxicological endpoint: \_\_\_\_\_
4. Substances Accounting for 90% of Acute Hazard Index: \_\_\_\_\_

<b>Attachment B1 - List of Compounds Evaluated</b>			
<b>CHEM</b>	<b>CAS</b>	<b>Abbreviation</b>	<b>Pollutant Name</b>
0001	7439921	Lead	Lead
0002	7782492	Selenium	Selenium
0003	50000	Formaldehyde	Formaldehyde
0004	50328	B[a]P	Benzo[a]pyrene
0005	56235	CCl4	Carbon tetrachloride
0006	56553	B[a]anthracene	Benz[a]anthracene
0007	67663	Chloroform	Chloroform
0008	71432	Benzene	Benzene
0009	75014	Vinyl Chloride	Vinyl chloride
0010	75070	Acetaldehyde	Acetaldehyde
0011	75092	Methylene Chlor	Methylene chloride {Dichloromethane}
0012	75354	Vinylid Chlorid	Vinylidene chloride
0013	79016	TCE	Trichloroethylene
0014	91203	Naphthalene	Naphthalene
0015	100414	Ethyl Benzene	Ethyl benzene
0016	100425	Styrene	Styrene
0017	106990	1,3-Butadiene	1,3-Butadiene
0018	108883	Toluene	Toluene
0019	108907	Chlorobenzn	Chlorobenzene
0020	123911	1,4-Dioxane	1,4-Dioxane
0021	127184	Perc	Perchloroethylene {Tetrachloroethene}
0022	1330207	Xylenes	Xylenes (mixed)
0023	1336363	PCBs	PCBs {Polychlorinated biphenyls}
0024	1746016	2,3,7,8-TCDD	2,3,7,8-Tetrachlorodibenzo-p-dioxin
0025	7439965	Manganese	Manganese
0026	7439976	Mercury	Mercury
0027	7440020	Nickel	Nickel
0028	7440382	Arsenic	Arsenic
0029	115071	Propylene	Propylene
0030	120821	1,2,4TriClBenz	1,2,4-Trichlorobenzene
0031	7440417	Beryllium	Beryllium
0032	7440439	Cadmium	Cadmium
0033	7440508	Copper	Copper
0034	7440666	Zinc	Zinc
0035	7783064	H2S	Hydrogen sulfide
0036	18540299	Cr(VI)	Chromium, hexavalent (& compounds)
0037	40321764	1-3,7,8PeCDD	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
0038	51207319	2,3,7,8-TCDF	2,3,7,8-Tetrachlorodibenzofuran
0039	57117314	2-4,7,8PeCDF	2,3,4,7,8-Pentachlorodibenzofuran
0040	57117416	1-3,7,8PeCDF	1,2,3,7,8-Pentachlorodibenzofuran
0041	74839	Methyl Bromide	Methyl bromide {Bromomethane}
0042	91576	2MeNaphthalene	2-Methyl naphthalene
0043	208968	Acenaphthylene	Acenaphthylene
0044	83329	Acenaphthene	Acenaphthene

<b>Attachment B1 - List of Compounds Evaluated</b>			
<b>CHEM</b>	<b>CAS</b>	<b>Abbreviation</b>	<b>Pollutant Name</b>
0045	86737	Fluorene	Fluorene
0046	85018	Phenanthrene	Phenanthrene
0047	120127	Anthracene	Anthracene
0048	206440	Fluoranthene	Fluoranthene
0049	129000	Pyrene	Pyrene
0050	218019	Chrysene	Chrysene
0051	205992	B[b]fluoranthen	Benzo[b]fluoranthene
0052	207089	B[k]fluoranthen	Benzo[k]fluoranthene
0053	192972	B[e]pyrene	Benzo[e]pyrene
0054	198550	Perylene	Perylene
0055	193395	In[1,2,3-cd]pyr	Indeno[1,2,3-cd]pyrene
0056	53703	D[a,h]anthracen	Dibenz[a,h]anthracene
0057	191242	B[g,h,i]perylen	Benzo[g,h,i]perylene
0058	39227286	1-4,7,8HxCDD	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
0059	57653857	1-3,6-8HxCDD	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
0060	19408743	1-3,7-9HxCDD	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
0061	35822469	1-4,6-8HpCDD	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
0062	3268879	1-8OctaCDD	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-
0063	70648269	1-4,7,8HxCDF	1,2,3,4,7,8-Hexachlorodibenzofuran
0064	57117449	1-3,6-8HxCDF	1,2,3,6,7,8-Hexachlorodibenzofuran
0065	60851345	2-4,6-8HxCDF	2,3,4,6,7,8-Hexachlorodibenzofuran
0066	72918219	1-3,7-9HxCDF	1,2,3,7,8,9-Hexachlorodibenzofuran
0067	67562394	1-4,6-8HpCDF	1,2,3,4,6,7,8-Heptachlorodibenzofuran
0068	55673897	1-4,7-9HpCDF	1,2,3,4,7,8,9-Heptachlorodibenzofuran
0069	39001020	1-8OctaCDF	1,2,3,4,6,7,8,9-Octachlorodibenzofuran
0070	107062	EDC	Ethylene dichloride {EDC}
0071	79005	1,1,2TriClEthan	1,1,2-Trichloroethane
0072	106934	EDB	Ethylene dibromide {EDB}
0073	79345	TetraClEthane	1,1,2,2-Tetrachloroethane
0074	106467	p-DiClBenzene	p-Dichlorobenzene
0075	95476	o-Xylene	o-Xylene
0076	74873	Methyl Chloride	Methyl chloride {Chloromethane}
0077	75003	Ethyl Chloride	Ethyl chloride {Chloroethane}
0078	25321226	DiClBenzenes	Dichlorobenzenes (mixed isomers)
0079	75694	TriClFluorMetha	Trichlorofluoromethane {Freon 11}
0080	76131	CFC-113	Chlorinated Fluorocarbon {CFC-113} {1,1,2-Trichloro-1,2,2-trifluoroethane}
0081	78875	1,2-DiClPropane	1,2-Dichloropropane
0082	107028	Acrolein	Acrolein
0083	1151	PAHs-w/o	PAHs, total, w/o individ. components reported [Treated as B(a)P for HRA]
0084	7440224	Silver	Silver
0085	7440360	Antimony	Antimony

## Attachment B2 - Emission Rates in Pounds Per Hour By Source

CHEM	CAS	Abbreviation	Pollutant Name	WESP Stack	Refinery Comb. Stack	Busch Unit A	Busch Unit B	Busch Unit C	Busch Unit D	Busch Unit E	Busch Unit F	Busch Unit G	Busch Unit H	Busch Unit I	Total
0001	7439921	Lead	Lead	1.090E-03		8.009E-04	3.360E-04	2.560E-04	5.662E-03	9.260E-04	1.940E-03	1.475E-02	3.520E-04	8.167E-03	3.428E-02
0002	7782492	Selenium	Selenium	2.930E-03		0.000E+00	0.000E+00	1.030E-05	0.000E+00	1.790E-05	9.940E-06	7.660E-05	4.550E-05	0.000E+00	3.090E-03
0003	50000	Formaldehyde	Formaldehyde	1.170E-01	4.801E-04										1.175E-01
0004	50328	B[a]P	Benzo[a]pyrene	3.840E+02											3.840E+02
0005	56235	CCl4	Carbon tetrachloride	0.000E+00											0.000E+00
0006	56553	B[a]anthracene	Benz[a]anthracene	1.020E-06											1.020E-06
0007	67663	Chloroform	Chloroform	0.000E+00											0.000E+00
0008	71432	Benzene	Benzene	9.490E-03	2.259E-04										9.716E-03
0009	75014	Vinyl Chloride	Vinyl chloride	1.920E-03											1.920E-03
0010	75070	Acetaldehyde	Acetaldehyde	0.000E+00	1.216E-04										1.216E-04
0011	75092	Methylene Chlor	Methylene chloride {Dichloromethane}	3.830E-03											3.830E-03
0012	75354	Vinylid Chlorid	Vinylidene chloride	3.830E-03											3.830E-03
0013	79016	TCE	Trichloroethylene	0.000E+00											0.000E+00
0014	91203	Naphthalene	Naphthalene	3.300E-03	8.493E-06										3.308E-03
0015	100414	Ethyl Benzene	Ethyl benzene	3.480E-03											3.480E-03
0016	100425	Styrene	Styrene	4.860E-03											4.860E-03
0017	106990	1,3-Butadiene	1,3-Butadiene	3.830E-04											3.830E-04
0018	108883	Toluene	Toluene	1.630E-01	1.038E-03										1.640E-01
0019	108907	Chlorobenzn	Chlorobenzene	3.830E-03											3.830E-03
0020	123911	1,4-Dioxane	1,4-Dioxane	0.000E+00											0.000E+00
0021	127184	Perc	Perchloroethylene {Tetrachloroethene}	0.000E+00											0.000E+00
0022	1330207	Xylenes	Xylenes (mixed)	2.960E-03	7.715E-04										3.732E-03
0023	1336363	PCBs	PCBs {Polychlorinated biphenyls}	2.860E-04											2.860E-04
0024	1746016	2,3,7,8-TCDD	2,3,7,8-Tetrachlorodibenzo-p-dioxin	1.030E+02											1.030E+02
0025	7439965	Manganese	Manganese	8.720E-05		5.971E-05	1.673E-04	9.210E-06	4.900E-05	5.210E-05	8.210E-06	8.564E-05	1.820E-05	3.180E-04	8.546E-04
0026	7439976	Mercury	Mercury	2.250E-03		2.387E-07	2.387E-07	2.387E-07	2.387E-07	2.387E-07	3.140E-06	2.387E-07	2.387E-07	2.387E-07	2.255E-03
0027	7440020	Nickel	Nickel	2.780E-04		3.259E-04	2.157E-04	1.680E-04	2.038E-04	1.810E-04	1.580E-05	1.546E-04	7.760E-05	2.656E-04	1.886E-03
0028	7440382	Arsenic	Arsenic	1.060E-03		6.748E-06	0.000E+00	1.360E-05	4.789E-06	2.070E-05	8.350E-06	2.641E-05	1.140E-05	8.723E-06	1.161E-03
0029	115071	Propylene	Propylene	7.722E-03	2.065E-02										2.837E-02
0030	120821	1,2,4TriClBenz	1,2,4-Trichlorobenzene	5.170E-03											5.170E-03
0031	7440417	Beryllium	Beryllium	4.090E-05		0.000E+00	0.000E+00	1.350E-06	0.000E+00	2.440E-06	1.660E-06	0.000E+00	9.860E-07	0.000E+00	4.734E-05
0032	7440439	Cadmium	Cadmium	1.240E-04		6.169E-06	2.109E-05	9.340E-06	9.119E-06	5.210E-06	1.380E-05	1.300E-04	1.720E-05	3.481E-04	6.841E-04
0033	7440508	Copper	Copper	3.020E-04		1.340E-04	2.403E-04	6.140E-05	2.522E-04	3.310E-05	1.070E-04	3.989E-04	4.560E-04	2.934E-04	2.278E-03
0034	7440666	Zinc	Zinc	3.210E-03		2.672E-03	5.559E-03	2.450E-04	4.147E-03	4.790E-04	4.370E-04	6.042E-03	1.810E-04	5.448E-03	2.842E-02
0035	7783064	H2S	Hydrogen sulfide	7.910E-02		1.110E-05	1.110E-05	1.110E-05	1.110E-05	1.110E-05	1.110E-05	1.110E-05	1.110E-05	1.110E-05	7.920E-02
0036	1.9E+07	Cr(VI)	Chromium, hexavalent (& compounds)	9.610E-06		2.236E-07	1.848E-07	1.277E-07	7.533E-07	1.031E-06	1.189E-07	1.951E-06	3.822E-07	1.078E-06	1.546E-05
0037	4E+07	1-3,7,8PeCDD	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	0.000E+00											0.000E+00
0038	5.1E+07	2,3,7,8-TCDF	2,3,7,8-Tetrachlorodibenzofuran	9.540E+02											9.540E+02
0039	5.7E+07	2-4,7,8PeCDF	2,3,4,7,8-Pentachlorodibenzofuran	9.290E+02											9.290E+02
0040	5.7E+07	1-3,7,8PeCDF	1,2,3,7,8-Pentachlorodibenzofuran	1.090E+02											1.090E+02
0041	74839	Methyl Bromide	Methyl bromide {Bromomethane}	6.900E-03											6.900E-03
0042	91576	2MeNaphthalene	2-Methyl naphthalene	3.720E-04											3.720E-04
0043	208968	Acenaphthylene	Acenaphthylene	2.200E-05											2.200E-05
0044	83329	Acenaphthene	Acenaphthene	9.090E-06											9.090E-06
0045	86737	Fluorene	Fluorene	4.530E-05											4.530E-05

**Attachment B2 - Emission Rates in Pounds Per Hour By Source**

CHEM	CAS	Abbreviation	Pollutant Name	WESP Stack	Refinery Comb. Stack	Busch Unit A	Busch Unit B	Busch Unit C	Busch Unit D	Busch Unit E	Busch Unit F	Busch Unit G	Busch Unit H	Busch Unit I	Total
0046	85018	Phenanthrene	Phenanthrene	2.080E-04											2.080E-04
0047	120127	Anthracene	Anthracene	3.330E-05											3.330E-05
0048	206440	Fluoranthene	Fluoranthene	2.660E-04											2.660E-04
0049	129000	Pyrene	Pyrene	1.820E-04											1.820E-04
0050	218019	Chrysene	Chrysene	4.280E-05											4.280E-05
0051	205992	B[b]fluoranthen	Benzo[b]fluoranthene	6.410E+02											6.410E+02
0052	207089	B[k]fluoranthen	Benzo[k]fluoranthene	0.000E+00											0.000E+00
0053	192972	B[e]pyrene	Benzo[e]pyrene	6.750E+02											6.750E+02
0054	198550	Perylene	Perylene	3.400E-07											3.400E-07
0055	193395	In[1,2,3-cd]pyr	Indeno[1,2,3-cd]pyrene	3.750E+02											3.750E+02
0056	53703	D[a,h]anthracen	Dibenz[a,h]anthracene	0.000E+00											0.000E+00
0057	191242	B[g,h,i]perylene	Benzo[g,h,i]perylene	1.020E-06											1.020E-06
0058	3.9E+07	1-4,7,8HxCDD	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.000E+00											0.000E+00
0059	5.8E+07	1-3,6-8HxCDD	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.000E+00											0.000E+00
0060	1.9E+07	1-3,7-9HxCDD	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.000E+00											0.000E+00
0061	3.6E+07	1-4,6-8HpCDD	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.000E+00											0.000E+00
0062	3268879	1-8OctaCDD	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3.720E+02											3.720E+02
0063	7.1E+07	1-4,7,8HxCDF	1,2,3,4,7,8-Hexachlorodibenzofuran	1.360E+02											1.360E+02
0064	5.7E+07	1-3,6-8HxCDF	1,2,3,6,7,8-Hexachlorodibenzofuran	8.800E+01											8.800E+01
0065	6.1E+07	2-4,6-8HxCDF	2,3,4,6,7,8-Hexachlorodibenzofuran	0.000E+00											0.000E+00
0066	7.3E+07	1-3,7-9HxCDF	1,2,3,7,8,9-Hexachlorodibenzofuran	0.000E+00											0.000E+00
0067	6.8E+07	1-4,6-8HpCDF	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.000E+00											0.000E+00
0068	5.6E+07	1-4,7-9HpCDF	1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.000E+00											0.000E+00
0069	3.9E+07	1-8OctaCDF	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	1.760E+02											1.760E+02
0070	107062	EDC	Ethylene dichloride {EDC}	0.000E+00											0.000E+00
0071	79005	1,1,2TriClEthane	1,1,2-Trichloroethane	0.000E+00											0.000E+00
0072	106934	EDB	Ethylene dibromide {EDB}	0.000E+00											0.000E+00
0073	79345	TetraClEthane	1,1,2,2-Tetrachloroethane	0.000E+00											0.000E+00
0074	106467	p-DiClBenzene	p-Dichlorobenzene	0.000E+00											0.000E+00
0075	95476	o-Xylene	o-Xylene	3.830E-03											3.830E-03
0076	74873	Methyl Chloride	Methyl chloride {Chloromethane}	3.450E-03											3.450E-03
0077	75003	Ethyl Chloride	Ethyl chloride {Chloroethane}	5.170E-03											5.170E-03
0078	2.5E+07	DiClBenzenes	Dichlorobenzenes (mixed isomers)	1.550E-02											1.550E-02
0079	75694	TriClFluorMetha	Trichlorofluoromethane {Freon 11}	3.450E-03											3.450E-03
0080	76131	CFC-113	Chlorinated Fluorocarbon {CFC-113} {1,1,2-Trichloro-1,2,2-trifluoroethane}	5.170E-03											5.170E-03
0081	78875	1,2-DiClPropane	1,2-Dichloropropane	3.450E-03											3.450E-03
0082	107028	Acrolein	Acrolein	4.600E-02	7.600E-05										4.608E-02
0083	1151	PAHs-w/o	PAHs, total, w/o individ. components reported [Treated as B(a)P for HRA]	0.000E+00	2.825E-06										2.825E-06
0084	7440224	Silver	Silver	0.000E+00		0.000E+00	0.000E+00	2.060E-06	0.000E+00	1.960E-04	3.200E-06	0.000E+00	1.970E-06	0.000E+00	2.032E-04
0085	7440360	Antimony	Antimony	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.880E-06	0.000E+00	3.880E-06



**Attachment B3 - Emission Rates in Pounds Per Year By Source**

CHEM	CAS	Abbreviation	Pollutant Name	WESP Stack	Refinery Comb. Stack	Busch Unit A	Busch Unit B	Busch Unit C	Busch Unit D	Busch Unit E	Busch Unit F	Busch Unit G	Busch Unit H	Busch Unit I	Total
0001	7439921	Lead	Lead	8.585E+00		7.016E+00	2.943E+00	2.243E+00	4.960E+01	8.112E+00	1.699E+01	1.292E+02	3.084E+00	7.155E+01	2.993E+02
0002	7782492	Selenium	Selenium	2.409E+01		0.000E+00	0.000E+00	9.023E-02	0.000E+00	1.568E-01	8.707E-02	6.710E-01	3.986E-01	0.000E+00	2.549E+01
0003	50000	Formaldehyde	Formaldehyde	9.154E+02	4.206E+00										9.196E+02
0004	50328	B[a]P	Benzo[a]pyrene	3.300E-03											3.300E-03
0005	56235	CCl4	Carbon tetrachloride	0.000E+00											0.000E+00
0006	56553	B[a]anthracene	Benz[a]anthracene	8.300E-03											8.300E-03
0007	67663	Chloroform	Chloroform	0.000E+00											0.000E+00
0008	71432	Benzene	Benzene	8.979E+01	1.979E+00										9.177E+01
0009	75014	Vinyl Chloride	Vinyl chloride	1.664E+01											1.664E+01
0010	75070	Acetaldehyde	Acetaldehyde	0.000E+00	1.065E+00										1.065E+00
0011	75092	Methylene Chlor	Methylene chloride {Dichloromethane}	3.329E+01											3.329E+01
0012	75354	Vinylid Chlorid	Vinylidene chloride	3.329E+01											3.329E+01
0013	79016	TCE	Trichloroethylene	0.000E+00											0.000E+00
0014	91203	Naphthalene	Naphthalene	2.716E+01	7.400E-02										2.723E+01
0015	100414	Ethyl Benzene	Ethyl benzene	3.176E+01											3.176E+01
0016	100425	Styrene	Styrene	4.511E+01											4.511E+01
0017	106990	1,3-Butadiene	1,3-Butadiene	3.329E+00											3.329E+00
0018	108883	Toluene	Toluene	1.575E+03	9.093E+00										1.584E+03
0019	108907	Chlorobenzn	Chlorobenzene	3.329E+01											3.329E+01
0020	123911	1,4-Dioxane	1,4-Dioxane	0.000E+00											0.000E+00
0021	127184	Perc	Perchloroethylene {Tetrachloroethene}	0.000E+00											0.000E+00
0022	1330207	Xylenes	Xylenes (mixed)	2.672E+01	6.759E+00										3.348E+01
0023	1336363	PCBs	PCBs {Polychlorinated biphenyls}	2.365E+00											2.365E+00
0024	1746016	2,3,7,8-TCDD	2,3,7,8-Tetrachlorodibenzo-p-dioxin	8.344E-07											8.344E-07
0025	7439965	Manganese	Manganese	6.964E-01		5.231E-01	1.466E+00	8.068E-02	4.293E-01	4.564E-01	7.192E-02	7.502E-01	1.594E-01	2.785E+00	7.418E+00
0026	7439976	Mercury	Mercury	1.662E+01		2.091E-03	2.091E-03	2.091E-03	2.091E-03	2.091E-03	2.751E-02	2.091E-03	2.091E-03	2.091E-03	1.667E+01
0027	7440020	Nickel	Nickel	2.190E+00		2.855E+00	1.889E+00	1.472E+00	1.785E+00	1.586E+00	1.384E-01	1.355E+00	6.798E-01	2.327E+00	1.628E+01
0028	7440382	Arsenic	Arsenic	8.672E+00		5.911E-02	0.000E+00	1.191E-01	4.196E-02	1.813E-01	7.315E-02	2.313E-01	9.986E-02	7.641E-02	9.555E+00
0029	115071	Propylene	Propylene	6.765E+01	1.809E+02										2.485E+02
0030	120821	1,2,4TriClBenz	1,2,4-Trichlorobenzene	4.529E+01											4.529E+01
0031	7440417	Beryllium	Beryllium	3.263E-01		0.000E+00	0.000E+00	1.183E-02	0.000E+00	2.137E-02	1.454E-02	0.000E+00	8.637E-03	0.000E+00	3.827E-01
0032	7440439	Cadmium	Cadmium	1.012E+00		5.404E-02	1.848E-01	8.182E-02	7.988E-02	4.564E-02	1.209E-01	1.139E+00	1.507E-01	3.049E+00	5.918E+00
0033	7440508	Copper	Copper	2.409E+00		1.174E+00	2.105E+00	5.379E-01	2.209E+00	2.900E-01	9.373E-01	3.494E+00	3.995E+00	2.570E+00	1.972E+01
0034	7440666	Zinc	Zinc	2.628E+01		2.341E+01	4.869E+01	2.146E+00	3.633E+01	4.196E+00	3.828E+00	5.293E+01	1.586E+00	4.772E+01	2.471E+02
0035	7783064	H2S	Hydrogen sulfide	7.074E+02		9.725E-02	9.725E-02	9.725E-02	9.725E-02	9.725E-02	9.725E-02	9.725E-02	9.725E-02	9.725E-02	7.082E+02
0036	1.9E+07	Cr(VI)	Chromium, hexavalent (& compounds)	7.840E-02		1.959E-03	1.619E-03	1.118E-03	6.599E-03	9.030E-03	1.042E-03	1.709E-02	3.348E-03	9.447E-03	1.296E-01
0037	4E+07	1-3,7,8PeCDD	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	0.000E+00											0.000E+00
0038	5.1E+07	2,3,7,8-TCDF	2,3,7,8-Tetrachlorodibenzofuran	7.687E-05											7.687E-05
0039	5.7E+07	2-4,7,8PeCDF	2,3,4,7,8-Pentachlorodibenzofuran	7.490E-06											7.490E-06
0040	5.7E+07	1-3,7,8PeCDF	1,2,3,7,8-Pentachlorodibenzofuran	8.826E-06											8.826E-06
0041	74839	Methyl Bromide	Methyl bromide {Bromomethane}	6.044E+01											6.044E+01
0042	91576	2MeNaphthalene	2-Methyl naphthalene	3.066E+00											3.066E+00
0043	208968	Acenaphthylene	Acenaphthylene	1.811E-01											1.811E-01
0044	83329	Acenaphthene	Acenaphthene	7.470E-02											7.470E-02
0045	86737	Fluorene	Fluorene	3.745E-01											3.745E-01

Attachment B3 - Emission Rates in Pounds Per Year By Source															
CHEM	CAS	Abbreviation	Pollutant Name	WESP Stack	Refinery Comb. Stack	Busch Unit A	Busch Unit B	Busch Unit C	Busch Unit D	Busch Unit E	Busch Unit F	Busch Unit G	Busch Unit H	Busch Unit I	Total
0046	85018	Phenanthrene	Phenanthrene	1.699E+01											1.699E+01
0047	120127	Anthracene	Anthracene	2.738E-01											2.738E-01
0048	206440	Fluoranthene	Fluoranthene	2.170E+00											2.170E+00
0049	129000	Pyrene	Pyrene	1.500E+00											1.500E+00
0050	218019	Chrysene	Chrysene	3.504E-01											3.504E-01
0051	205992	B[b]fluoranthen	Benzo[b]fluoranthene	5.400E-03											5.400E-03
0052	207089	B[k]fluoranthen	Benzo[k]fluoranthene	0.000E+00											0.000E+00
0053	192972	B[e]pyrene	Benzo[e]pyrene	5.700E-03											5.700E-03
0054	198550	Perylene	Perylene	2.800E-03											2.800E-03
0055	193395	In[1,2,3-cd]pyr	Indeno[1,2,3-cd]pyrene	3.200E-03											3.200E-03
0056	53703	D[a,h]anthracen	Dibenz[a,h]anthracene	0.000E+00											0.000E+00
0057	191242	B[g,h,i]perylene	Benzo[g,h,i]perylene	8.700E-03											8.700E-03
0058	3.9E+07	1-4,7,8HxCDD	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.000E+00											0.000E+00
0059	5.8E+07	1-3,6-8HxCDD	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.000E+00											0.000E+00
0060	1.9E+07	1-3,7-9HxCDD	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.000E+00											0.000E+00
0061	3.6E+07	1-4,6-8HpCDD	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.000E+00											0.000E+00
0062	3268879	1-8OctaCDD	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	2.891E-06											2.891E-06
0063	7.1E+07	1-4,7,8HxCDF	1,2,3,4,7,8-Hexachlorodibenzofuran	1.110E-06											1.110E-06
0064	5.7E+07	1-3,6-8HxCDF	1,2,3,6,7,8-Hexachlorodibenzofuran	7.337E-07											7.337E-07
0065	6.1E+07	2-4,6-8HxCDF	2,3,4,6,7,8-Hexachlorodibenzofuran	0.000E+00											0.000E+00
0066	7.3E+07	1-3,7-9HxCDF	1,2,3,7,8,9-Hexachlorodibenzofuran	0.000E+00											0.000E+00
0067	6.8E+07	1-4,6-8HpCDF	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.000E+00											0.000E+00
0068	5.6E+07	1-4,7-9HpCDF	1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.000E+00											0.000E+00
0069	3.9E+07	1-8OctaCDF	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	1.373E-06											1.373E-06
0070	107062	EDC	Ethylene dichloride {EDC}	0.000E+00											0.000E+00
0071	79005	1,1,2TriClEthane	1,1,2-Trichloroethane	0.000E+00											0.000E+00
0072	106934	EDB	Ethylene dibromide {EDB}	0.000E+00											0.000E+00
0073	79345	TetraClEthane	1,1,2,2-Tetrachloroethane	0.000E+00											0.000E+00
0074	106467	p-DiClBenzene	p-Dichlorobenzene	0.000E+00											0.000E+00
0075	95476	o-Xylene	o-Xylene	3.329E+01											3.329E+01
0076	74873	Methyl Chloride	Methyl chloride {Chloromethane}	3.022E+01											3.022E+01
0077	75003	Ethyl Chloride	Ethyl chloride {Chloroethane}	4.529E+01											4.529E+01
0078	2.5E+07	DiClBenzenes	Dichlorobenzenes (mixed isomers)	1.358E+02											1.358E+02
0079	75694	TriClFluorMetha	Trichlorofluoromethane {Freon 11}	3.022E+01											3.022E+01
0080	76131	CFC-113	Chlorinated Fluorocarbon {CFC-113} {1,1,2-Trichloro-1,2,2-trifluoroethane}	4.529E+01											4.529E+01
0081	78875	1,2-DiClPropane	1,2-Dichloropropane	3.022E+01											3.022E+01
0082	107028	Acrolein	Acrolein	4.030E+02	6.660E-01										4.036E+02
0083	1151	PAHs-w/o	PAHs, total, w/o individ. components reported [Treated as B(a)P for HRA]	0.000E+00	2.500E-02										2.500E-02
0084	7440224	Silver	Silver	0.000E+00		0.000E+00	0.000E+00	1.805E-02	0.000E+00	1.717E+00	2.803E-02	0.000E+00	1.726E-02	0.000E+00	1.780E+00
0085	7440360	Antimony	Antimony	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.399E-02	0.000E+00	3.399E-02

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**M E M O R A N D U M**

**DATE:** 7/21/09  
**TO:** Jay Chen  
**FROM:** Rudy Eden  
**SUBJECT:** Evaluation of Source Test Report:  
(Requested by Marco Polo, 5/15/09)

*AQMD ID:* *FACILITY ID NO.* **8547** *APPLICATION NO.:* **456811**  
*COMPANY:* **Quemetco, City of Industry**  
*EQUIPMENT:* **Wet Electrostatic Precipitator (WESP) (S159)**  
**Serving: Rotary Dryer; Reverberatory Furnace; Electric Arc  
Furnace; Refining Kettles**  
*TEST LOCATION:* **720 South 7th Street, City of Industry, CA 91746**  
*TEST DATE:* **March & June 2009**

**REFERENCE: PR09052** (STE Source Test File)

Source Test Engineering has completed the evaluation of the subject source test report and has concluded that it is:

**CONDITIONALLY ACCEPTABLE**

This evaluation classifies the testing project as conditionally acceptable due to re-testing that was conducted in June 2009 (original testing was in March 2009). Initial evaluation of the March data set revealed that the desired detection limits were not attained and that modifications to the sampling and analysis would be required to meet the project objectives. The June data set has been evaluated and approved as reported in the attached summary tables, additionally the complete test report is copied to both Engineering & Compliance (E&C) and Planning & Rules (P&R) as noted below.

The attached evaluation has not been forwarded to the facility or the source testing firm. It is the responsibility of the requestor to review the attached evaluation and forward it to the parties involved, if you concur with our findings. If there are any questions, please contact Scott A. Wilson at Ext. 2257.

RE:SM:SAW  
Attachment  
cc: Steve Marinoff  
Marco Polo w/e-report (CD ROM)  
Pierre Syip w/e-report (CD ROM)  
PR09052 : REV 8/20/07

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**  
**MONITORING & ANALYSIS DIVISION \* SOURCE TEST ENGINEERING BRANCH**

<b>SOURCE TEST REPORT EVALUATION</b>
--------------------------------------

*ST ID:* **PR09052**

*AQMD ID:* **FACILITY ID NO. 8547** *A/N:* **456811**

*COMPANY:* **Quemetco, City of Industry**

*EQUIPMENT:* **Wet Electrostatic Precipitator (WESP) (S159)**  
**Serving: Rotary Dryer; Reverberatory Furnace; Electric Arc Furnace; Refining Kettles**

*LOCATION:* **720 South 7th Street, City of Industry, CA 91746**

*REQUESTED BY:* **Marco Polo (Memo Dated 5/15/09)**

*TYPE OF TEST:* **PERFORMANCE/COMPLIANCE REPORT** *DOCUMENT DATE:* **7/20/09**

*REASON FOR TEST:* **(TESTING SUBJECT TO THE FOLLOWING RULE, PERMIT, OR SPECIFIED CONDITIONS):**  
**- REG XIII & AB2588**

*REQUESTED EVAL:* **PM & PM<sub>10</sub>; Multi Metals & PM<sub>10</sub> Multi Metals**

*TEST DATE:* **March & June 2009**

*TEST FIRM:* **EMC<sup>2</sup> Mike Fukuda (714) 227-3142**

*STE EVALUATOR:* **Scott A. Wilson EXT: 2257** *REVIEW DATE:* **7/21/09**

*EXPEDITED REVIEW:*  **YES**  **NO**

**OVERVIEW OF EVALUATION:**

<i>OVERALL CONFIDENCE IN REPORTED TEST RESULTS:</i>	<input type="checkbox"/> <b>ACCEPTABLE</b> <input checked="" type="checkbox"/> <b>CONDITIONALLY ACCEPTABLE</b> <input type="checkbox"/> <b>UNACCEPTABLE</b>
<i>RESTRICTIONS FOR USE OF REPORTED RESULTS:</i>	<ul style="list-style-type: none"> <li>Only the attached data from the June testing may be references for accurate emissions reporting, original March test results do not meet the project objectives.</li> </ul>
<i>COMPLIANCE DETERMINATION:</i>	<ul style="list-style-type: none"> <li>Results for all emissions, as reported from the June testing, are in compliance by an acceptable margin<sup>1</sup>, with the Rules/Permit Compliance Limits specified above.</li> </ul>

**(REFER TO NEXT SECTION FOR COMPLETE DISCUSSION OF TEST RESULTS AND CORRECTED EMISSION INFORMATION, IF APPLICABLE)**

<sup>1</sup> **NOTE:** STE assigns a 10% "margin of error" to most compliance limits when evaluating emissions for compliance determination. This is due to uncertainties assigned to source testing, in general, and errors associated with individual analytical procedures. As a result, some reported emissions may be judged as being in compliance although they appear to be non-compliant or marginally non-compliant. Similarly, non-compliance is judged using the same margin-of-error.

**SOURCE TEST REPORT EVALUATION****DETAILED REVIEW**

This source test report has been reviewed by the Evaluations Unit staff. The following specifically explains the restrictions concerning the treatment of the reported source test information:

- Equipment/Process/Test Overview
- Completeness of Application/Protocol/Report.
- Representativeness of Data & Process.
- Rule/Permit Fulfillment.
- Sampling & Analytical Methods.
- Quality Assurance
- Calculations.

**EQUIPMENT/PROCESS/TEST OVERVIEW**

- Testing in November 2008 indicated potential non-compliance with the REG XIII PM<sub>10</sub> emissions limit from the WESP stack. A specific test program was developed to further evaluate the particulate and metal emissions from this newly installed control equipment to determine the speciation of the particles emitted. This test program was implemented in March 2009, however during evaluation of the reported data it was determined that the desired detection limits had not been obtained. Additional testing with modifications to the sampling and analytical techniques would be required to accurately determine the speciated particulate emissions. This next round of testing was conducted in June 2009 and the summary tables are attached to this evaluation, additionally a complete electronic report is being supplied to both Engineering & Compliance (E&C) and Planning & Rules (P&R) divisions.

**COMPLETENESS OF REPORT**

- The data from the June testing summarized in the attached tables is supported by all required information included in it's entirety in the electronic report dated 7/19/09 on file in Source Test Engineering (STE), as well as the copies supplied to E&C and P&R.

**REPRESENTATIVENESS OF DATA & PROCESS**

- All process operating parameters required to be recorded during testing, as well as additional items covered in the e-mail dated 6/8/09 from Quemetco (Therese Cirone) to E&C (Marco Polo) are included in the report (dated 7/19/09).

**RULE/PERMIT FULFILLMENT**

Testing must satisfy the following Rule/Permit requirements:

- REG XIII & AB2588

All required testing has been performed and is properly formatted, except where noted in this evaluation.

**SOURCE TEST REPORT EVALUATION****SAMPLING & ANALYTICAL METHODS / RESULTS**

- All testing and analysis were performed according to approved AQMD methods and procedures approved by STE during the original protocol evaluation (STID # P09052) and subsequent modifications to sampling and analysis covered through e-mail correspondence (culminating in the 5/27/09 e-mail from EMC<sup>2</sup> [Mike Fukuda] to STE [Scott Wilson]).
- The major deviation of the June testing from the March testing was to omit the duplicate Method 5.2 sampling train where the “back half” was analyzed for metal salts and speciated organic compounds. This train was replaced by a traditional PM<sub>10</sub> sampling train (EPA M201A [constant sampling rate/cut cyclone]/AQMD M5.2 [back half analysis]), allowing for a comparison between total PM and PM<sub>10</sub> emissions.
- All sampling trains were extended to ten hour sampling run times to further decrease the detection limits to the levels required for this ultra low emission source. Triplicate runs were maintained to meet performance evaluation criteria and AB2588 standards for the multiple metals testing.
- It was desired during the original planning stages for this test program to determine the percent contribution of multi metals to the PM<sub>10</sub> fraction of the stack emissions. This was achieved by modifying the CARB M436 multiple metals method by incorporating an EPA M201A cut cyclone. Sample recovery and analysis of the back half followed M436 procedures, while the front half followed M201A recovery procedures. Due to the stainless steel cut cyclone, there is a high bias instilled into these results, specifically for Nickel. STE acknowledges that the actual PM<sub>10</sub> metals emissions may not be greater than the M436 metals emissions reported. Discussions with Quemetco indicate that the PM<sub>10</sub> metals emissions will not be proposed for any regulatory purposes, rather they are an indicator of Hazardous Air Pollutants (HAPS) vs. benign metal salts (calcium and sodium salts reported from the March testing) in the emissions stream.
- In addition to the modifications referenced above, the June test program incorporated the modification of using ultra pure reagents for both the particulate sampling (water) and the metals sampling (HNO<sub>3</sub> & H<sub>2</sub>O<sub>2</sub>) to reduce positive bias generated from the reagents that was noted in the March testing.

**QUALITY ASSURANCE**

- All reported testing results were well supported and documented with respect to raw data, calibrations, calculations, and lab analyses.

**CALCULATIONS**

- STE has verified that emission calculations were correctly implemented and accurately reported.



## Source Test Report

### Characterization of Total Particulate Matter, PM<sub>10</sub>, and Metals Emissions from the Wet Electrostatic Precipitator

Prepared for: Quemetco, Inc.  
720 South 7th Avenue  
Industry, CA 91746


Prepared for: The South Coast Air Quality Management District  
21865 E. Copley Drive  
Diamond Bar, CA 91765

Test Date(s): 9, 10, 12 June 2009

Report Date: 6 July 2009, updated 17 July 2009

Document No.: 9a07\_RPTr1.2                      VOLUME 1 – REPORT

Submitted by: EMCC LLC  
9531 Scotstoun Drive  
Huntington Beach, CA 92646

Prepared by:   
Mike Fukuda, Manager

**PROPRIETARY AND CONFIDENTIAL**

Not to be disclosed to third parties



TABLE 1-1. PROJECT SUMMARY

Company  Contact:	Quemetco, Inc. 720 S. 7th Avenue, City of Industry, CA 91746 Mr. Felipe Ortega, tel: (626) 330-2294 ext. 3204
Facility	(same)
Facility ID	SCAQMD ID Number 008547
Equipment Tested	Wet Electrostatic Precipitator or WESP (AN456811) that mitigates emissions from a Rotary Kiln (AN462562) also treated by Regenerative Thermal Oxidizer (AN460790), Reveratory Scrubber (AN456814), Electric Arc Furnace Scrubber (AN456815), process emissions from seven Refinery Kettles (various AN's).
Permit(s)	Wet Electrostatic Precipitator (AN456811), Rotary Kiln (AN462562), RTO (AN460790), Reveratory Scrubber (AN456814), Electric Arc Furnace Scrubber (AN456815), seven Refinery Kettles (various ANs).
Test Requested by	Mr. Felipe Ortega, tel: (626) 330-2294, of Quemetco, Inc.
Test Objective(s)	Characterize metals emissions with respect to PM <sub>10</sub> and condensable fractions in gas discharged from the WESP; and, measure total PM, PM <sub>10</sub> and condensable PM in WESP emissions.
Test Schedule	Tests performed on 9, 10, 12 June 2009.
Testing Firm  Contact:	GE Energy Management Services, Inc. 1831 E. Carnegie, Irvine, CA 92705 Contact: Mr. Robert Zimperman, tel: (949) 794-2662
Test Methodology*	SCAQMD Methods 1 through 4 – Stack Gas Parameters SCAQMD Method 5.2 – Total Particulate Matter US EPA Method 201A/SCAQMD Method 5.2 – PM <sub>10</sub> /Condensable PM CARB Method 436 – Metals (As, Be, Cd, Cu, Pb, Mn, Ni, Se, Zn, Ca, Na) US EPA Method 201A/CARB Method 436 – PM <sub>10</sub> /Condensable Metals
Test Coordination and Planning  Contact:	EMCC LLC 9531 Scotstoun Drive, Huntington Beach, CA 92646 Mr. Mike Fukuda, Manager, tel: (714) 227-3142
Regulatory Agency  Contact:	The South Coast Air Quality Management District 21865 E. Copley Drive, Diamond Bar, CA 91765 Mr. Thomas Liebel, tel: (909) 396-2554

\* per Table C-2.





**TABLE 1-2. SUMMARY OF RESULTS**

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 9, 10, 12 June 2009

TEST DATA	units	Average Result	units	Emission Factors, Ef	AB2588 Reporting Limit for HRA ++	
Run Number	-	(HRA)	-	(HRA)	ER(lb/hr)	Ef(lb/ton)
<b>Process Data/Rate</b>						
Rate for: Rev.Feed	ton/hr	29.36				
Refinery Production	total lbs	490,749				
EAF KW	kW	1,415				
Kiln Exhaust Temp.	°F	250				
Combustion Chamber Temp.	°F	1,648				
<b>Sampling Data*</b>						
Stack Temperature	°F	97.2				
Moisture	%	5.5				
Oxygen	% v/v	19.9				
Carbon Dioxide	% v/v	2.2				
Gas Velocity	ft/min	33.43				
Stack Flow Rate	wacfm	100,828				
Stack Flow Rate	dscfm	89,031				
<b>SCAQMD Method 5.x - Particulate Matter</b>						
<u>Total PM (+ Condensibles)</u>						
Concentration	mg/dscm	0.770				
Concentration	gr/dscf	3.37E-04				
Emission Rate	lb/hr	0.258	lb/ton	0.00886		
<u>Filterable Particulate - Front Half</u>						
Concentration	mg/dscm	0.104				
Concentration	gr/dscf	4.53E-05				
Emission Rate	lb/hr	0.0345				
<b>EPA Method 201A/202 - PM10 (adjusted)</b>						
<u>PM10 + Condensibles</u>						
Cyclone Cut Size	um	9.8				
Concentration	mg/dscm	0.678				
Concentration	gr/dscf	2.96E-04				
Emission Rate	lb/hr	0.226	lb/ton	0.00773		
<u>Filterable PM10</u>						
Concentration	mg/dscm	0.0820				
Concentration	gr/dscf	3.58e-5				
Emission Rate	lb/hr	0.0273				

**PROPRIETARY AND CONFIDENTIAL**

Not to be disclosed to third parties



**TABLE 1-2. SUMMARY OF RESULTS**

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 9, 10, 12 June 2009

TEST DATA	units	Average Result	units	Emission Factors, Ef	AB2588 Reporting Limit for HRA ++	
Run Number	-	(HRA)	-	(HRA)	ER(lb/hr)	Ef(lb/ton)
<b>CARB Method 436 (Total Metals)</b>						
<b>CONCENTRATION</b>						
Arsenic, As	ug/dscm	1.97				
Beryllium, Be	ug/dscm	< 0.0907				
Cadmium, Cd	ug/dscm	0.0616				
Copper, Cu	ug/dscm	< 0.363				
Lead, Pb	ug/dscm	0.334				
Manganese, Mn	ug/dscm	0.0848				
Nickel, Ni	ug/dscm	0.209				
Selenium, Se	ug/dscm	2.57				
Zinc, Zn	ug/dscm	1.67				
Calcium, Ca	ug/dscm	38.6				
Sodium, Na	ug/dscm	13.5				
<b>CARB Method 436 (Total Metals)</b>						
<b>EMISSION RATE</b>						
Arsenic, As	lb/hr	6.28E-04	lb/ton	2.08E-05	6.28E-04	2.08E-05
Beryllium, Be	lb/hr	< 2.92E-05	lb/ton	< 9.95E-07	2.92E-05	9.95E-07
Cadmium, Cd	lb/hr	1.96E-05	lb/ton	6.51E-07	1.96E-05	6.51E-07
Copper, Cu	lb/hr	< 1.17E-04	lb/ton	< 3.98E-06	none	
Lead, Pb	lb/hr	1.08E-04	lb/ton	3.69E-06	1.08E-04	3.69E-06
Manganese, Mn	lb/hr	2.70E-05	lb/ton	9.02E-07	none	
Nickel, Ni	lb/hr	6.68E-05	lb/ton	2.27E-06	6.68E-05	2.27E-06
Selenium, Se	lb/hr	8.17E-04	lb/ton	2.69E-05	none	
Zinc, Zn	lb/hr	5.38E-04	lb/ton	1.84E-05	none	
Calcium, Ca	lb/hr	0.0124	lb/ton	4.16E-04	none	
Sodium, Na	lb/hr	0.00433	lb/ton	1.45E-04	none	

**PROPRIETARY AND CONFIDENTIAL**

Not to be disclosed to third parties



**TABLE 1-2. SUMMARY OF RESULTS**

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 9, 10, 12 June 2009

TEST DATA	units	Average Result	units	Emission Factors, Ef	AB2588 Reporting Limit for HRA ++	
Run Number	-	(HRA)	-	(HRA)	ER(lb/hr)	Ef(lb/ton)
<b>PM10-Metals Speciation</b>						
Cyclone Cut Size	um	9.9				
<b>CONCENTRATION</b>						
Arsenic, As	ug/dscm	1.97				
Beryllium, Be	ug/dscm	< 0.160				
Cadmium, Cd	ug/dscm	0.146				
Copper, Cu	ug/dscm	1.222				
Lead, Pb	ug/dscm	0.448				
Manganese, Mn	ug/dscm	2.93				
Nickel, Ni	ug/dscm	0.962				
Selenium, Se	ug/dscm	3.28				
Zinc, Zn	ug/dscm	2.59				
Calcium, Ca	ug/dscm	75.6				
Sodium, Na	ug/dscm	43.2				
<b>PM10-Metals Speciation</b>						
<b>EMISSION RATE</b>						
Arsenic, As	lb/hr	6.28E-04				
Beryllium, Be	lb/hr	< 5.14E-05				
Cadmium, Cd	lb/hr	4.70E-05				
Copper, Cu	lb/hr	3.94E-04				
Lead, Pb	lb/hr	1.44E-04				
Manganese, Mn	lb/hr	9.48E-04				
Nickel, Ni	lb/hr	3.11E-04				
Selenium, Se	lb/hr	0.00105				
Zinc, Zn	lb/hr	8.33E-04				
Calcium, Ca	lb/hr	0.0242				
Sodium, Na	lb/hr	0.0139				

**PROPRIETARY AND CONFIDENTIAL**

Not to be disclosed to third parties



**TABLE 1-2. SUMMARY OF RESULTS**

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 9, 10, 12 June 2009

TEST DATA	units	Average Result	units	Emission Factors, Ef	AB2588 Reporting Limit for HRA ++	
Run Number	-	(HRA)	-	(HRA)	ER(lb/hr)	Ef(lb/ton)
<b>ANIONS &amp; CATIONS, etc.</b>		(3) prev.test		(3) prev.test		
Alkalinity (as CaCO3)						
Concentration	ug/dscm	680				
Emission Rate	lb/hr	0.238	lb/ton	0.00805		
Bicarbonate (as NaHCO3)						
Concentration	ug/dscm	1115				
Emission Rate	lb/hr	0.391	lb/ton	0.0132		
Chloride						
Concentration	ug/dscm	66.4				
Emission Rate	lb/hr	0.0225	lb/ton	7.73E-04		
Nitrate (as HNO3)						
Concentration	ug/dscm	258				
Emission Rate	lb/hr	0.0856	lb/ton	0.00292		
Sulfate (as H2SO4)						
Concentration	ug/dscm	226				
Emission Rate	lb/hr	0.0753	lb/ton	0.00258		

\* Performed during isokinetic sampling (e.g. CARB Method 425, 428, 429, 436, sCAQMD Methods, etc.).

Average: (MEAN) = arithmetic mean; (HRA) = calculated per AB2588 Criteria (see Test Protocol).

ND or "<" - None detected, RL is reported.

(1) - adj: Results adjusted to compensate for positive analytical bias (actual filter gain was negligible).

(3) - Anions & Cations, etc. as measured in previous tests (March 2009).

+++ Risk does not apply to "total" value because Risk calculated based on individual compounds.

++ Use zero (0) if all runs "ND" and estimated result < SCAQMD Rule 1402 Tier 2 MICR Limit.

**Privileged & Confidential - Do Not Disclose to Third Parties**

**PROPRIETARY AND CONFIDENTIAL**

Not to be disclosed to third parties



**TABLE 3-1. TEST RESULTS**

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 9, 10, 12 June 2009

TEST DATA	units	Test Results			Average (MEAN)
		Run 1	Run 2	Run 3	
Run Number	-				
<b>Process Data/Rate</b>		<u>9 Jun.2009</u>	<u>10 Jun.2009</u>	<u>12 Jun.2009</u>	
Rate for: Rev.Feed	ton/hr	30.83	29.13	28.13	<b>29.36</b>
Refinery Production	total lbs	605,452	591,209	275,586	<b>490,749</b>
EAF KW	kW	1,437	1,436	1,373	<b>1,415</b>
Kiln Exhaust Temp.	°F	245	251	253	<b>250</b>
Combustion Chamber Temp.	°F	1,637	1,650	1,655	<b>1,648</b>
<b>Sampling Data*</b>		<u>M5.2-R1</u>	<u>M5.2-R2</u>	<u>M5.2-R3</u>	
Stack Temperature	°F	96.9	97.2	97.6	<b>97.2</b>
Moisture	%	5.4	5.5	5.5	<b>5.5</b>
Oxygen	% v/v	19.9	19.9	19.9	<b>19.9</b>
Carbon Dioxide	% v/v	2.2	2.3	2.0	<b>2.2</b>
Gas Velocity	ft/min	33.1	33.0	34.2	<b>33.43</b>
Stack Flow Rate	wacfm	99,719	99,619	103,148	<b>100,828</b>
Stack Flow Rate	dscfm	88,162	87,986	90,947	<b>89,031</b>
<b>SCAQMD Method 5.x - Particulate Matter</b>		<u>M5.2-R1</u>	<u>M5.2-R2</u>	<u>M5.2-R3</u>	
<u>Total PM (+ Condensibles)</u>					
Concentration	mg/dscm	0.651	0.639	1.021	<b>0.770</b>
Concentration	gr/dscf	2.84E-04	2.79E-04	4.46E-04	<b>3.37E-04</b>
Emission Rate	lb/hr	0.215	0.211	0.348	<b>0.258</b>
<u>Filterable Particulate - Front Half</u>					
Concentration	mg/dscm	0.1269	0.0860	0.0981	<b>0.104</b>
Concentration	gr/dscf	5.54E-05	3.76E-05	4.29E-05	<b>4.53E-05</b>
Emission Rate	lb/hr	0.0419	0.0283	0.0334	<b>0.0345</b>
<b>EPA Method 201A/202 - PM10 (adjusted)</b>		(1)-adjusted	(1)-adjusted	(1)-adjusted	(1)-adjusted
<u>PM10 + Condensibles</u>		<u>9 Jun.2009</u>	<u>10 Jun.2009</u>	<u>12 Jun.2009</u>	
Cyclone Cut Size	um	9.73	9.74	9.94	<b>9.8</b>
Concentration	mg/dscm	0.673	0.621	0.742	<b>0.678</b>
Concentration	gr/dscf	2.94E-04	2.71E-04	3.24E-04	<b>2.96E-04</b>
Emission Rate	lb/hr	0.222	0.205	0.253	<b>0.226</b>
<u>Filterable PM10</u>		(1)-adjusted	(1)-adjusted	(1)-adjusted	(1)-adjusted
Concentration	mg/dscm	ND 0.0748	ND 0.0839	0.0872	<b>0.0820</b>
Concentration	gr/dscf	ND 3.27E-05	ND 3.67E-05	3.81E-05	<b>3.58E-05</b>
Emission Rate	lb/hr	ND 0.0247	ND 0.0276	0.0297	<b>0.0273</b>



TABLE 3-1. TEST RESULTS

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 9, 10, 12 June 2009

TEST DATA	units	Test Results			Average (MEAN)
		Run 1	Run 2	Run 3	
Run Number	-				
<b>CARB Method 436 (Total Metals)</b>					
CONCENTRATION	ug/dscm	<u>9 Jun.2009</u>	<u>10 Jun.2009</u>	<u>12 Jun.2009</u>	
Arsenic, As	ug/dscm	3.871	1.618	0.423	1.97
Beryllium, Be	ug/dscm	ND 0.0885	ND 0.0973	ND 0.0864	< 0.0907
Cadmium, Cd	ug/dscm	0.1239	0.0419	0.0190	0.0616
Copper, Cu	ug/dscm	ND 0.354	ND 0.389	ND 0.346	< 0.363
Lead, Pb	ug/dscm	0.250	0.419	0.334	0.334
Manganese, Mn	ug/dscm	0.1584	0.0545	0.0415	0.0848
Nickel, Ni	ug/dscm	0.2947	0.0672	0.2644	0.209
Selenium, Se	ug/dscm	6.106	1.139	0.475	2.57
Zinc, Zn	ug/dscm	1.48	1.59	1.95	1.67
Calcium, Ca	ug/dscm	55.8	34.1	25.9	38.6
Sodium, Na	ug/dscm	21.24	10.71	8.64	13.5
<b>CARB Method 436 (Total Metals)</b>					
EMISSION RATE	lb/hr	<u>9 Jun.2009</u>	<u>10 Jun.2009</u>	<u>12 Jun.2009</u>	
Arsenic, As	lb/hr	1.222E-03	5.25E-04	1.37E-04	6.28E-04
Beryllium, Be	lb/hr	ND 2.79E-05	ND 3.16E-05	ND 2.80E-05	< 2.92E-05
Cadmium, Cd	lb/hr	3.913E-05	1.358E-05	6.16E-06	1.96E-05
Copper, Cu	lb/hr	ND 1.12E-04	ND 1.26E-04	ND 1.12E-04	< 1.17E-04
Lead, Pb	lb/hr	7.91E-05	1.358E-04	1.081E-04	1.08E-04
Manganese, Mn	lb/hr	5.00E-05	1.77E-05	1.34E-05	2.70E-05
Nickel, Ni	lb/hr	9.31E-05	2.18E-05	8.57E-05	6.68E-05
Selenium, Se	lb/hr	1.928E-03	3.69E-04	1.54E-04	8.17E-04
Zinc, Zn	lb/hr	4.67E-04	5.15E-04	6.33E-04	5.38E-04
Calcium, Ca	lb/hr	0.01761	0.01105	0.00840	0.0124
Sodium, Na	lb/hr	0.00671	0.00347	0.00280	0.00433



**TABLE 3-1. TEST RESULTS**

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 9, 10, 12 June 2009

TEST DATA	units	Test Results			Average (MEAN)
		Run 1	Run 2	Run 3	
Run Number	-				
<b>PM10-Metals Speciation</b>		(2)-substitution			
Cyclone Cut Size	um	9.81	9.98	9.92	9.9
CONCENTRATION	ug/dscm	<u>9 Jun.2009</u>	<u>10 Jun.2009</u>	<u>12 Jun.2009</u>	
Arsenic, As	ug/dscm	3.263	1.963	0.669	1.97
Beryllium, Be	ug/dscm	ND 0.155	ND 0.178	ND 0.145	< 0.160
Cadmium, Cd	ug/dscm	ND 0.0622	0.2320	0.1425	0.146
Copper, Cu	ug/dscm	ND 0.622	0.964	2.080	1.22
Lead, Pb	ug/dscm	0.437	0.339	0.567	0.448
Manganese, Mn	ug/dscm	0.626	4.675	3.491	2.931
Nickel, Ni	ug/dscm	0.336	1.677	0.873	0.962
Selenium, Se	ug/dscm	6.44	1.59	1.82	3.28
Zinc, Zn	ug/dscm	2.64	2.69	2.44	2.59
Calcium, Ca	ug/dscm	91.7	53.5	81.5	75.6
Sodium, Na	ug/dscm	40.40	49.96	39.27	43.2
<b>PM10-Metals Speciation</b>		(2)-substitution			
EMISSION RATE	lb/hr	<u>9 Jun.2009</u>	<u>10 Jun.2009</u>	<u>12 Jun.2009</u>	
Arsenic, As	lb/hr	1.031E-03	6.37E-04	2.17E-04	6.28E-04
Beryllium, Be	lb/hr	ND 4.91E-05	ND 5.79E-05	ND 4.71E-05	< 5.14E-05
Cadmium, Cd	lb/hr	ND 1.963E-05	7.525E-05	4.62E-05	4.70E-05
Copper, Cu	lb/hr	ND 1.96E-04	3.13E-04	6.74E-04	3.94E-04
Lead, Pb	lb/hr	1.38E-04	1.100E-04	1.838E-04	1.44E-04
Manganese, Mn	lb/hr	1.98E-04	1.52E-03	1.13E-03	9.48E-04
Nickel, Ni	lb/hr	1.06E-04	5.44E-04	2.83E-04	3.11E-04
Selenium, Se	lb/hr	2.032E-03	5.15E-04	5.89E-04	1.05E-03
Zinc, Zn	lb/hr	8.34E-04	8.74E-04	7.92E-04	8.33E-04
Calcium, Ca	lb/hr	0.0290	0.0174	0.0264	0.0242
Sodium, Na	lb/hr	0.0128	0.0162	0.0127	0.0139



**TABLE 3-1. TEST RESULTS**

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 9, 10, 12 June 2009

TEST DATA	units	Test Results			Average (MEAN)
		Run 1	Run 2	Run 3	
Run Number	-				
<b>ANIONS &amp; CATIONS, etc., NOTE (3)</b>		(3) prev.test	(3) prev.test	(3) prev.test	(3) prev.test
<u>Alkalinity (as CaCO<sub>3</sub>)</u>					
Concentration	ug/dscm	ND 284	B 468	B 1,287	(3) <b>680</b>
Emission Rate	lb/hr	ND 0.094	B 0.162	B 0.458	(3) <b>0.238</b>
<u>Bicarbonate (as NaHCO<sub>3</sub>)</u>					
Concentration	ug/dscm	ND 391	B 820	B 2,134	(3) <b>1,115</b>
Emission Rate	lb/hr	ND 0.129	B 0.284	B 0.759	(3) <b>0.391</b>
<u>Chloride</u>					
Concentration	ug/dscm	105.0	48.8	ND 45.3	(3) <b>66.4</b>
Emission Rate	lb/hr	0.0346	0.0169	ND 0.0161	(3) <b>0.0225</b>
<u>Nitrate (as HNO<sub>3</sub>)</u>					
Concentration	ug/dscm	695.0	24.4	54.4	(3) <b>258</b>
Emission Rate	lb/hr	0.22915	0.00844	0.01934	(3) <b>0.0856</b>
<u>Sulfate (as H<sub>2</sub>SO<sub>4</sub>)</u>					
Concentration	ug/dscm	553.2	79.0	ND 45.3	(3) <b>226</b>
Emission Rate	lb/hr	0.1824	0.0274	ND 0.0161	(3) <b>0.0753</b>

\* Performed during isokinetic sampling (e.g. CARB Method 425, 428, 429, 436, sCAQMD Methods, etc.).

B - Blank-corrected value.

ND or "<" - None detected, RL is reported.

- (1) - adj: Results adjusted to compensate for positive analytical bias (actual filter gain was negligible).
- (2) - Results based on substitution of PM10-R1 filter for PMM-R1 front-half catch.
- (3) - Anions & Cations, etc. as measured in previous tests (March 2009).

Privileged & Confidential - Do Not Disclose to Third Parties





**TABLE 3-2. EMISSION FACTORS**

Facility: Quemetco, Inc.  
 Unit: WESP Stack

Test Date(s): 9, 10, 12 June 2009

TEST DATA	units	Emission Factors, Ef			Average (MEAN)
Run Number	-	Run 1	Run 2	Run 3	
<b>Process Data/Rate</b>					
Rate for: Rev.Feed	ton/hr	30.83	29.13	28.13	<b>29.36</b>
<b>SCAQMD Method 5.x - Particulate Matter</b>					
		<u>M5.2-R1</u>	<u>M5.2-R2</u>	<u>M5.2-R3</u>	
Total PM (+ Condensibles)					
Emission Factor	lb/ton	0.00697	0.00723	0.01237	<b>0.00886</b>
<b>EPA Method 201A/202 - PM10 (adjusted)</b>					
		(1)-adjusted	(1)-adjusted	(1)-adjusted	(1)-adjusted
PM10 + Condensibles					
Emission Factor	lb/ton	0.00720	0.00702	0.00898	<b>0.00773</b>
<b>CARB Method 436 (Total Metals)</b>					
EMISSION FACTOR	lb/ton	<u>9 Jun.2009</u>	<u>10 Jun.2009</u>	<u>12 Jun.2009</u>	
Arsenic, As	lb/ton	3.97E-05	1.80E-05	4.87E-06	<b>2.08E-05</b>
Beryllium, Be	lb/ton	ND 9.07E-07	ND 1.08E-06	ND 9.95E-07	< <b>9.95E-07</b>
Cadmium, Cd	lb/ton	1.27E-06	4.66E-07	2.19E-07	<b>6.51E-07</b>
Copper, Cu	lb/ton	ND 3.63E-06	ND 4.34E-06	ND 3.98E-06	< <b>3.98E-06</b>
Lead, Pb	lb/ton	2.57E-06	4.66E-06	3.84E-06	<b>3.69E-06</b>
Manganese, Mn	lb/ton	1.62E-06	6.07E-07	4.78E-07	<b>9.02E-07</b>
Nickel, Ni	lb/ton	3.02E-06	7.48E-07	3.05E-06	<b>2.27E-06</b>
Selenium, Se	lb/ton	6.25E-05	1.27E-05	5.47E-06	<b>2.69E-05</b>
Zinc, Zn	lb/ton	1.51E-05	1.77E-05	2.25E-05	<b>1.84E-05</b>
Calcium, Ca	lb/ton	5.71E-04	3.79E-04	2.99E-04	<b>4.16E-04</b>
Sodium, Na	lb/ton	2.18E-04	1.19E-04	9.95E-05	<b>1.45E-04</b>
<b>ANIONS &amp; CATIONS, etc., NOTE (3)</b>					
		(3) prev.test	(3) prev.test	(3) prev.test	(3) prev.test
Alkalinity (as CaCO3)					
Emission Factor		ND 0.00319	B 0.00580	B 0.01518	(3) <b>0.00805</b>
Bicarbonate (as NaHCO3)					
Emission Factor		ND 0.00439	B 0.01014	B 0.02517	(3) <b>0.0132</b>
Chloride					
Emission Factor		1.180E-03	6.04E-04	ND 5.34E-04	(3) <b>7.73E-04</b>
Nitrate (as HNO3)					
Emission Factor		7.816E-03	3.02E-04	6.41E-04	(3) <b>0.00292</b>
Sulfate (as H2SO4)					
Emission Factor		6.221E-03	9.78E-04	ND 5.34E-04	(3) <b>0.00258</b>

B - Blank-corrected value.

ND or "<" - None detected, RL is reported.

(1) - adj: Results adjusted to compensate for positive analytical bias (actual filter gain was negligible).

(3) - Anions & Cations, etc. as measured in previous tests (March 2009).

Privileged & Confidential - Do Not Disclose to Third Parties

**PROPRIETARY AND CONFIDENTIAL**

Not to be disclosed to third parties



TABLE 1-2. SUMMARY OF RESULTS

Facility: Quemetco, Inc.  
 Unit: Busch Unit A

TEST DATA	units	Average Result	units	Emission Factors, Ef	AB2588 Reporting Limit for HRA ++	
					(mean)	(mean)
Run Number	-	(mean)	-	(mean)		
<b>Process Data**</b>						
Rate for: Rev.Feed	ton/hr	26.6				
<b>Sampling Data*</b>						
Stack Temperature	°F	101				
Moisture	%	1.3				
Oxygen	% v/v	20.9				
Carbon Dioxide	% v/v	0.0				
Gas Velocity	ft/min	65.1				
Stack Flow Rate	wacfm	44,286				
Stack Flow Rate	dscfm	40,656				
<b>CARB Method 436</b>						
CONCENTRATION						
Arsenic, As	ug/dscm	0				
Cadmium, Cd	ug/dscm	0.09				
Lead, Pb	ug/dscm	0.6				
Nickel, Ni	ug/dscm	0.12				
EMISSION RATE						
Arsenic, As	lb/hr	5.91E-06	lb/ton	2.25E-07	5.22E-06	2.00E-07
Cadmium, Cd	lb/hr	1.39E-05	lb/ton	5.24E-07	1.39E-05	5.24E-07
Lead, Pb	lb/hr	8.66E-05	lb/ton	3.27E-06	8.66E-05	3.27E-06
Nickel, Ni	lb/hr	1.88E-05	lb/ton	7.14E-07	1.88E-05	7.14E-07

\* Performed during isokinetic sampling (e.g. CARB Method 436).

\*\* Process Rate

B - Blank-corrected value.

ND or "<" - None detected, RL is reported.

++ Use zero (0) if all runs "ND" and estimated result < SCAQMD Rule 1402 Tier 2 MICR Limit.

+++ Risk does not apply to "total" value because Risk calculated based on individual compounds.

PROPRIETARY AND CONFIDENTIAL

Not to be disclosed to third parties without expressed approval from Quemetco, Inc.



TABLE 1-2. SUMMARY OF RESULTS

Facility: Quemetco, Inc.  
 Unit: Busch Unit D

TEST DATA	units	Average Result	units	Emission Factors, Ef	AB2588 Reporting Limit for HRA ++	
					ER(lb/hr)	Ef(lb/ton)
Run Number	-	(mean)	-	(mean)		
<b>Process Data**</b>						
Rate for: Rev. Feed	ton/hr	27.9				
<b>Sampling Data*</b>						
Stack Temperature	°F	114				
Moisture	%	1.8				
Oxygen	% v/v	20.9				
Carbon Dioxide	% v/v	0.0				
Gas Velocity	ft/min	29.8				
Stack Flow Rate	wacfm	20,283				
Stack Flow Rate	dscfm	18,013				
<b>CARB Method 436</b>						
CONCENTRATION						
Arsenic, As	ug/dscm	< 0.0339				
Cadmium, Cd	ug/dscm	0.513				
Lead, Pb	ug/dscm	1.30				
Nickel, Ni	ug/dscm	0.167				
EMISSION RATE						
Arsenic, As	lb/hr	< 2.29E-06	lb/ton	< 8.25E-08	0	0
Cadmium, Cd	lb/hr	3.48E-05	lb/ton	1.26E-06	3.48E-05	1.26E-06
Lead, Pb	lb/hr	8.72E-05	lb/ton	3.12E-06	8.72E-05	3.12E-06
Nickel, Ni	lb/hr	1.12E-05	lb/ton	4.02E-07	1.12E-05	4.02E-07

\* Performed during isokinetic sampling (e.g. CARB Method 436).

\*\* Process Rate

B - Blank-corrected value.

ND or "<" - None detected, RL is reported.

++ Use zero (0) if all runs "ND" and estimated result < SCAQMD Rule 1402 Tier 2 MICR Limit.

+++ Risk does not apply to "total" value because Risk calculated based on individual compounds.

PROPRIETARY AND CONFIDENTIAL

Not to be disclosed to third parties without expressed approval from Quemetco, Inc.



TABLE 1-2. SUMMARY OF RESULTS

**2.0 SUMMARY OF RESULTS**

Facility: Quemetco, Inc.  
 Unit: Busch Unit F

TEST DATA	units	Average Result	units	Emission Factors, Ef	AB2588 Reporting Limit for HRA ++	
		(mean)		(mean)	ER(lb/hr)	Ef(lb/ton)
Run Number	-		-			
<b>Process Data**</b>						
Rate for: M436	ton/hr	27.6				
<b>Sampling Data*</b>						
Stack Temperature	°F	97				
Moisture	%	2.3				
Oxygen	% v/v	20.9				
Carbon Dioxide	% v/v	0.0				
Gas Velocity	ft/min	58.1				
Stack Flow Rate	wacfm	39,546				
Stack Flow Rate	dscfm	36,055				
<b>CARB Method 436</b>						
CONCENTRATION						
Arsenic, As	ug/dscm	0				
Cadmium, Cd	ug/dscm	0.13				
Lead, Pb	ug/dscm	1.1				
Nickel, Ni	ug/dscm	0.20				
<b>CARB Method 436</b>						
EMISSION RATE						
Arsenic, As	lb/hr	4.26E-06	lb/ton	1.54E-07	2.91E-06	1.04E-07
Cadmium, Cd	lb/hr	1.75E-05	lb/ton	6.40E-07	1.75E-05	6.40E-07
Lead, Pb	lb/hr	1.42E-04	lb/ton	5.20E-06	1.42E-04	5.20E-06
Nickel, Ni	lb/hr	2.65E-05	lb/ton	9.70E-07	2.65E-05	9.70E-07

\* Performed during isokinetic sampling (e.g. CARB Method 436).

\*\* Process Rate

B - Blank-corrected value.

ND or "<" - None detected, RL is reported.

++ Use zero (0) if all runs "ND" and estimated result < SCAQMD Rule 1402 Tier 2 MLCR Limit.

+++ Risk does not apply to "total" value because Risk calculated based on individual compounds.

**PROPRIETARY AND CONFIDENTIAL**

Not to be disclosed to third parties without expressed approval from Quemetco, Inc.



TABLE 1-2. SUMMARY OF RESULTS

**2.0 SUMMARY OF RESULTS**

Facility: Quemetco, Inc.  
 Unit: Busch Unit F

TEST DATA	units	Average Result	units	Emission Factors, Ef	AB2588 Reporting Limit for HRA ++	
		(mean)		(mean)	ER(lb/hr)	Ef(lb/ton)
Run Number	-		-			
<b>Process Data**</b>						
Rate for: M436	ton/hr	27.6				
<b>Sampling Data*</b>						
Stack Temperature	°F	97				
Moisture	%	2.3				
Oxygen	% v/v	20.9				
Carbon Dioxide	% v/v	0.0				
Gas Velocity	ft/min	58.1				
Stack Flow Rate	wacfm	39,546				
Stack Flow Rate	dscfm	36,055				
<b>CARB Method 436</b>						
CONCENTRATION						
Arsenic, As	ug/dscm	0				
Cadmium, Cd	ug/dscm	0.13				
Lead, Pb	ug/dscm	1.1				
Nickel, Ni	ug/dscm	0.20				
<b>CARB Method 436</b>						
EMISSION RATE						
Arsenic, As	lb/hr	4.26E-06	lb/ton	1.54E-07	2.91E-06	1.04E-07
Cadmium, Cd	lb/hr	1.75E-05	lb/ton	6.40E-07	1.75E-05	6.40E-07
Lead, Pb	lb/hr	1.42E-04	lb/ton	5.20E-06	1.42E-04	5.20E-06
Nickel, Ni	lb/hr	2.65E-05	lb/ton	9.70E-07	2.65E-05	9.70E-07

\* Performed during isokinetic sampling (e.g. CARB Method 436).

\*\* Process Rate

B - Blank-corrected value.

ND or "<" - None detected, RL is reported.

++ Use zero (0) if all runs "ND" and estimated result < SCAQMD Rule 1402 Tier 2 MLCR Limit.

+++ Risk does not apply to "total" value because Risk calculated based on individual compounds.

**PROPRIETARY AND CONFIDENTIAL**

Not to be disclosed to third parties without expressed approval from Quemetco, Inc.



## Source Test Report

### Characterization of Lead, Arsenic, Cadmium and Nickel Emissions from Busch Unit G

Prepared for: Quemetco, Inc.  
720 S. 7th Avenue  
City of Industry, CA 91746

Prepared for: The South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765

Release Date: 29 June 2009

Document No.: 9a06G\_RPTr0

Submitted by: EMCC LLC  
9531 Scotstoun Drive  
Huntington Beach, CA 92646

Prepared by: \_\_\_\_\_  
Mike Fukuda, Manager

#### PROPRIETARY AND CONFIDENTIAL

Not to be disclosed to third parties without expressed approval from Quemetco, Inc.



TABLE 1-2. SUMMARY OF RESULTS

**2.0 SUMMARY OF RESULTS**

Facility: Quemetco, Inc.  
 Unit: Busch Unit I

TEST DATA	units	Average	units	Emission	AB2588 Reporting	
		Result			Factors, Ef	Limit for HRA ++
Run Number	-	(mean)	-	(mean)	ER(lb/hr)	Ef(lb/ton)
<b>Process Data**</b>						
Rate for: Rev. Feed	ton/hr	27.6				
<b>Sampling Data*</b>						
Stack Temperature	°F	106				
Moisture	%	1.3				
Oxygen	% v/v	20.9				
Carbon Dioxide	% v/v	0.0				
Gas Velocity	ft/min	52.2				
Stack Flow Rate	wacfm	35,519				
Stack Flow Rate	dscfm	32,227				
<b>CARB Method 436</b>						
CONCENTRATION						
Arsenic, As	ug/dscm	0.0312				
Cadmium, Cd	ug/dscm	0.156				
Lead, Pb	ug/dscm	0.661				
Nickel, Ni	ug/dscm	0.141				
EMISSION RATE						
Arsenic, As	lb/hr	3.77E-06	lb/ton	1.35E-07	2.78E-06	9.85E-08
Cadmium, Cd	lb/hr	1.88E-05	lb/ton	6.80E-07	1.88E-05	6.80E-07
Lead, Pb	lb/hr	7.94E-05	lb/ton	2.90E-06	7.94E-05	2.90E-06
Nickel, Ni	lb/hr	1.71E-05	lb/ton	6.14E-07	1.71E-05	6.14E-07

\* Performed during isokinetic sampling (e.g. CARB Method 436).

\*\* Process Rate

B - Blank-corrected value.

ND or "<" - None detected, RL is reported.

++ Use zero (0) if all runs "ND" and estimated result < SCAQMD Rule 1402 Tier 2 MICR Limit.

+++ Risk does not apply to "total" value because Risk calculated based on individual compounds.

**PROPRIETARY AND CONFIDENTIAL**

Not to be disclosed to third parties without expressed approval from Quemetco, Inc.

**Attachment D1 - PMI By Substance and Pathway**

CHEM	CAS	Abbreviation	INHAL	DERM	SOIL	MOTHER	VEG	ORAL	TOTAL	Cumulative Total	Percent Risk	Cumulative Percent
0028	7440382	Arsenic	1.01E-06	2.42E-06	1.18E-06	0.00E+00	2.16E-07	3.81E-06	4.82E-06	4.82E-06	52.91%	52.91%
0032	7440439	Cadmium	1.34E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.34E-06	6.16E-06	14.71%	67.62%
0001	7439921	Lead	1.84E-07	1.17E-08	3.86E-07	0.00E+00	2.75E-07	6.73E-07	8.56E-07	7.02E-06	9.40%	77.01%
0036	18540299	Cr(VI)	7.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.66E-07	7.78E-06	8.41%	85.42%
0023	1336363	PCBs	3.33E-08	2.50E-07	3.48E-08	1.97E-07	5.13E-08	5.33E-07	5.66E-07	8.35E-06	6.21%	91.64%
0027	7440020	Nickel	2.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.37E-07	8.59E-06	2.60%	94.24%
0003	50000	Formaldehyde	1.52E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.52E-07	8.74E-06	1.67%	95.91%
0038	51207319	2,3,7,8-TCDF	7.04E-09	2.96E-08	1.24E-08	2.54E-08	2.00E-09	6.94E-08	7.64E-08	8.81E-06	0.84%	96.74%
0008	71432	Benzene	7.28E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.28E-08	8.89E-06	0.80%	97.54%
0039	57117314	2-4,7,8PeCDF	3.43E-09	1.44E-08	6.04E-09	1.24E-08	9.77E-10	3.38E-08	3.72E-08	8.92E-06	0.41%	97.95%
0009	75014	Vinyl Chloride	3.53E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.53E-08	8.96E-06	0.39%	98.34%
0083	1151	PAHs-w/o	1.04E-09	1.38E-08	2.07E-09	0.00E+00	1.75E-08	3.34E-08	3.44E-08	8.99E-06	0.38%	98.72%
0031	7440417	Beryllium	3.10E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.10E-08	9.02E-06	0.34%	99.06%
0014	91203	Naphthalene	2.57E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.57E-08	9.05E-06	0.28%	99.34%
0017	106990	1,3-Butadiene	1.57E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.57E-08	9.07E-06	0.17%	99.51%
0081	78875	1,2-DiClPropane	1.49E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.49E-08	9.08E-06	0.16%	99.68%
0024	1746016	2,3,7,8-TCDD	7.64E-10	3.21E-09	1.35E-09	2.76E-09	2.18E-10	7.53E-09	8.30E-09	9.09E-06	0.09%	99.77%
0040	57117416	1-3,7,8PeCDF	4.04E-10	1.70E-09	7.12E-10	1.46E-09	1.15E-10	3.98E-09	4.39E-09	9.09E-06	0.05%	99.81%
0050	218019	Chrysene	9.62E-11	1.28E-09	1.92E-10	0.00E+00	1.62E-09	3.09E-09	3.19E-09	9.10E-06	0.04%	99.85%
0004	50328	B[a]P	9.06E-11	1.21E-09	1.81E-10	0.00E+00	1.53E-09	2.91E-09	3.00E-09	9.10E-06	0.03%	99.88%
0015	100414	Ethyl Benzene	2.17E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.17E-09	9.10E-06	0.02%	99.91%
0063	70648269	1-4,7,8HxCDF	1.02E-10	4.28E-10	1.79E-10	3.67E-10	2.90E-11	1.00E-09	1.10E-09	9.10E-06	0.01%	99.92%
0011	75092	Methylene Chlor	9.14E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.14E-10	9.10E-06	0.01%	99.93%
0006	56553	B[a]anthracene	2.28E-11	3.03E-10	4.54E-11	0.00E+00	3.84E-10	7.33E-10	7.56E-10	9.10E-06	0.01%	99.94%
0064	57117449	1-3,6-8HxCDF	6.72E-11	2.83E-10	1.18E-10	2.42E-10	1.91E-11	6.62E-10	7.30E-10	9.10E-06	0.01%	99.94%
0051	205992	B[b]fluoranthen	1.48E-11	1.97E-10	2.95E-11	0.00E+00	2.50E-10	4.77E-10	4.92E-10	9.11E-06	0.01%	99.95%
0055	193395	In[1,2,3-cd]pyr	8.79E-12	1.17E-10	1.75E-11	0.00E+00	1.48E-10	2.83E-10	2.91E-10	9.11E-06	0.00%	99.95%
0010	75070	Acetaldehyde	1.28E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.28E-10	9.11E-06	0.00%	99.95%



**Attachment D1 - PMI By Substance and Pathway**

CHEM	CAS	Abbreviation	INHAL	DERM	SOIL	MOTHER	VEG	ORAL	TOTAL	Cumulative Total	Percent Risk	Cumulative Percent
0062	3268879	1-8OctaCDD	2.65E-13	1.11E-12	4.66E-13	9.55E-13	7.54E-14	2.61E-12	2.87E-12	9.11E-06	0.00%	99.95%
0069	39001020	1-8OctaCDF	1.26E-13	5.29E-13	2.21E-13	4.54E-13	3.58E-14	1.24E-12	1.37E-12	9.11E-06	0.00%	99.95%
0002	7782492	Selenium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0005	56235	CCl4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0007	67663	Chloroform	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0012	75354	Vinylid Chlorid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0013	79016	TCE	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0016	100425	Styrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0018	108883	Toluene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0019	108907	Chlorobenzn	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0020	123911	1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0021	127184	Perc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0022	1330207	Xylenes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0025	7439965	Manganese	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0026	7439976	Mercury	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0029	115071	Propylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0030	120821	1,2,4TriClBenz	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0033	7440508	Copper	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0034	7440666	Zinc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0035	7783064	H2S	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0037	40321764	1-3,7,8PeCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0041	74839	Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0042	91576	2MeNaphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0043	208968	Acenaphthylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0044	83329	Acenaphthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0045	86737	Fluorene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0046	85018	Phenanthrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0047	120127	Anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0048	206440	Fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0049	129000	Pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0052	207089	B[k]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0053	192972	B[e]pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%

**Attachment D1 - PMI By Substance and Pathway**

CHEM	CAS	Abbreviation	INHAL	DERM	SOIL	MOTHER	VEG	ORAL	TOTAL	Cumulative Total	Percent Risk	Cumulative Percent
0054	198550	Perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0056	53703	D[a,h]anthracen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0057	191242	B[g,h,i]perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0058	39227286	1-4,7,8HxCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0059	57653857	1-3,6-8HxCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0060	19408743	1-3,7-9HxCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0061	35822469	1-4,6-8HpCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0065	60851345	2-4,6-8HxCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0066	72918219	1-3,7-9HxCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0067	67562394	1-4,6-8HpCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0068	55673897	1-4,7-9HpCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0070	107062	EDC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0071	79005	1,1,2TriClEthane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0072	106934	EDB	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0073	79345	TetraClEthane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0074	106467	p-DiClBenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0075	95476	o-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0076	74873	Methyl Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0077	75003	Ethyl Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0078	25321226	DiClBenzenes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0079	75694	TriClFluorMetha	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0080	76131	CFC-113	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0082	107028	Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0084	7440224	Silver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%
0085	7440360	Antimony	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.11E-06	0.00%	99.95%

**Attachment D2 - MEIR By Substance and Pathway**

CHEM	CAS	Abbreviation	INHAL	DERM	SOIL	MOTHER	VEG	ORAL	TOTAL	Cumulative Total	Percent Risk	Cumulative Percent
0028	7440382	Arsenic	3.25E-07	7.77E-07	3.78E-07	0.00E+00	6.95E-08	1.22E-06	1.55E-06	1.55E-06	53.82%	53.82%
0032	7440439	Cadmium	4.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.00E-07	1.95E-06	13.89%	67.71%
0001	7439921	Lead	5.58E-08	3.56E-09	1.17E-07	0.00E+00	8.36E-08	2.04E-07	2.60E-07	2.21E-06	9.03%	76.74%
0036	18540299	Cr(VI)	2.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.37E-07	2.45E-06	8.23%	84.97%
0023	1336363	PCBs	1.10E-08	8.24E-08	1.15E-08	6.48E-08	1.69E-08	1.76E-07	1.87E-07	2.63E-06	6.49%	91.46%
0027	7440020	Nickel	7.51E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.51E-08	2.71E-06	2.61%	94.07%
0003	50000	Formaldehyde	5.01E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.01E-08	2.76E-06	1.74%	95.81%
0038	51207319	2,3,7,8-TCDF	2.32E-09	9.75E-09	4.08E-09	8.36E-09	6.60E-10	2.29E-08	2.52E-08	2.78E-06	0.88%	96.68%
0008	71432	Benzene	2.42E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-08	2.81E-06	0.84%	97.52%
0083	1151	PAHs-w/o	4.59E-10	6.11E-09	9.15E-10	0.00E+00	7.75E-09	1.48E-08	1.52E-08	2.82E-06	0.53%	98.05%
0039	57117314	2-4,7,8PeCDF	1.13E-09	4.75E-09	1.99E-09	4.07E-09	3.22E-10	1.11E-08	1.23E-08	2.84E-06	0.43%	98.48%
0009	75014	Vinyl Chloride	1.16E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E-08	2.85E-06	0.40%	98.88%
0031	7440417	Beryllium	9.66E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.66E-09	2.86E-06	0.34%	99.21%
0014	91203	Naphthalene	8.47E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.47E-09	2.87E-06	0.29%	99.51%
0017	106990	1,3-Butadiene	5.16E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.16E-09	2.87E-06	0.18%	99.69%
0081	78875	1,2-DiClPropane	4.92E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.92E-09	2.88E-06	0.17%	99.86%
0024	1746016	2,3,7,8-TCDD	2.51E-10	1.06E-09	4.43E-10	9.08E-10	7.17E-11	2.48E-09	2.73E-09	2.88E-06	0.09%	99.95%
0040	57117416	1-3,7,8PeCDF	1.33E-10	5.60E-10	2.34E-10	4.80E-10	3.79E-11	1.31E-09	1.44E-09	2.88E-06	0.05%	100.00%
0050	218019	Chrysene	3.17E-11	4.21E-10	6.31E-11	0.00E+00	5.34E-10	1.02E-09	1.05E-09	2.88E-06	0.04%	100.04%
0004	50328	B[a]P	2.98E-11	3.97E-10	5.94E-11	0.00E+00	5.03E-10	9.60E-10	9.89E-10	2.88E-06	0.03%	100.07%
0015	100414	Ethyl Benzene	7.14E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.14E-10	2.88E-06	0.02%	100.10%
0063	70648269	1-4,7,8HxCDF	3.35E-11	1.41E-10	5.90E-11	1.21E-10	9.54E-12	3.30E-10	3.64E-10	2.88E-06	0.01%	100.11%
0011	75092	Methylene Chlor	3.01E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.01E-10	2.88E-06	0.01%	100.12%
0006	56553	B[a]anthracene	7.51E-12	9.98E-11	1.49E-11	0.00E+00	1.27E-10	2.41E-10	2.49E-10	2.88E-06	0.01%	100.13%
0064	57117449	1-3,6-8HxCDF	2.21E-11	9.30E-11	3.90E-11	7.98E-11	6.30E-12	2.18E-10	2.40E-10	2.88E-06	0.01%	100.14%
0051	205992	B[b]fluoranthen	4.88E-12	6.49E-11	9.73E-12	0.00E+00	8.24E-11	1.57E-10	1.62E-10	2.88E-06	0.01%	100.14%
0055	193395	In[1,2,3-cd]pyr	2.89E-12	3.85E-11	5.76E-12	0.00E+00	4.88E-11	9.30E-11	9.59E-11	2.88E-06	0.00%	100.15%
0010	75070	Acetaldehyde	5.65E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.65E-11	2.88E-06	0.00%	100.15%
0062	3268879	1-8OctaCDD	8.71E-14	3.67E-13	1.53E-13	3.14E-13	2.48E-14	8.59E-13	9.47E-13	2.88E-06	0.00%	100.15%
0069	39001020	1-8OctaCDF	4.14E-14	1.74E-13	7.29E-14	1.49E-13	1.18E-14	4.08E-13	4.50E-13	2.88E-06	0.00%	100.15%

**Attachment D2 - MEIR By Substance and Pathway**

CHEM	CAS	Abbreviation	INHAL	DERM	SOIL	MOTHER	VEG	ORAL	TOTAL	Cumulative Total	Percent Risk	Cumulative Percent
0002	7782492	Selenium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0005	56235	CCl4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0007	67663	Chloroform	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0012	75354	Vinylid Chlorid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0013	79016	TCE	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0016	100425	Styrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0018	108883	Toluene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0019	108907	Chlorobenzn	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0020	123911	1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0021	127184	Perc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0022	1330207	Xylenes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0025	7439965	Manganese	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0026	7439976	Mercury	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0029	115071	Propylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0030	120821	1,2,4TriClBenz	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0033	7440508	Copper	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0034	7440666	Zinc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0035	7783064	H2S	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0037	40321764	1-3,7,8PeCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0041	74839	Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0042	91576	2MeNaphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0043	208968	Acenaphthylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0044	83329	Acenaphthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0045	86737	Fluorene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0046	85018	Phenanthrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0047	120127	Anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0048	206440	Fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0049	129000	Pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0052	207089	B[k]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0053	192972	B[e]pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0054	198550	Perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0056	53703	D[a,h]anthracen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0057	191242	B[g,h,i]perylen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0058	39227286	1-4,7,8HxCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0059	57653857	1-3,6-8HxCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0060	19408743	1-3,7-9HxCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%

**Attachment D2 - MEIR By Substance and Pathway**

CHEM	CAS	Abbreviation	INHAL	DERM	SOIL	MOTHER	VEG	ORAL	TOTAL	Cumulative Total	Percent Risk	Cumulative Percent
0061	35822469	1-4,6-8HpCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0065	60851345	2-4,6-8HxCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0066	72918219	1-3,7-9HxCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0067	67562394	1-4,6-8HpCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0068	55673897	1-4,7-9HpCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0070	107062	EDC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0071	79005	1,1,2TriClEthan	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0072	106934	EDB	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0073	79345	TetraClEthane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0074	106467	p-DiClBenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0075	95476	o-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0076	74873	Methyl Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0077	75003	Ethyl Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0078	25321226	DiClBenzenes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0079	75694	TriClFluorMetha	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0080	76131	CFC-113	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0082	107028	Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0084	7440224	Silver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%
0085	7440360	Antimony	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00%	100.15%

**Attachment D3 - MEIW By Substance and Pathway**

CHEM	CAS	Abbreviation	INHAL	DERM	SOIL	MOTHER	VEG	ORAL	TOTAL	Cumulative Total	Percent Risk	Cumulative Percent
0028	7440382	Arsenic	1.99E-07	9.18E-07	3.88E-07	0.00E+00	0.00E+00	1.31E-06	1.50E-06	1.50E-06	61.73%	61.73%
0032	7440439	Cadmium	2.64E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.64E-07	1.76E-06	10.86%	72.59%
0001	7439921	Lead	4.04E-08	7.52E-08	1.27E-07	0.00E+00	0.00E+00	2.02E-07	2.43E-07	2.01E-06	10.00%	82.59%
0036	18540299	Cr(VI)	1.51E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.51E-07	2.16E-06	6.21%	88.81%
0023	1336363	PCBs	7.33E-09	9.50E-08	1.15E-08	0.00E+00	0.00E+00	1.06E-07	1.14E-07	2.27E-06	4.69%	93.50%
0027	7440020	Nickel	4.68E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.68E-08	2.32E-06	1.93%	95.42%
0003	50000	Formaldehyde	3.00E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.00E-08	2.35E-06	1.23%	96.66%
0038	51207319	2,3,7,8-TCDF	1.55E-09	1.12E-08	4.08E-09	0.00E+00	0.00E+00	1.53E-08	1.69E-08	2.37E-06	0.70%	97.35%
0008	71432	Benzene	1.44E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.44E-08	2.38E-06	0.59%	97.95%
0039	57117314	2-4,7,8PeCDF	7.54E-10	5.48E-09	1.99E-09	0.00E+00	0.00E+00	7.47E-09	8.22E-09	2.39E-06	0.34%	98.28%
0009	75014	Vinyl Chloride	6.96E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.96E-09	2.40E-06	0.29%	98.57%
0083	1151	PAHs-w/o	2.28E-10	5.24E-09	6.82E-10	0.00E+00	0.00E+00	5.92E-09	6.15E-09	2.40E-06	0.25%	98.82%
0031	7440417	Beryllium	6.12E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.12E-09	2.41E-06	0.25%	99.08%
0014	91203	Naphthalene	5.07E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.07E-09	2.41E-06	0.21%	99.28%
0017	106990	1,3-Butadiene	3.09E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.09E-09	2.42E-06	0.13%	99.41%
0081	78875	1,2-DiClPropane	2.95E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.95E-09	2.42E-06	0.12%	99.53%
0024	1746016	2,3,7,8-TCDD	1.68E-10	1.22E-09	4.43E-10	0.00E+00	0.00E+00	1.66E-09	1.83E-09	2.42E-06	0.08%	99.61%
0040	57117416	1-3,7,8PeCDF	8.88E-11	6.45E-10	2.34E-10	0.00E+00	0.00E+00	8.80E-10	9.69E-10	2.42E-06	0.04%	99.65%
0050	218019	Chrysene	2.12E-11	4.86E-10	6.31E-11	0.00E+00	0.00E+00	5.49E-10	5.70E-10	2.42E-06	0.02%	99.67%
0004	50328	B[a]P	1.99E-11	4.57E-10	5.95E-11	0.00E+00	0.00E+00	5.17E-10	5.37E-10	2.42E-06	0.02%	99.69%
0015	100414	Ethyl Benzene	4.28E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.28E-10	2.42E-06	0.02%	99.71%
0063	70648269	1-4,7,8HxCDF	2.24E-11	1.62E-10	5.90E-11	0.00E+00	0.00E+00	2.21E-10	2.44E-10	2.42E-06	0.01%	99.72%
0011	75092	Methylene Chlor	1.80E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.80E-10	2.42E-06	0.01%	99.73%
0064	57117449	1-3,6-8HxCDF	1.48E-11	1.07E-10	3.90E-11	0.00E+00	0.00E+00	1.46E-10	1.61E-10	2.42E-06	0.01%	99.74%
0006	56553	B[a]anthracene	5.01E-12	1.15E-10	1.50E-11	0.00E+00	0.00E+00	1.30E-10	1.35E-10	2.42E-06	0.01%	99.74%
0051	205992	B[b]fluoranthen	3.26E-12	7.49E-11	9.73E-12	0.00E+00	0.00E+00	8.46E-11	8.78E-11	2.42E-06	0.00%	99.74%
0055	193395	In[1,2,3-cd]pyr	1.93E-12	4.44E-11	5.77E-12	0.00E+00	0.00E+00	5.01E-11	5.21E-11	2.42E-06	0.00%	99.75%
0010	75070	Acetaldehyde	2.52E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.52E-11	2.42E-06	0.00%	99.75%

**Attachment D3 - MEIW By Substance and Pathway**

CHEM	CAS	Abbreviation	INHAL	DERM	SOIL	MOTHER	VEG	ORAL	TOTAL	Cumulative Total	Percent Risk	Cumulative Percent
0062	3268879	1-8OctaCDD	5.82E-14	4.23E-13	1.54E-13	0.00E+00	0.00E+00	5.76E-13	6.34E-13	2.42E-06	0.00%	99.75%
0069	39001020	1-8OctaCDF	2.76E-14	2.01E-13	7.29E-14	0.00E+00	0.00E+00	2.74E-13	3.01E-13	2.42E-06	0.00%	99.75%
0002	7782492	Selenium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0005	56235	CCl4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0007	67663	Chloroform	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0012	75354	Vinylid Chlorid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0013	79016	TCE	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0016	100425	Styrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0018	108883	Toluene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0019	108907	Chlorobenzn	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0020	123911	1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0021	127184	Perc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0022	1330207	Xylenes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0025	7439965	Manganese	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0026	7439976	Mercury	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0029	115071	Propylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0030	120821	1,2,4TriClBenz	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0033	7440508	Copper	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0034	7440666	Zinc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0035	7783064	H2S	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0037	40321764	1-3,7,8PeCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0041	74839	Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0042	91576	2MeNaphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0043	208968	Acenaphthylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0044	83329	Acenaphthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0045	86737	Fluorene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0046	85018	Phenanthrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0047	120127	Anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0048	206440	Fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0049	129000	Pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0052	207089	B[k]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0053	192972	B[e]pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%

**Attachment D3 - MEIW By Substance and Pathway**

CHEM	CAS	Abbreviation	INHAL	DERM	SOIL	MOTHER	VEG	ORAL	TOTAL	Cumulative Total	Percent Risk	Cumulative Percent
0054	198550	Perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0056	53703	D[a,h]anthracen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0057	191242	B[g,h,i]perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0058	39227286	1-4,7,8HxCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0059	57653857	1-3,6-8HxCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0060	19408743	1-3,7-9HxCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0061	35822469	1-4,6-8HpCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0065	60851345	2-4,6-8HxCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0066	72918219	1-3,7-9HxCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0067	67562394	1-4,6-8HpCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0068	55673897	1-4,7-9HpCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0070	107062	EDC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0071	79005	1,1,2TriClEthane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0072	106934	EDB	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0073	79345	TetraClEthane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0074	106467	p-DiClBenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0075	95476	o-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0076	74873	Methyl Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0077	75003	Ethyl Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0078	25321226	DiClBenzenes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0079	75694	TriClFluorMetha	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0080	76131	CFC-113	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0082	107028	Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0084	7440224	Silver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%
0085	7440360	Antimony	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00%	99.75%



## Attachment D4 - HIC at PMI

CHEM	CAS	Abbreviation	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0028	7440382	Arsenic	7.76E-01	7.76E-01	0.00E+00	7.76E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.76E-01	7.76E-01	0.00E+00	7.76E-01
0026	7439976	Mercury	0.00E+00	1.01E-01	0.00E+00	1.01E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-01
0082	107028	Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.13E-02	0.00E+00	0.00E+00	3.13E-02
0032	7440439	Cadmium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.30E-02	0.00E+00	1.54E-02	0.00E+00	0.00E+00	2.30E-02
0027	7440020	Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.26E-04	0.00E+00	0.00E+00	0.00E+00	1.80E-02	0.00E+00	1.80E-02	1.80E-02
0025	7439965	Manganese	0.00E+00	4.58E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.58E-03
0003	50000	Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.78E-03	0.00E+00	0.00E+00	2.78E-03
0035	7783064	H2S	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-03	0.00E+00	0.00E+00	1.92E-03
0031	7440417	Beryllium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.03E-05	1.82E-03	0.00E+00	0.00E+00	1.82E-03	0.00E+00	0.00E+00	1.82E-03
0041	74839	Methyl Bromide	0.00E+00	3.28E-04	0.00E+00	3.28E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.28E-04	0.00E+00	0.00E+00	3.28E-04
0018	108883	Toluene	0.00E+00	1.43E-04	0.00E+00	1.43E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-04	0.00E+00	0.00E+00	1.43E-04
0014	91203	Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.21E-05	0.00E+00	0.00E+00	8.21E-05
0038	51207319	2,3,7,8-TCDF	0.00E+00	0.00E+00	0.00E+00	6.00E-05	6.00E-05	0.00E+00	6.00E-05	0.00E+00	0.00E+00	6.00E-05	6.00E-05	0.00E+00	6.00E-05	6.00E-05
0008	71432	Benzene	0.00E+00	4.19E-05	0.00E+00	4.19E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.19E-05	4.19E-05
0002	7782492	Selenium	3.72E-05	3.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.72E-05
0039	57117314	2-4,7,8PeCDF	0.00E+00	0.00E+00	0.00E+00	2.93E-05	2.93E-05	0.00E+00	2.93E-05	0.00E+00	0.00E+00	2.93E-05	2.93E-05	0.00E+00	2.93E-05	2.93E-05
0036	18540299	Cr(VI)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.59E-05	0.00E+00	1.23E-06	2.59E-05
0012	75354	Vinylid Chlorid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-05
0024	1746016	2,3,7,8-TCDD	0.00E+00	0.00E+00	0.00E+00	6.52E-06	6.52E-06	0.00E+00	6.52E-06	0.00E+00	0.00E+00	6.52E-06	6.52E-06	0.00E+00	6.52E-06	6.52E-06
0017	106990	1,3-Butadiene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.51E-06	0.00E+00	0.00E+00	0.00E+00	4.51E-06
0040	57117416	1-3,7,8PeCDF	0.00E+00	0.00E+00	0.00E+00	3.45E-06	3.45E-06	0.00E+00	3.45E-06	0.00E+00	0.00E+00	3.45E-06	3.45E-06	0.00E+00	3.45E-06	3.45E-06
0029	115071	Propylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.11E-06	0.00E+00	0.00E+00	3.11E-06
0011	75092	Methylene Chlor	2.25E-06	2.25E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.25E-06
0022	1330207	Xylenes	0.00E+00	1.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-06	0.00E+00	0.00E+00	1.43E-06
0016	100425	Styrene	0.00E+00	1.36E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.36E-06
0075	95476	o-Xylene	0.00E+00	1.29E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-06	0.00E+00	0.00E+00	1.29E-06
0019	108907	Chlorobenzn	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.02E-07	0.00E+00	9.02E-07	9.02E-07	0.00E+00	0.00E+00	0.00E+00	9.02E-07

## Attachment D4 - HIC at PMI

CHEM	CAS	Abbreviation	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0063	70648269	1-4,7,8HxCDF	0.00E+00	0.00E+00	0.00E+00	8.67E-07	8.67E-07	0.00E+00	8.67E-07	0.00E+00	0.00E+00	8.67E-07	8.67E-07	0.00E+00	8.67E-07	8.67E-07
0064	57117449	1-3,6-8HxCDF	0.00E+00	0.00E+00	0.00E+00	5.73E-07	5.73E-07	0.00E+00	5.73E-07	0.00E+00	0.00E+00	5.73E-07	5.73E-07	0.00E+00	5.73E-07	5.73E-07
0015	100414	Ethyl Benzene	0.00E+00	0.00E+00	0.00E+00	4.30E-07	4.30E-07	0.00E+00	4.30E-07	0.00E+00	4.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.30E-07
0010	75070	Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.15E-07	0.00E+00	0.00E+00	3.15E-07
0077	75003	Ethyl Chloride	0.00E+00	0.00E+00	0.00E+00	4.09E-08	0.00E+00	0.00E+00	4.09E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.09E-08
0062	3268879	1-8OctaCDD	0.00E+00	0.00E+00	0.00E+00	2.26E-09	2.26E-09	0.00E+00	2.26E-09	0.00E+00	0.00E+00	2.26E-09	2.26E-09	0.00E+00	2.26E-09	2.26E-09
0069	39001020	1-8OctaCDF	0.00E+00	0.00E+00	0.00E+00	1.07E-09	1.07E-09	0.00E+00	1.07E-09	0.00E+00	0.00E+00	1.07E-09	1.07E-09	0.00E+00	1.07E-09	1.07E-09
0001	7439921	Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0004	50328	B[a]P	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0005	56235	CCl4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0006	56553	B[a]anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0007	67663	Chloroform	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0009	75014	Vinyl Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0013	79016	TCE	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0020	123911	1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0021	127184	Perc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0023	1336363	PCBs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0030	120821	1,2,4TriClBenz	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0033	7440508	Copper	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0034	7440666	Zinc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

## Attachment D4 - HIC at PMI

CHEM	CAS	Abbreviation	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0037	40321764	1-3,7,8PeCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0042	91576	2MeNaphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0043	208968	Acenaphthylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0044	83329	Acenaphthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0045	86737	Fluorene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0046	85018	Phenanthrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0047	120127	Anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0048	206440	Fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0049	129000	Pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0050	218019	Chrysene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0051	205992	B[b]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0052	207089	B[k]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0053	192972	B[e]pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0054	198550	Perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0055	193395	In[1,2,3-cd]pyr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0056	53703	D[a,h]anthracen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0057	191242	B[g,h,i]perylen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0058	39227286	1-4,7,8HxCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0059	57653857	1-3,6-8HxCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0060	19408743	1-3,7-9HxCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0061	35822469	1-4,6-8HpCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0065	60851345	2-4,6-8HxCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0066	72918219	1-3,7-9HxCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

## Attachment D4 - HIC at PMI

CHEM	CAS	Abbreviation	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0067	67562394	1-4,6-8HpCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0068	55673897	1-4,7-9HpCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0070	107062	EDC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0071	79005	1,1,2TriClEthane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0072	106934	EDB	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0073	79345	TetraClEthane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0074	106467	p-DiClBenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0076	74873	Methyl Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0078	25321226	DiClBenzenes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0079	75694	TriClFluorMetha	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0080	76131	CFC-113	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0081	78875	1,2-DiClPropane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0083	1151	PAHs-w/o	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0084	7440224	Silver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0085	7440360	Antimony	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Totals:			7.76E-01	8.82E-01	0.00E+00	8.78E-01	1.01E-04	0.00E+00	4.08E-04	1.82E-03	1.24E-01	1.06E-04	8.48E-01	7.76E-01	1.82E-02	8.82E-01

Attachment D5 - HIC at MEIR																
CHEM	CAS	Abbreviation	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0028	7440382	Arsenic	2.50E-01	2.50E-01	0.00E+00	2.50E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.50E-01	2.50E-01	0.00E+00	2.50E-01
0026	7439976	Mercury	0.00E+00	3.31E-02	0.00E+00	3.31E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.31E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.31E-02
0082	107028	Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.03E-02	0.00E+00	0.00E+00	1.03E-02
0032	7440439	Cadmium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.88E-03	0.00E+00	4.61E-03	0.00E+00	0.00E+00	6.88E-03
0027	7440020	Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.14E-05	0.00E+00	0.00E+00	0.00E+00	5.70E-03	0.00E+00	5.70E-03	5.70E-03
0025	7439965	Manganese	0.00E+00	1.42E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E-03
0003	50000	Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.16E-04	0.00E+00	0.00E+00	9.16E-04
0035	7783064	H2S	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.33E-04	0.00E+00	0.00E+00	6.33E-04
0031	7440417	Beryllium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.43E-06	5.67E-04	0.00E+00	0.00E+00	5.67E-04	0.00E+00	0.00E+00	5.67E-04
0041	74839	Methyl Bromide	0.00E+00	1.08E-04	0.00E+00	1.08E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-04	0.00E+00	0.00E+00	1.08E-04
0018	108883	Toluene	0.00E+00	4.74E-05	0.00E+00	4.74E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.74E-05	0.00E+00	0.00E+00	4.74E-05
0014	91203	Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.71E-05	0.00E+00	0.00E+00	2.71E-05
0038	51207319	2,3,7,8-TCDF	0.00E+00	0.00E+00	0.00E+00	1.98E-05	1.98E-05	0.00E+00	1.98E-05	0.00E+00	0.00E+00	1.98E-05	1.98E-05	0.00E+00	1.98E-05	1.98E-05
0008	71432	Benzene	0.00E+00	1.40E-05	0.00E+00	1.40E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.40E-05	1.40E-05
0002	7782492	Selenium	1.20E-05	1.20E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-05
0039	57117314	2-4,7,8PeCDF	0.00E+00	0.00E+00	0.00E+00	9.63E-06	9.63E-06	0.00E+00	9.63E-06	0.00E+00	0.00E+00	9.63E-06	9.63E-06	0.00E+00	9.63E-06	9.63E-06
0036	18540299	Cr(VI)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.03E-06	0.00E+00	3.79E-07	8.03E-06
0012	75354	Vinylid Chlorid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.24E-06
0024	1746016	2,3,7,8-TCDD	0.00E+00	0.00E+00	0.00E+00	2.15E-06	2.15E-06	0.00E+00	2.15E-06	0.00E+00	0.00E+00	2.15E-06	2.15E-06	0.00E+00	2.15E-06	2.15E-06
0017	106990	1,3-Butadiene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.49E-06	0.00E+00	0.00E+00	0.00E+00	1.49E-06
0029	115071	Propylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E-06	0.00E+00	0.00E+00	1.31E-06
0040	57117416	1-3,7,8PeCDF	0.00E+00	0.00E+00	0.00E+00	1.14E-06	1.14E-06	0.00E+00	1.14E-06	0.00E+00	0.00E+00	1.14E-06	1.14E-06	0.00E+00	1.14E-06	1.14E-06
0011	75092	Methylene Chlor	7.43E-07	7.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.43E-07
0022	1330207	Xylenes	0.00E+00	5.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.17E-07	0.00E+00	0.00E+00	5.17E-07
0016	100425	Styrene	0.00E+00	4.47E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.47E-07
0075	95476	o-Xylene	0.00E+00	4.24E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.24E-07	0.00E+00	0.00E+00	4.24E-07
0019	108907	Chlorobenzn	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.97E-07	0.00E+00	2.97E-07	2.97E-07	0.00E+00	0.00E+00	0.00E+00	2.97E-07

Attachment D5 - HIC at MEIR																
CHEM	CAS	Abbreviation	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0063	70648269	1-4,7,8HxCDF	0.00E+00	0.00E+00	0.00E+00	2.86E-07	2.86E-07	0.00E+00	2.86E-07	0.00E+00	0.00E+00	2.86E-07	2.86E-07	0.00E+00	2.86E-07	2.86E-07
0064	57117449	1-3,6-8HxCDF	0.00E+00	0.00E+00	0.00E+00	1.89E-07	1.89E-07	0.00E+00	1.89E-07	0.00E+00	0.00E+00	1.89E-07	1.89E-07	0.00E+00	1.89E-07	1.89E-07
0015	100414	Ethyl Benzene	0.00E+00	0.00E+00	0.00E+00	1.42E-07	1.42E-07	0.00E+00	1.42E-07	0.00E+00	1.42E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E-07
0010	75070	Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.39E-07	0.00E+00	0.00E+00	1.39E-07
0077	75003	Ethyl Chloride	0.00E+00	0.00E+00	0.00E+00	1.35E-08	0.00E+00	0.00E+00	1.35E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.35E-08
0062	3268879	1-8OctaCDD	0.00E+00	0.00E+00	0.00E+00	7.44E-10	7.44E-10	0.00E+00	7.44E-10	0.00E+00	0.00E+00	7.44E-10	7.44E-10	0.00E+00	7.44E-10	7.44E-10
0069	39001020	1-8OctaCDF	0.00E+00	0.00E+00	0.00E+00	3.53E-10	3.53E-10	0.00E+00	3.53E-10	0.00E+00	0.00E+00	3.53E-10	3.53E-10	0.00E+00	3.53E-10	3.53E-10
0001	7439921	Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0004	50328	B[a]P	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0005	56235	CCl4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0006	56553	B[a]anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0007	67663	Chloroform	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0009	75014	Vinyl Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0013	79016	TCE	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0020	123911	1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0021	127184	Perc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0023	1336363	PCBs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0030	120821	1,2,4TriClBenz	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0033	7440508	Copper	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0034	7440666	Zinc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0037	40321764	1-3,7,8PeCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

## Attachment D5 - HIC at MEIR

CHEM	CAS	Abbreviation	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0042	91576	2MeNaphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0043	208968	Acenaphthylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0044	83329	Acenaphthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0045	86737	Fluorene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0046	85018	Phenanthrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0047	120127	Anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0048	206440	Fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0049	129000	Pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0050	218019	Chrysene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0051	205992	B[b]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0052	207089	B[k]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0053	192972	B[e]pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0054	198550	Perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0055	193395	In[1,2,3-cd]pyr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0056	53703	D[a,h]anthracen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0057	191242	B[g,h,i]perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0058	39227286	1-4,7,8HxCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0059	57653857	1-3,6-8HxCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0060	19408743	1-3,7-9HxCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0061	35822469	1-4,6-8HpCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0065	60851345	2-4,6-8HxCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0066	72918219	1-3,7-9HxCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0067	67562394	1-4,6-8HpCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Attachment D5 - HIC at MEIR																
CHEM	CAS	Abbreviation	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0068	55673897	1-4,7-9HpCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0070	107062	EDC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0071	79005	1,1,2TriClEthane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0072	106934	EDB	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0073	79345	TetraClEthane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0074	106467	p-DiClBenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0076	74873	Methyl Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0078	25321226	DiClBenzenes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0079	75694	TriClFluorMetha	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0080	76131	CFC-113	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0081	78875	1,2-DiClPropane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0083	1151	PAHs-w/o	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0084	7440224	Silver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0085	7440360	Antimony	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Totals:			2.50E-01	2.84E-01	0.00E+00	2.83E-01	3.33E-05	0.00E+00	1.31E-04	5.67E-04	4.00E-02	3.49E-05	2.73E-01	2.50E-01	5.74E-03	2.84E-01



## Attachment D6 - HIA at MEIR

CHEM	CAS	Abbreviation	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0082	107028	Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.69E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.69E-02	0.00E+00	0.00E+00	4.69E-02
0028	7440382	Arsenic	1.63E-02	1.63E-02	0.00E+00	1.63E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.63E-02
0026	7439976	Mercury	0.00E+00	9.58E-03	0.00E+00	9.58E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.58E-03
0003	50000	Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.45E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.45E-03
0035	7783064	H2S	0.00E+00	4.80E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.80E-03
0027	7440020	Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.61E-03	0.00E+00	0.00E+00	1.61E-03	0.00E+00	0.00E+00	1.61E-03
0033	7440508	Copper	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.18E-04	0.00E+00	0.00E+00	1.18E-04
0008	71432	Benzene	0.00E+00	0.00E+00	0.00E+00	1.94E-05	0.00E+00	0.00E+00	0.00E+00	1.94E-05	0.00E+00	1.94E-05	0.00E+00	0.00E+00	1.94E-05	1.94E-05
0018	108883	Toluene	0.00E+00	1.13E-05	0.00E+00	1.13E-05	0.00E+00	1.13E-05	0.00E+00	0.00E+00	0.00E+00	1.13E-05	1.13E-05	0.00E+00	0.00E+00	1.13E-05
0041	74839	Methyl Bromide	0.00E+00	4.50E-06	0.00E+00	4.50E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.50E-06	4.50E-06	0.00E+00	0.00E+00	4.50E-06
0010	75070	Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.22E-06	0.00E+00	0.00E+00	1.22E-06
0011	75092	Methylene Chlor	0.00E+00	6.95E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.95E-07
0016	100425	Styrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.88E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.88E-07	0.00E+00	0.00E+00	5.88E-07
0022	1330207	Xylenes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.07E-07	0.00E+00	0.00E+00	5.07E-07
0075	95476	o-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.42E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.42E-07	0.00E+00	0.00E+00	4.42E-07
0009	75014	Vinyl Chloride	0.00E+00	2.71E-08	0.00E+00	0.00E+00	0.00E+00	2.71E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.71E-08	0.00E+00	0.00E+00	2.71E-08
0001	7439921	Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0002	7782492	Selenium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0004	50328	B[a]P	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0005	56235	CCl4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0006	56553	B[a]anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0007	67663	Chloroform	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0012	75354	Vinylid Chlorid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0013	79016	TCE	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0014	91203	Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0015	100414	Ethyl Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0017	106990	1,3-Butadiene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0019	108907	Chlorobenzn	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0020	123911	1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0021	127184	Perc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

## Attachment D6 - HIA at MEIR

CHEM	CAS	Abbreviation	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0023	1336363	PCBs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0024	1746016	2,3,7,8-TCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0025	7439965	Manganese	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0029	115071	Propylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0030	120821	1,2,4TriClBenz	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0031	7440417	Beryllium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0032	7440439	Cadmium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0034	7440666	Zinc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0036	18540299	Cr(VI)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0037	40321764	1-3,7,8PeCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0038	51207319	2,3,7,8-TCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0039	57117314	2-4,7,8PeCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0040	57117416	1-3,7,8PeCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0042	91576	2MeNaphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0043	208968	Acenaphthylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0044	83329	Acenaphthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0045	86737	Fluorene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0046	85018	Phenanthrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0047	120127	Anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0048	206440	Fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0049	129000	Pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0050	218019	Chrysene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0051	205992	B[b]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0052	207089	B[k]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

## Attachment D6 - HIA at MEIR

CHEM	CAS	Abbreviation	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0053	192972	B[e]pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0054	198550	Perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0055	193395	In[1,2,3-cd]pyr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0056	53703	D[a,h]anthracen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0057	191242	B[g,h,i]perylen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0058	39227286	1-4,7,8HxCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0059	57653857	1-3,6-8HxCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0060	19408743	1-3,7-9HxCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0061	35822469	1-4,6-8HpCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0062	3268879	1-8OctaCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0063	70648269	1-4,7,8HxCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0064	57117449	1-3,6-8HxCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0065	60851345	2-4,6-8HxCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0066	72918219	1-3,7-9HxCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0067	67562394	1-4,6-8HpCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0068	55673897	1-4,7-9HpCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

## Attachment D6 - HIA at MEIR

CHEM	CAS	Abbreviation	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0069	39001020	1-8OctaCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0070	107062	EDC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0071	79005	1,1,2TriClEthane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0072	106934	EDB	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0073	79345	TetraClEthane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0074	106467	p-DiClBenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0076	74873	Methyl Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0077	75003	Ethyl Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0078	25321226	DiClBenzenes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0079	75694	TriClFluorMetha	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0080	76131	CFC-113	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0081	78875	1,2-DiClPropane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0083	1151	PAHs-w/o	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0084	7440224	Silver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0085	7440360	Antimony	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Totals:			1.63E-02	3.07E-02	0.00E+00	2.59E-02	0.00E+00	5.24E-02	0.00E+00	1.63E-03	0.00E+00	3.52E-05	4.86E-02	0.00E+00	1.94E-05	5.24E-02

**Attachment D7 - HIA Maximum**

CHEM	CAS	Abbreviation	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0082	107028	Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.36E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.36E-01	0.00E+00	0.00E+00	1.36E-01
0028	7440382	Arsenic	4.46E-02	4.46E-02	0.00E+00	4.46E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.46E-02
0026	7439976	Mercury	0.00E+00	2.78E-02	0.00E+00	2.78E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.78E-02
0003	50000	Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.58E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.58E-02
0035	7783064	H2S	0.00E+00	1.39E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.39E-02
0027	7440020	Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.18E-03	0.00E+00	0.00E+00	3.18E-03	0.00E+00	0.00E+00	3.18E-03
0033	7440508	Copper	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.32E-04	0.00E+00	0.00E+00	2.32E-04
0008	71432	Benzene	0.00E+00	0.00E+00	0.00E+00	5.54E-05	0.00E+00	0.00E+00	0.00E+00	5.54E-05	0.00E+00	5.54E-05	0.00E+00	0.00E+00	5.54E-05	5.54E-05
0018	108883	Toluene	0.00E+00	3.28E-05	0.00E+00	3.28E-05	0.00E+00	3.28E-05	0.00E+00	0.00E+00	0.00E+00	3.28E-05	3.28E-05	0.00E+00	0.00E+00	3.28E-05
0041	74839	Methyl Bromide	0.00E+00	1.31E-05	0.00E+00	1.31E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E-05	1.31E-05	0.00E+00	0.00E+00	1.31E-05
0010	75070	Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.14E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.14E-06	0.00E+00	0.00E+00	2.14E-06
0011	75092	Methylene Chlor	0.00E+00	2.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.02E-06
0016	100425	Styrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.71E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.71E-06	0.00E+00	0.00E+00	1.71E-06
0075	95476	o-Xylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-06	0.00E+00	0.00E+00	1.29E-06
0022	1330207	Xylenes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.28E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.28E-06	0.00E+00	0.00E+00	1.28E-06
0009	75014	Vinyl Chloride	0.00E+00	7.88E-08	0.00E+00	0.00E+00	0.00E+00	7.88E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.88E-08	0.00E+00	0.00E+00	7.88E-08
0001	7439921	Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0002	7782492	Selenium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0004	50328	B[a]P	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0005	56235	CCl4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0006	56553	B[a]anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0007	67663	Chloroform	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0012	75354	Vinylid Chlorid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0013	79016	TCE	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0014	91203	Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0015	100414	Ethyl Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0017	106990	1,3-Butadiene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0019	108907	Chlorobenzn	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0020	123911	1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0021	127184	Perc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

## Attachment D7 - HIA Maximum

CHEM	CAS	Abbreviation	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0023	1336363	PCBs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0024	1746016	2,3,7,8-TCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0025	7439965	Manganese	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0029	115071	Propylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0030	120821	1,2,4TriClBenz	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0031	7440417	Beryllium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0032	7440439	Cadmium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0034	7440666	Zinc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0036	18540299	Cr(VI)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0037	40321764	1-3,7,8PeCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0038	51207319	2,3,7,8-TCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0039	57117314	2-4,7,8PeCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0040	57117416	1-3,7,8PeCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0042	91576	2MeNaphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0043	208968	Acenaphthylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0044	83329	Acenaphthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0045	86737	Fluorene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0046	85018	Phenanthrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0047	120127	Anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0048	206440	Fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0049	129000	Pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0050	218019	Chrysene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0051	205992	B[b]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0052	207089	B[k]fluoranthen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

## Attachment D7 - HIA Maximum

CHEM	CAS	Abbreviation	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0053	192972	B[e]pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0054	198550	Perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0055	193395	In[1,2,3-cd]pyr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0056	53703	D[a,h]anthracen	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0057	191242	B[g,h,i]perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0058	39227286	1-4,7,8HxCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0059	57653857	1-3,6-8HxCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0060	19408743	1-3,7-9HxCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0061	35822469	1-4,6-8HpCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0062	3268879	1-8OctaCDD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0063	70648269	1-4,7,8HxCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0064	57117449	1-3,6-8HxCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0065	60851345	2-4,6-8HxCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0066	72918219	1-3,7-9HxCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0067	67562394	1-4,6-8HpCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0068	55673897	1-4,7-9HpCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

**Attachment D7 - HIA Maximum**

CHEM	CAS	Abbreviation	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0069	39001020	1-8OctaCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0070	107062	EDC	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0071	79005	1,1,2TriClEthane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0072	106934	EDB	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0073	79345	TetraClEthane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0074	106467	p-DiClBenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0076	74873	Methyl Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0077	75003	Ethyl Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0078	25321226	DiClBenzenes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0079	75694	TriClFluorMetha	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0080	76131	CFC-113	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0081	78875	1,2-DiClPropane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0083	1151	PAHs-w/o	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0084	7440224	Silver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0085	7440360	Antimony	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Totals:			4.46E-02	8.64E-02	0.00E+00	7.25E-02	0.00E+00	1.52E-01	0.00E+00	3.24E-03	0.00E+00	1.01E-04	1.40E-01	0.00E+00	5.54E-05	1.52E-01



### Attachment D8 - Cancer Burden and Population Exposure

Count	Receptor	Description	Cancer Risk	Population	Cancer Burden	Cumulative Population	Cumulative Burden	UTME	UTMN	Zone
1	21665	BLK40820599	7.07E-06	0	0.00E+00	0	0.00E+00	409616	4E+06	11
2	21639	BLK40820500	6.59E-06	0	0.00E+00	0	0.00E+00	409562	4E+06	11
3	21649	BLK40820501	5.86E-06	0	0.00E+00	0	0.00E+00	409771	4E+06	11
4	21656	BLK40820502	5.15E-06	0	0.00E+00	0	0.00E+00	409832	4E+06	11
5	21651	BLK40820501	4.79E-06	0	0.00E+00	0	0.00E+00	409957	4E+06	11
6	21650	BLK40820501	4.54E-06	0	0.00E+00	0	0.00E+00	409936	4E+06	11
7	21645	BLK40820501	4.43E-06	0	0.00E+00	0	0.00E+00	409488	4E+06	11
8	21652	BLK40820502	4.42E-06	0	0.00E+00	0	0.00E+00	410037	4E+06	11
9	21641	BLK40820500	4.39E-06	0	0.00E+00	0	0.00E+00	409160	4E+06	11
10	18864	BLK40820302	4.26E-06	178	7.58E-04	178	7.58E-04	408950	4E+06	11
11	21659	BLK40820502	3.85E-06	0	0.00E+00	178	7.58E-04	409891	4E+06	11
12	21638	BLK40820500	3.80E-06	0	0.00E+00	178	7.58E-04	409737	4E+06	11
13	21663	BLK40820599	3.75E-06	0	0.00E+00	178	7.58E-04	409968	4E+06	11
14	21657	BLK40820502	3.72E-06	0	0.00E+00	178	7.58E-04	409995	4E+06	11
15	21654	BLK40820502	3.63E-06	0	0.00E+00	178	7.58E-04	410171	4E+06	11
16	21655	BLK40820502	3.53E-06	0	0.00E+00	178	7.58E-04	410104	4E+06	11
17	21640	BLK40820500	3.36E-06	0	0.00E+00	178	7.58E-04	409307	4E+06	11
18	21666	BLK40820599	3.28E-06	0	0.00E+00	178	7.58E-04	410216	4E+06	11
19	21592	BLK40820302	3.12E-06	0	0.00E+00	178	7.58E-04	409121	4E+06	11
20	18863	BLK40820302	3.11E-06	50	1.55E-04	228	9.13E-04	409013	4E+06	11
21	21653	BLK40820502	3.10E-06	0	0.00E+00	228	9.13E-04	410309	4E+06	11
22	21057	BLK40820502	3.08E-06	19	5.86E-05	247	9.72E-04	410044	4E+06	11
23	21637	BLK40820500	3.00E-06	0	0.00E+00	247	9.72E-04	409976	4E+06	11
24	21660	BLK40820503	2.97E-06	0	0.00E+00	247	9.72E-04	409788	4E+06	11
25	21594	BLK40820302	2.96E-06	0	0.00E+00	247	9.72E-04	409524	4E+06	11
26	18865	BLK40820302	2.88E-06	234	6.75E-04	481	1.65E-03	408616	4E+06	11
27	21593	BLK40820302	2.87E-06	0	0.00E+00	481	1.65E-03	409406	4E+06	11
28	18867	BLK40820302	2.86E-06	89	2.55E-04	570	1.90E-03	408670	4E+06	11
29	18965	BLK40830400	2.75E-06	27	7.44E-05	597	1.98E-03	408431	4E+06	11
30	18877	BLK40820599	2.71E-06	0	0.00E+00	597	1.98E-03	410349	4E+06	11
31	21058	BLK40820503	2.61E-06	0	0.00E+00	597	1.98E-03	410074	4E+06	11
32	18866	BLK40820302	2.61E-06	38	9.92E-05	635	2.08E-03	408581	4E+06	11
33	18872	BLK40820500	2.58E-06	15	3.88E-05	650	2.11E-03	408344	4E+06	11
34	21644	BLK40820501	2.54E-06	0	0.00E+00	650	2.11E-03	409054	4E+06	11
35	21658	BLK40820502	2.53E-06	1	2.53E-06	651	2.12E-03	410287	4E+06	11
36	21615	BLK40820402	2.52E-06	0	0.00E+00	651	2.12E-03	410488	4E+06	11
37	18966	BLK40830400	2.51E-06	122	3.06E-04	773	2.42E-03	408146	4E+06	11
38	21059	BLK40820599	2.44E-06	0	0.00E+00	773	2.42E-03	410322	4E+06	11
39	21591	BLK40820301	2.39E-06	1	2.39E-06	774	2.43E-03	409309	4E+06	11
40	18875	BLK40820502	2.38E-06	27	6.41E-05	801	2.49E-03	410492	4E+06	11
41	18904	BLK40830302	2.35E-06	554	1.30E-03	1355	3.79E-03	408563	4E+06	11
42	18860	BLK40820301	2.32E-06	59	1.37E-04	1414	3.93E-03	409151	4E+06	11
43	21590	BLK40820301	2.32E-06	0	0.00E+00	1414	3.93E-03	409494	4E+06	11
44	21642	BLK40820500	2.31E-06	3	6.94E-06	1417	3.94E-03	408697	4E+06	11

### Attachment D8 - Cancer Burden and Population Exposure

Count	Receptor	Description	Cancer Risk	Population	Cancer Burden	Cumulative Population	Cumulative Burden	UTME	UTMN	Zone
45	21646	BLK40820501	2.31E-06	0	0.00E+00	1417	3.94E-03	409383	4E+06	11
46	21661	BLK40820503	2.28E-06	0	0.00E+00	1417	3.94E-03	409727	4E+06	11
47	21589	BLK40820301	2.28E-06	0	0.00E+00	1417	3.94E-03	409666	4E+06	11
48	18870	BLK40820500	2.28E-06	85	1.94E-04	1502	4.13E-03	410413	4E+06	11
49	18861	BLK40820301	2.26E-06	385	8.70E-04	1887	5.00E-03	408902	4E+06	11
50	21636	BLK40820499	2.21E-06	0	0.00E+00	1887	5.00E-03	410416	4E+06	11
51	21662	BLK40820503	2.21E-06	0	0.00E+00	1887	5.00E-03	409906	4E+06	11
52	21614	BLK40820402	2.21E-06	1	2.21E-06	1888	5.00E-03	410688	4E+06	11
53	21060	BLK40840200	2.20E-06	0	0.00E+00	1888	5.00E-03	410128	4E+06	11
54	21648	BLK40820501	2.10E-06	0	0.00E+00	1888	5.00E-03	408884	4E+06	11
55	21643	BLK40820501	2.10E-06	0	0.00E+00	1888	5.00E-03	408792	4E+06	11
56	21664	BLK40820599	2.01E-06	0	0.00E+00	1888	5.00E-03	408723	4E+06	11
57	21084	BLK40840300	2.01E-06	15	3.01E-05	1903	5.03E-03	408787	4E+06	11
58	21079	BLK40840300	1.99E-06	13	2.58E-05	1916	5.06E-03	409503	4E+06	11
59	18908	BLK40830302	1.98E-06	182	3.60E-04	2098	5.42E-03	408201	4E+06	11
60	21133	BLK40841100	1.96E-06	1040	2.04E-03	3138	7.45E-03	408724	4E+06	11
61	21153	BLK40841102	1.93E-06	0	0.00E+00	3138	7.45E-03	408627	4E+06	11
62	18967	BLK40830400	1.93E-06	134	2.58E-04	3272	7.71E-03	408065	4E+06	11
63	18868	BLK40820400	1.91E-06	94	1.79E-04	3366	7.89E-03	410089	4E+06	11
64	18986	BLK40830402	1.90E-06	12	2.28E-05	3378	7.91E-03	408174	4E+06	11
65	18862	BLK40820302	1.90E-06	0	0.00E+00	3378	7.91E-03	409115	4E+06	11
66	18869	BLK40820402	1.89E-06	106	2.00E-04	3484	8.11E-03	410836	4E+06	11
67	21083	BLK40840300	1.84E-06	86	1.59E-04	3570	8.27E-03	408794	4E+06	11
68	21082	BLK40840300	1.84E-06	14	2.58E-05	3584	8.30E-03	408968	4E+06	11
69	18905	BLK40830302	1.82E-06	242	4.40E-04	3826	8.74E-03	408384	4E+06	11
70	21600	BLK40820400	1.79E-06	0	0.00E+00	3826	8.74E-03	410642	4E+06	11
71	18873	BLK40820500	1.79E-06	26	4.66E-05	3852	8.79E-03	408285	4E+06	11
72	21586	BLK40820300	1.78E-06	2	3.57E-06	3854	8.79E-03	409091	4E+06	11
73	21086	BLK40840300	1.78E-06	38	6.77E-05	3892	8.86E-03	408644	4E+06	11
74	21155	BLK40841102	1.78E-06	0	0.00E+00	3892	8.86E-03	408624	4E+06	11
75	21147	BLK40841101	1.78E-06	0	0.00E+00	3892	8.86E-03	408364	4E+06	11
76	21588	BLK40820301	1.78E-06	0	0.00E+00	3892	8.86E-03	409710	4E+06	11
77	21148	BLK40841101	1.77E-06	0	0.00E+00	3892	8.86E-03	408375	4E+06	11
78	21154	BLK40841102	1.77E-06	0	0.00E+00	3892	8.86E-03	408600	4E+06	11
79	21152	BLK40841102	1.73E-06	0	0.00E+00	3892	8.86E-03	408558	4E+06	11
80	21617	BLK40820402	1.72E-06	0	0.00E+00	3892	8.86E-03	410676	4E+06	11
81	21087	BLK40840300	1.70E-06	41	6.98E-05	3933	8.93E-03	408943	4E+06	11
82	18857	BLK40820301	1.69E-06	7	1.19E-05	3940	8.94E-03	409255	4E+06	11
83	21151	BLK40841102	1.69E-06	0	0.00E+00	3940	8.94E-03	408510	4E+06	11
84	21150	BLK40841101	1.69E-06	0	0.00E+00	3940	8.94E-03	408459	4E+06	11
85	21149	BLK40841101	1.67E-06	0	0.00E+00	3940	8.94E-03	408374	4E+06	11
86	18858	BLK40820301	1.62E-06	81	1.31E-04	4021	9.07E-03	409484	4E+06	11
87	21061	BLK40840200	1.62E-06	70	1.13E-04	4091	9.18E-03	410048	4E+06	11
88	21604	BLK40820401	1.62E-06	0	0.00E+00	4091	9.18E-03	410712	4E+06	11

### Attachment D8 - Cancer Burden and Population Exposure

Count	Receptor	Description	Cancer Risk	Population	Cancer Burden	Cumulative Population	Cumulative Burden	UTME	UTMN	Zone
89	21619	BLK40820402	1.61E-06	0	0.00E+00	4091	9.18E-03	410380	4E+06	11
90	21602	BLK40820400	1.61E-06	0	0.00E+00	4091	9.18E-03	410351	4E+06	11
91	21134	BLK40841100	1.60E-06	0	0.00E+00	4091	9.18E-03	408559	4E+06	11
92	18985	BLK40830402	1.59E-06	105	1.67E-04	4196	9.35E-03	408001	4E+06	11
93	21085	BLK40840300	1.58E-06	196	3.09E-04	4392	9.66E-03	408700	4E+06	11
94	21603	BLK40820400	1.58E-06	0	0.00E+00	4392	9.66E-03	410196	4E+06	11
95	21613	BLK40820401	1.57E-06	27	4.24E-05	4419	9.70E-03	411068	4E+06	11
96	18906	BLK40830302	1.57E-06	35	5.49E-05	4454	9.76E-03	408348	4E+06	11
97	21616	BLK40820402	1.57E-06	0	0.00E+00	4454	9.76E-03	410842	4E+06	11
98	21605	BLK40820401	1.55E-06	0	0.00E+00	4454	9.76E-03	410963	4E+06	11
99	21062	BLK40840200	1.54E-06	49	7.55E-05	4503	9.83E-03	409874	4E+06	11
100	18871	BLK40820500	1.54E-06	324	4.99E-04	4827	1.03E-02	408339	4E+06	11
101	21088	BLK40840300	1.53E-06	55	8.43E-05	4882	1.04E-02	408915	4E+06	11
102	18859	BLK40820301	1.53E-06	54	8.24E-05	4936	1.05E-02	409983	4E+06	11
103	18970	BLK40830400	1.52E-06	102	1.55E-04	5038	1.07E-02	407881	4E+06	11
104	18901	BLK40830301	1.50E-06	2	3.00E-06	5040	1.07E-02	408569	4E+06	11
105	18856	BLK40820300	1.50E-06	88	1.32E-04	5128	1.08E-02	409077	4E+06	11
106	21156	BLK40841102	1.49E-06	50	7.47E-05	5178	1.09E-02	408570	4E+06	11
107	21081	BLK40840300	1.48E-06	220	3.25E-04	5398	1.12E-02	409032	4E+06	11
108	21618	BLK40820402	1.47E-06	0	0.00E+00	5398	1.12E-02	410806	4E+06	11
109	18907	BLK40830302	1.47E-06	145	2.13E-04	5543	1.14E-02	408144	4E+06	11
110	21585	BLK40820300	1.45E-06	154	2.23E-04	5697	1.16E-02	409311	4E+06	11
111	18903	BLK40830302	1.45E-06	508	7.35E-04	6205	1.24E-02	408838	4E+06	11
112	21098	BLK40840301	1.45E-06	29	4.19E-05	6234	1.24E-02	409696	4E+06	11
113	18968	BLK40830400	1.44E-06	243	3.49E-04	6477	1.28E-02	407837	4E+06	11
114	21754	BLK40830301	1.43E-06	13	1.86E-05	6490	1.28E-02	408465	4E+06	11
115	21145	BLK40841101	1.41E-06	0	0.00E+00	6490	1.28E-02	408184	4E+06	11
116	21089	BLK40840301	1.41E-06	44	6.19E-05	6534	1.28E-02	408863	4E+06	11
117	18984	BLK40830401	1.41E-06	136	1.91E-04	6670	1.30E-02	407823	4E+06	11
118	18900	BLK40830301	1.40E-06	28	3.93E-05	6698	1.31E-02	408321	4E+06	11
119	21587	BLK40820301	1.40E-06	7	9.76E-06	6705	1.31E-02	409641	4E+06	11
120	18969	BLK40830400	1.39E-06	101	1.40E-04	6806	1.32E-02	407791	4E+06	11
121	22034	BLK40720202	1.37E-06	58	7.94E-05	6864	1.33E-02	410997	4E+06	11
122	21080	BLK40840300	1.37E-06	150	2.05E-04	7014	1.35E-02	409336	4E+06	11
123	18971	BLK40830400	1.36E-06	67	9.13E-05	7081	1.36E-02	407758	4E+06	11
124	22033	BLK40720202	1.33E-06	152	2.03E-04	7233	1.38E-02	411147	4E+06	11
125	21647	BLK40820501	1.33E-06	0	0.00E+00	7233	1.38E-02	409236	4E+06	11
126	21584	BLK40820300	1.33E-06	0	0.00E+00	7233	1.38E-02	409463	4E+06	11
127	21097	BLK40840301	1.32E-06	65	8.59E-05	7298	1.39E-02	409583	4E+06	11
128	21606	BLK40820401	1.32E-06	0	0.00E+00	7298	1.39E-02	411377	4E+06	11
129	18923	BLK40830301	1.31E-06	69	9.07E-05	7367	1.40E-02	407743	4E+06	11
130	18902	BLK40830301	1.31E-06	220	2.89E-04	7587	1.43E-02	408571	4E+06	11
131	21601	BLK40820400	1.31E-06	0	0.00E+00	7587	1.43E-02	410436	4E+06	11
132	18899	BLK40830301	1.30E-06	264	3.44E-04	7851	1.46E-02	407994	4E+06	11

### Attachment D8 - Cancer Burden and Population Exposure

Count	Receptor	Description	Cancer Risk	Population	Cancer Burden	Cumulative Population	Cumulative Burden	UTME	UTMN	Zone
133	21157	BLK40841102	1.30E-06	16	2.08E-05	7867	1.46E-02	408520	4E+06	11
134	21096	BLK40840301	1.30E-06	165	2.14E-04	8032	1.48E-02	409460	4E+06	11
135	21599	BLK40820400	1.30E-06	0	0.00E+00	8032	1.48E-02	411370	4E+06	11
136	22036	BLK40720202	1.29E-06	28	3.62E-05	8060	1.49E-02	410754	4E+06	11
137	21146	BLK40841101	1.28E-06	0	0.00E+00	8060	1.49E-02	408103	4E+06	11
138	22045	BLK40720300	1.28E-06	39	4.98E-05	8099	1.49E-02	411291	4E+06	11
139	22028	BLK40720201	1.26E-06	118	1.49E-04	8217	1.51E-02	411076	4E+06	11
140	18924	BLK40830301	1.25E-06	66	8.25E-05	8283	1.52E-02	407704	4E+06	11
141	22032	BLK40720201	1.25E-06	39	4.87E-05	8322	1.52E-02	411257	4E+06	11
142	18898	BLK40830301	1.25E-06	91	1.13E-04	8413	1.53E-02	408321	4E+06	11
143	21583	BLK40820300	1.24E-06	0	0.00E+00	8413	1.53E-02	409199	4E+06	11
144	22046	BLK40720300	1.24E-06	67	8.29E-05	8480	1.54E-02	411390	4E+06	11
145	21090	BLK40840301	1.23E-06	48	5.92E-05	8528	1.55E-02	408855	4E+06	11
146	21092	BLK40840301	1.23E-06	146	1.80E-04	8674	1.56E-02	409066	4E+06	11
147	22026	BLK40720201	1.23E-06	198	2.43E-04	8872	1.59E-02	411065	4E+06	11
148	18913	BLK40830300	1.22E-06	97	1.18E-04	8969	1.60E-02	407805	4E+06	11
149	22035	BLK40720202	1.22E-06	53	6.46E-05	9022	1.61E-02	410810	4E+06	11
150	22044	BLK40720300	1.22E-06	38	4.63E-05	9060	1.61E-02	411347	4E+06	11
151	21074	BLK40840201	1.21E-06	69	8.38E-05	9129	1.62E-02	409995	4E+06	11
152	21158	BLK40841102	1.21E-06	71	8.61E-05	9200	1.63E-02	408546	4E+06	11
153	21063	BLK40840200	1.21E-06	81	9.79E-05	9281	1.64E-02	409810	4E+06	11
154	21091	BLK40840301	1.21E-06	0	0.00E+00	9281	1.64E-02	408819	4E+06	11
155	22031	BLK40720201	1.20E-06	127	1.53E-04	9408	1.65E-02	411278	4E+06	11
156	21753	BLK40830301	1.20E-06	0	0.00E+00	9408	1.65E-02	408465	4E+06	11
157	22051	BLK40720301	1.19E-06	71	8.48E-05	9479	1.66E-02	411509	4E+06	11
158	18888	BLK40830300	1.18E-06	0	0.00E+00	9479	1.66E-02	408983	4E+06	11
159	22030	BLK40720201	1.18E-06	189	2.22E-04	9668	1.68E-02	411240	4E+06	11
160	21578	BLK40820300	1.17E-06	0	0.00E+00	9668	1.68E-02	410015	4E+06	11
161	22049	BLK40720301	1.17E-06	44	5.16E-05	9712	1.69E-02	411681	4E+06	11
162	21755	BLK40830302	1.17E-06	1	1.17E-06	9713	1.69E-02	408726	4E+06	11
163	18909	BLK40830302	1.17E-06	89	1.04E-04	9802	1.70E-02	407845	4E+06	11
164	22043	BLK40720300	1.16E-06	34	3.95E-05	9836	1.70E-02	411390	4E+06	11
165	18988	BLK40830402	1.16E-06	39	4.52E-05	9875	1.71E-02	407757	4E+06	11
166	18896	BLK40830301	1.15E-06	337	3.88E-04	10212	1.75E-02	408241	4E+06	11
167	22050	BLK40720301	1.15E-06	59	6.76E-05	10271	1.75E-02	411631	4E+06	11
168	22048	BLK40720301	1.14E-06	50	5.71E-05	10321	1.76E-02	411728	4E+06	11
169	21579	BLK40820300	1.13E-06	0	0.00E+00	10321	1.76E-02	409635	4E+06	11
170	21184	BLK40850200	1.13E-06	446	5.03E-04	10767	1.81E-02	411093	4E+06	11
171	22025	BLK40720201	1.12E-06	36	4.05E-05	10803	1.81E-02	410859	4E+06	11
172	22047	BLK40720301	1.12E-06	226	2.53E-04	11029	1.84E-02	411578	4E+06	11
173	18972	BLK40830400	1.12E-06	238	2.66E-04	11267	1.87E-02	407545	4E+06	11
174	21607	BLK40820401	1.12E-06	0	0.00E+00	11267	1.87E-02	411622	4E+06	11
175	21750	BLK40830300	1.11E-06	0	0.00E+00	11267	1.87E-02	408769	4E+06	11
176	21581	BLK40820300	1.11E-06	0	0.00E+00	11267	1.87E-02	409325	4E+06	11

### Attachment D8 - Cancer Burden and Population Exposure

Count	Receptor	Description	Cancer Risk	Population	Cancer Burden	Cumulative Population	Cumulative Burden	UTME	UTMN	Zone
177	22024	BLK40720201	1.11E-06	120	1.33E-04	11387	1.88E-02	410775	4E+06	11
178	18897	BLK40830301	1.10E-06	0	0.00E+00	11387	1.88E-02	408450	4E+06	11
179	18922	BLK40830301	1.10E-06	60	6.57E-05	11447	1.89E-02	407547	4E+06	11
180	18889	BLK40830300	1.09E-06	0	0.00E+00	11447	1.89E-02	408671	4E+06	11
181	18912	BLK40830303	1.09E-06	169	1.85E-04	11616	1.90E-02	407784	4E+06	11
182	21138	BLK40841100	1.09E-06	0	0.00E+00	11616	1.90E-02	407922	4E+06	11
183	22042	BLK40720300	1.09E-06	351	3.82E-04	11967	1.94E-02	411526	4E+06	11
184	22012	BLK40720100	1.08E-06	126	1.36E-04	12093	1.96E-02	410697	4E+06	11
185	18895	BLK40830301	1.08E-06	238	2.57E-04	12331	1.98E-02	408082	4E+06	11
186	18914	BLK40830300	1.07E-06	132	1.42E-04	12463	2.00E-02	407666	4E+06	11
187	21751	BLK40830300	1.07E-06	0	0.00E+00	12463	2.00E-02	408544	4E+06	11
188	21580	BLK40820300	1.07E-06	0	0.00E+00	12463	2.00E-02	409455	4E+06	11
189	21611	BLK40820401	1.07E-06	0	0.00E+00	12463	2.00E-02	411626	4E+06	11
190	21621	BLK40820402	1.06E-06	0	0.00E+00	12463	2.00E-02	411345	4E+06	11
191	18890	BLK40830300	1.06E-06	0	0.00E+00	12463	2.00E-02	408483	4E+06	11
192	21139	BLK40841100	1.06E-06	0	0.00E+00	12463	2.00E-02	407917	4E+06	11
193	21620	BLK40820402	1.06E-06	0	0.00E+00	12463	2.00E-02	411294	4E+06	11
194	21582	BLK40820300	1.05E-06	0	0.00E+00	12463	2.00E-02	409108	4E+06	11
195	22073	BLK40720500	1.05E-06	91	9.59E-05	12554	2.00E-02	411803	4E+06	11
196	21093	BLK40840301	1.05E-06	128	1.35E-04	12682	2.02E-02	409143	4E+06	11
197	18983	BLK40830401	1.05E-06	84	8.83E-05	12766	2.03E-02	407569	4E+06	11
198	22205	BLK40770500	1.05E-06	32	3.35E-05	12798	2.03E-02	412393	4E+06	11
199	21612	BLK40820401	1.04E-06	179	1.87E-04	12977	2.05E-02	411379	4E+06	11
200	22041	BLK40720300	1.04E-06	84	8.77E-05	13061	2.06E-02	411517	4E+06	11
201	22023	BLK40720201	1.04E-06	51	5.31E-05	13112	2.06E-02	410917	4E+06	11
202	21183	BLK40850200	1.04E-06	208	2.16E-04	13320	2.08E-02	411025	4E+06	11
203	22027	BLK40720201	1.04E-06	108	1.12E-04	13428	2.10E-02	411163	4E+06	11
204	22011	BLK40720100	1.04E-06	860	8.92E-04	14288	2.19E-02	410531	4E+06	11
205	22029	BLK40720201	1.03E-06	50	5.17E-05	14338	2.19E-02	411456	4E+06	11
206	22206	BLK40770500	1.03E-06	58	5.97E-05	14396	2.20E-02	412385	4E+06	11
207	21094	BLK40840301	1.02E-06	152	1.55E-04	14548	2.21E-02	409254	4E+06	11
208	22204	BLK40770500	1.02E-06	8	8.14E-06	14556	2.21E-02	412003	4E+06	11
209	21159	BLK40841102	1.02E-06	85	8.64E-05	14641	2.22E-02	408608	4E+06	11
210	18973	BLK40830400	1.01E-06	114	1.16E-04	14755	2.23E-02	407475	4E+06	11
211	18892	BLK40830300	1.01E-06	117	1.18E-04	14872	2.24E-02	408083	4E+06	11
212	18987	BLK40830402	1.01E-06	118	1.19E-04	14990	2.26E-02	407908	4E+06	11
213	22072	BLK40720500	1.00E-06	128	1.29E-04	15118	2.27E-02	411858	4E+06	11
214	21160	BLK40841102	1.00E-06	47	4.71E-05	15165	2.27E-02	408471	4E+06	11
215	21608	BLK40820401	1.00E-06	100	1.00E-04	15265	2.28E-02	411884	4E+06	11

Attachment F1 - Receptors In Zone of Impact (One in One Million Risk)							
Receptor	Type	Cancer	Chronic	Acute Simple	UTME	UTMN	ZONE
17679	SENSITIVE	9.01E-06	8.81E-01	6.55E-02	409480.3072	3765302.248	11
17694	SENSITIVE	8.26E-06	7.02E-01	5.85E-02	409480.3072	3765402.247	11
17657	SENSITIVE	7.74E-06	5.73E-01	6.27E-02	409380.3075	3765402.247	11
17672	SENSITIVE	7.60E-06	7.31E-01	6.01E-02	409580.3068	3765302.248	11
17697	SENSITIVE	7.30E-06	6.51E-01	5.58E-02	409580.3068	3765402.247	11
17664	SENSITIVE	7.15E-06	6.80E-01	6.57E-02	409380.3075	3765302.248	11
21665	CENSUS	7.07E-06	6.78E-01	5.94E-02	409615.9503	3765263.907	11
17701	SENSITIVE	6.80E-06	6.71E-01	7.07E-02	409480.3072	3765202.248	11
17648	SENSITIVE	6.67E-06	6.27E-01	6.30E-02	409580.3068	3765202.248	11
21639	CENSUS	6.59E-06	5.63E-01	5.28E-02	409562.1636	3765458.592	11
17693	SENSITIVE	6.54E-06	5.94E-01	4.84E-02	409680.3065	3765402.247	11
17662	SENSITIVE	6.32E-06	6.04E-01	5.22E-02	409680.3065	3765302.248	11
17716	SENSITIVE	6.08E-06	5.75E-01	5.63E-02	409680.3065	3765202.248	11
17702	SENSITIVE	5.87E-06	4.97E-01	5.45E-02	409580.3068	3765502.247	11
21649	CENSUS	5.85E-06	5.50E-01	6.01E-02	409771.0341	3765348.722	11
17674	SENSITIVE	5.84E-06	4.73E-01	5.90E-02	409480.3071	3765502.247	11
17695	SENSITIVE	5.70E-06	5.27E-01	4.89E-02	409780.3061	3765402.247	11
17660	SENSITIVE	5.50E-06	5.28E-01	5.50E-02	409780.3061	3765302.248	11
17744	SENSITIVE	5.49E-06	4.83E-01	4.54E-02	409680.3065	3765502.247	11
17718	SENSITIVE	5.44E-06	5.26E-01	5.36E-02	409780.3061	3765202.248	11
17637	SENSITIVE	5.40E-06	5.19E-01	6.27E-02	409580.3068	3765102.248	11
17707	SENSITIVE	5.37E-06	5.04E-01	5.51E-02	409680.3065	3765102.248	11
17703	SENSITIVE	5.23E-06	4.94E-01	5.96E-02	409880.3058	3765402.247	11
21656	CENSUS	5.15E-06	5.04E-01	5.76E-02	409832.3583	3765205.152	11
17750	SENSITIVE	5.15E-06	4.69E-01	6.33E-02	409780.3061	3765502.247	11
17670	SENSITIVE	5.13E-06	4.97E-01	6.18E-02	409880.3058	3765302.248	11
17708	SENSITIVE	4.90E-06	4.63E-01	6.70E-02	409780.3061	3765102.248	11
17730	SENSITIVE	4.81E-06	4.79E-01	7.48E-02	409380.3075	3765202.248	11
21651	CENSUS	4.79E-06	4.67E-01	6.89E-02	409956.6621	3765312.685	11
17640	SENSITIVE	4.74E-06	4.67E-01	5.73E-02	409880.3058	3765202.248	11
17689	SENSITIVE	4.64E-06	4.55E-01	6.59E-02	409980.3055	3765302.248	11
17769	SENSITIVE	4.64E-06	4.34E-01	6.00E-02	409880.3058	3765502.247	11
17706	SENSITIVE	4.61E-06	4.49E-01	6.95E-02	409780.3062	3765002.249	11
17705	SENSITIVE	4.58E-06	4.53E-01	6.53E-02	409680.3065	3765002.249	11
17742	SENSITIVE	4.58E-06	4.40E-01	5.58E-02	409980.3055	3765402.247	11
21650	CENSUS	4.54E-06	4.31E-01	6.08E-02	409936.4441	3765482.512	11
17641	SENSITIVE	4.51E-06	4.49E-01	7.13E-02	409480.3072	3765102.248	11
17309	SENSITIVE	4.44E-06	3.80E-01	4.52E-02	409080.3085	3765802.246	11
21645	CENSUS	4.43E-06	4.40E-01	6.98E-02	409488.2203	3765093.381	11
21652	CENSUS	4.42E-06	4.34E-01	7.24E-02	410037.2068	3765337.722	11
21641	CENSUS	4.39E-06	3.60E-01	4.83E-02	409160.364	3765723.035	11
17305	SENSITIVE	4.38E-06	3.70E-01	4.73E-02	409080.3085	3765702.246	11
17306	SENSITIVE	4.38E-06	3.70E-01	4.73E-02	409080.3085	3765702.246	11
17308	SENSITIVE	4.37E-06	3.88E-01	4.66E-02	408980.3088	3765802.246	11
17712	SENSITIVE	4.35E-06	4.20E-01	6.03E-02	409880.3058	3765102.248	11
17817	SENSITIVE	4.31E-06	3.79E-01	5.39E-02	409680.3065	3765602.247	11

**Attachment F1 - Receptors In Zone of Impact (One in One Million Risk)**

<b>Receptor</b>	<b>Type</b>	<b>Cancer</b>	<b>Chronic</b>	<b>Acute Simple</b>	<b>UTME</b>	<b>UTMN</b>	<b>ZONE</b>
17303	SENSITIVE	4.30E-06	3.86E-01	5.16E-02	408980.3088	3765902.246	11
17646	SENSITIVE	4.27E-06	4.26E-01	6.10E-02	409980.3055	3765202.248	11
18864	CENSUS	4.26E-06	3.86E-01	5.12E-02	408949.9585	3765891.312	11
17317	SENSITIVE	4.26E-06	3.48E-01	4.74E-02	409180.3082	3765702.246	11
17787	SENSITIVE	4.23E-06	4.04E-01	6.01E-02	409980.3055	3765502.247	11
17632	SENSITIVE	4.19E-06	3.64E-01	4.95E-02	409580.3068	3765602.247	11
17658	SENSITIVE	4.18E-06	3.22E-01	5.87E-02	409380.3075	3765502.247	11
17704	SENSITIVE	4.18E-06	4.15E-01	6.62E-02	410080.3051	3765302.248	11
17710	SENSITIVE	4.18E-06	4.06E-01	7.20E-02	409880.3058	3765002.249	11
17628	SENSITIVE	4.16E-06	3.73E-01	5.24E-02	409780.3061	3765602.247	11
17736	SENSITIVE	4.13E-06	3.62E-01	5.19E-02	409080.3085	3765902.246	11
17753	SENSITIVE	4.12E-06	3.49E-01	6.12E-02	409180.3082	3765802.246	11
17777	SENSITIVE	4.11E-06	4.01E-01	6.10E-02	410080.3051	3765402.247	11
17304	SENSITIVE	4.03E-06	3.56E-01	4.75E-02	408980.3088	3765702.246	11
17307	SENSITIVE	3.99E-06	3.64E-01	5.55E-02	408980.3088	3766002.245	11
17312	SENSITIVE	3.98E-06	3.68E-01	4.97E-02	408880.3092	3765902.246	11
17635	SENSITIVE	3.93E-06	3.63E-01	5.50E-02	409880.3058	3765602.247	11
17655	SENSITIVE	3.92E-06	3.95E-01	6.28E-02	410080.3051	3765202.248	11
17711	SENSITIVE	3.92E-06	3.92E-01	7.18E-02	409880.3058	3764902.249	11
17709	SENSITIVE	3.90E-06	3.96E-01	8.14E-02	409780.3062	3764902.249	11
17310	SENSITIVE	3.89E-06	3.63E-01	5.45E-02	408880.3092	3766002.245	11
17770	SENSITIVE	3.88E-06	3.25E-01	5.33E-02	409480.3071	3765602.247	11
21659	CENSUS	3.85E-06	3.85E-01	7.07E-02	409890.7421	3764900.861	11
17316	SENSITIVE	3.82E-06	3.52E-01	4.90E-02	408880.3092	3765802.246	11
17715	SENSITIVE	3.82E-06	3.77E-01	6.01E-02	409980.3055	3765102.248	11
17320	SENSITIVE	3.81E-06	3.43E-01	6.35E-02	409080.3085	3766002.245	11
21638	CENSUS	3.80E-06	3.41E-01	5.83E-02	409736.5366	3765645.594	11
17756	SENSITIVE	3.80E-06	3.33E-01	6.55E-02	409180.3081	3765902.246	11
17634	SENSITIVE	3.77E-06	3.66E-01	6.28E-02	410080.3051	3765502.247	11
21663	CENSUS	3.75E-06	3.66E-01	7.11E-02	409967.931	3765016.881	11
17285	SENSITIVE	3.73E-06	3.52E-01	5.52E-02	408880.3092	3766102.245	11
17815	SENSITIVE	3.73E-06	3.53E-01	6.86E-02	409980.3055	3765602.247	11
21657	CENSUS	3.72E-06	3.66E-01	6.21E-02	409995.2262	3765072.037	11
17757	SENSITIVE	3.72E-06	3.11E-01	5.17E-02	409280.3078	3765702.246	11
17739	SENSITIVE	3.71E-06	3.71E-01	6.29E-02	410180.3048	3765302.248	11
17280	SENSITIVE	3.69E-06	3.14E-01	5.72E-02	409080.3085	3765602.247	11
17713	SENSITIVE	3.68E-06	3.60E-01	6.97E-02	409980.3055	3765002.249	11
17298	SENSITIVE	3.67E-06	3.41E-01	5.63E-02	408980.3088	3766102.245	11
17723	SENSITIVE	3.66E-06	2.95E-01	5.61E-02	409180.3082	3765602.247	11
17759	SENSITIVE	3.66E-06	3.15E-01	4.47E-02	409280.3078	3765802.246	11
17714	SENSITIVE	3.64E-06	3.64E-01	7.07E-02	409980.3055	3764902.249	11
17792	SENSITIVE	3.64E-06	3.60E-01	6.14E-02	410180.3048	3765402.247	11
21654	CENSUS	3.63E-06	3.68E-01	5.85E-02	410171.4448	3765231.11	11
21655	CENSUS	3.53E-06	3.56E-01	5.93E-02	410104.2303	3765126.416	11
17686	SENSITIVE	3.52E-06	3.58E-01	5.96E-02	410180.3048	3765202.248	11
17323	SENSITIVE	3.51E-06	3.35E-01	5.27E-02	408780.3095	3766002.245	11

**Attachment F1 - Receptors In Zone of Impact (One in One Million Risk)**

<b>Receptor</b>	<b>Type</b>	<b>Cancer</b>	<b>Chronic</b>	<b>Acute Simple</b>	<b>UTME</b>	<b>UTMN</b>	<b>ZONE</b>
17734	SENSITIVE	3.47E-06	2.85E-01	5.65E-02	409280.3078	3765602.247	11
17623	SENSITIVE	3.44E-06	3.11E-01	6.19E-02	409180.3081	3766002.245	11
17282	SENSITIVE	3.43E-06	3.29E-01	5.24E-02	408780.3095	3766102.245	11
17768	SENSITIVE	3.43E-06	3.05E-01	5.25E-02	409280.3078	3765902.246	11
17791	SENSITIVE	3.43E-06	3.02E-01	4.68E-02	409580.3068	3765702.246	11
17807	SENSITIVE	3.43E-06	3.10E-01	5.69E-02	409680.3065	3765702.246	11
17819	SENSITIVE	3.43E-06	3.38E-01	6.27E-02	410180.3048	3765502.247	11
17831	SENSITIVE	3.41E-06	3.30E-01	6.82E-02	410080.3051	3765602.247	11
17287	SENSITIVE	3.40E-06	3.24E-01	5.61E-02	408880.3092	3766202.244	11
17315	SENSITIVE	3.40E-06	3.10E-01	4.86E-02	408880.3092	3765702.246	11
17289	SENSITIVE	3.39E-06	3.21E-01	5.08E-02	408780.3095	3765902.246	11
17339	SENSITIVE	3.38E-06	3.11E-01	6.63E-02	409080.3085	3766102.245	11
21640	CENSUS	3.36E-06	2.77E-01	5.75E-02	409307.1068	3765599.792	11
17643	SENSITIVE	3.33E-06	3.40E-01	6.89E-02	409980.3055	3764802.249	11
17281	SENSITIVE	3.31E-06	2.90E-01	5.16E-02	408980.3088	3765602.247	11
17732	SENSITIVE	3.31E-06	2.76E-01	5.68E-02	409380.3075	3765602.247	11
17826	SENSITIVE	3.31E-06	3.04E-01	6.97E-02	409780.3061	3765702.246	11
17767	SENSITIVE	3.30E-06	3.34E-01	5.97E-02	410280.3045	3765302.248	11
17764	SENSITIVE	3.29E-06	2.83E-01	4.86E-02	409480.3071	3765702.246	11
21666	CENSUS	3.28E-06	3.24E-01	6.19E-02	410216.3419	3765507.766	11
17284	SENSITIVE	3.28E-06	3.16E-01	5.26E-02	408780.3095	3766202.244	11
17639	SENSITIVE	3.28E-06	3.39E-01	7.89E-02	409880.3058	3764802.249	11
17327	SENSITIVE	3.26E-06	3.07E-01	5.66E-02	408980.3088	3766202.245	11
17774	SENSITIVE	3.26E-06	2.85E-01	4.92E-02	409380.3075	3765802.246	11
17622	SENSITIVE	3.24E-06	3.24E-01	5.96E-02	410280.3044	3765402.247	11
17638	SENSITIVE	3.23E-06	3.20E-01	6.50E-02	410080.3051	3765002.249	11
17755	SENSITIVE	3.23E-06	2.76E-01	5.09E-02	409380.3075	3765702.246	11
17644	SENSITIVE	3.22E-06	3.21E-01	6.76E-02	410080.3051	3764902.249	11
17645	SENSITIVE	3.22E-06	3.21E-01	6.76E-02	410080.3051	3764902.249	11
17848	SENSITIVE	3.21E-06	2.97E-01	6.12E-02	409880.3058	3765702.246	11
17656	SENSITIVE	3.20E-06	3.25E-01	5.81E-02	410180.3048	3765102.248	11
17727	SENSITIVE	3.17E-06	3.24E-01	5.63E-02	410280.3045	3765202.248	11
17631	SENSITIVE	3.16E-06	2.87E-01	5.67E-02	409280.3078	3766002.245	11
17851	SENSITIVE	3.15E-06	3.10E-01	6.07E-02	410180.3048	3765602.247	11
21592	CENSUS	3.12E-06	2.90E-01	6.85E-02	409121.3645	3766135.441	11
17321	SENSITIVE	3.11E-06	2.92E-01	5.40E-02	408780.3095	3765802.246	11
17654	SENSITIVE	3.11E-06	3.16E-01	6.48E-02	410080.3051	3764802.249	11
17861	SENSITIVE	3.11E-06	2.92E-01	5.94E-02	409980.3055	3765702.246	11
18863	CENSUS	3.10E-06	2.93E-01	5.70E-02	409013.0026	3766220.244	11
21653	CENSUS	3.10E-06	3.10E-01	5.64E-02	410309.2868	3765429.469	11
17333	SENSITIVE	3.09E-06	3.00E-01	5.18E-02	408780.3095	3766302.244	11
17352	SENSITIVE	3.09E-06	2.86E-01	5.53E-02	409180.3081	3766102.245	11
21057	CENSUS	3.08E-06	3.16E-01	6.58E-02	410043.6899	3764761.073	11
17782	SENSITIVE	3.08E-06	2.76E-01	5.93E-02	409380.3075	3765902.246	11
17832	SENSITIVE	3.07E-06	3.06E-01	6.08E-02	410280.3044	3765502.247	11
17322	SENSITIVE	3.06E-06	2.98E-01	5.30E-02	408680.3098	3766102.245	11



**Attachment F1 - Receptors In Zone of Impact (One in One Million Risk)**

<b>Receptor</b>	<b>Type</b>	<b>Cancer</b>	<b>Chronic</b>	<b>Acute Simple</b>	<b>UTME</b>	<b>UTMN</b>	<b>ZONE</b>
17338	SENSITIVE	3.06E-06	2.94E-01	5.40E-02	408880.3091	3766302.244	11
17288	SENSITIVE	3.03E-06	2.96E-01	4.93E-02	408680.3098	3766202.244	11
17678	SENSITIVE	3.03E-06	2.51E-01	5.56E-02	409080.3085	3765502.247	11
21637	CENSUS	3.00E-06	2.82E-01	5.83E-02	409976.0499	3765720.722	11
17786	SENSITIVE	3.00E-06	3.05E-01	5.78E-02	410380.3041	3765302.248	11
17301	SENSITIVE	2.99E-06	2.90E-01	5.09E-02	408680.3098	3766002.245	11
17347	SENSITIVE	2.99E-06	2.81E-01	6.31E-02	409080.3085	3766202.245	11
17793	SENSITIVE	2.98E-06	2.64E-01	4.91E-02	409480.3071	3765802.246	11
21660	CENSUS	2.97E-06	3.09E-01	7.41E-02	409788.3581	3764802.427	11
21594	CENSUS	2.96E-06	2.63E-01	4.92E-02	409524.496	3765791.453	11
17326	SENSITIVE	2.96E-06	2.91E-01	5.04E-02	408680.3098	3766302.244	11
17649	SENSITIVE	2.96E-06	2.97E-01	5.80E-02	410180.3048	3765002.249	11
17717	SENSITIVE	2.96E-06	3.08E-01	7.82E-02	409780.3062	3764802.249	11
17874	SENSITIVE	2.95E-06	2.83E-01	5.77E-02	410080.3051	3765702.246	11
17314	SENSITIVE	2.93E-06	2.68E-01	4.24E-02	408880.3092	3765602.247	11
17259	SENSITIVE	2.92E-06	2.56E-01	5.58E-02	408980.3088	3765502.247	11
17633	SENSITIVE	2.91E-06	2.61E-01	5.16E-02	409580.3068	3765802.246	11
17636	SENSITIVE	2.91E-06	2.93E-01	5.66E-02	410380.3041	3765402.247	11
17692	SENSITIVE	2.91E-06	2.98E-01	5.62E-02	410280.3045	3765102.248	11
17827	SENSITIVE	2.90E-06	2.65E-01	5.57E-02	409680.3065	3765802.246	11
18865	CENSUS	2.88E-06	2.84E-01	5.24E-02	408615.8494	3766159.357	11
17350	SENSITIVE	2.88E-06	2.75E-01	5.47E-02	408980.3088	3766302.244	11
21593	CENSUS	2.87E-06	2.61E-01	5.97E-02	409406.3002	3765953.338	11
17752	SENSITIVE	2.87E-06	2.95E-01	5.37E-02	410380.3041	3765202.248	11
17853	SENSITIVE	2.87E-06	2.68E-01	5.79E-02	409280.3078	3766102.245	11
18867	CENSUS	2.86E-06	2.77E-01	5.00E-02	408670.3329	3765966.351	11
17629	SENSITIVE	2.86E-06	2.62E-01	6.39E-02	409380.3075	3766002.245	11
17875	SENSITIVE	2.86E-06	2.84E-01	5.58E-02	410280.3044	3765602.247	11
17349	SENSITIVE	2.85E-06	2.82E-01	5.93E-02	408380.3108	3766302.244	11
17858	SENSITIVE	2.84E-06	2.66E-01	5.93E-02	409780.3061	3765802.246	11
17286	SENSITIVE	2.82E-06	2.66E-01	4.58E-02	408780.3095	3765702.246	11
17653	SENSITIVE	2.82E-06	2.82E-01	5.85E-02	410180.3048	3764902.249	11
17668	SENSITIVE	2.82E-06	2.87E-01	6.15E-02	410180.3048	3764802.249	11
17671	SENSITIVE	2.82E-06	2.91E-01	6.62E-02	410080.3051	3764702.25	11
17300	SENSITIVE	2.81E-06	2.79E-01	5.24E-02	408580.3102	3766202.244	11
17335	SENSITIVE	2.77E-06	2.76E-01	4.98E-02	408580.3102	3766302.244	11
17355	SENSITIVE	2.77E-06	2.62E-01	5.34E-02	409180.3081	3766202.245	11
17626	SENSITIVE	2.77E-06	2.51E-01	5.53E-02	409480.3071	3765902.246	11
17661	SENSITIVE	2.77E-06	2.90E-01	7.03E-02	409980.3055	3764702.25	11
17843	SENSITIVE	2.77E-06	2.78E-01	5.60E-02	410380.3041	3765502.247	11
17887	SENSITIVE	2.76E-06	2.70E-01	5.93E-02	410180.3048	3765702.246	11
18965	CENSUS	2.75E-06	2.69E-01	5.29E-02	408430.8128	3766472.077	11
17329	SENSITIVE	2.75E-06	2.65E-01	5.39E-02	408680.3098	3765902.246	11
17883	SENSITIVE	2.72E-06	2.58E-01	7.47E-02	409880.3058	3765802.246	11
18877	CENSUS	2.71E-06	2.71E-01	5.65E-02	410348.8125	3765586.037	11
17337	SENSITIVE	2.71E-06	2.74E-01	5.52E-02	408480.3105	3766302.244	11

**Attachment F1 - Receptors In Zone of Impact (One in One Million Risk)**

<b>Receptor</b>	<b>Type</b>	<b>Cancer</b>	<b>Chronic</b>	<b>Acute Simple</b>	<b>UTME</b>	<b>UTMN</b>	<b>ZONE</b>
17691	SENSITIVE	2.71E-06	2.79E-01	6.13E-02	410180.3048	3764702.25	11
17319	SENSITIVE	2.70E-06	2.67E-01	4.98E-02	408580.3102	3766102.245	11
17620	SENSITIVE	2.70E-06	2.76E-01	5.45E-02	410480.3038	3765302.248	11
17665	SENSITIVE	2.68E-06	2.72E-01	5.80E-02	410280.3045	3765002.249	11
17342	SENSITIVE	2.67E-06	2.60E-01	6.22E-02	408380.3108	3766202.244	11
17363	SENSITIVE	2.66E-06	2.55E-01	6.26E-02	409080.3085	3766302.244	11
17735	SENSITIVE	2.66E-06	2.74E-01	5.53E-02	410380.3041	3765102.248	11
17878	SENSITIVE	2.66E-06	2.52E-01	5.87E-02	409280.3078	3766202.245	11
17332	SENSITIVE	2.65E-06	2.67E-01	5.24E-02	408480.3105	3766202.244	11
17823	SENSITIVE	2.65E-06	2.69E-01	5.40E-02	410480.3038	3765402.247	11
17687	SENSITIVE	2.64E-06	2.32E-01	5.88E-02	408980.3088	3765402.247	11
17336	SENSITIVE	2.63E-06	2.56E-01	6.46E-02	408380.3108	3766102.245	11
17775	SENSITIVE	2.63E-06	2.71E-01	5.16E-02	410480.3038	3765202.248	11
17862	SENSITIVE	2.62E-06	2.45E-01	6.64E-02	409380.3075	3766102.245	11
18866	CENSUS	2.61E-06	2.57E-01	5.29E-02	408580.8996	3766041.669	11
21058	CENSUS	2.61E-06	2.73E-01	6.87E-02	410074.386	3764655.447	11
17659	SENSITIVE	2.59E-06	2.15E-01	5.95E-02	409180.3082	3765502.247	11
17830	SENSITIVE	2.59E-06	2.37E-01	5.60E-02	409580.3068	3765902.246	11
18872	CENSUS	2.58E-06	2.55E-01	6.54E-02	408343.8133	3766071.888	11
17890	SENSITIVE	2.58E-06	2.46E-01	6.10E-02	409980.3054	3765802.246	11
17663	SENSITIVE	2.56E-06	2.70E-01	7.49E-02	409880.3058	3764702.25	11
17833	SENSITIVE	2.56E-06	2.37E-01	5.99E-02	409480.3071	3766002.245	11
17688	SENSITIVE	2.55E-06	2.59E-01	5.99E-02	410280.3045	3764802.249	11
21644	CENSUS	2.54E-06	2.12E-01	6.16E-02	409053.623	3765391.561	11
17669	SENSITIVE	2.54E-06	2.56E-01	6.01E-02	410280.3045	3764902.249	11
21658	CENSUS	2.53E-06	2.55E-01	5.95E-02	410287.484	3764914.005	11
17302	SENSITIVE	2.53E-06	2.43E-01	4.86E-02	408680.3098	3765802.246	11
17856	SENSITIVE	2.53E-06	2.56E-01	5.09E-02	410480.3038	3765502.247	11
21615	CENSUS	2.52E-06	2.61E-01	5.37E-02	410487.5747	3765139.272	11
17325	SENSITIVE	2.52E-06	2.47E-01	5.41E-02	408580.3102	3766002.245	11
17360	SENSITIVE	2.52E-06	2.52E-01	6.30E-02	408280.3112	3766302.244	11
17859	SENSITIVE	2.52E-06	2.34E-01	5.80E-02	409680.3065	3765902.246	11
18966	CENSUS	2.51E-06	2.66E-01	5.40E-02	408145.6407	3766409.278	11
17371	SENSITIVE	2.50E-06	2.39E-01	5.23E-02	409180.3081	3766302.244	11
17681	SENSITIVE	2.50E-06	2.36E-01	6.12E-02	409780.3061	3765902.246	11
17726	SENSITIVE	2.50E-06	2.57E-01	5.69E-02	410280.3045	3764702.25	11
17293	SENSITIVE	2.47E-06	2.35E-01	6.43E-02	408780.3095	3765602.247	11
17666	SENSITIVE	2.47E-06	2.09E-01	5.76E-02	409280.3078	3765502.247	11
17296	SENSITIVE	2.46E-06	2.44E-01	6.41E-02	408280.3112	3766202.244	11
17761	SENSITIVE	2.46E-06	2.55E-01	5.37E-02	410480.3038	3765102.248	11
17651	SENSITIVE	2.45E-06	1.98E-01	6.64E-02	409080.3085	3765402.247	11
17725	SENSITIVE	2.45E-06	2.18E-01	6.65E-02	408980.3088	3765302.248	11
17813	SENSITIVE	2.45E-06	2.51E-01	5.13E-02	410580.3034	3765302.248	11
21059	CENSUS	2.44E-06	2.50E-01	5.67E-02	410321.6536	3764728.818	11
17700	SENSITIVE	2.44E-06	2.51E-01	5.38E-02	410380.3041	3765002.249	11
17738	SENSITIVE	2.42E-06	2.53E-01	6.31E-02	410180.3048	3764602.25	11

**Attachment F1 - Receptors In Zone of Impact (One in One Million Risk)**

<b>Receptor</b>	<b>Type</b>	<b>Cancer</b>	<b>Chronic</b>	<b>Acute Simple</b>	<b>UTME</b>	<b>UTMN</b>	<b>ZONE</b>
17367	SENSITIVE	2.40E-06	2.28E-01	6.50E-02	409380.3075	3766202.245	11
17722	SENSITIVE	2.40E-06	2.53E-01	6.20E-02	410080.3052	3764602.25	11
17842	SENSITIVE	2.40E-06	2.45E-01	5.12E-02	410580.3034	3765402.247	11
21591	CENSUS	2.39E-06	2.29E-01	5.18E-02	409309.2679	3766264.773	11
17292	SENSITIVE	2.39E-06	2.39E-01	5.57E-02	408480.3105	3766102.245	11
17749	SENSITIVE	2.38E-06	2.19E-01	5.70E-02	408880.3092	3765402.247	11
18875	CENSUS	2.37E-06	2.40E-01	5.26E-02	410492.4809	3765582.559	11
17356	SENSITIVE	2.36E-06	2.35E-01	6.30E-02	408280.3112	3766102.245	11
17368	SENSITIVE	2.36E-06	2.22E-01	5.82E-02	409480.3071	3766102.245	11
17374	SENSITIVE	2.36E-06	2.27E-01	5.53E-02	409280.3078	3766302.244	11
17880	SENSITIVE	2.36E-06	2.20E-01	5.82E-02	409580.3068	3766002.245	11
18904	CENSUS	2.35E-06	2.34E-01	4.59E-02	408563.2052	3766760.147	11
17747	SENSITIVE	2.34E-06	2.43E-01	5.53E-02	410280.3045	3764602.25	11
17696	SENSITIVE	2.33E-06	2.37E-01	5.50E-02	410380.3041	3764902.249	11
18860	CENSUS	2.32E-06	2.25E-01	5.11E-02	409150.5627	3766388.131	11
21590	CENSUS	2.32E-06	2.19E-01	5.97E-02	409493.7166	3766107.751	11
17283	SENSITIVE	2.32E-06	2.27E-01	5.04E-02	408580.3102	3765902.246	11
17776	SENSITIVE	2.32E-06	2.13E-01	5.41E-02	408880.3092	3765302.248	11
21642	CENSUS	2.31E-06	2.23E-01	4.83E-02	408697.3911	3765705.079	11
21646	CENSUS	2.31E-06	2.22E-01	6.56E-02	409383.1178	3765005.552	11
17871	SENSITIVE	2.30E-06	2.34E-01	4.78E-02	410580.3034	3765502.247	11
17720	SENSITIVE	2.29E-06	2.33E-01	5.16E-02	410380.3041	3764802.249	11
17748	SENSITIVE	2.29E-06	2.35E-01	5.40E-02	410380.3041	3764702.25	11
18870	CENSUS	2.28E-06	2.28E-01	5.67E-02	410412.9007	3765733.065	11
21589	CENSUS	2.28E-06	2.14E-01	5.72E-02	409665.8658	3765989.769	11
21661	CENSUS	2.28E-06	2.37E-01	7.90E-02	409727.3014	3764753.093	11
17743	SENSITIVE	2.27E-06	2.35E-01	5.19E-02	410480.3038	3765002.249	11
18861	CENSUS	2.26E-06	2.23E-01	4.84E-02	408902.3127	3766574.542	11
17784	SENSITIVE	2.26E-06	2.35E-01	5.01E-02	410580.3034	3765102.248	11
17334	SENSITIVE	2.24E-06	2.17E-01	5.38E-02	408680.3098	3765702.246	11
17746	SENSITIVE	2.23E-06	2.02E-01	6.81E-02	408980.3088	3765202.248	11
17845	SENSITIVE	2.23E-06	2.30E-01	4.83E-02	410680.3031	3765302.248	11
17297	SENSITIVE	2.22E-06	2.21E-01	5.29E-02	408480.3105	3766002.245	11
21614	CENSUS	2.21E-06	2.27E-01	5.02E-02	410688.1524	3765342.542	11
21636	CENSUS	2.21E-06	2.27E-01	5.29E-02	410416.2929	3764679.695	11
21662	CENSUS	2.21E-06	2.34E-01	7.69E-02	409905.867	3764640.132	11
17779	SENSITIVE	2.21E-06	2.29E-01	5.39E-02	410380.3041	3764602.25	11
17804	SENSITIVE	2.21E-06	2.08E-01	6.37E-02	408880.3092	3765202.248	11
21060	CENSUS	2.20E-06	2.34E-01	6.06E-02	410127.6246	3764549.606	11
17690	SENSITIVE	2.20E-06	2.33E-01	6.86E-02	409980.3055	3764602.25	11
17790	SENSITIVE	2.20E-06	2.10E-01	5.00E-02	408780.3095	3765502.247	11
17343	SENSITIVE	2.19E-06	2.19E-01	5.85E-02	408180.3115	3766302.244	11
17812	SENSITIVE	2.19E-06	2.27E-01	4.62E-02	410680.3031	3765202.248	11
17863	SENSITIVE	2.19E-06	2.24E-01	4.90E-02	410680.3031	3765402.247	11
17376	SENSITIVE	2.16E-06	2.06E-01	5.56E-02	409480.3071	3766202.245	11
17379	SENSITIVE	2.15E-06	2.07E-01	6.02E-02	409380.3075	3766302.244	11

**Attachment F1 - Receptors In Zone of Impact (One in One Million Risk)**

<b>Receptor</b>	<b>Type</b>	<b>Cancer</b>	<b>Chronic</b>	<b>Acute Simple</b>	<b>UTME</b>	<b>UTMN</b>	<b>ZONE</b>
17667	SENSITIVE	2.15E-06	2.25E-01	7.63E-02	409780.3062	3764702.25	11
17673	SENSITIVE	2.15E-06	1.78E-01	7.29E-02	409080.3085	3765302.248	11
17733	SENSITIVE	2.12E-06	2.17E-01	4.90E-02	410480.3038	3764902.249	11
17772	SENSITIVE	2.12E-06	2.20E-01	4.92E-02	410580.3034	3765002.249	11
17841	SENSITIVE	2.12E-06	1.97E-01	7.92E-02	408880.3092	3765102.248	11
17771	SENSITIVE	2.11E-06	2.22E-01	5.85E-02	410280.3045	3764502.25	11
21643	CENSUS	2.10E-06	1.97E-01	5.36E-02	408792.1375	3765377.162	11
21648	CENSUS	2.10E-06	1.98E-01	6.49E-02	408884.3851	3765154.604	11
17341	SENSITIVE	2.10E-06	2.08E-01	5.60E-02	408180.3115	3766202.244	11
17630	SENSITIVE	2.10E-06	2.20E-01	4.82E-02	410680.3031	3765102.248	11
17682	SENSITIVE	2.10E-06	2.15E-01	4.51E-02	410680.3031	3765502.247	11
17328	SENSITIVE	2.08E-06	2.05E-01	4.65E-02	408580.3102	3765802.246	11
17627	SENSITIVE	2.08E-06	1.96E-01	4.90E-02	408780.3095	3765402.247	11
17822	SENSITIVE	2.08E-06	1.97E-01	5.72E-02	408780.3095	3765302.248	11
17778	SENSITIVE	2.07E-06	2.13E-01	5.24E-02	410480.3038	3764702.25	11
17258	SENSITIVE	2.06E-06	2.05E-01	5.01E-02	408480.3105	3765902.246	11
17740	SENSITIVE	2.06E-06	2.10E-01	5.20E-02	410480.3038	3764802.249	11
17745	SENSITIVE	2.06E-06	2.19E-01	5.79E-02	410180.3048	3764502.25	11
17803	SENSITIVE	2.06E-06	2.15E-01	5.30E-02	410380.3041	3764502.25	11
17869	SENSITIVE	2.06E-06	2.13E-01	4.61E-02	410780.3028	3765302.248	11
17798	SENSITIVE	2.04E-06	2.11E-01	5.04E-02	410480.3038	3764602.25	11
17847	SENSITIVE	2.03E-06	2.11E-01	4.44E-02	410780.3028	3765202.248	11
17888	SENSITIVE	2.02E-06	2.08E-01	4.73E-02	410780.3028	3765402.247	11
21084	CENSUS	2.01E-06	1.87E-01	9.39E-02	408787.3485	3765100.124	11
21664	CENSUS	2.01E-06	1.95E-01	5.24E-02	408723.1108	3765523.774	11
17825	SENSITIVE	2.01E-06	1.96E-01	5.49E-02	408680.3098	3765602.247	11
17860	SENSITIVE	2.01E-06	1.94E-01	7.29E-02	408780.3095	3765202.248	11
17392	SENSITIVE	2.00E-06	1.92E-01	5.66E-02	409580.3068	3766202.245	11
21079	CENSUS	1.99E-06	1.98E-01	6.55E-02	409503.4389	3764843.648	11
17760	SENSITIVE	1.99E-06	2.06E-01	5.00E-02	410580.3035	3764902.249	11
18908	CENSUS	1.98E-06	1.96E-01	4.00E-02	408201.3697	3766852.496	11
17393	SENSITIVE	1.98E-06	1.91E-01	5.67E-02	409480.3071	3766302.244	11
17311	SENSITIVE	1.97E-06	1.99E-01	4.96E-02	408380.3108	3766002.245	11
21133	CENSUS	1.96E-06	1.88E-01	6.31E-02	408723.7286	3765296.178	11
17806	SENSITIVE	1.96E-06	2.05E-01	4.70E-02	410680.3031	3765002.249	11
17820	SENSITIVE	1.94E-06	2.03E-01	4.90E-02	410480.3038	3764502.25	11
17839	SENSITIVE	1.94E-06	2.03E-01	4.58E-02	410780.3028	3765102.248	11
18967	CENSUS	1.93E-06	1.93E-01	4.53E-02	408064.6923	3766631.734	11
21153	CENSUS	1.93E-06	1.83E-01	9.75E-02	408627.2373	3765225.196	11
17344	SENSITIVE	1.93E-06	1.93E-01	5.67E-02	408180.3115	3766102.245	11
17721	SENSITIVE	1.93E-06	2.06E-01	6.33E-02	410080.3052	3764502.25	11
17773	SENSITIVE	1.93E-06	1.98E-01	5.17E-02	410580.3035	3764802.249	11
18868	CENSUS	1.91E-06	1.89E-01	6.57E-02	410089.3793	3766008.147	11
18862	CENSUS	1.90E-06	1.88E-01	4.64E-02	409115.3567	3766608.869	11
18986	CENSUS	1.90E-06	1.90E-01	5.60E-02	408174.3143	3766098.494	11
17796	SENSITIVE	1.90E-06	1.78E-01	7.21E-02	408980.3089	3765102.248	11

**Attachment F1 - Receptors In Zone of Impact (One in One Million Risk)**

<b>Receptor</b>	<b>Type</b>	<b>Cancer</b>	<b>Chronic</b>	<b>Acute Simple</b>	<b>UTME</b>	<b>UTMN</b>	<b>ZONE</b>
17818	SENSITIVE	1.90E-06	1.97E-01	4.82E-02	410580.3035	3764602.25	11
18869	CENSUS	1.89E-06	1.94E-01	4.47E-02	410835.8123	3765462.978	11
17675	SENSITIVE	1.89E-06	2.00E-01	6.93E-02	409880.3058	3764602.25	11
17290	SENSITIVE	1.88E-06	1.86E-01	6.06E-02	408580.3102	3765702.246	11
17358	SENSITIVE	1.87E-06	1.86E-01	5.10E-02	408080.3119	3766302.244	11
17728	SENSITIVE	1.87E-06	1.60E-01	7.49E-02	409080.3085	3765202.248	11
17802	SENSITIVE	1.87E-06	1.92E-01	4.58E-02	410580.3035	3764702.25	11
17873	SENSITIVE	1.87E-06	1.95E-01	4.23E-02	410880.3024	3765202.248	11
17387	SENSITIVE	1.86E-06	1.78E-01	9.15E-02	408680.3099	3765102.248	11
17834	SENSITIVE	1.86E-06	1.82E-01	5.23E-02	408680.3099	3765502.247	11
17850	SENSITIVE	1.86E-06	1.77E-01	9.65E-02	408880.3092	3765002.249	11
17783	SENSITIVE	1.85E-06	1.95E-01	5.30E-02	410380.3041	3764402.251	11
17797	SENSITIVE	1.85E-06	1.93E-01	4.78E-02	410680.3031	3764902.249	11
21082	CENSUS	1.84E-06	1.70E-01	7.76E-02	408968.2994	3765017.156	11
21083	CENSUS	1.84E-06	1.77E-01	1.02E-01	408793.5428	3765012.074	11
17385	SENSITIVE	1.84E-06	1.93E-01	1.33E-01	408680.3099	3764902.249	11
17414	SENSITIVE	1.84E-06	1.79E-01	5.47E-02	409580.3068	3766302.244	11
17677	SENSITIVE	1.84E-06	1.90E-01	7.34E-02	409680.3065	3764702.25	11
17867	SENSITIVE	1.84E-06	1.77E-01	6.17E-02	408680.3099	3765402.247	11
17854	SENSITIVE	1.83E-06	1.91E-01	4.66E-02	410580.3035	3764502.25	11
18905	CENSUS	1.82E-06	1.87E-01	3.81E-02	408383.6261	3766980.595	11
17828	SENSITIVE	1.82E-06	1.91E-01	4.48E-02	410780.3028	3765002.249	11
17758	SENSITIVE	1.81E-06	1.93E-01	5.43E-02	410280.3045	3764402.251	11
17811	SENSITIVE	1.81E-06	1.90E-01	4.87E-02	410480.3038	3764402.251	11
18873	CENSUS	1.79E-06	1.83E-01	5.20E-02	408284.7094	3766006.046	11
21600	CENSUS	1.79E-06	1.82E-01	4.83E-02	410641.9489	3765819.73	11
17810	SENSITIVE	1.79E-06	1.64E-01	7.40E-02	408980.3089	3765002.249	11
17868	SENSITIVE	1.79E-06	1.88E-01	4.32E-02	410880.3024	3765102.248	11
21086	CENSUS	1.78E-06	1.73E-01	9.87E-02	408644.1765	3765082.894	11
21147	CENSUS	1.78E-06	1.84E-01	9.87E-02	408364.0164	3765322.928	11
21155	CENSUS	1.78E-06	1.73E-01	9.48E-02	408623.8513	3765093.666	11
21586	CENSUS	1.78E-06	1.77E-01	4.46E-02	409090.7684	3766688.635	11
17313	SENSITIVE	1.78E-06	1.80E-01	5.41E-02	408380.3109	3765902.246	11
21148	CENSUS	1.77E-06	1.85E-01	9.73E-02	408375.1741	3765238.637	11
21154	CENSUS	1.77E-06	1.73E-01	9.75E-02	408600.0288	3765107.011	11
21588	CENSUS	1.77E-06	1.72E-01	5.44E-02	409709.7026	3766227.938	11
17324	SENSITIVE	1.76E-06	1.76E-01	5.76E-02	408480.3105	3765802.246	11
17359	SENSITIVE	1.76E-06	1.77E-01	5.23E-02	408080.3119	3766202.244	11
17800	SENSITIVE	1.76E-06	1.82E-01	4.56E-02	410680.3031	3764802.249	11
17295	SENSITIVE	1.75E-06	1.79E-01	5.03E-02	408280.3112	3766002.245	11
17470	SENSITIVE	1.74E-06	1.83E-01	8.75E-02	408280.3112	3765502.247	11
17857	SENSITIVE	1.74E-06	1.83E-01	4.50E-02	410580.3035	3764402.251	11
21152	CENSUS	1.73E-06	1.70E-01	9.70E-02	408557.9823	3765129.838	11
17418	SENSITIVE	1.73E-06	1.70E-01	9.90E-02	408580.3102	3765102.248	11
21617	CENSUS	1.72E-06	1.79E-01	4.59E-02	410675.5608	3764607.017	11
17809	SENSITIVE	1.72E-06	1.80E-01	4.49E-02	410780.3028	3764902.249	11

**Attachment F1 - Receptors In Zone of Impact (One in One Million Risk)**

<b>Receptor</b>	<b>Type</b>	<b>Cancer</b>	<b>Chronic</b>	<b>Acute Simple</b>	<b>UTME</b>	<b>UTMN</b>	<b>ZONE</b>
17855	SENSITIVE	1.72E-06	1.79E-01	4.60E-02	410680.3031	3764602.25	11
17384	SENSITIVE	1.71E-06	1.67E-01	1.08E-01	408680.3099	3765002.249	11
17422	SENSITIVE	1.71E-06	1.67E-01	5.32E-02	409680.3064	3766302.244	11
17816	SENSITIVE	1.71E-06	1.76E-01	4.41E-02	410680.3031	3764702.25	11
17877	SENSITIVE	1.71E-06	1.78E-01	4.49E-02	410680.3031	3764502.25	11
21087	CENSUS	1.70E-06	1.60E-01	8.33E-02	408943.1927	3764970.442	11
18857	CENSUS	1.69E-06	1.69E-01	4.60E-02	409255.459	3766675.629	11
21151	CENSUS	1.69E-06	1.67E-01	1.03E-01	408510.436	3765166.68	11
17351	SENSITIVE	1.69E-06	1.68E-01	5.26E-02	408580.3102	3765602.247	11
17685	SENSITIVE	1.69E-06	1.80E-01	6.59E-02	409980.3055	3764502.25	11
17865	SENSITIVE	1.69E-06	1.78E-01	4.19E-02	410880.3024	3765002.249	11
21150	CENSUS	1.68E-06	1.67E-01	1.11E-01	408458.7294	3765210.33	11
17737	SENSITIVE	1.68E-06	1.80E-01	5.72E-02	410180.3048	3764402.251	11
17754	SENSITIVE	1.68E-06	1.50E-01	7.10E-02	409080.3085	3765102.248	11
21149	CENSUS	1.67E-06	1.77E-01	9.88E-02	408374.1728	3765135.427	11
17275	SENSITIVE	1.67E-06	1.75E-01	8.95E-02	408280.3112	3765402.247	11
17647	SENSITIVE	1.67E-06	1.34E-01	5.49E-02	409280.3078	3765402.247	11
17461	SENSITIVE	1.66E-06	1.77E-01	9.37E-02	408380.3109	3765102.248	11
17785	SENSITIVE	1.66E-06	1.47E-01	6.39E-02	409080.3085	3765002.249	11
17426	SENSITIVE	1.65E-06	1.73E-01	1.12E-01	408580.3102	3764902.249	11
17676	SENSITIVE	1.65E-06	1.72E-01	6.91E-02	409780.3062	3764602.25	11
17621	SENSITIVE	1.64E-06	1.74E-01	4.78E-02	410480.3038	3764302.251	11
17264	SENSITIVE	1.63E-06	1.80E-01	8.42E-02	408280.3112	3765202.248	11
17814	SENSITIVE	1.63E-06	1.69E-01	4.26E-02	410780.3028	3764802.249	11
17824	SENSITIVE	1.63E-06	1.72E-01	4.62E-02	410580.3035	3764302.251	11
18858	CENSUS	1.62E-06	1.60E-01	5.13E-02	409484.4309	3766535.1	11
21061	CENSUS	1.62E-06	1.73E-01	6.46E-02	410047.7775	3764450.532	11
21604	CENSUS	1.62E-06	1.65E-01	4.61E-02	410712.4663	3765902.4	11
21602	CENSUS	1.61E-06	1.60E-01	5.07E-02	410350.8924	3766027.658	11
21619	CENSUS	1.61E-06	1.72E-01	4.97E-02	410380.3861	3764310.733	11
21134	CENSUS	1.60E-06	1.57E-01	7.72E-02	408559.2642	3765334.996	11
17411	SENSITIVE	1.60E-06	1.58E-01	1.17E-01	408580.3102	3765002.249	11
17741	SENSITIVE	1.60E-06	1.63E-01	7.34E-02	409580.3068	3764702.25	11
17780	SENSITIVE	1.60E-06	1.71E-01	5.01E-02	410380.3041	3764302.251	11
17781	SENSITIVE	1.60E-06	1.37E-01	7.43E-02	409280.3078	3765102.248	11
17846	SENSITIVE	1.60E-06	1.68E-01	4.22E-02	410880.3024	3764902.249	11
18985	CENSUS	1.59E-06	1.61E-01	4.94E-02	408000.8835	3766227.515	11
17331	SENSITIVE	1.59E-06	1.60E-01	5.45E-02	408480.3105	3765702.246	11
21085	CENSUS	1.58E-06	1.59E-01	1.23E-01	408700.1337	3764895.797	11
17361	SENSITIVE	1.58E-06	1.58E-01	5.13E-02	408080.3119	3766102.245	11
17450	SENSITIVE	1.58E-06	1.58E-01	1.01E-01	408480.3105	3765102.248	11
18906	CENSUS	1.57E-06	1.61E-01	3.31E-02	408348.4384	3767128.575	11
21603	CENSUS	1.57E-06	1.58E-01	5.47E-02	410196.3959	3766150.958	11
21613	CENSUS	1.57E-06	1.65E-01	3.89E-02	411068.3285	3765094.867	11
21616	CENSUS	1.57E-06	1.64E-01	4.26E-02	410842.4572	3764823.722	11
17844	SENSITIVE	1.57E-06	1.62E-01	4.40E-02	410780.3028	3764702.25	11

**Attachment F1 - Receptors In Zone of Impact (One in One Million Risk)**

<b>Receptor</b>	<b>Type</b>	<b>Cancer</b>	<b>Chronic</b>	<b>Acute Simple</b>	<b>UTME</b>	<b>UTMN</b>	<b>ZONE</b>
17884	SENSITIVE	1.57E-06	1.63E-01	4.13E-02	410780.3028	3764602.25	11
17366	SENSITIVE	1.56E-06	1.55E-01	1.20E-01	408780.3095	3764902.249	11
17464	SENSITIVE	1.56E-06	1.54E-01	9.24E-02	408380.3109	3765402.247	11
17866	SENSITIVE	1.56E-06	1.65E-01	4.23E-02	410680.3031	3764302.251	11
21605	CENSUS	1.55E-06	1.60E-01	4.10E-02	410962.786	3765705.866	11
17345	SENSITIVE	1.55E-06	1.60E-01	5.80E-02	408180.3115	3766002.245	11
18871	CENSUS	1.54E-06	1.57E-01	5.74E-02	408338.7087	3765836.31	11
21062	CENSUS	1.54E-06	1.62E-01	6.76E-02	409874.4668	3764524.099	11
17427	SENSITIVE	1.54E-06	1.63E-01	1.22E-01	408680.3099	3764802.249	11
17437	SENSITIVE	1.54E-06	1.63E-01	1.01E-01	408480.3105	3764902.249	11
17625	SENSITIVE	1.54E-06	1.44E-01	9.46E-02	408980.3089	3764902.249	11
18859	CENSUS	1.53E-06	1.51E-01	5.15E-02	409982.762	3766276.94	11
21088	CENSUS	1.53E-06	1.47E-01	1.10E-01	408915.0806	3764904.297	11
17291	SENSITIVE	1.53E-06	1.56E-01	5.85E-02	408280.3112	3765902.245	11
17412	SENSITIVE	1.53E-06	1.68E-01	8.83E-02	408280.3112	3765102.248	11
17805	SENSITIVE	1.53E-06	1.42E-01	1.46E-01	409080.3085	3764902.249	11
17835	SENSITIVE	1.53E-06	1.47E-01	9.08E-02	408880.3092	3764902.249	11
18970	CENSUS	1.52E-06	1.53E-01	4.20E-02	407880.8336	3766629.296	11
17852	SENSITIVE	1.52E-06	1.59E-01	4.16E-02	410880.3024	3764802.249	11
18856	CENSUS	1.50E-06	1.51E-01	4.04E-02	409077.3565	3766904.933	11
18901	CENSUS	1.50E-06	1.53E-01	3.41E-02	408569.4484	3767186.502	11
17394	SENSITIVE	1.50E-06	1.58E-01	9.22E-02	408380.3109	3765002.249	11
17719	SENSITIVE	1.50E-06	1.60E-01	6.05E-02	410080.3052	3764402.251	11
17885	SENSITIVE	1.50E-06	1.57E-01	3.94E-02	410980.3021	3764902.249	11
21156	CENSUS	1.49E-06	1.59E-01	1.10E-01	408570.4407	3764815.83	11
17318	SENSITIVE	1.49E-06	1.51E-01	5.24E-02	408380.3109	3765802.246	11
17483	SENSITIVE	1.49E-06	1.53E-01	4.23E-02	410880.3024	3765902.246	11
17765	SENSITIVE	1.49E-06	1.61E-01	5.25E-02	410280.3045	3764302.251	11
21081	CENSUS	1.48E-06	1.39E-01	1.43E-01	409032.2931	3764859.173	11
17429	SENSITIVE	1.48E-06	1.44E-01	7.31E-02	408380.3109	3765502.247	11
17488	SENSITIVE	1.48E-06	1.57E-01	8.02E-02	408180.3115	3765502.247	11
17766	SENSITIVE	1.48E-06	1.23E-01	6.75E-02	409180.3082	3765102.248	11
17789	SENSITIVE	1.48E-06	1.34E-01	6.71E-02	409180.3082	3765002.249	11
18907	CENSUS	1.47E-06	1.51E-01	3.16E-02	408143.9895	3767108.142	11
21618	CENSUS	1.47E-06	1.55E-01	4.00E-02	410805.8021	3764299.092	11
17463	SENSITIVE	1.47E-06	1.52E-01	3.91E-02	410980.3021	3765802.246	11
17477	SENSITIVE	1.47E-06	1.49E-01	4.21E-02	410680.3031	3766002.245	11
17684	SENSITIVE	1.47E-06	1.55E-01	6.48E-02	409880.3058	3764502.25	11
17870	SENSITIVE	1.47E-06	1.53E-01	4.20E-02	410880.3024	3764702.25	11
17519	SENSITIVE	1.46E-06	1.55E-01	8.13E-02	408180.3115	3765402.247	11
17837	SENSITIVE	1.46E-06	1.55E-01	4.26E-02	410580.3035	3764202.251	11
18903	CENSUS	1.45E-06	1.47E-01	3.88E-02	408837.5075	3767084.496	11
21098	CENSUS	1.45E-06	1.50E-01	7.02E-02	409696.1791	3764592.64	11
21585	CENSUS	1.45E-06	1.46E-01	4.08E-02	409311.3545	3766848.534	11
17724	SENSITIVE	1.45E-06	1.50E-01	7.12E-02	409680.3065	3764602.25	11
17864	SENSITIVE	1.45E-06	1.54E-01	4.31E-02	410680.3031	3764202.251	11

**Attachment F1 - Receptors In Zone of Impact (One in One Million Risk)**

<b>Receptor</b>	<b>Type</b>	<b>Cancer</b>	<b>Chronic</b>	<b>Acute Simple</b>	<b>UTME</b>	<b>UTMN</b>	<b>ZONE</b>
18968	CENSUS	1.44E-06	1.44E-01	3.84E-02	407837.0647	3766763.402	11
17372	SENSITIVE	1.44E-06	1.44E-01	5.27E-02	408480.3105	3765602.247	11
17447	SENSITIVE	1.44E-06	1.49E-01	3.86E-02	411080.3017	3765702.246	11
17454	SENSITIVE	1.44E-06	1.52E-01	1.03E-01	408580.3102	3764802.249	11
21754	CENSUS	1.43E-06	1.47E-01	3.19E-02	408465.2471	3767262.811	11
17261	SENSITIVE	1.43E-06	1.46E-01	4.10E-02	410780.3027	3766002.245	11
17404	SENSITIVE	1.42E-06	1.41E-01	6.68E-02	408480.3105	3765402.247	11
17808	SENSITIVE	1.42E-06	1.52E-01	4.62E-02	410480.3038	3764202.251	11
17840	SENSITIVE	1.42E-06	1.44E-01	8.21E-02	409480.3072	3764702.25	11
17886	SENSITIVE	1.42E-06	1.49E-01	4.01E-02	410980.3021	3764802.249	11
21089	CENSUS	1.41E-06	1.37E-01	1.18E-01	408863.071	3764843.883	11
21145	CENSUS	1.41E-06	1.54E-01	6.97E-02	408183.749	3765330.178	11
17836	SENSITIVE	1.41E-06	1.30E-01	7.25E-02	409180.3082	3764902.249	11
17881	SENSITIVE	1.41E-06	1.49E-01	4.01E-02	410780.3028	3764202.251	11
18900	CENSUS	1.40E-06	1.44E-01	3.04E-02	408321.1628	3767293.399	11
18984	CENSUS	1.40E-06	1.43E-01	4.51E-02	407822.8824	3766392.964	11
18969	CENSUS	1.39E-06	1.39E-01	3.88E-02	407791.231	3766686.011	11
21587	CENSUS	1.39E-06	1.39E-01	4.79E-02	409640.8919	3766618.63	11
17391	SENSITIVE	1.39E-06	1.47E-01	9.19E-02	408380.3109	3764902.249	11
17271	SENSITIVE	1.38E-06	1.41E-01	4.05E-02	410880.3024	3766002.245	11
17410	SENSITIVE	1.38E-06	1.51E-01	8.15E-02	408280.3112	3765002.249	11
17456	SENSITIVE	1.38E-06	1.47E-01	1.00E-01	408480.3106	3764802.249	11
17472	SENSITIVE	1.38E-06	1.43E-01	3.76E-02	411080.3017	3765802.246	11
17501	SENSITIVE	1.38E-06	1.51E-01	8.13E-02	408180.3116	3765202.248	11
17642	SENSITIVE	1.38E-06	1.00E-01	6.74E-02	409180.3082	3765402.247	11
21080	CENSUS	1.37E-06	1.35E-01	8.04E-02	409336.3146	3764826.637	11
22034	CENSUS	1.37E-06	1.41E-01	3.93E-02	410997.1875	3765917.902	11
17683	SENSITIVE	1.37E-06	1.44E-01	3.80E-02	410980.3021	3764702.25	11
18971	CENSUS	1.36E-06	1.37E-01	4.10E-02	407758.2762	3766629.224	11
17354	SENSITIVE	1.36E-06	1.38E-01	5.01E-02	408380.3109	3765702.246	11
17397	SENSITIVE	1.36E-06	1.36E-01	5.22E-02	408480.3105	3765502.247	11
17373	SENSITIVE	1.35E-06	1.30E-01	1.16E-01	408980.3089	3764802.249	11
17482	SENSITIVE	1.35E-06	1.36E-01	4.27E-02	410580.3034	3766102.245	11
17652	SENSITIVE	1.34E-06	7.84E-02	6.26E-03	409280.3078	3765302.248	11
17751	SENSITIVE	1.34E-06	1.44E-01	5.61E-02	410180.3048	3764302.251	11
21584	CENSUS	1.33E-06	1.34E-01	4.62E-02	409462.7061	3766840.312	11
21647	CENSUS	1.33E-06	1.22E-01	6.39E-02	409236.3383	3764979.465	11
22033	CENSUS	1.33E-06	1.38E-01	3.68E-02	411146.6443	3765781.548	11
17357	SENSITIVE	1.33E-06	1.39E-01	5.50E-02	408080.3119	3766002.245	11
17452	SENSITIVE	1.33E-06	1.47E-01	8.10E-02	408180.3116	3765102.248	11
17509	SENSITIVE	1.33E-06	1.45E-01	6.67E-02	408180.3115	3765302.248	11
17799	SENSITIVE	1.33E-06	1.43E-01	4.77E-02	410380.3042	3764202.251	11
21097	CENSUS	1.32E-06	1.36E-01	7.74E-02	409582.8185	3764599.224	11
21606	CENSUS	1.32E-06	1.38E-01	3.54E-02	411377.4973	3765385.964	11
17390	SENSITIVE	1.32E-06	1.35E-01	5.45E-02	408380.3109	3765602.247	11
17729	SENSITIVE	1.32E-06	1.40E-01	6.17E-02	409980.3055	3764402.251	11



**Attachment F1 - Receptors In Zone of Impact (One in One Million Risk)**

<b>Receptor</b>	<b>Type</b>	<b>Cancer</b>	<b>Chronic</b>	<b>Acute Simple</b>	<b>UTME</b>	<b>UTMN</b>	<b>ZONE</b>
17788	SENSITIVE	1.32E-06	1.36E-01	7.76E-02	409580.3068	3764602.25	11
18902	CENSUS	1.31E-06	1.34E-01	3.11E-02	408570.8663	3767332.857	11
18923	CENSUS	1.31E-06	1.31E-01	3.32E-02	407743.1236	3766952.569	11
17265	SENSITIVE	1.31E-06	1.36E-01	3.65E-02	411080.3017	3765902.246	11
17420	SENSITIVE	1.31E-06	1.38E-01	1.19E-01	408780.3095	3764702.25	11
17485	SENSITIVE	1.31E-06	1.35E-01	4.02E-02	410980.3021	3766002.245	11
17731	SENSITIVE	1.31E-06	1.37E-01	6.59E-02	409780.3062	3764502.25	11
18899	CENSUS	1.30E-06	1.35E-01	2.93E-02	407994.0892	3767192.516	11
21096	CENSUS	1.30E-06	1.32E-01	8.29E-02	409460.127	3764661.315	11
21157	CENSUS	1.30E-06	1.38E-01	9.38E-02	408519.8167	3764753.289	11
21599	CENSUS	1.30E-06	1.37E-01	3.34E-02	411369.9467	3765106.838	11
21601	CENSUS	1.30E-06	1.32E-01	4.51E-02	410436.3881	3766204.095	11
17263	SENSITIVE	1.30E-06	1.31E-01	4.09E-02	410680.3031	3766102.245	11
17346	SENSITIVE	1.30E-06	1.34E-01	5.02E-02	408180.3115	3765902.245	11
17375	SENSITIVE	1.30E-06	1.27E-01	1.09E-01	408880.3092	3764802.249	11
17546	SENSITIVE	1.30E-06	1.38E-01	7.30E-02	408080.3119	3765502.247	11
17889	SENSITIVE	1.30E-06	1.39E-01	3.92E-02	410680.3031	3764102.252	11
22036	CENSUS	1.29E-06	1.31E-01	3.97E-02	410754.4445	3766095.749	11
17400	SENSITIVE	1.29E-06	1.38E-01	8.77E-02	408380.3109	3764802.249	11
21146	CENSUS	1.28E-06	1.41E-01	6.04E-02	408103.3383	3765391.877	11
22045	CENSUS	1.28E-06	1.33E-01	3.43E-02	411291.2265	3765650.743	11
17279	SENSITIVE	1.28E-06	1.30E-01	3.96E-02	410780.3027	3766102.245	11
17395	SENSITIVE	1.28E-06	1.27E-01	9.70E-02	408780.3095	3764802.249	11
17409	SENSITIVE	1.28E-06	1.41E-01	8.68E-02	408280.3112	3764902.249	11
17493	SENSITIVE	1.28E-06	1.30E-01	4.87E-02	410380.3041	3766302.244	11
17269	SENSITIVE	1.27E-06	1.29E-01	4.40E-02	410480.3037	3766202.245	11
17446	SENSITIVE	1.27E-06	1.36E-01	9.90E-02	408680.3099	3764702.25	11
17849	SENSITIVE	1.27E-06	1.37E-01	4.28E-02	410580.3035	3764102.252	11
22028	CENSUS	1.26E-06	1.31E-01	3.75E-02	411075.9299	3765976.806	11
17299	SENSITIVE	1.26E-06	1.28E-01	4.83E-02	408280.3112	3765802.246	11
18898	CENSUS	1.25E-06	1.28E-01	2.83E-02	408321.3816	3767460.917	11
18924	CENSUS	1.25E-06	1.25E-01	3.41E-02	407703.86	3766898.804	11
22032	CENSUS	1.25E-06	1.30E-01	3.55E-02	411257.2613	3765784.315	11
21583	CENSUS	1.24E-06	1.26E-01	3.61E-02	409199.1071	3767114.43	11
22046	CENSUS	1.24E-06	1.29E-01	3.34E-02	411389.7816	3765569.019	11
17436	SENSITIVE	1.24E-06	1.33E-01	1.01E-01	408580.3102	3764702.25	11
17498	SENSITIVE	1.24E-06	1.28E-01	3.82E-02	411080.3017	3766002.245	11
17504	SENSITIVE	1.24E-06	1.27E-01	3.82E-02	410880.3024	3766102.245	11
21090	CENSUS	1.23E-06	1.21E-01	1.07E-01	408854.5878	3764767.819	11
21092	CENSUS	1.23E-06	1.21E-01	1.00E-01	409066.235	3764726.015	11
22026	CENSUS	1.23E-06	1.27E-01	3.82E-02	411064.5102	3766035.715	11
18913	CENSUS	1.22E-06	1.27E-01	3.07E-02	407805.084	3767022.61	11
22035	CENSUS	1.22E-06	1.24E-01	3.84E-02	410809.8128	3766140.913	11
22044	CENSUS	1.22E-06	1.27E-01	3.44E-02	411347.4142	3765708.17	11
17486	SENSITIVE	1.22E-06	1.23E-01	4.30E-02	410580.3034	3766202.245	11
21063	CENSUS	1.21E-06	1.27E-01	6.36E-02	409810.3286	3764447.297	11

<b>Attachment F1 - Receptors In Zone of Impact (One in One Million Risk)</b>							
<b>Receptor</b>	<b>Type</b>	<b>Cancer</b>	<b>Chronic</b>	<b>Acute Simple</b>	<b>UTME</b>	<b>UTMN</b>	<b>ZONE</b>
21074	CENSUS	1.21E-06	1.29E-01	5.85E-02	409995.4023	3764351.196	11
21091	CENSUS	1.21E-06	1.27E-01	1.10E-01	408819.465	3764632.366	11
21158	CENSUS	1.21E-06	1.31E-01	9.85E-02	408545.8885	3764681.121	11
17419	SENSITIVE	1.21E-06	1.28E-01	1.17E-01	408880.3092	3764602.25	11
17516	SENSITIVE	1.21E-06	1.24E-01	3.70E-02	410980.3021	3766102.245	11
17794	SENSITIVE	1.21E-06	1.30E-01	5.16E-02	410280.3045	3764202.251	11
17795	SENSITIVE	1.21E-06	1.30E-01	5.16E-02	410280.3045	3764202.251	11
17801	SENSITIVE	1.21E-06	1.26E-01	7.08E-02	409680.3065	3764502.25	11
17882	SENSITIVE	1.21E-06	1.24E-01	8.26E-02	409480.3072	3764602.25	11
21753	CENSUS	1.20E-06	1.23E-01	2.81E-02	408464.9889	3767454.024	11
22031	CENSUS	1.20E-06	1.25E-01	3.45E-02	411277.579	3765847.578	11
17396	SENSITIVE	1.20E-06	1.19E-01	1.52E-01	408980.3089	3764702.25	11
17399	SENSITIVE	1.20E-06	1.18E-01	1.03E-01	409080.3085	3764702.25	11
17505	SENSITIVE	1.20E-06	1.23E-01	4.67E-02	410480.3037	3766302.244	11
17763	SENSITIVE	1.20E-06	1.28E-01	5.82E-02	410080.3052	3764302.251	11
17829	SENSITIVE	1.20E-06	1.29E-01	4.41E-02	410480.3038	3764102.252	11
22051	CENSUS	1.19E-06	1.25E-01	3.24E-02	411509.1322	3765451.145	11
18888	CENSUS	1.18E-06	1.21E-01	3.42E-02	408982.834	3767255.267	11
17377	SENSITIVE	1.18E-06	1.21E-01	5.16E-02	408280.3112	3765702.246	11
17389	SENSITIVE	1.18E-06	1.25E-01	8.97E-02	408480.3106	3764702.25	11
17406	SENSITIVE	1.18E-06	1.21E-01	5.76E-02	408280.3112	3765602.247	11
17555	SENSITIVE	1.18E-06	1.28E-01	5.90E-02	408080.3119	3765402.247	11
17762	SENSITIVE	1.18E-06	1.25E-01	6.19E-02	409880.3058	3764402.251	11
18909	CENSUS	1.17E-06	1.22E-01	2.82E-02	407845.315	3767247.693	11
21578	CENSUS	1.17E-06	1.18E-01	4.40E-02	410015.2862	3766585.441	11
21755	CENSUS	1.17E-06	1.20E-01	3.08E-02	408726.3692	3767390.576	11
22030	CENSUS	1.17E-06	1.22E-01	3.38E-02	411239.7751	3765947.345	11
22049	CENSUS	1.17E-06	1.19E-01	3.14E-02	411680.538	3765400.469	11
17496	SENSITIVE	1.17E-06	1.19E-01	4.00E-02	410680.3031	3766202.245	11
18988	CENSUS	1.16E-06	1.16E-01	4.62E-02	407757.2496	3766235.815	11
22043	CENSUS	1.16E-06	1.21E-01	3.32E-02	411390.2941	3765773.759	11
17537	SENSITIVE	1.16E-06	1.19E-01	3.59E-02	411080.3017	3766102.245	11
17698	SENSITIVE	1.16E-06	7.87E-02	8.13E-02	409180.3082	3765202.248	11
17699	SENSITIVE	1.16E-06	6.97E-02	4.71E-02	409280.3078	3765202.248	11
18896	CENSUS	1.15E-06	1.19E-01	2.65E-02	408240.8685	3767582.687	11
22050	CENSUS	1.15E-06	1.21E-01	3.11E-02	411631.4102	3765344.666	11
17398	SENSITIVE	1.15E-06	1.15E-01	1.10E-01	408880.3092	3764702.25	11
17424	SENSITIVE	1.15E-06	1.24E-01	8.00E-02	408280.3112	3764802.249	11
17455	SENSITIVE	1.15E-06	1.28E-01	6.24E-02	408180.3116	3765002.249	11
17511	SENSITIVE	1.15E-06	1.17E-01	3.90E-02	410780.3027	3766202.245	11
22048	CENSUS	1.14E-06	1.15E-01	3.03E-02	411728.2881	3765459.669	11
17365	SENSITIVE	1.14E-06	1.18E-01	4.97E-02	408080.3119	3765902.245	11
21184	CENSUS	1.13E-06	1.20E-01	3.31E-02	411093.2532	3764000.687	11
21579	CENSUS	1.13E-06	1.14E-01	3.94E-02	409634.6358	3766921.579	11
17408	SENSITIVE	1.13E-06	1.20E-01	8.81E-02	408380.3109	3764702.25	11
17443	SENSITIVE	1.13E-06	1.19E-01	1.05E-01	408780.3095	3764602.25	11

Attachment F1 - Receptors In Zone of Impact (One in One Million Risk)							
Receptor	Type	Cancer	Chronic	Acute Simple	UTME	UTMN	ZONE
17476	SENSITIVE	1.13E-06	1.24E-01	7.51E-02	408180.3116	3764902.249	11
17512	SENSITIVE	1.13E-06	1.16E-01	4.06E-02	410580.3034	3766302.244	11
18972	CENSUS	1.12E-06	1.12E-01	3.58E-02	407544.535	3766668.119	11
21607	CENSUS	1.12E-06	1.18E-01	3.02E-02	411621.9281	3765084.171	11
22025	CENSUS	1.12E-06	1.15E-01	3.81E-02	410858.9975	3766202.634	11
22047	CENSUS	1.12E-06	1.17E-01	3.15E-02	411577.6859	3765550.337	11
17362	SENSITIVE	1.12E-06	1.16E-01	7.59E-02	409580.3068	3764502.25	11
17523	SENSITIVE	1.12E-06	1.14E-01	3.75E-02	410880.3024	3766202.245	11
21581	CENSUS	1.11E-06	1.14E-01	3.41E-02	409325.4459	3767215.589	11
21750	CENSUS	1.11E-06	1.14E-01	3.20E-02	408769.052	3767434.581	11
22024	CENSUS	1.11E-06	1.13E-01	3.82E-02	410774.8243	3766239.809	11
18897	CENSUS	1.10E-06	1.13E-01	2.69E-02	408450.462	3767626.339	11
18922	CENSUS	1.10E-06	1.10E-01	3.04E-02	407547.0336	3767067.014	11
17330	SENSITIVE	1.10E-06	1.15E-01	6.56E-02	409780.3062	3764402.251	11
17444	SENSITIVE	1.10E-06	1.10E-01	9.07E-02	409380.3075	3764602.25	11
17547	SENSITIVE	1.10E-06	1.19E-01	5.55E-02	408080.3119	3765302.248	11
18889	CENSUS	1.09E-06	1.12E-01	2.88E-02	408671.2103	3767512.942	11
18912	CENSUS	1.09E-06	1.14E-01	2.64E-02	407784.4335	3767359.968	11
21138	CENSUS	1.09E-06	1.15E-01	6.38E-02	407921.6571	3765542.977	11
22042	CENSUS	1.09E-06	1.14E-01	3.15E-02	411525.8987	3765736.953	11
17294	SENSITIVE	1.09E-06	1.15E-01	5.76E-02	409980.3055	3764302.251	11
17451	SENSITIVE	1.09E-06	1.13E-01	5.97E-02	408180.3115	3765602.247	11
17471	SENSITIVE	1.09E-06	1.21E-01	5.65E-02	408080.3119	3765102.248	11
17499	SENSITIVE	1.09E-06	1.21E-01	7.02E-02	408080.3119	3765002.249	11
17544	SENSITIVE	1.09E-06	1.12E-01	3.62E-02	410980.3021	3766202.245	11
17624	SENSITIVE	1.09E-06	1.17E-01	5.39E-02	410180.3048	3764202.251	11
17821	SENSITIVE	1.09E-06	1.18E-01	4.75E-02	410380.3042	3764102.252	11
18895	CENSUS	1.08E-06	1.12E-01	2.46E-02	408081.7875	3767663.765	11
22012	CENSUS	1.08E-06	1.10E-01	4.02E-02	410697.1184	3766290.461	11
17378	SENSITIVE	1.08E-06	1.11E-01	4.31E-02	408180.3115	3765802.246	11
17386	SENSITIVE	1.08E-06	1.09E-01	8.61E-02	409480.3072	3764502.25	11
17432	SENSITIVE	1.08E-06	1.15E-01	1.25E-01	408880.3092	3764502.25	11
17517	SENSITIVE	1.08E-06	1.10E-01	4.00E-02	410680.3031	3766302.244	11
17876	SENSITIVE	1.08E-06	1.17E-01	4.06E-02	410580.3035	3764002.252	11
18914	CENSUS	1.07E-06	1.12E-01	2.80E-02	407666.1296	3767145.801	11
21580	CENSUS	1.07E-06	1.09E-01	3.71E-02	409455.279	3767167.386	11
21611	CENSUS	1.07E-06	1.13E-01	3.02E-02	411626.269	3764945.801	11
21751	CENSUS	1.07E-06	1.10E-01	2.76E-02	408543.978	3767610.626	11
17267	SENSITIVE	1.07E-06	1.18E-01	7.47E-02	408180.3116	3764802.249	11
17430	SENSITIVE	1.07E-06	1.08E-01	1.20E-01	408980.3089	3764602.25	11
17469	SENSITIVE	1.07E-06	1.15E-01	8.69E-02	408580.3102	3764602.25	11
17479	SENSITIVE	1.07E-06	1.13E-01	1.04E-01	408680.3099	3764602.25	11
17525	SENSITIVE	1.07E-06	1.16E-01	5.55E-02	408080.3119	3765202.248	11
18890	CENSUS	1.06E-06	1.09E-01	2.70E-02	408482.5246	3767664.524	11
21139	CENSUS	1.06E-06	1.16E-01	6.20E-02	407916.9979	3765498.604	11
21621	CENSUS	1.06E-06	1.11E-01	3.14E-02	411344.891	3764238.601	11

**Attachment F1 - Receptors In Zone of Impact (One in One Million Risk)**

<b>Receptor</b>	<b>Type</b>	<b>Cancer</b>	<b>Chronic</b>	<b>Acute Simple</b>	<b>UTME</b>	<b>UTMN</b>	<b>ZONE</b>
17402	SENSITIVE	1.06E-06	1.15E-01	8.37E-02	408480.3106	3764602.25	11
17556	SENSITIVE	1.06E-06	1.09E-01	3.44E-02	411080.3017	3766202.245	11
18983	CENSUS	1.05E-06	1.07E-01	3.78E-02	407569.0777	3766441.133	11
21093	CENSUS	1.05E-06	1.03E-01	9.41E-02	409143.347	3764686.354	11
21582	CENSUS	1.05E-06	1.08E-01	3.21E-02	409107.9523	3767375.894	11
21620	CENSUS	1.05E-06	1.12E-01	3.11E-02	411294.4408	3764042.791	11
22073	CENSUS	1.05E-06	1.06E-01	2.86E-02	411802.9997	3765615.068	11
22205	CENSUS	1.05E-06	1.12E-01	2.41E-02	412392.645	3765392.99	11
17266	SENSITIVE	1.05E-06	1.05E-01	5.79E-02	408080.3119	3765602.247	11
17438	SENSITIVE	1.05E-06	1.09E-01	3.16E-02	411080.3018	3763802.253	11
17442	SENSITIVE	1.05E-06	1.13E-01	7.80E-02	408280.3112	3764702.25	11
21183	CENSUS	1.04E-06	1.08E-01	3.19E-02	411025.065	3763792.355	11
21612	CENSUS	1.04E-06	1.10E-01	3.18E-02	411378.7997	3764548.784	11
22011	CENSUS	1.04E-06	1.06E-01	3.95E-02	410531.4388	3766497.198	11
22023	CENSUS	1.04E-06	1.06E-01	3.63E-02	410916.6093	3766261.737	11
22027	CENSUS	1.04E-06	1.07E-01	3.35E-02	411163.2349	3766197.228	11
22041	CENSUS	1.04E-06	1.09E-01	3.11E-02	411516.61	3765873.255	11
17431	SENSITIVE	1.04E-06	1.00E-01	8.92E-02	409180.3082	3764702.25	11
17526	SENSITIVE	1.04E-06	1.07E-01	3.90E-02	410780.3027	3766302.244	11
22029	CENSUS	1.03E-06	1.08E-01	3.09E-02	411456.3129	3765978.308	11
22206	CENSUS	1.03E-06	1.10E-01	2.43E-02	412384.7301	3765299.152	11
17413	SENSITIVE	1.03E-06	1.06E-01	4.68E-02	408180.3115	3765702.246	11
21094	CENSUS	1.02E-06	9.72E-02	9.42E-02	409254.2098	3764713.208	11
21159	CENSUS	1.02E-06	1.09E-01	9.35E-02	408608.1082	3764558.686	11
22204	CENSUS	1.02E-06	1.03E-01	2.71E-02	412002.6273	3765191.449	11
17353	SENSITIVE	1.02E-06	1.06E-01	6.83E-02	409680.3065	3764402.251	11
17435	SENSITIVE	1.02E-06	1.10E-01	8.17E-02	408380.3109	3764602.25	11
18892	CENSUS	1.01E-06	1.05E-01	2.36E-02	408082.5337	3767812.665	11
18973	CENSUS	1.01E-06	1.04E-01	3.64E-02	407474.504	3766565.585	11
18987	CENSUS	1.01E-06	1.06E-01	4.67E-02	407907.7086	3765990.68	11
17441	SENSITIVE	1.01E-06	1.02E-01	1.03E-01	409080.3085	3764602.25	11
17449	SENSITIVE	1.01E-06	1.08E-01	9.13E-02	408780.3095	3764502.25	11
17514	SENSITIVE	1.01E-06	1.11E-01	6.86E-02	408080.3119	3764902.249	11
17540	SENSITIVE	1.01E-06	1.03E-01	3.61E-02	410880.3024	3766302.244	11
21160	CENSUS	1.00E-06	1.08E-01	8.06E-02	408471.0098	3764587.511	11
21608	CENSUS	1.00E-06	1.02E-01	2.76E-02	411884.0797	3764943.392	11
22072	CENSUS	1.00E-06	1.01E-01	2.75E-02	411858.3931	3765663.198	11

**Attachment F2 - Schools and Health Care Centers in Zone of Impact**

<b>Name</b>	<b>Street</b>	<b>City</b>	<b>Zip</b>	<b>Risk</b>	<b>UTME</b>	<b>UTMN</b>
New Heights Church of Nazarene	15518 Gale Ave	Hacienda Heights	91745	1.02 E - 06	410488	3764013
La Puente High School	155615 Nelson Ave	La Puente	91744	1.12 E - 06	411788	3765313
Hacienda La Puente Unified School	350 N. Hacienda Blvd	La Puente	91744	1.10 E - 06	411688	3765613
New Montessori School	15243 Nelson Ave	La Puente	91744	1.21 E - 06	411288	3765813
Nelson Elementary School	330 N. California Ave	La Puente	91744	1.03 E - 06	410788	3766313
Calvary Christian Academy	14709 Nelson Ave	La Puente	91744	1.05 E - 06	410488	3766513
University of Central	14145 Proctor Ave	Industry	91746	1.77 E - 06	409088	3766713
Don Julian Elementary School	13855 Don Julian Road	La Puente	91746	2.13 E - 06	408288	3766813
Bassett Headstart	13855 Don Julian Road	La Puente	91746	2.13 E - 06	408288	3766813
Creative Corners Preschool	13628 Lomitas Ave	La Puente	91746	1.13 E - 06	407588	3766813
Valley High School	14162 Lomitas Ave	La Puente	91746	2.26 E - 06	408488	3766013
Latin American Theoligal Seminary	14209 Lomitas Ave	La Puente	91746	2.74 E - 06	408588	3766113
El Encanto Healthcare	555 El Encanto Road	Industry	91745	1.29 E - 06	411088	3764713