BROWNFIELD REDEVELOPMENT ASSESSMENT REPORT FOR McDOUGALL POPERTY WAYNE COUNTY, MICHIGAN

U.S EPA ID# MIB000000091

BROWNFIELD REDEVELOPMENT ASSESSMENT REPORT

FOR

McDougall Street Property

Detroit , Michigan

MIB#000000091

March 31, 2003

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EXECUTIVE SUMMARY

The Michigan Department of Environmental Quality (MDEQ), Pre-Remedial Group was contracted via a cooperative agreement with the United States Environmental Protection Agency to conduct Brownfield Redevelopment Assessments (BFRA). BFRAs are intended to provide information on abandoned properties where potential environmental contamination may be acting as an impediment to future redevelopment activities.

A request was submitted by the MDEQ Storage Tank Division to conduct a BFRA of the McDougall Street property. The field investigation portion of this BFRA took place on August 21, 2002. The property is located in the city of Detroit and due to the past uses, has a potential for being contaminated. Previous uses include a filling station, and an auto repair shop. The city of Detroit obtained the property through tax reversion in the late 1990's. The property was purchased by the city of Detroit through the tax reversion process because of its future potential for redevelopment. Shortly after the department conducted a reconnaissance on June 25, 2002, and prior to the investigation the city demolished the buildings and leveled the property. The underground storage tanks were removed although the potential for contamination remained.

The field sampling event included the collection of fifteen surficial soils and eight soil borings samples. An electro-magnetic survey was conducted prior to the investigation to determine if there were any remaining underground storage tanks or metal objects present. Photographs of general property conditions were taken along with Global Position System data to determine sample and feature locations.

Analysis of the samples detected the presence of organic compounds such as benzene, carbozole, 2-chlorophenol, dibenzofuran, 2,4-dinitrotoluene, ethylbenzene , floranthene, , naphthalene, n-propylbenzene, phenanthrene, sec-butylbenzene, n-butylbenznee, m & p-xylene and inorganics such as aluminum, arsenic, chromium, cobalt, copper, iron, magnesium, manganese, selenium and zinc. All of the afore mentioned contaminants were detected at concentrations above either the drinking water protection criteria or the groundwater surface water interface protection criteria except for arsenic, which is above the direct contact criteria. These contaminants are at concentrations greater than the Generic Residential Cleanup Criteria of Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). The MDEQ has determined that the property meets the definition of a facility as defined in Part 201 of the NREPA.

Based on the findings of the BFRA the following issues should be addressed before, or during, the redevelopment of the McDougall Street property:

- The elevated concentrations of arsenic detected in the surficial soil samples at levels above the soil direct contact criteria should be further investigated to determine the horizontal and vertical extent of the contamination to identify the potential source, and to determine whether mitigation is warranted.

- If the property is redeveloped without removal of contaminated soils, appropriate control measures need to be implemented to protect construction workers and future occupants.

- Further investigation should be conducted to determine the horizontal and vertical extent of contamination to identify the potential source and to determine whether mitigation is warranted.

- A more detailed study of the background levels for metals should be conducted to determine whether the levels on the property are of concern and if a site specific background should be substituted for the calculated cleanup criteria.

- The contaminants of concern should be considered with respect to responsibilities that may exist under Part 201 of the NREPA. The nature of any response activity that may be required is dependent on the intended use of the property and the party's liability under Part 201 of the NREPA. A person who is liable for the contamination is required to achieve cleanup of the property consistent with the cleanup criteria. The relevant criteria are a function of the intended property use, such as residential, commercial, or industrial. A non-liable developer is not required to implement a cleanup to achieve the appropriate cleanup criteria. However, a non-liable party must comply with the "due care" provisions specified in Section 7a obligations of Part 201 of the NREPA. These obligations include not exacerbating the existing contamination, exercising due care to assure there are not unacceptable exposures, and taking reasonable precautions against the reasonably foreseeable activities of third parties.

INTRODUCTION

The Michigan Department of Environmental Quality (MDEQ) Pre-Remedial Group was contracted via a cooperative agreement with the U.S. Environmental Protection Agency (EPA) to conduct Brownfield Redevelopment Assessments (BFRA) . A brownfield is a property, or a portion thereof, that has actual or perceived contamination and an active potential for redevelopment or reuse.

BFRAs are intended to provide information on abandoned properties where potential environmental contamination may be acting as an impediment to future redevelopment activities. MDEQ Pre-Remedial Group staff conduct environmental investigations to determine the types and locations of past and present activities, potential relevant migration pathways of concern, types and concentrations of potential contaminants, and the need for remedial and/or removal actions on the property.

A relevant pathway means an exposure pathway that is reasonable and relevant because there is a reasonable potential for exposure to a hazardous substance to occur to a human or nonhuman receptor from a source or release. The components of an exposure pathway are a source or release of a hazardous substance, an exposure point, an exposure route, and, if the exposure point is not the source or point of release, a transport medium. The existence of a municipal water supply, exposure control measure, exposure barrier or other similar feature does not automatically make an exposure pathway irrelevant.

A BFRA of the McDougal Street property was conducted in accordance with the cooperative agreement with the EPA. The BFRA included file and information searches, a reconnaissance inspection of the property, an electro-magnetic survey of subsurface conditions, and the collection of shallow and subsurface soil samples and Global Positioning System (GPS) data collection of sample locations and property features.

PROPERTY BACKGROUND

Property Description

The McDougall Street property is a 100 x 95 ft. parcel located on the corner of Mack Avenue and McDougall Streets. The property is surrounded mainly by residential parcels. A small church is located on the southeast corner of the intersection, there are private dwellings directly south and a vacant lot owned by the City of Detroit directly north of the property. Residential homes are located on the east side of McDougall Street as well. To the west of the property, a small garage formerly used as an auto shop still stands. See Figure 1 for the Property Location map.

Property History

The Sanborn maps indicate that no activity occurred on the site prior to 1900. Private dwellings were listed on the site through 1915 with a small auto repair shop being built sometime between 1910 and 1915. Prior to 1941, a filling station was built, then expanded and was located along the western edge of the property. The property most likely operated as an auto repair shop from the early 1940's. Sanborn maps also show the presence of the filling station from 1941 through 1991 with the auto shop appearing as well. Three gasoline tanks are clearly identified only on the 1957 map. The city of Detroit obtained ownership of the property through tax reversion in the late 1990's. One structure remained on the property until just after the department conducted a reconnaissance on June 25, 2002. A four bay garage filled with household waste existed on the southwest portion of the property as shown in the attached photos. Between the time of the reconnaissance and the investigation the city of Detroit demolished the building and removed all of the household waste within the building. The building consisted of a dilapidated four bay garage located on the west side of the property and the bays were filled with household trash and debris along with several automobile gasoline tanks.

The City of Detroit contacted the MDEQ Storage Tank Division (STD) to request an investigation of the parcel. After their review, STD determined that the underground storage tanks had been removed, but the potential for contamination still existed. STD contacted the Remediatioin and Redevelopment Division (formerly the Environmental Response Division) to request an investigation under the BFRA program. The city determined that the property has a high potential for redevelopment in this light industrial area. This request resulted in this current BFRA investigation.

PROCEDURES AND RESULTS

Reconnaissance Inspection Observations

A BFRA property reconnaissance was conducted at the McDougall Street property on June 25, 2002. The purpose of the reconnaissance was to gather information to be used in development of the BFRA sampling plan, to determine appropriate health and safety requirements, and to determine potential sampling locations. The team documented the features and debris types located throughout the property and identified the environmental concerns associated with each area of concern. During this inspection, the property was screened with appropriate safety equipment, including a photoionization detector, a combustible gas/O_2/HC_n/SO_2 (4-gas) meter, and a radiation detector to determine on-property health and safety issues. The instruments did not detect any hazardous conditions on the property above background levels. Suspected areas of concern included the following based on the field observations:

- Surficial soils with apparent staining
- Mounded debris and soil to the north of the property
- Leveled area where the former gas station building stood.
- The remanets of a four bay garage

- The alleyway behind the garage (west)
- The former locations of the 3 underground storage tanks
- Soils around and in front of the bay garage area.

The McDougall property fronts on two main roads, Mack Avenue and McDougall Street. The area is classified as a light industrial area with many abandoned buildings within blocks of the property. The property is mainly grassed with a mounded area along the north edge of the property. This mounded area was created when the underground tanks on the property were removed. Currently the mounds of soil are thickly vegetated. The building (prior to being demolished) was constructed of brick with four bays and an office area. The bay doors were open which allowed the local community to use it for the dumping of household refuse. This refuse contained tires, washing machines, bottles garbage bags, cans, and miscellaneous household furniture. An alley way went along the west side of the building and is currently used by neighbors to park vehicles.

See Figure 2 for the Property Features Map. Photographs of the McDougal property were taken during the BFRA and are provided in Appendix A.

Electro-Magnetic Survey Results

An MDEQ geologist conducted an electro-magnetic subsurface survey of the property in July 2002. This geophysical method of subsurface investigation was completed prior to the field sampling to aid in the determination of sampling locations and identify past uses of the property. Past uses of the McDougall Street property suggested the possibility of subsurface structures. These could include underground storage tanks, pumping structures, metal, steel, and building foundations.

The survey results indicated the presence of areas of suspected buried metal and areas of high and low ground conductance which could indicate foundations or excavation areas. No underground storage tanks were detected. The results of this survey were used to aid in the placement of soil boring sample locations. Borings were located in areas of both high and low conductance. The survey maps are provided in Appendix B.

Sampling Procedures and Results

The MDEQ staff collected fifteen surficial soil samples, and eight soil boring samples from suspected areas of contamination at the McDougal Street property. Appropriate background samples were not collected due to the size of the property and the proximity of the property to historical and current industrial areas. One field blank sample was collected. Standard MDEQ collection and decontamination procedures, as outlined in the work plan, were adhered to during the collection of all samples.

The samples were collected in order to:

- determine the levels of EPA Target Compound List compounds (organic compounds) and Target Analyte List analytes (inorganic compounds) which may be present at the property;

- characterize potential contamination in shallow and subsurface soils that remain on the property;
- acertain potential contamination migration from possible source areas;
- evaluate health and safety concerns, including threats posed to nearby residential populations, future workers or natural resources associated with the different sample media; and
- evaluate and decide whether the McDougall Street property is a facility in accordance with the definition found in Part 201, Section 324.20101(o).

All EPA and MDEQ quality assurance/quality control procedures were followed. Most samples were shipped via UPS overnight delivery to EPA Contract Laboratory Program (CLP) laboratories assigned by EPA. Samples collected for volatile analysis using the methanol preservation method were transported by the Team Leader to the MDEQ laboratory. Laboratory analytical data for all the sample analyses are provided in Appendix C.

Sample laboratory results were mailed to MDEQ Pre-Remedial Group staff and then compiled for this report. Contaminant concentrations in samples exceeding the Generic Cleanup Criteria (Criteria) promulgated pursuant to Part 201 will be described in the sections below. The current Criteria are provided in Appendix D. Since no appropriate background sample could be collected, any sample concentrations above Criteria but equal to or below statewide default background levels are not considered exceedances of Criteria in this report.

Surficial Soil Samples

The intent of the surficial soil sampling was to characterize any potential contaminated surficial soil areas, to determine the potential for possible contaminant migration from potential source areas, and to determine the health and safety concerns including threats posed to nearby residential populations, future workers, or resources associated with the surficial soils at the property.

Fifteen surficial soil samples were collected. All samples were collected using stainless steel trowels according to the procedures outlined in the work plan. See Figure 3 for a map showing surficial soil sample locations. For a description of the surficial soil sample locations and the sample characteristics, refer to Table 1. Table 2 gives a summary of the surficial soil sample analytical results with comparisons to statewide background concentrations and lists the Generic Cleanup Criteria exceedances of Part 201, of the NREPA.

Analysis of the surficial soil samples collected during the BFRA detected the presence of levels of organic and inorganic compounds above the Part 201 of the NREPA Criteria.

Exceedances above the Residential and Commercial I Drinking Water Protection Criteria:

In SS3, 13, 14, and 15 2-chlorphenol, aluminum, cobalt, iron, and magnesium were detected at concentrations above this criteria.

Residential & Commercial I Groundwater Surface Water Interface Protection Criteria:

SS3, SS4, SS5, SS7, SS13, SS14, and SS15 contained aluminum, flouranthese, 2-chlorophenol, phenanthrene, chromium, and selenium at concentrations above this criteria.

The semi volatiles detected on the property in the surficial soils can be directly connected to the past gas station activities on the property. Please refer the data included in Table 2.

Soil Boring Samples

The intent of the soil boring sampling was to characterize any potential contamination in the deep soils on the property, to determine if any downward migration of contamination had occurred from probable source areas, and to determine the potential health and safety concerns including threats posed to nearby residential populations, future workers, or resources associated with the deep soils at the property.

A soil boring sample was collected from each eight separate locations. A background sample was not designated because the area is highly industrialized and a true background would be difficult to obtain. All samples were collected within a 4 to 8 feet interval below ground level. They were collected utilizing a Geoprobe rig with a lined macro core sampler according to the procedures outlined in the work plan. See Figure 4 for a map showing soil boring sample locations. A description of the sample locations and the sample characteristics can be found in Table 3. Table 4 gives a summary of the sample analytical results with comparisons to designated background concentrations, and lists the Criteria exceedences.

Analysis of the samples collected during the BFRA detected the presence of levels of organic and inorganic compounds above the Part 201 of the NREPA Cleanup Criteria.

Exceedances above the Soil Residential and Commercial I Direct Contact Cleanup Criteria:

Arsenic was detected in SB2 and SB7 at concentrations above this criteria.

Exceedances above the Residential and Commercial I Drinking Water Protection Criteria:

All samples contained aluminum, cobalt, and iron were detected at concentrations above this criteria. SB3 contained benzene, 2,4-dinitrotoluene, ethylbenzene, n-propylbenzene, sec-butylbenzene, n-butylbenzene, naphthalene; SB4 contained m & p-xylene, n-propylbenzene, sec-butylbenzene, n-butylbenzene, naphthalene; ethylbenzene, xylene, naphthalene and butylbenzene were detected in SB3 and SB4; SB7 contained phenanthrene and SB8 contained benzene, toluene, ethylbenzene,

m & p-xylene, o-xylene, n-propylbenzene 1,3,5-trimethylbenzene, sec-butlybenzene, and naphthalene above criteria.

Residential & Commercial I Groundwater Surface Water Interface Protection Criteria:

Chromium, cobalt, cyanide, fluoranthene, naphthalene, phenanthrene, selenium, toluene, and silver were detected at concentrations above this criterion and ethylbenzene, xylene, naphthalene and butylbenzene were detected in SB3 and SB4. These two samples were collected in areas where the underground storage tanks were previously located.

McDougall Street Property

PART 201 GENERIC CLEANUP CRITERIA EXCEEDANCES FOR

SURFICIAL SOIL SAMPLES

SAMPLE #	SS1				SS2				SS3				SS4				SS5			
CRITERIA #	**10**	**11**	**12**	**19**	**10**	**11**	**12**	**19**	**10**	**11**	**12**	**19**	**10**	**11**	**12**	**19**	**10**	**11**	**12**	**19**
Benzo(a)pyrene		E				E														
Fluoranthene		X				X					X				X				X	
Phenanthrene		C				C					X				X				X	
Aluminum	N	E			N	E														
Antimony	O	E			O	E														
Arsenic		D				D														
Carbozole		A				A									X				X	
2-Chlorphenol		N				N				X	X									
Chromium		C				C														
Cobalt		E				E														
Copper		S				S														
Dibenozofuran															X					
Iron																				
Magnesium																				
Manganese																				
Mercury																				
Naphthalene																			X	
Selenium																				
Zinc																				

11: Residential & Commercial I Drinking Water Protection Criteria.
12: Residential & Commercial I Groundwater Surface Water Interface Protection Criteria.
19: Residential & Commercial I Direct Contact Criteria.
X: The contaminant exceeds the listed criteria

McDougall Street Property

PART 201 GENERIC CLEANUP CRITERIA EXCEEDANCES FOR

SURFICIAL SOIL SAMPLES

SAMPLE #	SS6				SS7				SS8				SS9				SS10			
CRITERIA #	10	11	12	19	10	11	12	19	10	11	12	19	10	11	12	19	10	11	12	19
Benzo(a)pyrene		E								E				E				E		
Fluoranthene		X					X			X				X				X		
Phenanthrene		C								C				C				C		
Aluminum	N	E							N	E			N	E			N	E		
Antimony	O	E							O	E			O	E			O	E		
Arsenic		D								D				D				D		
Carbozole		A								A				A				A		
2-Chlorphenol		N								N				N				N		
Chromium		C								C				C				C		
Cobalt		E								E				E				E		
Copper		S								S				S				S		
Dibenozofuran																				
Iron																				
Magnesium																				
Manganese																				
Mercury																				
Naphthalene																				
Selenium																				
Zinc																				

11: Residential & Commercial I Drinking Water Protection Criteria.
12: Residential & Commercial I Groundwater Surface Water Interface Protection Criteria.
19: Residential & Commercial I Direct Contact Criteria.
X: The contaminant exceeds the listed criteria

McDougall Street Property

PART 201 GENERIC CLEANUP CRITERIA EXCEEDANCES FOR

SURFICIAL SOIL SAMPLES

SAMPLE #	SS11				SS12				SS13				SS14				SS15			
CRITERIA #	10	11	12	19	10	11	12	19	10	11	12	19	10	11	12	19	10	11	12	19
Benzo(a)pyrene		E				E														
Fluoranthene		X				X														
Phenanthrene		C				C													X	
Aluminum	N	E			N	E				X				X				X		
Antimony	O	E			O	E														
Arsenic		D				D			X			X								
Carbozole		A				A														
2-Chlorphenol		N				N														
Chromium		C				C					X				X				X	
Cobalt		E				E				X	X			X	X			X	X	
Copper		S				S			X											
Dibenozofuran																				
Iron										X				X				X		
Magnesium										X								X		
Manganese										X				X				X		
Mercury																				
Naphthalene																				
Selenium									X		X		X		X		X		X	
Zinc									X											
Barium									X											
Lead									X				X				X			

McDougall Street Property

11: Residential & Commercial I Drinking Water Protection Criteria.

12: Residential & Commercial I Groundwater Surface Water Interface Protection Criteria.

19: Residential & Commercial I Direct Contact Criteria.

X: The contaminant exceeds the listed criteria

McDougall Street Property

PART 201 GENERIC CLEANUP CRITERIA EXCEEDANCES FOR

SOIL BORING SAMPLES

SAMPLE #	SB1				SB2				SB3				SB4				SB5			
CRITERIA #	10	11	12	19	10	11	12	19	10	11	12	19	10	11	12	19	10	11	12	19
Aluminum		X				X				X				X				X		
Antimony																				
Arsenic	X			X	X			X	X											
Chromium			X				X				X				X				X	
Cobalt		X	X			X	X			X	X			X	X			X	X	
Copper																				
Iron		X				X				X				X				X		
Lead					X												X			
Magnesium		X				X				X								X		
Manganese		X				X				X				X				X		
Mercury																				
Selenium	X		X		X		X		X		X				X		X		X	
Silver							X													
Zinc					X															
Cyanide	X		X																	
Barium					X															
Nickel									X				X							

11: Residential & Commercial I Drinking Water Protection Criteria.
12: Residential & Commercial I Groundwater Surface Water Interface Protection Criteria.
19: Residential & Commercial I Direct Contact Criteria.
X: The contaminant exceeds the listed criteria

McDougall Street Property

PART 201 GENERIC CLEANUP CRITERIA EXCEEDANCES FOR

SOIL BORING SAMPLES

SAMPLE #	SB6				SB7				SB8			
CRITERIA #	10	11	12	19	10	11	12	19	10	11	12	19
Aluminum		X				X				X		
Antimony												
Arsenic					X			X				
Chromium			X				X				X	
Cobalt		X	X			X	X			X	X	
Copper												
Iron		X				X				X		
Lead						X			X			
Magnesium						X						
Manganese		X								X		
Mercury												
Selenium	X		X		X				X		X	
Silver												
Zinc									X			
Cyanide												
Nickel					X							

11: Residential & Commercial I Drinking Water Protection Criteria.
12: Residential & Commercial I Groundwater Surface Water Interface Protection Criteria.
19: Residential & Commercial I Direct Contact Criteria.
X: The contaminant exceeds the listed criteria

McDougall Street Property

PART 201 GENERIC CLEANUP CRITERIA EXCEEDANCES FOR

SOIL BORING SAMPLES

SAMPLE #	SB1				SB2				SB3				SB4				SB5			
CRITERIA #	11	12	19	21	11	12	19	21	11	12	19	21	11	12	19	21	11	12	19	21
n-Propylbenzene		E							X				X					E		
1,2,4-Trimethylbenzene		X																X		
1,3,5-Trimethylbenzene		C																C		
Benzene	N	E							X								N	E		
Ethylbenzene	O	E							X	X							O	E		
Xylenes (total)		D											X	X				D		
Benzo(a)pyrene		A																A		
Carbazole		N																N		
Dibenzofuran		C																C		
Fluoranthene		E				X												E		
Naphthalene		S			X	X			X				X	X				S		
Phenanthrene						X														
2,4-Dinitrotoluene									X											
Sec-butylbenzene									X				X							
N-butylbenzene									X				X							

11: Residential & Commercial I Drinking Water Protection Criteria.
12: Residential & Commercial I Groundwater Surface Water Interface Protection Criteria.
19: Residential & Commercial I Direct Contact Criteria.
X: The contaminant exceeds the listed criteria

McDougall Street Property

PART 201 GENERIC CLEANUP CRITERIA EXCEEDANCES FOR

SOIL BORING SAMPLES

SAMPLE #	SB6				SB7				SB8			
CRITERIA #	11	12	19	21	11	12	19	21	11	12	19	21
n-Propylbenzene		E							X			
1,2,4-Trimethylbenzene		X							X			
1,3,5-Trimethylbenzene		C							X			
Benzene	N	E							X	X		
Ethylbenzene	O	E							X	X		
Xylenes (total)		D							X	X		
Benzo(a)pyrene		A										
Carbazole		N										
Dibenzofuran		C										
Fluoranthene		E										
Naphthalene		S								X		
Phenanthrene						X						
2,4-Dinitrotoluene												
Sec-butylbenzene									X			
N-butylbenzene												
Toluene										X		

11: Residential & Commercial I Drinking Water Protection Criteria.
12: Residential & Commercial I Groundwater Surface Water Interface Protection Criteria.
19: Residential & Commercial I Direct Contact Criteria.
X: The contaminant exceeds the listed criteria

DISCUSSION

The concentrations of inorganics such as aluminum, chromium, iron, magnesium, manganese, and silver, and semi-volatiles such as benzene, 2,4-dinitrotoluene, ethylbenzene, n-propylbenzene, sec-butylbenzene, n-butybenzene, toluene, 1,3,5-trimthylbenzene, 1,2,4-trimethylbenzene, naphthalene, fluoranthene, m&p-xylene, 2-chorophenol, dibenzofuran, carbozole, and o-xylene were found to be greater than the Residential and Commercial I Drinking Water Protection Criteria and the Groundwater Surface Water Interface Protection Criteria of Part 201 of the NREPA. Arsenic was detected at concentrations above Direct Contact Criteria in SS13, SB1, SB2 and SB7. Because these contaminants were detected at concentrations in excess of the Generic Residential Cleanup criteria, the McDougall Street property qualifies as a facility under Part 201 of the NREPA.

Based on the findings of the BFRA investigation, the following issues should be addressed before or during the redevelopment of the McDougall property:

- An acceptable local background for aluminum, chromium, iron, manganese, magnesium and silver should be determined to see if the levels found might be within naturally occurring concentrations. The contaminants appear to be common to the area, therefore a local background should be independently established.

- During redevelopment, soils in affected areas should be removed, or covered with clean soil or another acceptable barrier.

- Contamination in surficial soil samples are most likely the result of the facility. The extent of the contamination should be investigated to determine the extent of the contamination before the area is excavated or remediated.

- Risks to drinking water use of shallow groundwater and surface water have been confirmed in all of the soil samples. Groundwater is not used in this area for drinking water. All of the area is currently using municipal water and should remain on municipal water.

- There are some physical hazards present on the property, such as debris piles that should be removed before or during property redevelopment.

- The contaminants of concern should be considered with respect to responsibilities that may exist under Part 201 of the NREPA. The nature of any response activity that may be required is dependent on the intended use of the property and the party's liability under Part 201 of the NREPA. A person who is liable for the contamination is required to achieve cleanup of the property consistent with the cleanup criteria. The relevant criteria are a function of the intended property use, such as residential, commercial, or industrial. A non-liable developer is not required to implement a cleanup to achieve the appropriate cleanup criteria. However, a non-liable party must comply with the "due care" provisions specified in Section 7a obligations of Part 201 of the NREPA. These obligations include not exacerbating the existing

contamination, exercising due care to assure there are not unacceptable exposures, and taking reasonable precautions against the reasonably foreseeable activities of third parties.

- Further details about cleanup and due care provisions may be obtained from the MDEQ Remediation and Redevelopment Division in the Detroit District office, Phone Number 313-456-4700.

BIBLIOGRAPHY

1. Michigan Department of Environmental Quality, Remediation and Redevelopment Division, Superfund Section, Site File for 3601 McDougall Street, January, 2003 .

2. Sanborn Fire Insurance Maps, 3601 McDougall Street property, Detroit, Michigan, 1884, 1897, 1910, 1915, 1941, 1949, 1957, 1960, 1961, 1977, 1989, and 1991.

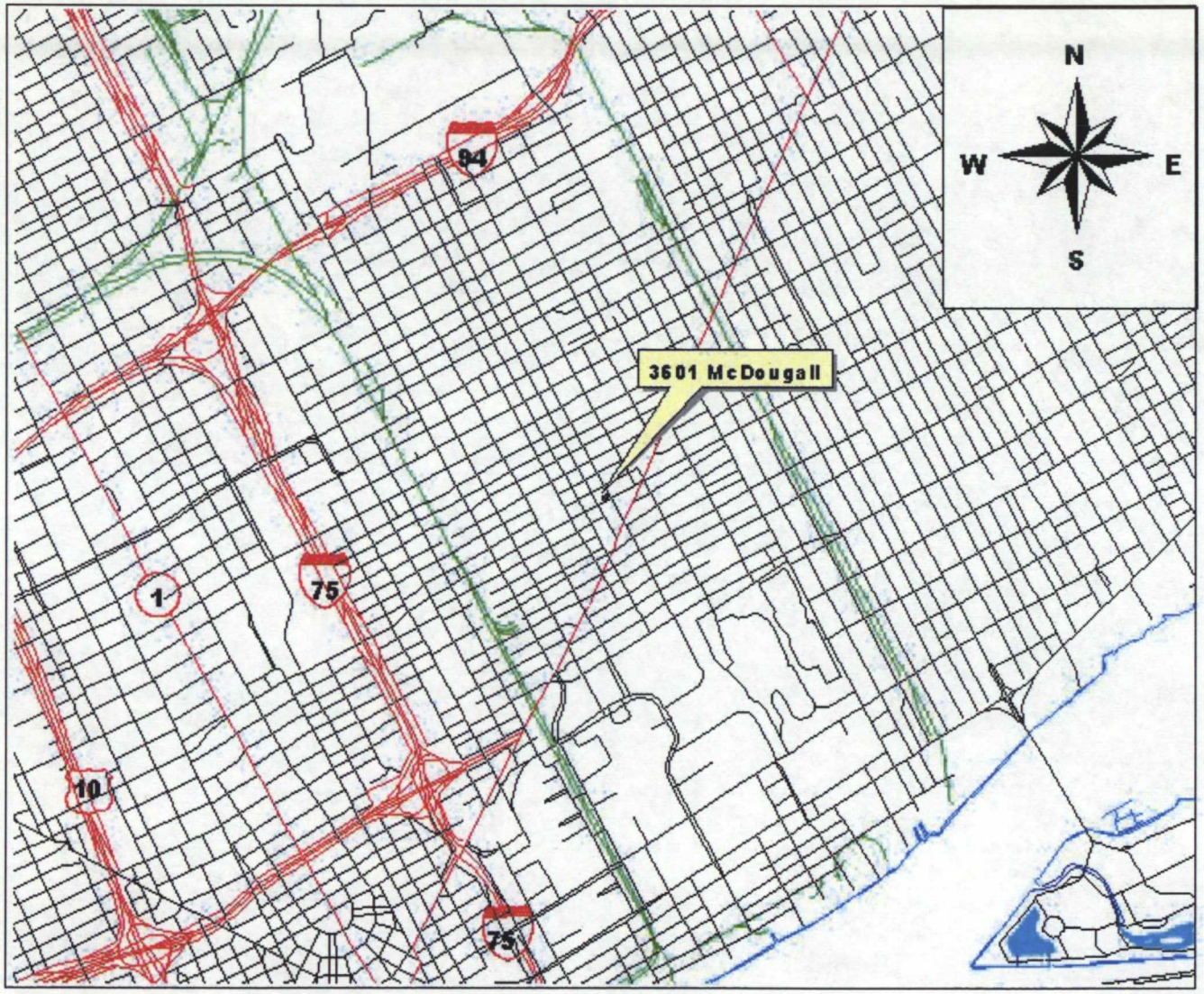
3. City of Detroit website. http://www.detroit.mi.us

4. Michigan Department of Natural Resources aerial photographs: 1978, 1988, 1999

5. U.S. Geological Survey (USGS), 7.5 minute quadrangle topographic map; Detroit

FIGURES

Figure 1
Property Location

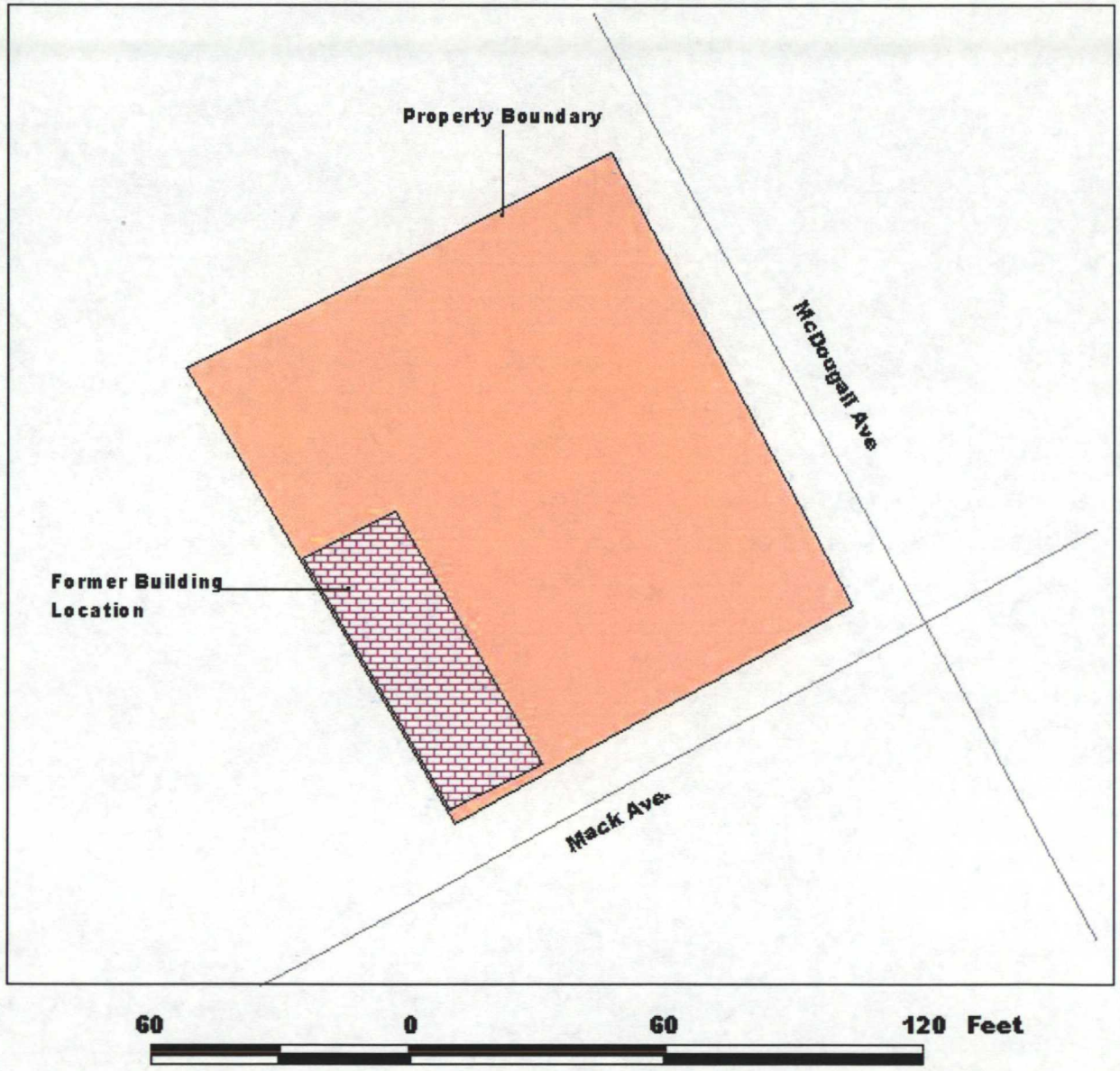


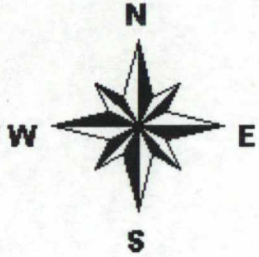
3601 McDougall Brownfield Property
Detroit, MI
Wayne County
Sources: MIRIS Basemap
Michigan Georef - NAD83
Compiled by: CER
July 2002

Department of Environmental Quality
Environmental Response Division
Superfund Section
Site Management Unit 1

1 0 1 2 3 Miles

Figure 2
Property Features

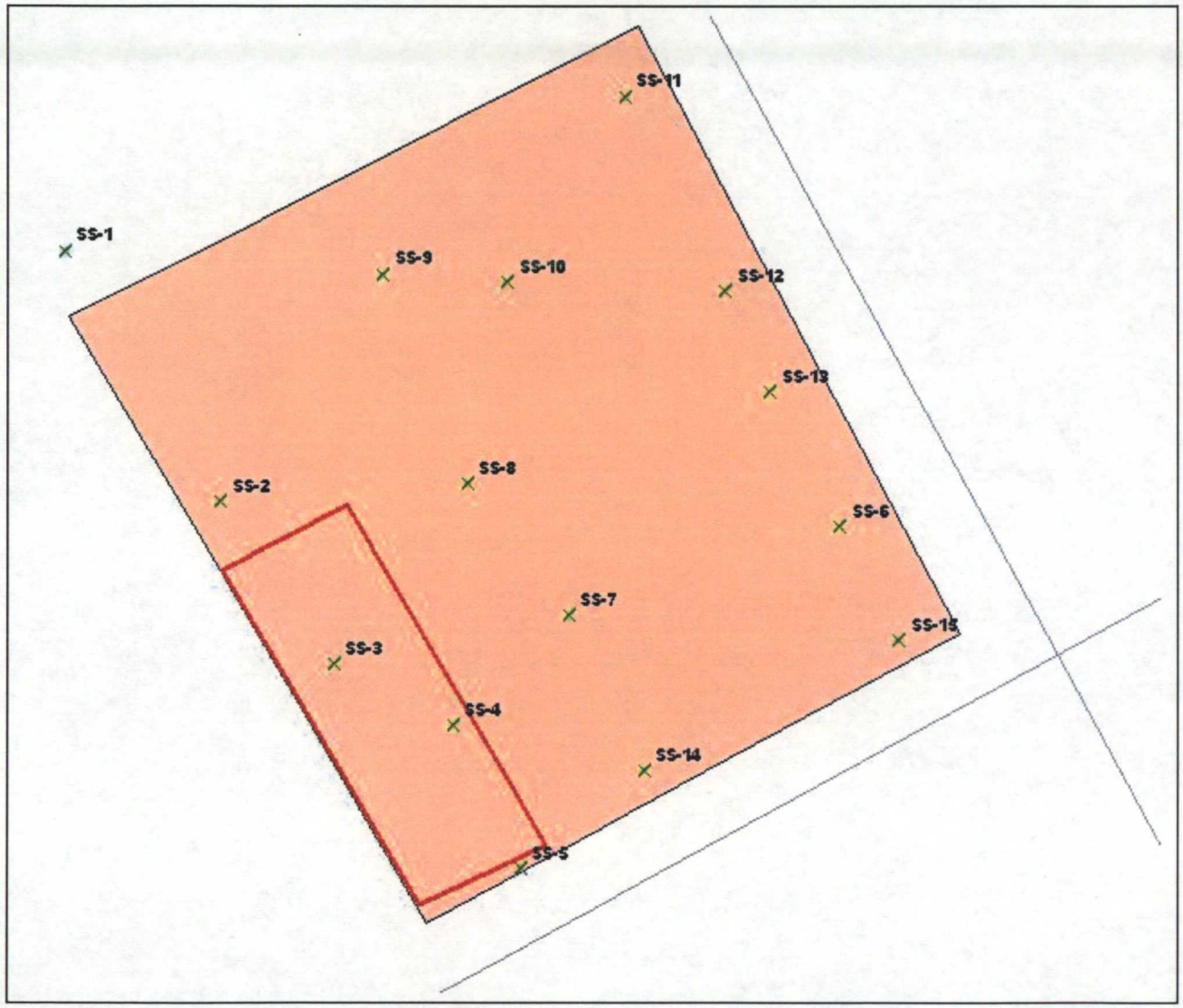




3601 McDougall Brownfield Property
Detroit, MI
Wayne County
Sources: MIRIS Basemap
Michigan Georef - NAD83
Compiled by: CER
July 2002

Department of Environmental Quality
Environmental Response Division
Superfund Section
Site Management Unit 1

Figure 3
Surficial Soil Sample Locations



Surficial Soil Sample Location

N
W E
S

3601 McDougall Brownfield Property
Detroit, MI
Wayne County
Sources: MIRIS Basemap
Michigan Georef - NAD83
Compiled by: CER
July 2002

Department of Environmental Quality
Environmental Response Division
Superfund Section
Site Management Unit 1

70 0 70 140 Feet

Figure 4
Soil Boring Sample Locations

Soil Boring Sample Location

N
W
E
S

3601 McDougall Brownfield Property
Detroit, MI
Wayne County
Sources: MIRIS Basemap
Michigan Georef - NAD83
Compiled by: CER
July 2002

Department of Environmental Quality
Environmental Response Division
Superfund Section
Site Management Unit 1

70 0 70 140 Feet

Figure 5
Direction to Hospital

0.4 0 0.4 0.8 Miles

Directions to Hospital:
From site turn right (west) onto Mack Ave, continue 3 blocks past I-75 to John R & turn right (north). Harper University Hospital is located on right @ the corner of Alexandrine St and John R

3601 McDougall Brownfield Property
Detroit, MI
Wayne County
Sources: MIRIS Basemap
Michigan Georef - NAD83
Compiled by: CER
July 2002

Department of Environmental Quality
Environmental Response Division
Superfund Section
Site Management Unit 1

TABLES

TABLE 1

SURFICIAL SOIL SAMPLE DESCRIPTIONS

SAMPLE #	LOCATION	DEPTH	DESCRIPTION	DESIGNATION	COMMENTS
SS1	Northwest corner of property, near telephone pole.*	0-1 in. 1-4 in.	Root zone. Dry, light brown, silt with some fine gravel. Some pieces of wood.	Shallow grab sample.	VOA collected at 4 in.
SS2	Northwest corner of property, southwest of SS1.*	0-6 in.	Moist, dark brown/gray, silt with some clay & coarse gravel.	Shallow grab sample.	VOA collected at 6 in.
SS3	West center edge of property, along alley.*	0-12 in.	Dry, dark brown, fine silty sand with gravel & stones.	Shallow grab sample.	VOA collected at 12 in.
SS4	Southwest corner of property, south of SS3, north of SS5.*	0-10 in.	Dry, dark brown, fine silty sand with some clay & fine gravel. Slightly moist at bottom.	Shallow grab sample.	VOA collected at 10 in.
SS5	Southwest corner of property, near sidewalk and alley.*	0-12 in.	Dry, dark brown, silty fine sand with stones-red brick pieces.	Shallow grab sample.	VOA collected at 12 in.
SS6	Southeast corner of property, north of SS15, south of SS13 & east of SS7.*	0-4 in. 4-12 in.	Dry, dark brown, silty fine sand with stones. Slightly moist, light brown fine sand.	Shallow grab sample.	VOA collected at 12 in.
SS7	East of SS4, along north-south dividing line of property.*	0-10 in.	Dry, dark gray, fine silty sand, clay & stones.	Shallow grab sample.	VOA collected at 10 in.
SS8	North of SS7, east of SS3.*	0-12 in.	Dry, dark brown, silt, clay & coarse gravel. Slightly moist at bottom.	Shallow grab sample.	VOA collected at 11 in.

*- All locations were recorded using G.P.S.

TABLE 1 (cont.)

SURFICIAL SOIL SAMPLE DESCRIPTIONS

SAMPLE #	LOCATION	DEPTH	DESCRIPTION	DESIGNATION	COMMENTS
SS9	North of SS8, east of SS2.*	0-12 in.	Dry, dark brown, silty fine sand with some coarse gravel. Slightly moist at bottom.	Shallow grab sample.	VOA collected at 12 in.
SS10	North and center edge of property. East of SS1, north of SS9.*	0-6 in.	Dry, dark gray, fine sand & clay. Very hard clay at bottom.	Shallow grab sample.	VOA collected at 6 in.
SS11	Northeast corner of property.*	0-8 in.	Dry, dark gray, fine silty sand and clay with some stones.	Shallow grab sample.	VOA collected at 8 in.
SS12	Northeast corner of property, south of SS11 & east of SS9.*	0-6 in.	Dry, dark brown, silty sand and clay with some stones.	Shallow grab sample.	VOA collected at 6 in.
SS13	East and center edge of property, south of SS12 & east of SS8.*	0-6 in.	Dry, dark brown, fine silty sand with some clay & stone. Lots of small roots.	Shallow grab sample.	VOA collected at 6 in.
SS14	South and center edge of property, south of SS7 and east of SS5.*	0-4 in. 4-12 in.	Dry, dark brown, silty sand with clay & some stones. Slightly moist, light brown, fine silty sand.	Shallow grab sample.	VOA collected at 12 in.
SS15	Southeast corner of property, near traffic intersection.*	0-3 in. 3-12 in.	Dry, dark gray, silty fine sand with lots of stones. Dry, tan, fine sand. slightly moist at bottom.	Shallow grab sample.	VOA collected at 12 in.

*- All locations were recorded using G.P.S.

TABLE 2

SURFICIAL SOIL SAMPLE SUMMARY

SAMPLE #	CONTAMINANT	SAMPLE CONCENTRATION	BACKGROUND CONCENTRATION	PART 201 CLEANUP CRITERIA & SCREENING LEVEL EXCEEDANCES
SS1	No exceedances found.			
SS2	No exceedances found.			
SS3	**Semivolatiles**	**(mg/kg)**	**(mg/kg)**	**Criteria[a]**
	Phenanthrene	5,900		12
	2-Chlorophenol	2,700		11, 12
	Fluoranthene	8,300		12
SS4	**Semivolatiles**	**(mg/kg)**	**(mg/kg)**	**Criteria[a]**
	Dibenzofuran	2,000		12
	Phenanthrene	26,000		12
	Carbozole	1,900		12
	Fluoranthene	33,000		12
SS5	**Semivolatiles**	**(mg/kg)**	**(mg/kg)**	**Criteria[a]**
	Phenanthrene	19,000		12
	Carbozole	1,300		12
	Naphthalene	1,100		12
	Fluoranthene	30,000		12
SS6	No exceedances found.			
SS7	**Semivolatiles**	**(mg/kg)**	**(mg/kg)**	**Criteria[a]**
	Fluoranthene	7,500		12
SS8	No exceedances found.			
SS9	No exceedances found.			
SS10	No exceedances found.			
SS11	No exceedances found.			
SS12	No exceedances found.			

TABLE 2 (cont.)

SURFICIAL SOIL SAMPLE SUMMARY

SAMPLE #	CONTAMINANT	SAMPLE CONCENTRATION	BACKGROUND CONCENTRATION	PART 201 CLEANUP CRITERIA & SCREENING LEVEL EXCEEDANCES
SS13	**Inorganics**	**(mg/kg)**	**(mg/kg)**	**Criteria[a]**
	Aluminum	7,170		11
	Arsenic	15.2	5.8	10, 19
	Barium	78.0	75	10
	Chromium	16.2		12
	Cobalt	6.0		11, 12
	Copper	35.9J	32	10
	Iron	17,700		11
	Lead	75.5	21	10
	Magnesium	9,410		11
	Manganese	392		11
	Selenium	1.2	.41	10, 12
	Zinc	92.6		10
SS14	**Inorganics**	**(mg/kg)**	**(mg/kg)**	**Criteria[a]**
	Aluminum	4,050		11
	Chromium	15.0		12
	Cobalt	2.8		11, 12
	Iron	7,450		11
	Lead	61.7	21	10
	Manganese	196		11
	Selenium	0.70	.41	10, 12

TABLE 2 (cont.)

SURFICIAL SOIL SAMPLE SUMMARY

SAMPLE #	CONTAMINANT	SAMPLE CONCENTRATION	BACKGROUND CONCENTRATION	PART 201 CLEANUP CRITERIA & SCREENING LEVEL EXCEEDANCES
SS15	**Semivolatiles**	**(mg/kg)**	**(mg/kg)**	**Criteria[a]**
	Phenathrene	2,900		12
	Inorganics	**(mg/kg)**	**(mg/kg)**	**Criteria[a]**
	Aluminum	2,500		11
	Chromium	7.5		12
	Cobalt	2.0		11, 12
	Iron	6,030		11
	Lead	111	21	10
	Magnesium	12,600		11
	Manganese	184		11
	Selenium	0.67	.41	10, 12
	Zinc	121	47	10

µg/kg = microgram/kilogram (parts per billion (ppb)).
mg/kg = milligram/kilogram (parts per million (ppm)).

[a] - The number(s) in the criteria column refer to the respective Part 201 generic cleanup criteria or screening levels. These criteria and levels can be found in table form in Appendix D. These tables are the most current values for the criteria as of the date of this report.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J - The analyte was positivelt identified; the associated numerical value is an approximate concentration of the analyte in the sample.
UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the action limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R - The data are unusable. (The compound may or may not be present.)
(add any additional data qualifiers here.)

A total of ten (10) soil samples were collected during the BFRA

TABLE 3

SOIL BORING LITHOLOGY AND SAMPLE LOG

BORING NUMBER	LOCATION	SPOON INTERVAL	RECOVERY	UNIT THICKNESS	LITHOLOGICAL DESCRIPTION	*PID READING	COMMENTS
SB1	Northwest corner of property, near former building edge wall.*	0 – 4 ft.	30 in.	0-7 in.	Dry, brown, silt with small roots, brown grass.	0.0	VOA collected @ 18" of 4-8 ft. Rest at 8-24" of the same.
				7-22 in.	Dry, brown, silty fine sand.	0.0	
				22-30	Moist, tan, fine sand some roots, wood.		
		4-8 ft.	48 in.	0-5 in.	Same as above.	0.0	
				5-10 in.	Moist, variegated silty clay with some fine sand.		
				10-48 in.	Moist, variegated silty clay.	0.0	
SB2	West center edge of property, south of SB1 along alley.*	0-4 ft.	33 in.	0-33 in.	Moist, fill dirt-variegated silty clay, some fine sand, fine gravel, & roots at 16-18 in.	0.0	VOA collected @ 6" of 4-8 ft. Rest at 0-18" of the same.
		4-8 ft.	48 in.	0-8 in.	Same as above.	0.0	
				8-48 in.	Moist, variegated silty clay.		
SB3	Southwestern corner of property.*	0-4 ft.	42 in.	0-18 in.	Dry, fill-brown, silty fine sand with fine gravel.	0.0	VOA collected @ 11" of 4-8 ft. Rest at 32-42" of 0-4 ft. and 0-16 of 4-8 ft.
				18-23 in.	Moist, brown, fine sand.	0.0	
				23-32 in.	Moist, brown, silty clay.		
				32-42 in.	Moist, brown, fine sand.	55	
		4-7.5 ft.	48 in.	0-8 in.	Same as above.	0.0	
				8-14 in.	Wet, brown clay, some silt.	8	
				14-48 in.	Moist, variegated silty clay, firm.	25 0.0	

*-All locations were recorded using G.P.S.

TABLE 3 (cont.)

SOIL BORING LITHOLOGY AND SAMPLE LOG

BORING NUMBER	LOCATION	SPOON INTERVAL	RECOVERY	UNIT THICKNESS	LITHOLOGICAL DESCRIPTION	*PID READING	COMMENTS
SB4-A	Center of property. See map.*	0-4 ft.	40 in.	0-15 in. 15-23 in. 23-40 in.	Dry, brown silty fine sand with fill, clay & fine sand. Moist, black, silty clay. Moist, gray, clay with some silt.	0.0 28 58 379 @ 40" 667 @ 40"	VOA (A) collected @ 4" of 4-8 ft. & (B) @ 40" of 0-4 ft. Rest at 34-40" of 0-4 ft. & 0-18" of 4-8 ft.
SB4-B	Center of property. See map.*	4-8 ft.	48 in.	0-6 in. 6-48 in.	Same as above. Moist, variegated silty clay.	250 0-8" 0.0 8"+	Two sample where taken from the same location due to the high PID readings.
SB5	North center edge of property. See map.*	0-4 ft. 4-8 ft.	33 in. 48 in.	0-20 in. 20-33 in. 0-9 in. 9-10 in. 10-48 in.	Dry, brown, fill-mostly silty fine sand with chunks of concrete. Moist, brown, fill-variegated silty clay, some brick/tile. Slough from above including some red brick. Wet, brown, fill, silty clay & fine medium sand. Moist, variegated silty clay.	0.0 0.0 0.0 0.0 0.0	VOA collected @ 10" of 4-8 ft. Rest at 0-16 of the same.

*-All locations were recorded using G.P.S.

TABLE 3 (cont.)

SOIL BORING LITHOLOGY AND SAMPLE LOG

BORING NUMBER	LOCATION	SPOON INTERVAL	RECOVERY	UNIT THICKNESS	LITHOLOGICAL DESCRIPTION	*PID READING	COMMENTS
SB6	Northeast corner of property, near grassy knoll.	0-4 ft.	48 in.	0-24 in. 24-40 in. 40-48 in.	Dry, fill-silty clay & fine sand with some roots. Moist, fill-as above, no roots. Moist, variegated silty clay.	0.0 0.0	VOA taken @ 40-42" of 0-4 ft. Rest at 38-48" of 0-4 ft. & 0-6 in. of 4-8 ft.
		4-8 ft.	48 in.	0-48 in.	Same as above.	0.0	
SB7	Southeast corner of property.	0-4 ft.	40 in.	0-15 in. 15-20 in. 20-40 in.	Dry, brown, fill-silty clay with fine gravel. Moist, black/brown, silty clay. Wood.	0.0 0.0	VOA collected @ 2-3" of 4-8 ft.
		4-8 ft.	48 in.	0-1 in. 1-48 in.	Same as above. Moist, variegated silty clay with some fine gravel.	0.0	

*-All locations were recorded using G.P.S.

TABLE 3 (cont.)

SOIL BORING LITHOLOGY AND SAMPLE LOG

BORING NUMBER	LOCATION	SPOON INTERVAL	RECOVERY	UNIT THICKNESS	LITHOLOGICAL DESCRIPTION	*PID READING	COMMENTS
SB8	Southeast corner of property, near SB7.	0-4 ft.	39 in.	0-10 in.	Dry, brown, fill material.	0.0	VOA collected @ 30-32" of 4-8 ft.
				10-24 in.	Moist, brown, fine sand.		
				24-29 in.	Moist, brown, silty clay.	0.0	
				29-31 in.	Moist, brown, fine sand.		
				31-39 in.	Moist, brown, silty sand with black material like asphalt. (gas smell)	480 1100 @ 36-39"	Rest at 0-32 in of 4-8 ft.
		4-8 ft.	32 in.	0-32 in.	Moist to wet, fill-mostly wet brown, silty clay with sand lenses at 8" & 18". Few pieces of asphalt, gas smell.	1100 @ 26-32"	(Few pieces of asphalt, gas smell).
		8-12 ft.	48 in.	0-38 in.	Wet, brown, medium sand with few pieces moist variegated silty clay. (Gas smell).	400 @ 10"	
				38-48 in.	Moist, variegated silty clay.		

* PID reading units are parts per million (ppm).
*- The entire property had been leveled, including former building prior to conducting sampling.
*- All locations were recorded using G.P.S.

TABLE 4

SOIL BORING SAMPLE SUMMARY

SAMPLE #	CONTAMINANT	SAMPLE CONCENTRATION	STATEWIDE DEFAULT	PART 201 CLEANUP CRITERIA & SCREENING LEVEL EXCEEDANCES
SB1	**Inorganics**	**mg/kg**	**mg/kg**	**Criteria[a]**
	Aluminum	4,870		11
	Arsenic	8.2	5.8	10, 19
	Chromium	9.6		12
	Cobalt	6.3		11, 12
	Iron	14,000		11
	Magnesium	20,000		11
	Manganese	347		11
	Selenium	0.72	.41	10, 12
	Cyanide	0.43	.40	10, 12
SB2	**Semivolatiles**	**mg/kg**	**mg/kg**	**Criteria[a]**
	Fluoranthene	7,000		12
	Naphthalene	27,000		11, 12
	Phenanthrene	5,300		12
	Inorganics	**mg/kg**	**mg/kg**	**Criteria[a]**
	Aluminum	6,310		11
	Arsenic	9.8	5.8	10, 19
	Barium	76.6	75	10
	Chromium	14.9		12
	Cobalt	5.0		11, 12
	Iron	20,000		11
	Lead	167	21	10
	Magnesium	11,100		11
	Manganese	248		11
	Selenium	1.5	.41	10, 12
	Silver	0.50		12
	Zinc	129	47	10

TABLE 4 (cont.)

SOIL BORING SAMPLE SUMMARY

SAMPLE #	CONTAMINANT	SAMPLE CONCENTRATION	STATEWIDE DEFAULT	PART 201 CLEANUP CRITERIA & SCREENING LEVEL EXCEEDANCES
SB3	**Semivolatiles**	**mg/kg**	**mg/kg**	**Criteria[a]**
	Benzene	1,600		11
	2,4-Dinitrotoluene	1,900		11
	Ethylbenzene	22,000		11, 12
	n-Propylbenzene	11,000		11
	sec-Butylbenzene	2,200		11
	n-Bultybenzene	4,500		11
	Naphthalene	7,700		11
	Inorganics	**mg/kg**	**mg/kg**	**Criteria[a]**
	Aluminum	9,060		11
	Arsenic	7.0	5.8	10
	Chromium	15.8		12
	Cobalt	8.3		11, 12
	Iron	19,200		11
	Magnesium	16,600		11
	Manganese	474		11
	Nickel	20.7	20	10
	Selenium	1.2	.41	10, 12
SB4	**Semivolatiles**	**mg/kg**	**mg/kg**	**Criteria[a]**
	m & p-Xylene	1,500		11, 12
	n-Propylbenzene	21,000		11
	sec-Butylbenzene	2,200		11
	n-Bultybenzene	6,900		11
	Naphthalene	2,100		11, 12
	Inorganics	**mg/kg**	**mg/kg**	**Criteria[a]**
	Aluminum	8,570		11
	Barium	83.1	75	10
	Chromium	15.0		12
	Cobalt	6.0		11, 12
	Iron	17,000		11
	Manganese	513		11
	Selenium	0.96		12

TABLE 4 (cont.)

SOIL BORING SAMPLE SUMMARY

SAMPLE #	CONTAMINANT	SAMPLE CONCENTRATION	STATEWIDE DEFAULT	PART 201 CLEANUP CRITERIA & SCREENING LEVEL EXCEEDANCES
SB5	**Inorganics**	**mg/kg**	**mg/kg**	**Criteria[a]**
	Aluminum	6,530		11
	Chromium	9.9		12
	Cobalt	4.1		11, 12
	Iron	10,000		11
	Lead	36.0	21	10
	Magnesium	11,600		11
	Manganese	258		11
	Selenium	0.74	.41	10, 12
SB6	**Inorganics**	**mg/kg**	**mg/kg**	**Criteria[a]**
	Aluminum	5,640		11
	Chromium	11.0		12
	Cobalt	4.8		11, 12
	Iron	11,400		11
	Manganese	216		11
	Selenium	0.72	.41	10, 12
SB7	**Semivolatiles**	**mg/kg**	**mg/kg**	**Criteria[a]**
	Phenanthrene	3,200		12
	Inorganics	**mg/kg**	**mg/kg**	**Criteria[a]**
	Aluminum	8,360		11
	Arsenic	12.8	5.8	10, 19
	Chromium	15.0		12
	Cobalt	12.5		11, 12
	Iron	18,800		11
	Magnesium	18,500		11
	Manganese	351		11
	Nickel	25.5	20	10
	Selenium	0.72	.41	10

TABLE 4 (cont.)

SOIL BORING SAMPLE SUMMARY

SAMPLE #	CONTAMINANT	SAMPLE CONCENTRATION	STATEWIDE DEFAULT	PART 201 CLEANUP CRITERIA & SCREENING LEVEL EXCEEDANCES
SB8	**Semivolatiles**	**mg/kg**	**mg/kg**	**Criteria[a]**
	Benzene	12,000		11, 12
	Toluene	11,000		12
	Ethylbenzene	44,000		11, 12
	m & p-Xylene	210,000		11, 12
	o-Xylene	69,000		11, 12
	n-Propylbenzene	19,000		11
	1,3,5-Trimthylbenzene	43,000		11
	1,2,4- Trimthylbenzene	140,000		11
	sec-Butylbenzene	3,600		11
	Naphthalene	23,000		12
	Inorganics	**mg/kg**	**mg/kg**	**Criteria[a]**
	Aluminum	4,000		11
	Chromium	8.0		12
	Cobalt	3.0		11, 12
	Iron	7,060		11
	Lead	24.2	21	10
	Manganese	158		11
	Selenium	0.77	.41	10, 12
	Zinc	78.2	47	10

µg/kg = microgram/kilogram [parts per billion (ppb)].
mg/kg = milligram/kilogram [parts per million (ppm)].

[a] - The number(s) in the criteria column refer to the respective Part 201 generic cleanup criteria or screening levels. These criteria and levels can be found in table form in Appendix D. These tables are the most current values for the criteria as of the date of this report.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positivelt identified; the associated numerical value is an approximate concentration of the analyte in the sample.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the action limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The data are unusable. (The compound may or may not be present.)

APPENDIX A

BFRA PROPERTY PHOTOGRAPHS

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: McDougall

U.S. EPA ID #: MI

DATE: 8-21-02

DESCRIPTION: Looking from north to south on property showing mounded areas along the north property line.

DATE: 8-21-02

DESCRIPTION: Looking north east from Mack Ave. onto the property.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: McDougall

U.S. EPA ID #: MI

ATE: 8-21-02

DESCRIPTION: Looking from east to west at the four bay garages.

DATE: 8-21-02

DESCRIPTION: Looking west showing the four bay garages, which has been demolished.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: McDougall

S. EPA ID #: MI

DATE: 8-21-02

DESCRIPTION: West side of the four bay garages which has been demolished prior to this assessment.

DATE: 8-21-02

DESCRIPTION: Looking north across the front of the property.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: McDougall

U.S. EPA ID #: MI

DATE: 8-21-02

DESCRIPTION: Looking west down Mack Ave. along the south side of the property.

DATE: 8-21-02

DESCRIPTION: Looking northeast onto the property from Mack Ave. showing the front and the alley on the west side of the four bay garage.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: McDougall

PAGE: 5 OF: 5

EPA ID #: MI

DATE: 8-21-02

DESCRIPTION: Looking from south to north across the four bay garages.

DATE: 8-21-02

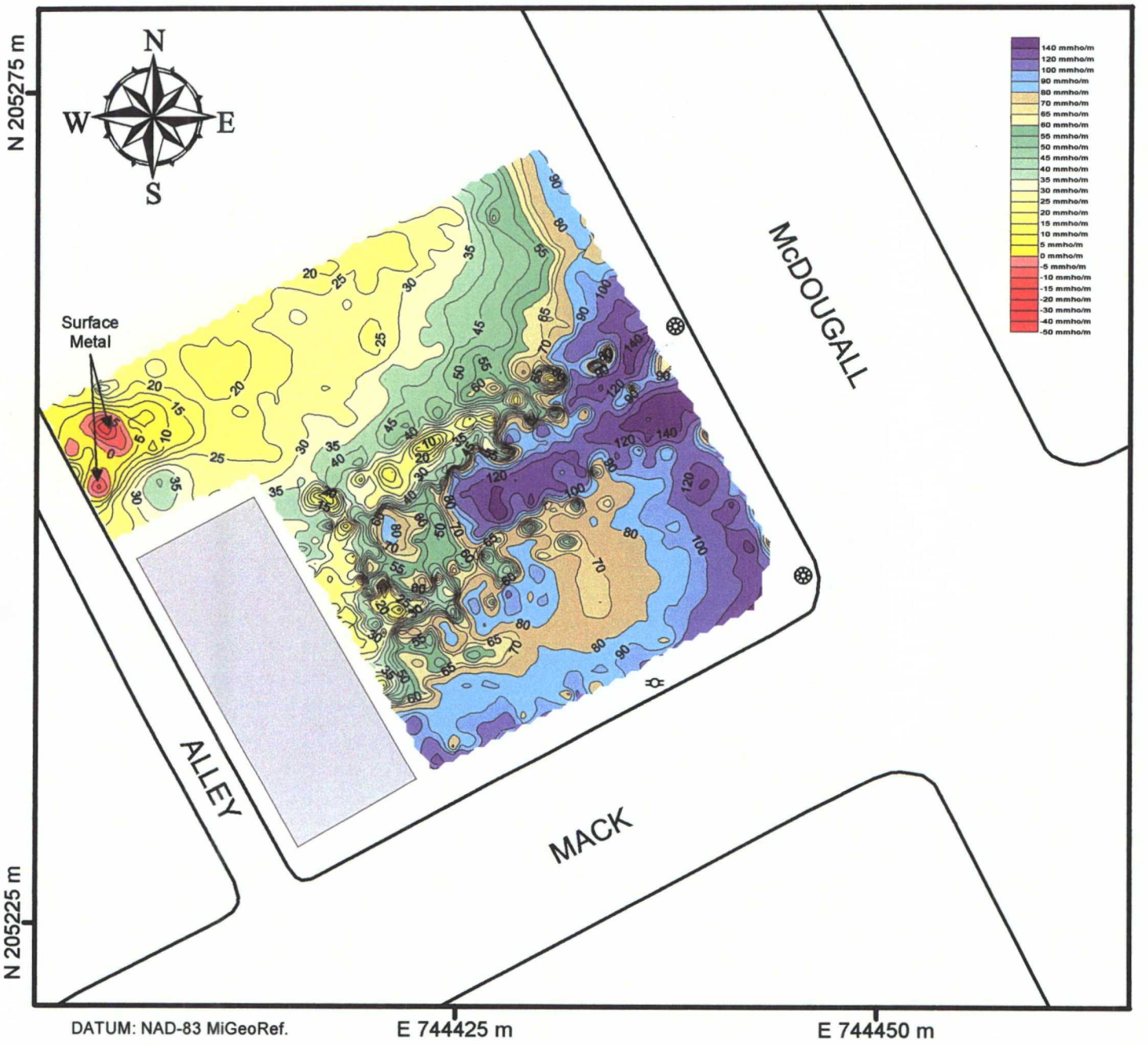
DESCRIPTION: Looking west into a car bay showing household refuse.

APPENDIX B

ELECTRO-MAGNETIC SURVEY

GROUND CONDUCTIVITY

McDougall Property



DATUM: NAD-83 MiGeoRef. E 744425 m E 744450 m

1 inch = 30 feet = 9.144 meters

0m 9.144m 18.29m

LOCATION: T2S, R12E

LEGEND:

Power Pole

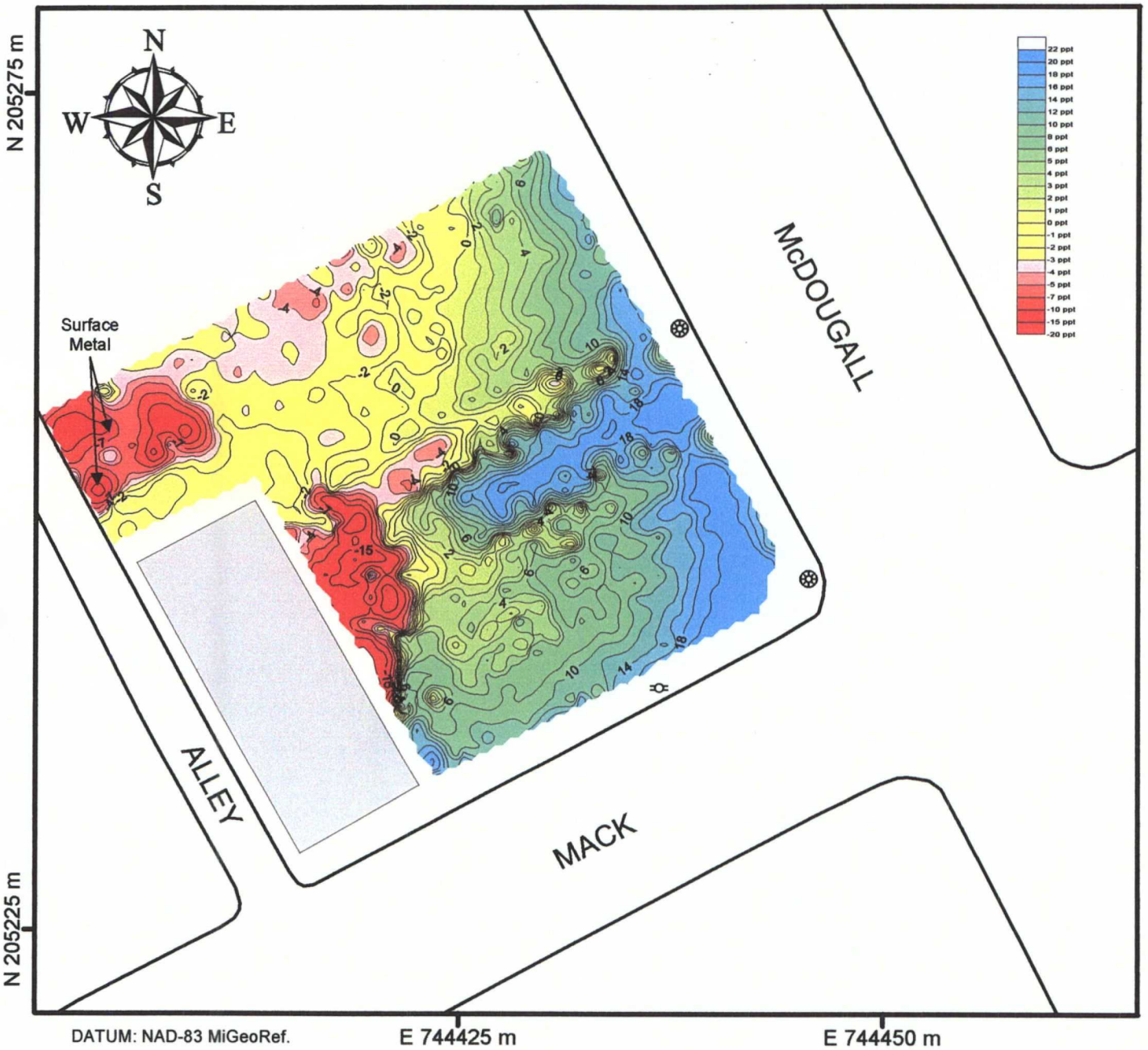
Manhole

EM-31 Survey Conducted 7/02

FIGURE 1

IN-PHASE (Metal Detection)

McDougall Property



DEQ

EM-31 Survey Conducted 7/02

LEGEND:

Power Pole

Manhole

1 inch = 30 feet = 9.144 meters

0m 9.144m 18.29m

LOCATION: T2S, R12E

FIGURE 2

APPENDIX C

CHEMICAL ANALYSIS OF BFRA DATA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: September 5, 2002

SUBJECT: Review of Data
Received for Review on September 4, 2002

FROM: Stephen L. Ostrodka, Chief (SMF-4J)
Superfund Field Services Section

TO: Data User: MDEQ

The data in this case has not been validated.
We have compiled the CADRE files into a narrative format for the following case:

SITE NAME: McDougall Property

CI NUMBER: 30856 SDG NUMBER: ME0TD7

Number and Type of Samples: 12 soils

Sample Numbers: ME0TD7-9; ME0TE0-8

Laboratory: Sentinel Hrs. for Review: 2

Following are our findings:

CC: Cecilia Moore
Region 5 TPO
Mail Code: SM-5J

Analytical Results (Qualified Data)

Case #: 30856 SDG : ME0TE9

Site : MCDOUGALL PROPERTY

ab. : SENTIN

.eviewer :

Date :

Number of Soil Samples : 11

Number of Water Samples : 1

Sample Number :	ME0TE9		ME0TF0		ME0TF1		ME0TF2		ME0TF3	
Sampling Location :	SS13		SS14		SS15		SB1		SB2	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	08/21/2002		08/21/2002		08/21/2002		08/21/2002		08/21/2002	
Time Sampled :	16:25		16:40		17:20		14:15		14:30	
%Solids :	90.4		93.6		96.3		89.1		87.6	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	7170		4050		2500		4870		6310	
ANTIMONY	0.86	UJ	0.83	UJ	0.81	UJ	0.88	UJ	0.89	UJ
ARSENIC	15.2		3.5		3.2		8.2		9.8	
BARIUM	78.0		30.9		41.0		34.2		76.6	
BERYLLIUM	0.59		0.21		0.15		0.27		0.37	
CADMIUM	0.37		0.27		0.35		0.13	U	0.56	
CALCIUM	32700		23600		35200		56400		43400	
CHROMIUM	16.2		15.0		7.5		9.6		14.9	
COBALT	6.0		2.8		2.0		6.3		5.0	
COPPER	35.9	J	11.4	J	23.4	J	17.0	J	26.8	J
IRON	17700		7450		6030		14000		20000	
LEAD	75.5		61.7		111		8.5		167	
MAGNESIUM	9410		6590		12600		20000		11100	
MANGANESE	392		196		184		347		248	
ERCURY	0.070		0.050	U	0.050	U	0.060	U	0.060	U
ICKEL	18.5		8.0		8.5		15.9		18.1	
POTASSIUM	1110	J	487	J	415	J	984	J	1050	J
SELENIUM	1.2		0.70		0.67		0.72		1.5	
SILVER	0.29		0.26	U	0.25	U	0.27	U	0.50	
SODIUM	576	J	426	J	428	J	436	J	663	J
THALLIUM	1.1	U	1.0	U	1.0	U	1.1	U	1.1	U
VANADIUM	19.8		10.6		7.9		18.0		19.1	
ZINC	92.6		38.2		121		33.0		129	
CYANIDE	0.17	U	0.19	J	0.16	U	0.43	J	0.17	U

DISCLAIMER: This package has been electronically assessed as an added service to our customer. It has not been either validated or approved by Region 5 and any subsequent use by the data user is strictly at the risk of the data user. Region 5 assumes no responsibility for use of unvalidated data.

Analytical Results (Qualified Data)

Case #: 30856 SDG : ME0TE9
Site : MCDOUGALL PROPERTY
'b. : SENTIN
.viewer :
Date :

Sample Number :	ME0TF4		ME0TF5		ME0TF6		ME0TF7		ME0TF8	
Sampling Location :	SB3		SB4		SB5		SB6		SB7	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	08/21/2002		08/21/2002		08/21/2002		08/21/2002		08/21/2002	
Time Sampled :	14:45		15:10		15:35		16:05		16:20	
%Solids :	85.5		84.9		87.3		88.9		88.5	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	9060		8570		6530		5640		8360	
ANTIMONY	0.91	UJ	0.92	UJ	0.89	UJ	0.88	UJ	0.88	UJ
ARSENIC	7.0		4.5		4.8		4.2		12.8	
BARIUM	69.3		83.1		45.6		43.1		62.1	
BERYLLIUM	0.51		0.50		0.30		0.29		0.47	
CADMIUM	0.14	U	0.23		0.14	U	0.23		0.15	
CALCIUM	43300		8060		41800		2740		61800	
CHROMIUM	15.8		15.0		9.9		11.0		15.0	
COBALT	8.3		6.0		4.1		4.8		12.5	
COPPER	18.5	J	15.2	J	12.5	J	8.1	J	17.0	J
IRON	19200		17000		10000		11400		18800	
LEAD	8.1		14.9		36.0		7.1		12.2	
MAGNESIUM	16600		4250		11600		2060		18500	
MANGANESE	474		513		258		216		351	
ERCURY	0.060	U	0.080		0.060	U	0.060	U	0.060	U
.CKEL	20.7		13.9		12.8		11.3		25.5	
POTASSIUM	1120	J	744	J	811	J	541	J	1320	J
SELENIUM	1.2		0.96		0.74		0.72	U	0.72	U
SILVER	0.32		0.42		0.27	U	0.27		0.27	
SODIUM	891	J	507	J	531	J	429	J	713	J
THALLIUM	1.1	U	1.2	U	1.1	U	1.1	U	1.1	U
VANADIUM	25.4		23.6		20.8		15.7		26.1	
ZINC	39.0		33.9		40.7		29.2		41.8	
CYANIDE	0.18	U	0.19	J	0.17	U	0.17	U	0.17	U

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Analytical Results (Qualified Data)

Case #: 30856 SDG : ME0TE9
Site : MCDOUGALL PROPERTY
ab. : SENTIN
viewer :
Date :

Sample Number :	ME0TF9		ME0TF4D		ME0TF4S					
Sampling Location :	SB8		SB3		SB3					
Matrix :	Soil		Soil		Soil					
Units :	mg/Kg		mg/Kg		mg/Kg					
Date Sampled :	08/21/2002		08/21/2002		08/21/2002					
Time Sampled :	17:00		14:45		14:45					
%Solids :	85.4		86.0		85.5					
Dilution Factor :	1.0		1.0		1.0					
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	4000		9310							
ANTIMONY	0.91	UJ	0.91	UJ	44.4					
ARSENIC	4.3		8.3		16.0					
BARIUM	28.3		70.5		541					
BERYLLIUM	0.16		0.54		11.6					
CADMIUM	0.29		0.14	U	10.9					
CALCIUM	24500		55000							
CHROMIUM	8.0		16.0		61.8					
COBALT	3.0		8.3		120					
COPPER	9.5	J	17.7	J	74.0	J				
IRON	7060		20600							
LEAD	24.2		8.5		12.7					
MAGNESIUM	6700		17000							
MANGANESE	158		584		584					
ERCURY	0.060	U	0.060	U	0.57					
CKEL	8.4		21.7		134					
POTASSIUM	571	J	1100	J						
SELENIUM	0.77		0.75	U	3.0					
SILVER	0.28	U	0.28	U	12.0					
SODIUM	479	J	897	J						
THALLIUM	1.1	U	1.1	U	11.9					
VANADIUM	12.6		25.3		139					
ZINC	78.2		41.0		152					
CYANIDE	0.18	U	0.18	UJ	5.7					

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Analytical Results (Qualified Data)

Case #: 30856 SDG : ME0TE9
Site : MCDOUGALL PROPERTY
b. : SENTIN
viewer :
Date :

Sample Number :	ME0TG0									
Sampling Location :	FB1									
Matrix :	Water									
Units :	ug/L									
Date Sampled :	08/21/2002									
Time Sampled :	15:00									
%Solids :	0.0									
Dilution Factor :	1.0									
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	235	J								
ANTIMONY	3.9	U								
ARSENIC	3.2	U								
BARIUM	1.1	J								
BERYLLIUM	0.20	U								
CADMIUM	0.60	U								
CALCIUM	466	J								
CHROMIUM	1.1	U								
COBALT	1.0	U								
COPPER	1.1	U								
IRON	18.7	U								
LEAD	2.6	U								
MAGNESIUM	140	J								
MANGANESE	3.3									
ERCURY	0.10	U								
CKEL	2.0	U								
POTASSIUM	190									
SELENIUM	3.2	U								
SILVER	1.2	U								
SODIUM	644									
THALLIUM	4.9	U								
VANADIUM	1.0	U								
ZINC	20.5									
CYANIDE	3.0									

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CADRE Data Qualifier Sheet

Qualifiers	Data Qualifier Definitions
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the action limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The data are unusable. (The compound may or may not be present)

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SEP 04 2002

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

SOW No.: ILM04.1

EPA SAMPLE NO.	Lab Sample ID.
ME0TE9	46530S
ME0TF0	46531S
ME0TF1	46532S
ME0TF2	46533S
ME0TF3	46534S
ME0TF4	46535S
ME0TF4D	46535S2
ME0TF4S	46535MS
ME0TF5	46536S
ME0TF6	46537S
ME0TF7	46538S
ME0TF8	46539S
ME0TF9	46540S
ME0TG0	46541S

Were ICP interelement corrections applied? Yes/No YES
Were ICP background corrections applied? Yes/No YES
If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature:

Name: BAKilgore Title: QAOR Date: 8/30/02

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

ME0TE9

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Matrix (soil/water): SOIL Lab Sample ID: 46530S

Level (low/med): LOW Date Received: 08/22/02

% Solids: 90.4

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7170			P
7440-36-0	Antimony	0.86	U	N	P
7440-38-2	Arsenic	15.2			P
7440-39-3	Barium	78.0			P
7440-41-7	Beryllium	0.59	B		P
7440-43-9	Cadmium	0.37	B		P
7440-70-2	Calcium	32700		*	P
7440-47-3	Chromium	16.2			P
7440-48-4	Cobalt	6.0	B		P
7440-50-8	Copper	35.9		E	P
7439-89-6	Iron	17700			P
7439-92-1	Lead	75.5			P
7439-95-4	Magnesium	9410			P
7439-96-5	Manganese	392		*	P
7439-97-6	Mercury	0.07	B		CV
7440-02-0	Nickel	18.5			P
7440-09-7	Potassium	1110		E	P
7782-49-2	Selenium	1.2			P
7440-22-4	Silver	0.29	B		P
7440-23-5	Sodium	576	B		P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	19.8			P
7440-66-6	Zinc	92.6			P
	Cyanide	0.17	U		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

U.S. EPA - CLP
1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

ME0TF0

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Matrix (soil/water): SOIL Lab Sample ID: 46531S

Level (low/med): LOW Date Received: 08/22/02

% Solids: 93.6

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4050			P
7440-36-0	Antimony	0.83	U	N	P
7440-38-2	Arsenic	3.5			P
7440-39-3	Barium	30.9	B		P
7440-41-7	Beryllium	0.21	B		P
7440-43-9	Cadmium	0.27	B		P
7440-70-2	Calcium	23600		*	P
7440-47-3	Chromium	15.0			P
7440-48-4	Cobalt	2.8	B		P
7440-50-8	Copper	11.4		E	P
7439-89-6	Iron	7450			P
7439-92-1	Lead	61.7			P
7439-95-4	Magnesium	6590			P
7439-96-5	Manganese	196		*	P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	8.0	B		P
7440-09-7	Potassium	487	B	E	P
7782-49-2	Selenium	0.70	B		P
7440-22-4	Silver	0.26	U		P
7440-23-5	Sodium	426	B		P
7440-28-0	Thallium	1.0	U		P
7440-62-2	Vanadium	10.6	B		P
7440-66-6	Zinc	38.2			P
	Cyanide	0.19	B		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

ME0TF1

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Matrix (soil/water): SOIL Lab Sample ID: 46532S

Level (low/med): LOW Date Received: 08/22/02

% Solids: 96.3

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2500			P
7440-36-0	Antimony	0.81	U	N	P
7440-38-2	Arsenic	3.2			P
7440-39-3	Barium	41.0	B		P
7440-41-7	Beryllium	0.15	B		P
7440-43-9	Cadmium	0.35	B		P
7440-70-2	Calcium	35200		*	P
7440-47-3	Chromium	7.5			P
7440-48-4	Cobalt	2.0	B		P
7440-50-8	Copper	23.4		E	P
7439-89-6	Iron	6030			P
7439-92-1	Lead	111			P
7439-95-4	Magnesium	12600			P
7439-96-5	Manganese	184		*	P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	8.5			P
7440-09-7	Potassium	415	B	E	P
7782-49-2	Selenium	0.67	B		P
7440-22-4	Silver	0.25	U		P
7440-23-5	Sodium	428	B		P
7440-28-0	Thallium	1.0	U		P
7440-62-2	Vanadium	7.9	B		P
7440-66-6	Zinc	121			P
	Cyanide	0.16	U		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

U.S. EPA - CLP
1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

ME0TF2

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Matrix (soil/water): SOIL Lab Sample ID: 46533S

Level (low/med): LOW Date Received: 08/22/02

% Solids: 89.1

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4870			P
7440-36-0	Antimony	0.88	U	N	P
7440-38-2	Arsenic	8.2			P
7440-39-3	Barium	34.2	B		P
7440-41-7	Beryllium	0.27	B		P
7440-43-9	Cadmium	0.13	U		P
7440-70-2	Calcium	56400		*	P
7440-47-3	Chromium	9.6			P
7440-48-4	Cobalt	6.3	B		P
7440-50-8	Copper	17.0		E	P
7439-89-6	Iron	14000			P
7439-92-1	Lead	8.5			P
7439-95-4	Magnesium	20000			P
7439-96-5	Manganese	347		*	P
7439-97-6	Mercury	0.06	U		CV
7440-02-0	Nickel	15.9			P
7440-09-7	Potassium	984	B	E	P
7782-49-2	Selenium	0.72	B		P
7440-22-4	Silver	0.27	U		P
7440-23-5	Sodium	436	B		P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	18.0			P
7440-66-6	Zinc	33.0			P
	Cyanide	0.43	B		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

U.S. EPA - CLP
1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

ME0TF3

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Matrix (soil/water): SOIL Lab Sample ID: 46534S

Level (low/med): LOW Date Received: 08/22/02

% Solids: 87.6

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6310			P
7440-36-0	Antimony	0.89	U	N	P
7440-38-2	Arsenic	9.8			P
7440-39-3	Barium	76.6			P
7440-41-7	Beryllium	0.37	B		P
7440-43-9	Cadmium	0.56	B		P
7440-70-2	Calcium	43400		*	P
7440-47-3	Chromium	14.9			P
7440-48-4	Cobalt	5.0	B		P
7440-50-8	Copper	26.8		E	P
7439-89-6	Iron	20000			P
7439-92-1	Lead	167			P
7439-95-4	Magnesium	11100			P
7439-96-5	Manganese	248		*	P
7439-97-6	Mercury	0.06	U		CV
7440-02-0	Nickel	18.1			P
7440-09-7	Potassium	1050	B	E	P
7782-49-2	Selenium	1.5			P
7440-22-4	Silver	0.50	B		P
7440-23-5	Sodium	663	B		P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	19.1			P
7440-66-6	Zinc	129			P
	Cyanide	0.17	U		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

U.S. EPA - CLP
1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

ME0TF4

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Matrix (soil/water): SOIL Lab Sample ID: 46535S

Level (low/med): LOW Date Received: 08/22/02

% Solids: 85.5

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9060			P
7440-36-0	Antimony	0.91	U	N	P
7440-38-2	Arsenic	7.0			P
7440-39-3	Barium	69.3			P
7440-41-7	Beryllium	0.51	B		P
7440-43-9	Cadmium	0.14	U		P
7440-70-2	Calcium	43300		*	P
7440-47-3	Chromium	15.8			P
7440-48-4	Cobalt	8.3	B		P
7440-50-8	Copper	18.5		E	P
7439-89-6	Iron	19200			P
7439-92-1	Lead	8.1			P
7439-95-4	Magnesium	16600			P
7439-96-5	Manganese	474		*	P
7439-97-6	Mercury	0.06	U		CV
7440-02-0	Nickel	20.7			P
7440-09-7	Potassium	1120	B	E	P
7782-49-2	Selenium	1.2	B		P
7440-22-4	Silver	0.32	B		P
7440-23-5	Sodium	891	B		P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	25.4			P
7440-66-6	Zinc	39.0			P
	Cyanide	0.18	U		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

U.S. EPA - CLP
1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

ME0TF5

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Matrix (soil/water): SOIL Lab Sample ID: 46536S

Level (low/med): LOW Date Received: 08/22/02

% Solids: 84.9

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8570			P
7440-36-0	Antimony	0.92	U	N	P
7440-38-2	Arsenic	4.5			P
7440-39-3	Barium	83.1			P
7440-41-7	Beryllium	0.50	B		P
7440-43-9	Cadmium	0.23	B		P
7440-70-2	Calcium	8060		*	P
7440-47-3	Chromium	15.0			P
7440-48-4	Cobalt	6.0	B		P
7440-50-8	Copper	15.2		E	P
7439-89-6	Iron	17000			P
7439-92-1	Lead	14.9			P
7439-95-4	Magnesium	4250			P
7439-96-5	Manganese	513		*	P
7439-97-6	Mercury	0.08	B		CV
7440-02-0	Nickel	13.9			P
7440-09-7	Potassium	744	B	E	P
7782-49-2	Selenium	0.96	B		P
7440-22-4	Silver	0.42	B		P
7440-23-5	Sodium	507	B		P
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium	23.6			P
7440-66-6	Zinc	33.9			P
	Cyanide	0.19	B		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

U.S. EPA - CLP
1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

ME0TF6

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Matrix (soil/water): SOIL Lab Sample ID: 46537S

Level (low/med): LOW Date Received: 08/22/02

% Solids: 87.3

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6530			P
7440-36-0	Antimony	0.89	U	N	P
7440-38-2	Arsenic	4.8			P
7440-39-3	Barium	45.6	B		P
7440-41-7	Beryllium	0.30	B		P
7440-43-9	Cadmium	0.14	U		P
7440-70-2	Calcium	41800		*	P
7440-47-3	Chromium	9.9			P
7440-48-4	Cobalt	4.1	B		P
7440-50-8	Copper	12.5		E	P
7439-89-6	Iron	10000			P
7439-92-1	Lead	36.0			P
7439-95-4	Magnesium	11600			P
7439-96-5	Manganese	258		*	P
7439-97-6	Mercury	0.06	U		CV
7440-02-0	Nickel	12.8			P
7440-09-7	Potassium	811	B	E	P
7782-49-2	Selenium	0.74	B		P
7440-22-4	Silver	0.27	U		P
7440-23-5	Sodium	531	B		P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	20.8			P
7440-66-6	Zinc	40.7			P
	Cyanide	0.17	U		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

U.S. EPA - CLP
1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

ME0TF7

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Matrix (soil/water): SOIL Lab Sample ID: 46538S

Level (low/med): LOW Date Received: 08/22/02

% Solids: 88.9

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5640			P
7440-36-0	Antimony	0.88	U	N	P
7440-38-2	Arsenic	4.2			P
7440-39-3	Barium	43.1	B		P
7440-41-7	Beryllium	0.29	B		P
7440-43-9	Cadmium	0.23	B		P
7440-70-2	Calcium	2740		*	P
7440-47-3	Chromium	11.0			P
7440-48-4	Cobalt	4.8	B		P
7440-50-8	Copper	8.1		E	P
7439-89-6	Iron	11400			P
7439-92-1	Lead	7.1			P
7439-95-4	Magnesium	2060			P
7439-96-5	Manganese	216		*	P
7439-97-6	Mercury	0.06	U		CV
7440-02-0	Nickel	11.3			P
7440-09-7	Potassium	541	B	E	P
7782-49-2	Selenium	0.72	U		P
7440-22-4	Silver	0.27	B		P
7440-23-5	Sodium	429	B		P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	15.7			P
7440-66-6	Zinc	29.2			P
	Cyanide	0.17	U		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

U.S. EPA - CLP
1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

ME0TF8

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Matrix (soil/water): SOIL Lab Sample ID: 46539S

Level (low/med): LOW Date Received: 08/22/02

% Solids: 88.5

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8360			P
7440-36-0	Antimony	0.88	U	N	P
7440-38-2	Arsenic	12.8			P
7440-39-3	Barium	62.1			P
7440-41-7	Beryllium	0.47	B		P
7440-43-9	Cadmium	0.15	B		P
7440-70-2	Calcium	61800		*	P
7440-47-3	Chromium	15.0			P
7440-48-4	Cobalt	12.5			P
7440-50-8	Copper	17.0		E	P
7439-89-6	Iron	18800			P
7439-92-1	Lead	12.2			P
7439-95-4	Magnesium	18500			P
7439-96-5	Manganese	351		*	P
7439-97-6	Mercury	0.06	U		CV
7440-02-0	Nickel	25.5			P
7440-09-7	Potassium	1320		E	P
7782-49-2	Selenium	0.72	U		P
7440-22-4	Silver	0.27	B		P
7440-23-5	Sodium	713	B		P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	26.1			P
7440-66-6	Zinc	41.8			P
	Cyanide	0.17	U		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

U.S. EPA - CLP
1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

ME0TF9

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Matrix (soil/water): SOIL Lab Sample ID: 46540S

Level (low/med): LOW Date Received: 08/22/02

% Solids: 85.4

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4000			P
7440-36-0	Antimony	0.91	U	N	P
7440-38-2	Arsenic	4.3			P
7440-39-3	Barium	28.3	B		P
7440-41-7	Beryllium	0.16	B		P
7440-43-9	Cadmium	0.29	B		P
7440-70-2	Calcium	24500		*	P
7440-47-3	Chromium	8.0			P
7440-48-4	Cobalt	3.0	B		P
7440-50-8	Copper	9.5		E	P
7439-89-6	Iron	7060			P
7439-92-1	Lead	24.2			P
7439-95-4	Magnesium	6700			P
7439-96-5	Manganese	158		*	P
7439-97-6	Mercury	0.06	U		CV
7440-02-0	Nickel	8.4	B		P
7440-09-7	Potassium	571	B	E	P
7782-49-2	Selenium	0.77	B		P
7440-22-4	Silver	0.28	U		P
7440-23-5	Sodium	479	B		P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	12.6			P
7440-66-6	Zinc	78.2			P
	Cyanide	0.18	U		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

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1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

ME0TG0

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Matrix (soil/water): WATER Lab Sample ID: 46541S

Level (low/med): LOW Date Received: 08/22/02

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	235			P
7440-36-0	Antimony	3.9	U		P
7440-38-2	Arsenic	3.2	U		P
7440-39-3	Barium	1.1	B		P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	466	B		P
7440-47-3	Chromium	1.1	U		P
7440-48-4	Cobalt	1.0	U		P
7440-50-8	Copper	1.1	U		P
7439-89-6	Iron	18.7	U		P
7439-92-1	Lead	2.6	U		P
7439-95-4	Magnesium	140	B		P
7439-96-5	Manganese	3.3	B		P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	2.0	U		P
7440-09-7	Potassium	190	B		P
7782-49-2	Selenium	3.2	U		P
7440-22-4	Silver	1.2	U		P
7440-23-5	Sodium	644	B		P
7440-28-0	Thallium	4.9	U		P
7440-62-2	Vanadium	1.0	U		P
7440-66-6	Zinc	20.5			P
	Cyanide	3.0	B		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
FB

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3

BLANKS

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	53.6	U	102.4	B	53.6	U	72.6	B	76.320	B	P
Antimony	3.9	U	3.9	U	3.9	U	3.9	U	3.900	U	P
Arsenic	3.2	U	3.2	U	3.2	U	3.2	U	3.200	U	P
Barium	1.3	B	0.8	B	0.5	B	0.4	B	0.443	B	P
Beryllium	0.2	U	0.2	U	0.2	U	0.2	U	0.200	U	P
Cadmium	0.6	U	0.6	U	0.6	U	0.6	U	0.600	U	P
Calcium	83.7	U	83.7	U	103.0	B	90.1	B	83.700	U	P
[illegible]omium	1.1	U	1.1	U	1.1	U	1.1	U	1.100	U	P
[illegible]lt	1.2	B	1.0	U	1.0	U	1.0	U	1.000	U	P
[illegible]per	1.1	U	1.1	U	1.4	B	1.1	U	1.100	U	P
Iron	18.7	U	40.9	B	18.7	U	31.1	B	28.359	B	P
Lead	2.6	U	2.6	U	2.6	U	2.6	U	2.600	U	P
Magnesium	37.3	U	80.4	B	37.3	U	58.0	B	56.812	B	P
Manganese	0.4	U	0.4	U	0.5	B	0.4	B	0.400	U	P
Mercury	0.1	U	0.1	U	0.1	U	0.1	U	0.100	U	CV
Nickel	2.0	U	2.0	U	2.0	U	2.0	U	2.000	U	P
Potassium	22.6	B	18.4	U	18.4	U	18.4	U	18.400	U	P
Selenium	3.2	U	3.2	U	3.2	U	3.2	U	3.200	U	P
Silver	1.2	U	1.2	U	1.2	U	1.2	U	1.200	U	P
Sodium	352.4	U	352.4	U	352.4	U	352.4	U	352.400	U	P
Thallium	4.9	U	4.9	U	4.9	U	4.9	U	4.900	U	P
Vanadium	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	P
Zinc	1.2	U	1.2	U	1.2	U	1.2	U	1.200	U	P
Cyanide	3.0	U	3.0	U	3.0	U	3.0	U	5.207	B	CA

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3

BLANKS

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum			53.6	U	66.8	B			10.720	U	P
Antimony			3.9	U	3.9	U			0.780	U	P
Arsenic			3.2	U	3.2	U			0.640	U	P
Barium			0.4	U	0.6	B			0.080	U	P
Beryllium			0.2	U	0.2	U			0.040	U	P
Cadmium			0.6	U	0.6	U			0.120	U	P
Calcium			83.7	U	231.6	B			16.740	U	P
[illegible]mium			1.1	U	1.1	U			0.220	U	P
[illegible]lt			1.0	U	1.0	U			0.200	U	P
[illegible]per			1.1	U	1.1	U			0.220	U	P
Iron			18.7	U	23.0	B			3.740	U	P
Lead			2.6	U	2.6	U			0.520	U	P
Magnesium			37.3	U	56.0	B			7.460	U	P
Manganese			0.5	B	0.5	B			0.080	U	P
Mercury									0.050	U	CV
Nickel			2.0	U	2.0	U			0.400	U	P
Potassium			18.4	U	18.4	U			3.816	B	P
Selenium			3.2	U	3.2	U			0.640	U	P
Silver			1.2	U	1.2	U			0.240	U	P
Sodium			352.4	U	352.4	U			70.480	U	P
Thallium			4.9	U	4.9	U			0.980	U	P
Vanadium			1.0	U	1.0	U			0.200	U	P
Zinc			1.2	U	3.5	B			0.240	U	P
Cyanide			3.0	U					0.218	B	CA

U.S. EPA - CLP

5A

SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

ME0TF4S

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 85.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony	75-125	44.3583		0.9123	U	116.96	37.9	N	P
Arsenic	75-125	15.9577		7.0437		9.36	95.2		P
Barium	75-125	541.3278		69.3385		467.84	100.9		P
Beryllium	75-125	11.6468		0.5111	B	11.70	95.2		P
[illegible]mium	75-125	10.8647		0.1404	U	11.70	92.9		P
[illegible]ium									NR
[illegible]romium	75-125	61.7735		15.7996		46.78	98.3		P
Cobalt	75-125	119.6913		8.2790	B	116.96	95.3		P
Copper	75-125	73.9983		18.5409		58.48	94.8		P
Iron									NR
Lead	75-125	12.6883		8.0898		4.68	98.3		P
Magnesium									NR
Manganese		583.7550		473.8059		116.96	94.0		P
Mercury	75-125	0.5725		0.0585	U	0.58	98.7		CV
Nickel	75-125	134.3207		20.7366		116.96	97.1		P
Potassium									NR
Selenium	75-125	2.9966		1.1600	B	2.34	78.5		P
Silver	75-125	11.9599		0.3210	B	11.70	99.5		P
Sodium									NR
Thallium	75-125	11.9162		1.1462	U	11.70	101.8		P
Vanadium	75-125	138.8414		25.4203		116.96	97.0		P
Zinc	75-125	152.3502		39.0481		116.96	96.9		P
Cyanide	75-125	5.6666		0.1754	U	5.85	96.9		CA

Comments:

U.S. EPA - CLP

5B

POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

ME0TF4A

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony		115.59		3.90	U	120.0	96.3		P
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
[illegible]mium									NR
[illegible]lt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

U.S. EPA - CLP

6

DUPLICATES

EPA SAMPLE NO.

ME0TF4D

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 85.5 % Solids for Duplicate: 86.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		9061.3153		9311.5648		2.7		P
Antimony		0.9123	U	0.9123	U			P
Arsenic	2.3	7.0437		8.2502		15.8		P
Barium	46.8	69.3385		70.4614		1.6		P
Beryllium		0.5111	B	0.5384	B	5.2		P
Cadmium		0.1404	U	0.1404	U			P
Calcium		43329.1687		55035.9520		23.8	*	P
Chromium		15.7996		15.9551		1.0		P
Cobalt		8.2790	B	8.3300	B	0.6		P
Copper	5.8	18.5409		17.6920		4.7		P
Iron		19160.1827		20608.8761		7.3		P
Lead		8.0898		8.4789		4.7		P
Magnesium		16648.5709		17040.9092		2.3		P
Manganese		473.8059		583.9073		20.8	*	P
Mercury		0.0585	U	0.0585	U			CV
Nickel	9.4	20.7366		21.6551		4.3		P
Potassium		1121.7616	B	1103.1217	B	1.7		P
Selenium		1.1600	B	0.7485	U	200.0		P
Silver		0.3210	B	0.2807	U	200.0		P
Sodium		890.5893	B	897.3783	B	0.8		P
Thallium		1.1462	U	1.1462	U			P
Vanadium	11.7	25.4203		25.3156		0.4		P
Zinc		39.0481		40.9799		4.8		P
Cyanide		0.1754	U	0.1754	U			CA

7
LABORATORY CONTROL SAMPLE

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Solid LCS Source: EPA LCS0996

Aqueous LCS Source: EPA ICV0794

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum	1953.0	2007.28	102.8	309.0	284.3		193.1	424.2	92.0
Antimony	580.0	582.97	100.5	213.0	234.3		129.4	297.2	110.0
Arsenic	100.5	99.73	99.2	930.0	938.0		613.6	1247.0	100.9
Barium	2003.0	2061.67	102.9	5.3	5.6	B	2.5	8.1	105.7
Beryllium	473.0	494.17	104.5	18.8	19.3		15.3	22.2	102.7
Cadmium	49.1	50.16	102.2	41.6	42.8		32.1	51.1	102.9
Calcium	48673.0	49901.02	102.5	184000.5	151882.5		142933.0	225376.0	82.5
Chromium	484.0	502.28	103.8	96.5	99.6		77.8	115.2	103.2
Cobalt	490.0	504.34	102.9	140.0	145.0		115.4	165.6	103.6
[illegible]er	489.0	510.08	104.3	6680.0	6875.0		5727.3	7633.1	102.9
[illegible]	1998.0	2039.34	102.1	21000.0	20399.8		16831.3	25193.0	97.1
Lead	49.2	49.41	100.4	224.0	221.0		167.6	280.5	98.7
Magnesium	23864.0	24883.12	104.3	113000.0	116905.2		97493.0	128886.0	103.5
Manganese	510.0	515.64	101.1	201.0	218.4		167.9	234.4	108.7
Mercury				12.3	10.6		7.8	16.9	86.2
Nickel	479.0	501.92	104.8	56.8	59.3		43.5	70.1	104.4
Potassium	48801.0	49834.52	102.1	102.4	55.5	B	0.0	379.3	54.2
Selenium	52.7	51.25	97.2	37.0	39.1		17.6	56.4	105.7
Silver	189.0	209.77	111.0	20.9	22.4		13.2	28.5	107.2
Sodium	49008.0	50594.52	103.2	92.8	363.0	B	0.0	277.4	391.2
Thallium	96.9	98.67	101.8	38.1	37.2		24.6	51.6	97.6
Vanadium	482.0	511.45	106.1	65.8	70.1		53.0	78.6	106.5
Zinc	2932.0	3010.76	102.7	175.0	156.0		127.7	222.1	89.1
Cyanide				5.6	4.2		4.1	7.1	75.0

EPA SAMPLE NO.

ICP SERIAL DILUTIONS

ME0TF4L

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	38737.12		40974.35		5.8		P
Antimony	3.90	U	19.50	U			P
Arsenic	30.11		37.19	B	23.5		P
Barium	296.42		306.45	B	3.4		P
Beryllium	2.18	B	1.79	B	17.9		P
Cadmium	0.60	U	3.00	U			P
Calcium	185232.20		202103.64		9.1		P
Chromium	67.54		69.58		3.0		P
Cobalt	35.39	B	36.36	B	2.7		P
Copper	79.26		104.14	B	31.4	E	P
Iron	81909.78		86541.94		5.7		P
Lead	34.58		36.94		6.8		P
Magnesium	71172.64		74318.05		4.4		P
Manganese	2025.52		2127.96		5.1		P
Mercury							NR
Nickel	88.65		92.70	B	4.6		P
Potassium	4795.53	B	5584.81	B	16.5	E	P
Selenium	4.96	B	19.80	B	299.2		P
Silver	1.37	B	6.00	U	100.0		P
Sodium	3807.27	B	4867.77	B	27.9		P
Thallium	4.90	U	24.50	U			P
Vanadium	108.67		117.48	B	8.1		P
Zinc	166.93		181.85		8.9		P

U.S. EPA - CLP

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

ICP ID Number: P3 Date: 07/15/02

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.20		200	53.6	P
Antimony	206.80		60	3.9	P
Arsenic	189.00		10	3.2	P
Barium	493.40		200	0.4	P
Beryllium	313.00		5	0.2	P
Cadmium	226.50		5	0.6	P
Calcium	317.90		5000	83.7	P
Chromium	267.70		10	1.1	P
Cobalt	228.60		50	1.0	P
Copper	324.70		25	1.1	P
Iron	271.40		100	18.7	P
Lead	220.30		3	2.6	P
Magnesium	279.00		5000	37.3	P
Manganese	257.60		15	0.4	P
Mercury			0.2		NR
Nickel	231.60		40	2.0	P
Potassium	766.40		5000	18.4	P
Selenium	196.00		5	3.2	P
Silver	328.00		10	1.2	P
Sodium	330.20		5000	352.4	P
Thallium	190.80		10	4.9	P
Vanadium	292.40		50	1.0	P
Zinc	206.20		20	1.2	P
Cyanide			10		NR

Comments:
P3: THERM0 JARRELL ASH

U.S. EPA - CLP

10
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

ICP ID Number: Date: 07/15/02

Flame AA ID Number: C5

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic			10		NR
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead			3		NR
Magnesium			5000		NR
Manganese			15		NR
Mercury	253.70		0.2	0.1	CV
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR
Cyanide			10		NR

Comments:
C5: CETAC M6000

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10
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

ICP ID Number: Date: 07/15/02

Flame AA ID Number: C1

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic			10		NR
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead			3		NR
Magnesium			5000		NR
Manganese			15		NR
Mercury			0.2		NR
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR
Cyanide	580.00		10	3.0	CA

Comments:
C1: LACHAT

U.S. EPA - CLP

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PREPARATION LOG

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Method: P

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
LCSS	08/23/02	1.00	200
LCSW	08/23/02		100
ME0TE9	08/23/02	1.00	200
ME0TF0	08/23/02	1.00	200
ME0TF1	08/23/02	1.00	200
ME0TF2	08/23/02	1.00	200
ME0TF3	08/23/02	1.00	200
ME0TF4	08/23/02	1.00	200
ME0TF4D	08/23/02	1.00	200
ME0TF4S	08/23/02	1.00	200
ME0TF5	08/23/02	1.00	200
ME0TF6	08/23/02	1.00	200
ME0TF7	08/23/02	1.00	200
ME0TF8	08/23/02	1.00	200
ME0TF9	08/23/02	1.00	200
ME0TG0	08/23/02		100
PBS	08/23/02	1.00	200
PBW	08/23/02		100

U.S. EPA - CLP

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PREPARATION LOG

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Method: CV

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
LCSS	08/23/02	0.20	100
ME0TE9	08/23/02	0.20	100
ME0TF0	08/23/02	0.20	100
ME0TF1	08/23/02	0.20	100
ME0TF2	08/23/02	0.20	100
ME0TF3	08/23/02	0.20	100
ME0TF4	08/23/02	0.20	100
ME0TF4D	08/23/02	0.20	100
ME0TF4S	08/23/02	0.20	100
ME0TF5	08/23/02	0.20	100
ME0TF6	08/23/02	0.20	100
ME0TF7	08/23/02	0.20	100
ME0TF8	08/23/02	0.20	100
ME0TF9	08/23/02	0.20	100
ME0TG0	08/23/02		100
PBS	08/23/02	0.20	100
PBW	08/23/02		100

U.S. EPA - CLP

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PREPARATION LOG

Lab Name: Sentinel, Inc. Contract: 68-W-00-085

Lab Code: SENTIN Case No.: 30856 SAS No.: SDG No.: ME0TE9

Method: CA

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
LCSS	08/23/02	1.00	50
ME0TE9	08/23/02	1.00	50
ME0TF0	08/23/02	1.00	50
ME0TF1	08/23/02	1.00	50
ME0TF2	08/23/02	1.00	50
ME0TF3	08/23/02	1.00	50
ME0TF4	08/23/02	1.00	50
ME0TF4D	08/23/02	1.00	50
ME0TF4S	08/23/02	1.00	50
ME0TF5	08/23/02	1.00	50
ME0TF6	08/23/02	1.00	50
ME0TF7	08/23/02	1.00	50
ME0TF8	08/23/02	1.00	50
ME0TF9	08/23/02	1.00	50
ME0TG0	08/23/02		50
PBS	08/23/02	1.00	50
PBW	08/23/02		50
S100	08/23/02		50

KF 8/31/02
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MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY (517) 335-9800

P.O. Box 30270
Lansing, MI 48909

Report To: Environmental Response Div.
3rd floor, South
525 W. Allegan
Lansing, MI 48933
Attn: SUNNY KRAJCOVIC
Total: $3,600.00

Lab Work Order # 0208250
Work Site ID: MCDOUGALL
Matrix: Sediment\Soil
Received: 8/22/2002
Reported: 9/11/2002
Client: ER_SUPER
Number of Samples: 24

TEST / UNITS	SS1	SS2	SS3	SS4
Solids - Total %TS	92.7	84.6	92.5	90.7

TEST / UNITS	SS5	SS6	SS7	SS8
Solids - Total %TS	92.1	96.3	91.6	93.1

TEST / UNITS	SS9	SS10	SS11	SS12
Solids - Total %TS	92.8	92.8	92.8	91.5

TEST / UNITS	SS13	SS14	SS15	SB1
Solids - Total %TS	91.3	95.2	97.5	86.4

TEST / UNITS	SB2	SB3	SB4	SB5
Solids - Total %TS	87.2	82.3	85.3	84.4

TEST / UNITS	SB6	SB7	SB8	SB4-B
Solids - Total %TS	84.5	86.1	86.7	84.5

This is an original report: R. Shenin Date: _____

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MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-01ME

Date Collected:	8/21/2002	Test Code:	SME
		Test Name:	MEOH-Sed
Date Analyzed:	8/26/2002 by PCR/SR	Sample ID:	SS1
Total Solids:	93%		

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		280	51.7
74-87-3	Chloromethane	ND		280	51.7
75-01-4	Vinyl chloride	ND		56	51.7
74-83-9	Bromomethane	ND		280	51.7
75-00-3	Chloroethane	ND		280	51.7
75-69-4	Trichlorofluoromethane	ND		56	51.7
67-64-1	Acetone	ND		1100	51.7
60-29-7	Diethyl ether	ND		280	51.7
75-35-4	1,1-Dichloroethylene	ND		56	51.7
74-88-4	Methyl iodide	ND		56	51.7
107-13-1	Acrylonitrile	ND		280	51.7
75-09-2	Methylene chloride	ND		280	51.7
75-15-0	Carbon disulfide	ND		56	51.7
6-60-5	trans-1,2-Dichloroethylene	ND		56	51.7
1634-04-4	Methyltertbutylether (MTBE)	ND		56	51.7
75-34-3	1,1-Dichloroethane	ND		56	51.7
78-93-3	2-Butanone (MEK)	ND		280	51.7
156-59-2	cis-1,2-Dichloroethylene	ND		56	51.7
67-66-3	Chloroform	ND		56	51.7
109-99-9	Tetrahydrofuran	ND		280	51.7
74-97-5	Bromochloromethane	ND		56	51.7
71-55-6	1,1,1-Trichloroethane	ND		56	51.7
107-06-2	1,2-Dichloroethane	ND		56	51.7
71-43-2	Benzene	ND		56	51.7
56-23-5	Carbon tetrachloride	ND		56	51.7
78-87-5	1,2-Dichloropropane	ND		56	51.7
79-01-6	Trichloroethylene	ND		56	51.7
74-95-3	Dibromomethane	ND		56	51.7
75-27-4	Bromodichloromethane	ND		56	51.7
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		280	51.7
10061-01-5	cis-1,3-Dichloropropene	ND		56	51.7
10061-02-6	trans-1,3-Dichloropropene	ND		56	51.7
108-88-3	Toluene	ND		56	51.7
79-00-5	1,1,2-Trichloroethane	ND		56	51.7
1-78-6	2-Hexanone	ND		280	51.7
124-48-1	Dibromochloromethane	ND		56	51.7

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		56	51.7
127-18-4	Tetrachloroethene	ND		56	51.7
108-90-7	Chlorobenzene	ND		56	51.7
630-20-6	1,1,1,2-Tetrachloroethane	ND		56	51.7
100-41-4	Ethylbenzene	ND		56	51.7
108383,106423	m & p-Xylene	ND		110	51.7
75-25-2	Bromoform	ND		56	51.7
100-42-5	Styrene	ND		56	51.7
95-47-6	o-Xylene	ND		56	51.7
79-34-5	1,1,2,2-Tetrachloroethane	ND		56	51.7
96-18-4	1,2,3-Trichloropropane	ND		56	51.7
110-57-6	trans-1,4-Dichloro-2-butene	ND		280	51.7
98-82-8	Isopropylbenzene	ND		56	51.7
108-86-1	Bromobenzene	ND		56	51.7
103-65-1	n-Propylbenzene	ND		56	51.7
108-67-8	1,3,5-Trimethylbenzene	ND		56	51.7
98-06-6	tert-Butylbenzene	ND		56	51.7
95-63-6	1,2,4-Trimethylbenzene	ND		56	51.7
35-98-8	sec-Butylbenzene	ND		56	51.7
41-73-1	1,3-Dichlorobenzene	ND		56	51.7
106-46-7	1,4-Dichlorobenzene	ND		56	51.7
99-87-6	p-Isopropyl toluene	ND		56	51.7
95-50-1	1,2-Dichlorobenzene	ND		56	51.7
104-51-8	n-Butylbenzene	ND		56	51.7
67-72-1	Hexachloroethane	ND		280	51.7
96-12-8	1,2-Dibromo-3-chloropropane	ND		280	51.7
120-82-1	1,2,4-Trichlorobenzene	ND		280	51.7
91-20-3	Naphthalene	ND		280	51.7
87-61-6	1,2,3-Trichlorobenzene	ND		280	51.7
91-57-6	2-Methylnaphthalene	ND		280	51.7

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-02ME

Date Collected:	8/21/2002	Test Code:	SME
		Test Name:	MEOH-Sed
Date Analyzed:	8/26/2002 by PCR/SR	Sample ID:	SS2
Total Solids:	85%		

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		300	50.6
74-87-3	Chloromethane	ND		300	50.6
75-01-4	Vinyl chloride	ND		60	50.6
74-83-9	Bromomethane	ND		300	50.6
75-00-3	Chloroethane	ND		300	50.6
75-69-4	Trichlorofluoromethane	ND		60	50.6
67-64-1	Acetone	ND		1200	50.6
60-29-7	Diethyl ether	ND		300	50.6
75-35-4	1,1-Dichloroethylene	ND		60	50.6
74-88-4	Methyl iodide	ND		60	50.6
107-13-1	Acrylonitrile	ND		300	50.6
75-09-2	Methylene chloride	ND		300	50.6
75-15-0	Carbon disulfide	ND		60	50.6
56-60-5	trans-1,2-Dichloroethylene	ND		60	50.6
1634-04-4	Methyltertbutylether (MTBE)	ND		60	50.6
75-34-3	1,1-Dichloroethane	ND		60	50.6
78-93-3	2-Butanone (MEK)	ND		300	50.6
156-59-2	cis-1,2-Dichloroethylene	ND		60	50.6
67-66-3	Chloroform	ND		60	50.6
109-99-9	Tetrahydrofuran	ND		300	50.6
74-97-5	Bromochloromethane	ND		60	50.6
71-55-6	1,1,1-Trichloroethane	ND		60	50.6
107-06-2	1,2-Dichloroethane	ND		60	50.6
71-43-2	Benzene	ND		60	50.6
56-23-5	Carbon tetrachloride	ND		60	50.6
78-87-5	1,2-Dichloropropane	ND		60	50.6
79-01-6	Trichloroethylene	ND		60	50.6
74-95-3	Dibromomethane	ND		60	50.6
75-27-4	Bromodichloromethane	ND		60	50.6
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		300	50.6
10061-01-5	cis-1,3-Dichloropropene	ND		60	50.6
10061-02-6	trans-1,3-Dichloropropene	ND		60	50.6
108-88-3	Toluene	70		60	50.6
79-00-5	1,1,2-Trichloroethane	ND		60	50.6
591-78-6	2-Hexanone	ND		300	50.6
124-48-1	Dibromochloromethane	ND		60	50.6

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		60	50.6
127-18-4	Tetrachloroethene	ND		60	50.6
108-90-7	Chlorobenzene	ND		60	50.6
630-20-6	1,1,1,2-Tetrachloroethane	ND		60	50.6
100-41-4	Ethylbenzene	ND		60	50.6
108383,106423	m & p-Xylene	ND		120	50.6
75-25-2	Bromoform	ND		60	50.6
100-42-5	Styrene	ND		60	50.6
95-47-6	o-Xylene	ND		60	50.6
79-34-5	1,1,2,2-Tetrachloroethane	ND		60	50.6
96-18-4	1,2,3-Trichloropropane	ND		60	50.6
110-57-6	trans-1,4-Dichloro-2-butene	ND		300	50.6
98-82-8	Isopropylbenzene	ND		60	50.6
108-86-1	Bromobenzene	ND		60	50.6
103-65-1	n-Propylbenzene	ND		60	50.6
108-67-8	1,3,5-Trimethylbenzene	ND		60	50.6
98-06-6	tert-Butylbenzene	ND		60	50.6
95-63-6	1,2,4-Trimethylbenzene	ND		60	50.6
35-98-8	sec-Butylbenzene	ND		60	50.6
41-73-1	1,3-Dichlorobenzene	ND		60	50.6
106-46-7	1,4-Dichlorobenzene	ND		60	50.6
99-87-6	p-Isopropyl toluene	ND		60	50.6
95-50-1	1,2-Dichlorobenzene	ND		60	50.6
104-51-8	n-Butylbenzene	ND		60	50.6
67-72-1	Hexachloroethane	ND		300	50.6
96-12-8	1,2-Dibromo-3-chloropropane	ND		300	50.6
120-82-1	1,2,4-Trichlorobenzene	ND		300	50.6
91-20-3	Naphthalene	ND		300	50.6
87-61-6	1,2,3-Trichlorobenzene	ND		300	50.6
91-57-6	2-Methylnaphthalene	660		300	50.6

Unidentified peaks.

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-03ME

Date Collected:	8/21/2002	Test Code:	SME
		Test Name:	MEOH-Sed
Date Analyzed:	8/27/2002 by PCR/SR	Sample ID:	SS3
Total Solids:	92%		

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		390	71.3
74-87-3	Chloromethane	ND		390	71.3
75-01-4	Vinyl chloride	ND		78	71.3
74-83-9	Bromomethane	ND		390	71.3
75-00-3	Chloroethane	ND		390	71.3
75-69-4	Trichlorofluoromethane	ND		78	71.3
67-64-1	Acetone	ND		1600	71.3
60-29-7	Diethyl ether	ND		390	71.3
75-35-4	1,1-Dichloroethylene	ND		78	71.3
74-88-4	Methyl iodide	ND		78	71.3
107-13-1	Acrylonitrile	ND		390	71.3
75-09-2	Methylene chloride	ND		390	71.3
75-15-0	Carbon disulfide	ND		78	71.3
56-60-5	trans-1,2-Dichloroethylene	ND		78	71.3
1634-04-4	Methyltertbutylether (MTBE)	ND		78	71.3
75-34-3	1,1-Dichloroethane	ND		78	71.3
78-93-3	2-Butanone (MEK)	ND		390	71.3
156-59-2	cis-1,2-Dichloroethylene	ND		78	71.3
67-66-3	Chloroform	ND		78	71.3
109-99-9	Tetrahydrofuran	ND		390	71.3
74-97-5	Bromochloromethane	ND		78	71.3
71-55-6	1,1,1-Trichloroethane	ND		78	71.3
107-06-2	1,2-Dichloroethane	ND		78	71.3
71-43-2	Benzene	ND		78	71.3
56-23-5	Carbon tetrachloride	ND		78	71.3
78-87-5	1,2-Dichloropropane	ND		78	71.3
79-01-6	Trichloroethylene	ND		78	71.3
74-95-3	Dibromomethane	ND		78	71.3
75-27-4	Bromodichloromethane	ND		78	71.3
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		390	71.3
10061-01-5	cis-1,3-Dichloropropene	ND		78	71.3
10061-02-6	trans-1,3-Dichloropropene	ND		78	71.3
108-88-3	Toluene	88	J	78	71.3
79-00-5	1,1,2-Trichloroethane	ND		78	71.3
591-78-6	2-Hexanone	ND		390	71.3
124-48-1	Dibromochloromethane	ND		78	71.3

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CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		78	71.3
127-18-4	Tetrachloroethene	ND		78	71.3
108-90-7	Chlorobenzene	ND		78	71.3
630-20-6	1,1,1,2-Tetrachloroethane	ND		78	71.3
100-41-4	Ethylbenzene	ND		78	71.3
108383,106423	m & p-Xylene	150	J	160	71.3
75-25-2	Bromoform	ND		78	71.3
100-42-5	Styrene	ND		78	71.3
95-47-6	o-Xylene	ND		78	71.3
79-34-5	1,1,2,2-Tetrachloroethane	ND		78	71.3
96-18-4	1,2,3-Trichloropropane	ND		78	71.3
110-57-6	trans-1,4-Dichloro-2-butene	ND		390	71.3
98-82-8	Isopropylbenzene	ND		78	71.3
108-86-1	Bromobenzene	ND		78	71.3
103-65-1	n-Propylbenzene	ND		78	71.3
108-67-8	1,3,5-Trimethylbenzene	ND		78	71.3
98-06-6	tert-Butylbenzene	ND		78	71.3
95-63-6	1,2,4-Trimethylbenzene	97	J	78	71.3
35-98-8	sec-Butylbenzene	ND		78	71.3
41-73-1	1,3-Dichlorobenzene	ND		78	71.3
106-46-7	1,4-Dichlorobenzene	ND		78	71.3
99-87-6	p-Isopropyl toluene	ND		78	71.3
95-50-1	1,2-Dichlorobenzene	ND		78	71.3
104-51-8	n-Butylbenzene	ND		78	71.3
67-72-1	Hexachloroethane	ND		390	71.3
96-12-8	1,2-Dibromo-3-chloropropane	ND		390	71.3
120-82-1	1,2,4-Trichlorobenzene	ND		390	71.3
91-20-3	Naphthalene	ND		390	71.3
87-61-6	1,2,3-Trichlorobenzene	ND		390	71.3
91-57-6	2-Methylnaphthalene	420	J	390	71.3

Low methanol, estimated results due to high surrogate recovery.

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-04ME

Date Collected:	8/21/2002	Test Code:	SME
		Test Name:	MEOH-Sed
Date Analyzed:	8/29/2002 by PCR/SR	Sample ID:	SS4
Total Solids:	91%		

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		260	47.9
74-87-3	Chloromethane	ND		260	47.9
75-01-4	Vinyl chloride	ND		53	47.9
74-83-9	Bromomethane	ND		260	47.9
75-00-3	Chloroethane	ND		260	47.9
75-69-4	Trichlorofluoromethane	ND		53	47.9
67-64-1	Acetone	ND		1100	47.9
60-29-7	Diethyl ether	ND		260	47.9
75-35-4	1,1-Dichloroethylene	ND		53	47.9
74-88-4	Methyl iodide	ND		53	47.9
107-13-1	Acrylonitrile	ND		260	47.9
75-09-2	Methylene chloride	ND		260	47.9
75-15-0	Carbon disulfide	ND		53	47.9
56-60-5	trans-1,2-Dichloroethylene	ND		53	47.9
1634-04-4	Methyltertbutylether (MTBE)	ND		53	47.9
75-34-3	1,1-Dichloroethane	ND		53	47.9
78-93-3	2-Butanone (MEK)	ND		260	47.9
156-59-2	cis-1,2-Dichloroethylene	ND		53	47.9
67-66-3	Chloroform	ND		53	47.9
109-99-9	Tetrahydrofuran	ND		260	47.9
74-97-5	Bromochloromethane	ND		53	47.9
71-55-6	1,1,1-Trichloroethane	ND		53	47.9
107-06-2	1,2-Dichloroethane	ND		53	47.9
71-43-2	Benzene	ND		53	47.9
56-23-5	Carbon tetrachloride	ND		53	47.9
78-87-5	1,2-Dichloropropane	ND		53	47.9
79-01-6	Trichloroethylene	ND		53	47.9
74-95-3	Dibromomethane	ND		53	47.9
75-27-4	Bromodichloromethane	ND		53	47.9
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		260	47.9
10061-01-5	cis-1,3-Dichloropropene	ND		53	47.9
10061-02-6	trans-1,3-Dichloropropene	ND		53	47.9
108-88-3	Toluene	ND		53	47.9
79-00-5	1,1,2-Trichloroethane	ND		53	47.9
591-78-6	2-Hexanone	ND		260	47.9
124-48-1	Dibromochloromethane	ND		53	47.9

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CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		53	47.9
127-18-4	Tetrachloroethene	ND		53	47.9
108-90-7	Chlorobenzene	ND		53	47.9
630-20-6	1,1,1,2-Tetrachloroethane	ND		53	47.9
100-41-4	Ethylbenzene	ND		53	47.9
108383,106423	m & p-Xylene	ND		110	47.9
75-25-2	Bromoform	ND		53	47.9
100-42-5	Styrene	ND		53	47.9
95-47-6	o-Xylene	ND		53	47.9
79-34-5	1,1,2,2-Tetrachloroethane	ND		53	47.9
96-18-4	1,2,3-Trichloropropane	ND		53	47.9
110-57-6	trans-1,4-Dichloro-2-butene	ND		260	47.9
98-82-8	Isopropylbenzene	ND		53	47.9
108-86-1	Bromobenzene	ND		53	47.9
103-65-1	n-Propylbenzene	ND		53	47.9
108-67-8	1,3,5-Trimethylbenzene	ND		53	47.9
98-06-6	tert-Butylbenzene	ND		53	47.9
95-63-6	1,2,4-Trimethylbenzene	ND		53	47.9
35-98-8	sec-Butylbenzene	ND		53	47.9
1-73-1	1,3-Dichlorobenzene	ND		53	47.9
106-46-7	1,4-Dichlorobenzene	ND		53	47.9
99-87-6	p-Isopropyl toluene	ND		53	47.9
95-50-1	1,2-Dichlorobenzene	ND		53	47.9
104-51-8	n-Butylbenzene	ND		53	47.9
67-72-1	Hexachloroethane	ND		260	47.9
96-12-8	1,2-Dibromo-3-chloropropane	ND		260	47.9
120-82-1	1,2,4-Trichlorobenzene	ND		260	47.9
91-20-3	Naphthalene	820		260	47.9
87-61-6	1,2,3-Trichlorobenzene	ND		260	47.9
91-57-6	2-Methylnaphthalene	1000		260	47.9

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-05ME

Date Collected:	8/21/2002	Test Code:	SME
		Test Name:	MEOH-Sed
Date Analyzed:	8/29/2002 by PCR/SR	Sample ID:	SS5
Total Solids:	92%		

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		260	48.0
74-87-3	Chloromethane	ND		260	48.0
75-01-4	Vinyl chloride	ND		52	48.0
74-83-9	Bromomethane	ND		260	48.0
75-00-3	Chloroethane	ND		260	48.0
75-69-4	Trichlorofluoromethane	ND		52	48.0
67-64-1	Acetone	ND		1000	48.0
60-29-7	Diethyl ether	ND		260	48.0
75-35-4	1,1-Dichloroethylene	ND		52	48.0
74-88-4	Methyl iodide	ND		52	48.0
107-13-1	Acrylonitrile	ND		260	48.0
75-09-2	Methylene chloride	ND		260	48.0
75-15-0	Carbon disulfide	ND		52	48.0
6-60-5	trans-1,2-Dichloroethylene	ND		52	48.0
1634-04-4	Methyltertbutylether (MTBE)	ND		52	48.0
75-34-3	1,1-Dichloroethane	ND		52	48.0
78-93-3	2-Butanone (MEK)	ND		260	48.0
156-59-2	cis-1,2-Dichloroethylene	ND		52	48.0
67-66-3	Chloroform	ND		52	48.0
109-99-9	Tetrahydrofuran	ND		260	48.0
74-97-5	Bromochloromethane	ND		52	48.0
71-55-6	1,1,1-Trichloroethane	ND		52	48.0
107-06-2	1,2-Dichloroethane	ND		52	48.0
71-43-2	Benzene	ND		52	48.0
56-23-5	Carbon tetrachloride	ND		52	48.0
78-87-5	1,2-Dichloropropane	ND		52	48.0
79-01-6	Trichloroethylene	ND		52	48.0
74-95-3	Dibromomethane	ND		52	48.0
75-27-4	Bromodichloromethane	ND		52	48.0
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		260	48.0
10061-01-5	cis-1,3-Dichloropropene	ND		52	48.0
10061-02-6	trans-1,3-Dichloropropene	ND		52	48.0
108-88-3	Toluene	ND		52	48.0
79-00-5	1,1,2-Trichloroethane	ND		52	48.0
1-78-6	2-Hexanone	ND		260	48.0
24-48-1	Dibromochloromethane	ND		52	48.0

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CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		52	48.0
127-18-4	Tetrachloroethene	ND		52	48.0
108-90-7	Chlorobenzene	ND		52	48.0
630-20-6	1,1,1,2-Tetrachloroethane	ND		52	48.0
100-41-4	Ethylbenzene	ND		52	48.0
108383,106423	m & p-Xylene	ND		100	48.0
75-25-2	Bromoform	ND		52	48.0
100-42-5	Styrene	ND		52	48.0
95-47-6	o-Xylene	ND		52	48.0
79-34-5	1,1,2,2-Tetrachloroethane	ND		52	48.0
96-18-4	1,2,3-Trichloropropane	ND		52	48.0
110-57-6	trans-1,4-Dichloro-2-butene	ND		260	48.0
98-82-8	Isopropylbenzene	ND		52	48.0
108-86-1	Bromobenzene	ND		52	48.0
103-65-1	n-Propylbenzene	ND		52	48.0
108-67-8	1,3,5-Trimethylbenzene	ND		52	48.0
98-06-6	tert-Butylbenzene	ND		52	48.0
95-63-6	1,2,4-Trimethylbenzene	ND		52	48.0
35-98-8	sec-Butylbenzene	ND		52	48.0
41-73-1	1,3-Dichlorobenzene	ND		52	48.0
106-46-7	1,4-Dichlorobenzene	ND		52	48.0
99-87-6	p-Isopropyl toluene	ND		52	48.0
95-50-1	1,2-Dichlorobenzene	ND		52	48.0
104-51-8	n-Butylbenzene	ND		52	48.0
67-72-1	Hexachloroethane	ND		260	48.0
96-12-8	1,2-Dibromo-3-chloropropane	ND		260	48.0
120-82-1	1,2,4-Trichlorobenzene	ND		260	48.0
91-20-3	Naphthalene	ND		260	48.0
87-61-6	1,2,3-Trichlorobenzene	ND		260	48.0
91-57-6	2-Methylnaphthalene	320		260	48.0

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-06ME

Date Collected:	8/21/2002	Test Code:	SME
		Test Name:	MEOH-Sed
Date Analyzed:	8/29/2002 by PCR/SR	Sample ID:	SS6
Total Solids:	96%		

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		260	50.5
74-87-3	Chloromethane	ND		260	50.5
75-01-4	Vinyl chloride	ND		53	50.5
74-83-9	Bromomethane	ND		260	50.5
75-00-3	Chloroethane	ND		260	50.5
75-69-4	Trichlorofluoromethane	ND		53	50.5
67-64-1	Acetone	ND		1100	50.5
60-29-7	Diethyl ether	ND		260	50.5
75-35-4	1,1-Dichloroethylene	ND		53	50.5
74-88-4	Methyl iodide	ND		53	50.5
107-13-1	Acrylonitrile	ND		260	50.5
75-09-2	Methylene chloride	ND		260	50.5
75-15-0	Carbon disulfide	ND		53	50.5
56-60-5	trans-1,2-Dichloroethylene	ND		53	50.5
1634-04-4	Methyltertbutylether (MTBE)	ND		53	50.5
75-34-3	1,1-Dichloroethane	ND		53	50.5
78-93-3	2-Butanone (MEK)	ND		260	50.5
156-59-2	cis-1,2-Dichloroethylene	ND		53	50.5
67-66-3	Chloroform	ND		53	50.5
109-99-9	Tetrahydrofuran	ND		260	50.5
74-97-5	Bromochloromethane	ND		53	50.5
71-55-6	1,1,1-Trichloroethane	ND		53	50.5
107-06-2	1,2-Dichloroethane	ND		53	50.5
71-43-2	Benzene	ND		53	50.5
56-23-5	Carbon tetrachloride	ND		53	50.5
78-87-5	1,2-Dichloropropane	ND		53	50.5
79-01-6	Trichloroethylene	ND		53	50.5
74-95-3	Dibromomethane	ND		53	50.5
75-27-4	Bromodichloromethane	ND		53	50.5
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		260	50.5
10061-01-5	cis-1,3-Dichloropropene	ND		53	50.5
10061-02-6	trans-1,3-Dichloropropene	ND		53	50.5
108-88-3	Toluene	ND		53	50.5
79-00-5	1,1,2-Trichloroethane	ND		53	50.5
91-78-6	2-Hexanone	ND		260	50.5
124-48-1	Dibromochloromethane	ND		53	50.5

MDEQ ENVIRONMENTAL LABORATORY
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CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		53	50.5
127-18-4	Tetrachloroethene	ND		53	50.5
108-90-7	Chlorobenzene	ND		53	50.5
630-20-6	1,1,1,2-Tetrachloroethane	ND		53	50.5
100-41-4	Ethylbenzene	ND		53	50.5
108383,106423	m & p-Xylene	ND		110	50.5
75-25-2	Bromoform	ND		53	50.5
100-42-5	Styrene	ND		53	50.5
95-47-6	o-Xylene	ND		53	50.5
79-34-5	1,1,2,2-Tetrachloroethane	ND		53	50.5
96-18-4	1,2,3-Trichloropropane	ND		53	50.5
110-57-6	trans-1,4-Dichloro-2-butene	ND		260	50.5
98-82-8	Isopropylbenzene	ND		53	50.5
108-86-1	Bromobenzene	ND		53	50.5
103-65-1	n-Propylbenzene	ND		53	50.5
108-67-8	1,3,5-Trimethylbenzene	ND		53	50.5
98-06-6	tert-Butylbenzene	ND		53	50.5
95-63-6	1,2,4-Trimethylbenzene	ND		53	50.5
135-98-8	sec-Butylbenzene	ND		53	50.5
41-73-1	1,3-Dichlorobenzene	ND		53	50.5
106-46-7	1,4-Dichlorobenzene	ND		53	50.5
99-87-6	p-Isopropyl toluene	ND		53	50.5
95-50-1	1,2-Dichlorobenzene	ND		53	50.5
104-51-8	n-Butylbenzene	ND		53	50.5
67-72-1	Hexachloroethane	ND		260	50.5
96-12-8	1,2-Dibromo-3-chloropropane	ND		260	50.5
120-82-1	1,2,4-Trichlorobenzene	ND		260	50.5
91-20-3	Naphthalene	ND		260	50.5
87-61-6	1,2,3-Trichlorobenzene	ND		260	50.5
91-57-6	2-Methylnaphthalene	ND		260	50.5

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-07ME

Date Collected: 8/21/2002

Test Code: SME
Test Name: MEOH-Sed
Sample ID: SS7

Date Analyzed: 8/29/2002 by PCR/SR
Total Solids: 92%

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		280	52.1
74-87-3	Chloromethane	ND		280	52.1
75-01-4	Vinyl chloride	ND		57	52.1
74-83-9	Bromomethane	ND		280	52.1
75-00-3	Chloroethane	ND		280	52.1
75-69-4	Trichlorofluoromethane	ND		57	52.1
67-64-1	Acetone	ND		1100	52.1
60-29-7	Diethyl ether	ND		280	52.1
75-35-4	1,1-Dichloroethylene	ND		57	52.1
74-88-4	Methyl iodide	ND		57	52.1
107-13-1	Acrylonitrile	ND		280	52.1
75-09-2	Methylene chloride	ND		280	52.1
75-15-0	Carbon disulfide	ND		57	52.1
56-60-5	trans-1,2-Dichloroethylene	ND		57	52.1
1634-04-4	Methyltertbutylether (MTBE)	ND		57	52.1
75-34-3	1,1-Dichloroethane	ND		57	52.1
78-93-3	2-Butanone (MEK)	ND		280	52.1
156-59-2	cis-1,2-Dichloroethylene	ND		57	52.1
67-66-3	Chloroform	ND		57	52.1
109-99-9	Tetrahydrofuran	ND		280	52.1
74-97-5	Bromochloromethane	ND		57	52.1
71-55-6	1,1,1-Trichloroethane	ND		57	52.1
107-06-2	1,2-Dichloroethane	ND		57	52.1
71-43-2	Benzene	ND		57	52.1
56-23-5	Carbon tetrachloride	ND		57	52.1
78-87-5	1,2-Dichloropropane	ND		57	52.1
79-01-6	Trichloroethylene	ND		57	52.1
74-95-3	Dibromomethane	ND		57	52.1
75-27-4	Bromodichloromethane	ND		57	52.1
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		280	52.1
10061-01-5	cis-1,3-Dichloropropene	ND		57	52.1
10061-02-6	trans-1,3-Dichloropropene	ND		57	52.1
108-88-3	Toluene	ND		57	52.1
79-00-5	1,1,2-Trichloroethane	ND		57	52.1
591-78-6	2-Hexanone	ND		280	52.1
124-48-1	Dibromochloromethane	ND		57	52.1

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		57	52.1
127-18-4	Tetrachloroethene	ND		57	52.1
108-90-7	Chlorobenzene	ND		57	52.1
630-20-6	1,1,1,2-Tetrachloroethane	ND		57	52.1
100-41-4	Ethylbenzene	ND		57	52.1
108383,106423	m & p-Xylene	ND		110	52.1
75-25-2	Bromoform	ND		57	52.1
100-42-5	Styrene	ND		57	52.1
95-47-6	o-Xylene	ND		57	52.1
79-34-5	1,1,2,2-Tetrachloroethane	ND		57	52.1
96-18-4	1,2,3-Trichloropropane	ND		57	52.1
110-57-6	trans-1,4-Dichloro-2-butene	ND		280	52.1
98-82-8	Isopropylbenzene	ND		57	52.1
108-86-1	Bromobenzene	ND		57	52.1
103-65-1	n-Propylbenzene	ND		57	52.1
108-67-8	1,3,5-Trimethylbenzene	ND		57	52.1
98-06-6	tert-Butylbenzene	ND		57	52.1
95-63-6	1,2,4-Trimethylbenzene	ND		57	52.1
35-98-8	sec-Butylbenzene	ND		57	52.1
41-73-1	1,3-Dichlorobenzene	ND		57	52.1
106-46-7	1,4-Dichlorobenzene	ND		57	52.1
99-87-6	p-Isopropyl toluene	ND		57	52.1
95-50-1	1,2-Dichlorobenzene	ND		57	52.1
104-51-8	n-Butylbenzene	ND		57	52.1
67-72-1	Hexachloroethane	ND		280	52.1
96-12-8	1,2-Dibromo-3-chloropropane	ND		280	52.1
120-82-1	1,2,4-Trichlorobenzene	ND		280	52.1
91-20-3	Naphthalene	ND		280	52.1
87-61-6	1,2,3-Trichlorobenzene	ND		280	52.1
91-57-6	2-Methylnaphthalene	ND		280	52.1

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-08ME

Date Collected:	8/21/2002	Test Code:	SME
		Test Name:	MEOH-Sed
Date Analyzed:	8/29/2002 by PCR/SR	Sample ID:	SS8
Total Solids:	93%		

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		270	49.9
74-87-3	Chloromethane	ND		270	49.9
75-01-4	Vinyl chloride	ND		54	49.9
74-83-9	Bromomethane	ND		270	49.9
75-00-3	Chloroethane	ND		270	49.9
75-69-4	Trichlorofluoromethane	ND		54	49.9
67-64-1	Acetone	ND		1100	49.9
60-29-7	Diethyl ether	ND		270	49.9
75-35-4	1,1-Dichloroethylene	ND		54	49.9
74-88-4	Methyl iodide	ND		54	49.9
107-13-1	Acrylonitrile	ND		270	49.9
75-09-2	Methylene chloride	ND		270	49.9
75-15-0	Carbon disulfide	ND		54	49.9
56-60-5	trans-1,2-Dichloroethylene	ND		54	49.9
1634-04-4	Methyltertbutylether (MTBE)	ND		54	49.9
75-34-3	1,1-Dichloroethane	ND		54	49.9
78-93-3	2-Butanone (MEK)	ND		270	49.9
156-59-2	cis-1,2-Dichloroethylene	ND		54	49.9
67-66-3	Chloroform	ND		54	49.9
109-99-9	Tetrahydrofuran	ND		270	49.9
74-97-5	Bromochloromethane	ND		54	49.9
71-55-6	1,1,1-Trichloroethane	ND		54	49.9
107-06-2	1,2-Dichloroethane	ND		54	49.9
71-43-2	Benzene	ND		54	49.9
56-23-5	Carbon tetrachloride	ND		54	49.9
78-87-5	1,2-Dichloropropane	ND		54	49.9
79-01-6	Trichloroethylene	ND		54	49.9
74-95-3	Dibromomethane	ND		54	49.9
75-27-4	Bromodichloromethane	ND		54	49.9
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		270	49.9
10061-01-5	cis-1,3-Dichloropropene	ND		54	49.9
10061-02-6	trans-1,3-Dichloropropene	ND		54	49.9
108-88-3	Toluene	ND		54	49.9
79-00-5	1,1,2-Trichloroethane	ND		54	49.9
591-78-6	2-Hexanone	ND		270	49.9
124-48-1	Dibromochloromethane	ND		54	49.9

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		54	49.9
127-18-4	Tetrachloroethene	ND		54	49.9
108-90-7	Chlorobenzene	ND		54	49.9
630-20-6	1,1,1,2-Tetrachloroethane	ND		54	49.9
100-41-4	Ethylbenzene	ND		54	49.9
108383,106423	m & p-Xylene	ND		110	49.9
75-25-2	Bromoform	ND		54	49.9
100-42-5	Styrene	ND		54	49.9
95-47-6	o-Xylene	ND		54	49.9
79-34-5	1,1,2,2-Tetrachloroethane	ND		54	49.9
96-18-4	1,2,3-Trichloropropane	ND		54	49.9
110-57-6	trans-1,4-Dichloro-2-butene	ND		270	49.9
98-82-8	Isopropylbenzene	ND		54	49.9
108-86-1	Bromobenzene	ND		54	49.9
103-65-1	n-Propylbenzene	ND		54	49.9
108-67-8	1,3,5-Trimethylbenzene	ND		54	49.9
98-06-6	tert-Butylbenzene	ND		54	49.9
95-63-6	1,2,4-Trimethylbenzene	ND		54	49.9
35-98-8	sec-Butylbenzene	ND		54	49.9
1-73-1	1,3-Dichlorobenzene	ND		54	49.9
106-46-7	1,4-Dichlorobenzene	ND		54	49.9
99-87-6	p-Isopropyl toluene	ND		54	49.9
95-50-1	1,2-Dichlorobenzene	ND		54	49.9
104-51-8	n-Butylbenzene	ND		54	49.9
67-72-1	Hexachloroethane	ND		270	49.9
96-12-8	1,2-Dibromo-3-chloropropane	ND		270	49.9
120-82-1	1,2,4-Trichlorobenzene	ND		270	49.9
91-20-3	Naphthalene	ND		270	49.9
87-61-6	1,2,3-Trichlorobenzene	ND		270	49.9
91-57-6	2-Methylnaphthalene	ND		270	49.9

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-09ME

Date Collected:	8/21/2002	Test Code:	SME
		Test Name:	MEOH-Sed
Date Analyzed:	8/29/2002 by PCR/SR	Sample ID:	SS9
Total Solids:	93%		

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		270	50.1
74-87-3	Chloromethane	ND		270	50.1
75-01-4	Vinyl chloride	ND		54	50.1
74-83-9	Bromomethane	ND		270	50.1
75-00-3	Chloroethane	ND		270	50.1
75-69-4	Trichlorofluoromethane	ND		54	50.1
67-64-1	Acetone	ND		1100	50.1
60-29-7	Diethyl ether	ND		270	50.1
75-35-4	1,1-Dichloroethylene	ND		54	50.1
74-88-4	Methyl iodide	ND		54	50.1
107-13-1	Acrylonitrile	ND		270	50.1
75-09-2	Methylene chloride	ND		270	50.1
75-15-0	Carbon disulfide	ND		54	50.1
56-60-5	trans-1,2-Dichloroethylene	ND		54	50.1
1634-04-4	Methyltertbutylether (MTBE)	ND		54	50.1
75-34-3	1,1-Dichloroethane	ND		54	50.1
78-93-3	2-Butanone (MEK)	ND		270	50.1
156-59-2	cis-1,2-Dichloroethylene	ND		54	50.1
67-66-3	Chloroform	ND		54	50.1
109-99-9	Tetrahydrofuran	ND		270	50.1
74-97-5	Bromochloromethane	ND		54	50.1
71-55-6	1,1,1-Trichloroethane	ND		54	50.1
107-06-2	1,2-Dichloroethane	ND		54	50.1
71-43-2	Benzene	ND		54	50.1
56-23-5	Carbon tetrachloride	ND		54	50.1
78-87-5	1,2-Dichloropropane	ND		54	50.1
79-01-6	Trichloroethylene	ND		54	50.1
74-95-3	Dibromomethane	ND		54	50.1
75-27-4	Bromodichloromethane	ND		54	50.1
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		270	50.1
10061-01-5	cis-1,3-Dichloropropene	ND		54	50.1
10061-02-6	trans-1,3-Dichloropropene	ND		54	50.1
108-88-3	Toluene	ND		54	50.1
79-00-5	1,1,2-Trichloroethane	ND		54	50.1
591-78-6	2-Hexanone	ND		270	50.1
124-48-1	Dibromochloromethane	ND		54	50.1

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		54	50.1
127-18-4	Tetrachloroethene	ND		54	50.1
108-90-7	Chlorobenzene	ND		54	50.1
630-20-6	1,1,1,2-Tetrachloroethane	ND		54	50.1
100-41-4	Ethylbenzene	ND		54	50.1
108383,106423	m & p-Xylene	ND		110	50.1
75-25-2	Bromoform	ND		54	50.1
100-42-5	Styrene	ND		54	50.1
95-47-6	o-Xylene	ND		54	50.1
79-34-5	1,1,2,2-Tetrachloroethane	ND		54	50.1
96-18-4	1,2,3-Trichloropropane	ND		54	50.1
110-57-6	trans-1,4-Dichloro-2-butene	ND		270	50.1
98-82-8	Isopropylbenzene	ND		54	50.1
108-86-1	Bromobenzene	ND		54	50.1
103-65-1	n-Propylbenzene	ND		54	50.1
108-67-8	1,3,5-Trimethylbenzene	ND		54	50.1
98-06-6	tert-Butylbenzene	ND		54	50.1
95-63-6	1,2,4-Trimethylbenzene	ND		54	50.1
135-98-8	sec-Butylbenzene	ND		54	50.1
541-73-1	1,3-Dichlorobenzene	ND		54	50.1
106-46-7	1,4-Dichlorobenzene	ND		54	50.1
99-87-6	p-Isopropyl toluene	ND		54	50.1
95-50-1	1,2-Dichlorobenzene	ND		54	50.1
104-51-8	n-Butylbenzene	ND		54	50.1
67-72-1	Hexachloroethane	ND		270	50.1
96-12-8	1,2-Dibromo-3-chloropropane	ND		270	50.1
120-82-1	1,2,4-Trichlorobenzene	ND		270	50.1
91-20-3	Naphthalene	ND		270	50.1
87-61-6	1,2,3-Trichlorobenzene	ND		270	50.1
91-57-6	2-Methylnaphthalene	ND		270	50.1

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-10ME

Date Collected: 8/21/2002

Test Code: SME
Test Name: MEOH-Sed

Date Analyzed: 8/29/2002 by PCR/SR

Sample ID: SS10

Total Solids: 93%

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		260	49.0
74-87-3	Chloromethane	ND		260	49.0
75-01-4	Vinyl chloride	ND		53	49.0
74-83-9	Bromomethane	ND		260	49.0
75-00-3	Chloroethane	ND		260	49.0
75-69-4	Trichlorofluoromethane	ND		53	49.0
67-64-1	Acetone	ND		1100	49.0
60-29-7	Diethyl ether	ND		260	49.0
75-35-4	1,1-Dichloroethylene	ND		53	49.0
74-88-4	Methyl iodide	ND		53	49.0
107-13-1	Acrylonitrile	ND		260	49.0
75-09-2	Methylene chloride	ND		260	49.0
75-15-0	Carbon disulfide	ND		53	49.0
56-60-5	trans-1,2-Dichloroethylene	ND		53	49.0
1634-04-4	Methyltertbutylether (MTBE)	ND		53	49.0
75-34-3	1,1-Dichloroethane	ND		53	49.0
78-93-3	2-Butanone (MEK)	ND		260	49.0
156-59-2	cis-1,2-Dichloroethylene	ND		53	49.0
67-66-3	Chloroform	ND		53	49.0
109-99-9	Tetrahydrofuran	ND		260	49.0
74-97-5	Bromochloromethane	ND		53	49.0
71-55-6	1,1,1-Trichloroethane	ND		53	49.0
107-06-2	1,2-Dichloroethane	ND		53	49.0
71-43-2	Benzene	ND		53	49.0
56-23-5	Carbon tetrachloride	ND		53	49.0
78-87-5	1,2-Dichloropropane	ND		53	49.0
79-01-6	Trichloroethylene	ND		53	49.0
74-95-3	Dibromomethane	ND		53	49.0
75-27-4	Bromodichloromethane	ND		53	49.0
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		260	49.0
10061-01-5	cis-1,3-Dichloropropene	ND		53	49.0
10061-02-6	trans-1,3-Dichloropropene	ND		53	49.0
108-88-3	Toluene	66		53	49.0
79-00-5	1,1,2-Trichloroethane	ND		53	49.0
91-78-6	2-Hexanone	ND		260	49.0
124-48-1	Dibromochloromethane	ND		53	49.0

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		53	49.0
127-18-4	Tetrachloroethene	ND		53	49.0
108-90-7	Chlorobenzene	ND		53	49.0
630-20-6	1,1,1,2-Tetrachloroethane	ND		53	49.0
100-41-4	Ethylbenzene	ND		53	49.0
108383,106423	m & p-Xylene	ND		110	49.0
75-25-2	Bromoform	ND		53	49.0
100-42-5	Styrene	ND		53	49.0
95-47-6	o-Xylene	65		53	49.0
79-34-5	1,1,2,2-Tetrachloroethane	ND		53	49.0
96-18-4	1,2,3-Trichloropropane	ND		53	49.0
110-57-6	trans-1,4-Dichloro-2-butene	ND		260	49.0
98-82-8	Isopropylbenzene	ND		53	49.0
108-86-1	Bromobenzene	ND		53	49.0
103-65-1	n-Propylbenzene	ND		53	49.0
108-67-8	1,3,5-Trimethylbenzene	ND		53	49.0
98-06-6	tert-Butylbenzene	ND		53	49.0
95-63-6	1,2,4-Trimethylbenzene	ND		53	49.0
135-98-8	sec-Butylbenzene	ND		53	49.0
541-73-1	1,3-Dichlorobenzene	ND		53	49.0
106-46-7	1,4-Dichlorobenzene	ND		53	49.0
99-87-6	p-Isopropyl toluene	ND		53	49.0
95-50-1	1,2-Dichlorobenzene	ND		53	49.0
104-51-8	n-Butylbenzene	ND		53	49.0
67-72-1	Hexachloroethane	ND		260	49.0
96-12-8	1,2-Dibromo-3-chloropropane	ND		260	49.0
120-82-1	1,2,4-Trichlorobenzene	ND		260	49.0
91-20-3	Naphthalene	ND		260	49.0
87-61-6	1,2,3-Trichlorobenzene	ND		260	49.0
91-57-6	2-Methylnaphthalene	ND		260	49.0

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-11ME

Date Collected:	8/21/2002	Test Code:	SME
		Test Name:	MEOH-Sed
Date Analyzed:	8/29/2002 by PCR/SR	Sample ID:	SS11
Total Solids:	93%		

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		280	51.5
74-87-3	Chloromethane	ND		280	51.5
75-01-4	Vinyl chloride	ND		55	51.5
74-83-9	Bromomethane	ND		280	51.5
75-00-3	Chloroethane	ND		280	51.5
75-69-4	Trichlorofluoromethane	ND		55	51.5
67-64-1	Acetone	ND		1100	51.5
60-29-7	Diethyl ether	ND		280	51.5
75-35-4	1,1-Dichloroethylene	ND		55	51.5
74-88-4	Methyl iodide	ND		55	51.5
107-13-1	Acrylonitrile	ND		280	51.5
75-09-2	Methylene chloride	ND		280	51.5
75-15-0	Carbon disulfide	ND		55	51.5
6-60-5	trans-1,2-Dichloroethylene	ND		55	51.5
1634-04-4	Methyltertbutylether (MTBE)	ND		55	51.5
75-34-3	1,1-Dichloroethane	ND		55	51.5
78-93-3	2-Butanone (MEK)	ND		280	51.5
156-59-2	cis-1,2-Dichloroethylene	ND		55	51.5
67-66-3	Chloroform	ND		55	51.5
109-99-9	Tetrahydrofuran	ND		280	51.5
74-97-5	Bromochloromethane	ND		55	51.5
71-55-6	1,1,1-Trichloroethane	ND		55	51.5
107-06-2	1,2-Dichloroethane	ND		55	51.5
71-43-2	Benzene	ND		55	51.5
56-23-5	Carbon tetrachloride	ND		55	51.5
78-87-5	1,2-Dichloropropane	ND		55	51.5
79-01-6	Trichloroethylene	ND		55	51.5
74-95-3	Dibromomethane	ND		55	51.5
75-27-4	Bromodichloromethane	ND		55	51.5
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		280	51.5
10061-01-5	cis-1,3-Dichloropropene	ND		55	51.5
10061-02-6	trans-1,3-Dichloropropene	ND		55	51.5
108-88-3	Toluene	ND		55	51.5
79-00-5	1,1,2-Trichloroethane	ND		55	51.5
1-78-6	2-Hexanone	ND		280	51.5
124-48-1	Dibromochloromethane	ND		55	51.5

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		55	51.5
127-18-4	Tetrachloroethene	ND		55	51.5
108-90-7	Chlorobenzene	ND		55	51.5
630-20-6	1,1,1,2-Tetrachloroethane	ND		55	51.5
100-41-4	Ethylbenzene	ND		55	51.5
108383,106423	m & p-Xylene	ND		110	51.5
75-25-2	Bromoform	ND		55	51.5
100-42-5	Styrene	ND		55	51.5
95-47-6	o-Xylene	ND		55	51.5
79-34-5	1,1,2,2-Tetrachloroethane	ND		55	51.5
96-18-4	1,2,3-Trichloropropane	ND		55	51.5
110-57-6	trans-1,4-Dichloro-2-butene	ND		280	51.5
98-82-8	Isopropylbenzene	ND		55	51.5
108-86-1	Bromobenzene	ND		55	51.5
103-65-1	n-Propylbenzene	ND		55	51.5
108-67-8	1,3,5-Trimethylbenzene	ND		55	51.5
98-06-6	tert-Butylbenzene	ND		55	51.5
95-63-6	1,2,4-Trimethylbenzene	ND		55	51.5
35-98-8	sec-Butylbenzene	ND		55	51.5
41-73-1	1,3-Dichlorobenzene	ND		55	51.5
106-46-7	1,4-Dichlorobenzene	ND		55	51.5
99-87-6	p-Isopropyl toluene	ND		55	51.5
95-50-1	1,2-Dichlorobenzene	ND		55	51.5
104-51-8	n-Butylbenzene	ND		55	51.5
67-72-1	Hexachloroethane	ND		280	51.5
96-12-8	1,2-Dibromo-3-chloropropane	ND		280	51.5
120-82-1	1,2,4-Trichlorobenzene	ND		280	51.5
91-20-3	Naphthalene	ND		280	51.5
87-61-6	1,2,3-Trichlorobenzene	ND		280	51.5
91-57-6	2-Methylnaphthalene	ND		280	51.5

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-12ME

Date Collected:	8/21/2002	Test Code:	SME
		Test Name:	MEOH-Sed
Date Analyzed:	8/29/2002 by PCR/SR	Sample ID:	SS12
Total Solids:	92%		

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		270	49.1
74-87-3	Chloromethane	ND		270	49.1
75-01-4	Vinyl chloride	ND		53	49.1
74-83-9	Bromomethane	ND		270	49.1
75-00-3	Chloroethane	ND		270	49.1
75-69-4	Trichlorofluoromethane	ND		53	49.1
67-64-1	Acetone	ND		1100	49.1
60-29-7	Diethyl ether	ND		270	49.1
75-35-4	1,1-Dichloroethylene	ND		53	49.1
74-88-4	Methyl iodide	ND		53	49.1
107-13-1	Acrylonitrile	ND		270	49.1
75-09-2	Methylene chloride	ND		270	49.1
75-15-0	Carbon disulfide	ND		53	49.1
56-60-5	trans-1,2-Dichloroethylene	ND		53	49.1
1634-04-4	Methyltertbutylether (MTBE)	ND		53	49.1
75-34-3	1,1-Dichloroethane	ND		53	49.1
78-93-3	2-Butanone (MEK)	ND		270	49.1
156-59-2	cis-1,2-Dichloroethylene	ND		53	49.1
67-66-3	Chloroform	ND		53	49.1
109-99-9	Tetrahydrofuran	ND		270	49.1
74-97-5	Bromochloromethane	ND		53	49.1
71-55-6	1,1,1-Trichloroethane	ND		53	49.1
107-06-2	1,2-Dichloroethane	ND		53	49.1
71-43-2	Benzene	ND		53	49.1
56-23-5	Carbon tetrachloride	ND		53	49.1
78-87-5	1,2-Dichloropropane	ND		53	49.1
79-01-6	Trichloroethylene	ND		53	49.1
74-95-3	Dibromomethane	ND		53	49.1
75-27-4	Bromodichloromethane	ND		53	49.1
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		270	49.1
10061-01-5	cis-1,3-Dichloropropene	ND		53	49.1
10061-02-6	trans-1,3-Dichloropropene	ND		53	49.1
108-88-3	Toluene	98		53	49.1
79-00-5	1,1,2-Trichloroethane	ND		53	49.1
591-78-6	2-Hexanone	ND		270	49.1
124-48-1	Dibromochloromethane	ND		53	49.1

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		53	49.1
127-18-4	Tetrachloroethene	ND		53	49.1
108-90-7	Chlorobenzene	ND		53	49.1
630-20-6	1,1,1,2-Tetrachloroethane	ND		53	49.1
100-41-4	Ethylbenzene	ND		53	49.1
108383,106423	m & p-Xylene	110		110	49.1
75-25-2	Bromoform	ND		53	49.1
100-42-5	Styrene	ND		53	49.1
95-47-6	o-Xylene	82		53	49.1
79-34-5	1,1,2,2-Tetrachloroethane	ND		53	49.1
96-18-4	1,2,3-Trichloropropane	ND		53	49.1
110-57-6	trans-1,4-Dichloro-2-butene	ND		270	49.1
98-82-8	Isopropylbenzene	ND		53	49.1
108-86-1	Bromobenzene	ND		53	49.1
103-65-1	n-Propylbenzene	ND		53	49.1
108-67-8	1,3,5-Trimethylbenzene	ND		53	49.1
98-06-6	tert-Butylbenzene	ND		53	49.1
95-63-6	1,2,4-Trimethylbenzene	61		53	49.1
35-98-8	sec-Butylbenzene	ND		53	49.1
41-73-1	1,3-Dichlorobenzene	ND		53	49.1
106-46-7	1,4-Dichlorobenzene	ND		53	49.1
99-87-6	p-Isopropyl toluene	ND		53	49.1
95-50-1	1,2-Dichlorobenzene	ND		53	49.1
104-51-8	n-Butylbenzene	ND		53	49.1
67-72-1	Hexachloroethane	ND		270	49.1
96-12-8	1,2-Dibromo-3-chloropropane	ND		270	49.1
120-82-1	1,2,4-Trichlorobenzene	ND		270	49.1
91-20-3	Naphthalene	ND		270	49.1
87-61-6	1,2,3-Trichlorobenzene	ND		270	49.1
91-57-6	2-Methylnaphthalene	ND		270	49.1

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-13ME

Date Collected:	8/21/2002	Test Code:	SME
		Test Name:	MEOH-Sed
Date Analyzed:	8/30/2002 by PCR/SR	Sample ID:	SS13
Total Solids:	91%		

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		270	48.4
74-87-3	Chloromethane	ND		270	48.4
75-01-4	Vinyl chloride	ND		53	48.4
74-83-9	Bromomethane	ND		270	48.4
75-00-3	Chloroethane	ND		270	48.4
75-69-4	Trichlorofluoromethane	ND		53	48.4
67-64-1	Acetone	ND		1100	48.4
60-29-7	Diethyl ether	ND		270	48.4
75-35-4	1,1-Dichloroethylene	ND		53	48.4
74-88-4	Methyl iodide	ND		53	48.4
107-13-1	Acrylonitrile	ND		270	48.4
75-09-2	Methylene chloride	ND		270	48.4
75-15-0	Carbon disulfide	ND		53	48.4
56-60-5	trans-1,2-Dichloroethylene	ND		53	48.4
1634-04-4	Methyltertbutylether (MTBE)	ND		53	48.4
75-34-3	1,1-Dichloroethane	ND		53	48.4
78-93-3	2-Butanone (MEK)	ND		270	48.4
156-59-2	cis-1,2-Dichloroethylene	ND		53	48.4
67-66-3	Chloroform	ND		53	48.4
109-99-9	Tetrahydrofuran	ND		270	48.4
74-97-5	Bromochloromethane	ND		53	48.4
71-55-6	1,1,1-Trichloroethane	ND		53	48.4
107-06-2	1,2-Dichloroethane	ND		53	48.4
71-43-2	Benzene	ND		53	48.4
56-23-5	Carbon tetrachloride	ND		53	48.4
78-87-5	1,2-Dichloropropane	ND		53	48.4
79-01-6	Trichloroethylene	ND		53	48.4
74-95-3	Dibromomethane	ND		53	48.4
75-27-4	Bromodichloromethane	ND		53	48.4
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		270	48.4
10061-01-5	cis-1,3-Dichloropropene	ND		53	48.4
10061-02-6	trans-1,3-Dichloropropene	ND		53	48.4
108-88-3	Toluene	93		53	48.4
79-00-5	1,1,2-Trichloroethane	ND		53	48.4
591-78-6	2-Hexanone	ND		270	48.4
124-48-1	Dibromochloromethane	ND		53	48.4

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		53	48.4
127-18-4	Tetrachloroethene	ND		53	48.4
108-90-7	Chlorobenzene	ND		53	48.4
630-20-6	1,1,1,2-Tetrachloroethane	ND		53	48.4
100-41-4	Ethylbenzene	ND		53	48.4
108383,106423	m & p-Xylene	ND		110	48.4
75-25-2	Bromoform	ND		53	48.4
100-42-5	Styrene	ND		53	48.4
95-47-6	o-Xylene	80		53	48.4
79-34-5	1,1,2,2-Tetrachloroethane	ND		53	48.4
96-18-4	1,2,3-Trichloropropane	ND		53	48.4
110-57-6	trans-1,4-Dichloro-2-butene	ND		270	48.4
98-82-8	Isopropylbenzene	ND		53	48.4
108-86-1	Bromobenzene	ND		53	48.4
103-65-1	n-Propylbenzene	ND		53	48.4
108-67-8	1,3,5-Trimethylbenzene	ND		53	48.4
98-06-6	tert-Butylbenzene	ND		53	48.4
95-63-6	1,2,4-Trimethylbenzene	57		53	48.4
35-98-8	sec-Butylbenzene	ND		53	48.4
41-73-1	1,3-Dichlorobenzene	ND		53	48.4
106-46-7	1,4-Dichlorobenzene	ND		53	48.4
99-87-6	p-Isopropyl toluene	ND		53	48.4
95-50-1	1,2-Dichlorobenzene	ND		53	48.4
104-51-8	n-Butylbenzene	ND		53	48.4
67-72-1	Hexachloroethane	ND		270	48.4
96-12-8	1,2-Dibromo-3-chloropropane	ND		270	48.4
120-82-1	1,2,4-Trichlorobenzene	ND		270	48.4
91-20-3	Naphthalene	ND		270	48.4
87-61-6	1,2,3-Trichlorobenzene	ND		270	48.4
91-57-6	2-Methylnaphthalene	ND		270	48.4

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-14ME

Date Collected:	8/21/2002	Test Code:	SME
		Test Name:	MEOH-Sed
Date Analyzed:	8/30/2002 by PCR/SR	Sample ID:	SS14
Total Solids:	95%		

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		250	48.0
74-87-3	Chloromethane	ND		250	48.0
75-01-4	Vinyl chloride	ND		51	48.0
74-83-9	Bromomethane	ND		250	48.0
75-00-3	Chloroethane	ND		250	48.0
75-69-4	Trichlorofluoromethane	ND		51	48.0
67-64-1	Acetone	ND		1000	48.0
60-29-7	Diethyl ether	ND		250	48.0
75-35-4	1,1-Dichloroethylene	ND		51	48.0
74-88-4	Methyl iodide	ND		51	48.0
107-13-1	Acrylonitrile	ND		250	48.0
75-09-2	Methylene chloride	ND		250	48.0
75-15-0	Carbon disulfide	ND		51	48.0
6-60-5	trans-1,2-Dichloroethylene	ND		51	48.0
1634-04-4	Methyltertbutylether (MTBE)	ND		51	48.0
75-34-3	1,1-Dichloroethane	ND		51	48.0
78-93-3	2-Butanone (MEK)	ND		250	48.0
156-59-2	cis-1,2-Dichloroethylene	ND		51	48.0
67-66-3	Chloroform	ND		51	48.0
109-99-9	Tetrahydrofuran	ND		250	48.0
74-97-5	Bromochloromethane	ND		51	48.0
71-55-6	1,1,1-Trichloroethane	ND		51	48.0
107-06-2	1,2-Dichloroethane	ND		51	48.0
71-43-2	Benzene	ND		51	48.0
56-23-5	Carbon tetrachloride	ND		51	48.0
78-87-5	1,2-Dichloropropane	ND		51	48.0
79-01-6	Trichloroethylene	ND		51	48.0
74-95-3	Dibromomethane	ND		51	48.0
75-27-4	Bromodichloromethane	ND		51	48.0
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	48.0
10061-01-5	cis-1,3-Dichloropropene	ND		51	48.0
10061-02-6	trans-1,3-Dichloropropene	ND		51	48.0
108-88-3	Toluene	ND		51	48.0
79-00-5	1,1,2-Trichloroethane	ND		51	48.0
1-78-6	2-Hexanone	ND		250	48.0
124-48-1	Dibromochloromethane	ND		51	48.0

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		51	48.0
127-18-4	Tetrachloroethene	ND		51	48.0
108-90-7	Chlorobenzene	ND		51	48.0
630-20-6	1,1,1,2-Tetrachloroethane	ND		51	48.0
100-41-4	Ethylbenzene	ND		51	48.0
108383,106423	m & p-Xylene	ND		100	48.0
75-25-2	Bromoform	ND		51	48.0
100-42-5	Styrene	ND		51	48.0
95-47-6	o-Xylene	ND		51	48.0
79-34-5	1,1,2,2-Tetrachloroethane	ND		51	48.0
96-18-4	1,2,3-Trichloropropane	ND		51	48.0
110-57-6	trans-1,4-Dichloro-2-butene	ND		250	48.0
98-82-8	Isopropylbenzene	ND		51	48.0
108-86-1	Bromobenzene	ND		51	48.0
103-65-1	n-Propylbenzene	ND		51	48.0
108-67-8	1,3,5-Trimethylbenzene	ND		51	48.0
98-06-6	tert-Butylbenzene	ND		51	48.0
95-63-6	1,2,4-Trimethylbenzene	ND		51	48.0
35-98-8	sec-Butylbenzene	ND		51	48.0
41-73-1	1,3-Dichlorobenzene	ND		51	48.0
106-46-7	1,4-Dichlorobenzene	ND		51	48.0
99-87-6	p-Isopropyl toluene	ND		51	48.0
95-50-1	1,2-Dichlorobenzene	ND		51	48.0
104-51-8	n-Butylbenzene	ND		51	48.0
67-72-1	Hexachloroethane	ND		250	48.0
96-12-8	1,2-Dibromo-3-chloropropane	ND		250	48.0
120-82-1	1,2,4-Trichlorobenzene	ND		250	48.0
91-20-3	Naphthalene	ND		250	48.0
87-61-6	1,2,3-Trichlorobenzene	ND		250	48.0
91-57-6	2-Methylnaphthalene	ND		250	48.0

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-15ME

Date Collected: 8/21/2002

Test Code: SME
Test Name: MEOH-Sed

Date Analyzed: 8/30/2002 by PCR/SR

Sample ID: SS15

Total Solids: 98%

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		260	50.4
74-87-3	Chloromethane	ND		260	50.4
75-01-4	Vinyl chloride	ND		52	50.4
74-83-9	Bromomethane	ND		260	50.4
75-00-3	Chloroethane	ND		260	50.4
75-69-4	Trichlorofluoromethane	ND		52	50.4
67-64-1	Acetone	ND		1000	50.4
60-29-7	Diethyl ether	ND		260	50.4
75-35-4	1,1-Dichloroethylene	ND		52	50.4
74-88-4	Methyl iodide	ND		52	50.4
107-13-1	Acrylonitrile	ND		260	50.4
75-09-2	Methylene chloride	ND		260	50.4
75-15-0	Carbon disulfide	ND		52	50.4
56-60-5	trans-1,2-Dichloroethylene	ND		52	50.4
1634-04-4	Methyltertbutylether (MTBE)	ND		52	50.4
75-34-3	1,1-Dichloroethane	ND		52	50.4
78-93-3	2-Butanone (MEK)	ND		260	50.4
156-59-2	cis-1,2-Dichloroethylene	ND		52	50.4
67-66-3	Chloroform	ND		52	50.4
109-99-9	Tetrahydrofuran	ND		260	50.4
74-97-5	Bromochloromethane	ND		52	50.4
71-55-6	1,1,1-Trichloroethane	ND		52	50.4
107-06-2	1,2-Dichloroethane	ND		52	50.4
71-43-2	Benzene	ND		52	50.4
56-23-5	Carbon tetrachloride	ND		52	50.4
78-87-5	1,2-Dichloropropane	ND		52	50.4
79-01-6	Trichloroethylene	ND		52	50.4
74-95-3	Dibromomethane	ND		52	50.4
75-27-4	Bromodichloromethane	ND		52	50.4
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		260	50.4
10061-01-5	cis-1,3-Dichloropropene	ND		52	50.4
10061-02-6	trans-1,3-Dichloropropene	ND		52	50.4
108-88-3	Toluene	ND		52	50.4
79-00-5	1,1,2-Trichloroethane	ND		52	50.4
91-78-6	2-Hexanone	ND		260	50.4
124-48-1	Dibromochloromethane	ND		52	50.4

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		52	50.4
127-18-4	Tetrachloroethene	ND		52	50.4
108-90-7	Chlorobenzene	ND		52	50.4
630-20-6	1,1,1,2-Tetrachloroethane	ND		52	50.4
100-41-4	Ethylbenzene	ND		52	50.4
108383,106423	m & p-Xylene	ND		100	50.4
75-25-2	Bromoform	ND		52	50.4
100-42-5	Styrene	ND		52	50.4
95-47-6	o-Xylene	ND		52	50.4
79-34-5	1,1,2,2-Tetrachloroethane	ND		52	50.4
96-18-4	1,2,3-Trichloropropane	ND		52	50.4
110-57-6	trans-1,4-Dichloro-2-butene	ND		260	50.4
98-82-8	Isopropylbenzene	ND		52	50.4
108-86-1	Bromobenzene	ND		52	50.4
103-65-1	n-Propylbenzene	ND		52	50.4
108-67-8	1,3,5-Trimethylbenzene	ND		52	50.4
98-06-6	tert-Butylbenzene	ND		52	50.4
95-63-6	1,2,4-Trimethylbenzene	ND		52	50.4
'35-98-8	sec-Butylbenzene	ND		52	50.4
41-73-1	1,3-Dichlorobenzene	ND		52	50.4
106-46-7	1,4-Dichlorobenzene	ND		52	50.4
99-87-6	p-Isopropyl toluene	ND		52	50.4
95-50-1	1,2-Dichlorobenzene	ND		52	50.4
104-51-8	n-Butylbenzene	ND		52	50.4
67-72-1	Hexachloroethane	ND		260	50.4
96-12-8	1,2-Dibromo-3-chloropropane	ND		260	50.4
120-82-1	1,2,4-Trichlorobenzene	ND		260	50.4
91-20-3	Naphthalene	ND		260	50.4
87-61-6	1,2,3-Trichlorobenzene	ND		260	50.4
91-57-6	2-Methylnaphthalene	ND		260	50.4

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-16ME

Date Collected: 8/21/2002

Test Code: SME
Test Name: MEOH-Sed
Sample ID: SB1

Date Analyzed: 8/30/2002 by PCR/SR
Total Solids: 86%

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		290	50.6
74-87-3	Chloromethane	ND		290	50.6
75-01-4	Vinyl chloride	ND		59	50.6
74-83-9	Bromomethane	ND		290	50.6
75-00-3	Chloroethane	ND		290	50.6
75-69-4	Trichlorofluoromethane	ND		59	50.6
67-64-1	Acetone	ND		1200	50.6
60-29-7	Diethyl ether	ND		290	50.6
75-35-4	1,1-Dichloroethylene	ND		59	50.6
74-88-4	Methyl iodide	ND		59	50.6
107-13-1	Acrylonitrile	ND		290	50.6
75-09-2	Methylene chloride	ND		290	50.6
75-15-0	Carbon disulfide	ND		59	50.6
56-60-5	trans-1,2-Dichloroethylene	ND		59	50.6
1634-04-4	Methyltertbutylether (MTBE)	ND		59	50.6
75-34-3	1,1-Dichloroethane	ND		59	50.6
78-93-3	2-Butanone (MEK)	ND		290	50.6
156-59-2	cis-1,2-Dichloroethylene	ND		59	50.6
67-66-3	Chloroform	ND		59	50.6
109-99-9	Tetrahydrofuran	ND		290	50.6
74-97-5	Bromochloromethane	ND		59	50.6
71-55-6	1,1,1-Trichloroethane	ND		59	50.6
107-06-2	1,2-Dichloroethane	ND		59	50.6
71-43-2	Benzene	ND		59	50.6
56-23-5	Carbon tetrachloride	ND		59	50.6
78-87-5	1,2-Dichloropropane	ND		59	50.6
79-01-6	Trichloroethylene	ND		59	50.6
74-95-3	Dibromomethane	ND		59	50.6
75-27-4	Bromodichloromethane	ND		59	50.6
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		290	50.6
10061-01-5	cis-1,3-Dichloropropene	ND		59	50.6
10061-02-6	trans-1,3-Dichloropropene	ND		59	50.6
108-88-3	Toluene	ND		59	50.6
79-00-5	1,1,2-Trichloroethane	ND		59	50.6
591-78-6	2-Hexanone	ND		290	50.6
124-48-1	Dibromochloromethane	ND		59	50.6

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		59	50.6
127-18-4	Tetrachloroethene	ND		59	50.6
108-90-7	Chlorobenzene	ND		59	50.6
630-20-6	1,1,1,2-Tetrachloroethane	ND		59	50.6
100-41-4	Ethylbenzene	ND		59	50.6
108383,106423	m & p-Xylene	ND		120	50.6
75-25-2	Bromoform	ND		59	50.6
100-42-5	Styrene	ND		59	50.6
95-47-6	o-Xylene	ND		59	50.6
79-34-5	1,1,2,2-Tetrachloroethane	ND		59	50.6
96-18-4	1,2,3-Trichloropropane	ND		59	50.6
110-57-6	trans-1,4-Dichloro-2-butene	ND		290	50.6
98-82-8	Isopropylbenzene	ND		59	50.6
108-86-1	Bromobenzene	ND		59	50.6
103-65-1	n-Propylbenzene	ND		59	50.6
108-67-8	1,3,5-Trimethylbenzene	ND		59	50.6
98-06-6	tert-Butylbenzene	ND		59	50.6
95-63-6	1,2,4-Trimethylbenzene	ND		59	50.6
35-98-8	sec-Butylbenzene	ND		59	50.6
41-73-1	1,3-Dichlorobenzene	ND		59	50.6
106-46-7	1,4-Dichlorobenzene	ND		59	50.6
99-87-6	p-Isopropyl toluene	ND		59	50.6
95-50-1	1,2-Dichlorobenzene	ND		59	50.6
104-51-8	n-Butylbenzene	ND		59	50.6
67-72-1	Hexachloroethane	ND		290	50.6
96-12-8	1,2-Dibromo-3-chloropropane	ND		290	50.6
120-82-1	1,2,4-Trichlorobenzene	ND		290	50.6
91-20-3	Naphthalene	ND		290	50.6
87-61-6	1,2,3-Trichlorobenzene	ND		290	50.6
91-57-6	2-Methylnaphthalene	ND		290	50.6

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-17ME

Date Collected:	8/21/2002	Test Code:	SME
		Test Name:	MEOH-Sed
Date Analyzed:	8/30/2002 by PCR/SR	Sample ID:	SB2
Total Solids:	87%		

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		3000	522
74-87-3	Chloromethane	ND		3000	522
75-01-4	Vinyl chloride	ND		600	522
74-83-9	Bromomethane	ND		3000	522
75-00-3	Chloroethane	ND		3000	522
75-69-4	Trichlorofluoromethane	ND		600	522
67-64-1	Acetone	ND		12000	522
60-29-7	Diethyl ether	ND		3000	522
75-35-4	1,1-Dichloroethylene	ND		600	522
74-88-4	Methyl iodide	ND		600	522
107-13-1	Acrylonitrile	ND		3000	522
75-09-2	Methylene chloride	ND		3000	522
75-15-0	Carbon disulfide	ND		600	522
56-60-5	trans-1,2-Dichloroethylene	ND		600	522
1634-04-4	Methyltertbutylether (MTBE)	ND		600	522
75-34-3	1,1-Dichloroethane	ND		600	522
78-93-3	2-Butanone (MEK)	ND		3000	522
156-59-2	cis-1,2-Dichloroethylene	ND		600	522
67-66-3	Chloroform	ND		600	522
109-99-9	Tetrahydrofuran	ND		3000	522
74-97-5	Bromochloromethane	ND		600	522
71-55-6	1,1,1-Trichloroethane	ND		600	522
107-06-2	1,2-Dichloroethane	ND		600	522
71-43-2	Benzene	ND		600	522
56-23-5	Carbon tetrachloride	ND		600	522
78-87-5	1,2-Dichloropropane	ND		600	522
79-01-6	Trichloroethylene	ND		600	522
74-95-3	Dibromomethane	ND		600	522
75-27-4	Bromodichloromethane	ND		600	522
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		3000	522
10061-01-5	cis-1,3-Dichloropropene	ND		600	522
10061-02-6	trans-1,3-Dichloropropene	ND		600	522
108-88-3	Toluene	ND		600	522
79-00-5	1,1,2-Trichloroethane	ND		600	522
591-78-6	2-Hexanone	ND		3000	522
124-48-1	Dibromochloromethane	ND		600	522

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		600	522
127-18-4	Tetrachloroethene	ND		600	522
108-90-7	Chlorobenzene	ND		600	522
630-20-6	1,1,1,2-Tetrachloroethane	ND		600	522
100-41-4	Ethylbenzene	ND		600	522
108383,106423	m & p-Xylene	ND		1200	522
75-25-2	Bromoform	ND		600	522
100-42-5	Styrene	ND		600	522
95-47-6	o-Xylene	ND		600	522
79-34-5	1,1,2,2-Tetrachloroethane	ND		600	522
96-18-4	1,2,3-Trichloropropane	ND		600	522
110-57-6	trans-1,4-Dichloro-2-butene	ND		3000	522
98-82-8	Isopropylbenzene	ND		600	522
108-86-1	Bromobenzene	ND		600	522
103-65-1	n-Propylbenzene	ND		600	522
108-67-8	1,3,5-Trimethylbenzene	ND		600	522
98-06-6	tert-Butylbenzene	ND		600	522
95-63-6	1,2,4-Trimethylbenzene	ND		600	522
'35-98-8	sec-Butylbenzene	ND		600	522
41-73-1	1,3-Dichlorobenzene	ND		600	522
106-46-7	1,4-Dichlorobenzene	ND		600	522
99-87-6	p-Isopropyl toluene	ND		600	522
95-50-1	1,2-Dichlorobenzene	ND		600	522
104-51-8	n-Butylbenzene	ND		600	522
67-72-1	Hexachloroethane	ND		3000	522
96-12-8	1,2-Dibromo-3-chloropropane	ND		3000	522
120-82-1	1,2,4-Trichlorobenzene	ND		3000	522
91-20-3	Naphthalene	27000		3000	522
87-61-6	1,2,3-Trichlorobenzene	ND		3000	522
91-57-6	2-Methylnaphthalene	14000		3000	522

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-18ME

Date Collected:	8/21/2002	Test Code:	SME
		Test Name:	MEOH-Sed
Date Analyzed:	9/3/2002 by PCR/SR	Sample ID:	SB3
Total Solids:	82%		

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		3000	498
74-87-3	Chloromethane	ND		3000	498
75-01-4	Vinyl chloride	ND		610	498
74-83-9	Bromomethane	ND		3000	498
75-00-3	Chloroethane	ND		3000	498
75-69-4	Trichlorofluoromethane	ND		610	498
67-64-1	Acetone	ND		12000	498
60-29-7	Diethyl ether	ND		3000	498
75-35-4	1,1-Dichloroethylene	ND		610	498
74-88-4	Methyl iodide	ND		610	498
107-13-1	Acrylonitrile	ND		3000	498
75-09-2	Methylene chloride	ND		3000	498
75-15-0	Carbon disulfide	ND		610	498
56-60-5	trans-1,2-Dichloroethylene	ND		610	498
1634-04-4	Methyltertbutylether (MTBE)	ND		610	498
75-34-3	1,1-Dichloroethane	ND		610	498
78-93-3	2-Butanone (MEK)	ND		3000	498
156-59-2	cis-1,2-Dichloroethylene	ND		610	498
67-66-3	Chloroform	ND		610	498
109-99-9	Tetrahydrofuran	ND		3000	498
74-97-5	Bromochloromethane	ND		610	498
71-55-6	1,1,1-Trichloroethane	ND		610	498
107-06-2	1,2-Dichloroethane	ND		610	498
71-43-2	Benzene	1600		610	498
56-23-5	Carbon tetrachloride	ND		610	498
78-87-5	1,2-Dichloropropane	ND		610	498
79-01-6	Trichloroethylene	ND		610	498
74-95-3	Dibromomethane	ND		610	498
75-27-4	Bromodichloromethane	ND		610	498
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		3000	498
10061-01-5	cis-1,3-Dichloropropene	ND		610	498
10061-02-6	trans-1,3-Dichloropropene	ND		610	498
108-88-3	Toluene	ND		610	498
79-00-5	1,1,2-Trichloroethane	ND		610	498
591-78-6	2-Hexanone	ND		3000	498
124-48-1	Dibromochloromethane	ND		610	498

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		610	498
127-18-4	Tetrachloroethene	ND		610	498
108-90-7	Chlorobenzene	ND		610	498
630-20-6	1,1,1,2-Tetrachloroethane	ND		610	498
100-41-4	Ethylbenzene	22000		610	498
108383,106423	m & p-Xylene	ND		1200	498
75-25-2	Bromoform	ND		610	498
100-42-5	Styrene	ND		610	498
95-47-6	o-Xylene	ND		610	498
79-34-5	1,1,2,2-Tetrachloroethane	ND		610	498
96-18-4	1,2,3-Trichloropropane	ND		610	498
110-57-6	trans-1,4-Dichloro-2-butene	ND		3000	498
98-82-8	Isopropylbenzene	3000		610	498
108-86-1	Bromobenzene	ND		610	498
103-65-1	n-Propylbenzene	11000		610	498
108-67-8	1,3,5-Trimethylbenzene	ND		610	498
98-06-6	tert-Butylbenzene	ND		610	498
95-63-6	1,2,4-Trimethylbenzene	ND		610	498
135-98-8	sec-Butylbenzene	2200		610	498
541-73-1	1,3-Dichlorobenzene	ND		610	498
106-46-7	1,4-Dichlorobenzene	ND		610	498
99-87-6	p-Isopropyl toluene	ND		610	498
95-50-1	1,2-Dichlorobenzene	ND		610	498
104-51-8	n-Butylbenzene	4500		610	498
67-72-1	Hexachloroethane	ND		3000	498
96-12-8	1,2-Dibromo-3-chloropropane	ND		3000	498
120-82-1	1,2,4-Trichlorobenzene	ND		3000	498
91-20-3	Naphthalene	7700		3000	498
87-61-6	1,2,3-Trichlorobenzene	ND		3000	498
91-57-6	2-Methylnaphthalene	10000		3000	498

Unidentified peaks present in the sample.

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-19ME

Date Collected:	8/21/2002	Test Code:	SME
		Test Name:	MEOH-Sed
Date Analyzed:	9/3/2002 by PCR/SR	Sample ID:	SB4
Total Solids:	85%		

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		2900	496
74-87-3	Chloromethane	ND		2900	496
75-01-4	Vinyl chloride	ND		580	496
74-83-9	Bromomethane	ND		2900	496
75-00-3	Chloroethane	ND		2900	496
75-69-4	Trichlorofluoromethane	ND		580	496
67-64-1	Acetone	ND		12000	496
60-29-7	Diethyl ether	ND		2900	496
75-35-4	1,1-Dichloroethylene	ND		580	496
74-88-4	Methyl iodide	ND		580	496
107-13-1	Acrylonitrile	ND		2900	496
75-09-2	Methylene chloride	ND		2900	496
75-15-0	Carbon disulfide	ND		580	496
56-60-5	trans-1,2-Dichloroethylene	ND		580	496
1634-04-4	Methyltertbutylether (MTBE)	ND		580	496
75-34-3	1,1-Dichloroethane	ND		580	496
78-93-3	2-Butanone (MEK)	ND		2900	496
156-59-2	cis-1,2-Dichloroethylene	ND		580	496
67-66-3	Chloroform	ND		580	496
109-99-9	Tetrahydrofuran	ND		2900	496
74-97-5	Bromochloromethane	ND		580	496
71-55-6	1,1,1-Trichloroethane	ND		580	496
107-06-2	1,2-Dichloroethane	ND		580	496
71-43-2	Benzene	ND		580	496
56-23-5	Carbon tetrachloride	ND		580	496
78-87-5	1,2-Dichloropropane	ND		580	496
79-01-6	Trichloroethylene	ND		580	496
74-95-3	Dibromomethane	ND		580	496
75-27-4	Bromodichloromethane	ND		580	496
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		2900	496
10061-01-5	cis-1,3-Dichloropropene	ND		580	496
10061-02-6	trans-1,3-Dichloropropene	ND		580	496
108-88-3	Toluene	ND		580	496
79-00-5	1,1,2-Trichloroethane	ND		580	496
591-78-6	2-Hexanone	ND		2900	496
124-48-1	Dibromochloromethane	ND		580	496

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		580	496
127-18-4	Tetrachloroethene	ND		580	496
108-90-7	Chlorobenzene	ND		580	496
630-20-6	1,1,1,2-Tetrachloroethane	ND		580	496
100-41-4	Ethylbenzene	ND		580	496
108383,106423	m & p-Xylene	1500		1200	496
75-25-2	Bromoform	ND		580	496
100-42-5	Styrene	ND		580	496
95-47-6	o-Xylene	ND		580	496
79-34-5	1,1,2,2-Tetrachloroethane	ND		580	496
96-18-4	1,2,3-Trichloropropane	ND		580	496
110-57-6	trans-1,4-Dichloro-2-butene	ND		2900	496
98-82-8	Isopropylbenzene	5400		580	496
108-86-1	Bromobenzene	ND		580	496
103-65-1	n-Propylbenzene	21000		580	496
108-67-8	1,3,5-Trimethylbenzene	ND		580	496
98-06-6	tert-Butylbenzene	ND		580	496
95-63-6	1,2,4-Trimethylbenzene	ND		580	496
35-98-8	sec-Butylbenzene	2200		580	496
41-73-1	1,3-Dichlorobenzene	ND		580	496
106-46-7	1,4-Dichlorobenzene	ND		580	496
99-87-6	p-Isopropyl toluene	ND		580	496
95-50-1	1,2-Dichlorobenzene	ND		580	496
104-51-8	n-Butylbenzene	6900		580	496
67-72-1	Hexachloroethane	ND		2900	496
96-12-8	1,2-Dibromo-3-chloropropane	ND		2900	496
120-82-1	1,2,4-Trichlorobenzene	ND		2900	496
91-20-3	Naphthalene	17000		2900	496
87-61-6	1,2,3-Trichlorobenzene	ND		2900	496
91-57-6	2-Methylnaphthalene	24000		2900	496

Unidentified peaks present in the sample.

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-20ME

Date Collected:	8/21/2002	Test Code:	SME
		Test Name:	MEOH-Sed
Date Analyzed:	9/3/2002 by PCR/SR	Sample ID:	SB5
Total Solids:	84%		

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		300	50.6
74-87-3	Chloromethane	ND		300	50.6
75-01-4	Vinyl chloride	ND		60	50.6
74-83-9	Bromomethane	ND		300	50.6
75-00-3	Chloroethane	ND		300	50.6
75-69-4	Trichlorofluoromethane	ND		60	50.6
67-64-1	Acetone	ND		1200	50.6
60-29-7	Diethyl ether	ND		300	50.6
75-35-4	1,1-Dichloroethylene	ND		60	50.6
74-88-4	Methyl iodide	ND		60	50.6
107-13-1	Acrylonitrile	ND		300	50.6
75-09-2	Methylene chloride	ND		300	50.6
75-15-0	Carbon disulfide	ND		60	50.6
56-60-5	trans-1,2-Dichloroethylene	ND		60	50.6
1634-04-4	Methyltertbutylether (MTBE)	ND		60	50.6
75-34-3	1,1-Dichloroethane	ND		60	50.6
78-93-3	2-Butanone (MEK)	ND		300	50.6
156-59-2	cis-1,2-Dichloroethylene	ND		60	50.6
67-66-3	Chloroform	ND		60	50.6
109-99-9	Tetrahydrofuran	ND		300	50.6
74-97-5	Bromochloromethane	ND		60	50.6
71-55-6	1,1,1-Trichloroethane	ND		60	50.6
107-06-2	1,2-Dichloroethane	ND		60	50.6
71-43-2	Benzene	ND		60	50.6
56-23-5	Carbon tetrachloride	ND		60	50.6
78-87-5	1,2-Dichloropropane	ND		60	50.6
79-01-6	Trichloroethylene	ND		60	50.6
74-95-3	Dibromomethane	ND		60	50.6
75-27-4	Bromodichloromethane	ND		60	50.6
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		300	50.6
10061-01-5	cis-1,3-Dichloropropene	ND		60	50.6
10061-02-6	trans-1,3-Dichloropropene	ND		60	50.6
108-88-3	Toluene	ND		60	50.6
79-00-5	1,1,2-Trichloroethane	ND		60	50.6
591-78-6	2-Hexanone	ND		300	50.6
124-48-1	Dibromochloromethane	ND		60	50.6

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		60	50.6
127-18-4	Tetrachloroethene	ND		60	50.6
108-90-7	Chlorobenzene	ND		60	50.6
630-20-6	1,1,1,2-Tetrachloroethane	ND		60	50.6
100-41-4	Ethylbenzene	ND		60	50.6
108383,106423	m & p-Xylene	ND		120	50.6
75-25-2	Bromoform	ND		60	50.6
100-42-5	Styrene	ND		60	50.6
95-47-6	o-Xylene	ND		60	50.6
79-34-5	1,1,2,2-Tetrachloroethane	ND		60	50.6
96-18-4	1,2,3-Trichloropropane	ND		60	50.6
110-57-6	trans-1,4-Dichloro-2-butene	ND		300	50.6
98-82-8	Isopropylbenzene	ND		60	50.6
108-86-1	Bromobenzene	ND		60	50.6
103-65-1	n-Propylbenzene	ND		60	50.6
108-67-8	1,3,5-Trimethylbenzene	ND		60	50.6
98-06-6	tert-Butylbenzene	ND		60	50.6
95-63-6	1,2,4-Trimethylbenzene	ND		60	50.6
135-98-8	sec-Butylbenzene	ND		60	50.6
41-73-1	1,3-Dichlorobenzene	ND		60	50.6
106-46-7	1,4-Dichlorobenzene	ND		60	50.6
99-87-6	p-Isopropyl toluene	ND		60	50.6
95-50-1	1,2-Dichlorobenzene	ND		60	50.6
104-51-8	n-Butylbenzene	ND		60	50.6
67-72-1	Hexachloroethane	ND		300	50.6
96-12-8	1,2-Dibromo-3-chloropropane	ND		300	50.6
120-82-1	1,2,4-Trichlorobenzene	ND		300	50.6
91-20-3	Naphthalene	ND		300	50.6
87-61-6	1,2,3-Trichlorobenzene	ND		300	50.6
91-57-6	2-Methylnaphthalene	ND		300	50.6

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-21ME

Date Collected:	8/21/2002	Test Code:	SME
		Test Name:	MEOH-Sed
Date Analyzed:	9/3/2002 by PCR/SR	Sample ID:	SB6
Total Solids:	84%		

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		290	49.1
74-87-3	Chloromethane	ND		290	49.1
75-01-4	Vinyl chloride	ND		58	49.1
74-83-9	Bromomethane	ND		290	49.1
75-00-3	Chloroethane	ND		290	49.1
75-69-4	Trichlorofluoromethane	ND		58	49.1
67-64-1	Acetone	ND		1200	49.1
60-29-7	Diethyl ether	ND		290	49.1
75-35-4	1,1-Dichloroethylene	ND		58	49.1
74-88-4	Methyl iodide	ND		58	49.1
107-13-1	Acrylonitrile	ND		290	49.1
75-09-2	Methylene chloride	ND		290	49.1
75-15-0	Carbon disulfide	ND		58	49.1
56-60-5	trans-1,2-Dichloroethylene	ND		58	49.1
1634-04-4	Methyltertbutylether (MTBE)	ND		58	49.1
75-34-3	1,1-Dichloroethane	ND		58	49.1
78-93-3	2-Butanone (MEK)	ND		290	49.1
156-59-2	cis-1,2-Dichloroethylene	ND		58	49.1
67-66-3	Chloroform	ND		58	49.1
109-99-9	Tetrahydrofuran	ND		290	49.1
74-97-5	Bromochloromethane	ND		58	49.1
71-55-6	1,1,1-Trichloroethane	ND		58	49.1
107-06-2	1,2-Dichloroethane	ND		58	49.1
71-43-2	Benzene	ND		58	49.1
56-23-5	Carbon tetrachloride	ND		58	49.1
78-87-5	1,2-Dichloropropane	ND		58	49.1
79-01-6	Trichloroethylene	ND		58	49.1
74-95-3	Dibromomethane	ND		58	49.1
75-27-4	Bromodichloromethane	ND		58	49.1
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		290	49.1
10061-01-5	cis-1,3-Dichloropropene	ND		58	49.1
10061-02-6	trans-1,3-Dichloropropene	ND		58	49.1
108-88-3	Toluene	ND		58	49.1
79-00-5	1,1,2-Trichloroethane	ND		58	49.1
91-78-6	2-Hexanone	ND		290	49.1
124-48-1	Dibromochloromethane	ND		58	49.1

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		58	49.1
127-18-4	Tetrachloroethene	ND		58	49.1
108-90-7	Chlorobenzene	ND		58	49.1
630-20-6	1,1,1,2-Tetrachloroethane	ND		58	49.1
100-41-4	Ethylbenzene	ND		58	49.1
108383,106423	m & p-Xylene	ND		120	49.1
75-25-2	Bromoform	ND		58	49.1
100-42-5	Styrene	ND		58	49.1
95-47-6	o-Xylene	ND		58	49.1
79-34-5	1,1,2,2-Tetrachloroethane	ND		58	49.1
96-18-4	1,2,3-Trichloropropane	ND		58	49.1
110-57-6	trans-1,4-Dichloro-2-butene	ND		290	49.1
98-82-8	Isopropylbenzene	ND		58	49.1
108-86-1	Bromobenzene	ND		58	49.1
103-65-1	n-Propylbenzene	ND		58	49.1
108-67-8	1,3,5-Trimethylbenzene	ND		58	49.1
98-06-6	tert-Butylbenzene	ND		58	49.1
95-63-6	1,2,4-Trimethylbenzene	ND		58	49.1
35-98-8	sec-Butylbenzene	ND		58	49.1
41-73-1	1,3-Dichlorobenzene	ND		58	49.1
106-46-7	1,4-Dichlorobenzene	ND		58	49.1
99-87-6	p-Isopropyl toluene	ND		58	49.1
95-50-1	1,2-Dichlorobenzene	ND		58	49.1
104-51-8	n-Butylbenzene	ND		58	49.1
67-72-1	Hexachloroethane	ND		290	49.1
96-12-8	1,2-Dibromo-3-chloropropane	ND		290	49.1
120-82-1	1,2,4-Trichlorobenzene	ND		290	49.1
91-20-3	Naphthalene	ND		290	49.1
87-61-6	1,2,3-Trichlorobenzene	ND		290	49.1
91-57-6	2-Methylnaphthalene	ND		290	49.1

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-22ME

Date Collected:	8/21/2002	Test Code:	SME
		Test Name:	MEOH-Sed
Date Analyzed:	9/3/2002 by PCR/SR	Sample ID:	SB7
Total Solids:	86%		

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		290	49.8
74-87-3	Chloromethane	ND		290	49.8
75-01-4	Vinyl chloride	ND		58	49.8
74-83-9	Bromomethane	ND		290	49.8
75-00-3	Chloroethane	ND		290	49.8
75-69-4	Trichlorofluoromethane	ND		58	49.8
67-64-1	Acetone	ND		1200	49.8
60-29-7	Diethyl ether	ND		290	49.8
75-35-4	1,1-Dichloroethylene	ND		58	49.8
74-88-4	Methyl iodide	ND		58	49.8
107-13-1	Acrylonitrile	ND		290	49.8
75-09-2	Methylene chloride	ND		290	49.8
75-15-0	Carbon disulfide	ND		58	49.8
6-60-5	trans-1,2-Dichloroethylene	ND		58	49.8
1634-04-4	Methyltertbutylether (MTBE)	ND		58	49.8
75-34-3	1,1-Dichloroethane	ND		58	49.8
78-93-3	2-Butanone (MEK)	ND		290	49.8
156-59-2	cis-1,2-Dichloroethylene	ND		58	49.8
67-66-3	Chloroform	ND		58	49.8
109-99-9	Tetrahydrofuran	ND		290	49.8
74-97-5	Bromochloromethane	ND		58	49.8
71-55-6	1,1,1-Trichloroethane	ND		58	49.8
107-06-2	1,2-Dichloroethane	ND		58	49.8
71-43-2	Benzene	ND		58	49.8
56-23-5	Carbon tetrachloride	ND		58	49.8
78-87-5	1,2-Dichloropropane	ND		58	49.8
79-01-6	Trichloroethylene	ND		58	49.8
74-95-3	Dibromomethane	ND		58	49.8
75-27-4	Bromodichloromethane	ND		58	49.8
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		290	49.8
10061-01-5	cis-1,3-Dichloropropene	ND		58	49.8
10061-02-6	trans-1,3-Dichloropropene	ND		58	49.8
108-88-3	Toluene	ND		58	49.8
79-00-5	1,1,2-Trichloroethane	ND		58	49.8
1-78-6	2-Hexanone	ND		290	49.8
24-48-1	Dibromochloromethane	ND		58	49.8

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		58	49.8
127-18-4	Tetrachloroethene	ND		58	49.8
108-90-7	Chlorobenzene	ND		58	49.8
630-20-6	1,1,1,2-Tetrachloroethane	ND		58	49.8
100-41-4	Ethylbenzene	ND		58	49.8
108383,106423	m & p-Xylene	ND		120	49.8
75-25-2	Bromoform	ND		58	49.8
100-42-5	Styrene	ND		58	49.8
95-47-6	o-Xylene	ND		58	49.8
79-34-5	1,1,2,2-Tetrachloroethane	ND		58	49.8
96-18-4	1,2,3-Trichloropropane	ND		58	49.8
110-57-6	trans-1,4-Dichloro-2-butene	ND		290	49.8
98-82-8	Isopropylbenzene	ND		58	49.8
108-86-1	Bromobenzene	ND		58	49.8
103-65-1	n-Propylbenzene	91		58	49.8
108-67-8	1,3,5-Trimethylbenzene	ND		58	49.8
98-06-6	tert-Butylbenzene	ND		58	49.8
95-63-6	1,2,4-Trimethylbenzene	ND		58	49.8
35-98-8	sec-Butylbenzene	ND		58	49.8
41-73-1	1,3-Dichlorobenzene	ND		58	49.8
106-46-7	1,4-Dichlorobenzene	ND		58	49.8
99-87-6	p-Isopropyl toluene	ND		58	49.8
95-50-1	1,2-Dichlorobenzene	ND		58	49.8
104-51-8	n-Butylbenzene	ND		58	49.8
67-72-1	Hexachloroethane	ND		290	49.8
96-12-8	1,2-Dibromo-3-chloropropane	ND		290	49.8
120-82-1	1,2,4-Trichlorobenzene	ND		290	49.8
91-20-3	Naphthalene	ND		290	49.8
87-61-6	1,2,3-Trichlorobenzene	ND		290	49.8
91-57-6	2-Methylnaphthalene	ND		290	49.8

Unidentified peaks present in the sample.

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-23ME

Date Collected:	8/21/2002	Test Code:	SME
		Test Name:	MEOH-Sed
Date Analyzed:	9/3/2002 by PCR/SR	Sample ID:	SB8
Total Solids:	87%		

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		300	51.7
74-87-3	Chloromethane	ND		300	51.7
75-01-4	Vinyl chloride	ND		59	51.7
74-83-9	Bromomethane	ND		300	51.7
75-00-3	Chloroethane	ND		300	51.7
75-69-4	Trichlorofluoromethane	ND		59	51.7
67-64-1	Acetone	ND		1200	51.7
60-29-7	Diethyl ether	ND		300	51.7
75-35-4	1,1-Dichloroethylene	ND		59	51.7
74-88-4	Methyl iodide	ND		59	51.7
107-13-1	Acrylonitrile	ND		300	51.7
75-09-2	Methylene chloride	ND		300	51.7
75-15-0	Carbon disulfide	ND		59	51.7
6-60-5	trans-1,2-Dichloroethylene	ND		59	51.7
1634-04-4	Methyltertbutylether (MTBE)	ND		59	51.7
75-34-3	1,1-Dichloroethane	ND		59	51.7
78-93-3	2-Butanone (MEK)	ND		300	51.7
156-59-2	cis-1,2-Dichloroethylene	ND		59	51.7
67-66-3	Chloroform	ND		59	51.7
109-99-9	Tetrahydrofuran	ND		300	51.7
74-97-5	Bromochloromethane	ND		59	51.7
71-55-6	1,1,1-Trichloroethane	ND		59	51.7
107-06-2	1,2-Dichloroethane	ND		59	51.7
71-43-2	Benzene	12000		1200	1030
56-23-5	Carbon tetrachloride	ND		59	51.7
78-87-5	1,2-Dichloropropane	ND		59	51.7
79-01-6	Trichloroethylene	ND		59	51.7
74-95-3	Dibromomethane	ND		59	51.7
75-27-4	Bromodichloromethane	ND		59	51.7
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		300	51.7
10061-01-5	cis-1,3-Dichloropropene	ND		59	51.7
10061-02-6	trans-1,3-Dichloropropene	ND		59	51.7
108-88-3	Toluene	11000		1200	1030
79-00-5	1,1,2-Trichloroethane	ND		59	51.7
1-78-6	2-Hexanone	ND		300	51.7
124-48-1	Dibromochloromethane	ND		59	51.7

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		59	51.7
127-18-4	Tetrachloroethene	ND		59	51.7
108-90-7	Chlorobenzene	ND		59	51.7
630-20-6	1,1,1,2-Tetrachloroethane	ND		59	51.7
100-41-4	Ethylbenzene	44000		1200	1030
108383,106423	m & p-Xylene	210000		2400	1030
75-25-2	Bromoform	ND		59	51.7
100-42-5	Styrene	ND		59	51.7
95-47-6	o-Xylene	69000		1200	1030
79-34-5	1,1,2,2-Tetrachloroethane	ND		59	51.7
96-18-4	1,2,3-Trichloropropane	ND		59	51.7
110-57-6	trans-1,4-Dichloro-2-butene	ND		300	51.7
98-82-8	Isopropylbenzene	5900		59	51.7
108-86-1	Bromobenzene	ND		59	51.7
103-65-1	n-Propylbenzene	19000		1200	1030
108-67-8	1,3,5-Trimethylbenzene	43000		1200	1030
98-06-6	tert-Butylbenzene	ND		59	51.7
95-63-6	1,2,4-Trimethylbenzene	140000		1200	1030
5-98-8	sec-Butylbenzene	3600		59	51.7
1-73-1	1,3-Dichlorobenzene	ND		59	51.7
106-46-7	1,4-Dichlorobenzene	ND		59	51.7
99-87-6	p-Isopropyl toluene	2200		59	51.7
95-50-1	1,2-Dichlorobenzene	ND		59	51.7
104-51-8	n-Butylbenzene	ND		59	51.7
67-72-1	Hexachloroethane	ND		300	51.7
96-12-8	1,2-Dibromo-3-chloropropane	ND		300	51.7
120-82-1	1,2,4-Trichlorobenzene	ND		300	51.7
91-20-3	Naphthalene	23000		5900	1030
87-61-6	1,2,3-Trichlorobenzene	ND		300	51.7
91-57-6	2-Methylnaphthalene	37000		5900	1030

Unidentified peaks.

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

Work Order #: 0208250-24ME

Date Collected:	8/21/2002	Test Code:	SME
		Test Name:	MEOH-Sed
Date Analyzed:	9/4/2002 by PCR/SR	Sample ID:	SB4-B
Total Solids:	84%		

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
75-71-8	Dichlorodifluoromethane	ND		3000	509
74-87-3	Chloromethane	ND		3000	509
75-01-4	Vinyl chloride	ND		610	509
74-83-9	Bromomethane	ND		3000	509
75-00-3	Chloroethane	ND		3000	509
75-69-4	Trichlorofluoromethane	ND		610	509
67-64-1	Acetone	ND		12000	509
60-29-7	Diethyl ether	ND		3000	509
75-35-4	1,1-Dichloroethylene	ND		610	509
74-88-4	Methyl iodide	ND		610	509
107-13-1	Acrylonitrile	ND		3000	509
75-09-2	Methylene chloride	ND		3000	509
75-15-0	Carbon disulfide	ND		610	509
56-60-5	trans-1,2-Dichloroethylene	ND		610	509
1634-04-4	Methyltertbutylether (MTBE)	ND		610	509
75-34-3	1,1-Dichloroethane	ND		610	509
78-93-3	2-Butanone (MEK)	ND		3000	509
156-59-2	cis-1,2-Dichloroethylene	ND		610	509
67-66-3	Chloroform	ND		610	509
109-99-9	Tetrahydrofuran	ND		3000	509
74-97-5	Bromochloromethane	ND		610	509
71-55-6	1,1,1-Trichloroethane	ND		610	509
107-06-2	1,2-Dichloroethane	ND		610	509
71-43-2	Benzene	ND		610	509
56-23-5	Carbon tetrachloride	ND		610	509
78-87-5	1,2-Dichloropropane	ND		610	509
79-01-6	Trichloroethylene	ND		610	509
74-95-3	Dibromomethane	ND		610	509
75-27-4	Bromodichloromethane	ND		610	509
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		3000	509
10061-01-5	cis-1,3-Dichloropropene	ND		610	509
10061-02-6	trans-1,3-Dichloropropene	ND		610	509
108-88-3	Toluene	ND		610	509
79-00-5	1,1,2-Trichloroethane	ND		610	509
591-78-6	2-Hexanone	ND		3000	509
124-48-1	Dibromochloromethane	ND		610	509

MDEQ ENVIRONMENTAL LABORATORY
ANALYTICAL REPORT

CAS #	COMPOUND	RESULTS ug/Kg (dry)	REMARK	REPORTING LIMIT	DILUTION FACTOR
106-93-4	1,2-Dibromoethane	ND		610	509
127-18-4	Tetrachloroethene	ND		610	509
108-90-7	Chlorobenzene	ND		610	509
630-20-6	1,1,1,2-Tetrachloroethane	ND		610	509
100-41-4	Ethylbenzene	ND		610	509
108383,106423	m & p-Xylene	ND		1200	509
75-25-2	Bromoform	ND		610	509
100-42-5	Styrene	ND		610	509
95-47-6	o-Xylene	ND		610	509
79-34-5	1,1,2,2-Tetrachloroethane	ND		610	509
96-18-4	1,2,3-Trichloropropane	ND		610	509
110-57-6	trans-1,4-Dichloro-2-butene	ND		3000	509
98-82-8	Isopropylbenzene	4100		610	509
108-86-1	Bromobenzene	ND		610	509
103-65-1	n-Propylbenzene	17000		610	509
108-67-8	1,3,5-Trimethylbenzene	ND		610	509
98-06-6	tert-Butylbenzene	ND		610	509
95-63-6	1,2,4-Trimethylbenzene	ND		610	509
35-98-8	sec-Butylbenzene	1800		610	509
41-73-1	1,3-Dichlorobenzene	ND		610	509
106-46-7	1,4-Dichlorobenzene	ND		610	509
99-87-6	p-Isopropyl toluene	ND		610	509
95-50-1	1,2-Dichlorobenzene	ND		610	509
104-51-8	n-Butylbenzene	5900		610	509
67-72-1	Hexachloroethane	ND		3000	509
96-12-8	1,2-Dibromo-3-chloropropane	ND		3000	509
120-82-1	1,2,4-Trichlorobenzene	ND		3000	509
91-20-3	Naphthalene	16000		3000	509
87-61-6	1,2,3-Trichlorobenzene	ND		3000	509
91-57-6	2-Methylnaphthalene	22000		3000	509

Unidentified peaks.

ND = not detected at the specified reporting limit. NM = not measured.
Reference method is 8260.
USEPA Methods 8260 and 624 are used to quantitate volatile organic compounds that have boiling points below 200°C.
2-Methylnaphthalene and naphthalene are compounds with boiling points above 200°C and are better suited to quantitation by USEPA Methods 8270 or 625 as semivolatile organic compounds.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY	LABORATORY SERVICES SECTION PROCEDURE	NO: SOP 106 Ver. 3 DATE REV.: 05/01

SUBJECT: Laboratory Result Remark Codes

EFFECTIVE DATE: May 2001

A	value reported is the mean of two or more determinations.
C	value calculated from other independent parameters.
J	estimated value or value not accurate.
K	actual value is known to be less than the value given, i.e., substance, if present, is below Reporting Limit (RL).
L	actual value is known to be greater than the value given.
T	value reported is less than Reporting Limit (RL).
W	value observed is less than lowest value reportable under "T" code.
DL	sample analyzed using a dilution(s).
DM	dilution required due to matrix problems.
HT	recommended laboratory holding time was exceeded before analysis.
LH	QC indicated possible low recovery. Actual level may be higher.
LL	QC indicated possible high recovery. Actual level may be lower.
MM	analytical method or matrix is not within SOP of this laboratory.
NC	no confirmation by a second technique.
NH	non-homogeneous sample made analysis of a representative sample questionable.
PI	possible interference may have affected the accuracy of the laboratory result.
QC	quality control problems exist.
RB	reagent blank. The level of reagent blank contamination is reported in the comment column and may be subtracted from the analyte value by the user.
ST	recommended sample collection/preservation technique not used.
ACC	laboratory accident resulted in no obtainable value.
FCN	free cyanide was not analyzed due to low level of total cyanide.
INT	interference encountered during analysis resulted in no obtainable value.
IST	improper sample collection/preservation. Sample not suitable for analysis.
NAV	requested analysis not available.
QNS	quantity not sufficient to perform requested analysis.
STR	settleable residue was not analyzed due to low suspended solids.

Approved by:

Bob H. Avery 5/03/2001

Bob Avery, Laboratory Services Section Chief Date

SEP 1 1 2002

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V
SUPERFUND DIVISION

DATE: _____

SUBJECT: **Electronic (Level 2) Review of Data**

Received for Review on September 9, 2002

FROM: Stephen L. Ostrodka, Chief (SMF-4J)
Superfund Field Services Section

TO: Data User: MDEQ

The following data has been electronically reviewed by CADRE. No review of the raw data, laboratory narrative, laboratory forms or chain-of-custody forms was performed.

SITE NAME: McDougall Property (MI)

CASE NUMBER: 30856 SDG NUMBER: E0TF2

Number and Type of Samples: 3 Soils / 1 Water

Sample Numbers: E0TF2 - E0TF4, E0TG0

Laboratory: Ceimic Hrs. for Review: _____

Following are our findings:

RECEIVED
SEP 16 2002
ERD-SUPERFUND

CC: Cecilia Moore
Region 5 TPO
Mail Code: SMF-4J

CADRE Data Qualifier Sheet

Qualifiers	Data Qualifier Definitions
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The anlayte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the action limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
N	The analysis indicates the present of an analyte for which there is presumptive evidence to make a tentative identification.
NJ	The analysis indicates the present of an analyte for which there is presumptive evidence to make a tentative identification and the associated numerical value represents its approximate concentration.
R	The data are unusable. (The compound may or may not be present)

Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TF2
Site : MCDOUGALL PROPERTY
`b. : CEIMIC
viewer :
Date :

Number of Soil Samples : 0
Number of Water Samples : 1

Sample Number :	E0TG0		VBLKPG		VBLKPO		VHBLK01			
Sampling Location :	FB1									
Matrix :	Water		Water		Water		Water			
Units :	ug/L		ug/L		ug/L		ug/L			
Date Sampled :	08/21/2002									
Time Sampled :	15:00									
%Moisture :	N/A		N/A		N/A		N/A			
pH :										
Dilution Factor :	1.0		1.0		1.0		1.0			
Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Carbon Tetrachloride	10	U	10	U	10	UJ	10	UJ		
Acetone	10	UJ	10	UJ	10	UJ	10	UJ		
Chloroform	10	U	10	U	10	U	10	U		
Benzene	10	U	10	U	10	U	10	U		
1,1,1-Trichloroethane	10	U	10	U	10	U	10	U		
Bromomethane	10	U	10	U	10	U	10	U		
Chloromethane	10	UJ	10	UJ	10	UJ	10	UJ		
Chloroethane	10	U	10	U	10	U	10	U		
Vinyl Chloride	10	U	10	U	10	U	10	U		
Methylene Chloride	10	U	1	J	10	UJ	10	UJ		
Carbon Disulfide	10	U	10	U	10	U	10	U		
Bromoform	10	U	10	U	10	U	10	U		
Bromodichloromethane	10	U	10	U	10	U	10	U		
'-Dichloroethane	10	U	10	U	10	U	10	U		
-Dichloroethene	10	U	10	U	10	U	10	U		
Trichlorofluoromethane	10	U	10	U	10	U	10	U		
Dichlorodifluoromethane	10	UJ	10	UJ	10	UJ	10	UJ		
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	10	U	10	U	10	U		
1,2-Dichloropropane	10	U	10	U	10	UJ	10	UJ		
2-Butanone	10	UJ	10	UJ	10	U	10	U		
1,1,2-Trichloroethane	10	U	10	U	10	U	10	U		
Trichloroethene	10	U	10	U	10	U	10	U		
Methyl Acetate	10	UJ	10	UJ	10	U	10	U		
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U		
1,2-Dichlorobenzene	10	U	10	U	10	U	10	U		
1,2-Dibromo-3-chloropropane	10	U	10	U	10	U	10	U		
Isopropylbenzene	10	U	10	U	10	U	10	U		
Ethylbenzene	10	U	10	U	10	U	10	U		
Styrene	10	U	10	U	10	U	10	U		
1,4-Dichlorobenzene	10	U	10	U	10	U	10	U		
1,2-Dibromoethane	10	U	10	U	10	U	10	U		
1,2-Dichloroethane	10	U	10	U	10	U	10	U		
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U		

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Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TF2
Site : MCDOUGALL PROPERTY
ab. : CEIMIC
eviewer :
Date :

Sample Number :	E0TG0		VBLKPG		VBLKPO		VHBLK01			
Sampling Location :	FB1									
Matrix :	Water		Water		Water		Water			
Units :	ug/L		ug/L		ug/L		ug/L			
Date Sampled :	08/21/2002									
Time Sampled :	15:00									
%Moisture :	N/A		N/A		N/A		N/A			
pH :										
Dilution Factor :	1.0		1.0		1.0		1.0			
Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Methylcyclohexane	10	U	10	U	10	U	10	U		
Toluene	10	U	10	U	10	U	10	U		
Chlorobenzene	10	U	10	U	10	U	10	U		
Cyclohexane	10	U	10	U	10	U	10	U		
1,2,4-Trichlorobenzene	10	U	10	U	10	U	10	U		
Dibromochloromethane	10	U	10	U	10	U	10	U		
Tetrachloroethene	10	U	10	U	10	U	10	U		
cis-1,2-Dichloroethene	10	U	10	U	10	U	10	U		
trans-1,2-Dichloroethene	10	U	10	U	10	U	10	U		
1,3-Dichlorobenzene	10	U	10	U	10	U	10	U		
2-Hexanone	10	UJ	10	UJ	10	U	10	U		
Xylenes (total)	10	U	10	U	10	U	10	U		
Methyl tert-Butyl Ether	10	U	10	U	10	U	10	U		
-1,3-Dichloropropene	10	U	10	U	10	U	10	U		
ns-1,3-Dichloropropene	10	U	10	U	10	U	10	U		

Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TF2

Site : MCDOUGALL PROPERTY

Lab. : CEIMIC

Reviewer :

Date :

Number of Soil Samples : 3

Number of Water Samples : 1

Sample Number :	E0TF2		E0TF3		E0TF4		E0TF4MS		E0TF4MSD	
Sampling Location :	SB1		SB2		SB3		SB3		SB3	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	08/21/2002		08/21/2002		08/21/2002		08/21/2002		08/21/2002	
Time Sampled :	14:15		14:30		14:45		14:45		14:45	
%Moisture :	20		11		17		17		17	
pH :	9.0		8.9		9.3		9.3		9.3	
Dilution Factor :	1.0		10.0		5.0		5.0		5.0	
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzo(a)pyrene	410	U	2800	J	2000	U	2000	U	2000	U
2,4-Dinitrophenol	1000	U	9300	U	5000	U	4900	U	5000	U
Dibenzo(a,h)anthracene	410	U	3700	U	2000	U	2000	U	2000	U
Benzo(a)anthracene	410	U	3800		2000	U	2000	U	2000	U
4-Chloro-3-methylphenol	410	U	3700	U	2000	UJ	2100		3200	
Hexachloroethane	410	U	3700	U	2000	U	2000	U	2000	U
Hexachlorocyclopentadiene	410	U	3700	U	2000	U	2000	U	2000	U
Isophorone	410	U	3700	U	2000	U	2000	U	2000	U
Acenaphthene	410	U	3700	U	2000	UJ	1600	J	2300	
Diethylphthalate	410	U	3700	U	2000	U	2000	U	2000	U
Di-n-butylphthalate	65	J	3700	U	2000	U	2000	U	2000	U
Phenanthrene	410	U	5300		310	J	240	J	360	J
Butylbenzylphthalate	410	U	3700	U	2000	U	2000	U	2000	U
Nitrosodiphenylamine	410	U	3700	U	2000	U	2000	U	2000	U
Fluorene	410	U	640	J	2000	U	2000	U	2000	U
Carbazole	410	U	3700	U	2000	U	2000	U	2000	U
Hexachlorobutadiene	410	U	3700	U	2000	U	2000	U	2000	U
Pentachlorophenol	1000	U	9300	U	5000	UJ	590	J	1200	J
2,4,6-Trichlorophenol	410	U	3700	U	2000	U	2000	U	2000	U
2-Nitroaniline	1000	U	9300	U	5000	U	4900	U	5000	U
2-Nitrophenol	410	U	3700	U	2000	U	2000	U	2000	U
Naphthalene	410	U	3700	U	2600		1900	J	2500	
2-Methylnaphthalene	410	U	3700	U	5300		3900		5300	
2-Chloronaphthalene	410	U	3700	U	2000	U	2000	U	2000	U
3,3'-Dichlorobenzidine	410	U	3700	U	2000	U	2000	U	2000	U
1,1'-Biphenyl	410	U	3700	U	2000	U	2000	U	2000	U
2-Methylphenol	410	U	3700	U	2000	U	2000	U	2000	U
2-Chlorophenol	410	U	3700	U	2000	U	1900	J	2500	
2,4,5-Trichlorophenol	1000	U	9300	U	5000	U	4900	U	5000	U
Acetophenone	410	U	3700	U	2000	U	2000	U	2000	U
Nitrobenzene	410	U	3700	U	2000	U	2000	U	2000	U
3-Nitroaniline	1000	U	9300	U	5000	U	4900	U	5000	U
4-Nitroaniline	1000	U	9300	U	5000	U	4900	U	5000	U

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Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TF2
Site : MCDOUGALL PROPERTY
ab. : CEIMIC
viewer :
Date :

Sample Number :	E0TF2		E0TF3		E0TF4		E0TF4MS		E0TF4MSD	
Sampling Location :	SB1		SB2		SB3		SB3		SB3	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	08/21/2002		08/21/2002		08/21/2002		08/21/2002		08/21/2002	
Time Sampled :	14:15		14:30		14:45		14:45		14:45	
%Moisture :	20		11		17		17		17	
pH :	9.0		8.9		9.3		9.3		9.3	
Dilution Factor :	1.0		10.0		5.0		5.0		5.0	
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
4-Nitrophenol	1000	U	9300	U	5000	U	2000	J	2900	J
Benzaldehyde	410	UJ	3700	UJ	2000	UJ	2000	UJ	2000	UJ
4-Bromophenyl-phenylether	410	U	3700	U	2000	U	2000	U	2000	U
Caprolactam	410	U	3700	U	2000	U	2000	U	2000	U
2,4-Dimethylphenol	410	U	3700	U	2000	U	2000	U	2000	U
4-Methylphenol	410	U	3700	U	2000	U	2000	U	2000	U
4-Chloroaniline	410	U	3700	U	2000	U	2000	U	2000	U
2,2'-oxybis(1-Chloropropane)	410	U	3700	U	2000	U	2000	U	2000	U
Phenol	410	U	3700	U	2000	U	1900	J	2700	
bis-(2-Chloroethyl) ether	410	U	3700	U	2000	U	2000	U	2000	U
bis(2-Chloroethoxy)methane	410	U	3700	U	2000	U	2000	U	2000	U
bis(2-Ethylhexyl)phthalate	410	U	3700	U	2000	U	2000	U	2000	U
Di-n-octylphthalate	410	U	3700	U	2000	U	2000	U	2000	U
xachlorobenzene	410	U	3700	U	2000	U	2000	U	2000	U
thracene	410	U	1500	J	2000	U	2000	U	2000	U
2,4-Dichlorophenol	410	U	3700	U	2000	U	2000	U	2000	U
2,4-Dinitrotoluene	410	U	3700	U	2000	UJ	1300	J	1900	J
Pyrene	410	U	6500		200	J	1800	J	2400	
Dimethylphthalate	410	U	3700	U	2000	U	2000	U	2000	U
Dibenzofuran	410	U	390	J	2000	U	2000	U	2000	U
Benzo(g,h,i)perylene	410	U	1000	J	2000	U	2000	U	2000	U
Indeno(1,2,3-cd)pyrene	410	U	1500	J	2000	U	2000	U	2000	U
Benzo(b)fluoranthene	410	U	2400	J	2000	U	2000	U	2000	U
Fluoranthene	410	U	7000		210	J	2000	U	230	J
Benzo(k)fluoranthene	410	U	2400	J	2000	U	2000	U	2000	U
Acenaphthylene	410	U	490	J	2000	U	2000	U	2000	U
Chrysene	410	U	3600	J	2000	U	2000	U	2000	U
4,6-Dinitro-2-methylphenol	1000	U	9300	U	5000	U	4900	U	5000	U
2,6-Dinitrotoluene	410	U	3700	U	2000	U	2000	U	2000	U
N-Nitroso-di-n-propylamine	410	U	3700	U	2000	UJ	1300	J	2000	
Atrazine	410	U	3700	U	2000	U	2000	U	2000	U
4-Chlorophenyl-phenyl ether	410	U	3700	U	2000	U	2000	U	2000	U

Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TF2
Site : MCDOUGALL PROPERTY
ab. : CEIMIC
viewer :
Date :

Sample Number :	SBLKDM									
Sampling Location :										
Matrix :	Soil									
Units :	ug/Kg									
Date Sampled :										
Time Sampled :										
%Moisture :	N/A									
pH :										
Dilution Factor :	1.0									
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzo(a)pyrene	330	U								
2,4-Dinitrophenol	830	U								
Dibenzo(a,h)anthracene	330	U								
Benzo(a)anthracene	330	U								
4-Chloro-3-methylphenol	330	U								
Hexachloroethane	330	U								
Hexachlorocyclopentadiene	330	U								
Isophorone	330	U								
Acenaphthene	330	U								
Diethylphthalate	330	U								
Di-n-butylphthalate	330	U								
Phenanthrene	330	U								
Butylbenzylphthalate	330	U								
Nitrosodiphenylamine	330	U								
orene	330	U								
Carbazole	330	U								
Hexachlorobutadiene	330	U								
Pentachlorophenol	830	U								
2,4,6-Trichlorophenol	330	U								
2-Nitroaniline	830	U								
2-Nitrophenol	330	U								
Naphthalene	330	U								
2-Methylnaphthalene	330	U								
2-Chloronaphthalene	330	U								
3,3'-Dichlorobenzidine	330	U								
1,1'-Biphenyl	330	U								
2-Methylphenol	330	U								
2-Chlorophenol	330	U								
2,4,5-Trichlorophenol	830	U								
Acetophenone	330	U								
Nitrobenzene	330	U								
3-Nitroaniline	830	U								
4-Nitroaniline	830	U								

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Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TF2
Site : MCDOUGALL PROPERTY
' ab. : CEIMIC
eviewer :
Date :

Sample Number :	SBLKDM									
Sampling Location :										
Matrix :	Soil									
Units :	ug/Kg									
Date Sampled :										
Time Sampled :										
%Moisture :	N/A									
pH :										
Dilution Factor :	1.0									
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
4-Nitrophenol	830	U								
Benzaldehyde	330	UJ								
4-Bromophenyl-phenylether	330	U								
Caprolactam	330	U								
2,4-Dimethylphenol	330	U								
4-Methylphenol	330	U								
4-Chloroaniline	330	U								
2,2'-oxybis(1-Chloropropane)	330	U								
Phenol	330	U								
bis-(2-Chloroethyl) ether	330	U								
bis(2-Chloroethoxy)methane	330	U								
bis(2-Ethylhexyl)phthalate	41	J								
Di-n-octylphthalate	330	U								
exachlorobenzene	330	U								
ithracene	330	U								
2,4-Dichlorophenol	330	U								
2,4-Dinitrotoluene	330	U								
Pyrene	330	U								
Dimethylphthalate	330	U								
Dibenzofuran	330	U								
Benzo(g,h,i)perylene	330	U								
Indeno(1,2,3-cd)pyrene	330	U								
Benzo(b)fluoranthene	330	U								
Fluoranthene	330	U								
Benzo(k)fluoranthene	330	U								
Acenaphthylene	330	U								
Chrysene	330	U								
4,6-Dinitro-2-methylphenol	830	U								
2,6-Dinitrotoluene	330	U								
N-Nitroso-di-n-propylamine	330	U								
Atrazine	330	U								
4-Chlorophenyl-phenyl ether	330	U								

Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TF2
Site : MCDOUGALL PROPERTY
ab. : CEIMIC
viewer :
Date :

Sample Number :	E0TG0		SBLKJI							
Sampling Location :	FB1									
Matrix :	Water		Water							
Units :	ug/L		ug/L							
Date Sampled :	08/21/2002									
Time Sampled :	15:00									
%Moisture :	N/A		N/A							
pH :										
Dilution Factor :	1.0		1.0							
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzo(a)pyrene	10	U	10	U						
2,4-Dinitrophenol	25	U	25	U						
Dibenzo(a,h)anthracene	10	U	10	U						
Benzo(a)anthracene	10	U	10	U						
4-Chloro-3-methylphenol	10	U	10	U						
Hexachloroethane	10	U	10	U						
Hexachlorocyclopentadiene	10	U	10	U						
Isophorone	10	U	10	U						
Acenaphthene	10	U	10	U						
Diethylphthalate	10	U	10	U						
Di-n-butylphthalate	10	U	10	U						
Phenanthrene	10	U	10	U						
Butylbenzylphthalate	10	U	10	U						
Nitrosodiphenylamine	10	U	10	U						
uorene	10	U	10	U						
Carbazole	10	U	10	U						
Hexachlorobutadiene	10	U	10	U						
Pentachlorophenol	25	U	25	U						
2,4,6-Trichlorophenol	10	U	10	U						
2-Nitroaniline	25	U	25	U						
2-Nitrophenol	10	U	10	U						
Naphthalene	10	U	10	U						
2-Methylnaphthalene	10	U	10	U						
2-Chloronaphthalene	10	U	10	U						
3,3'-Dichlorobenzidine	10	U	10	U						
1,1'-Biphenyl	10	U	10	U						
2-Methylphenol	10	U	10	U						
2-Chlorophenol	10	U	10	U						
2,4,5-Trichlorophenol	25	U	25	U						
Acetophenone	10	U	10	U						
Nitrobenzene	10	U	10	U						
3-Nitroaniline	25	U	25	U						
4-Nitroaniline	25	U	25	U						

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Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TF2
Site : MCDOUGALL PROPERTY
ab. : CEIMIC
eviewer :
Date :

Sample Number :	E0TG0		SBLKJI							
Sampling Location :	FB1									
Matrix :	Water		Water							
Units :	ug/L		ug/L							
Date Sampled :	08/21/2002									
Time Sampled :	15:00									
%Moisture :	N/A		N/A							
pH :										
Dilution Factor :	1.0		1.0							
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
4-Nitrophenol	25	U	25	U						
Benzaldehyde	10	UJ	10	UJ						
4-Bromophenyl-phenylether	10	U	10	U						
Caprolactam	10	U	10	U						
2,4-Dimethylphenol	10	U	10	U						
4-Methylphenol	10	U	10	U						
4-Chloroaniline	10	U	10	U						
2,2'-oxybis(1-Chloropropane)	10	U	10	U						
Phenol	10	U	10	U						
bis-(2-Chloroethyl) ether	10	U	10	U						
bis(2-Chloroethoxy)methane	10	U	10	U						
bis(2-Ethylhexyl)phthalate	10	U	2	J						
Di-n-octylphthalate	10	U	10	U						
exachlorobenzene	10	U	10	U						
thracene	10	U	10	U						
2,4-Dichlorophenol	10	U	10	U						
2,4-Dinitrotoluene	10	U	10	U						
Pyrene	10	U	10	U						
Dimethylphthalate	10	U	10	U						
Dibenzofuran	10	U	10	U						
Benzo(g,h,i)perylene	10	U	10	U						
Indeno(1,2,3-cd)pyrene	10	U	10	U						
Benzo(b)fluoranthene	10	U	10	U						
Fluoranthene	10	U	10	U						
Benzo(k)fluoranthene	10	U	10	U						
Acenaphthylene	10	U	10	U						
Chrysene	10	U	10	U						
4,6-Dinitro-2-methylphenol	25	U	25	U						
2,6-Dinitrotoluene	10	U	10	U						
N-Nitroso-di-n-propylamine	10	U	10	U						
Atrazine	10	U	10	U						
4-Chlorophenyl-phenyl ether	10	U	10	U						

Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TF2
Site : MCDOUGALL PROPERTY
'ab. : CEIMIC
.eviewer :
Date :

Number of Soil Samples : 3
Number of Water Samples : 1

Sample Number :	E0TF2		E0TF3		E0TF3DL		E0TF4		E0TF4MS	
Sampling Location :	SB1		SB2		SB2		SB3		SB3	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	08/21/2002		08/21/2002		08/21/2002		08/21/2002		08/21/2002	
Time Sampled :	14:15		14:30		14:30		14:45		14:45	
%Moisture :	20		11		11		17		17	
pH :	9.0		8.9		8.9		9.3		9.3	
Dilution Factor :	1.0		1.0		10.0		1.0		1.0	
Pesticide/PCB Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
4,4'-DDT	4.1	U	27	J	36	U	4.0	U	24	
gamma-BHC (Lindane)	2.1	U	1.9	U	19	U	2.0	UJ	8.8	
Dieldrin	4.1	U	3.7	U	36	U	4.0	U	20	
Endrin	4.1	U	3.7	U	36	U	4.0	U	22	
Methoxychlor	21	U	19	U	190	U	20	U	20	U
4,4'-DDD	4.1	U	3.7	U	36	U	4.0	U	3.9	U
4,4'-DDE	4.1	U	3.7	U	36	U	4.0	U	3.9	U
Heptachlor	2.1	U	1.9	U	19	U	2.0	U	12	
Aldrin	2.1	U	1.9	U	19	U	2.0	U	9.8	
alpha-BHC	2.1	U	1.9	U	19	U	2.0	U	2.0	U
beta-BHC	2.1	U	1.9	U	19	U	2.0	U	2.0	U
delta-BHC	2.1	U	3.8	J	19	U	2.0	U	2.0	U
Endosulfan I	2.1	U	1.9	U	19	U	2.0	U	2.0	U
'eptachlor epoxide	2.1	U	3.4	J	23	J	2.0	U	2.0	U
.ndosulfan sulfate	4.1	U	3.7	U	36	U	4.0	U	3.9	U
alpha-Chlordane	2.1	U	1.9	U	19	U	2.0	U	2.0	U
gamma-Chlordane	2.1	U	1.9	U	19	U	2.0	U	2.0	U
Endrin aldehyde	4.1	U	12	J	36	U	4.0	U	3.9	U
Toxaphene	210	U	190	U	1900	U	200	U	200	U
Aroclor-1260	41	U	36	U	360	U	39	U	39	U
Aroclor-1254	41	U	36	U	360	U	39	U	39	U
Aroclor-1221	82	U	74	U	740	U	80	U	79	U
Aroclor-1232	41	U	36	U	360	U	39	U	39	U
Aroclor-1248	41	U	36	U	360	U	39	U	39	U
Aroclor-1016	41	U	36	U	360	U	39	U	39	U
Endosulfan II	4.1	U	9.4	J	36	U	4.0	U	3.9	U
Aroclor-1242	41	U	36	U	360	U	39	U	39	U
Endrin ketone	4.1	U	3.7	U	36	U	4.0	U	3.9	U

DISCLAIMER: This package has been electronically assessed as an added service to our customer. It has not been either validated or approved by Region 5 and any subsequent use by the data user is strictly at the risk of the data user. Region 5 assumes no responsibility for use of unvalidated data.

Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TF2
Site : MCDOUGALL PROPERTY
Lab. : CEIMIC
Reviewer :
Date :

Sample Number :	E0TF4MSD		PBLK02							
Sampling Location :	SB3									
Matrix :	Soil		Soil							
Units :	ug/Kg		ug/Kg							
Date Sampled :	08/21/2002									
Time Sampled :	14:45									
%Moisture :	17		N/A							
pH :	9.3									
Dilution Factor :	1.0		1.0							
Pesticide/PCB Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
4,4'-DDT	26		3.3	U						
gamma-BHC (Lindane)	8.8		1.7	U						
Dieldrin	21		3.3	U						
Endrin	23		3.3	U						
Methoxychlor	20	U	17	U						
4,4'-DDD	4.0	U	3.3	U						
4,4'-DDE	4.0	U	3.3	U						
Heptachlor	11		1.7	U						
Aldrin	10		1.7	U						
alpha-BHC	2.0	U	1.7	U						
beta-BHC	2.0	U	1.7	U						
delta-BHC	2.0	U	1.7	U						
Endosulfan I	2.0	U	1.7	U						
Heptachlor epoxide	2.0	U	1.7	U						
Endosulfan sulfate	4.0	U	3.3	U						
alpha-Chlordane	2.0	U	1.7	U						
gamma-Chlordane	2.0	U	1.7	U						
Endrin aldehyde	4.0	U	3.3	U						
Toxaphene	200	U	170	U						
Aroclor-1260	39	U	33	U						
Aroclor-1254	39	U	33	U						
Aroclor-1221	80	U	67	U						
Aroclor-1232	39	U	33	U						
Aroclor-1248	39	U	33	U						
Aroclor-1016	39	U	33	U						
Endosulfan II	4.0	U	3.3	U						
Aroclor-1242	39	U	33	U						
Endrin ketone	4.0	U	3.3	U						

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Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TF2
Site : MCDOUGALL PROPERTY
ab. : CEIMIC
eviewer :
Date :

Sample Number :	E0TG0		PBLK01							
Sampling Location :	FB1									
Matrix :	Water		Water							
Units :	ug/L		ug/L							
Date Sampled :	08/21/2002									
Time Sampled :	15:00									
%Moisture :	N/A		N/A							
pH :										
Dilution Factor :	1.0		1.0							
Pesticide/PCB Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
4,4'-DDT	0.10	U	0.10	U						
gamma-BHC (Lindane)	0.050	U	0.050	U						
Dieldrin	0.10	U	0.10	U						
Endrin	0.10	U	0.10	U						
Methoxychlor	0.50	U	0.50	U						
4,4'-DDD	0.10	U	0.10	U						
4,4'-DDE	0.10	U	0.10	U						
Heptachlor	0.050	U	0.050	U						
Aldrin	0.050	U	0.050	U						
alpha-BHC	0.050	U	0.050	U						
beta-BHC	0.050	U	0.050	U						
delta-BHC	0.050	U	0.050	U						
Endosulfan I	0.050	U	0.050	U						
ptachlor epoxide	0.050	U	0.050	U						
dosulfan sulfate	0.10	U	0.10	U						
alpha-Chlordane	0.050	U	0.050	U						
gamma-Chlordane	0.050	U	0.050	U						
Endrin aldehyde	0.10	U	0.10	U						
Toxaphene	5.0	U	5.0	U						
Aroclor-1260	1.0	U	1.0	U						
Aroclor-1254	1.0	U	1.0	U						
Aroclor-1221	2.0	U	2.0	U						
Aroclor-1232	1.0	U	1.0	U						
Aroclor-1248	1.0	U	1.0	U						
Aroclor-1016	1.0	U	1.0	U						
Endosulfan II	0.10	U	0.10	U						
Aroclor-1242	1.0	U	1.0	U						
Endrin ketone	0.10	U	0.10	U						

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ALKANE NARRATIVE REPORT
Report date : 09/04/2002
SDG: E0TF2

Client Sample ID: E0TF4 Lab Sample ID: 020815-04 File ID: DD707

Compound	RT	Est. Conc.	Q
Unknown Branched Alkane	4.46	580	J
Unknown Branched Alkane	4.69	900	J
Unknown Branched Alkane	5.58	700	J
Unknown Branched Alkane	5.65	630	J
Unknown Cyclic Alkane	5.80	1200	J
Unknown Cyclic Alkane	6.64	550	J
Unknown Branched Alkane	6.83	1600	J
Unknown Straight-Chain Alkane	7.24	540	J
Unknown Cyclic Alkane	7.58	3100	J
Unknown Branched Alkane	7.75	5700	J
Unknown Branched Alkane	7.96	1800	J
Unknown Branched Alkane	8.41	6700	J
Unknown Cyclic Alkane	8.67	1400	J
Unknown Straight-Chain Alkane	9.05	1300	J
Unknown Straight-Chain Alkane	9.63	4000	J
Unknown Cyclic Alkane	9.75	790	J
Unknown Branched Alkane	9.94	3800	J
Unknown Branched Alkane	10.46	2000	J

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01	VBLKPG	100	100	106		0
02	E0TG0	96	96	112		0
03	VBLKPO	98	98	100		0
04	VHBLK01	98	94	94		0
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

		QC LIMITS
SMC1 (TOL)	= Toluene-d8	(88-110)
SMC2 (BFB)	= Bromofluorobenzene	(86-115)
SMC3 (DCE)	= 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKPG

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Lab File ID: P3526 Lab Sample ID: V160823-B1

Date Analyzed: 08/23/02 Time Analyzed: 1122

GC Column: RTX-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

Instrument ID: MS16

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	E0TG0	020815-01	P3527	1214
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKPO

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Lab File ID: P3706 Lab Sample ID: V160903-B1

Date Analyzed: 09/03/02 Time Analyzed: 1835

GC Column: RTX-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

Instrument ID: MS16

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VHBLK01	020815-21	P3707	1916
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TG0

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) WATER Lab Sample ID: 020815-01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P3527

Level: (low/med) LOW Date Received: 08/22/02

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl Chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
79-20-9	Methyl Acetate	10	U
75-09-2	Methylene Chloride	5	J
156-60-5	trans-1,2-Dichloroethene	10	U
1634-04-4	Methyl tert-Butyl Ether	10	U
75-34-3	1,1-Dichloroethane	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	10	U
71-55-6	1,1,1-Trichloroethane	10	U
110-82-7	Cyclohexane	10	U
56-23-5	Carbon Tetrachloride	10	U
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TG0

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) WATER Lab Sample ID: 020815-01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P3527

Level: (low/med) LOW Date Received: 08/22/02

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-01-6	Trichloroethene	10	U
108-87-2	Methylcyclohexane	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
127-18-4	Tetrachloroethene	10	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	10	U
106-93-4	1,2-Dibromoethane	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	Xylene (Total)	10	U
100-42-5	Styrene	10	U
75-25-2	Bromoform	10	U
98-82-8	Isopropylbenzene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

E0TG0

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) WATER Lab Sample ID: 020815-01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P3527

Level: (low/med) LOW Date Received: 08/22/02

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
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23.				
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26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VHBLK01

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) WATER Lab Sample ID: 020815-21

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P3707

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 09/03/02

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl Chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
79-20-9	Methyl Acetate	10	U
75-09-2	Methylene Chloride	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
1634-04-4	Methyl tert-Butyl Ether	10	U
75-34-3	1,1-Dichloroethane	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	10	U
71-55-6	1,1,1-Trichloroethane	10	U
110-82-7	Cyclohexane	10	U
56-23-5	Carbon Tetrachloride	10	U
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VHBLK01

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) WATER Lab Sample ID: 020815-21

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P3707

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 09/03/02

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-01-6	Trichloroethene	10	U
108-87-2	Methylcyclohexane	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
127-18-4	Tetrachloroethene	10	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	10	U
106-93-4	1,2-Dibromoethane	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	Xylene (Total)	10	U
100-42-5	Styrene	10	U
75-25-2	Bromoform	10	U
98-82-8	Isopropylbenzene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U

1F

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VHBLK01

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) WATER Lab Sample ID: 020815-21

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P3707

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 09/03/02

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKPG

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) WATER Lab Sample ID: V160823-B1

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P3526

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl Chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
79-20-9	Methyl Acetate	10	U
75-09-2	Methylene Chloride	1	J
156-60-5	trans-1,2-Dichloroethene	10	U
1634-04-4	Methyl tert-Butyl Ether	10	U
75-34-3	1,1-Dichloroethane	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	10	U
71-55-6	1,1,1-Trichloroethane	10	U
110-82-7	Cyclohexane	10	U
56-23-5	Carbon Tetrachloride	10	U
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKPG

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) WATER Lab Sample ID: V160823-B1

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P3526

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-01-6	Trichloroethene	10	U
108-87-2	Methylcyclohexane	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
127-18-4	Tetrachloroethene	10	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	10	U
106-93-4	1,2-Dibromoethane	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	Xylene (Total)	10	U
100-42-5	Styrene	10	U
75-25-2	Bromoform	10	U
98-82-8	Isopropylbenzene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKPG

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) WATER Lab Sample ID: V160823-B1

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P3526

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKPO

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) WATER Lab Sample ID: V160903-B1

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P3706

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 09/03/02

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl Chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	10	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
79-20-9	Methyl Acetate	10	U
75-09-2	Methylene Chloride	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
1634-04-4	Methyl tert-Butyl Ether	10	U
75-34-3	1,1-Dichloroethane	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	10	U
71-55-6	1,1,1-Trichloroethane	10	U
110-82-7	Cyclohexane	10	U
56-23-5	Carbon Tetrachloride	10	U
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKPO

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) WATER Lab Sample ID: V160903-B1

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P3706

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 09/03/02

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-01-6	Trichloroethene	10	U
108-87-2	Methylcyclohexane	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
127-18-4	Tetrachloroethene	10	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	10	U
106-93-4	1,2-Dibromoethane	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	Xylene (Total)	10	U
100-42-5	Styrene	10	U
75-25-2	Bromoform	10	U
98-82-8	Isopropylbenzene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKPO

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) WATER Lab Sample ID: V160903-B1

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P3706

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 09/03/02

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	S7 (2CP) #	S8 (DCB) #	TOT OUT
01	SBLKDM	59	65	71	64	52	64	60	65	0
02	E0TF2	62	62	76	61	52	58	61	62	0
03	E0TF4	60	65	75	60	53	50	60	65	0
04	E0TF4MS	65	70	80	63	60	63	63	60	0
05	E0TF4MSD	100	105	125	90	77	83	83	90	0
06	E0TF3	74	89	121	89	75	75	79	79	0
07										
08										
09										
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		QC LIMITS	
S1 (NBZ)	= Nitrobenzene-d5	(23-120)	
S2 (FBP)	= 2-Fluorobiphenyl	(30-115)	
S3 (TPH)	= Terphenyl-d14	(18-137)	
S4 (PHL)	= Phenol-d5	(24-113)	
S5 (2FP)	= 2-Fluorophenol	(25-121)	
S6 (TBP)	= 2,4,6-Tribromophenol	(19-122)	
S7 (2CP)	= 2-Chlorophenol-d4	(20-130)	(advisory)
S8 (DCB)	= 1,2-Dichlorobenzene-d4	(20-130)	(advisory)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	S7 (2CP) #	S8 (DCB) #	TOT OUT
01	SBLKJI	74	70	64	64	56	68	64	60	0
02	E0TG0	70	70	62	63	60	63	64	62	0
03										
04										
05										
06										
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		QC LIMITS	
S1 (NBZ)	= Nitrobenzene-d5	(35-114)	
S2 (FBP)	= 2-Fluorobiphenyl	(43-116)	
S3 (TPH)	= Terphenyl-d14	(33-141)	
S4 (PHL)	= Phenol-d5	(10-110)	
S5 (2FP)	= 2-Fluorophenol	(21-110)	
S6 (TBP)	= 2,4,6-Tribromophenol	(10-123)	
S7 (2CP)	= 2-Chlorophenol-d4	(33-110)	(advisory)
S8 (DCB)	= 1,2-Dichlorobenzene-d4	(16-110)	(advisory)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix Spike - EPA Sample No.: E0TF4 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
Phenol	3000	0.0	1900	63	26- 90
2-Chlorophenol	3000	0.0	1900	63	25-102
N-Nitroso-di-n-prop.(1)	2000	0.0	1300	65	41-126
4-Chloro-3-Methylphenol	3000	0.0	2100	70	26-103
Acenaphthene	2000	0.0	1600	80	31-137
4-Nitrophenol	3000	0.0	2000	67	11-114
2,4-Dinitrotoluene	2000	0.0	1300	65	28- 89
Pentachlorophenol	3000	0.0	590	20	17-109
Pyrene	2000	200	1800	80	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	3000	2700	90	35	35	26- 90
2-Chlorophenol	3000	2500	83	27	50	25-102
N-Nitroso-di-n-prop.(1)	2000	2000	100	42*	38	41-126
4-Chloro-3-Methylphenol	3000	3200	107*	42*	33	26-103
Acenaphthene	2000	2300	115	36*	19	31-137
4-Nitrophenol	3000	2900	97	37	50	11-114
2,4-Dinitrotoluene	2000	1900	95*	38	47	28- 89
Pentachlorophenol	3000	1200	40	67*	47	17-109
Pyrene	2000	2400	110	32	36	35-142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 4 out of 9 outside limits
Spike Recovery: 2 out of 18 outside limits

COMMENTS: _____

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLKDM

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Lab File ID: DD696 Lab Sample ID: S0825-B1D

Instrument ID: MS4 Date Extracted: 08/25/02

Matrix: (soil/water) SOIL Date Analyzed: 09/03/02

Level:(low/med) LOW Time Analyzed: 1247

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	E0TF2	020815-02	DD706	09/03/02
02	E0TF4	020815-04	DD707	09/03/02
03	E0TF4MS	020815-04MS	DD708	09/03/02
04	E0TF4MSD	020815-04MSD	DD709	09/03/02
05	E0TF3	020815-03	DD710	09/03/02
06				
07				
08				
09				
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COMMENTS:

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLKJI

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Lab File ID: JH921 Lab Sample ID: S0823-B1J

Instrument ID: MS10 Date Extracted: 08/23/02

Matrix: (soil/water) WATER Date Analyzed: 08/27/02

Level: (low/med) LOW Time Analyzed: 1441

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	E0TG0	020815-01	JH922	08/27/02
02				
03				
04				
05				
06				
07				
08				
09				
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COMMENTS:

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TF2

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-02

Sample wt/vol: 30.0(g/mL) G Lab File ID: DD706

Level: (low/med) LOW Date Received: 08/22/02

% Moisture: 20 Decanted: (Y/N)N Date Extracted: 08/25/02

Concentrated Extract Volume: 500(uL) Date Analyzed: 09/03/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.0 Extraction: (Type) SONC

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-52-7	Benzaldehyde	410	U
108-95-2	Phenol	410	U
111-44-4	bis(-2-Chloroethyl)Ether	410	U
95-57-8	2-Chlorophenol	410	U
95-48-7	2-Methylphenol	410	U
108-60-1	2,2'-oxybis(1-Chloropropane)	410	U
98-86-2	Acetophenone	410	U
106-44-5	4-Methylphenol	410	U
621-64-7	N-Nitroso-di-n-propylamine	410	U
67-72-1	Hexachloroethane	410	U
98-95-3	Nitrobenzene	410	U
78-59-1	Isophorone	410	U
88-75-5	2-Nitrophenol	410	U
105-67-9	2,4-Dimethylphenol	410	U
111-91-1	bis(-2-Chloroethoxy)methane	410	U
120-83-2	2,4-Dichlorophenol	410	U
91-20-3	Naphthalene	410	U
106-47-8	4-Chloroaniline	410	U
87-68-3	Hexachlorobutadiene	410	U
105-60-2	Caprolactam	410	U
59-50-7	4-Chloro-3-Methylphenol	410	U
91-57-6	2-Methylnaphthalene	410	U
77-47-4	Hexachlorocyclopentadiene	410	U
88-06-2	2,4,6-Trichlorophenol	410	U
95-95-4	2,4,5-Trichlorophenol	1000	U
92-52-4	1,1'-Biphenyl	410	U
91-58-7	2-Chloronaphthalene	410	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	410	U
606-20-2	2,6-Dinitrotoluene	410	U
208-96-8	Acenaphthylene	410	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	410	U

1D

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TF2

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-02

Sample wt/vol: 30.0(g/mL) G Lab File ID: DD706

Level: (low/med) LOW Date Received: 08/22/02

% Moisture: 20 Decanted: (Y/N)N Date Extracted: 08/25/02

Concentrated Extract Volume: 500(uL) Date Analyzed: 09/03/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.0 Extraction: (Type) SONC

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
132-64-9	Dibenzofuran	410	U
121-14-2	2,4-Dinitrotoluene	410	U
84-66-2	Diethylphthalate	410	U
86-73-7	Fluorene	410	U
7005-72-3	4-Chlorophenyl-phenylether	410	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	N-nitrosodiphenylamine (1)	410	U
101-55-3	4-Bromophenyl-phenylether	410	U
118-74-1	Hexachlorobenzene	410	U
1912-24-9	Atrazine	410	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	410	U
120-12-7	Anthracene	410	U
86-74-8	Carbazole	410	U
84-74-2	Di-n-butylphthalate	65	J
206-44-0	Fluoranthene	410	U
129-00-0	Pyrene	410	U
85-68-7	Butylbenzylphthalate	410	U
91-94-1	3,3'-Dichlorobenzidine	410	U
56-55-3	Benzo(a)anthracene	410	U
218-01-9	Chrysene	410	U
117-81-7	bis(2-Ethylhexyl)phthalate	91	JB
117-84-0	Di-n-octylphthalate	410	U
205-99-2	Benzo(b)fluoranthene	410	U
207-08-9	Benzo(k)fluoranthene	410	U
50-32-8	Benzo(a)pyrene	410	U
193-39-5	Indeno(1,2,3-cd)pyrene	410	U
53-70-3	Dibenzo(a,h)anthracene	410	U
191-24-2	Benzo(g,h,i)perylene	410	U

(1) - Cannot be separated from Diphenylamine

2E
WATER PESTICIDE SURROGATE RECOVERY

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

GC Column(1):DB5 ID:0.53(mm) GC Column(2):RTX1701 ID:0.53(mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	PBLK01	75	65	100	80			0
02	E0TG0	50	46	55	47			0
03								
04								
05								
06								
07								
08								
09								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

		QC LIMITS
S1 (TCX)	= Tetrachloro-m-xylene	(30-150)
S2 (DCB)	= Decachlorobiphenyl	(30-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out

3F

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix Spike - EPA Sample No.: E0TF4

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE AMOUNT (ng)	MS AMOUNT (ug/Kg)	MS % REC #	QC. LIMITS REC.
gamma-BHC (Lindane)	20	0.00	8.8	44*	46-127
Heptachlor	20	0.00	12	60	35-130
Aldrin	20	0.00	9.8	49	34-132
Dieldrin	40	0.00	20	50	31-134
Endrin	40	0.00	22	55	42-139
4,4'-DDT	40	0.00	24	60	23-134

COMPOUND	SPIKE ADDED (ug/Kg)	MSD AMOUNT (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC (Lindane)	20	8.8	44*	0	50	46-127
Heptachlor	20	11	55	9	31	35-130
Aldrin	20	10	50	2	43	34-132
Dieldrin	40	21	53	6	38	31-134
Endrin	40	23	58	5	45	42-139
4,4'-DDT	40	26	65	8	50	23-134

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 6 outside limits
Spike Recovery: 2 out of 12 outside limits

COMMENTS: _____

4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PBLK01

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Lab Sample ID: P0823-B2 Lab File ID: _____

Matrix (soil/water) WATER Extraction:(Type) SEPF

Sulfur Cleanup (Y/N) N Date Extracted: 08/23/02

Date Analyzed (1): 08/31/02 Date Analyzed (2): 08/31/02

Time Analyzed (1): 2202 Time Analyzed (2): 2202

Instrument ID (1): GC8 Instrument ID (2): GC8

GC Column (1): DB5 ID: 0.53(mm) GC Column (2): RTX1701 ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	E0TG0	020815-01	08/31/02	08/31/02
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

COMMENTS: _____

4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PBLK02

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Lab Sample ID: P0823-B5 Lab File ID: _____

Matrix (soil/water) SOIL Extraction:(Type) SONC

Sulfur Cleanup (Y/N) N Date Extracted: 08/23/02

Date Analyzed (1): 08/31/02 Date Analyzed (2): 08/31/02

Time Analyzed (1): 2238 Time Analyzed (2): 2238

Instrument ID (1): GC8 Instrument ID (2): GC8

GC Column (1): DB5 ID: 0.53(mm) GC Column (2): RTX1701 ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	E0TF2	020815-02	09/01/02	09/01/02
02	E0TF4	020815-04	09/01/02	09/01/02
03	E0TF4MS	020815-04MS	09/01/02	09/01/02
04	E0TF4MSD	020815-04MSD	09/01/02	09/01/02
05	E0TF3DL	020815-03DL	09/01/02	09/01/02
06	E0TF3	020815-03	09/01/02	09/01/02
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

COMMENTS: _____

1E

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TF2

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-02

Sample wt/vol: 30.5(g/mL) G Lab File ID: _____

% Moisture: 20 Decanted: (Y/N) N Date Received: 08/22/02

Extraction: (Type) SONC Date Extracted: 08/23/02

Concentrated Extract Volume: 5000(uL) Date Analyzed: 09/01/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.1	U
319-85-7	beta-BHC	2.1	U
319-86-8	delta-BHC	2.1	U
58-89-9	gamma-BHC (Lindane)	2.1	U
76-44-8	Heptachlor	2.1	U
309-00-2	Aldrin	2.1	U
1024-57-3	Heptachlor epoxide	2.1	U
959-98-8	Endosulfan I	2.1	U
60-57-1	Dieldrin	4.1	U
72-55-9	4,4'-DDE	4.1	U
72-20-8	Endrin	4.1	U
33213-65-9	Endosulfan II	4.1	U
72-54-8	4,4'-DDD	4.1	U
1031-07-8	Endosulfan sulfate	4.1	U
50-29-3	4,4'-DDT	4.1	U
72-43-5	Methoxychlor	21	U
53494-70-5	Endrin ketone	4.1	U
7421-93-4	Endrin aldehyde	4.1	U
5103-71-9	alpha-Chlordane	2.1	U
5103-74-2	gamma-Chlordane	2.1	U
8001-35-2	Toxaphene	210	U
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	82	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	41	U
11097-69-1	Aroclor-1254	41	U
11096-82-5	Aroclor-1260	41	U

1E

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TF3

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-03

Sample wt/vol: 30.5(g/mL) G Lab File ID: _____

% Moisture: 11 Decanted: (Y/N) N Date Received: 08/22/02

Extraction: (Type) SONC Date Extracted: 08/23/02

Concentrated Extract Volume: 5000(uL) Date Analyzed: 09/01/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.9 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.9	U
319-85-7	beta-BHC	1.9	U
319-86-8	delta-BHC	3.8	P
58-89-9	gamma-BHC (Lindane)	1.9	U
76-44-8	Heptachlor	1.9	U
309-00-2	Aldrin	1.9	U
1024-57-3	Heptachlor epoxide	3.4	P
959-98-8	Endosulfan I	1.9	U
60-57-1	Dieldrin	3.6	U
72-55-9	4,4'-DDE	3.6	U
72-20-8	Endrin	3.6	U
33213-65-9	Endosulfan II	9.4	P
72-54-8	4,4'-DDD	3.6	U
1031-07-8	Endosulfan sulfate	3.6	U
50-29-3	4,4'-DDT	27	
72-43-5	Methoxychlor	19	U
53494-70-5	Endrin ketone	3.6	U
7421-93-4	Endrin aldehyde	12	P
5103-71-9	alpha-Chlordane	1.9	U
5103-74-2	gamma-Chlordane	1.9	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	74	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	36	U

1E

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TF3DL

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-03DL

Sample wt/vol: 30.5(g/mL) G Lab File ID: _____

% Moisture: 11 Decanted: (Y/N) N Date Received: 08/22/02

Extraction: (Type) SONC Date Extracted: 08/23/02

Concentrated Extract Volume: 5000(uL) Date Analyzed: 09/01/02

Injection Volume: 1.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 8.9 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	19	U
319-85-7	beta-BHC	19	U
319-86-8	delta-BHC	19	U
58-89-9	gamma-BHC (Lindane)	19	U
76-44-8	Heptachlor	19	U
309-00-2	Aldrin	19	U
1024-57-3	Heptachlor epoxide	23	DP
959-98-8	Endosulfan I	19	U
60-57-1	Dieldrin	36	U
72-55-9	4,4'-DDE	36	U
72-20-8	Endrin	36	U
33213-65-9	Endosulfan II	36	U
72-54-8	4,4'-DDD	36	U
1031-07-8	Endosulfan sulfate	36	U
50-29-3	4,4'-DDT	36	U
72-43-5	Methoxychlor	190	U
53494-70-5	Endrin ketone	36	U
7421-93-4	Endrin aldehyde	36	U
5103-71-9	alpha-Chlordane	19	U
5103-74-2	gamma-Chlordane	19	U
8001-35-2	Toxaphene	1900	U
12674-11-2	Aroclor-1016	360	U
11104-28-2	Aroclor-1221	740	U
11141-16-5	Aroclor-1232	360	U
53469-21-9	Aroclor-1242	360	U
12672-29-6	Aroclor-1248	360	U
11097-69-1	Aroclor-1254	360	U
11096-82-5	Aroclor-1260	360	U

1E

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TF4

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-04

Sample wt/vol: 30.2(g/mL) G Lab File ID: _____

% Moisture: 17 Decanted: (Y/N) N Date Received: 08/22/02

Extraction: (Type) SONC Date Extracted: 08/23/02

Concentrated Extract Volume: 5000(uL) Date Analyzed: 09/01/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.3 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.0	U
319-85-7	beta-BHC	2.0	U
319-86-8	delta-BHC	2.0	U
58-89-9	gamma-BHC (Lindane)	2.0	U
76-44-8	Heptachlor	2.0	U
309-00-2	Aldrin	2.0	U
1024-57-3	Heptachlor epoxide	2.0	U
959-98-8	Endosulfan I	2.0	U
60-57-1	Dieldrin	3.9	U
72-55-9	4,4'-DDE	3.9	U
72-20-8	Endrin	3.9	U
33213-65-9	Endosulfan II	3.9	U
72-54-8	4,4'-DDD	3.9	U
1031-07-8	Endosulfan sulfate	3.9	U
50-29-3	4,4'-DDT	3.9	U
72-43-5	Methoxychlor	20	U
53494-70-5	Endrin ketone	3.9	U
7421-93-4	Endrin aldehyde	3.9	U
5103-71-9	alpha-Chlordane	2.0	U
5103-74-2	gamma-Chlordane	2.0	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	80	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	39	U
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	39	U
11096-82-5	Aroclor-1260	39	U

1E

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TF4MS

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-04MS

Sample wt/vol: 30.5(g/mL) G Lab File ID: _____

% Moisture: 17 Decanted: (Y/N) N Date Received: 08/22/02

Extraction: (Type) SONC Date Extracted: 08/23/02

Concentrated Extract Volume: 5000(uL) Date Analyzed: 09/01/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.3 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.0	U
319-85-7	beta-BHC	2.0	U
319-86-8	delta-BHC	2.0	U
58-89-9	gamma-BHC (Lindane)	8.8	
76-44-8	Heptachlor	12	
309-00-2	Aldrin	9.8	
1024-57-3	Heptachlor epoxide	2.0	U
959-98-8	Endosulfan I	2.0	U
60-57-1	Dieldrin	20	
72-55-9	4,4'-DDE	3.9	U
72-20-8	Endrin	22	
33213-65-9	Endosulfan II	3.9	U
72-54-8	4,4'-DDD	3.9	U
1031-07-8	Endosulfan sulfate	3.9	U
50-29-3	4,4'-DDT	24	
72-43-5	Methoxychlor	20	U
53494-70-5	Endrin ketone	3.9	U
7421-93-4	Endrin aldehyde	3.9	U
5103-71-9	alpha-Chlordane	2.0	U
5103-74-2	gamma-Chlordane	2.0	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	79	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	39	U
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	39	U
11096-82-5	Aroclor-1260	39	U

1E

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TF4MSD

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-04MSD

Sample wt/vol: 30.2(g/mL) G Lab File ID: _____

% Moisture: 17 Decanted: (Y/N) N Date Received: 08/22/02

Extraction: (Type) SONC Date Extracted: 08/23/02

Concentrated Extract Volume: 5000(uL) Date Analyzed: 09/01/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.3 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.0	U
319-85-7	beta-BHC	2.0	U
319-86-8	delta-BHC	2.0	U
58-89-9	gamma-BHC (Lindane)	8.8	
76-44-8	Heptachlor	11	
309-00-2	Aldrin	10	
1024-57-3	Heptachlor epoxide	2.0	U
959-98-8	Endosulfan I	2.0	U
60-57-1	Dieldrin	21	
72-55-9	4,4'-DDE	3.9	U
72-20-8	Endrin	23	
33213-65-9	Endosulfan II	3.9	U
72-54-8	4,4'-DDD	3.9	U
1031-07-8	Endosulfan sulfate	3.9	U
50-29-3	4,4'-DDT	26	
72-43-5	Methoxychlor	20	U
53494-70-5	Endrin ketone	3.9	U
7421-93-4	Endrin aldehyde	3.9	U
5103-71-9	alpha-Chlordane	2.0	U
5103-74-2	gamma-Chlordane	2.0	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	80	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	39	U
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	39	U
11096-82-5	Aroclor-1260	39	U

1E

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TG0

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) WATER Lab Sample ID: 020815-01

Sample wt/vol: 1000 (g/mL) ML Lab. File ID: _____

% Moisture: _____ Decanted: (Y/N) ___ Date Received: 08/22/02

Extraction: (Type) SEPF Date Extracted: 08/23/02

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/31/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1E

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK01

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) WATER Lab Sample ID: P0823-B2

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ Decanted: (Y/N) ___ Date Received: _____

Extraction: (Type) SEPF Date Extracted: 08/23/02

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/31/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1E

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK02

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: P0823-B5

Sample wt/vol: 30.0(g/mL) G Lab File ID: _____

% Moisture: 0 Decanted: (Y/N) N Date Received: _____

Extraction: (Type) SONC Date Extracted: 08/23/02

Concentrated Extract Volume: 5000(uL) Date Analyzed: 08/31/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421-93-4	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V
ESD Central Regional Laboratory
Data Tracking Form for Contract Samples

Sample Delivery Group: EOTF2 CERCLIS No: MIB000000091

Case No: 30856 Site Name/Location: McDougall Property

Contractor or EPA Lab: CEMIC Data User: MDEQ

No. of Samples: 4 Date Sampled or Date Received: 9-9-02

Have Chain-of-Custody records been received? Yes ✓ No ____
Have traffic reports or packing lists been received? Yes ✓ No ____
If no, are traffic report or packing list numbers written on the Chain-of-Custody Record?
Yes ____ No ____
If no, which traffic report or packing list numbers are missing?

____ ____ ____ ____
____ ____ ____ ____

Are basic data forms in? Yes ✓ No ____
No of samples claimed: 4 No. of samples received: 4

Received by: Eva M. Dixon/ESAT Date: 9-9-02

Received by LSSS: Eva M. Dixon/ESAT Date: 9-9-02

Review started: ____ Reviewer Signature: ____

Total time spent on review: ____ Date review completed: ____

Copied by: Eva M. Dixon/ESAT Date: 9-11-02

Mailed to user by: Eva M. Dixon/ESAT Date: 9-11-02

DATA USER:
Please fill in the blanks below and return this form to:
Sylvia Griffin, Data Mgmt. Coordinator, Region V, ML-10C

Data received by: ____ Date: ____

Data review received by: ____ Date: ____

Inorganic Data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK
Organic Data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK
Dioxin data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK
SAS Data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK

PROBLEMS: Please indicate reasons why data are not suitable for your uses.

____
____

Received by Data Mgmt. Coordinator for Files. Date: ____

1G

EPA SAMPLE NO.

E0TF2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-02

Sample wt/vol: 30.0 (g/mL) G Lab File ID: DD706

Level: (low/med) LOW Date Received: 08/22/02

% Moisture: 20 Decanted: (Y/N) N Date Extracted:08/25/02

Concentrated Extract Volume: 500(uL) Date Analyzed: 09/03/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.0 Extraction: (Type) SONC

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.35	1600	JB
2.	UNKNOWN	4.44	140	JB
3.	UNKNOWN	4.80	260	JB
4.	UNKNOWN	4.91	170	JB
5.	UNKNOWN	11.96	160	J
6. 123-95-5	OCTADECANOIC ACID, BUTYL EST	12.65	440	NJ
7. 301-02-0	9-OCTADECENAMIDE, (Z)-	14.34	88	JN
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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TF3

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-03

Sample wt/vol: 30.1(g/mL) G Lab File ID: DD710

Level: (low/med) LOW Date Received: 08/22/02

% Moisture: 11 Decanted: (Y/N)N Date Extracted: 08/25/02

Concentrated Extract Volume: 500(uL) Date Analyzed: 09/03/02

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 8.9 Extraction: (Type) SONC

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-52-7	Benzaldehyde	3700	U
108-95-2	Phenol	3700	U
111-44-4	bis(-2-Chloroethyl)Ether	3700	U
95-57-8	2-Chlorophenol	3700	U
95-48-7	2-Methylphenol	3700	U
108-60-1	2,2'-oxybis(1-Chloropropane)	3700	U
98-86-2	Acetophenone	3700	U
106-44-5	4-Methylphenol	3700	U
621-64-7	N-Nitroso-di-n-propylamine	3700	U
67-72-1	Hexachloroethane	3700	U
98-95-3	Nitrobenzene	3700	U
78-59-1	Isophorone	3700	U
88-75-5	2-Nitrophenol	3700	U
105-67-9	2,4-Dimethylphenol	3700	U
111-91-1	bis(-2-Chloroethoxy)methane	3700	U
120-83-2	2,4-Dichlorophenol	3700	U
91-20-3	Naphthalene	3700	U
106-47-8	4-Chloroaniline	3700	U
87-68-3	Hexachlorobutadiene	3700	U
105-60-2	Caprolactam	3700	U
59-50-7	4-Chloro-3-Methylphenol	3700	U
91-57-6	2-Methylnaphthalene	3700	U
77-47-4	Hexachlorocyclopentadiene	3700	U
88-06-2	2,4,6-Trichlorophenol	3700	U
95-95-4	2,4,5-Trichlorophenol	9200	U
92-52-4	1,1'-Biphenyl	3700	U
91-58-7	2-Chloronaphthalene	3700	U
88-74-4	2-Nitroaniline	9200	U
131-11-3	Dimethylphthalate	3700	U
606-20-2	2,6-Dinitrotoluene	3700	U
208-96-8	Acenaphthylene	490	J
99-09-2	3-Nitroaniline	9200	U
83-32-9	Acenaphthene	3700	U

1D

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TF3

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-03

Sample wt/vol: 30.1(g/mL) G Lab File ID: DD710

Level: (low/med) LOW Date Received: 08/22/02

% Moisture: 11 Decanted: (Y/N)N Date Extracted: 08/25/02

Concentrated Extract Volume: 500(uL) Date Analyzed: 09/03/02

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 8.9 Extraction: (Type) SONC

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	9200	U
100-02-7	4-Nitrophenol	9200	U
132-64-9	Dibenzofuran	390	J
121-14-2	2,4-Dinitrotoluene	3700	U
84-66-2	Diethylphthalate	3700	U
86-73-7	Fluorene	640	J
7005-72-3	4-Chlorophenyl-phenylether	3700	U
100-01-6	4-Nitroaniline	9200	U
534-52-1	4,6-Dinitro-2-methylphenol	9200	U
86-30-6	N-nitrosodiphenylamine (1)	3700	U
101-55-3	4-Bromophenyl-phenylether	3700	U
118-74-1	Hexachlorobenzene	3700	U
1912-24-9	Atrazine	3700	U
87-86-5	Pentachlorophenol	9200	U
85-01-8	Phenanthrene	5300	
120-12-7	Anthracene	1500	J
86-74-8	Carbazole	3700	U
84-74-2	Di-n-butylphthalate	3700	U
206-44-0	Fluoranthene	7000	
129-00-0	Pyrene	6500	
85-68-7	Butylbenzylphthalate	3700	U
91-94-1	3,3'-Dichlorobenzidine	3700	U
56-55-3	Benzo(a)anthracene	3800	
218-01-9	Chrysene	3600	J
117-81-7	bis(2-Ethylhexyl)phthalate	3700	U
117-84-0	Di-n-octylphthalate	3700	U
205-99-2	Benzo(b)fluoranthene	2400	J
207-08-9	Benzo(k)fluoranthene	2400	J
50-32-8	Benzo(a)pyrene	2800	J
193-39-5	Indeno(1,2,3-cd)pyrene	1500	J
53-70-3	Dibenzo(a,h)anthracene	3700	U
191-24-2	Benzo(g,h,i)perylene	1000	J

(1) - Cannot be separated from Diphenylamine

1G

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

E0TF3

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-03

Sample wt/vol: 30.1 (g/mL) G Lab File ID: DD710

Level: (low/med) LOW Date Received: 08/22/02

% Moisture: 11 Decanted: (Y/N) N Date Extracted:08/25/02

Concentrated Extract Volume: 500(uL) Date Analyzed: 09/03/02

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 8.9 Extraction: (Type) SONC

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.34	2600	JB
2.	UNKNOWN PAH	11.30	1300	J
3. 243-17-4	11H-BENZO[B]FLUORENE	12.46	930	NJ
4.	UNKNOWN PAH	14.77	890	J
5.	UNKNOWN PAH	15.53	1800	J
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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TF4

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-04

Sample wt/vol: 30.2(g/mL) G Lab File ID: DD707

Level: (low/med) LOW Date Received: 08/22/02

% Moisture: 17 Decanted: (Y/N)N Date Extracted: 08/25/02

Concentrated Extract Volume: 500(uL) Date Analyzed: 09/03/02

Injection Volume: 2.0(uL) Dilution Factor: 5.0

GPC Cleanup: (Y/N) Y pH: 9.3 Extraction: (Type) SONC

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-52-7	Benzaldehyde	2000	U
108-95-2	Phenol	2000	U
111-44-4	bis(-2-Chloroethyl)Ether	2000	U
95-57-8	2-Chlorophenol	2000	U
95-48-7	2-Methylphenol	2000	U
108-60-1	2,2'-oxybis(1-Chloropropane)	2000	U
98-86-2	Acetophenone	2000	U
106-44-5	4-Methylphenol	2000	U
621-64-7	N-Nitroso-di-n-propylamine	2000	U
67-72-1	Hexachloroethane	2000	U
98-95-3	Nitrobenzene	2000	U
78-59-1	Isophorone	2000	U
88-75-5	2-Nitrophenol	2000	U
105-67-9	2,4-Dimethylphenol	2000	U
111-91-1	bis(-2-Chloroethoxy)methane	2000	U
120-83-2	2,4-Dichlorophenol	2000	U
91-20-3	Naphthalene	2600	
106-47-8	4-Chloroaniline	2000	U
87-68-3	Hexachlorobutadiene	2000	U
105-60-2	Caprolactam	2000	U
59-50-7	4-Chloro-3-Methylphenol	2000	U
91-57-6	2-Methylnaphthalene	5300	
77-47-4	Hexachlorocyclopentadiene	2000	U
88-06-2	2,4,6-Trichlorophenol	2000	U
95-95-4	2,4,5-Trichlorophenol	4900	U
92-52-4	1,1'-Biphenyl	2000	U
91-58-7	2-Chloronaphthalene	2000	U
88-74-4	2-Nitroaniline	4900	U
131-11-3	Dimethylphthalate	2000	U
606-20-2	2,6-Dinitrotoluene	2000	U
208-96-8	Acenaphthylene	2000	U
99-09-2	3-Nitroaniline	4900	U
83-32-9	Acenaphthene	2000	U

1D

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TF4

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-04

Sample wt/vol: 30.2(g/mL) G Lab File ID: DD707

Level: (low/med) LOW Date Received: 08/22/02

% Moisture: 17 Decanted: (Y/N)N Date Extracted: 08/25/02

Concentrated Extract Volume: 500(uL) Date Analyzed: 09/03/02

Injection Volume: 2.0(uL) Dilution Factor: 5.0

GPC Cleanup: (Y/N) Y pH: 9.3 Extraction: (Type) SONC

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	4900	U
100-02-7	4-Nitrophenol	4900	U
132-64-9	Dibenzofuran	2000	U
121-14-2	2,4-Dinitrotoluene	2000	U
84-66-2	Diethylphthalate	2000	U
86-73-7	Fluorene	2000	U
7005-72-3	4-Chlorophenyl-phenylether	2000	U
100-01-6	4-Nitroaniline	4900	U
534-52-1	4,6-Dinitro-2-methylphenol	4900	U
86-30-6	N-nitrosodiphenylamine (1)	2000	U
101-55-3	4-Bromophenyl-phenylether	2000	U
118-74-1	Hexachlorobenzene	2000	U
1912-24-9	Atrazine	2000	U
87-86-5	Pentachlorophenol	4900	U
85-01-8	Phenanthrene	310	J
120-12-7	Anthracene	2000	U
86-74-8	Carbazole	2000	U
84-74-2	Di-n-butylphthalate	2000	U
206-44-0	Fluoranthene	210	J
129-00-0	Pyrene	200	J
85-68-7	Butylbenzylphthalate	2000	U
91-94-1	3,3'-Dichlorobenzidine	2000	U
56-55-3	Benzo(a)anthracene	2000	U
218-01-9	Chrysene	2000	U
117-81-7	bis(2-Ethylhexyl)phthalate	2000	U
117-84-0	Di-n-octylphthalate	2000	U
205-99-2	Benzo(b)fluoranthene	2000	U
207-08-9	Benzo(k)fluoranthene	2000	U
50-32-8	Benzo(a)pyrene	2000	U
193-39-5	Indeno(1,2,3-cd)pyrene	2000	U
53-70-3	Dibenzo(a,h)anthracene	2000	U
191-24-2	Benzo(g,h,i)perylene	2000	U

(1) - Cannot be separated from Diphenylamine

1G

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

E0TF4

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-04

Sample wt/vol: 30.2 (g/mL) G Lab File ID: DD707

Level: (low/med) LOW Date Received: 08/22/02

% Moisture: 17 Decanted: (Y/N) N Date Extracted:08/25/02

Concentrated Extract Volume: 500(uL) Date Analyzed: 09/03/02

Injection Volume: 2.0(uL) Dilution Factor: 5.0

GPC Cleanup: (Y/N) Y pH: 9.3 Extraction: (Type) SONC

Number TICs found: 19

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.36	890	JB
2. 103-65-1	BENZENE, PROPYL-	4.64	1800	NJ
3. 620-14-4	BENZENE, 1-ETHYL-3-METHYL-	4.81	980	NJ
4. 611-14-3	BENZENE, 1-ETHYL-2-METHYL-	5.09	800	NJ
5.	C4-BENZENE ISOMER	5.23	650	J
6. 141-93-5	BENZENE, 1,3-DIETHYL-	5.27	1100	NJ
7.	C4-BENZENE ISOMER	5.36	1500	J
8. 874-41-9	BENZENE, 1-ETHYL-2,4-DIMETHY	5.47	3800	NJ
9. 1758-88-9	BENZENE, 2-ETHYL-1,4-DIMETHY	5.69	520	NJ
10.	C4-BENZENE ISOMER	5.72	530	J
11.	UNKNOWN PAH	5.99	660	J
12.	UNKNOWN ALKENE	6.16	600	J
13. 90-12-0	NAPHTHALENE, 1-METHYL-	7.50	810	NJ
14.	UNKNOWN	8.01	1300	J
15. 575-37-1	NAPHTHALENE, 1,7-DIMETHYL-	8.24	1600	NJ
16. 571-61-9	NAPHTHALENE, 1,5-DIMETHYL-	8.36	1100	NJ
17. 829-26-5	NAPHTHALENE, 2,3,6-TRIMETHYL	9.28	1900	NJ
18.	C3-NAPHTHALENE ISOMER	9.38	1200	J
19. 123-95-5	OCTADECANOIC ACID, BUTYL EST	12.66	1400	NJ
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TF4MS

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-04MS

Sample wt/vol: 30.5(g/mL) G Lab File ID: DD708

Level: (low/med) LOW Date Received: 08/22/02

% Moisture: 17 Decanted: (Y/N)N Date Extracted: 08/25/02

Concentrated Extract Volume: 500(uL) Date Analyzed: 09/03/02

Injection Volume: 2.0(uL) Dilution Factor: 5.0

GPC Cleanup: (Y/N) Y pH: 9.3 Extraction: (Type) SONC

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-52-7	Benzaldehyde	2000	U
108-95-2	Phenol	1900	J
111-44-4	bis(-2-Chloroethyl)Ether	2000	U
95-57-8	2-Chlorophenol	1900	J
95-48-7	2-Methylphenol	2000	U
108-60-1	2,2'-oxybis(1-Chloropropane)	2000	U
98-86-2	Acetophenone	2000	U
106-44-5	4-Methylphenol	2000	U
621-64-7	N-Nitroso-di-n-propylamine	1300	J
67-72-1	Hexachloroethane	2000	U
98-95-3	Nitrobenzene	2000	U
78-59-1	Isophorone	2000	U
88-75-5	2-Nitrophenol	2000	U
105-67-9	2,4-Dimethylphenol	2000	U
111-91-1	bis(-2-Chloroethoxy)methane	2000	U
120-83-2	2,4-Dichlorophenol	2000	U
91-20-3	Naphthalene	1900	J
106-47-8	4-Chloroaniline	2000	U
87-68-3	Hexachlorobutadiene	2000	U
105-60-2	Caprolactam	2000	U
59-50-7	4-Chloro-3-Methylphenol	2100	
91-57-6	2-Methylnaphthalene	3900	
77-47-4	Hexachlorocyclopentadiene	2000	U
88-06-2	2,4,6-Trichlorophenol	2000	U
95-95-4	2,4,5-Trichlorophenol	4900	U
92-52-4	1,1'-Biphenyl	2000	U
91-58-7	2-Chloronaphthalene	2000	U
88-74-4	2-Nitroaniline	4900	U
131-11-3	Dimethylphthalate	2000	U
606-20-2	2,6-Dinitrotoluene	2000	U
208-96-8	Acenaphthylene	2000	U
99-09-2	3-Nitroaniline	4900	U
83-32-9	Acenaphthene	1600	J

1D

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TF4MS

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-04MS

Sample wt/vol: 30.5(g/mL) G Lab File ID: DD708

Level: (low/med) LOW Date Received: 08/22/02

% Moisture: 17 Decanted: (Y/N)N Date Extracted: 08/25/02

Concentrated Extract Volume: 500(uL) Date Analyzed: 09/03/02

Injection Volume: 2.0(uL) Dilution Factor: 5.0

GPC Cleanup: (Y/N) Y pH: 9.3 Extraction: (Type) SONC

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	4900	U
100-02-7	4-Nitrophenol	2000	J
132-64-9	Dibenzofuran	2000	U
121-14-2	2,4-Dinitrotoluene	1300	J
84-66-2	Diethylphthalate	2000	U
86-73-7	Fluorene	2000	U
7005-72-3	4-Chlorophenyl-phenylether	2000	U
100-01-6	4-Nitroaniline	4900	U
534-52-1	4,6-Dinitro-2-methylphenol	4900	U
86-30-6	N-nitrosodiphenylamine (1)	2000	U
101-55-3	4-Bromophenyl-phenylether	2000	U
118-74-1	Hexachlorobenzene	2000	U
1912-24-9	Atrazine	2000	U
87-86-5	Pentachlorophenol	590	J
85-01-8	Phenanthrene	240	J
120-12-7	Anthracene	2000	U
86-74-8	Carbazole	2000	U
84-74-2	Di-n-butylphthalate	2000	U
206-44-0	Fluoranthene	2000	U
129-00-0	Pyrene	1800	J
85-68-7	Butylbenzylphthalate	2000	U
91-94-1	3,3'-Dichlorobenzidine	2000	U
56-55-3	Benzo(a)anthracene	2000	U
218-01-9	Chrysene	2000	U
117-81-7	bis(2-Ethylhexyl)phthalate	2000	U
117-84-0	Di-n-octylphthalate	2000	U
205-99-2	Benzo(b)fluoranthene	2000	U
207-08-9	Benzo(k)fluoranthene	2000	U
50-32-8	Benzo(a)pyrene	2000	U
193-39-5	Indeno(1,2,3-cd)pyrene	2000	U
53-70-3	Dibenzo(a,h)anthracene	2000	U
191-24-2	Benzo(g,h,i)perylene	2000	U

(1) - Cannot be separated from Diphenylamine

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TF4MSD

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-04MSD

Sample wt/vol: 30.2(g/mL) G Lab File ID: DD709

Level: (low/med) LOW Date Received: 08/22/02

% Moisture: 17 Decanted: (Y/N)N Date Extracted: 08/25/02

Concentrated Extract Volume: 500(uL) Date Analyzed: 09/03/02

Injection Volume: 2.0(uL) Dilution Factor: 5.0

GPC Cleanup: (Y/N) Y pH: 9.3 Extraction: (Type) SONC

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-52-7	Benzaldehyde	2000	U
108-95-2	Phenol	2700	
111-44-4	bis(-2-Chloroethyl)Ether	2000	U
95-57-8	2-Chlorophenol	2500	
95-48-7	2-Methylphenol	2000	U
108-60-1	2,2'-oxybis(1-Chloropropane)	2000	U
98-86-2	Acetophenone	2000	U
106-44-5	4-Methylphenol	2000	U
621-64-7	N-Nitroso-di-n-propylamine	2000	
67-72-1	Hexachloroethane	2000	U
98-95-3	Nitrobenzene	2000	U
78-59-1	Isophorone	2000	U
88-75-5	2-Nitrophenol	2000	U
105-67-9	2,4-Dimethylphenol	2000	U
111-91-1	bis(-2-Chloroethoxy)methane	2000	U
120-83-2	2,4-Dichlorophenol	2000	U
91-20-3	Naphthalene	2500	
106-47-8	4-Chloroaniline	2000	U
87-68-3	Hexachlorobutadiene	2000	U
105-60-2	Caprolactam	2000	U
59-50-7	4-Chloro-3-Methylphenol	3200	
91-57-6	2-Methylnaphthalene	5300	
77-47-4	Hexachlorocyclopentadiene	2000	U
88-06-2	2,4,6-Trichlorophenol	2000	U
95-95-4	2,4,5-Trichlorophenol	4900	U
92-52-4	1,1'-Biphenyl	2000	U
91-58-7	2-Chloronaphthalene	2000	U
88-74-4	2-Nitroaniline	4900	U
131-11-3	Dimethylphthalate	2000	U
606-20-2	2,6-Dinitrotoluene	2000	U
208-96-8	Acenaphthylene	2000	U
99-09-2	3-Nitroaniline	4900	U
83-32-9	Acenaphthene	2300	

4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PBLK02

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Lab Sample ID: P0823-B5 Lab File ID: _____

Matrix (soil/water) SOIL Extraction:(Type) SONC

Sulfur Cleanup (Y/N) N Date Extracted: 08/23/02

Date Analyzed (1): 08/31/02 Date Analyzed (2): 08/31/02

Time Analyzed (1): 2238 Time Analyzed (2): 2238

Instrument ID (1): GC8 Instrument ID (2): GC8

GC Column (1): DB5 ID: 0.53(mm) GC Column (2): RTX1701 ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	E0TF2	020815-02	09/01/02	09/01/02
02	E0TF4	020815-04	09/01/02	09/01/02
03	E0TF4MS	020815-04MS	09/01/02	09/01/02
04	E0TF4MSD	020815-04MSD	09/01/02	09/01/02
05	E0TF3DL	020815-03DL	09/01/02	09/01/02
06	E0TF3	020815-03	09/01/02	09/01/02
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26				

COMMENTS: _____

1E

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TF2

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-02

Sample wt/vol: 30.5(g/mL) G Lab File ID: _____

% Moisture: 20 Decanted: (Y/N) N Date Received: 08/22/02

Extraction: (Type) SONC Date Extracted: 08/23/02

Concentrated Extract Volume: 5000(uL) Date Analyzed: 09/01/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.1	U
319-85-7	beta-BHC	2.1	U
319-86-8	delta-BHC	2.1	U
58-89-9	gamma-BHC (Lindane)	2.1	U
76-44-8	Heptachlor	2.1	U
309-00-2	Aldrin	2.1	U
1024-57-3	Heptachlor epoxide	2.1	U
959-98-8	Endosulfan I	2.1	U
60-57-1	Dieldrin	4.1	U
72-55-9	4,4'-DDE	4.1	U
72-20-8	Endrin	4.1	U
33213-65-9	Endosulfan II	4.1	U
72-54-8	4,4'-DDD	4.1	U
1031-07-8	Endosulfan sulfate	4.1	U
50-29-3	4,4'-DDT	4.1	U
72-43-5	Methoxychlor	21	U
53494-70-5	Endrin ketone	4.1	U
7421-93-4	Endrin aldehyde	4.1	U
5103-71-9	alpha-Chlordane	2.1	U
5103-74-2	gamma-Chlordane	2.1	U
8001-35-2	Toxaphene	210	U
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	82	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	41	U
11097-69-1	Aroclor-1254	41	U
11096-82-5	Aroclor-1260	41	U

1E

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TF3

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-03

Sample wt/vol: 30.5(g/mL) G Lab File ID: _____

% Moisture: 11 Decanted: (Y/N) N Date Received: 08/22/02

Extraction: (Type) SONC Date Extracted: 08/23/02

Concentrated Extract Volume: 5000(uL) Date Analyzed: 09/01/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.9 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.9	U
319-85-7	beta-BHC	1.9	U
319-86-8	delta-BHC	3.8	P
58-89-9	gamma-BHC (Lindane)	1.9	U
76-44-8	Heptachlor	1.9	U
309-00-2	Aldrin	1.9	U
1024-57-3	Heptachlor epoxide	3.4	P
959-98-8	Endosulfan I	1.9	U
60-57-1	Dieldrin	3.6	U
72-55-9	4,4'-DDE	3.6	U
72-20-8	Endrin	3.6	U
33213-65-9	Endosulfan II	9.4	P
72-54-8	4,4'-DDD	3.6	U
1031-07-8	Endosulfan sulfate	3.6	U
50-29-3	4,4'-DDT	27	
72-43-5	Methoxychlor	19	U
53494-70-5	Endrin ketone	3.6	U
7421-93-4	Endrin aldehyde	12	P
5103-71-9	alpha-Chlordane	1.9	U
5103-74-2	gamma-Chlordane	1.9	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	74	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	36	U

1E

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TF3DL

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-03DL

Sample wt/vol: 30.5(g/mL) G Lab File ID: _____

% Moisture: 11 Decanted: (Y/N) N Date Received: 08/22/02

Extraction: (Type) SONC Date Extracted: 08/23/02

Concentrated Extract Volume: 5000(uL) Date Analyzed: 09/01/02

Injection Volume: 1.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 8.9 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	19	U
319-85-7	beta-BHC	19	U
319-86-8	delta-BHC	19	U
58-89-9	gamma-BHC (Lindane)	19	U
76-44-8	Heptachlor	19	U
309-00-2	Aldrin	19	U
1024-57-3	Heptachlor epoxide	23	DP
959-98-8	Endosulfan I	19	U
60-57-1	Dieldrin	36	U
72-55-9	4,4'-DDE	36	U
72-20-8	Endrin	36	U
33213-65-9	Endosulfan II	36	U
72-54-8	4,4'-DDD	36	U
1031-07-8	Endosulfan sulfate	36	U
50-29-3	4,4'-DDT	36	U
72-43-5	Methoxychlor	190	U
53494-70-5	Endrin ketone	36	U
7421-93-4	Endrin aldehyde	36	U
5103-71-9	alpha-Chlordane	19	U
5103-74-2	gamma-Chlordane	19	U
8001-35-2	Toxaphene	1900	U
12674-11-2	Aroclor-1016	360	U
11104-28-2	Aroclor-1221	740	U
11141-16-5	Aroclor-1232	360	U
53469-21-9	Aroclor-1242	360	U
12672-29-6	Aroclor-1248	360	U
11097-69-1	Aroclor-1254	360	U
11096-82-5	Aroclor-1260	360	U

1E

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TF4

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-04

Sample wt/vol: 30.2 (g/mL) G Lab File ID: _____

% Moisture: 17 Decanted: (Y/N) N Date Received: 08/22/02

Extraction: (Type) SONC Date Extracted: 08/23/02

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 09/01/02

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.3 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.0	U
319-85-7	beta-BHC	2.0	U
319-86-8	delta-BHC	2.0	U
58-89-9	gamma-BHC (Lindane)	2.0	U
76-44-8	Heptachlor	2.0	U
309-00-2	Aldrin	2.0	U
1024-57-3	Heptachlor epoxide	2.0	U
959-98-8	Endosulfan I	2.0	U
60-57-1	Dieldrin	3.9	U
72-55-9	4,4'-DDE	3.9	U
72-20-8	Endrin	3.9	U
33213-65-9	Endosulfan II	3.9	U
72-54-8	4,4'-DDD	3.9	U
1031-07-8	Endosulfan sulfate	3.9	U
50-29-3	4,4'-DDT	3.9	U
72-43-5	Methoxychlor	20	U
53494-70-5	Endrin ketone	3.9	U
7421-93-4	Endrin aldehyde	3.9	U
5103-71-9	alpha-Chlordane	2.0	U
5103-74-2	gamma-Chlordane	2.0	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	80	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	39	U
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	39	U
11096-82-5	Aroclor-1260	39	U

1E

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TF4MS

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-04MS

Sample wt/vol: 30.5(g/mL) G Lab File ID: _____

% Moisture: 17 Decanted: (Y/N) N Date Received: 08/22/02

Extraction: (Type) SONC Date Extracted: 08/23/02

Concentrated Extract Volume: 5000(uL) Date Analyzed: 09/01/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.3 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.0	U
319-85-7	beta-BHC	2.0	U
319-86-8	delta-BHC	2.0	U
58-89-9	gamma-BHC (Lindane)	8.8	
76-44-8	Heptachlor	12	
309-00-2	Aldrin	9.8	
1024-57-3	Heptachlor epoxide	2.0	U
959-98-8	Endosulfan I	2.0	U
60-57-1	Dieldrin	20	
72-55-9	4,4'-DDE	3.9	U
72-20-8	Endrin	22	
33213-65-9	Endosulfan II	3.9	U
72-54-8	4,4'-DDD	3.9	U
1031-07-8	Endosulfan sulfate	3.9	U
50-29-3	4,4'-DDT	24	
72-43-5	Methoxychlor	20	U
53494-70-5	Endrin ketone	3.9	U
7421-93-4	Endrin aldehyde	3.9	U
5103-71-9	alpha-Chlordane	2.0	U
5103-74-2	gamma-Chlordane	2.0	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	79	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	39	U
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	39	U
11096-82-5	Aroclor-1260	39	U

1E

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TF4MSD

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: 020815-04MSD

Sample wt/vol: 30.2(g/mL) G Lab File ID: _____

% Moisture: 17 Decanted: (Y/N) N Date Received: 08/22/02

Extraction: (Type) SONC Date Extracted: 08/23/02

Concentrated Extract Volume: 5000(uL) Date Analyzed: 09/01/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.3 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.0	U
319-85-7	beta-BHC	2.0	U
319-86-8	delta-BHC	2.0	U
58-89-9	gamma-BHC (Lindane)	8.8	
76-44-8	Heptachlor	11	
309-00-2	Aldrin	10	
1024-57-3	Heptachlor epoxide	2.0	U
959-98-8	Endosulfan I	2.0	U
60-57-1	Dieldrin	21	
72-55-9	4,4'-DDE	3.9	U
72-20-8	Endrin	23	
33213-65-9	Endosulfan II	3.9	U
72-54-8	4,4'-DDD	3.9	U
1031-07-8	Endosulfan sulfate	3.9	U
50-29-3	4,4'-DDT	26	
72-43-5	Methoxychlor	20	U
53494-70-5	Endrin ketone	3.9	U
7421-93-4	Endrin aldehyde	3.9	U
5103-71-9	alpha-Chlordane	2.0	U
5103-74-2	gamma-Chlordane	2.0	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	80	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	39	U
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	39	U
11096-82-5	Aroclor-1260	39	U

1E

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

E0TG0

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) WATER Lab Sample ID: 020815-01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ Decanted: (Y/N) ___ Date Received: 08/22/02

Extraction: (Type) SEPF Date Extracted: 08/23/02

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/31/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1E

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK01

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) WATER Lab Sample ID: P0823-B2

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ Decanted: (Y/N) ___ Date Received: _____

Extraction: (Type) SEPF Date Extracted: 08/23/02

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/31/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1E

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK02

Lab Name: CEIMIC CORP Contract: 68-W-99-065

Lab Code: CEIMIC Case No.: 30856 SAS No.: SDG No.: E0TF2

Matrix: (soil/water) SOIL Lab Sample ID: P0823-B5

Sample wt/vol: 30.0(g/mL) G Lab File ID: _____

% Moisture: 0 Decanted: (Y/N) N Date Received: _____

Extraction: (Type) SONC Date Extracted: 08/23/02

Concentrated Extract Volume: 5000(uL) Date Analyzed: 08/31/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421-93-4	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V
ESD Central Regional Laboratory
Data Tracking Form for Contract Samples

Sample Delivery Group: EOTF2 CERCLIS No: MIB000000091

Case No: 30856 Site Name/Location: McDougall Property

Contractor or EPA Lab: CEMIC Data User: MDEQ

No. of Samples: 4 Date Sampled or Date Received: 9-9-02

Have Chain-of-Custody records been received? Yes ✓ No ____
Have traffic reports or packing lists been received? Yes ✓ No ____
If no, are traffic report or packing list numbers written on the Chain-of-Custody Record?
Yes ____ No ____
If no, which traffic report or packing list numbers are missing?

Are basic data forms in? Yes ✓ No ____
No of samples claimed: 4 No. of samples received: 4

Received by: Eva M. Dixon/ESAT Date: 9-9-02

Received by LSSS: Eva M. Dixon/ESAT Date: 9-9-02

Review started: ____ Reviewer Signature: ____

Total time spent on review: ____ Date review completed: ____

Copied by: Eva M. Dixon/ESAT Date: 9-11-02

Mailed to user by: Eva M. Dixon/ESAT Date: 9-11-02

DATA USER:
Please fill in the blanks below and return this form to:
Sylvia Griffin, Data Mgmt. Coordinator, Region V, ML-10C

Data received by: ____ Date: ____

Data review received by: ____ Date: ____

Inorganic Data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK
Organic Data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK
Dioxin data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK
SAS Data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK

PROBLEMS: Please indicate reasons why data are not suitable for your uses.

Received by Data Mgmt. Coordinator for Files. Date: ____

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V
SUPERFUND DIVISION

DATE: _____

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SUBJECT: **Electronic (Level 2) Review of Data**

Received for Review on September 12, 2002

FROM: Stephen L. Ostrodka, Chief (SMF-4J)
Superfund Field Services Section

TO: Data User: MDEQ

The following data has been electronically reviewed by CADRE. No review of the raw data, laboratory narrative, laboratory forms or chain-of-custody forms was performed.

SITE NAME: McDougall Property (MI)

CASE NUMBER: 30856 SDG NUMBER: E0TD7

Number and Type of Samples: 20 Soils (SV, P/P)

Sample Numbers: E0TD7 - E0TD9, E0TE0 - E0TE9, E0TF0, E0TF1, E0TF5 - E0TF9

Laboratory: Ceimic Hrs. for Review: _____

Following are our findings:

CC: Cecilia Moore
Region 5 TPO
Mail Code: SMF-4J

Number :	**30856**	**SDG Number:**	**E0TD7**
Name:	**MCDOUGALL PROPERTY (MI)**	**Laboratory:**	**CEIMIC**

Below is a summary of the out-of-control audits and the possible effects on the data for this case:

Twenty (20) soil samples, numbered *E0TD7* through *E0TD9, E0TE0* through *E0TE9, E0TF0, E0TF1* and *E0TF5* through *E0TF9,* were collected on *August 21, 2002.* The lab received the samples on *August 22, 2002* in good condition. All samples were analyzed for the semivolatile and pesticide/pcb lists of organic analytes. All were analyzed according to CLP SOW *OLM04.2* 5/99.

Number : 30856 SDG Number: E0TD7
Name: MCDOUGALL PROPERTY (MI) Laboratory: CEIMIC

1. HOLDING TIME

No defects found.

2. GC/MS TUNING AND GC INSTRUMENT PERFORMANCE

No defects found.

3. CALIBRATION

Qualification: Calibrations **Protocol: BNA**

DC-11 The following semivolatile samples are associated with a continuing calibration percent difference (%D) outside primary criteria. Hits are qualified "J" and non-detects are qualified "UJ".

Benzaldehyde
E0TD7, E0TD8, E0TD9, E0TD9MS, E0TD9MSD, E0TE0, E0TE1, E0TE2, E0TE3, E0TE4, E0TE5, E0TE6, E0TE7, E0TE8, E0TE9, E0TF0, E0TF1, E0TF5, E0TF6, E0TF7, E0TF8, E0TF9, SBLKDM, SBLKDN

Atrazine
E0TD7, E0TD8, E0TD9, E0TD9MS, E0TD9MSD, E0TE0, E0TE1, E0TE2, E0TE3, E0TE4, E0TE5, E0TE6, E0TE7, E0TE8, E0TE9, E0TF0, E0TF1, E0TF5, E0TF6, SBLKDN

Qualification: Calibrations **Protocol: PES**

No defects found.

4. BLANKS

Qualification: Laboratory Blanks **Protocol: BNA**

DC-6 The following semivolatile samples have analyte concentrations reported above the CRQL and less than or equal to ten times (10X) the associated method blank concentration. Hits are qualified "U" and non-detects are not flagged.

bis(2-Ethylhexyl)phthalate
E0TD7, E0TE2

-10 The following semivolatile samples have analyte concentrations reported below the CRQL and less than or equal to ten times (10X) the associated method blank

concentration. Reported sample concentrations have been elevated to the CRQL. Hits are qualified "U" and non-detects are not flagged.

bis(2-Ethylhexyl)phthalate
E0TE4, E0TE5, E0TE7, E0TF7

Qualification: Laboratory Blanks **Protocol: PES**

No defects found.

5. SYSTEM MONITORING COMPOUND AND SURROGATE RECOVERY

Qualification: Surrogate **Protocol: BNA**

DC-3 The following semivolatile samples have DMC recoveries of less than 10% and a dilution factor which exceeds criteria. Hits and non-detects are not flagged.

E0TE0

DC-4 The following semivolatile samples have two or more base/neutral surrogate recoveries above the upper limit of the criteria window. Hits are qualified "J" and non-detects are not flagged.

E0TE0, E0TE1

Qualification: Surrogate **Protocol: PES**

DC-2 The following pesticide samples have surrogate percent recoveries which exceed the upper limit of the criteria window. Hits are qualified "J" and non-detects are not flagged.

E0TD9, E0TD9DL, E0TD9MS, E0TD9MSD, E0TE0, E0TE0DL, E0TE1, E0TE3, E0TE7, E0TE8

DC-4 The following diluted pesticide samples have surrogate percent recoveries of less than 10%. Professional judgement is recommended. Professional judgement should be used to qualify the data.

E0TE0DL

DC-6 The following pesticide samples are not fully qualified for surrogate RT because of missing RT information. Hits and non-detects are not flagged.

E0TE0DL

Number : 30856 SDG Number: E0TD7
Name: MCDOUGALL PROPERTY (MI) Laboratory: CEIMIC

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Qualification: Matrix Spikes **Protocol: BNA**

DC-1 The relative percent difference (RPD) between the following semivolatile matrix spike and matrix spike duplicate recoveries is outside criteria. Results for the outlier compound in the unspiked sample E0TD9 is estimated, "J" and a non-detect is estimated, "UJ".

E0TD9MS, E0TD9MSD
Pyrene

DC-2 The following semivolatile matrix spike/matrix spike duplicate samples have percent recovery outside criteria. Results for the outlier compound in the unspiked sample E0TD9 are estimated, "J" and non-detects are estimated, "UJ".

E0TD9MS
Phenol, 4-Chloro-3-methylphenol, 2,4-Dinitrotoluene, Pyrene

E0TD9MSD
2,4-Dinitrotoluene, Pyrene

Qualification: Matrix Spikes **Protocol: PES**

DC-1 The relative percent difference (RPD) between the following pesticide matrix spike and matrix spike duplicate recoveries is outside criteria. Results for the outlier compound in the unspiked sample E0TD9 is estimated, "J" and a non-detect is estimated, "UJ".

E0TD9MS, E0TD9MSD
4,4-DDT

DC-2 The following pesticide matrix spike/matrix spike duplicate samples have percent recovery outside criteria. Results for the outlier compound in the unspiked sample E0TD9 is estimated, "J" and a non-detect is estimated, "UJ".

E0TD9MS, E0TD9MSD
4,4-DDT

7. FIELD BLANK AND FIELD DUPLICATE

No samples were identified as trip blanks, field blanks or field duplicates. Results are not qualified based upon the results of the field blank or field duplicates.

Number : 30856 SDG Number: E0TD7
Name: MCDOUGALL PROPERTY (MI) Laboratory: CEIMIC

8. INTERNAL STANDARDS

No defects found.

9. COMPOUND IDENTIFICATION

After reviewing the mass spectra and chromatograms it appears that all VOA, SVOA, and Pesticide/PCB compounds were properly identified.

10. COMPOUND QUANTITATION AND REPORTED DETECTION LIMITS

Qualification: Detection Limit **Protocol: BNA**

DC-1 The following semivolatile samples have analyte concentrations below the quantitation limit (CRQL). All results below the CRQL are qualified "J".

E0TD7
Acenaphthene, Dibenzofuran, Fluorene, Anthracene, Carbazole, Di-n-butylphthalate, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenzo (a,h) - anthracene, Benzo (g,h,i) perylene

E0TD8
Phenanthrene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, bis(2-Ethylhexyl)phthalate, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Benzo (g,h,i) perylene

E0TD9
Fluorene, Anthracene, Chrysene, bis(2-Ethylhexyl)phthalate, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenzo (a,h) - anthracene, Benzo (g,h,i) perylene

E0TD9MS
Phenol, 2-Chlorophenol, N-Nitroso-di-n-propylamine, 4-Chloro-3-methylphenol, 2-Methylnaphthalene, Acenaphthene, 4-Nitrophenol, 2,4-Dinitrotoluene, Phenanthrene, Anthracene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenzo (a,h) - anthracene, Benzo (g,h,i) perylene

E0TD9MSD
Phenol, 2-Chlorophenol, N-Nitroso-di-n-propylamine, 4-Chloro-3-methylphenol, 2-Methylnaphthalene, Acenaphthene, 4-Nitrophenol, Dibenzofuran, 2,4-Dinitrotoluene, Anthracene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenzo (a,h) - anthracene, Benzo (g,h,i) perylene

Number : 30856 SDG Number: E0TD7
Name: MCDOUGALL PROPERTY (MI) Laboratory: CEIMIC

E0TE0
Acenaphthylene, Dibenzofuran, Fluorene, Anthracene, Carbazole, Benzo(b)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenzo (a,h) - anthracene, Benzo (g,h,i) perylene

E0TE1
Naphthalene, Acenaphthylene, Dibenzofuran, Fluorene, Anthracene, Carbazole, Benzo(k)fluoranthene, Indeno(1,2,3-cd)pyrene, Dibenzo (a,h) - anthracene, Benzo (g,h,i) perylene

E0TE2
Phenanthrene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Benzo (g,h,i) perylene

E0TE3
Phenanthrene, Anthracene, Benzo(b)fluoranthene, Indeno(1,2,3-cd)pyrene, Dibenzo (a,h) - anthracene, Benzo (g,h,i) perylene

E0TE4
Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenzo (a,h) - anthracene, Benzo (g,h,i) perylene

E0TE5
2-Methylnaphthalene, Phenanthrene, Di-n-butylphthalate, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Benzo (g,h,i) perylene

E0TE6
Naphthalene, 2-Methylnaphthalene, Phenanthrene, Di-n-butylphthalate, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene

E0TE7
Phenanthrene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene

E0TE8
Phenanthrene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene

E0TE9
2-Methylnaphthalene, Phenanthrene, Di-n-butylphthalate, Pyrene, Benzo(a)anthracene,

Number : 30856 SDG Number: E0TD7
Name: MCDOUGALL PROPERTY (MI) Laboratory: CEIMIC

Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenzo (a,h) - anthracene, Benzo (g,h,i) perylene

E0TF0
Acetophenone, bis(2-Ethylhexyl)phthalate

E0TF1
Phenanthrene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenzo (a,h) - anthracene, Benzo (g,h,i) perylene

E0TF5
Naphthalene, 2-Methylnaphthalene

E0TF6
Phenanthrene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(a)pyrene

E0TF8
Naphthalene, 2-Methylnaphthalene, Acenaphthene, Dibenzofuran, Fluorene, Anthracene, Carbazole, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenzo (a,h) - anthracene, Benzo (g,h,i) perylene

SBLKDM, SBLKDN
bis(2-Ethylhexyl)phthalate

Qualification: Detection Limit **Protocol: PES**

DC-3 The following pesticide samples have analytes for which the percent difference between columm results exceeds primary criteria. Professional judgement should be used to qualify the data.

E0TD8
4,4-DDE, gamma-Chlordane

E0TD9
Dieldrin, 4,4-DDD, Endrin ketone

E0TD9MS
gamma-BHC (Lindane), Dieldrin, Endrin, 4,4-DDD

E0TD9MSD
delta-BHC, gamma-BHC (Lindane), Heptachlor, Dieldrin, 4,4-DDD, Methoxychlor

Number : 30856 SDG Number: E0TD7
Name: MCDOUGALL PROPERTY (MI) Laboratory: CEIMIC

E0TE0
delta-BHC, gamma-BHC (Lindane), Heptachlor, Heptachlor epoxide, 4,4-DDD, 4,4-DDT, Methoxychlor

E0TE1
4,4-DDD, Methoxychlor

E0TE3
4,4-DDE, 4,4-DDD

E0TE5, E0TE6
4,4-DDT

E0TE8
gamma-BHC (Lindane)

E0TE9
4,4-DDD

SYSTEM PERFORMANCE

GC/MS baseline indicated acceptable performance. The GC baseline for the pesticide analysis was acceptable.

12. ADDITIONAL INFORMATION

Qualification: CADRE Reserved **Protocol: BNA**

DC-2 Verification of non-detected results and assignment of "U" qualifier when the reported value is less than CRQL.

E0TD7, E0TD8, E0TD9, E0TD9MS, E0TD9MSD, E0TE0, E0TE1, E0TE2, E0TE3, E0TE4, E0TE5, E0TE6, E0TE7, E0TE8, E0TE9, E0TF0, E0TF1, E0TF5, E0TF6, E0TF7, E0TF8, E0TF9, SBLKDM, SBLKDN

Qualification: CADRE Reserved **Protocol: PES**

DC-2 Verification of non-detected results and assignment of "U" qualifier when the reported value is less than CRQL.

E0TD7, E0TD8, E0TD9, E0TD9DL, E0TD9MS, E0TD9MSD, E0TE0, E0TE0DL, E0TE1, E0TE2, E0TE3, E0TE4, E0TE5, E0TE6, E0TE7, E0TE8, E0TE9, E0TF0, E0TF1, E0TF5, E0TF6, E0TF7, E0TF8, E0TF9, PBLK01, PBLK02

Number : 30856 SDG Number: E0TD7
Name: MCDOUGALL PROPERTY (MI) Laboratory: CEIMIC

Data Review Results

Lab ID: CEIMIC Case No.: 30856 Method: OLM04.2 Flag :R5FLAG
File Name: E0TD7 SDG No.: E0TD7 Criteria: OLM04.2 Defects: R5DEFECT

Data Review Criteria Set Options:

Detection Limit CADRE association rules X
PEST pct D expanded criteria
Use MDL IPC/Tune
Expanded criteria
Holding Time
Region 3 PAH option System Performance
Region 3 PCB option Use initial PEM pct resolution X
Expanded criteria X Use continuing PEM pct resolution
Inorganic missing pH option
CRDL/CRQL Standards
Calibrations Region 2 validation rules
RRF expanded criteria Region 3 validation rules
VOA/BNA PctD expanded criteria
VOA/BNA PctRSD expanded criteria LCS
Use mean RRF Pct rec expanded criteria
Use VOA/BNA dual purpose standard option X
Use initial INDA/INDB pct resolution X Duplicates
Use continuing INDA/INDB pct resolution RPD and AD expanded criteria
Use PEST low concentration option
PEST low concentration PctRSD expanded criteria Furnace AA QC
Use DMC/SMC/Surrogate option X Pct R expanded upper criteria
Use INORG extreme high pct recovery Corr coef expanded criteria
Matrix Spikes Blanks
Use PEST low concentration rules Raise to detection limit X
Use VOA storage/inst blanks X
DMC/SMC/Surrogates Use low concentration rules
Region 3 validation rules
Check dilution factor X Field QC
Use advisory surrogates Combine method/field blanks
Use low concentration rules CRDL contamination criteria

Date: 9/12/2002 WinCADRE 3.1.0.10 Page: 14

CADRE Data Qualifier Sheet

Qualifiers	Data Qualifier Definitions
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The anlayte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the action limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
N	The analysis indicates the present of an analyte for which there is presumptive evidence to make a tentative identification.
NJ	The analysis indicates the present of an analyte for which there is presumptive evidence to make a tentative identification and the associated numerical value represents its approximate concentration.
R	The data are unusable. (The compound may or may not be present)

Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TD7

Site : MCDOUGALL PROPERTY

CEIMIC

Number of Soil Samples : 20

Number of Water Samples : 0

.ewer :

Date :

Sample Number :	E0TD7		E0TD8		E0TD9		E0TD9MS		E0TD9MSD	
Sampling Location :	SS1		SS2		SS3		SS3		SS3	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	08/21/2002		08/21/2002		08/21/2002		08/21/2002		08/21/2002	
Time Sampled :	14:15		14:25		15:15		15:15		15:15	
%Moisture :	6		16		10		10		10	
pH :	9.0		8.4		8.5		8.5		8.5	
Dilution Factor :	1.0		10.0		10.0		10.0		10.0	
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzo(a)pyrene	250	J	970	J	2800	J	2200	J	2600	J
2,4-Dinitrophenol	880	U	9800	U	9100	U	9200	U	9200	U
Dibenzo(a,h)anthracene	61	J	3900	U	720	J	510	J	780	J
Benzo(a)anthracene	280	J	1000	J	3600		2600	J	3000	J
4-Chloro-3-methylphenol	350	U	3900	U	3600	UJ	3200	J	2800	J
Hexachloroethane	350	U	3900	U	3600	U	3700	U	3700	U
Hexachlorocyclopentadiene	350	U	3900	U	3600	U	3700	U	3700	U
Isophorone	350	U	3900	U	3600	U	3700	U	3700	U
Acenaphthene	72	J	3900	U	3600	U	2500	J	2300	J
Diethylphthalate	350	U	3900	U	3600	U	3700	U	3700	U
Di-n-butylphthalate	41	J	3900	U	3600	U	3700	U	3700	U
Phenanthrene	560		1000	J	5900		2300	J	4300	
[illegible]benzylphthalate	350	U	3900	U	3600	U	3700	U	3700	U
[illegible]osodiphenylamine	350	U	3900	U	3600	U	3700	U	3700	U
[illegible]ene	64	J	3900	U	570	J	3700	U	3700	U
Carbazole	57	J	3900	U	3600	U	3700	U	3700	U
Hexachlorobutadiene	350	U	3900	U	3600	U	3700	U	3700	U
Pentachlorophenol	880	U	9800	U	9100	U	9200	U	9200	U
2,4,6-Trichlorophenol	350	U	3900	U	3600	U	3700	U	3700	U
2-Nitroaniline	880	U	9800	U	9100	U	9200	U	9200	U
2-Nitrophenol	350	U	3900	U	3600	U	3700	U	3700	U
Naphthalene	350	U	3900	U	3600	U	3700	U	3700	U
2-Methylnaphthalene	350	U	3900	U	3600	U	370	J	400	J
2-Chloronaphthalene	350	U	3900	U	3600	U	3700	U	3700	U
3,3'-Dichlorobenzidine	350	U	3900	U	3600	U	3700	U	3700	U
1,1'-Biphenyl	350	U	3900	U	3600	U	3700	U	3700	U
2-Methylphenol	350	U	3900	U	3600	U	3700	U	3700	U
2-Chlorophenol	350	U	3900	U	3600	U	2700	J	2200	J
2,4,5-Trichlorophenol	880	U	9800	U	9100	U	9200	U	9200	U
Acetophenone	350	U	3900	U	3600	U	3700	U	3700	U
Nitrobenzene	350	U	3900	U	3600	U	3700	U	3700	U
3-Nitroaniline	880	U	9800	U	9100	U	9200	U	9200	U
4-Nitroaniline	880	U	9800	U	9100	U	9200	U	9200	U

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Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TD7
Site : MCDOUGALL PROPERTY
: CEIMIC
/iewer :
Date :

Sample Number :	E0TD7		E0TD8		E0TD9		E0TD9MS		E0TD9MSD	
Sampling Location :	SS1		SS2		SS3		SS3		SS3	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	08/21/2002		08/21/2002		08/21/2002		08/21/2002		08/21/2002	
Time Sampled :	14:15		14:25		15:15		15:15		15:15	
%Moisture :	6		16		10		10		10	
pH :	9.0		8.4		8.5		8.5		8.5	
Dilution Factor :	1.0		10.0		10.0		10.0		10.0	
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
4-Nitrophenol	880	U	9800	U	9100	U	2400	J	2300	J
Benzaldehyde	350	UJ	3900	UJ	3600	UJ	3700	UJ	3700	UJ
4-Bromophenyl-phenylether	350	U	3900	U	3600	U	3700	U	3700	U
Caprolactam	350	U	3900	U	3600	U	3700	U	3700	U
2,4-Dimethylphenol	350	U	3900	U	3600	U	3700	U	3700	U
4-Methylphenol	350	U	3900	U	3600	U	3700	U	3700	U
4-Chloroaniline	350	U	3900	U	3600	U	3700	U	3700	U
2,2'-oxybis(1-Chloropropane)	350	U	3900	U	3600	U	3700	U	3700	U
Phenol	350	U	3900	U	3600	UJ	2700	J	2500	J
bis-(2-Chloroethyl) ether	350	U	3900	U	3600	U	3700	U	3700	U
bis(2-Chloroethoxy)methane	350	U	3900	U	3600	U	3700	U	3700	U
bis(2-Ethylhexyl)phthalate	670	U	1600	J	1200	J	3700	U	3700	U
n-octylphthalate	350	U	3900	U	3600	U	3700	U	3700	U
achlorobenzene	350	U	3900	U	3600	U	3700	U	3700	U
nracene	120	J	3900	U	1500	J	540	J	1100	J
2,4-Dichlorophenol	350	U	3900	U	3600	U	3700	U	3700	U
2,4-Dinitrotoluene	350	U	3900	U	3600	UJ	1900	J	1900	J
Pyrene	570		1700	J	7000	J	6800		7100	
Dimethylphthalate	350	U	3900	U	3600	U	3700	U	3700	U
Dibenzofuran	45	J	3900	U	3600	U	3700	U	370	J
Benzo(g,h,i)perylene	140	J	680	J	1300	J	1200	J	1200	J
Indeno(1,2,3-cd)pyrene	160	J	670	J	1600	J	1300	J	1500	J
Benzo(b)fluoranthene	230	J	880	J	2500	J	1800	J	2400	J
Fluoranthene	640		1900	J	8300		5100		6400	
Benzo(k)fluoranthene	200	J	870	J	2500	J	2200	J	2300	J
Acenaphthylene	350	U	3900	U	3600	U	3700	U	3700	U
Chrysene	310	J	1100	J	3500	J	2600	J	2900	J
4,6-Dinitro-2-methylphenol	880	U	9800	U	9100	U	9200	U	9200	U
2,6-Dinitrotoluene	350	U	3900	U	3600	U	3700	U	3700	U
N-Nitroso-di-n-propylamine	350	U	3900	U	3600	U	1800	J	1500	J
Atrazine	350	UJ	3900	UJ	3600	UJ	3700	UJ	3700	UJ
4-Chlorophenyl-phenyl ether	350	U	3900	U	3600	U	3700	U	3700	U

Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TD7
Site : MCDOUGALL PROPERTY
: CEIMIC
.iewer :
Date :

Sample Number :	E0TE0		E0TE1		E0TE2		E0TE3		E0TE4	
Sampling Location :	SS4		SS5		SS6		SS7		SS8	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	08/21/2002		08/21/2002		08/21/2002		08/21/2002		08/21/2002	
Time Sampled :	15:30		15:45		17:10		17:00		14:40	
%Moisture :	10		6		11		6		6	
pH :	8.9		8.3		8.7		8.5		8.7	
Dilution Factor :	30.0		30.0		1.0		10.0		10.0	
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzo(a)pyrene	2500	J	13000	J	87	J	3600		1800	J
2,4-Dinitrophenol	28000	U	26000	U	920	U	8800	U	8800	U
Dibenzo(a,h)anthracene	3600	J	3500	J	370	U	1000	J	540	J
Benzo(a)anthracene	17000	J	16000	J	71	J	3700		1800	J
4-Chloro-3-methylphenol	11000	U	10000	U	370	U	3500	U	3500	U
Hexachloroethane	11000	U	10000	U	370	U	3500	U	3500	U
Hexachlorocyclopentadiene	11000	U	10000	U	370	U	3500	U	3500	U
Isophorone	11000	U	10000	U	370	U	3500	U	3500	U
Acenaphthene	11000	U	10000	U	370	U	3500	U	3500	U
Diethylphthalate	11000	U	10000	U	370	U	3500	U	3500	U
Di-n-butylphthalate	11000	U	10000	U	370	U	3500	U	3500	U
Phenanthrene	26000	J	19000	J	38	J	1900	J	1600	J
ylbenzylphthalate	11000	U	10000	U	370	U	3500	U	3500	U
rosodiphenylamine	11000	U	10000	U	370	U	3500	U	3500	U
rene	2600	J	1200	J	370	U	3500	U	3500	U
Carbazole	1900	J	1300	J	370	U	3500	U	3500	U
Hexachlorobutadiene	11000	U	10000	U	370	U	3500	U	3500	U
Pentachlorophenol	28000	U	26000	U	920	U	8800	U	8800	U
2,4,6-Trichlorophenol	11000	U	10000	U	370	U	3500	U	3500	U
2-Nitroaniline	28000	U	26000	U	920	U	8800	U	8800	U
2-Nitrophenol	11000	U	10000	U	370	U	3500	U	3500	U
Naphthalene	11000	U	1100	J	370	U	3500	U	3500	U
2-Methylnaphthalene	11000	U	10000	U	370	U	3500	U	3500	U
2-Chloronaphthalene	11000	U	10000	U	370	U	3500	U	3500	U
3,3'-Dichlorobenzidine	11000	U	10000	U	370	U	3500	U	3500	U
1,1'-Biphenyl	11000	U	10000	U	370	U	3500	U	3500	U
2-Methylphenol	11000	U	10000	U	370	U	3500	U	3500	U
2-Chlorophenol	11000	U	10000	U	370	U	3500	U	3500	U
2,4,5-Trichlorophenol	28000	U	26000	U	920	U	8800	U	8800	U
Acetophenone	11000	U	10000	U	370	U	3500	U	3500	U
Nitrobenzene	11000	U	10000	U	370	U	3500	U	3500	U
3-Nitroaniline	28000	U	26000	U	920	U	8800	U	8800	U
4-Nitroaniline	28000	U	26000	U	920	U	8800	U	8800	U

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Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TD7

Site : MCDOUGALL PROPERTY

: CEIMIC

ewer :

Date :

Sample Number :	E0TE0		E0TE1		E0TE2		E0TE3		E0TE4	
Sampling Location :	SS4		SS5		SS6		SS7		SS8	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	08/21/2002		08/21/2002		08/21/2002		08/21/2002		08/21/2002	
Time Sampled :	15:30		15:45		17:10		17:00		14:40	
%Moisture :	10		6		11		6		6	
pH :	8.9		8.3		8.7		8.5		8.7	
Dilution Factor :	30.0		30.0		1.0		10.0		10.0	
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
4-Nitrophenol	28000	U	26000	U	920	U	8800	U	8800	U
Benzaldehyde	11000	UJ	10000	UJ	370	UJ	3500	UJ	3500	UJ
4-Bromophenyl-phenylether	11000	U	10000	U	370	U	3500	U	3500	U
Caprolactam	11000	U	10000	U	370	U	3500	U	3500	U
2,4-Dimethylphenol	11000	U	10000	U	370	U	3500	U	3500	U
4-Methylphenol	11000	U	10000	U	370	U	3500	U	3500	U
4-Chloroaniline	11000	U	10000	U	370	U	3500	U	3500	U
2,2'-oxybis(1-Chloropropane)	11000	U	10000	U	370	U	3500	U	3500	U
Phenol	11000	U	10000	U	370	U	3500	U	3500	U
bis-(2-Chloroethyl) ether	11000	U	10000	U	370	U	3500	U	3500	U
bis(2-Chloroethoxy)methane	11000	U	10000	U	370	U	3500	U	3500	U
bis(2-Ethylhexyl)phthalate	11000	U	10000	U	430	U	3500	U	3500	UJ
octylphthalate	11000	U	10000	U	370	U	3500	U	3500	U
chlorobenzene	11000	U	10000	U	370	U	3500	U	3500	U
racene	6700	J	4000	J	370	U	480	J	370	J
2,4-Dichlorophenol	11000	U	10000	U	370	U	3500	U	3500	U
2,4-Dinitrotoluene	11000	U	10000	U	370	U	3500	U	3500	U
Pyrene	30000	J	26000	J	110	J	6400		3100	J
Dimethylphthalate	11000	U	10000	U	370	U	3500	U	3500	U
Dibenzofuran	2000	J	1400	J	370	U	3500	U	3500	U
Benzo(g,h,i)perylene	5700	J	5100	J	53	J	1900	J	870	J
Indeno(1,2,3-cd)pyrene	7300	J	6500	J	57	J	2100	J	1000	J
Benzo(b)fluoranthene	9600	J	10000	J	69	J	2600	J	1600	J
Fluoranthene	33000	J	30000	J	110	J	7500		3400	J
Benzo(k)fluoranthene	13000	J	8000	J	92	J	3900		1500	J
Acenaphthylene	2500	J	1600	J	370	U	3500	U	3500	U
Chrysene	16000	J	16000	J	87	J	3700		1800	J
4,6-Dinitro-2-methylphenol	28000	U	26000	U	920	U	8800	U	8800	U
2,6-Dinitrotoluene	11000	U	10000	U	370	U	3500	U	3500	U
N-Nitroso-di-n-propylamine	11000	U	10000	U	370	U	3500	U	3500	U
Atrazine	11000	UJ	10000	UJ	370	UJ	3500	UJ	3500	UJ
4-Chlorophenyl-phenyl ether	11000	U	10000	U	370	U	3500	U	3500	U

Case #: 30856 SDG : E0TD7

Site : MCDOUGALL PROPERTY

: CEIMIC

Viewer :

Date :

Sample Number :	E0TE5		E0TE6		E0TE7		E0TE8		E0TE9	
Sampling Location :	SS9		SS10		SS11		SS12		SS13	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	08/21/2002		08/21/2002		08/21/2002		08/21/2002		08/21/2002	
Time Sampled :	14:50		15:00		16:00		16:15		16:25	
%Moisture :	6		8		8		10		10	
pH :	8.7		8.7		8.8		8.9		9.0	
Dilution Factor :	1.0		5.0		1.0		10.0		10.0	
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzo(a)pyrene	100	J	270	J	360	U	500	J	1800	J
2,4-Dinitrophenol	870	U	4500	U	900	U	9200	U	9200	U
Dibenzo(a,h)anthracene	350	U	1800	U	360	U	3700	U	420	J
Benzo(a)anthracene	100	J	310	J	37	J	480	J	1900	J
4-Chloro-3-methylphenol	350	U	1800	U	360	U	3700	U	3700	U
Hexachloroethane	350	U	1800	U	360	U	3700	U	3700	U
Hexachlorocyclopentadiene	350	U	1800	U	360	U	3700	U	3700	U
Isophorone	350	U	1800	U	360	U	3700	U	3700	U
Acenaphthene	350	U	1800	U	360	U	3700	U	3700	U
Diethylphthalate	350	U	1800	U	360	U	3700	U	3700	U
Di-n-butylphthalate	56	J	270	J	360	U	3700	U	480	J
Phenanthrene	130	J	410	J	38	J	490	J	1600	J
[illegible]thylbenzylphthalate	350	U	1800	U	360	U	3700	U	3700	U
[illegible]trosodiphenylamine	350	U	1800	U	360	U	3700	U	3700	U
[illegible]orene	350	U	1800	U	360	U	3700	U	3700	U
Carbazole	350	U	1800	U	360	U	3700	U	3700	U
Hexachlorobutadiene	350	U	1800	U	360	U	3700	U	3700	U
Pentachlorophenol	870	U	4500	U	900	U	9200	U	9200	U
2,4,6-Trichlorophenol	350	U	1800	U	360	U	3700	U	3700	U
2-Nitroaniline	870	U	4500	U	900	U	9200	U	9200	U
2-Nitrophenol	350	U	1800	U	360	U	3700	U	3700	U
Naphthalene	350	U	260	J	360	U	3700	U	3700	U
2-Methylnaphthalene	40	J	380	J	360	U	3700	U	420	J
2-Chloronaphthalene	350	U	1800	U	360	U	3700	U	3700	U
3,3'-Dichlorobenzidine	350	U	1800	U	360	U	3700	U	3700	U
1,1'-Biphenyl	350	U	1800	U	360	U	3700	U	3700	U
2-Methylphenol	350	U	1800	U	360	U	3700	U	3700	U
2-Chlorophenol	350	U	1800	U	360	U	3700	U	3700	U
2,4,5-Trichlorophenol	870	U	4500	U	900	U	9200	U	9200	U
Acetophenone	350	U	1800	U	360	U	3700	U	3700	U
Nitrobenzene	350	U	1800	U	360	U	3700	U	3700	U
3-Nitroaniline	870	U	4500	U	900	U	9200	U	9200	U
4-Nitroaniline	870	U	4500	U	900	U	9200	U	9200	U

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Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TD7
Site : MCDOUGALL PROPERTY
: CEIMIC
iewer :
Date :

Sample Number :	E0TE5		E0TE6		E0TE7		E0TE8		E0TE9	
Sampling Location :	SS9		SS10		SS11		SS12		SS13	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	08/21/2002		08/21/2002		08/21/2002		08/21/2002		08/21/2002	
Time Sampled :	14:50		15:00		16:00		16:15		16:25	
%Moisture :	6		8		8		10		10	
pH :	8.7		8.7		8.8		8.9		9.0	
Dilution Factor :	1.0		5.0		1.0		10.0		10.0	
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
4-Nitrophenol	870	U	4500	U	900	U	9200	U	9200	U
Benzaldehyde	350	UJ	1800	UJ	360	UJ	3700	UJ	3700	UJ
4-Bromophenyl-phenylether	350	U	1800	U	360	U	3700	U	3700	U
Caprolactam	350	U	1800	U	360	U	3700	U	3700	U
2,4-Dimethylphenol	350	U	1800	U	360	U	3700	U	3700	U
4-Methylphenol	350	U	1800	U	360	U	3700	U	3700	U
4-Chloroaniline	350	U	1800	U	360	U	3700	U	3700	U
2,2'-oxybis(1-Chloropropane)	350	U	1800	U	360	U	3700	U	3700	U
Phenol	350	U	1800	U	360	U	3700	U	3700	U
bis-(2-Chloroethyl) ether	350	U	1800	U	360	U	3700	U	3700	U
bis(2-Chloroethoxy)methane	350	U	1800	U	360	U	3700	U	3700	U
bis(2-Ethylhexyl)phthalate	350	UJ	1800	U	360	UJ	3700	U	3700	U
-octylphthalate	350	U	1800	U	360	U	3700	U	3700	U
chlorobenzene	350	U	1800	U	360	U	3700	U	3700	U
iracene	350	U	1800	U	360	U	3700	U	3700	U
2,4-Dichlorophenol	350	U	1800	U	360	U	3700	U	3700	U
2,4-Dinitrotoluene	350	U	1800	U	360	U	3700	U	3700	U
Pyrene	190	J	470	J	68	J	710	J	3300	J
Dimethylphthalate	350	U	1800	U	360	U	3700	U	3700	U
Dibenzofuran	350	U	1800	U	360	U	3700	U	3700	U
Benzo(g,h,i)perylene	62	J	1800	U	360	U	3700	U	750	J
Indeno(1,2,3-cd)pyrene	74	J	1800	U	360	U	3700	U	1000	J
Benzo(b)fluoranthene	120	J	380	J	41	J	500	J	1500	J
Fluoranthene	180	J	560	J	70	J	780	J	4000	
Benzo(k)fluoranthene	77	J	260	J	360	U	460	J	1400	J
Acenaphthylene	350	U	1800	U	360	U	3700	U	3700	U
Chrysene	130	J	360	J	51	J	550	J	2000	J
4,6-Dinitro-2-methylphenol	870	U	4500	U	900	U	9200	U	9200	U
2,6-Dinitrotoluene	350	U	1800	U	360	U	3700	U	3700	U
N-Nitroso-di-n-propylamine	350	U	1800	U	360	U	3700	U	3700	U
Atrazine	350	UJ	1800	UJ	360	UJ	3700	UJ	3700	UJ
4-Chlorophenyl-phenyl ether	350	U	1800	U	360	U	3700	U	3700	U

Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TD7

Site : MCDOUGALL PROPERTY

: CEIMIC

Reviewer :

Date :

Sample Number :	E0TF0		E0TF1		E0TF5		E0TF6		E0TF7	
Sampling Location :	SS14		SS15		SB4		SB5		SB6	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	08/21/2002		08/21/2002		08/21/2002		08/21/2002		08/21/2002	
Time Sampled :	16:40		17:20		15:30		15:35		16:05	
%Moisture :	3		3		20		15		25	
pH :	9.1		9.1		8.3		9.3		8.3	
Dilution Factor :	10.0		10.0		30.0		1.0		1.0	
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzo(a)pyrene	3400	U	1600	J	12000	U	39	J	440	U
2,4-Dinitrophenol	8500	U	8500	U	31000	U	960	U	1100	U
Dibenzo(a,h)anthracene	3400	U	350	J	12000	U	380	U	440	U
Benzo(a)anthracene	3400	U	1600	J	12000	U	40	J	440	U
4-Chloro-3-methylphenol	3400	U	3400	U	12000	U	380	U	440	U
Hexachloroethane	3400	U	3400	U	12000	U	380	U	440	U
Hexachlorocyclopentadiene	3400	U	3400	U	12000	U	380	U	440	U
Isophorone	3400	U	3400	U	12000	U	380	U	440	U
Acenaphthene	3400	U	3400	U	12000	U	380	U	440	U
Diethylphthalate	3400	U	3400	U	12000	U	380	U	440	U
Di-n-butylphthalate	3400	U	3400	U	12000	U	380	U	440	U
Phenanthrene	3400	U	2900	J	12000	U	62	J	440	U
ylbenzylphthalate	3400	U	3400	U	12000	U	380	U	440	U
trosodiphenylamine	3400	U	3400	U	12000	U	380	U	440	U
orene	3400	U	3400	U	12000	U	380	U	440	U
Carbazole	3400	U	3400	U	12000	U	380	U	440	U
Hexachlorobutadiene	3400	U	3400	U	12000	U	380	U	440	U
Pentachlorophenol	8500	U	8500	U	31000	U	960	U	1100	U
2,4,6-Trichlorophenol	3400	U	3400	U	12000	U	380	U	440	U
2-Nitroaniline	8500	U	8500	U	31000	U	960	U	1100	U
2-Nitrophenol	3400	U	3400	U	12000	U	380	U	440	U
Naphthalene	3400	U	3400	U	2100	J	380	U	440	U
2-Methylnaphthalene	3400	U	3400	U	2900	J	380	U	440	U
2-Chloronaphthalene	3400	U	3400	U	12000	U	380	U	440	U
3,3'-Dichlorobenzidine	3400	U	3400	U	12000	U	380	U	440	U
1,1'-Biphenyl	3400	U	3400	U	12000	U	380	U	440	U
2-Methylphenol	3400	U	3400	U	12000	U	380	U	440	U
2-Chlorophenol	3400	U	3400	U	12000	U	380	U	440	U
2,4,5-Trichlorophenol	8500	U	8500	U	31000	U	960	U	1100	U
Acetophenone	390	J	3400	U	12000	U	380	U	440	U
Nitrobenzene	3400	U	3400	U	12000	U	380	U	440	U
3-Nitroaniline	8500	U	8500	U	31000	U	960	U	1100	U
4-Nitroaniline	8500	U	8500	U	31000	U	960	U	1100	U

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Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TD7
Site : MCDOUGALL PROPERTY
: CEIMIC
iewer :
Date :

Sample Number :	E0TF0		E0TF1		E0TF5		E0TF6		E0TF7	
Sampling Location :	SS14		SS15		SB4		SB5		SB6	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	08/21/2002		08/21/2002		08/21/2002		08/21/2002		08/21/2002	
Time Sampled :	16:40		17:20		15:30		15:35		16:05	
%Moisture :	3		3		20		15		25	
pH :	9.1		9.1		8.3		9.3		8.3	
Dilution Factor :	10.0		10.0		30.0		1.0		1.0	
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
4-Nitrophenol	8500	U	8500	U	31000	U	960	U	1100	U
Benzaldehyde	3400	UJ	3400	UJ	12000	UJ	380	UJ	440	UJ
4-Bromophenyl-phenylether	3400	U	3400	U	12000	U	380	U	440	U
Caprolactam	3400	U	3400	U	12000	U	380	U	440	U
2,4-Dimethylphenol	3400	U	3400	U	12000	U	380	U	440	U
4-Methylphenol	3400	U	3400	U	12000	U	380	U	440	U
4-Chloroaniline	3400	U	3400	U	12000	U	380	U	440	U
2,2'-oxybis(1-Chloropropane)	3400	U	3400	U	12000	U	380	U	440	U
Phenol	3400	U	3400	U	12000	U	380	U	440	U
bis-(2-Chloroethyl) ether	3400	U	3400	U	12000	U	380	U	440	U
bis(2-Chloroethoxy)methane	3400	U	3400	U	12000	U	380	U	440	U
bis(2-Ethylhexyl)phthalate	1100	J	3400	U	12000	U	380	U	440	UJ
n-octylphthalate	3400	U	3400	U	12000	U	380	U	440	U
achlorobenzene	3400	U	3400	U	12000	U	380	U	440	U
hracene	3400	U	3400	U	12000	U	380	U	440	U
2,4-Dichlorophenol	3400	U	3400	U	12000	U	380	U	440	U
2,4-Dinitrotoluene	3400	U	3400	U	12000	U	380	U	440	U
Pyrene	3400	U	3200	J	12000	U	80	J	440	U
Dimethylphthalate	3400	U	3400	U	12000	U	380	U	440	U
Dibenzofuran	3400	U	3400	U	12000	U	380	U	440	U
Benzo(g,h,i)perylene	3400	U	610	J	12000	U	380	U	440	U
Indeno(1,2,3-cd)pyrene	3400	U	790	J	12000	U	380	U	440	U
Benzo(b)fluoranthene	3400	U	1300	J	12000	U	44	J	440	U
Fluoranthene	3400	U	3600		12000	U	89	J	440	U
Benzo(k)fluoranthene	3400	U	980	J	12000	U	380	U	440	U
Acenaphthylene	3400	U	3400	U	12000	U	380	U	440	U
Chrysene	3400	U	1800	J	12000	U	45	J	440	U
4,6-Dinitro-2-methylphenol	8500	U	8500	U	31000	U	960	U	1100	U
2,6-Dinitrotoluene	3400	U	3400	U	12000	U	380	U	440	U
N-Nitroso-di-n-propylamine	3400	U	3400	U	12000	U	380	U	440	U
Atrazine	3400	UJ	3400	UJ	12000	UJ	380	UJ	440	U
4-Chlorophenyl-phenyl ether	3400	U	3400	U	12000	U	380	U	440	U

Case #: 30856 SDG : E0TD7

Site : MCDOUGALL PROPERTY

: CEIMIC

ıewer :

Date :

Sample Number :	E0TF8		E0TF9		SBLKDM		SBLKDN			
Sampling Location :	SB7		SB8							
Matrix :	Soil		Soil		Soil		Soil			
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg			
Date Sampled :	08/21/2002		08/21/2002							
Time Sampled :	16:20		17:00							
%Moisture :	13		12		N/A		N/A			
pH :	9.2		9.1							
Dilution Factor :	5.0		30.0		1.0		1.0			
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzo(a)pyrene	890	J	11000	U	330	U	330	U		
2,4-Dinitrophenol	4700	U	28000	U	830	U	830	U		
Dibenzo(a,h)anthracene	230	J	11000	U	330	U	330	U		
Benzo(a)anthracene	1200	J	11000	U	330	U	330	U		
4-Chloro-3-methylphenol	1900	U	11000	U	330	U	330	U		
Hexachloroethane	1900	U	11000	U	330	U	330	U		
Hexachlorocyclopentadiene	1900	U	11000	U	330	U	330	U		
Isophorone	1900	U	11000	U	330	U	330	U		
Acenaphthene	340	J	11000	U	330	U	330	U		
Diethylphthalate	1900	U	11000	U	330	U	330	U		
Di-n-butylphthalate	1900	U	11000	U	330	U	330	U		
Phenanthrene	3200		11000	U	330	U	330	U		
·thylbenzylphthalate	1900	U	11000	U	330	U	330	U		
rosodiphenylamine	1900	U	11000	U	330	U	330	U		
·rene	740	J	11000	U	330	U	330	U		
Carbazole	310	J	11000	U	330	U	330	U		
Hexachlorobutadiene	1900	U	11000	U	330	U	330	U		
Pentachlorophenol	4700	U	28000	U	830	U	830	U		
2,4,6-Trichlorophenol	1900	U	11000	U	330	U	330	U		
2-Nitroaniline	4700	U	28000	U	830	U	830	U		
2-Nitrophenol	1900	U	11000	U	330	U	330	U		
Naphthalene	450	J	15000		330	U	330	U		
2-Methylnaphthalene	350	J	26000		330	U	330	U		
2-Chloronaphthalene	1900	U	11000	U	330	U	330	U		
3,3'-Dichlorobenzidine	1900	U	11000	U	330	U	330	U		
1,1'-Biphenyl	1900	U	11000	U	330	U	330	U		
2-Methylphenol	1900	U	11000	U	330	U	330	U		
2-Chlorophenol	1900	U	11000	U	330	U	330	U		
2,4,5-Trichlorophenol	4700	U	28000	U	830	U	830	U		
Acetophenone	1900	U	11000	U	330	U	330	U		
Nitrobenzene	1900	U	11000	U	330	U	330	U		
3-Nitroaniline	4700	U	28000	U	830	U	830	U		
4-Nitroaniline	4700	U	28000	U	830	U	830	U		

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Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TD7
Site : MCDOUGALL PROPERTY
. : CEIMIC
viewer :
Date :

Sample Number :	E0TF8		E0TF9		SBLKDM		SBLKDN			
Sampling Location :	SB7		SB8							
Matrix :	Soil		Soil		Soil		Soil			
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg			
Date Sampled :	08/21/2002		08/21/2002							
Time Sampled :	16:20		17:00							
%Moisture :	13		12		N/A		N/A			
pH :	9.2		9.1							
Dilution Factor :	5.0		30.0		1.0		1.0			
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
4-Nitrophenol	4700	U	28000	U	830	U	830	U		
Benzaldehyde	1900	UJ	11000	UJ	330	UJ	330	UJ		
4-Bromophenyl-phenylether	1900	U	11000	U	330	U	330	U		
Caprolactam	1900	U	11000	U	330	U	330	U		
2,4-Dimethylphenol	1900	U	11000	U	330	U	330	U		
4-Methylphenol	1900	U	11000	U	330	U	330	U		
4-Chloroaniline	1900	U	11000	U	330	U	330	U		
2,2'-oxybis(1-Chloropropane)	1900	U	11000	U	330	U	330	U		
Phenol	1900	U	11000	U	330	U	330	U		
bis-(2-Chloroethyl) ether	1900	U	11000	U	330	U	330	U		
bis(2-Chloroethoxy)methane	1900	U	11000	U	330	U	330	U		
bis(2-Ethylhexyl)phthalate	1900	U	11000	U	41	J	73	J		
[illegible]-n-octylphthalate	1900	U	11000	U	330	U	330	U		
[illegible]achlorobenzene	1900	U	11000	U	330	U	330	U		
[illegible]thracene	990	J	11000	U	330	U	330	U		
2,4-Dichlorophenol	1900	U	11000	U	330	U	330	U		
2,4-Dinitrotoluene	1900	U	11000	U	330	U	330	U		
Pyrene	2100		11000	U	330	U	330	U		
Dimethylphthalate	1900	U	11000	U	330	U	330	U		
Dibenzofuran	550	J	11000	U	330	U	330	U		
Benzo(g,h,i)perylene	360	J	11000	U	330	U	330	U		
Indeno(1,2,3-cd)pyrene	470	J	11000	U	330	U	330	U		
Benzo(b)fluoranthene	780	J	11000	U	330	U	330	U		
Fluoranthene	2600		11000	U	330	U	330	U		
Benzo(k)fluoranthene	780	J	11000	U	330	U	330	U		
Acenaphthylene	1900	U	11000	U	330	U	330	U		
Chrysene	1100	J	11000	U	330	U	330	U		
4,6-Dinitro-2-methylphenol	4700	U	28000	U	830	U	830	U		
2,6-Dinitrotoluene	1900	U	11000	U	330	U	330	U		
N-Nitroso-di-n-propylamine	1900	U	11000	U	330	U	330	U		
Atrazine	1900	U	11000	U	330	U	330	UJ		
4-Chlorophenyl-phenyl ether	1900	U	11000	U	330	U	330	U		

Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TD7

Site : MCDOUGALL PROPERTY

: CEIMIC

.iewer : .

Date :

Number of Soil Samples : 20

Number of Water Samples : 0

Sample Number :	E0TD7		E0TD8		E0TD9		E0TD9DL		E0TD9MS	
Sampling Location :	SS1		SS2		SS3		SS3		SS3	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	08/21/2002		08/21/2002		08/21/2002		08/21/2002		08/21/2002	
Time Sampled :	14:15		14:25		15:15		15:15		15:15	
%Moisture :	6		16		10		10		10	
pH :	9.0		8.4		8.5		8.5		8.5	
Dilution Factor :	1.0		1.0		1.0		10.0		1.0	
Pesticide/PCB Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
4,4'-DDT	3.7		25		90	J	83	J	46	J
gamma-BHC (Lindane)	1.8	U	2.0	U	1.9	U	19	U	9.2	J
Dieldrin	3.5	U	3.9	U	6.6	J	36	U	21	J
Endrin	3.5	U	3.9	U	3.6	U	36	U	20	J
Methoxychlor	18	U	20	U	19	U	190	U	19	U
4,4'-DDD	3.5	U	3.9	U	12	J	36	U	6.1	J
4,4'-DDE	3.5	U	6.0		31	J	36	U	20	J
Heptachlor	1.8	U	2.0	U	1.9	U	19	U	10	J
Aldrin	1.8	U	2.0	U	1.9	U	19	U	9.6	J
alpha-BHC	1.8	U	2.0	U	1.9	U	19	U	1.9	U
beta-BHC	1.8	U	2.0	U	1.9	U	19	U	1.9	U
delta-BHC	1.8	U	2.0	U	1.9	U	19	U	1.9	U
Endosulfan I	1.8	U	2.0	U	1.9	U	19	U	1.9	U
achlor epoxide	1.8	U	2.0	U	1.9	U	19	U	1.9	U
dosulfan sulfate	3.5	U	3.9	U	3.6	U	36	U	3.6	U
alpha-Chlordane	1.8	U	4.3		2.8	J	19	U	3.4	J
gamma-Chlordane	1.8	U	2.3		1.9	U	19	U	1.9	U
Endrin aldehyde	3.5	U	3.9	U	3.6	U	36	U	3.6	U
Toxaphene	180	U	200	U	190	U	1900	U	190	U
Aroclor-1260	35	U	39	U	36	U	360	U	36	U
Aroclor-1254	35	U	39	U	36	U	360	U	36	U
Aroclor-1221	71	U	78	U	74	U	740	U	74	U
Aroclor-1232	35	U	39	U	36	U	360	U	36	U
Aroclor-1248	35	U	39	U	36	U	360	U	36	U
Aroclor-1016	35	U	39	U	36	U	360	U	36	U
Endosulfan II	3.5	U	3.9	U	3.6	U	36	U	3.6	U
Aroclor-1242	35	U	39	U	36	U	360	U	36	U
Endrin ketone	3.5	U	3.9	U	4.1	J	36	U	3.6	U

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Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TD7
Site : MCDOUGALL PROPERTY
: CEIMIC
ıewer :
Date :

Sample Number :	E0TD9MSD		E0TE0		E0TE0DL		E0TE1		E0TE2	
Sampling Location :	SS3		SS4		SS4		SS5		SS6	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	08/21/2002		08/21/2002		08/21/2002		08/21/2002		08/21/2002	
Time Sampled :	15:15		15:30		15:30		15:45		17:10	
%Moisture :	10		10		10		6		11	
pH :	8.5		8.9		8.9		8.3		8.7	
Dilution Factor :	1.0		1.0		10.0		1.0		1.0	
Pesticide/PCB Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
4,4'-DDT	66	J	11	J	36	U	12	J	3.7	U
gamma-BHC (Lindane)	12	J	2.2	J	19	U	1.8	U	1.9	U
Dieldrin	27	J	3.6	U	36	U	3.5	U	3.7	U
Endrin	29	J	3.6	U	36	U	3.5	U	3.7	U
Methoxychlor	22	J	30	J	190	U	20	J	19	U
4,4'-DDD	8.5	J	3.7	J	36	U	4.2	J	3.7	U
4,4'-DDE	26	J	3.6	U	36	U	3.5	U	3.7	U
Heptachlor	13	J	1.9	J	19	U	1.8	U	1.9	U
Aldrin	12	J	1.9	U	19	U	1.8	U	1.9	U
alpha-BHC	1.9	U	1.9	U	19	U	1.8	U	1.9	U
beta-BHC	1.9	U	1.9	U	19	U	1.8	U	1.9	U
delta-BHC	3.2	J	3.5	J	19	U	1.8	U	1.9	U
dosulfan I	1.9	U	1.9	U	19	U	1.8	U	1.9	U
achlor epoxide	2.2	J	3.5	J	19	U	1.8	U	1.9	U
osulfan sulfate	3.6	U	3.6	U	36	U	3.5	U	3.7	U
alpha-Chlordane	1.9	U	1.9	U	19	U	1.8	U	1.9	U
gamma-Chlordane	1.9	U	1.9	U	19	U	1.8	U	1.9	U
Endrin aldehyde	3.6	U	3.6	U	36	U	3.5	U	3.7	U
Toxaphene	190	U	190	U	1900	U	180	U	190	U
Aroclor-1260	36	U	36	U	360	U	35	U	37	U
Aroclor-1254	36	U	36	U	360	U	35	U	37	U
Aroclor-1221	74	U	73	U	730	U	71	U	75	U
Aroclor-1232	36	U	36	U	360	U	35	U	37	U
Aroclor-1248	36	U	36	U	360	U	35	U	37	U
Aroclor-1016	36	U	36	U	360	U	35	U	37	U
Endosulfan II	3.6	U	3.6	U	36	U	3.5	U	3.7	U
Aroclor-1242	36	U	36	U	360	U	35	U	37	U
Endrin ketone	3.6	U	3.6	U	36	U	3.5	U	3.7	U

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Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TD7
Site : MCDOUGALL PROPERTY
. : CEIMIC
/iewer :
Date :

Sample Number :	E0TE3		E0TE4		E0TE5		E0TE6		E0TE7	
Sampling Location :	SS7		SS8		SS9		SS10		SS11	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	08/21/2002		08/21/2002		08/21/2002		08/21/2002		08/21/2002	
Time Sampled :	17:00		14:40		14:50		15:00		16:00	
%Moisture :	6		6		6		8		8	
pH :	8.5		8.7		8.7		8.7		8.8	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
Pesticide/PCB Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
4,4'-DDT	17	J	11		6.6		3.7		3.6	U
gamma-BHC (Lindane)	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
Dieldrin	3.5	U	3.5	U	3.5	U	3.6	U	3.6	U
Endrin	3.5	U	3.5	U	3.5	U	3.6	U	3.6	U
Methoxychlor	18	U	18	U	18	U	18	U	18	U
4,4'-DDD	14	J	3.5	U	3.5	U	3.6	U	3.6	U
4,4'-DDE	18	J	4.0		3.5	U	3.6	U	3.6	U
Heptachlor	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
Aldrin	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
alpha-BHC	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
beta-BHC	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
delta-BHC	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
Endosulfan I	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
achlor epoxide	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
osulfan sulfate	3.5	U	3.5	U	3.5	U	3.6	U	3.6	U
alpha-Chlordane	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
gamma-Chlordane	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
Endrin aldehyde	3.5	U	3.5	U	3.5	U	3.6	U	3.6	U
Toxaphene	180	U	180	U	180	U	180	U	180	U
Aroclor-1260	35	U	35	U	35	U	36	U	36	U
Aroclor-1254	35	U	35	U	35	U	36	U	36	U
Aroclor-1221	71	U	71	U	70	U	72	U	73	U
Aroclor-1232	35	U	35	U	35	U	36	U	36	U
Aroclor-1248	35	U	35	U	35	U	36	U	36	U
Aroclor-1016	35	U	35	U	35	U	36	U	36	U
Endosulfan II	3.5	U	3.5	U	3.5	U	3.6	U	3.6	U
Aroclor-1242	35	U	35	U	35	U	36	U	36	U
Endrin ketone	3.5	U	3.5	U	3.5	U	3.6	U	3.6	U

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Case #: 30856 SDG : E0TD7

Site : MCDOUGALL PROPERTY

. : CEIMIC

iewer :

Date :

Sample Number :	E0TE8		E0TE9		E0TF0		E0TF1		E0TF5	
Sampling Location :	SS12		SS13		SS14		SS15		SB4	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	08/21/2002		08/21/2002		08/21/2002		08/21/2002		08/21/2002	
Time Sampled :	16:15		16:25		16:40		17:20		15:30	
%Moisture :	10		10		3		3		20	
pH :	8.9		9.0		9.1		9.1		8.3	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
Pesticide/PCB Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
4,4'-DDT	14	J	12		15		15		4.1	U
gamma-BHC (Lindane)	2.0	J	1.9	U	1.7	U	1.7	U	2.1	U
Dieldrin	3.6	U	3.7	U	3.4	U	3.3	U	4.1	U
Endrin	3.6	U	3.7	U	3.4	U	3.3	U	4.1	U
Methoxychlor	19	U	19	U	17	U	17	U	21	U
4,4'-DDD	3.6	U	10		3.4	U	3.3	U	4.1	U
4,4'-DDE	3.6	U	25		15		3.3	U	4.1	U
Heptachlor	1.9	U	1.9	U	1.7	U	1.7	U	2.1	U
Aldrin	1.9	U	1.9	U	1.7	U	1.7	U	2.1	U
alpha-BHC	1.9	U	1.9	U	1.7	U	1.7	U	2.1	U
beta-BHC	1.9	U	1.9	U	1.7	U	1.7	U	2.1	U
delta-BHC	1.9	U	1.9	U	1.7	U	1.7	U	2.1	U
dosulfan I	1.9	U	1.9	U	1.7	U	1.7	U	2.1	U
achlor epoxide	1.9	U	1.9	U	1.7	U	1.7	U	2.1	U
osulfan sulfate	3.6	U	3.7	U	3.4	U	3.3	U	4.1	U
alpha-Chlordane	1.9	U	1.9	U	2.3		1.7	U	2.1	U
gamma-Chlordane	1.9	U	1.9	U	1.7	U	1.7	U	2.1	U
Endrin aldehyde	3.6	U	3.7	U	3.4	U	3.3	U	4.1	U
Toxaphene	190	U	190	U	170	U	170	U	210	U
Aroclor-1260	36	U	37	U	34	U	33	U	41	U
Aroclor-1254	36	U	37	U	34	U	33	U	41	U
Aroclor-1221	74	U	74	U	68	U	68	U	83	U
Aroclor-1232	36	U	37	U	34	U	33	U	41	U
Aroclor-1248	36	U	37	U	34	U	33	U	41	U
Aroclor-1016	36	U	37	U	34	U	33	U	41	U
Endosulfan II	3.6	U	3.7	U	3.4	U	3.3	U	4.1	U
Aroclor-1242	36	U	37	U	34	U	33	U	41	U
Endrin ketone	3.6	U	3.7	U	3.4	U	3.3	U	4.1	U

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Analytical Results (Qualified Data)

Case #: 30856 SDG : E0TD7
Site : MCDOUGALL PROPERTY
: CEIMIC
ıewer :
Date :

Sample Number :	E0TF6		E0TF7		E0TF8		E0TF9		PBLK01	
Sampling Location :	SB5		SB6		SB7		SB8			
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	08/21/2002		08/21/2002		08/21/2002		08/21/2002			
Time Sampled :	15:35		16:05		16:20		17:00			
%Moisture :	15		25		13		12		N/A	
pH :	9.3		8.3		9.2		9.1			
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
Pesticide/PCB Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
4,4'-DDT	3.9	U	4.3	U	3.8	U	3.7	U	3.3	U
gamma-BHC (Lindane)	2.0	U	2.2	U	1.9	U	1.9	U	1.7	U
Dieldrin	3.9	U	4.3	U	3.8	U	3.7	U	3.3	U
Endrin	3.9	U	4.3	U	3.8	U	3.7	U	3.3	U
Methoxychlor	20	U	22	U	19	U	19	U	17	U
4,4'-DDD	3.9	U	4.3	U	3.8	U	3.7	U	3.3	U
4,4'-DDE	3.9	U	4.3	U	3.8	U	7.4		3.3	U
Heptachlor	2.0	U	2.2	U	1.9	U	1.9	U	1.7	U
Aldrin	2.0	U	2.2	U	1.9	U	1.9	U	1.7	U
alpha-BHC	2.0	U	2.2	U	1.9	U	1.9	U	1.7	U
beta-BHC	2.0	U	2.2	U	1.9	U	1.9	U	1.7	U
delta-BHC	2.0	U	2.2	U	1.9	U	1.9	U	1.7	U
Endosulfan I	2.0	U	2.2	U	1.9	U	1.9	U	1.7	U
achlor epoxide	2.0	U	2.2	U	1.9	U	1.9	U	1.7	U
osulfan sulfate	3.9	U	4.3	U	3.8	U	3.7	U	3.3	U
alpha-Chlordane	2.0	U	2.2	U	1.9	U	1.9	U	1.7	U
gamma-Chlordane	2.0	U	2.2	U	1.9	U	1.9	U	1.7	U
Endrin aldehyde	3.9	U	4.3	U	3.8	U	3.7	U	3.3	U
Toxaphene	200	U	220	U	190	U	190	U	170	U
Aroclor-1260	39	U	43	U	38	U	37	U	33	U
Aroclor-1254	39	U	43	U	38	U	37	U	33	U
Aroclor-1221	78	U	88	U	76	U	75	U	67	U
Aroclor-1232	39	U	43	U	38	U	37	U	33	U
Aroclor-1248	39	U	43	U	38	U	37	U	33	U
Aroclor-1016	39	U	43	U	38	U	37	U	33	U
Endosulfan II	3.9	U	4.3	U	3.8	U	3.7	U	3.3	U
Aroclor-1242	39	U	43	U	38	U	37	U	33	U
Endrin ketone	3.9	U	4.3	U	3.8	U	3.7	U	3.3	U

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Case #: 30856 SDG : E0TD7

Site : MCDOUGALL PROPERTY

: CEIMIC

viewer :

Date :

Sample Number :	PBLK02									
Sampling Location :										
Matrix :	Soil									
Units :	ug/Kg									
Date Sampled :										
Time Sampled :										
%Moisture :	N/A									
pH :										
Dilution Factor :	1.0									
Pesticide/PCB Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
4,4'-DDT	3.3	U								
gamma-BHC (Lindane)	1.7	U								
Dieldrin	3.3	U								
Endrin	3.3	U								
Methoxychlor	17	U								
4,4'-DDD	3.3	U								
4,4'-DDE	3.3	U								
Heptachlor	1.7	U								
Aldrin	1.7	U								
alpha-BHC	1.7	U								
beta-BHC	1.7	U								
delta-BHC	1.7	U								
Endosulfan I	1.7	U								
ptachlor epoxide	1.7	U								
dosulfan sulfate	3.3	U								
alpha-Chlordane	1.7	U								
gamma-Chlordane	1.7	U								
Endrin aldehyde	3.3	U								
Toxaphene	170	U								
Aroclor-1260	33	U								
Aroclor-1254	33	U								
Aroclor-1221	67	U								
Aroclor-1232	33	U								
Aroclor-1248	33	U								
Aroclor-1016	33	U								
Endosulfan II	3.3	U								
Aroclor-1242	33	U								
Endrin ketone	3.3	U								

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APPENDIX D
PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

TABLE 1. GROUNDWATER: RESIDENTIAL AND INDUSTRIAL-COMMERCIAL PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

All criteria are expressed in units of parts per billion (ppb;ug/L). Scientific notation is represented by E+ or E- a value; for example, 2×10^6 is reported as 2.0E+6. For comparison to the criteria, groundwater samples should be representative of the water moving through the aquifer in the contaminant plume.

Hazardous Substance	Chemical Abstract Service Number (CAS #)	Residential & Commercial I Drinking Water Criteria	Industrial & Commercial II, III & IV Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Residential & Commercial I Groundwater Volatilization to Indoor Air Inhalation Criteria	Industrial & Commercial II, III & IV Groundwater Volatilization to Indoor Air Inhalation Criteria	Groundwater Contact Criteria	Water Solubility	Flammability and Explosivity Screening Levels	Acute Inhalation Screening Levels[1]
Acenaphthene	83329	1,300	3,800	19	4,200 (S)	4,200 (S)	4,200 (S)	4,240	ID	ID
Acenaphthylene	208968	52	150	ID	3,900 (S)	3,900 (S)	3,900 (S)	3,930	ID	ID
Acetaldehyde (I)	75070	950	2,700	500 (M)	1.1E+6	2.3E+6	4.2E+7	1.0E+9	8.9E+6	2.6E+7
Acetic acid	64197	18,000 (M)	18,000 (M)	18,000 (M)	NLV	NLV	1.8E+8	6.0E+9	1.0E+9 (D)	1.0E+9 (D)
Acetone (I)	67641	730	2,100	1,700	1.0E+9 (D,S)	1.0E+9 (D,S)	3.1E+7	1.0E+9	1.5E+7	1.0E+9 (D)
Acetonitrile	75058	140	400	NA	2.4E+7	4.5E+7	5.6E+6	2.00E+8	2.1E+7	2.0E+8
Acetophenone	98862	1,500	4,400	ID	6.1E+6 (S)	6.1E+6 (S)	6.1E+6 (S)	6.1E+6	ID	ID
Acrolein (I)	107028	120	330	NA	2,100	4,200	3.4E+6	2.10E+8	6.7E+6	3.4E+5
Acrylamide	79061	0.5 (A)	0.5 (A)	NA	NLV	NLV	13,000	2.20E+9	NA	ID
Acrylic acid	79107	3,900	11,000	NA	1.2E+7	2.8E+7	7.6E+7	1.0E+9	1.0E+9 (D)	ID
Acrylonitrile (I)	107131	2.6	11	4.9 (X)	34,000	1.9E+5	14,000	7.50E+7	6.4E+6	ID
Alachlor	15972608	2.0 (A)	2.0 (A)	11 (X)	NLV	NLV	1,700	1.83E+5	ID	ID
Aldicarb	116063	3.0 (A)	3.0 (A)	NA	NLV	NLV	1.2E+5	6.00E+6	ID	ID
Aldicarb sulfoxide	1646873	4.0 (A)	4.0 (A)	NA	NLV	NLV	2.7E+6	2.80E+7	ID	ID
Aldicarb sulfone	1646884	2.0 (A)	2.0 (A)	NA	NLV	NLV	2.1E+6	7.80E+6	ID	ID
Aldrin	309002	0.098	0.4	0.01 (M,X)	180 (S)	180 (S)	0.34 (AA)	180	ID	ID
Aluminum (B)	7429905	50 (V)	50 (V)	NA	NLV	NLV	6.4E+7	NA	ID	ID
Ammonia	7664417	10,000 (N)	10,000 (N)	(CC)	3.2E+6	7.1E+6	ID	5.30E+8	ID	3.5E+6
t-Amyl methyl ether (TAME)	994058	190 (E)	190 (E)	NA	2.6E+5	5.7E+5	2.6E+6 (S)	2.64E+6	NA	NA
Aniline	62533	53	220	20 (M)	NLV	NLV	1.4E+5	3.60E+7	NA	ID
Anthracene	120127	43 (S)	43 (S)	ID	43 (S)	43 (S)	43 (S)	43.4	ID	ID
Antimony	7440360	6.0 (A)	6.0 (A)	130 (X)	NLV	NLV	68,000	NA	ID	ID
Arsenic	7440382	50 (A)	50 (A)	150 (X)	NLV	NLV	4,300	NA	ID	ID

TABLE 1. GROUNDWATER: RESIDENTIAL AND INDUSTRIAL-COMMERCIAL PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

Hazardous Substance	Chemical Abstract Service Number (CAS #)	Residential & Commercial I Drinking Water Criteria	Industrial & Commercial II, III & IV Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Residential & Commercial I Groundwater Volatilization to Indoor Air Inhalation Criteria	Industrial & Commercial II, III & IV Groundwater Volatilization to Indoor Air Inhalation Criteria	Groundwater Contact Criteria	Water Solubility	Flammability and Explosivity Screening Levels	Acute Inhalation Screening Levels
Asbestos (BB)	1332214	7.0E+6 f/mL (A)	7.0E+6 f/mL (A)	NA	NLV	NLV	ID	NA	NA	ID
Atrazine	1912249	3.0 (A)	3.0 (A)	7.3 (X)	NLV	NLV	5,400	70,000	ID	ID
Azobenzene	103333	23	94	NA	6,400 (S)	6,400 (S)	1,600	6,400	ID	ID
Barium (B)	7440393	2,000 (A)	2,000 (A)	(G,X)	NLV	NLV	1.4E+7	NA	ID	ID
Benzene (I)	71432	5.0 (A)	5.0 (A)	200 (X)	5,600	35,000	11,000	1.75E+6	68,000	67,000
Benzidine	92875	0.3 (M)	0.3 (M)	ID	NLV	NLV	7.1	5.20E+5	ID	ID
Benzo(a)anthracene (Q)	56553	2.1	8.5	ID	NLV	NLV	9.4 (S,AA)	9.4	ID	ID
Benzo(b)fluoranthene (Q)	205992	2.0 (M)	2.0 (M)	ID	ID	ID	2.0 (M,AA)	1.5	ID	ID
Benzo(k)fluoranthene (Q)	207089	5.0 (M)	5.0 (M)	NA	NLV	NLV	5.0 (M,AA)	0.8	ID	ID
Benzo(g,h,i)perylene	191242	5.0 (M)	5.0 (M)	NA	NLV	NLV	5.0 (M,AA)	0.26	ID	ID
Benzo(a)pyrene (Q)	50328	5.0 (A)	5.0 (A)	ID	NLV	NLV	2.0 (M,AA)	1.62	ID	ID
Benzoic acid	65850	32,000	92,000	NA	NLV	NLV	3.5E+6 (S)	3.50E+6	ID	ID
Benzyl alcohol	100516	10,000	29,000	NA	NLV	NLV	4.4E+7 (S)	4.40E+7	ID	ID
Benzyl chloride	100447	7.7	32	NA	12,000	77,000	3,600	4.90E+5	NA	ID
Beryllium	7440417	4.0 (A)	4.0 (A)	(G)	NLV	NLV	2.9E+5	NA	ID	ID
bis(2-Chloroethoxy)ethane	112265	ID	ID	ID	NLV	NLV	ID	1.89E+7	ID	ID
bis(2-Chloroethyl)ether (I)	111444	2.0	8.3	15 (X)	38,000	2.1E+5	5,700	1.72E+7	1.7E+7 (S)	1.7E+7 (S)
bis(2-Ethylhexyl)phthalate	117817	6.0 (A)	6.0 (A)	32	NLV	NLV	320 (AA)	340	NA	340 (S)
Boron (B)	7440428	500 (F)	500 (F)	1,900	NLV	NLV	6.2E+7	NA	ID	ID
Bromobenzene (I)	108861	18	50	NA	1.8E+5	3.9E+5	12,000	4.13E+5	ID	ID
Bromodichloromethane	75274	100 (A,W)	100 (A,W)	ID	4,800	37,000	14,000	6.74E+6	ID	ID
Bromoform	75252	100 (A,W)	100 (A,W)	ID	4.7E+5	3.1E+6 (S)	1.4E+5	3.10E+6	ID	ID
Bromomethane	74839	10	29	35	4,000	9,000	70,000	1.45E+7	ID	ID
n-Butanol (I)	71363	950	2,700	NA	NLV	NLV	8.8E+6	7.40E+7	4.7E+7	7.4E+7 (S)
2-Butanone (MEK) (I)	78933	13,000	38,000	2,200	2.4E+8 (S)	2.4E+8 (S)	2.4E+8 (S)	2.40E+8	ID	2.4E+8 (S)

TABLE 1. GROUNDWATER: RESIDENTIAL AND INDUSTRIAL-COMMERCIAL PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

Hazardous Substance	Chemical Abstract Service Number (CAS #)	Residential & Commercial I Drinking Water Criteria	Industrial & Commercial II, III & IV Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Residential & Commercial I Groundwater Volatilization to Indoor Air Inhalation Criteria	Industrial & Commercial II, III & IV Groundwater Volatilization to Indoor Air Inhalation Criteria	Groundwater Contact Criteria	Water Solubility	Flammability and Explosivity Screening Levels	Acute Inhalation Screening Levels
n-Butyl acetate	123864	550	1,600	NA	6.7E+6 (S)	6.7E+6 (S)	1.8E+6	6.70E+6	2.5E+6	6.7E+6 (S)
t-Butyl alcohol	75650	3,900	11,000	NA	1.0E+9 (D,S)	1.0E+9 (D,S)	7.9E+7	1.0E+9	6.1E+7	ID
Butyl benzyl phthalate	85687	1,200	2,700 (S)	14 (X)	NLV	NLV	2,700 (S)	2,690	ID	ID
n-Butylbenzene	104518	80	230	ID	ID	ID	5,900	NA	ID	ID
sec-Butylbenzene	135988	80	230	ID	ID	ID	4,400	NA	ID	ID
tert-Butylbenzene (I)	98066	80	230	ID	ID	ID	8,900	NA	ID	ID
Cadmium (B)	7440439	5.0 (A)	5.0 (A)	(G,X)	NLV	NLV	1.9E+5	NA	ID	ID
Camphene (I)	79925	ID	ID	NA	ID	ID	ID	33,400	ID	ID
Caprolactam	105602	5,800	17,000	NA	NLV	NLV	3.9E+8	5.25E+9	NA	1.0E+9 (D)
Carbaryl	63252	700	2,000	NA	ID	ID	1.3E+5 (S)	1.26E+5	ID	ID
Carbazole	86748	85	350	10 (M)	NLV	NLV	7,400	7,480	ID	ID
Carbofuran	1563662	40 (A)	40 (A)	NA	NLV	NLV	3.4E+5	7.00E+5	ID	ID
Carbon disulfide (I,R)	75150	800	2,300	ID	2.5E+5	5.5E+5	1.2E+6 (S)	1.19E+6	13,000	ID
Carbon tetrachloride	56235	5.0 (A)	5.0 (A)	45 (X)	370	2,400	4,600	7.93E+5	ID	96,000
Chlordane (J)	57749	2.0 (A)	2.0 (A)	NA	56 (S)	56 (S)	15 (AA)	56	ID	ID
Chloride	16887006	2.5E+5 (E)	2.5E+5 (E)	(FF)	NLV	NLV	ID	NA	ID	ID
Chlorobenzene (I)	108907	100 (A)	100 (A)	47	2.1E+5	4.7E+5 (S)	86,000	4.72E+5	1.6E+5	ID
1-Chloro-1,1-difluoroethane	75683	15,000	44,000	NA	3.9E+6 (S)	3.9E+6 (S)	3.9E+6 (S)	3.9E+06	NA	ID
Chloroethane	75003	430	1,700	ID	5.7E+6 (S)	5.7E+6 (S)	4.4E+5	5.74E+6	1.1E+5	ID
2-Chloroethyl vinyl ether	110758	ID	ID	NA	ID	ID	ID	1.50E+7	ID	ID
Chloroform	67663	100 (A,W)	100 (A,W)	170 (X)	28,000	1.8E+5	1.5E+5	7.92E+6	ID	ID
Chloromethane (I)	74873	260	1,100	ID	8,600	45,000	4.9E+5	6.34E+6	36,000	2.1E+5
4-Chloro-3-methylphenol	59507	150	420	7.4	NLV	NLV	79,000	3.90E+6	ID	ID
beta-Chloronaphthalene	91587	1,800	5,200	NA	ID	ID	6,700 (S)	6,740	ID	ID
2-Chlorophenol	95578	45	130	22	ID	ID	94,000	2.20E+7	ID	ID
o-Chlorotoluene (I)	95498	150	420	ID	2.2E+5	3.7E+5 (S)	44,000	3.73E+5	ID	ID

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Chlorpyrifos	2921882	22	63	NA	2.9	6.6	1,100 (S)	1,120	ID	ID
Chromium (III) (B,H)	16065831	100 (A)	100 (A)	(G,X)	NLV	NLV	2.9E+8	NA	ID	ID
Chromium (VI)	18540299	100 (A)	100 (A)	11	NLV	NLV	4.6E+5	NA	ID	ID
Chrysene (Q)	218019	5.0 (M)	5.0 (M)	ID	ID	ID	5.0 (M,AA)	1.6	ID	ID
Cobalt	7440484	40	100	100	NLV	NLV	2.4E+6	NA	ID	ID
Copper (B)	7440508	1,000 (E)	1,000 (E)	(G)	NLV	NLV	7.4E+6	NA	ID	ID
Cyanazine	21725462	10 (M)	10 (M)	56 (X)	NLV	NLV	2,800	1.70E+5	ID	ID
Cyanide (P,R)	57125	200 (A)	200 (A)	5.2	NLV	NLV	57,000	NA	ID	ID
Cyclohexanone	108941	33,000	94,000	NA	1,500	3,300	2.3E+7 (S)	2.30E+7	NA	ID
Dacthal	1861321	73	210	NA	NLV	NLV	500 (S)	500	ID	ID
Dalapon	75990	200 (A)	200 (A)	NA	NLV	NLV	1.2E+7	5.02E+8	ID	ID
4-4'-DDD	72548	9.1	37	NA	NLV	NLV	44 (AA)	90	ID	ID
4-4'-DDE	72559	4.3	15	NA	NLV	NLV	27 (AA)	120	ID	ID
4-4'-DDT	50293	3.6	10	0.02 (M)	NLV	NLV	13 (AA)	25	NA	ID
Decabromodiphenyl ether	1163195	30 (S)	30 (S)	NA	30 (S)	30 (S)	30 (S)	30	ID	ID
Di-n-butyl phthalate	84742	880	2,500	9.7	NLV	NLV	11,000 (S)	11,200	NA	ID
Di(2-ethylhexyl) adipate	103231	400 (A)	400 (A)	ID	NLV	NLV	470 (S)	471	ID	ID
Di-n-octyl phthalate	117840	130	380	ID	NLV	NLV	400	3,000	ID	ID
Diacetone alcohol (I)	123422	ID	ID	NA	NLV	NLV	ID	1.0E+9	1.0E+9 (S)	ID
Diazinon	333415	1.3	3.8	NA	NLV	NLV	1,300	68,800	NA	ID
Dibenzo(a,h)anthracene (Q)	53703	2.0 (M)	2.0 (M)	ID	NLV	NLV	2.0 (M,AA)	2.49	ID	ID
Dibenzofuran	132649	ID	ID	5.0 (M)	ID	ID	ID	10,000	ID	ID
Dibromochloromethane	124481	100 (A,W)	100 (A,W)	ID	14,000	1.1E+5	18,000	2.60E+6	ID	ID
Dibromochloropropane	96128	0.2 (A)	0.2 (A)	NA	1,200 (S)	1,200 (S)	390	1,230	NA	ID
Dibromomethane	74953	80	230	NA	ID	ID	5.3E+5	1.10E+7	ID	ID

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1,2-Dichlorobenzene	95501	600 (A)	600 (A)	16	1.6E+5 (S)	1.6E+5 (S)	1.6E+5 (S)	1.56E+5	NA	1.6E+5 (S)
1,3-Dichlorobenzene	541731	6.6	19	38	ID	ID	2,000	1.11E+5	ID	ID
1,4-Dichlorobenzene	106467	75 (A)	75 (A)	13	16,000	74,000 (S)	6,400	73,800	NA	ID
3,3'-Dichlorobenzidine	91941	1.1	4.3	0.3 (M,X)	NLV	NLV	180	3,110	ID	ID
Dichlorodifluoromethane	75718	1,700	4,800	ID	2.2E+5	3.0E+5 (S)	3.0E+5 (S)	3.00E+5	ID	ID
1,1-Dichloroethane	75343	880	2,500	740	1.0E+6	2.3E+6	2.4E+6	5.06E+6	3.8E+5	ID
1,2-Dichloroethane (I)	107062	5.0 (A)	5.0 (A)	360 (X)	9,600	59,000	19,000	8.52E+6	2.5E+6	ID
1,1-Dichloroethylene (I)	75354	7.0 (A)	7.0 (A)	65 (X)	200	1,300	11,000	2.25E+6	97,000	1.4E+5
cis-1,2-Dichloroethylene	156592	70 (A)	70 (A)	620	93,000	2.1E+5	2.0E+5	3.50E+6	5.3E+5	ID
trans-1,2-Dichloroethylene	156605	100 (A)	100 (A)	1,500	85,000	2.0E+5	2.2E+5	6.30E+6	2.3E+5	ID
2,6-Dichloro-4-nitroaniline	99309	2,200	6,300	NA	NLV	NLV	7,000 (S)	7,000	ID	ID
2,4-Dichlorophenol	120832	73	210	19	NLV	NLV	48,000	4.50E+6	ID	ID
2,4-Dichlorophenoxyacetic acid	94757	70 (A)	70 (A)	220	NLV	NLV	1.2E+5	6.80E+5	ID	ID
1,2-Dichloropropane (I)	78875	5.0 (A)	5.0 (A)	290 (X)	16,000	36,000	16,000	2.80E+6	5.5E+5	2.8E+6 (S)
1,3-Dichloropropene	542756	8.5	35	NA	3,900	26,000	5,500	2.80E+6	1.3E+5	ID
Dichlorovos	62737	1.6	6.7	NA	NLV	NLV	5,900	1.60E+7	NA	ID
Dicyclohexyl phthalate	84617	ID	ID	NA	ID	ID	ID	4,000	ID	ID
Dieldrin	60571	0.11	0.43	0.02 (M)	200 (S)	200 (S)	2.4 (AA)	195	ID	ID
Diethyl ether	60297	10 (E,M)	10 (E,M)	ID	6.1E+7 (S)	6.1E+7 (S)	3.5E+7	6.10E+7	6.5E+5	6.1E+7 (S)
Diethyl phthalate	84662	5,500	16,000	110	NLV	NLV	1.1E+6 (S)	1.08E+6	NA	ID
Diethylene glycol monobutyl ether	112345	88	250	NA	NLV	NLV	4.0E+6	1.0E+9	ID	ID
Diisopropyl ether	108203	30	86	ID	8,000 (S)	8,000 (S)	8,000 (S)	8,041	8,000 (S)	ID
Diisopropylamine (I)	108189	5.6	16	NA	ID	ID	21,000	3.69E+7	4.6E+6	ID
Dimethyl phthalate	131113	73,000	2.1E+5	NA	NLV	NLV	4.2E+6 (S)	4.19E+6	NA	ID
N,N-Dimethylacetamide	127195	180	520	4,100 (X)	NLV	NLV	2.3E+7	1.0E+9	NA	ID
N,N-Dimethylaniline	121697	16	46	NA	2.4E+5	1.3E+6 (S)	20,000	1.27E+6	NA	1.3E+6 (S)

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Dimethylformamide (I)	68122	700	2,000	NA	NLV	NLV	1.1E+8	1.0E+9	ID	ID
2,4-Dimethylphenol	105679	370	1,000	380	NLV	NLV	5.2E+5	7.87E+6	ID	ID
2,6-Dimethylphenol	576261	4.4	13	NA	NLV	NLV	6,300	6.14E+6	ID	ID
3,4-Dimethylphenol	95658	10	29	NA	NLV	NLV	18,000	4.93E+6	ID	ID
Dimethylsulfoxide	67685	2.2E+5	6.3E+5	1.9E+5	NLV	NLV	1.7E+8 (S)	1.66E+8	ID	ID
2,4-Dinitrotoluene	121142	7.7	32	NA	NLV	NLV	8,600	2.70E+5	ID	ID
Dinoseb	88857	7.0 (A)	7.0 (A)	1.0 (M)	NLV	NLV	7,000	52,000	ID	ID
1,4-Dioxane (I)	123911	85	350	2,800 (X)	NLV	NLV	1.7E+6	9.00E+8	1.4E+8	ID
Diquat	85007	20 (A)	20 (A)	NA	NLV	NLV	7.0E+5 (S)	7.00E+5	ID	ID
Diuron	330541	31	90	NA	NLV	NLV	37,000 (S)	37,300	ID	ID
Endosulfan (J)	115297	44	130	0.03	ID	ID	510 (S)	510	ID	ID
Endothall	145733	100 (A)	100 (A)	NA	NLV	NLV	2.5E+7 (AA)	1.00E+8	ID	ID
Endrin	72208	2.0 (A)	2.0 (A)	NA	NLV	NLV	160 (AA)	250	ID	ID
Epichlorohydrin (I)	106898	5.0 (A,M)	5.0 (A,M)	NA	3.2E+5	6.3E+5	11,000	6.60E+7	4.7E+7	ID
Ethanol (I)	64175	1.9E+6	3.8E+6	NA	NLV	NLV	1.0E+9 (S)	1.0E+9	9.7E+7	ID
Ethyl acetate (I)	141786	6,600	19,000	NA	6.4E+7 (S)	6.4E+7 (S)	6.4E+7 (S)	6.40E+7	4.2E+6	ID
Ethyl-tert-butyl ether (ETBE)	637923	49 (E)	49 (E)	NA	2.9E+6	5.6E+6 (S)	ID	5.63E+6	ID	ID
Ethylbenzene (I)	100414	74 (E)	74 (E)	18	1.1E+5	1.7E+5 (S)	1.7E+5 (S)	1.69E+5	43,000	1.7E+5 (S)
Ethylene dibromide	106934	1.0 (A,M)	1.0 (A,M)	1.0 (M)	2,400	15,000	25	4.20E+6	ID	ID
Ethylene glycol	107211	15,000	42,000	1.9E+5 (X)	NLV	NLV	1.0E+9 (S)	1.0E+9	NA	1.0E+9 (S)
Ethylene glycol monobutyl ether	111762	3,700	10,000	NA	2.9E+6	6.5E+6	5.3E+7	2.24E+8	NA	ID
Fluoranthene	206440	210 (S)	210 (S)	5.0 (M)	210 (S)	210 (S)	210 (S)	206	ID	ID
Fluorene	86737	880	2,000 (S)	12	2,000 (S)	2,000 (S)	2,000 (S)	1,980	ID	ID
Fluorine (soluble fluoride) (B)	7782414	2,000 (E)	2,000 (E)	NA	NLV	NLV	1.2E+7	NA	ID	ID
Formaldehyde	50000	1,300	3,800	120	63,000	3.6E+5	3.0E+7	5.50E+8	ID	61,000

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Formic acid (I,U)	64186	18,000 (M)	29,000	ID	7.7E+6	1.5E+7	6.0E+8	1.0E+9	1.0E+9 (D)	3.5E+8
1-Formylpiperidine	2591868	80	230	NA	ID	ID	ID	NA	ID	ID
Gentian violet	548629	15	63	NA	NLV	NLV	1.0E+6 (S)	1.00E+6	ID	ID
Glyphosate	1071836	700 (A)	700 (A)	NA	NLV	NLV	1.2E+7 (S,AA)	1.16E+7	ID	ID
Heptachlor	76448	0.4 (A)	0.4 (A)	0.01 (M,X)	180 (S)	180 (S)	2.9 (AA)	180	ID	ID
Heptachlor epoxide	1024573	0.2 (A)	0.2 (A)	ID	NLV	NLV	9.0 (AA)	200	ID	ID
n-Heptane	142825	2,700 (S)	2,700 (S)	NA	2,700 (S)	2,700 (S)	2,700 (S)	2,690	200	2,700 (S)
Hexabromobenzene	87821	10 (M)	10 (M)	ID	ID	ID	10 (M)	0.17	ID	ID
Hexachlorobenzene (C-66)	118741	1.0 (A)	1.0 (A)	ID	440	3,000	4.6	6,200	ID	ID
Hexachlorobutadiene (C-46)	87683	15	42	5.0 (M)	1,600	3,200 (S)	400	3,230	ID	ID
alpha-Hexachlorocyclohexane	319846	0.43	1.7	NA	2,000 (S)	2,000 (S)	60	2,000	ID	ID
beta-Hexachlorocyclohexane	319857	0.88	3.6	ID	NLV	NLV	120	240	ID	ID
Hexachlorocyclopentadiene (C-56)	77474	50 (A)	50 (A)	ID	130	420	1,600	1,800	ID	ID
Hexachloroethane	67721	7.3	21	6.7 (X)	27,000	50,000 (S)	1,900	50,000	ID	ID
n-Hexane	110543	3,000	8,600	NA	12,000 (S)	12,000 (S)	12,000 (S)	12,000	12,000 (S)	ID
2-Hexanone	591786	1,000	2,900	NA	4.2E+6	8.7E+6	5.2E+6	1.60E+7	NA	ID
Indeno(1,2,3-cd)pyrene (Q)	193395	2.0 (M)	2.0 (M)	ID	NLV	NLV	2.0 (AA,M)	0.022	ID	ID
Iron (B)	7439896	300 (E)	300 (E)	NA	NLV	NLV	5.8E+7	NA	ID	ID
Isobutyl alcohol (I)	78831	2,300	6,700	NA	7.6E+7 (S)	7.6E+7 (S)	2.5E+7	7.60E+7	ID	ID
Isophorone	78591	770	3,100	570 (X)	NLV	NLV	9.9E+5	1.20E+7	ID	1.2E+7 (S)
Isopropyl alcohol (I)	67630	470	1,300	57,000 (X)	NLV	NLV	1.3E+7	1.0E+9	6.0E+7	1.0E+9 (S)
Isopropyl benzene	98828	800	2,300	ID	56,000 (S)	56,000 (S)	56,000 (S)	56,000	29,000	ID
Lead (B)	7439921	4.0 (L)	4.0 (L)	(G,X)	NLV	NLV	ID	NA	ID	ID
Lindane	58899	0.2 (A)	0.2 (A)	0.03	ID	ID	190	6,800	ID	ID
Lithium (B)	7439932	170	350	96	NLV	NLV	5.4E+6	NA	ID	ID
Magnesium (B)	7439954	4.0E+5	1.1E+6	NA	NLV	NLV	1.0E+9 (D)	NA	ID	ID

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Manganese (B)	7439965	50 (E)	50 (E)	(G,X)	NLV	NLV	9.1E+6	NA	ID	ID
Mercury (Total) (B,Z)	Varies	2.0 (A)	2.0 (A)	0.0013	56 (S)	56 (S)	56 (S)	56	ID	ID
Methane (K)	74828	ID	ID	NA	(K)	(K)	ID	NA	520	ID
Methanol	67561	3,700	10,000	1,000 (M)	2.9E+7 (S)	2.9E+7 (S)	2.9E+7 (S)	2.90E+7	4.5E+6	2.9E+7 (S)
Methoxychlor	72435	40 (A)	40 (A)	NA	ID	ID	45 (S)	45	ID	ID
2-Methoxyethanol (I)	109864	7.3	21	NA	NLV	NLV	8.3E+5	1.0E+9	ID	ID
2-Methyl-4-chlorophenoxyacetic acid	94746	7.3	21	NA	NLV	NLV	9,200	9.24E+5	ID	ID
2-Methyl-4,6-dinitrophenol	534521	20 (M)	20 (M)	NA	NLV	NLV	9,500	2.00E+5	ID	ID
N-Methyl-morpholine (I)	109024	20	56	NA	NLV	NLV	1.5E+6	1.0E+9	ID	ID
Methyl parathion	298000	1.8	5.2	NA	NLV	NLV	3,000	50,000	ID	ID
4-Methyl-2-pentanone (MIBK) (I)	108101	1,800	5,200	ID	2.0E+7 (S)	2.0E+7 (S)	1.3E+7	2.00E+7	ID	2.0E+7 (S)
Methyl-tert-butyl ether (MTBE)	1634044	40 (E)	40 (E)	730 (X)	4.7E+7 (S)	4.7E+7 (S)	6.1E+5	4.68E+7	ID	ID
Methylcyclopentane (I)	96377	ID	ID	NA	ID	ID	ID	73,890	ID	ID
4,4'-Methylene-bis-2-chloroaniline (MBOCA)	101144	1.1	4.5	NA	NLV	NLV	110 (AA)	14,000	ID	ID
Methylene chloride	75092	5.0 (A)	5.0 (A)	940 (X)	2.2E+5	1.4E+6	2.2E+5	1.70E+7	ID	ID
2-Methylnaphthalene	91576	260	750	ID	ID	ID	25,000 (S)	24,600	ID	ID
Methylphenols (J)	1319773	370	1,000	71	NLV	NLV	8.1E+5	2.80E+7	NA	ID
Metolachlor	51218452	240	990	NA	NLV	NLV	91,000	5.30E+5	ID	ID
Mirex	2385855	0.02 (M)	0.02 (M)	0.02 (M)	ID	ID	0.02 (M)	6.8E-6	NA	ID
Molybdenum (B)	7439987	73	210	800 (X)	NLV	NLV	9.7E+5	NA	ID	ID
Naphthalene	91203	520	1,500	13	31,000 (S)	31,000 (S)	31,000 (S)	31,000	NA	31,000 (S)
Nickel (B)	7440020	100 (A)	100 (A)	(G)	NLV	NLV	7.4E+7	NA	ID	ID
Nitrate (B,N)	14797558	10,000 (A,N)	10,000 (A,N)	NA	NLV	NLV	3.1E+8	NA	ID	ID
Nitrite (B,N)	14797650	1,000 (A,N)	1,000 (A,N)	NA	NLV	NLV	ID	NA	ID	ID
Nitrobenzene (I)	98953	3.4	9.6	180 (X)	2.8E+5	5.5E+5	11,000	2.09E+6	NA	ID

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2-Nitrophenol	88755	20	58	ID	NLV	NLV	79,000	2.50E+6	ID	ID
n-Nitroso-di-n-propylamine	621647	5.0 (M)	5.0 (M)	NA	NLV	NLV	360	9.89E+6	ID	ID
N-Nitrosodiphenylamine	86306	270	1,100	NA	NLV	NLV	35,000 (S)	35,100	ID	ID
Oxamyl	23135220	200 (A)	200 (A)	NA	NLV	NLV	6.2E+7	2.80E+8	ID	ID
Oxo-hexyl acetate	88230357	73	210	NA	ID	ID	ID	NA	ID	ID
Pendimethalin	40487421	280 (S)	280 (S)	NA	NLV	NLV	280 (S)	275	ID	ID
Pentachlorobenzene	608935	6.1	17	NA	ID	ID	240	650	ID	ID
Pentachloronitrobenzene	82688	32 (S)	32 (S)	NA	32 (S)	32 (S)	32 (S)	32	ID	ID
Pentachlorophenol	87865	1.0 (A)	1.0 (A)	(G,X)	NLV	NLV	200	1.85E+6	ID	ID
Pentane	109660	ID	ID	NA	38,000 (S)	38,000 (S)	ID	38,200	340	38,000 (S)
2-Pentene (I)	109682	ID	ID	NA	ID	ID	ID	2.03E+5	ID	ID
pH	NA	6.5 to 8.5 (E)	6.5 to 8.5 (E)	6.5 to 9.0	NA	NA	NA	NA	NA	NA
Phenanthrene	85018	52	150	5.0 (M)	1,000 (S)	1,000 (S)	1,000 (S)	1,000	ID	ID
Phenol	108952	4,400	13,000	210	NLV	NLV	2.9E+7	8.28E+7	NA	ID
Phosphorus (Total)	7723140	63,000	2.4E+5	(EE)	NLV	NLV	ID	NA	ID	ID
Phthalic acid	88993	14,000	40,000	NA	NLV	NLV	1.4E+7 (S)	1.42E+7	ID	ID
Phthalic anhydride	85449	15,000	44,000	NA	NLV	NLV	6.2E+6 (S)	6.2E+6	NA	ID
Picloram	1918021	500 (A)	500 (A)	NA	NLV	NLV	4.3E+5 (S)	4.30E+5	ID	ID
Piperidine	110894	3.2	9.2	NA	NLV	NLV	34,000	1.0E+9	ID	ID
Polybrominated biphenyls (J)	67774327	0.03	0.09	NA	NLV	NLV	ID	1.66E+7	ID	ID
Polychlorinated biphenyls (PCBs) (J,T)	1336363	0.5 (A)	0.5 (A)	0.2 (M)	45 (S)	45 (S)	3.3 (AA)	44.7	ID	ID
Prometon	1610180	160	460	NA	NLV	NLV	1.8E+5	7.50E+5	ID	ID
Propachlor	1918167	95	270	NA	NLV	NLV	4.4E+5	6.55E+5	ID	ID
Propazine	139402	200	560	NA	NLV	NLV	8,600 (S)	8,600	ID	ID
Propionic acid	79094	12,000	35,000	ID	NLV	NLV	2.8E+8	1.0E+9	1.0E+9 (D)	ID
Propyl alcohol (I)	71238	1,400	4,000	NA	NLV	NLV	2.8E+7	1.0E+9	7.1E+7	1.0E+9 (S)

TABLE 1. GROUNDWATER: RESIDENTIAL AND INDUSTRIAL-COMMERCIAL PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

Hazardous Substance	Chemical Abstract Service Number (CAS #)	Residential & Commercial I Drinking Water Criteria	Industrial & Commercial II, III & IV Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Residential & Commercial I Groundwater Volatilization to Indoor Air Inhalation Criteria	Industrial & Commercial II, III & IV Groundwater Volatilization to Indoor Air Inhalation Criteria	Groundwater Contact Criteria	Water Solubility	Flammability and Explosivity Screening Levels	Acute Inhalation Screening Levels
n-Propylbenzene (I)	103651	80	230	ID	ID	ID	15,000	NA	ID	ID
Propylene glycol	57556	1.5E+5	4.2E+5	290,000	NLV	NLV	1.0E+9 (D,S)	1.0E+9	ID	ID
Pyrene	129000	140 (S)	140 (S)	ID	140 (S)	140 (S)	140 (S)	135	ID	ID
Pyridine (I)	110861	7.3	21	NA	5,500	12,000	94,000	3.00E+5	81,000	ID
Selenium (B)	7782492	50 (A)	50 (A)	5.0	NLV	NLV	9.7E+5	NA	ID	ID
Silver (B)	7440224	34	98	0.2 (M)	NLV	NLV	1.5E+6	NA	ID	ID
Silvex (2,4,5-TP)	93721	50 (A)	50 (A)	NA	NLV	NLV	43,000	1.40E+5	ID	ID
Simazine	122349	4.0 (A)	4.0 (A)	NA	NLV	NLV	4,500 (S)	4,470	ID	ID
Sodium	17341252	1.2E+5	3.5E+5	NA	NLV	NLV	1.0E+9 (D)	NA	ID	ID
Strontium (B)	7440246	4,600	13,000	2,300 (X)	NLV	NLV	1.2E+8	NA	ID	ID
Styrene	100425	100 (A)	100 (A)	80	1.7E+5	3.1E+5 (S)	9,700	3.10E+5	1.4E+5	3.1E+5 (S)
Sulfate	14808798	2.5E+5 (E)	2.5E+5 (E)	NA	NLV	NLV	ID	NA	ID	ID
Tebuthiuron	34014181	510	1,500	NA	NLV	NLV	2.5E+6 (S)	2.50E+6	ID	ID
2,3,7,8-Tetrabromodibenzo-p-dioxin (O)	50585416	(O)	(O)	(O)	NLV	NLV	(O)	0.00996	ID	ID
1,2,4,5-Tetrachlorobenzene	95943	1,300 (S)	1,300 (S)	2.9 (X)	ID	ID	1,300 (S)	1,300	ID	ID
2,3,7,8-Tetrachlorodibenzo-p-dioxin (O)	1746016	3.0E-5 (A)	3.0E-5 (A)	1.0E-5 (M)	NLV	NLV	1.0E-5 (M,O,AA)	0.019	ID	ID
1,1,1,2-Tetrachloroethane	630206	77	320	ID (X)	15,000	96,000	30,000	1.10E+6	ID	ID
1,1,2,2-Tetrachloroethane	79345	8.5	35	78 (X)	12,000	77,000	4,700	2.97E+6	ID	ID
Tetrachloroethylene	127184	5.0 (A)	5.0 (A)	45 (X)	25,000	1.7E+5	12,000	2.0E+5	ID	2.0E+5 (S)
Tetrahydrofuran	109999	95	270	11,000 (X)	6.9E+6	1.6E+7	1.6E+6	1.0E+9	60,000	3.6E+6
Tetranitromethane	509148	ID	ID	NA	580	3,200	ID	85,000	ID	ID
Thallium (B)	7440280	2.0 (A)	2.0 (A)	3.7 (X)	NLV	NLV	13,000	NA	ID	ID
Toluene (I)	108883	790 (E)	790 (E)	140	5.3E+5 (S)	5.3E+5 (S)	5.3E+5 (S)	5.26E+5	61,000	ID
p-Toluidine	106490	15	62	NA	NLV	NLV	24,000	7.60E+6	NA	ID
Total dissolved solids (TDS)	NA	5.0E+5 (E)	5.0E+5 (E)	(EE)	NA	NA	NA	NA	NA	NA
Toxaphene	8001352	3.0 (A)	3.0 (A)	1.0 (M)	NLV	NLV	44	740	ID	740 (S)

TABLE 1. GROUNDWATER: RESIDENTIAL AND INDUSTRIAL-COMMERCIAL PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

Hazardous Substance	Chemical Abstract Service Number (CAS #)	Residential & Commercial I Drinking Water Criteria	Industrial & Commercial II, III & IV Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Residential & Commercial I Groundwater Volatilization to Indoor Air Inhalation Criteria	Industrial & Commercial II, III & IV Groundwater Volatilization to Indoor Air Inhalation Criteria	Groundwater Contact Criteria	Water Solubility	Flammability and Explosivity Screening Levels	Acute Inhalation Screening Levels
Triallate	2303175	95	270	NA	ID	ID	4,000 (S)	4,000	ID	ID
Tributylamine	102829	10	29	ID	14,000	32,000	2,300	75,400	ID	ID
1,2,4-Trichlorobenzene	120821	70 (A)	70 (A)	30	3.0E+5 (S)	3.0E+5 (S)	19,000	3.00E+5	NA	3.0E+5 (S)
1,1,1-Trichloroethane	71556	200 (A)	200 (A)	200	6.6E+5	1.3E+6 (S)	1.3E+6 (S)	1.33E+6	ID	1.3E+6 (S)
1,1,2-Trichloroethane	79005	5.0 (A)	5.0 (A)	330 (X)	17,000	1.1E+5	21,000	4.42E+6	NA	ID
Trichloroethylene	79016	5.0 (A)	5.0 (A)	200 (X)	15,000	97,000	22,000	1.10E+6	ID	1.1E+6 (S)
Trichlorofluoromethane	75694	2,600	7,300	NA	1.1E+6 (S)	1.1E+6 (S)	1.1E+6 (S)	1.10E+6	ID	1.1E+6 (S)
2,4,5-Trichlorophenol	95954	730	2,100	NA	NLV	NLV	1.7E+5	1.20E+6	ID	ID
2,4,6-Trichlorophenol	88062	120	470	5.0 (M)	NLV	NLV	10,000	8.00E+5	ID	ID
1,2,3-Trichloropropane	96184	42	120	NA	ID	ID	84,000	1.90E+6	NA	ID
1,1,2-Trichloro-1,2,2-trifluoroethane	76131	1.7E+5 (S)	1.7E+5 (S)	32	1.7E+5 (S)	1.7E+5 (S)	1.7E+5 (S)	1.70E+5	ID	1.7E+5 (S)
Triethanolamine	102716	3,700	10,000	NA	NLV	NLV	1.0E+9 (D,S)	1.0E+9	ID	ID
Triethylene glycol	112276	10,000 (M)	12,000	NA	NLV	NLV	1.0E+6 (S)	1.00E+6	ID	ID
3-Trifluoromethyl-4-nitrophenol	88302	4,500	13,000	NA	NLV	NLV	5.0E+6 (S)	5.00E+6	ID	ID
Trifluralin	1582098	37	110	NA	ID	ID	2,400	8,100	ID	ID
2,2,4-Trimethyl pentane	540841	ID	ID	NA	ID	ID	ID	2,330	160	ID
2,4,4-Trimethyl-2-pentene (I)	107404	ID	ID	NA	ID	ID	ID	11,900	ID	ID
1,2,4-Trimethylbenzene (I)	95636	63 (E)	63 (E)	17	56,000 (S)	56,000 (S)	56,000 (S)	55,890	56,000 (S)	ID
1,3,5-Trimethylbenzene (I)	108678	72 (E)	72 (E)	45	61,000 (S)	61,000 (S)	61,000 (S)	61,150	ID	ID
Triphenyl phosphate	115866	1,200	1,400 (S)	NA	NLV	NLV	1,400 (S)	1,430	ID	ID
tris(2,3-Dibromopropyl)phosphate	126727	0.71	2.9	NA	4,700 (S)	4,700 (S)	2,100	4,700	ID	ID
Urea	57136	ID (N)	ID (N)	NA	NLV	NLV	ID	NA	ID	ID
Vanadium	7440622	4.5	62	12	NLV	NLV	9.7E+5	NA	ID	ID
Vinyl acetate (I)	108054	640	1,800	NA	4.1E+6	8.9E+6	8.0E+6	2.00E+7	1.8E+6	4.8E+6
Vinyl chloride	75014	2.0 (A)	2.0 (A)	15	1,100	13,000	1,000	2.76E+6	33,000	ID

TABLE 1. GROUNDWATER: RESIDENTIAL AND INDUSTRIAL-COMMERCIAL PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

Hazardous Substance	Chemical Abstract Service Number (CAS #)	Residential & Commercial I Drinking Water Criteria	Industrial & Commercial II, III & IV Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Residential & Commercial I Groundwater Volatilization to Indoor Air Inhalation Criteria	Industrial & Commercial II, III & IV Groundwater Volatilization to Indoor Air Inhalation Criteria	Groundwater Contact Criteria	Water Solubility	Flammability and Explosivity Screening Levels	Acute Inhalation Screening Levels
White phosphorus (R)	12185103	0.11	0.31	NA	NLV	NLV	2,900	NA	ID	ID
Xylenes (I)	1330207	280 (E)	280 (E)	35	1.9E+5 (S)	1.9E+5 (S)	1.9E+5 (S)	1.86E+5	70,000	1.9E+5 (S)
Zinc (B)	7440666	2,400	5,000 (E)	(G)	NLV	NLV	1.1E+8	NA	ID	ID
WATER QUALITY CHARACTERISTIC										
Dissolved oxygen (DO)	NA	NA	NA	(EE)	NA	NA	NA	NA	NA	NA

R 299.5746 Generic soil cleanup criteria for residential and commercial I categories.

Rule 746. The generic soil cleanup criteria for residential and commercial I categories shall be as shown in table 2.

TABLE 2. SOIL: RESIDENTIAL AND COMMERCIAL I
PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

All criteria are expressed in units of parts per billion (ppb;ug/kg). Scientific notation is represented by E+ or E- a value; for example, 2×10^6 is reported as 2.0E+6. Analytical results must be expressed as dry-weight concentrations for comparison to criteria.

			Groundwater Protection			Indoor Air	Ambient Air (Y)				Direct Contact	
Hazardous Substance	Chemical Abstract Service Number (CAS #)	Statewide Default Background Levels	Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria	Direct Contact Criteria	Soil Saturation Concentration Screening Levels
Acenaphthene	83329	NA	3.0E+5	4,400	9.7E+5	1.9E+8	8.1E+7	8.1E+7	8.1E+7	1.4E+10	4.1E+7	NA
Acenaphthylene	208968	NA	5,900	ID	4.4E+5	1.6E+6	2.2E+6	2.2E+6	2.2E+6	2.3E+9	1.6E+6	NA
Acetaldehyde (I)	75070	NA	19,000	2,600	1.1E+8 (C)	2.2E+5	1.7E+5	1.7E+5	2.8E+5	6.0E+8	2.9E+7	1.1E+8
Acetic acid	64197	NA	9.0E+5 (M)	9.0E+5 (M)	6.5E+8 (C)	NLV	NLV	NLV	NLV	1.7E+10	1.3E+8	6.5E+8
Acetone (I)	67641	NA	15,000	34,000	1.1E+8 (C)	1.1E+8 (C)	1.3E+8	1.3E+8	1.9E+8	3.9E+11	2.3E+7	1.1E+8
Acetonitrile	75058	NA	2,800	NA	2.2E+7 (C)	4.8E+6	1.6E+6	1.6E+6	2.1E+6	4.0E+9	4.3E+6	2.2E+7
Acetophenone	98862	NA	30,000	NA	1.1E+6 (C)	1.1E+6 (C)	4.4E+7	4.4E+7	4.4E+7	3.3E+10	1.1E+6 (C)	1.1E+6
Acrolein (I)	107028	NA	2,400	NA	2.3E+7 (C)	410	310	310	610	1.3E+6	3.6E+6	2.3E+7
Acrylamide	79061	NA	10	NA	2.6E+5	NLV	NLV	NLV	NLV	2.4E+6	1,900	NA
Acrylic acid	79107	NA	78,000	NA	1.1E+8 (C)	2.4E+6	1.9E+5	2.3E+5	2.3E+5	6.7E+7	3.5E+7 (DD)	1.1E+8
Acrylonitrile (I)	107131	NA	52	98 (X)	2.8E+5	6,600	5,000	5,100	10,000	4.6E+7	16,000	8.3E+6
Alachlor	15972608	NA	52	290 (X)	44,000	NLV	NLV	NLV	NLV	ID	93,000	NA
Aldicarb	116063	NA	60	NA	2.4E+6	NLV	NLV	NLV	NLV	ID	2.3E+5	NA
Aldicarb sulfoxide	1646873	NA	80	NA	5.4E+7	NLV	NLV	NLV	NLV	ID	2.9E+5	NA
Aldicarb sulfone	1646884	NA	50 (M)	NA	4.2E+7	NLV	NLV	NLV	NLV	ID	2.5E+5	NA
Aldrin	309002	NA	NLL	NLL	NLL	1.3E+6	58,000	58,000	58,000	6.4E+5	1,000	NA
Aluminum (B)	7429905	6.9E+6	1,000	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	5.0E+7 (DD)	NA
Ammonia	7664417	NA	ID	(CC)	ID	ID	ID	ID	ID	6.7E+9	ID	1.0E+7
t-Amyl methyl ether (TAME)	994058	NA	3,900	NA	4.4E+5 (C)	58,000	3.4E+5	7.6E+5	1.8E+6	4.1E+9	4.4E+5 (C)	4.4E+5
Aniline	62533	NA	1,700 (M)	1,700 (M)	2.8E+6	NLV	NLV	NLV	NLV	6.7E+7	3.3E+5	4.5E+6
Anthracene	120127	NA	41,000	ID	41,000	1.0E+9 (D)	1.4E+9	1.4E+9	1.4E+9	6.7E+10	2.3E+8	NA
Antimony	7440360	NA	500 (M)	94,000	4.9E+7	NLV	NLV	NLV	NLV	1.3E+7	1.8E+5	NA
Arsenic	7440382	5,800	23,000	70,000 (X)	2.0E+6	NLV	NLV	NLV	NLV	7.2E+5	7,600	NA
Asbestos (BB)	1332214	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	1.0E+7 (M)	ID	NA
Atrazine	1912249	NA	60	150 (X)	1.1E+5	NLV	NLV	NLV	NLV	ID	71,000 (DD)	NA

TABLE 2. SOIL: RESIDENTIAL AND COMMERCIAL I
PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

			Groundwater Protection			Indoor Air	Ambient Air (Y)				Direct Contact	
Hazardous Substance	Chemical Abstract Service Number (CAS #)	Statewide Default Background Levels	Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria	Direct Contact Criteria	Soil Saturation Concentration Screening Levels
Azobenzene	103333	NA	4,200	NA	3.0E+5	6.1E+6	6.3E+5	ID	ID	1.0E+8	1.4E+5	NA
Barium (B)	7440393	75,000	1.3E+6	(G,X)	1.0E+9 (D)	NLV	NLV	NLV	NLV	3.3E+8	3.7E+7	NA
Benzene (I)	71432	NA	100	4,000 (X)	2.2E+5	1,600	13,000	34,000	79,000	3.8E+8	1.8E+5	4.0E+5
Benzidine	92875	NA	1,000 (M)	ID	1,000 (M)	NLV	NLV	NLV	NLV	46,000	1,000 (M)	NA
Benzo(a)anthracene (Q)	56553	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000	NA
Benzo(b)fluoranthene (Q)	205992	NA	NLL	NLL	NLL	ID	ID	ID	ID	ID	20,000	NA
Benzo(k)fluoranthene (Q)	207089	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.0E+5	NA
Benzo(g,h,i)perylene	191242	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	8.0E+8	2.5E+6	NA
Benzo(a)pyrene (Q)	50328	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	1.5E+6	2,000	NA
Benzoic acid	65850	NA	6.4E+5	NA	7.0E+7	NLV	NLV	NLV	NLV	ID	9.9E+8	NA
Benzyl alcohol	100516	NA	2.0E+5	NA	5.8E+6 (C)	NLV	NLV	NLV	NLV	3.3E+11	5.8E+6 (C)	5.8E+6
Benzyl chloride	100447	NA	200 (M)	NA	72,000	6,300	14,000	14,000	17,000	6.2E+7	48,000	2.3E+5
Beryllium	7440417	NA	51,000	(G)	1.0E+9 (D)	NLV	NLV	NLV	NLV	1.3E+6	4.1E+5	NA
bis(2-Chloroethoxy)ethane	112265	NA	ID	ID	ID	NLV	NLV	NLV	NLV	ID	ID	2.7E+6
bis(2-Chloroethyl)ether (I)	111444	NA	330 (M)	330 (M)	1.1E+5	8,300	3,800	3,800	3,800	9.4E+6	13,000	2.2E+6
bis(2-Ethylhexyl)phthalate	117817	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	7.0E+8	2.8E+6	1.0E+7
Boron (B)	7440428	NA	10,000	38,000	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	4.8E+7 (DD)	NA
Bromobenzene (I)	108861	NA	550	NA	3.6E+5	3.1E+5	4.5E+5	4.5E+5	4.5E+5	5.3E+8	5.4E+5	7.6E+5
Bromodichloromethane	75274	NA	2,000 (W)	ID	2.6E+5	1,200	9,100	9,700	19,000	8.4E+7	1.1E+5	1.5E+6
Bromoform	75252	NA	2,000 (W)	ID	8.7E+5 (C)	1.5E+5	9.0E+5	9.0E+5	9.0E+5	2.8E+9	8.2E+5	8.7E+5
Bromomethane	74839	NA	200	700	1.4E+6	860	11,000	57,000	1.4E+5	3.3E+8	3.2E+5	2.2E+6
n-Butanol (I)	71363	NA	19,000	NA	8.7E+6 (C)	NLV	NLV	NLV	NLV	2.3E+10	8.7E+6 (C)	8.7E+6
2-Butanone (MEK) (I)	78933	NA	2.6E+5	44,000	2.7E+7 (C)	2.7E+7 (C)	2.9E+7	2.9E+7	3.5E+7	6.7E+10	2.7E+7 (C,DD)	2.7E+7
n-Butyl acetate	123864	NA	11,000	NA	1.1E+8 (C)	1.1E+6 (C)	1.1E+8	2.6E+8	3.2E+8	4.7E+11	1.1E+6 (C)	1.1E+6
t-Butyl alcohol	75650	NA	78,000	NA	1.1E+8 (C)	1.1E+8 (C)	9.7E+7	2.0E+8	2.0E+8	1.3E+11	1.1E+8 (C)	1.1E+8
Butyl benzyl phthalate	85687	NA	3.1E+5 (C)	26,000 (X)	3.1E+5 (C)	NLV	NLV	NLV	NLV	4.7E+10	3.1E+5 (C)	3.1E+5

TABLE 2. SOIL: RESIDENTIAL AND COMMERCIAL I
PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

			Groundwater Protection			Indoor Air	Ambient Air (Y)				Direct Contact	
Hazardous Substance	Chemical Abstract Service Number (CAS #)	Statewide Default Background Levels	Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria	Direct Contact Criteria	Soil Saturation Concentration Screening Levels
n-Butylbenzene	104518	NA	1,600	ID	1.2E+5	ID	ID	ID	ID	ID	2.5E+6	1.0E+7
sec-Butylbenzene	135988	NA	1,600	ID	68,000	ID	ID	ID	ID	ID	2.5E+6	1.0E+7
t-Butylbenzene (I)	98066	NA	1,600	NA	1.8E+5	ID	ID	ID	ID	ID	2.5E+6	1.0E+7
Cadmium (B)	7440439	1,200	6,000	(G,X)	2.3E+8	NLV	NLV	NLV	NLV	1.7E+6	5.5E+5	NA
Camphene (I)	79925	NA	ID	NA	ID	ID	ID	ID	ID	ID	ID	NA
Caprolactam	105602	NA	1.2E+5	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	6.7E+8	5.3E+7 (DD)	NA
Carbaryl	63252	NA	14,000	NA	2.6E+6	ID	ID	ID	ID	ID	2.2E+7	NA
Carbazole	86748	NA	9,400	1,100	8.2E+5	NLV	NLV	NLV	NLV	ID	5.3E+5	NA
Carbofuran	1563662	NA	800	NA	6.8E+6	NLV	NLV	NLV	NLV	ID	1.1E+6	NA
Carbon disulfide (I,R)	75150	NA	16,000	ID	2.8E+5 (C)	76,000	1.3E+6	7.9E+6	1.9E+7	4.7E+10	2.8E+5 (C,DD)	2.8E+5
Carbon tetrachloride	56235	NA	100	900 (X)	92,000	190	3,500	12,000	28,000	1.3E+8	96,000	3.9E+5
Chlordane (J)	57749	NA	NLL	NLL	NLL	1.1E+7	1.2E+6	1.2E+6	1.2E+6	3.1E+7	31,000	NA
Chloride	16887006	NA	5.0E+6	2.5E+6 (X)	ID	NLV	NLV	NLV	NLV	ID	5.0E+5 (F)	NA
Chlorobenzene (I)	108907	NA	2,000	940	2.6E+5 (C)	1.2E+5	7.7E+5	9.9E+5	2.1E+6	4.7E+9	2.6E+5 (C)	2.6E+5
1-Chloro-1,1-difluoroethane	75683	NA	3.0E+5	NA	9.6E+5 (C)	9.6E+5 (C)	7.9E+7	5.6E+8	1.4E+9	3.3E+12	9.6E+5 (C)	9.6E+5
Chloroethane	75003	NA	8,600	ID	9.5E+5 (C)	9.5E+5 (C)	3.0E+7	1.2E+8	2.8E+8	6.7E+11	9.5E+5 (C)	9.5E+5
2-Chloroethyl vinyl ether	110758	NA	ID	NA	ID	ID	ID	ID	ID	ID	ID	1.9E+6
Chloroform	67663	NA	2,000 (W)	3,400 (X)	1.5E+6 (C)	7,200	45,000	1.2E+5	2.7E+5	1.3E+9	1.2E+6	1.5E+6
Chloromethane (I)	74873	NA	5,200	ID	1.1E+6 (C)	2,300	40,000	4.1E+5	1.0E+6	4.9E+9	1.1E+6 (C)	1.1E+6
4-Chloro-3-methylphenol	59507	NA	5,800	330 (M)	3.0E+6	NLV	NLV	NLV	NLV	ID	4.5E+6	NA
beta-Chloronaphthalene	91587	NA	6.2E+5	NA	2.3E+6	ID	ID	ID	ID	ID	5.6E+7	NA
2-Chlorophenol	95578	NA	900	440	1.9E+6	ID	ID	ID	ID	ID	1.4E+6	1.9E+7
o-Chlorotoluene (I)	95498	NA	3,300	NA	5.0E+5 (C)	2.7E+5	1.2E+6	2.9E+6	6.3E+6	4.7E+9	5.0E+5 (C)	5.0E+5
Chlorpyrifos	2921882	NA	17,000	NA	8.4E+5	130	4,600	23,000	55,000	1.3E+8	1.1E+7	NA
Chromium (III) (B,H)	16065831	18,000 (total)	1.0E+9 (D)	(G,X)	1.0E+9 (D)	NLV	NLV	NLV	NLV	3.3E+8	7.9E+8	NA
Chromium (VI)	18540299	NA	30,000	3,300	1.4E+8	NLV	NLV	NLV	NLV	2.6E+5	2.5E+6	NA
Chrysene (Q)	218019	NA	NLL	NLL	NLL	ID	ID	ID	ID	ID	2.0E+6	NA

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Cobalt	7440484	6,800	800	2,000	4.8E+7	NLV	NLV	NLV	NLV	1.3E+7	2.6E+6	NA
Copper (B)	7440508	32,000	5.8E+6	(G)	1.0E+9 (D)	NLV	NLV	NLV	NLV	1.3E+8	2.0E+7	NA
Cyanazine	21725462	NA	500 (M)	1,100 (X)	56,000	NLV	NLV	NLV	NLV	ID	14,000	NA
Cyanide (P,R)	57125	390 (total)	4,000	200 (M)	2.5E+5	NLV	NLV	NLV	NLV	2.5E+5	12,000	NA
Cyclohexanone	108941	NA	5.2E+6	NA	2.2E+8 (C)	17,000	1.0E+6	1.1E+7	2.7E+7	6.7E+10	2.2E+8 (C)	2.2E+8
Dacthal	1861321	NA	50,000	NA	3.4E+5	NLV	NLV	NLV	NLV	ID	2.3E+6	NA
Dalapon	75990	NA	4,000	NA	5.9E+7 (C)	NLV	NLV	NLV	NLV	ID	1.9E+7	5.9E+7
4-4'-DDD	72548	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	4.4E+7	95,000	NA
4-4'-DDE	72559	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	3.2E+7	45,000	NA
4-4'-DDT	50293	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	3.2E+7	57,000	NA
Decabromodiphenyl ether	1163195	NA	1.4E+5	NA	1.4E+5	1.0E+9 (D)	8.6E+7	8.6E+7	8.6E+7	2.3E+9	3.8E+6	NA
Di-n-butyl phthalate	84742	NA	7.6E+5 (C)	11,000	7.6E+5 (C)	NLV	NLV	NLV	NLV	3.3E+9	7.6E+5 (C)	7.6E+5
Di(2-ethylhexyl) adipate	103231	NA	9.8E+5 (C)	NA	9.6E+5 (C)	NLV	NLV	NLV	NLV	9.2E+9	9.6E+5 (C,DD)	9.6E+5
Di-n-octyl phthalate	117840	NA	1.0E+8	ID	1.4E+8 (C)	NLV	NLV	NLV	NLV	ID	6.9E+6	1.4E+8
Diacetone alcohol (I)	123422	NA	ID	NA	ID	NLV	NLV	NLV	NLV	1.6E+11	ID	1.1E+8
Diazinon	333415	NA	95	NA	95,000	NLV	NLV	NLV	NLV	ID	12,000 (DD)	3.1E+5
Dibenzo(a,h)anthracene (Q)	53703	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000	NA
Dibenzofuran	132649	NA	ID	1,700	ID	ID	ID	ID	ID	ID	ID	NA
Dibromochloromethane	124481	NA	2,000 (W)	ID	3.6E+5	3,900	24,000	24,000	33,000	1.3E+8	1.1E+5	6.1E+5
Dibromochloropropane	96128	NA	4.0	NA	1,200 (C)	1,200 (C)	13,000	13,000	13,000	1.3E+7	1,200 (C)	1,200
Dibromomethane	74953	NA	1,600	NA	2.0E+6 (C)	ID	ID	ID	ID	ID	2.0E+6 (C)	2.0E+6
1,2-Dichlorobenzene	95501	NA	14,000	360	2.1E+5 (C)	2.1E+5 (C)	3.9E+7	3.9E+7	5.2E+7	1.0E+11	2.1E+5 (C)	2.1E+5
1,3-Dichlorobenzene	541731	NA	170	1,100	51,000	ID	ID	ID	ID	ID	1.7E+5 (C)	1.7E+5
1,4-Dichlorobenzene	106467	NA	1,700	290	1.4E+5	19,000	77,000	77,000	1.1E+5	4.5E+8	4.0E+5	NA
3,3'-Dichlorobenzidine	91941	NA	2,000 (M)	2,000 (M,X)	4,600	NLV	NLV	NLV	NLV	6.5E+6	6,600	NA
Dichlorodifluoromethane	75718	NA	95,000	ID	1.0E+6 (C)	9.0E+5	5.3E+7	5.5E+8	1.4E+9	3.3E+12	1.0E+6 (C)	1.0E+6
1,1-Dichloroethane	75343	NA	18,000	15,000	8.9E+5 (C)	2.3E+5	2.1E+6	5.9E+6	1.4E+7	3.3E+10	8.9E+5 (C)	8.9E+5

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1,2-Dichloroethane (I)	107062	NA	100	7,200 (X)	3.8E+5	2,100	6,200	11,000	26,000	1.2E+8	91,000	1.2E+6
1,1-Dichloroethylene (I)	75354	NA	140	1,300 (X)	2.2E+5	62	1,100	5,300	13,000	6.2E+7	2.0E+5	5.7E+5
cis-1,2-Dichloroethylene	156592	NA	1,400	12,000	6.4E+5 (C)	22,000	1.8E+5	4.2E+5	9.9E+5	2.3E+9	6.4E+5 (C)	6.4E+5
trans-1,2-Dichloroethylene	156605	NA	2,000	30,000	1.4E+6 (C)	23,000	2.8E+5	8.3E+5	2.0E+6	4.7E+9	1.4E+6 (C)	1.4E+6
2,6-Dichloro-4-nitroaniline	99309	NA	44,000	NA	1.4E+5	NLV	NLV	NLV	NLV	ID	6.8E+7	NA
2,4-Dichlorophenol	120832	NA	1,500	380	9.6E+5	NLV	NLV	NLV	NLV	5.1E+9	6.6E+5 (DD)	1.8E+6
2,4-Dichlorophenoxyacetic acid	94757	NA	1,400	4,400	2.4E+6	NLV	NLV	NLV	NLV	6.7E+9	2.5E+6	NA
1,2-Dichloropropane (I)	78875	NA	100	5,800 (X)	3.2E+5	4,000	25,000	50,000	1.1E+5	2.7E+8	1.4E+5	5.5E+5
1,3-Dichloropropene	542756	NA	170	NA	1.1E+5	1,000	18,000	68,000	1.6E+5	7.8E+8	10,000	6.2E+5
Dichlorovos	62737	NA	50 (M)	NA	1.2E+5	NLV	NLV	NLV	NLV	3.3E+7	10,000	2.2E+6
Dicyclohexyl phthalate	84617	NA	ID	NA	ID	ID	ID	ID	ID	ID	ID	NA
Dieldrin	60571	NA	NLL	NLL	NLL	1.4E+5	19,000	19,000	19,000	6.8E+5	1,100	NA
Diethyl ether	60297	NA	200	ID	7.4E+6 (C)	7.4E+6 (C)	8.5E+7	1.5E+8	3.4E+8	8.0E+11	7.4E+6 (C)	7.4E+6
Diethyl phthalate	84662	NA	1.1E+5	2,200	7.4E+5 (C)	NLV	NLV	NLV	NLV	3.3E+9	7.4E+5 (C)	7.4E+5
Diethylene glycol monobutyl ether	112345	NA	1,800	NA	8.0E+7	NLV	NLV	NLV	NLV	1.3E+9	2.7E+6	1.1E+8
Diisopropyl ether	108203	NA	600	ID	1,300 (C)	1,300 (C)	3.4E+5	7.6E+5	1.8E+6	4.1E+9	1,300 (C)	1,300
Diisopropylamine (I)	108189	NA	110	NA	4.2E+5	ID	ID	ID	ID	ID	1.7E+5	6.7E+6
Dimethyl phthalate	131113	NA	7.9E+5 (C)	NA	7.9E+5 (C)	NLV	NLV	NLV	NLV	3.3E+9	7.9E+5 (C)	7.9E+5
N,N-Dimethylacetamide	127195	NA	3,600	82,000 (X)	1.1E+8 (C)	NLV	NLV	NLV	NLV	ID	5.6E+6	1.1E+8
N,N-Dimethylaniline	121697	NA	320	NA	4.0E+5	1.7E+5	1.5E+5	1.5E+5	1.5E+5	2.6E+8	5.0E+5	8.0E+5
Dimethylformamide (I)	68122	NA	14,000	NA	1.1E+8 (C)	NLV	NLV	NLV	NLV	2.0E+9	2.2E+7	1.1E+8
2,4-Dimethylphenol	105679	NA	7,400	7,600	1.0E+7	NLV	NLV	NLV	NLV	4.7E+9	1.1E+7	NA
2,6-Dimethylphenol	576261	NA	330 (M)	NA	1.3E+5	NLV	NLV	NLV	NLV	ID	1.4E+5	NA
3,4-Dimethylphenol	95658	NA	330 (M)	NA	3.6E+5	NLV	NLV	NLV	NLV	ID	3.2E+5	NA
Dimethylsulfoxide	67685	NA	4.4E+6	3.8E+6	1.8E+7 (C)	NLV	NLV	NLV	NLV	ID	1.8E+7 (C)	1.8E+7
2,4-Dinitrotoluene	121142	NA	430	NA	1.7E+5	NLV	NLV	NLV	NLV	1.6E+7	48,000	NA

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Dinoseb	88857	NA	300	20	1.4E+5 (C)	NLV	NLV	NLV	NLV	ID	66,000 (DD)	1.4E+5
1,4-Dioxane (I)	123911	NA	1,700	56,000	3.4E+7	NLV	NLV	NLV	NLV	5.7E+8	5.3E+5	9.7E+7
Diquat	85007	NA	400	NA	1.4E+7	NLV	NLV	NLV	NLV	ID	5.0E+5	NA
Diuron	330541	NA	620	NA	7.4E+5	NLV	NLV	NLV	NLV	4.7E+8	9.7E+5	NA
Endosulfan (J)	115297	NA	NLL	NLL	NLL	ID	ID	ID	ID	ID	1.4E+6	NA
Endothall	145733	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	2.3E+9	3.8E+6	NA
Endrin	72208	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	65,000	NA
Epichlorohydrin (I)	106898	NA	40	NA	2.2E+5	64,000	31,000	31,000	35,000	6.7E+7	8,900	7.3E+6
Ethanol (I)	64175	NA	3.8E+7	NA	1.1E+8 (C)	NLV	NLV	NLV	NLV	1.3E+12	1.1E+8 (C,DD)	1.1E+8
Ethyl acetate (I)	141786	NA	1.3E+5	NA	7.5E+6 (C)	7.5E+6 (C)	4.9E+7	4.9E+7	9.8E+7	2.1E+11	7.5E+6 (C)	7.5E+6
Ethyl-tert-butyl ether (ETBE)	637923	NA	980	ID	ID	5.4E+5	1.9E+6	4.5E+6	1.1E+7	2.5E+10	ID	6.5E+5
Ethylbenzene (I)	100414	NA	1,500	360	1.4E+5 (C)	87,000	7.2E+5	1.0E+6	2.2E+6	1.0E+10	1.4E+5 (C)	1.4E+5
Ethylene dibromide	106934	NA	250 (M)	250 (M)	500	670	1,700	1,700	3,300	1.4E+7	250 (M)	8.9E+5
Ethylene glycol	107211	NA	3.0E+5	NA	1.1E+8 (C)	NLV	NLV	NLV	NLV	6.7E+10	1.1E+8 (C)	1.1E+8
Ethylene glycol monobutyl ether	111762	NA	74,000	NA	4.1E+7 (C)	7.4E+5	1.8E+7	1.5E+8	3.6E+8	8.7E+11	4.1E+7 (C)	4.1E+7
Fluoranthene	206440	NA	7.3E+5	5,500	7.3E+5	1.0E+9 (D)	7.4E+8	7.4E+8	7.4E+8	9.3E+9	4.6E+7	NA
Fluorene	86737	NA	3.9E+5	5,300	8.9E+5	5.8E+8	1.3E+8	1.3E+8	1.3E+8	9.3E+9	2.7E+7	NA
Fluorine (soluble fluoride) (B)	7782414	NA	40,000	NA	2.4E+8	NLV	NLV	NLV	NLV	ID	9.0E+6 (DD)	NA
Formaldehyde	50000	NA	26,000	2,400	6.0E+7 (C)	12,000	13,000	23,000	52,000	2.4E+8	4.1E+7	6.0E+7
Formic acid (I,U)	64186	NA	9.0E+5 (M)	ID	1.1E+8 (C)	1.5E+6	9.0E+5 (M)	9.0E+5 (M)	9.0E+5 (M)	1.3E+8	1.1E+8 (C)	1.1E+8
1-Formylpiperidine	2591868	NA	1,600	NA	ID	ID	ID	ID	ID	ID	2.5E+6	1.0E+7
Gentian violet	548629	NA	300	NA	2.0E+7	NLV	NLV	NLV	NLV	ID	96,000	NA
Glyphosate	1071836	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	1.1E+7 (DD)	NA
Heptachlor	76448	NA	NLL	NLL	NLL	3.5E+5	62,000	62,000	62,000	2.4E+6	5,600	NA
Heptachlor epoxide	1024573	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	1.2E+6	3,100	NA
n-Heptane	142825	NA	2.4E+5 (C)	NA	2.4E+5 (C)	2.4E+5 (C)	2.1E+7	4.4E+7	1.0E+8	2.3E+11	2.4E+5 (C)	2.4E+5

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Hexabromobenzene	87821	NA	3.2E+5	ID	3.2E+5	ID	ID	ID	ID	ID	1.1E+6	NA
Hexachlorobenzene (C-66)	118741	NA	1,800	ID	8,200	41,000	17,000	17,000	17,000	6.8E+6	8,900	NA
Hexachlorobutadiene (C-46)	87683	NA	26,000	330 (M)	3.5E+5 (C)	1.3E+5	1.3E+5	1.3E+5	1.3E+5	1.4E+8	1.0E+5	3.5E+5
alpha-Hexachlorocyclohexane	319846	NA	18	NA	2,500	30,000	12,000	22,000	25,000	1.7E+6	2,600	NA
beta-Hexachlorocyclohexane	319857	NA	37	ID	5,100	NLV	NLV	NLV	NLV	5.9E+6	5,400	NA
Hexachlorocyclopentadiene (C-56)	77474	NA	3.2E+5	ID	7.2E+5 (C)	30,000	50,000	50,000	50,000	1.3E+7	7.2E+5 (C)	7.2E+5
Hexachloroethane	67721	NA	430	1,800 (X)	1.1E+5	40,000	5.5E+5	9.3E+5	9.3E+5	2.3E+8	2.3E+5	NA
n-Hexane	110543	NA	44,000 (C)	NA	44,000 (C)	44,000 (C)	3.0E+6	3.2E+6	6.2E+6	1.3E+10	44,000 (C)	44,000
2-Hexanone	591786	NA	20,000	NA	2.5E+6 (C)	9.9E+5	1.1E+6	1.1E+6	1.4E+6	2.7E+9	2.5E+6 (C)	2.5E+6
Indeno(1,2,3-cd)pyrene (Q)	193395	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000	NA
Iron (B)	7439896	1.2E+7	6,000	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	1.6E+8	NA
Isobutyl alcohol (I)	78831	NA	46,000	NA	8.9E+6 (C)	8.9E+6 (C)	7.9E+7	7.9E+7	7.9E+7	1.0E+11	8.9E+6 (C)	8.9E+6
Isophorone	78591	NA	15,000	11,000 (X)	2.4E+6 (C)	NLV	NLV	NLV	NLV	1.2E+10	2.4E+6 (C)	2.4E+6
Isopropyl alcohol (I)	67630	NA	9,400	1.1E+6 (X)	1.1E+8 (C)	NLV	NLV	NLV	NLV	1.5E+10	1.4E+7	1.1E+8
Isopropyl benzene	98828	NA	91,000	ID	3.9E+5 (C)	3.9E+5 (C)	1.7E+6	1.7E+6	2.8E+6	5.8E+9	3.9E+5 (C)	3.9E+5
Lead (B)	7439921	21,000	7.0E+5	(G,M,X)	ID	NLV	NLV	NLV	NLV	1.0E+8	4.0E+5	NA
Lindane	58899	NA	20 (M)	20 (M)	7,100	ID	ID	ID	ID	ID	8,300	NA
Lithium (B)	7439932	9,800	3,400	1,900	1.1E+8	NLV	NLV	NLV	NLV	ID	4.2E+6 (DD)	NA
Magnesium (B)	7439954	NA	8.0E+6	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	6.7E+9	1.0E+9 (D)	NA
Manganese (B)	7439965	4.4E+5	1,000	(G,X)	1.8E+8	NLV	NLV	NLV	NLV	3.3E+6	2.5E+7	NA
Mercury (Total) (B,Z)	Varies	130	1,700	100 (M)	47,000	48,000	52,000	52,000	52,000	2.0E+7	1.6E+5	NA
Methane	74828	NA	ID	NA	ID	(K)	ID	ID	ID	ID	ID	ID
Methanol	67561	NA	74,000	9,600	3.1E+6 (C)	3.1E+6 (C)	3.1E+7	4.4E+7	9.6E+7	2.2E+11	3.1E+6 (C)	3.1E+6
Methoxychlor	72435	NA	16,000	NA	16,000	ID	ID	ID	ID	ID	1.9E+6	NA
2-Methoxyethanol (I)	109864	NA	150	NA	1.7E+7	NLV	NLV	NLV	NLV	1.3E+9	2.3E+5	1.1E+8
2-Methyl-4-chlorophenoxyacetic acid	94746	NA	390	NA	4.9E+5	NLV	NLV	NLV	NLV	ID	2.3E+5	NA

TABLE 2. SOIL: RESIDENTIAL AND COMMERCIAL I
PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

			Groundwater Protection			Indoor Air	Ambient Air (Y)				Direct Contact	
Hazardous Substance	Chemical Abstract Service Number (CAS #)	Statewide Default Background Levels	Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria	Direct Contact Criteria	Soil Saturation Concentration Screening Levels
2-Methyl-4,6-dinitrophenol	534521	NA	1,700 (M)	NA	1.9E+5	NLV	NLV	NLV	NLV	ID	79,000	NA
N-Methyl-morpholine (I)	109024	NA	400	NA	3.0E+7	NLV	NLV	NLV	NLV	ID	6.1E+5	1.1E+8
Methyl parathion	298000	NA	46	NA	76,000	NLV	NLV	NLV	NLV	ID	56,000	NA
4-Methyl-2-pentanone (MIBK) (I)	108101	NA	36,000	ID	2.7E+6 (C)	2.7E+6 (C)	4.5E+7	4.5E+7	6.7E+7	1.4E+11	2.7E+6 (C)	2.7E+6
Methyl-tert-butyl ether (MTBE)	1634044	NA	800	15,000 (X)	5.9E+6 (C)	5.9E+6 (C)	2.5E+7	3.9E+7	8.7E+7	2.0E+11	1.5E+6	5.9E+6
Methylcyclopentane (I)	96377	NA	ID	NA	ID	ID	ID	ID	ID	ID	ID	3.5E+5
4,4'-Methylene-bis-2-chloroaniline (MBOCA)	101144	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	8.4E+7	6,800	NA
Methylene chloride	75092	NA	100	19,000 (X)	2.3E+6 (C)	45,000	2.1E+5	5.9E+5	1.4E+6	6.6E+9	1.3E+6	2.3E+6
2-Methylnaphthalene	91576	NA	57,000	ID	5.5E+6	ID	ID	ID	ID	ID	8.1E+6	NA
Methylphenols (J)	1319773	NA	7,400	1,400	1.6E+7	NLV	NLV	NLV	NLV	6.7E+9	1.1E+7	NA
Metolachlor	51218452	NA	4,800	NA	4.4E+5 (C)	NLV	NLV	NLV	NLV	ID	4.4E+5 (C,DD)	4.4E+5
Mirex	2385855	NA	NLL	NLL	NLL	ID	ID	ID	ID	ID	9,600	NA
Molybdenum (B)	7439987	NA	1,500	16,000 (X)	1.9E+7	NLV	NLV	NLV	NLV	ID	2.6E+6	NA
Naphthalene	91203	NA	35,000	870	2.1E+6	2.5E+5	3.0E+5	3.0E+5	3.0E+5	2.0E+8	1.6E+7	NA
Nickel (B)	7440020	20,000	1.0E+5	(G)	1.0E+9 (D)	NLV	NLV	NLV	NLV	1.3E+7	4.0E+7	NA
Nitrate (B,N)	14797558	NA	2.0E+5 (N)	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	ID	NA
Nitrite (B,N)	14797650	NA	20,000 (N)	NA	3.8E+8	NLV	NLV	NLV	NLV	ID	ID	NA
Nitrobenzene (I)	98953	NA	200 (M)	3,600 (X)	2.2E+5	91,000	54,000	54,000	54,000	4.7E+7	1.0E+5	4.9E+5
2-Nitrophenol	88755	NA	400	ID	1.6E+6	NLV	NLV	NLV	NLV	ID	6.3E+5	NA
n-Nitroso-di-n-propylamine	621647	NA	330 (M)	NA	7,200	NLV	NLV	NLV	NLV	1.6E+6	1,200	1.5E+6
N-Nitrosodiphenylamine	86306	NA	5,400	NA	7.0E+5	NLV	NLV	NLV	NLV	ID	1.7E+6	NA
Oxamyl	23135220	NA	4,000	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	8.6E+6	NA
Oxo-hexyl acetate	88230357	NA	1,500	NA	ID	ID	ID	ID	ID	5.4E+9	2.3E+6	1.0E+7
Pendimethalin	40487421	NA	1.1E+6	NA	1.1E+6	NLV	NLV	NLV	NLV	ID	4.6E+7	NA
Pentachlorobenzene	608935	NA	29,000	NA	1.9E+5 (C)	ID	ID	ID	ID	ID	1.9E+5 (C)	1.9E+5
Pentachloronitrobenzene	82688	NA	37,000	NA	37,000	1.2E+5	2.3E+5	2.3E+5	2.3E+5	3.3E+8	1.7E+6	NA

TABLE 2. SOIL: RESIDENTIAL AND COMMERCIAL I
PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

			Groundwater Protection			Indoor Air	Ambient Air (Y)				Direct Contact	
Hazardous Substance	Chemical Abstract Service Number (CAS #)	Statewide Default Background Levels	Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria	Direct Contact Criteria	Soil Saturation Concentration Screening Levels
Pentachlorophenol	87865	NA	22	(G,X)	4,300	NLV	NLV	NLV	NLV	1.0E+8	90,000	NA
Pentane	109660	NA	ID	NA	ID	2.4E+5 (C)	3.7E+7	3.1E+8	5.8E+8	1.2E+12	ID	2.4E+5
2-Pentene (I)	109682	NA	ID	NA	ID	ID	ID	ID	ID	ID	ID	2.2E+5
Phenanthrene	85018	NA	56,000	5,300	1.1E+6	2.8E+6	1.6E+5	1.6E+5	1.6E+5	6.7E+6	1.6E+6	NA
Phenol	108952	NA	88,000	4,200	1.2E+7 (C)	NLV	NLV	NLV	NLV	4.0E+10	1.2E+7 (C,DD)	1.2E+7
Phosphorus (Total)	7723140	NA	1.3E+6	(EE)	ID	NLV	NLV	NLV	NLV	ID	1.0E+9 (D)	NA
Phthalic acid	88993	NA	2.8E+5	NA	1.7E+6 (C)	NLV	NLV	NLV	NLV	ID	1.7E+6 (C)	1.7E+6
Phthalic anhydride	85449	NA	3.0E+5	NA	1.1E+6 (C)	NLV	NLV	NLV	NLV	ID	1.1E+6 (C)	1.1E+6
Picloram	1918021	NA	10,000	NA	8.6E+6	NLV	NLV	NLV	NLV	ID	1.6E+7	NA
Piperidine	110894	NA	64	NA	6.6E+5	NLV	NLV	NLV	NLV	9.3E+9	99,000	1.2E+8
Polybrominated biphenyls (J)	67774327	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	1,200	NA
Polychlorinated biphenyls (PCBs) (J,T)	1336363	NA	NLL	NLL	NLL	3.0E+6	2.4E+5	7.9E+6	7.9E+6	5.2E+6	(T)	NA
Prometon	1610180	NA	4,900	NA	5.5E+6	NLV	NLV	NLV	NLV	ID	5.0E+6	NA
Propachlor	1918167	NA	1,900	NA	8.8E+6	NLV	NLV	NLV	NLV	ID	2.9E+6	NA
Propazine	139402	NA	4,000	NA	1.7E+5	NLV	NLV	NLV	NLV	ID	6.1E+6	NA
Propionic acid	79094	NA	2.4E+5	NA	1.1E+8 (C)	NLV	NLV	NLV	NLV	2.0E+10	1.1E+8 (C)	1.1E+8
Propyl alcohol (I)	71238	NA	28,000	NA	1.1E+8 (C)	NLV	NLV	NLV	NLV	4.9E+10	1.3E+7 (DD)	1.1E+8
n-Propylbenzene (I)	103651	NA	1,600	NA	3.0E+5	ID	ID	ID	ID	1.3E+9	2.5E+6	1.0E+7
Propylene glycol	57556	NA	3.0E+6	5.8E+6	1.1E+8 (C)	NLV	NLV	NLV	NLV	4.0E+11	1.1E+8 (C)	1.1E+8
Pyrene	129000	NA	4.8E+5	ID	4.8E+5	1.0E+9 (D)	6.5E+8	6.5E+8	6.5E+8	6.7E+9	2.9E+7	NA
Pyridine (I)	110861	NA	330 (M)	NA	37,000 (C)	1,100	8,200	40,000	97,000	2.3E+8	37,000 (C)	37,000
Selenium (B)	7782492	410	4,000	400	7.8E+7	NLV	NLV	NLV	NLV	1.3E+8	2.6E+6	NA
Silver (B)	7440224	1,000	4,500	500 (M)	2.0E+8	NLV	NLV	NLV	NLV	6.7E+6	2.5E+6	NA
Silvex (2,4,5-TP)	93721	NA	3,600	NA	3.1E+6	NLV	NLV	NLV	NLV	ID	1.7E+6	NA
Simazine	122349	NA	80	NA	90,000	NLV	NLV	NLV	NLV	ID	1.2E+6	NA
Sodium	17341252	NA	2.5E+6	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	1.0E+9 (D)	NA
Strontium (B)	7440246	NA	92,000	46,000 (X)	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	3.3E+8	NA

TABLE 2. SOIL: RESIDENTIAL AND COMMERCIAL I
PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

			Groundwater Protection			Indoor Air	Ambient Air (Y)				Direct Contact	
Hazardous Substance	Chemical Abstract Service Number (CAS #)	Statewide Default Background Levels	Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria	Direct Contact Criteria	Soil Saturation Concentration Screening Levels
Styrene	100425	NA	2,700	2,200	2.7E+5	2.5E+5	9.7E+5	9.7E+5	1.4E+6	5.5E+9	4.0E+5	5.2E+5
Sulfate	14808798	NA	5.0E+6	NA	ID	NLV	NLV	NLV	NLV	ID	ID	NA
Tebuthiuron	34014181	NA	10,000	NA	5.0E+7	NLV	NLV	NLV	NLV	ID	4.6E+6 (DD)	NA
2,3,7,8-Tetrabromodibenzo-p-dioxin (O)	50585416	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	(O)	(O)	NA
1,2,4,5-Tetrachlorobenzene	95943	NA	1.5E+6	3,400 (X)	1.5E+6	ID	ID	ID	ID	ID	7.7E+7	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin (O)	1746016	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	71 (O)	0.09 (O)	NA
1,1,1,2-Tetrachloroethane	630206	NA	1,500	ID (X)	4.4E+5 (C)	6,200	36,000	54,000	1.0E+5	4.2E+8	4.4E+5 (C)	4.4E+5
1,1,2,2-Tetrachloroethane	79345	NA	170	1,600 (X)	94,000	4,300	10,000	10,000	14,000	5.4E+7	53,000	8.7E+5
Tetrachloroethylene	127184	NA	100	900 (X)	88,000 (C)	11,000	1.8E+5	4.8E+5	1.1E+6	5.4E+9	88,000 (C)	88,000
Tetrahydrofuran	109999	NA	1,900	2.2E+5 (X)	3.2E+7	1.3E+6	1.3E+7	6.7E+7	1.6E+8	3.9E+11	2.9E+6	1.2E+8
Tetranitromethane	509148	NA	ID	ID	ID	110	51	ID	ID	2.1E+5	ID	ID
Thallium (B)	7440280	NA	2,300	4,200 (X)	1.5E+7	NLV	NLV	NLV	NLV	ID	35,000	NA
Toluene (I)	108883	NA	16,000	2,800	2.5E+5 (C)	2.5E+5 (C)	2.8E+6	5.1E+6	1.2E+7	2.7E+10	2.5E+5 (C)	2.5E+5
p-Toluidine	106490	NA	660 (M)	NA	4.8E+5	NLV	NLV	NLV	NLV	1.0E+8	94,000	1.2E+6
Toxaphene	8001352	NA	24,000	860	3.6E+5	NLV	NLV	NLV	NLV	9.7E+6	20,000	NA
Triallate	2303175	NA	95,000	NA	2.5E+5 (C)	ID	ID	ID	ID	ID	2.5E+5 (C)	2.5E+5
Tributylamine	102829	NA	7,800	ID	1.8E+6	5.8E+5	6.0E+5	6.0E+5	6.0E+5	4.7E+8	7.9E+5	3.7E+6
1,2,4-Trichlorobenzene	120821	NA	4,200	1,800	1.1E+6	1.1E+6 (C)	2.8E+7	2.8E+7	2.8E+7	2.5E+10	9.9E+5 (DD)	1.1E+6
1,1,1-Trichloroethane	71556	NA	4,000	4,000	4.6E+5 (C)	2.5E+5	3.8E+6	1.2E+7	2.8E+7	6.7E+10	4.6E+5 (C)	4.6E+5
1,1,2-Trichloroethane	79005	NA	100	6,600 (X)	4.2E+5	4,600	17,000	21,000	44,000	1.9E+8	1.8E+5	9.2E+5
Trichloroethylene	79016	NA	100	4,000 (X)	4.4E+5	7,100	78,000	1.7E+5	3.9E+5	1.8E+9	5.0E+5 (C,DD)	5.0E+5
Trichlorofluoromethane	75694	NA	52,000	NA	5.6E+5 (C)	5.6E+5 (C)	9.2E+7	6.3E+8	1.5E+9	3.8E+12	5.6E+5 (C)	5.6E+5
2,4,5-Trichlorophenol	95954	NA	39,000	NA	9.1E+6	NLV	NLV	NLV	NLV	2.3E+10	2.3E+7	NA
2,4,6-Trichlorophenol	88062	NA	2,400	NA	2.0E+5	NLV	NLV	NLV	NLV	1.0E+9	7.1E+5	NA
1,2,3-Trichloropropane	96184	NA	840	NA	8.3E+5 (C)	ID	ID	ID	ID	ID	8.3E+5 (C)	8.3E+5
1,1,2-Trichloro-1,2,2-trifluoroethane	76131	NA	5.5E+5 (C)	1,700	5.5E+5 (C)	5.5E+5 (C)	1.8E+8	8.8E+8	2.1E+9	5.1E+12	5.5E+5 (C)	5.5E+5

TABLE 2. SOIL: RESIDENTIAL AND COMMERCIAL I
PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

			Groundwater Protection			Indoor Air	Ambient Air (Y)				Direct Contact	
Hazardous Substance	Chemical Abstract Service Number (CAS #)	Statewide Default Background Levels	Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria	Direct Contact Criteria	Soil Saturation Concentration Screening Levels
Triethanolamine	102716	NA	74,000	NA	1.1E+8 (C)	NLV	NLV	NLV	NLV	3.3E+9	1.1E+8	1.1E+8
Triethylene glycol	112276	NA	1.1E+5 (C)	NA	1.1E+5 (C)	NLV	NLV	NLV	NLV	ID	1.1E+5 (C,DD)	1.1E+5
3-Trifluoromethyl-4-nitrophenol	88302	NA	1.1E+5	NA	1.2E+8	NLV	NLV	NLV	NLV	ID	4.1E+7 (DD)	NA
Trifluralin	1582098	NA	1.9E+5	NA	1.2E+7	ID	ID	ID	ID	ID	2.0E+6	NA
2,2,4-Trimethyl pentane	540841	NA	ID	NA	ID	ID	ID	ID	ID	ID	ID	19,000
2,4,4-Trimethyl-2-pentene (I)	107404	NA	ID	NA	ID	ID	ID	ID	ID	ID	ID	56,000
1,2,4-Trimethylbenzene (I)	95636	NA	2,100	570	1.1E+5 (C)	1.1E+5 (C)	2.1E+7	5.0E+8	5.0E+8	8.2E+10	1.1E+5 (C)	1.1E+5
1,3,5-Trimethylbenzene (I)	108678	NA	1,800	1,100	94,000 (C)	94,000 (C)	1.6E+7	3.8E+8	3.8E+8	8.2E+10	94,000 (C)	94,000
Triphenyl phosphate	115866	NA	1.1E+5 (C)	NA	1.1E+5 (C)	NLV	NLV	NLV	NLV	ID	1.1E+5 (C)	1.1E+5
Iris(2,3-Dibromopropyl)phosphate	126727	NA	66	NA	27,000 (C)	27,000 (C)	18,000	18,000	18,000	5.9E+6	4,400	27,000
Urea	57136	NA	ID (N)	NA	ID	NLV	NLV	NLV	NLV	ID	ID	NA
Vanadium	7440622	NA	72,000	1.9E+5	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	7.5E+5 (DD)	NA
Vinyl acetate (I)	108054	NA	13,000	NA	2.4E+6 (C)	7.9E+5	1.7E+6	2.6E+6	5.8E+6	1.3E+10	2.4E+6 (C,DD)	2.4E+6
Vinyl chloride	75014	NA	40	300	20,000	270	4,200	30,000	73,000	3.5E+8	3,800	4.9E+5
White phosphorus (R)	12185103	NA	2.2	NA	58,000	NLV	NLV	NLV	NLV	ID	2,300 (DD)	NA
Xylenes (I)	1330207	NA	5,600	700	1.5E+5 (C)	1.5E+5 (C)	4.6E+7	6.1E+7	1.3E+8	2.9E+11	1.5E+5 (C)	1.5E+5
Zinc (B)	7440666	47,000	2.4E+6	(G)	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	1.7E+8	NA

R 299.5748 Generic soil cleanup criteria for industrial and commercial II, III, and IV categories.

Rule 748. Generic soil cleanup criteria for industrial and commercial II, III, and IV categories shall be as shown in table 3.

TABLE 3. SOIL: INDUSTRIAL AND COMMERCIAL II, III, AND IV PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

All criteria are expressed in units of parts per billion (ppb;ug/kg). Scientific notation is represented by E+ or E- a value; for example, 2 x 10^6 is reported as 2.0E+6. Analytical results must be expressed as dry-weight concentrations for comparison to criteria.

			Groundwater Protection				Indoor Air	Ambient Air (Y)				Direct Contact			
Hazardous Substance	Chemical Abstract Service Number (CAS #)	Statewide Default Background Levels	Residential Drinking Water Protection Criteria	Industrial and Commercial Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria	Industrial and Commercial II	Commercial III	Commercial IV	Soil Saturation Concentration Screening Levels
Acenaphthene	83329	NA	3.0E+5	8.8E+5	4,400	9.7E+5	3.5E+8	9.7E+7	9.7E+7	9.7E+7	6.2E+9	1.3E+8	1.8E+8	1.5E+8	NA
Acenaphthylene	208968	NA	5,900	17,000	ID	4.4E+5	3.0E+8	2.7E+6	2.7E+6	2.7E+6	1.0E+9	5.2E+6	7.2E+6	6.1E+6	NA
Acetaldehyde (I)	75070	NA	19,000	54,000	2,600	1.1E+8 (C)	4.0E+5	2.1E+5	2.1E+5	2.9E+5	2.6E+8	9.5E+7	1.1E+8 (C)	1.1E+8	1.1E+8
Acetic acid	64197	NA	9.0E+5 (M)	9.0E+5 (M)	9.0E+5 (M)	6.5E+8 (C)	NLV	NLV	NLV	NLV	7.4E+9	4.2E+8	5.8E+8	4.9E+8	6.5E+8
Acetone (I)	67641	NA	15,000	42,000	34,000	1.1E+8 (C)	1.1E+8 (C)	1.6E+8	1.6E+8	2.0E+8	1.7E+11	7.3E+7	1.0E+8	8.6E+7	1.1E+8
Acetonitrile	75058	NA	2,800	8,000	NA	2.2E+7 (C)	8.8E+6	1.9E+6	1.9E+6	2.2E+6	1.8E+9	1.4E+7	1.9E+7	1.6E+7	2.2E+7
Acetophenone	98862	NA	30,000	88,000	NA	1.1E+6 (C)	1.1E+6 (C)	5.2E+7	5.2E+7	5.2E+7	1.4E+10	1.1E+6 (C)	1.1E+6 (C)	1.1E+6 (C)	1.1E+6
Acrolein (I)	107028	NA	2,400	6,600	NA	2.3E+7 (C)	760	370	370	630	5.9E+5	1.2E+7	1.6E+7	1.4E+7	2.3E+7
Acrylamide	79061	NA	10	10	NA	2.6E+5	NLV	NLV	NLV	NLV	3.0E+6	8,700	12,000	10,000	NA
Acrylic acid	79107	NA	78,000	2.2E+5	NA	1.1E+8 (C)	5.5E+6	2.2E+5	2.7E+5	2.7E+5	2.9E+7	1.1E+8 (C,DD)	1.1E+8 (C,DD)	1.1E+8 (C,DD)	1.1E+8
Acrylonitrile (I)	107131	NA	52	220	98 (X)	2.8E+5	35,000	17,000	17,000	31,000	5.8E+7	74,000	1.0E+5	87,000	8.3E+6
Alachlor	15972608	NA	52	52	290 (X)	44,000	NLV	NLV	NLV	NLV	ID	3.9E+5	6.9E+5	5.1E+5	NA
Aldicarb	116063	NA	60	60	NA	2.4E+8	NLV	NLV	NLV	NLV	ID	7.3E+5	1.0E+6	8.6E+5	NA
Aldicarb sulfoxide	1646873	NA	60	60	NA	5.4E+7	NLV	NLV	NLV	NLV	ID	9.5E+5	1.3E+6	1.1E+6	NA
Aldicarb sulfone	1646884	NA	50 (M)	50 (M)	NA	4.2E+7	NLV	NLV	NLV	NLV	ID	8.0E+5	1.1E+6	9.4E+5	NA
Aldrin	309002	NA	NLL	NLL	NLL	NLL	7.1E+6	2.0E+5	2.0E+5	2.0E+5	8.0E+5	4,300	7,700	5,600	NA
Aluminum (B)	7429905	6.9E+6	1,000	1,000	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	3.7E+8 (DD)	4.1E+8 (DD)	3.9E+8 (DD)	NA
Ammonia	7664417	NA	ID	ID	(CC)	ID	ID	ID	ID	ID	2.0E+9	ID	ID	ID	1.0E+7
t- Amyl methyl ether (TAME)	994058	NA	3,900	3,900	NA	4.4E+5 (C)	1.1E+5	4.0E+5	7.8E+5	1.8E+6	1.8E+9	4.4E+5 (C)	4.4E+5 (C)	4.4E+5 (C)	4.4E+5
Aniline	62533	NA	1,700 (M)	4,400	1,700 (M)	2.6E+6	NLV	NLV	NLV	NLV	2.9E+7	1.5E+6	2.1E+6	1.8E+6	4.5E+6
Anthracene	120127	NA	41,000	41,000	ID	41,000	1.0E+9 (D)	1.6E+9	1.6E+9	1.6E+9	2.9E+10	7.3E+8	1.0E+9	8.6E+8	NA
Antimony	7440360	NA	500 (M)	4,300	94,000	4.9E+7	NLV	NLV	NLV	NLV	5.9E+6	6.7E+5	7.3E+5	7.0E+5	NA
Arsenic	7440382	5,800	23,000	23,000	70,000 (X)	2.0E+8	NLV	NLV	NLV	NLV	9.1E+5	37,000	46,000	41,000	NA
Asbestos (BB)	1332214	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	1.0E+7 (M)	ID	ID	ID	NA
Atrazine	1912249	NA	60	60	150 (X)	1.1E+5	NLV	NLV	NLV	NLV	ID	3.3E+5 (DD)	4.6E+5 (DD)	3.9E+5 (DD)	NA

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PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

			Groundwater Protection				Indoor Air	Ambient Air (Y)				Direct Contact			
Hazardous Substance	Chemical Abstract Service Number (CAS #)	Statewide Default Background Levels	Residential Drinking Water Protection Criteria	Industrial and Commercial Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria	Industrial and Commercial II	Commercial III	Commercial IV	Soil Saturation Concentration Screening Levels
Azobenzene	103333	NA	4,200	17,000	NA	3.0E+5	3.2E+7	2.1E+6	ID	ID	1.3E+8	6.6E+5	9.2E+5	7.7E+5	NA
Barium (B)	7440393	75,000	1.3E+6	1.3E+6	(G,X)	1.0E+9 (D)	NLV	NLV	NLV	NLV	1.5E+8	1.3E+8	1.5E+8	1.4E+8	NA
Benzene (I)	71432	NA	100	100	4,000 (X)	2.2E+5	8,400	45,000	99,000	2.3E+5	4.7E+8	4.0E+5 (C)	4.0E+5 (C)	4.0E+5 (C)	4.0E+5
Benzidine	92875	NA	1,000 (M)	1,000 (M)	ID	1,000 (M)	NLV	NLV	NLV	NLV	59,000	1,000 (M)	1,000 (M)	1,000 (M)	NA
Benzo(a)anthracene (Q)	56553	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	80,000	1.6E+5	1.1E+5	NA
Benzo(b)fluoranthene (Q)	205992	NA	NLL	NLL	NLL	NLL	ID	ID	ID	ID	ID	80,000	1.6E+5	1.1E+5	NA
Benzo(k)fluoranthene (Q)	207089	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	8.0E+5	1.6E+6	1.1E+6	NA
Benzo(g,h,i)perylene	191242	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	3.5E+8	7.0E+6	1.4E+7	9.5E+6	NA
Benzo(a)pyrene (Q)	50328	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	1.9E+6	8,000	16,000	11,000	NA
Benzoic acid	65850	NA	6.4E+5	1.8E+6	NA	7.0E+7	NLV	NLV	NLV	NLV	ID	1.0E+9 (D)	1.0E+9 (D)	1.0E+9 (D)	NA
Benzyl alcohol	100516	NA	2.0E+5	5.8E+5	NA	5.8E+6 (C)	NLV	NLV	NLV	NLV	1.5E+11	5.8E+6 (C)	5.8E+6 (C)	5.8E+6 (C)	5.8E+6
Benzyl chloride	100447	NA	200 (M)	640	NA	72,000	33,000	48,000	48,000	52,000	7.8E+7	2.2E+5	2.3E+5 (C)	2.3E+5 (C)	2.3E+5
Beryllium	7440417	NA	51,000	51,000	(G)	1.0E+9 (D)	NLV	NLV	NLV	NLV	5.9E+5	1.6E+6	1.6E+6	1.6E+6	NA
bis(2-Chloroethoxy)ethane	112265	NA	ID	ID	ID	ID	NLV	NLV	NLV	NLV	ID	ID	ID	ID	2.7E+6
bis(2-Chloroethyl)ether (I)	111444	NA	330 (M)	330 (M)	330 (M)	1.1E+5	44,000	13,000	13,000	13,000	1.2E+7	58,000	81,000	68,000	2.2E+6
bis(2-Ethylhexyl)phthalate	117817	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	8.9E+8	1.0E+7 (C)	1.0E+7 (C)	1.0E+7 (C)	1.0E+7
Boron (B)	7440428	NA	10,000	10,000	38,000	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	3.5E+8 (DD)	3.9E+8 (DD)	3.7E+8 (DD)	NA
Bromobenzene (I)	108861	NA	550	1,500	NA	3.6E+5	5.8E+5	5.4E+5	5.4E+5	5.4E+5	2.4E+8	7.6E+5 (C)	7.6E+5 (C)	7.6E+5 (C)	7.6E+5
Bromodichloromethane	75274	NA	2,000 (W)	2,000 (W)	ID	2.8E+5	8,400	31,000	31,000	57,000	1.1E+8	4.9E+5	6.6E+5	5.7E+5	1.5E+6
Bromoform	75252	NA	2,000 (W)	2,000 (W)	ID	8.7E+5 (C)	7.7E+5	3.1E+6	3.1E+6	3.1E+6	3.6E+9	8.7E+5 (C)	8.7E+5 (C)	8.7E+5 (C)	8.7E+5
Bromomethane	74839	NA	200	580	700	1.4E+6	1,600	13,000	57,000	1.4E+5	1.5E+8	1.0E+6	1.4E+6	1.2E+6	2.2E+6
n-Butanol (I)	71363	NA	19,000	54,000	NA	8.7E+6 (C)	NLV	NLV	NLV	NLV	1.0E+10	8.7E+6 (C)	8.7E+6 (C)	8.7E+6 (C)	8.7E+6
2-Butanone (MEK) (I)	78933	NA	2.6E+5	7.6E+5	44,000	2.7E+7 (C)	2.7E+7 (C)	3.5E+7	3.5E+7	3.6E+7	2.9E+10	2.7E+7 (C,DD)	2.7E+7 (C,DD)	2.7E+7 (C,DD)	2.7E+7
n-Butyl acetate	123864	NA	11,000	32,000	NA	1.1E+8 (C)	1.1E+8 (C)	1.4E+8	3.1E+8	3.5E+8	2.1E+11	1.1E+8 (C)	1.1E+8 (C)	1.1E+8 (C)	1.1E+8
t-Butyl alcohol	75650	NA	78,000	2.2E+5	NA	1.1E+8 (C)	1.1E+8 (C)	1.2E+8	2.4E+8	2.4E+8	5.6E+10	1.1E+8 (C)	1.1E+8 (C)	1.1E+8 (C)	1.1E+8
Butyl benzyl phthalate	85687	NA	3.1E+5 (C)	3.1E+5 (C)	26,000 (X)	3.1E+5 (C)	NLV	NLV	NLV	NLV	2.1E+10	3.1E+5 (C)	3.1E+5 (C)	3.1E+5 (C)	3.1E+5
n-Butylbenzene	104518	NA	1,600	4,600	ID	1.2E+5	ID	ID	ID	ID	ID	8.0E+6	1.0E+7 (C)	9.4E+6	1.0E+7

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			Groundwater Protection				Indoor Air	Ambient Air (Y)				Direct Contact			
Hazardous Substance	Chemical Abstract Service Number (CAS #)	Statewide Default Background Levels	Residential Drinking Water Protection Criteria	Industrial and Commercial Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria	Industrial and Commercial II	Commercial III	Commercial IV	Soil Saturation Concentration Screening Levels
sec-Butylbenzene	135988	NA	1,600	4,600	ID	88,000	ID	ID	ID	ID	ID	8.0E+6	1.0E+7 (C)	9.4E+6	1.0E+7
t-Butylbenzene (I)	98066	NA	1,600	4,600	NA	1.6E+5	ID	ID	ID	ID	ID	8.0E+6	1.0E+7 (C)	9.4E+6	1.0E+7
Cadmium (B)	7440439	1,200	6,000	6,000	(G,X)	2.3E+8	NLV	NLV	NLV	NLV	2.2E+6	2.1E+6	2.1E+6	2.1E+6	NA
Camphene (I)	79925	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	NA
Caprolactam	105602	NA	1.2E+5	3.4E+5	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	2.9E+8	3.1E+8 (DD)	4.8E+8 (DD)	3.8E+8 (DD)	NA
Carbaryl	63252	NA	14,000	40,000	NA	2.6E+6	ID	ID	ID	ID	ID	7.0E+7	9.8E+7	8.2E+7	NA
Carbazole	86748	NA	9,400	39,000	1,100	6.2E+5	NLV	NLV	NLV	NLV	ID	2.4E+6	3.4E+6	2.9E+6	NA
Carbofuran	1563662	NA	800	800	NA	6.8E+6	NLV	NLV	NLV	NLV	ID	3.6E+6	5.1E+6	4.3E+6	NA
Carbon disulfide (I,R)	75150	NA	16,000	46,000	ID	2.8E+5 (C)	1.4E+5	1.6E+6	8.0E+6	1.9E+7	2.1E+10	2.8E+5 (C,DD)	2.8E+5 (C,DD)	2.8E+5 (C,DD)	2.8E+5
Carbon tetrachloride	56235	NA	100	100	900 (X)	92,000	990	12,000	34,000	79,000	1.7E+8	3.9E+5 (C)	3.9E+5 (C)	3.9E+5 (C)	3.9E+5
Chlordane (J)	57749	NA	NLL	NLL	NLL	NLL	5.9E+7	4.2E+6	4.2E+6	4.2E+6	2.1E+7	1.5E+5	2.0E+5	1.7E+5	NA
Chloride	16887006	NA	5.0E+6	5.0E+6	2.5E+6 (X)	ID	NLV	NLV	NLV	NLV	ID	5.0E+5 (F)	5.0E+5 (F)	5.0E+5 (F)	NA
Chlorobenzene (I)	108907	NA	2,000	2,000	940	2.6E+5 (C)	2.2E+5	9.2E+5	1.1E+6	2.1E+6	2.1E+9	2.6E+5 (C)	2.6E+5 (C)	2.6E+5 (C)	2.6E+5
1-Chloro-1,1-difluoroethane	75683	NA	3.0E+5	8.8E+05	NA	9.6E+5 (C)	9.6E+5 (C)	9.4E+7	5.7E+8	1.4E+9	1.5E+12	9.6E+5 (C)	9.6E+5 (C)	9.6E+5 (C)	9.6E+5
Chloroethane	75003	NA	8,600	34,000	ID	9.5E+5 (C)	9.5E+5 (C)	3.6E+7	1.2E+8	2.8E+8	2.9E+11	9.5E+5 (C)	9.5E+5 (C)	9.5E+5 (C)	9.5E+5
2-Chloroethyl vinyl ether	110758	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	1.9E+8
Chloroform	67663	NA	2,000 (W)	2,000 (W)	3,400 (X)	1.5E+6 (C)	38,000	1.5E+5	3.4E+5	7.9E+5	1.6E+9	1.5E+6 (C)	1.5E+6 (C)	1.5E+6 (C)	1.5E+6
Chloromethane (I)	74873	NA	5,200	22,000	ID	1.1E+6 (C)	10,000	1.2E+5	1.0E+6	2.5E+6	2.6E+9	1.1E+6 (C)	1.1E+6 (C)	1.1E+6 (C)	1.1E+6
4-Chloro-3-methylphenol	59507	NA	5,800	16,000	330 (M)	3.0E+6	NLV	NLV	NLV	NLV	ID	1.5E+7	2.0E+7	1.7E+7	NA
beta-Chloronaphthalene	91587	NA	6.2E+5	1.8E+6	NA	2.3E+8	ID	ID	ID	ID	ID	1.8E+8	2.6E+8	2.1E+8	NA
2-Chlorophenol	95578	NA	900	2,600	440	1.9E+6	ID	ID	ID	ID	ID	4.5E+6	6.3E+6	5.3E+6	1.9E+7
o-Chlorotoluene (I)	95498	NA	3,300	9,300	NA	5.0E+5 (C)	5.0E+5 (C)	1.5E+6	3.1E+6	6.4E+6	2.1E+9	5.0E+5 (C)	5.0E+5 (C)	5.0E+5 (C)	5.0E+5
Chlorpyrifos	2921882	NA	17,000	48,000	NA	8.4E+5	240	5,500	23,000	56,000	5.9E+7	3.4E+7	6.0E+7	4.4E+7	NA
Chromium (III) (B,H)	16065831	18,000 (total)	1.0E+9 (D)	1.0E+9 (D)	(G,X)	1.0E+9 (D)	NLV	NLV	NLV	NLV	1.5E+8	1.0E+9 (D)	1.0E+9 (D)	1.0E+9 (D)	NA
Chromium (VI)	18540299	NA	30,000	30,000	3,300	1.4E+8	NLV	NLV	NLV	NLV	2.4E+5	9.2E+6	1.0E+7	9.6E+6	NA
Chrysene (Q)	218019	NA	NLL	NLL	NLL	NLL	ID	ID	ID	ID	ID	8.0E+6	1.6E+7	1.1E+7	NA
Cobalt	7440484	6,800	800	2,000	2,000	4.8E+7	NLV	NLV	NLV	NLV	5.9E+6	9.0E+6	1.0E+7	1.0E+7	NA

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Copper (B)	7440508	32,000	5.8E+6	5.8E+6	(G)	1.0E+9 (D)	NLV	NLV	NLV	NLV	5.9E+7	7.3E+7	7.9E+7	7.6E+7	NA
Cyanazine	21725462	NA	500 (M)	500 (M)	1,100 (X)	56,000	NLV	NLV	NLV	NLV	ID	66,000	92,000	77,000	NA
Cyanide (P,R)	57125	390 (total)	4,000	4,000	200 (M)	2.5E+5	NLV	NLV	NLV	NLV	2.5E+5	2.5E+5	2.5E+5	2.5E+5	NA
Cyclohexanone	108941	NA	5.2E+6	1.5E+7	NA	2.2E+8 (C)	32,000	1.3E+6	1.1E+7	2.7E+7	2.9E+10	2.2E+8 (C)	2.2E+8 (C)	2.2E+8 (C)	2.2E+8
Dacthal	1861321	NA	50,000	1.4E+5	NA	3.4E+5	NLV	NLV	NLV	NLV	ID	7.3E+6	1.0E+7	8.6E+6	NA
Dalapon	75990	NA	4,000	4,000	NA	5.9E+7 (C)	NLV	NLV	NLV	NLV	ID	5.9E+7 (C)	5.9E+7 (C)	5.9E+7 (C)	5.9E+7
4-4'-DDD	72548	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	5.6E+7	4.0E+5	7.1E+5	5.2E+5	NA
4-4'-DDE	72559	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	4.0E+7	1.9E+5	3.3E+5	2.4E+5	NA
4-4'-DDT	50293	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	4.0E+7	2.8E+5	3.4E+5	3.1E+5	NA
Decabromodiphenyl ether	1163195	NA	1.4E+5	1.4E+5	NA	1.4E+5	1.0E+9 (D)	1.0E+8	1.0E+8	1.0E+8	1.0E+9	1.1E+7	2.0E+7	1.5E+7	NA
Di-n-butyl phthalate	84742	NA	7.6E+5 (C)	7.6E+5 (C)	11,000	7.6E+5 (C)	NLV	NLV	NLV	NLV	1.5E+9	7.6E+5 (C)	7.6E+5 (C)	7.6E+5 (C)	7.6E+5
Di(2-ethylhexyl) adipate	103231	NA	9.6E+5 (C)	9.6E+5 (C)	NA	9.6E+5 (C)	NLV	NLV	NLV	NLV	1.2E+10	9.6E+5 (C,DD)	9.6E+5 (C,DD)	9.6E+5 (C,DD)	9.6E+5
Di-n-octyl phthalate	117840	NA	1.0E+8	1.4E+8 (C)	ID	1.4E+8 (C)	NLV	NLV	NLV	NLV	ID	2.0E+7	3.6E+7	2.6E+7	1.4E+8
Diacetone alcohol (I)	123422	NA	ID	ID	NA	ID	NLV	NLV	NLV	NLV	7.1E+10	ID	ID	ID	1.1E+8
Diazinon	333415	NA	95	280	NA	95,000	NLV	NLV	NLV	NLV	ID	70,000 (DD)	1.1E+5 (DD)	86,000 (DD)	3.1E+5
Dibenzo(a,h)anthracene (Q)	53703	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	8,000	16,000	11,000	NA
Dibenzofuran	132649	NA	ID	ID	1,700	ID	ID	ID	ID	ID	ID	ID	ID	ID	NA
Dibromochloromethane	124481	NA	2,000 (W)	2,000 (W)	ID	3.6E+5	21,000	60,000	60,000	98,000	1.6E+8	5.0E+5	6.1E+5 (C)	5.8E+5	6.1E+5
Dibromochloropropane	96128	NA	4.0	4.0 (M)	NA	1,200 (C)	1,200 (C)	15,000	15,000	15,000	5.9E+6	1,200 (C)	1,200 (C)	1,200 (C)	1,200
Dibromomethane	74953	NA	1,600	4,600	NA	2.0E+6 (C)	ID	ID	ID	ID	ID	2.0E+6 (C)	2.0E+6 (C)	2.0E+6 (C)	2.0E+6
1,2-Dichlorobenzene	95501	NA	14,000	14,000	360	2.1E+5 (C)	2.1E+5 (C)	4.6E+7	4.6E+7	5.5E+7	4.4E+10	2.1E+5 (C)	2.1E+5 (C)	2.1E+5 (C)	2.1E+5
1,3-Dichlorobenzene	541731	NA	170	480	1,100	51,000	ID	ID	ID	ID	ID	1.7E+5 (C)	1.7E+5 (C)	1.7E+5 (C)	1.7E+5
1,4-Dichlorobenzene	106467	NA	1,700	1,700	290	1.4E+5	1.0E+5	2.6E+5	2.6E+5	3.4E+5	5.7E+8	1.9E+6	2.6E+6	2.2E+6	NA
3,3'-Dichlorobenzidine	91941	NA	2,000 (M)	2,000 (M)	2,000 (M,X)	4,600	NLV	NLV	NLV	NLV	8.2E+6	30,000	43,000	36,000	NA
Dichlorodifluoromethane	75718	NA	95,000	2.7E+5	ID	1.0E+6 (C)	1.7E+6	6.3E+7	5.5E+8	1.4E+9	1.5E+12	1.0E+6 (C)	1.0E+6 (C)	1.0E+6 (C)	1.0E+6
1,1-Dichloroethane	75343	NA	18,000	50,000	15,000	8.9E+5 (C)	4.3E+5	2.5E+6	6.0E+6	1.4E+7	1.5E+10	8.9E+5 (C)	8.9E+5 (C)	8.9E+5 (C)	8.9E+5
1,2-Dichloroethane (I)	107062	NA	100	100	7,200 (X)	3.6E+5	11,000	21,000	33,000	74,000	1.5E+8	4.2E+5	5.9E+5	4.9E+5	1.2E+6

TABLE 3. SOIL: INDUSTRIAL AND COMMERCIAL II, III, AND IV
PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

			Groundwater Protection				Indoor Air	Ambient Air (Y)				Direct Contact			
Hazardous Substance	Chemical Abstract Service Number (CAS #)	Statewide Default Background Levels	Residential Drinking Water Protection Criteria	Industrial and Commercial Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria	Industrial and Commercial II	Commercial III	Commercial IV	Soil Saturation Concentration Screening Levels
1,1-Dichloroethylene (I)	75354	NA	140	140	1,300 (X)	2.2E+5	330	3,700	15,000	37,000	7.8E+7	5.7E+5 (C)	5.7E+5 (C)	5.7E+5 (C)	5.7E+5
cis-1,2-Dichloroethylene	156592	NA	1,400	1,400	12,000	6.4E+5 (C)	41,000	2.1E+5	4.3E+5	1.0E+6	1.0E+9	6.4E+5 (C)	6.4E+5 (C)	6.4E+5 (C)	6.4E+5
trans-1,2-Dichloroethylene	156605	NA	2,000	2,000	30,000	1.4E+6 (C)	43,000	3.3E+5	8.4E+5	2.0E+6	2.1E+9	1.4E+6 (C)	1.4E+6 (C)	1.4E+6 (C)	1.4E+6
2,6-Dichloro-4-nitroaniline	99309	NA	44,000	1.3E+5	NA	1.4E+5	NLV	NLV	NLV	NLV	ID	2.2E+8	3.1E+8	2.6E+8	NA
2,4-Dichlorophenol	120832	NA	1,500	4,200	380	9.6E+5	NLV	NLV	NLV	NLV	2.3E+9	1.8E+6 (C,DD)	1.8E+6 (C,DD)	1.8E+6 (C,DD)	1.8E+6
2,4-Dichlorophenoxyacetic acid	94757	NA	1,400	1,400	4,400	2.4E+6	NLV	NLV	NLV	NLV	2.9E+9	8.6E+6	1.0E+7	9.4E+6	NA
1,2-Dichloropropane (I)	78875	NA	100	100	5,600 (X)	3.2E+5	7,400	30,000	51,000	1.2E+5	1.2E+8	5.5E+5 (C)	5.5E+5 (C)	5.5E+5 (C)	5.5E+5
1,3-Dichloropropene	542756	NA	170	700	NA	1.1E+5	5,400	60,000	2.0E+5	4.7E+5	5.9E+8	2.4E+5	3.4E+5	2.9E+5	6.2E+5
Dichlorovós	62737	NA	50 (M)	130	NA	1.2E+5	NLV	NLV	NLV	NLV	1.5E+7	47,000	65,000	55,000	2.2E+6
Dicyclohexyl phthalate	84617	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	NA
Dieldrin	60571	NA	NLL	NLL	NLL	NLL	7.2E+5	64,000	64,000	64,000	8.5E+5	4,700	6,300	6,100	NA
Diethyl ether	60297	NA	200	200	ID	7.4E+6 (C)	7.4E+6 (C)	1.0E+8	1.6E+8	3.5E+8	3.5E+11	7.4E+6 (C)	7.4E+6 (C)	7.4E+6 (C)	7.4E+6
Diethyl phthalate	84662	NA	1.1E+5	3.2E+5	2,200	7.4E+5 (C)	NLV	NLV	NLV	NLV	1.5E+9	7.4E+5 (C)	7.4E+5 (C)	7.4E+5 (C)	7.4E+5
Diethylene glycol monobutyl ether	112345	NA	1,800	5,000	NA	8.0E+7	NLV	NLV	NLV	NLV	5.9E+8	8.7E+6	1.2E+7	1.0E+7	1.1E+8
Diisopropyl ether	108203	NA	600	1,300 (C)	ID	1,300 (C)	1,300 (C)	3.2E+6	4.8E+6	1.0E+7	1.1E+10	1,300 (C)	1,300 (C)	1,300 (C)	1,300
Diisopropylamine (I)	108189	NA	110	320	NA	4.2E+5	ID	ID	ID	ID	ID	5.6E+5	7.9E+5	6.6E+5	6.7E+6
Dimethyl phthalate	131113	NA	7.9E+5 (C)	7.9E+5 (C)	NA	7.9E+5 (C)	NLV	NLV	NLV	NLV	1.5E+9	7.9E+5 (C)	7.9E+5 (C)	7.9E+5 (C)	7.9E+5
N,N-Dimethylacetamide	127195	NA	3,600	10,000	82,000 (X)	1.1E+8 (C)	NLV	NLV	NLV	NLV	ID	1.8E+7	2.6E+7	2.1E+7	1.1E+8
N,N-Dimethylaniline	121697	NA	320	920	NA	4.0E+5	8.0E+5 (C)	5.2E+5	5.2E+5	5.2E+5	3.3E+8	8.0E+5 (C)	8.0E+5 (C)	8.0E+5 (C)	8.0E+5
Dimethylformamide (I)	68122	NA	14,000	40,000	NA	1.1E+8 (C)	NLV	NLV	NLV	NLV	8.8E+8	7.0E+7	9.8E+7	8.2E+7	1.1E+8
2,4-Dimethylphenol	105679	NA	7,400	20,000	7,600	1.0E+7	NLV	NLV	NLV	NLV	2.1E+9	3.6E+7	5.1E+7	4.3E+7	NA
2,6-Dimethylphenol	576261	NA	330 (M)	330 (M)	NA	1.3E+5	NLV	NLV	NLV	NLV	ID	4.4E+5	6.1E+5	5.1E+5	NA
3,4-Dimethylphenol	95658	NA	330 (M)	580	NA	3.6E+5	NLV	NLV	NLV	NLV	ID	1.0E+6	1.4E+6	1.2E+6	NA
Dimethylsulfoxide	67685	NA	4.4E+6	1.3E+7	3.8E+6	1.6E+7 (C)	NLV	NLV	NLV	NLV	ID	1.6E+7 (C)	1.6E+7 (C)	1.6E+7 (C)	1.6E+7
2,4-Dinitrotoluene	121142	NA	430	640	NA	1.7E+5	NLV	NLV	NLV	NLV	2.0E+7	2.2E+5	3.1E+5	2.6E+5	NA
Dinoseb	88857	NA	300	300	20	1.4E+5 (C)	NLV	NLV	NLV	NLV	ID	1.4E+5 (C,DD)	1.4E+5 (C,DD)	1.4E+5 (C,DD)	1.4E+5

TABLE 3. SOIL: INDUSTRIAL AND COMMERCIAL II, III, AND IV PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

			Groundwater Protection				Indoor Air	Ambient Air (Y)				Direct Contact			
Hazardous Substance	Chemical Abstract Service Number (CAS #)	Statewide Default Background Levels	Residential Drinking Water Protection Criteria	Industrial and Commercial Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria	Industrial and Commercial II	Commercial III	Commercial IV	Soil Saturation Concentration Screening Levels
1,4-Dioxane (I)	123911	NA	1,700	7,000	56,000	3.4E+7	NLV	NLV	NLV	NLV	7.1E+8	2.4E+6	3.4E+6	2.9E+6	9.7E+7
Diquat	85007	NA	400	400	NA	1.4E+7	NLV	NLV	NLV	NLV	ID	1.6E+6	2.2E+6	1.9E+6	NA
Diuron	330541	NA	620	1,800	NA	7.4E+5	NLV	NLV	NLV	NLV	2.1E+8	3.1E+6	4.4E+6	3.7E+6	NA
Endosulfan (J)	115297	NA	NLL	NLL	NLL	NLL	ID	ID	ID	ID	ID	4.4E+6	6.1E+6	5.1E+6	NA
Endothall	145733	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	1.0E+9	1.2E+7	1.7E+7	1.5E+7	NA
Endrin	72208	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	1.9E+5	3.4E+5	2.5E+5	NA
Epichlorohydrin (I)	106898	NA	40	40	NA	2.2E+5	1.2E+5	37,000	37,000	37,000	2.9E+7	41,000	58,000	48,000	7.3E+6
Ethanol (I)	64175	NA	3.8E+7	7.6E+7	NA	1.1E+8 (C)	NLV	NLV	NLV	NLV	5.6E+11	1.1E+8 (C,DD)	1.1E+8 (C,DD)	1.1E+8 (C,DD)	1.1E+8
Ethyl acetate (I)	141786	NA	1.3E+5	3.8E+5	NA	7.5E+6 (C)	7.5E+6 (C)	5.9E+7	5.9E+7	1.0E+8	9.4E+10	7.5E+6 (C)	7.5E+6 (C)	7.5E+6 (C)	7.5E+6
Ethyl-tert-butyl ether (ETBE)	637923	NA	980	980	ID	ID	6.5E+5 (C)	2.3E+6	4.6E+6	1.1E+7	1.1E+10	ID	ID	ID	6.5E+5
Ethylbenzene (I)	100414	NA	1,500	1,500	360	1.4E+5 (C)	1.4E+5 (C)	2.4E+6	3.1E+6	6.5E+6	1.3E+10	1.4E+5 (C)	1.4E+5 (C)	1.4E+5 (C)	1.4E+5
Ethylene dibromide	106934	NA	250 (M)	250 (M)	250 (M)	500	3,600	5,800	5,800	9,800	1.8E+7	430	600	500	8.9E+5
Ethylene glycol	107211	NA	3.0E+5	8.4E+5	NA	1.1E+8 (C)	NLV	NLV	NLV	NLV	2.9E+10	1.1E+8 (C)	1.1E+8 (C)	1.1E+8 (C)	1.1E+8
Ethylene glycol monobutyl ether	111762	NA	74,000	2.0E+5	NA	4.1E+7 (C)	1.4E+6	2.1E+7	1.5E+8	3.6E+8	3.8E+11	4.1E+7 (C)	4.1E+7 (C)	4.1E+7 (C)	4.1E+7
Fluoranthene	206440	NA	7.3E+5	7.3E+5	5,500	7.3E+5	1.0E+9 (D)	8.9E+8	8.8E+8	8.8E+8	4.1E+9	1.3E+8	2.4E+8	1.7E+8	NA
Fluorene	86737	NA	3.9E+5	8.9E+5	5,300	8.9E+5	1.0E+9 (D)	1.5E+8	1.5E+8	1.5E+8	4.1E+9	8.7E+7	1.2E+8	1.0E+8	NA
Fluorine (soluble fluoride) (B)	7782414	NA	40,000	40,000	NA	2.4E+8	NLV	NLV	NLV	NLV	ID	6.7E+7 (DD)	7.4E+7 (DD)	7.0E+7 (DD)	NA
Formaldehyde	50000	NA	26,000	76,000	2,400	6.0E+7 (C)	65,000	43,000	69,000	1.5E+5	3.0E+8	6.0E+7 (C)	6.0E+7 (C)	6.0E+7 (C)	6.0E+7
Formic acid (I,U)	64186	NA	9.0E+5 (M)	9.0E+5 (M)	ID	1.1E+8 (C)	2.8E+6	9.0E+5 (M)	9.0E+5 (M)	9.0E+5 (M)	5.9E+7	1.1E+8 (C)	1.1E+8 (C)	1.1E+8 (C)	1.1E+8
1-Formylpiperidine	2591868	NA	1,800	4,600	NA	ID	ID	ID	ID	ID	ID	8.0E+6	1.0E+7 (C)	9.4E+6	1.0E+7
Gentian violet	548629	NA	300	1,300	NA	2.0E+7	NLV	NLV	NLV	NLV	ID	4.4E+5	6.2E+5	5.2E+5	NA
Glyphosate	1071836	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	5.7E+7 (DD)	1.2E+8 (DD)	7.8E+7 (DD)	NA
Heptachlor	76448	NA	NLL	NLL	NLL	NLL	1.9E+6	2.1E+5	2.1E+5	2.1E+5	3.0E+6	23,000	42,000	30,000	NA
Heptachlor epoxide	1024573	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	1.5E+6	9,500	17,000	12,000	NA
n-Heptane	142825	NA	2.4E+5 (C)	2.4E+5 (C)	NA	2.4E+5 (C)	2.4E+5 (C)	2.5E+7	4.5E+7	1.0E+8	1.0E+11	2.4E+5 (C)	2.4E+5 (C)	2.4E+5 (C)	2.4E+5
Hexabromobenzene	87821	NA	3.2E+5	3.2E+5	ID	3.2E+5	ID	ID	ID	ID	ID	3.1E+6	5.6E+6	4.1E+6	NA

TABLE 3. SOIL: INDUSTRIAL AND COMMERCIAL II, III, AND IV
PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

			Groundwater Protection				Indoor Air	Ambient Air (Y)				Direct Contact			
Hazardous Substance	Chemical Abstract Service Number (CAS #)	Statewide Default Background Levels	Residential Drinking Water Protection Criteria	Industrial and Commercial Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria	Industrial and Commercial II	Commercial III	Commercial IV	Soil Saturation Concentration Screening Levels
Hexachlorobenzene (C-66)	118741	NA	1,800	1,800	ID	8,200	2.2E+5	56,000	56,000	56,000	8.5E+6	37,000	67,000	49,000	NA
Hexachlorobutadiene (C-46)	87683	NA	26,000	72,000	330 (M)	3.5E+5 (C)	3.5E+5 (C)	4.6E+5	4.6E+5	4.6E+5	1.8E+8	3.5E+5 (C)	3.5E+5 (C)	3.5E+5 (C)	3.5E+5
alpha-Hexachlorocyclohexane	319846	NA	18	71	NA	2,500	1.6E+5	41,000	86,000	86,000	2.1E+6	12,000	17,000	14,000	NA
beta-Hexachlorocyclohexane	319857	NA	37	150	NA	5,100	NLV	NLV	NLV	NLV	7.4E+6	25,000	35,000	29,000	NA
Hexachlorocyclopentadiene (C-58)	77474	NA	3 2E+5	3.2E+5	ID	7.2E+5 (C)	56,000	60,000	60,000	60,000	5.9E+6	7.2E+5 (C)	7.2E+5 (C)	7.2E+5 (C)	7.2E+5
Hexachloroethane	67721	NA	430	1,200	1,800 (X)	1.1E+5	79,000	6.6E+5	1.4E+6	1.4E+6	1.0E+8	7.3E+5	1.0E+6	8.6E+5	NA
n-Hexane	110543	NA	44,000 (C)	44,000 (C)	NA	44,000 (C)	44,000 (C)	3.5E+6	3.5E+6	6.4E+6	5.9E+9	44,000 (C)	44,000 (C)	44,000 (C)	44,000
2-Hexanone	591786	NA	20,000	58,000	NA	2.5E+6 (C)	1.6E+6	1.3E+6	1.3E+6	1.5E+6	1.2E+9	2.5E+6 (C)	2.5E+6 (C)	2.5E+6 (C)	2.5E+6
Indeno(1,2,3-cd)pyrene (Q)	193395	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	60,000	1.6E+5	1.1E+5	NA
Iron (B)	7439896	1.2E+7	6,000	6,000	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	5.8E+8	6.2E+8	6.0E+8	NA
Isobutyl alcohol (I)	78831	NA	46,000	1.3E+5	NA	8.9E+6 (C)	8.9E+6 (C)	9.5E+7	9.5E+7	9.5E+7	4.4E+10	8.9E+6 (C)	8.9E+6 (C)	8.9E+6 (C)	8.9E+6
Isophorone	78591	NA	15,000	62,000	11,000 (X)	2.4E+6 (C)	NLV	NLV	NLV	NLV	8.2E+9	2.4E+6 (C)	2.4E+6 (C)	2.4E+6 (C)	2.4E+6
Isopropyl alcohol (I)	67630	NA	9,400	26,000	1.1E+6 (X)	1.1E+6 (C)	NLV	NLV	NLV	NLV	6.5E+9	4.7E+7	6.5E+7	5.5E+7	1.1E+8
Isopropyl benzene	98828	NA	91,000	2.6E+5	ID	3.9E+5 (C)	3.9E+5 (C)	2.0E+6	2.0E+6	3.0E+6	2.6E+9	3.9E+5 (C)	3.9E+5 (C)	3.9E+5 (C)	3.9E+5
Lead (B)	7439921	21,000	7.0E+5	7.0E+5	(G,M,X)	ID	NLV	NLV	NLV	NLV	4.4E+7	9.0E+5 (DD)	4.0E+5	4.0E+5	NA
Lindane	58899	NA	20 (M)	20 (M)	20 (M)	7,100	ID	ID	ID	ID	ID	42,000	49,000	45,000	NA
Lithium (B)	7439932	9,800	3,400	7,000	1,900	1.1E+8	NLV	NLV	NLV	NLV	ID	3.1E+7 (DD)	3.5E+7 (DD)	3.3E+7 (DD)	NA
Magnesium (B)	7439954	NA	8.0E+6	2.2E+7	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	2.9E+9	1.0E+9 (D)	1.0E+9 (D)	1.0E+9 (D)	NA
Manganese (B)	7439965	4.4E+5	1,000	1,000	(G,X)	1.8E+8	NLV	NLV	NLV	NLV	1.5E+8	9.0E+7	9.8E+7	9.4E+7	NA
Mercury (Total) (B,Z)	Varies	130	1,700	1,700	100 (M)	47,000	89,000	62,000	62,000	62,000	8.8E+6	5.8E+5	6.2E+5	6.0E+5	NA
Methane	74828	NA	ID	ID	NA	ID	(K)	ID	ID	ID	ID	ID	ID	ID	ID
Methanol	67561	NA	74,000	2.0E+5	9,600	3.1E+6 (C)	3.1E+6 (C)	3.7E+7	4.6E+7	9.7E+7	9.8E+10	3.1E+6 (C)	3.1E+6 (C)	3.1E+6 (C)	3.1E+6
Methoxychlor	72435	NA	16,000	16,000	NA	18,000	ID	ID	ID	ID	ID	5.6E+6	1.0E+7	7.3E+6	NA
2-Methoxyethanol (I)	109864	NA	150	420	NA	1.7E+7	NLV	NLV	NLV	NLV	5.9E+8	7.3E+5	1.0E+6	8.6E+5	1.1E+8
2-Methyl-4-chlorophenoxyacetic acid	94746	NA	390	1,100	NA	4.9E+5	NLV	NLV	NLV	NLV	ID	7.3E+5	1.0E+6	8.6E+5	NA

TABLE 3. SOIL: INDUSTRIAL AND COMMERCIAL II, III, AND IV PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

			Groundwater Protection				Indoor Air	Ambient Air (Y)				Direct Contact			
Hazardous Substance	Chemical Abstract Service Number (CAS #)	Statewide Default Background Levels	Residential Drinking Water Protection Criteria	Industrial and Commercial Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria	Industrial and Commercial II	Commercial III	Commercial IV	Soil Saturation Concentration Screening Levels
2-Methyl-4,6-dinitrophenol	534521	NA	1,700 (M)	1,700 (M)	NA	1.9E+5	NLV	NLV	NLV	NLV	ID	2.8E+5	3.6E+5	3.0E+5	NA
N-Methyl-morpholine (I)	109024	NA	400	1,100	NA	3.0E+7	NLV	NLV	NLV	NLV	ID	2.0E+6	2.8E+6	2.3E+6	1.1E+8
Methyl parathion	298000	NA	46	130	NA	76,000	NLV	NLV	NLV	NLV	ID	1.8E+5	2.6E+5	2.1E+5	NA
4-Methyl-2-pentanone (MIBK) (I)	108101	NA	36,000	1.0E+5	ID	2.7E+6 (C)	2.7E+6 (C)	5.3E+7	5.3E+7	7.0E+7	6.0E+10	2.7E+6 (C)	2.7E+6 (C)	2.7E+6 (C)	2.7E+6
Methyl-tert-butyl ether (MTBE)	1634044	NA	800	800	15,000 (X)	5.9E+6 (C)	5.9E+6 (C)	3.0E+7	4.1E+7	8.9E+7	8.8E+10	5.9E+6 (C)	5.9E+6 (C)	5.9E+6 (C)	5.9E+6
Methylcyclopentane (I)	96377	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	3.5E+5
4,4'-Methylene-bis-2-chloroaniline (MBOCA)	101144	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	1.1E+8	32,000	44,000	37,000	NA
Methylene chloride	75092	NA	100	100	19,000 (X)	2.3E+6 (C)	2.4E+5	7.0E+5	1.7E+6	4.0E+6	8.3E+9	2.3E+6 (C)	2.3E+6 (C)	2.3E+6 (C)	2.3E+6
2-Methylnaphthalene	91576	NA	57,000	1.7E+5	ID	5.5E+6	ID	ID	ID	ID	ID	2.6E+7	3.7E+7	3.1E+7	NA
Methylphenols (J)	1319773	NA	7,400	20,000	1,400	1.6E+7	NLV	NLV	NLV	NLV	2.9E+9	3.6E+7	5.1E+7	4.3E+7	NA
Metolachlor	51218452	NA	4,800	20,000	NA	4.4E+5 (C)	NLV	NLV	NLV	NLV	ID	4.4E+5 (C,DD)	4.4E+5 (C,DD)	4.4E+5 (C,DD)	4.4E+5
Mirex	2385855	NA	NLL	NLL	NLL	NLL	ID	ID	ID	ID	ID	40,000	72,000	52,000	NA
Molybdenum (B)	7439987	NA	1,500	4,200	18,000 (X)	1.9E+7	NLV	NLV	NLV	NLV	ID	9.6E+6	1.0E+7	1.0E+7	NA
Naphthalene	91203	NA	35,000	1.0E+5	870	2.1E+8	4.7E+5	3.5E+5	3.5E+5	3.5E+5	8.8E+7	5.2E+7	7.2E+7	6.1E+7	NA
Nickel (B)	7440020	20,000	1.0E+5	1.0E+5	(G)	1.0E+9 (D)	NLV	NLV	NLV	NLV	1.6E+7	1.5E+8	1.6E+8	1.5E+8	NA
Nitrate (B,N)	14797558	NA	2.0E+5 (N)	2.0E+5 (N)	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	ID	ID	ID	NA
Nitrite (B,N)	14797650	NA	20,000 (N)	20,000 (N)	NA	3.8E+8	NLV	NLV	NLV	NLV	ID	ID	ID	ID	NA
Nitrobenzene (I)	98953	NA	200 (M)	200 (M)	3,600 (X)	2.2E+5	1.7E+5	64,000	64,000	64,000	2.1E+7	3.4E+5	4.7E+5	3.9E+5	4.9E+5
2-Nitrophenol	88755	NA	400	1,200	ID	1.6E+8	NLV	NLV	NLV	NLV	ID	2.0E+6	2.9E+6	2.4E+6	NA
n-Nitroso-di-n-propylamine	621647	NA	330 (M)	330 (M)	NA	7,200	NLV	NLV	NLV	NLV	2.0E+6	5,400	7,600	6,400	1.5E+6
N-Nitrosodiphenylamine	86306	NA	5,400	22,000	NA	7.0E+5	NLV	NLV	NLV	NLV	ID	7.8E+6	1.1E+7	9.2E+6	NA
Oxamyl	23135220	NA	4,000	4,000	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	2.6E+7	3.9E+7	3.3E+7	NA
Oxo-hexyl acetate	88230357	NA	1,500	4,200	NA	ID	ID	ID	ID	ID	2.4E+9	7.3E+6	1.0E+7	8.6E+6	1.0E+7
Pendimethalin	40487421	NA	1.1E+6	1.1E+6	NA	1.1E+6	NLV	NLV	NLV	NLV	ID	1.3E+8	2.4E+8	1.7E+8	NA
Pentachlorobenzene	608935	NA	29,000	81,000	NA	1.9E+5 (C)	ID	ID	ID	ID	ID	1.9E+5 (C)	1.9E+5 (C)	1.9E+5 (C)	1.9E+5

TABLE 3. SOIL: INDUSTRIAL AND COMMERCIAL II, III, AND IV
PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

			Groundwater Protection				Indoor Air	Ambient Air (Y)				Direct Contact			
Hazardous Substance	Chemical Abstract Service Number (CAS #)	Statewide Default Background Levels	Residential Drinking Water Protection Criteria	Industrial and Commercial Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria	Industrial and Commercial II	Commercial III	Commercial IV	Soil Saturation Concentration Screening Levels
Pentachloronitrobenzene	82688	NA	37,000	37,000	NA	37,000	2.2E+5	2.8E+5	2.8E+5	2.8E+5	1.5E+8	5.5E+6	7.7E+6	6.4E+6	NA
Pentachlorophenol	87865	NA	22	22	(G,X)	4,300	NLV	NLV	NLV	NLV	1.3E+8	3.2E+5	9.2E+5	4.9E+5	NA
Pentane	109660	NA	ID	ID	NA	ID	1.8E+5	4.4E+7	3.4E+8	6.0E+8	5.3E+11	ID	ID	ID	2.4E+5
2-Pentene (I)	109682	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	2.2E+5
Phenanthrene	85018	NA	56,000	1.6E+5	5,300	1.1E+6	5.1E+6	1.9E+5	1.9E+5	1.9E+5	2.9E+6	5.2E+6	7.2E+6	6.1E+6	NA
Phenol	108952	NA	88,000	2.6E+5	4,200	1.2E+7 (C)	NLV	NLV	NLV	NLV	1.8E+10	1.2E+7 (C,DD)	1.2E+7 (C,DD)	1.2E+7 (C,DD)	1.2E+7
Phosphorus (Total)	7723140	NA	1.3E+6	4.8E+6	(EE)	ID	NLV	NLV	NLV	NLV	ID	1.0E+9 (D)	1.0E+9 (D)	1.0E+9 (D)	NA
Phthalic acid	88993	NA	2.8E+5	8.0E+5	NA	1.7E+6 (C)	NLV	NLV	NLV	NLV	ID	1.7E+6 (C)	1.7E+6 (C)	1.7E+6 (C)	1.7E+6
Phthalic anhydride	85449	NA	3.0E+5	8.8E+5	NA	1.1E+6 (C)	NLV	NLV	NLV	NLV	ID	1.1E+6 (C)	1.1E+6 (C)	1.1E+6 (C)	1.1E+6
Picloram	1918021	NA	10,000	10,000	NA	8.6E+6	NLV	NLV	NLV	NLV	ID	5.1E+7	7.1E+7	6.0E+7	NA
Piperidine	110894	NA	64	180	NA	6.8E+5	NLV	NLV	NLV	NLV	4.1E+9	3.2E+5	4.5E+5	3.8E+5	1.2E+8
Polybrominated biphenyls (J)	67774327	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	4,800	6,600	6,300	NA
Polychlorinated biphenyls (PCBs) (J,T)	1336363	NA	NLL	NLL	NLL	NLL	1.6E+7	8.1E+5	2.8E+7	2.8E+7	6.5E+6	(T)	(T)	(T)	NA
Prometon	1610180	NA	4,900	14,000	NA	5.5E+6	NLV	NLV	NLV	NLV	ID	1.6E+7	2.2E+7	1.9E+7	NA
Propachlor	1918167	NA	1,900	5,400	NA	8.8E+6	NLV	NLV	NLV	NLV	ID	9.5E+6	1.3E+7	1.1E+7	NA
Propazine	139402	NA	4,000	11,000	NA	1.7E+5	NLV	NLV	NLV	NLV	ID	2.0E+7	2.8E+7	2.3E+7	NA
Propionic acid	79094	NA	2.4E+5	7.0E+5	NA	1.1E+8 (C)	NLV	NLV	NLV	NLV	8.8E+9	1.1E+8 (C)	1.1E+8 (C)	1.1E+8 (C)	1.1E+8
Propyl alcohol (I)	71238	NA	28,000	80,000	NA	1.1E+8 (C)	NLV	NLV	NLV	NLV	2.1E+10	7.4E+7 (DD)	1.1E+8 (DD)	9.1E+7(DD)	1.1E+8
n-Propylbenzene (I)	103651	NA	1,600	4,600	NA	3.0E+5	ID	ID	ID	ID	5.9E+8	8.0E+6	1.0E+7 (C)	9.4E+6	1.0E+7
Propylene glycol	57556	NA	3.0E+6	8.4E+6	5.8E+6	1.1E+8 (C)	NLV	NLV	NLV	NLV	1.8E+11	1.1E+8 (C)	1.1E+8 (C)	1.1E+8 (C)	1.1E+8
Pyrene	129000	NA	4.8E+5	4.8E+5	ID	4.8E+5	1.0E+9 (D)	7.8E+8	7.8E+8	7.8E+8	2.9E+9	8.4E+7	1.5E+8	1.1E+8	NA
Pyridine (I)	110861	NA	330 (M)	420	NA	37,000 (C)	2,000	9,800	40,000	97,000	1.0E+8	37,000 (C)	37,000 (C)	37,000 (C)	37,000
Selenium (B)	7782492	410	4,000	4,000	400	7.8E+7	NLV	NLV	NLV	NLV	5.9E+7	9.6E+6	1.0E+7	1.0E+7	NA
Silver (B)	7440224	1,000	4,500	13,000	500 (M)	2.0E+8	NLV	NLV	NLV	NLV	2.9E+6	9.0E+6	9.8E+6	9.4E+6	NA

TABLE 3. SOIL: INDUSTRIAL AND COMMERCIAL II, III, AND IV PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

			Groundwater Protection				Indoor Air	Ambient Air (Y)				Direct Contact			
Hazardous Substance	Chemical Abstract Service Number (CAS #)	Statewide Default Background Levels	Residential Drinking Water Protection Criteria	Industrial and Commercial Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria	Industrial and Commercial II	Commercial III	Commercial IV	Soil Saturation Concentration Screening Levels
Silvex (2,4,5-TP)	93721	NA	3,600	3,600	NA	3.1E+6	NLV	NLV	NLV	NLV	ID	5.5E+6	7.7E+6	6.4E+6	NA
Simazine	122349	NA	80	80	NA	90,000	NLV	NLV	NLV	NLV	ID	3.6E+6	5.3E+6	4.5E+6	NA
Sodium	17341252	NA	2.5E+6	7.0E+6	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	1.0E+9 (D)	1.0E+9 (D)	1.0E+9 (D)	NA
Strontium (B)	7440246	NA	92,000	2.6E+5	46,000 (X)	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	1.0E+9 (D)	1.0E+9 (D)	1.0E+9 (D)	NA
Styrene	100425	NA	2,700	2,700	2,200	2.7E+5	5.2E+5 (C)	3.3E+6	3.3E+6	4.2E+6	6.9E+9	5.2E+5 (C)	5.2E+5 (C)	5.2E+5 (C)	5.2E+5
Sulfate	14808798	NA	5.0E+6	5.0E+6	NA	ID	NLV	NLV	NLV	NLV	ID	ID	ID	ID	NA
Tebuthiuron	34014181	NA	10,000	30,000	NA	5.0E+7	NLV	NLV	NLV	NLV	ID	2.7E+7 (DD)	4.2E+7 (DD)	3.3E+7 (DD)	NA
2,3,7,8-Tetrabromodibenzo-p-dioxin (O)	50585416	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	(O)	(O)	(O)	(O)	NA
1,2,4,5-Tetrachlorobenzene	95943	NA	1.5E+6	1.5E+6	3,400 (X)	1.5E+6	ID	ID	ID	ID	ID	2.5E+6	3.5E+6	2.9E+6	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin (O)	1746016	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	89 (O)	0.99 (O)	1.4 (O)	2.9 (O)	NA
1,1,1,2-Tetrachloroethane	630206	NA	1,500	6,400	ID (X)	4.4E+5 (C)	33,000	1.2E+5	2.1E+5	3.3E+5	5.3E+8	4.4E+5 (C)	4.4E+5 (C)	4.4E+5 (C)	4.4E+5
1,1,2,2-Tetrachloroethane	79345	NA	170	700	1,600 (X)	94,000	23,000	34,000	34,000	34,000	6.6E+7	2.4E+5	3.4E+5	2.9E+5	8.7E+5
Tetrachloroethylene	127184	NA	100	100	900 (X)	88,000 (C)	60,000	6.0E+5	1.4E+6	3.3E+6	6.8E+9	88,000 (C)	88,000 (C)	88,000 (C)	88,000
Tetrahydrofuran	109999	NA	1,900	5,400	2.2E+5 (X)	3.2E+7	2.4E+6	1.5E+7	6.7E+7	1.6E+8	1.7E+11	9.5E+6	1.3E+7	1.1E+7	1.2E+8
Tetranitromethane	509148	NA	ID	ID	ID	ID	600	180	ID	ID	2.6E+5	ID	ID	ID	ID
Thallium (B)	7440280	NA	2,300	2,300	4,200 (X)	1.5E+7	NLV	NLV	NLV	NLV	ID	1.3E+5	1.4E+5	1.3E+5	NA
Toluene (I)	108883	NA	16,000	16,000	2,800	2.5E+5 (C)	2.5E+5 (C)	3.3E+6	3.6E+7	3.6E+7	1.2E+10	2.5E+5 (C)	2.5E+5 (C)	2.5E+5 (C)	2.5E+5
p-Toluidine	106490	NA	660 (M)	1,200	NA	4.8E+5	NLV	NLV	NLV	NLV	1.3E+8	4.3E+5	6.1E+5	5.1E+5	1.2E+6
Toxaphene	8001352	NA	24,000	24,000	860	3.6E+5	NLV	NLV	NLV	NLV	1.2E+7	85,000	1.5E+5	1.1E+5	NA
Triallate	2303175	NA	95,000	2.5E+5 (C)	NA	2.5E+5 (C)	ID	ID	ID	ID	ID	2.5E+5 (C)	2.5E+5 (C)	2.5E+5 (C)	2.5E+5
Tributylamine	102829	NA	7,800	23,000	ID	1.6E+6	1.1E+6	7.2E+5	7.2E+5	7.2E+5	2.1E+8	2.6E+6	3.6E+6	3.0E+6	3.7E+6
1,2,4-Trichlorobenzene	120821	NA	4,200	4,200	1,800	1.1E+6	1.1E+6 (C)	3.4E+7	3.4E+7	3.4E+7	1.1E+10	1.1E+6 (C,DD)	1.1E+6 (C,DD)	1.1E+6 (C,DD)	1.1E+6
1,1,1-Trichloroethane	71556	NA	4,000	4,000	4,000	4.6E+5 (C)	4.6E+5	4.5E+6	1.5E+7	3.1E+7	2.9E+10	4.6E+5 (C)	4.6E+5 (C)	4.6E+5 (C)	4.6E+5
1,1,2-Trichloroethane	79005	NA	100	100	6,600 (X)	4.2E+5	24,000	57,000	57,000	1.2E+5	2.5E+8	8.4E+5	9.2E+5 (C)	9.2E+5 (C)	9.2E+5
Trichloroethylene	79016	NA	100	100	4,000 (X)	4.4E+5	37,000	2.6E+5	4.4E+5	1.1E+6	2.3E+9	5.0E+5 (C,DD)	5.0E+5 (C,DD)	5.0E+5 (C,DD)	5.0E+5
Trichlorofluoromethane	75694	NA	52,000	1.5E+5	NA	5.6E+5 (C)	5.6E+5 (C)	1.1E+8	1.4E+11	1.4E+11	1.7E+12	5.6E+5 (C)	5.6E+5 (C)	5.6E+5 (C)	5.6E+5

TABLE 3. SOIL: INDUSTRIAL AND COMMERCIAL II, III, AND IV PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS

			Groundwater Protection				Indoor Air	Ambient Air (Y)				Direct Contact			
Hazardous Substance	Chemical Abstract Service Number (CAS #)	Statewide Default Background Levels	Residential Drinking Water Protection Criteria	Industrial and Commercial Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria	Industrial and Commercial II	Commercial III	Commercial IV	Soil Saturation Concentration Screening Levels
2,4,5-Trichlorophenol	95954	NA	39,000	1.1E+5	NA	9.1E+6	NLV	NLV	NLV	NLV	1.0E+10	7.3E+7	1.0E+8	8.6E+7	NA
2,4,6-Trichlorophenol	88062	NA	2,400	9,400	330 (M)	2.0E+5	NLV	NLV	NLV	NLV	1.3E+9	3.3E+6	4.6E+6	3.9E+6	NA
1,2,3-Trichloropropane	96184	NA	840	2,400	NA	8.3E+5 (C)	ID	ID	ID	ID	ID	8.3E+5 (C)	8.3E+5 (C)	8.3E+5 (C)	8.3E+5
1,1,2-Trichloro-1,2,2-trifluoroethane	76131	NA	5.5E+5 (C)	5.5E+5 (C)	1,700	5.5E+5 (C)	5.5E+5 (C)	2.1E+8	8.9E+8	2.1E+9	2.3E+12	5.5E+5 (C)	5.5E+5 (C)	5.5E+5 (C)	5.5E+5
Triethanolamine	102716	NA	74,000	2.0E+5	NA	1.1E+8 (C)	NLV	NLV	NLV	NLV	1.5E+9	1.1E+8 (C)	1.1E+8 (C)	1.1E+8 (C)	1.1E+8
Triethylene glycol	112276	NA	1.1E+5 (C)	1.1E+5 (C)	NA	1.1E+5 (C)	NLV	NLV	NLV	NLV	ID	1.1E+5 (C,DD)	1.1E+5 (C,DD)	1.1E+5 (C,DD)	1.1E+5
3-Trifluoromethyl-4-nitrophenol	88302	NA	1.1E+5	3.1E+5	NA	1.2E+8	NLV	NLV	NLV	NLV	ID	2.4E+8 (DD)	3.7E+8 (DD)	3.0E+8 (DD)	NA
Trifluralin	1582098	NA	1.9E+5	5.7E+5	NA	1.2E+7	ID	ID	ID	ID	ID	5.7E+6	1.0E+7	7.4E+6	NA
2,2,4-Trimethyl pentane	540841	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	19,000
2,4,4-Trimethyl-2-pentene (I)	107404	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	56,000
1,2,4-Trimethylbenzene (I)	95636	NA	2,100	2,100	570	1.1E+5 (C)	1.1E+5 (C)	2.5E+7	6.0E+8	6.0E+8	3.6E+10	1.1E+5 (C)	1.1E+5 (C)	1.1E+5 (C)	1.1E+5
1,3,5-Trimethylbenzene (I)	108678	NA	1,800	1,800	1,100	94,000 (C)	94,000 (C)	1.9E+7	4.6E+8	4.6E+8	3.6E+10	94,000 (C)	94,000 (C)	94,000 (C)	94,000
Triphenyl phosphate	115866	NA	1.1E+5 (C)	1.1E+5 (C)	NA	1.1E+5 (C)	NLV	NLV	NLV	NLV	ID	1.1E+5 (C)	1.1E+5 (C)	1.1E+5 (C)	1.1E+5
Tris(2,3-Dibromopropyl)phosphate	126727	NA	68	270	NA	27,000 (C)	27,000 (C)	60,000	60,000	60,000	7.4E+6	20,000	27,000 (C)	24,000	27,000
Urea	57136	NA	ID (N)	ID (N)	NA	ID	NLV	NLV	NLV	NLV	ID	ID	ID	ID	NA
Vanadium	7440622	NA	72,000	9.9E+5	1.9E+5	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	5.5E+6 (DD)	6.2E+6 (DD)	5.9E+6 (DD)	NA
Vinyl acetate (I)	108054	NA	13,000	36,000	NA	2.4E+6 (C)	1.5E+6	2.0E+6	2.7E+6	5.9E+6	5.9E+9	2.4E+6 (C,DD)	2.4E+6 (C,DD)	2.4E+6 (C,DD)	2.4E+6
Vinyl chloride	75014	NA	40	40	300	20,000	2,800	29,000	1.7E+5	4.2E+5	8.9E+8	34,000	47,000	40,000	4.9E+5
White phosphorus (R)	12185103	NA	2.2	6.0	NA	58,000	NLV	NLV	NLV	NLV	ID	17,000 (DD)	18,000 (DD)	18,000 (DD)	NA
Xylenes (I)	1330207	NA	5,600	5,600	700	1.5E+5 (C)	1.5E+5 (C)	5.4E+7	6.5E+7	1.3E+8	1.3E+11	1.5E+5 (C)	1.5E+5 (C)	1.5E+5 (C)	1.5E+5
Zinc (B)	7440666	47,000	2.4E+6	5.0E+6	(G)	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	6.3E+8	6.9E+8	6.6E+8	NA

R 299.5750 Footnotes for generic cleanup criteria tables.

Rule 750. (1) The footnotes that apply to the generic criteria tables in R 299.5744, R 299.5746, and R 299.5748 are as follows:

(A) Criterion is the state of Michigan drinking water standard established pursuant to section 5 of 1976 PA 399, MCL 325.1005.

(B) Background, as defined in R 299.5701(b), may be substituted if higher than the calculated cleanup criterion. Background levels may be less than criteria for some inorganic compounds.

(C) Value presented is a screening level based on the chemical-specific generic soil saturation concentration (Csat) since the calculated risk-based criterion is greater than Csat. Concentrations greater than Csat are acceptable cleanup criteria for this pathway where a site-specific demonstration indicates that free-phase material containing a hazardous substance is not present.

(D) Calculated criterion exceeds 100%, hence it is reduced to 100% or 1.0E+9 ppb.

(E) Criterion is the aesthetic drinking water value, as required by section 20120a(5) of the act. A notice of aesthetic impact may be employed as an institutional control mechanism if groundwater concentrations exceed the aesthetic drinking water criterion, but do not exceed the applicable health-based drinking water value provided in the following table:

Hazardous Substance	Chemical Abstract Service Number	Residential Health-Based Drinking Water Value	Industrial-Commercial Health-Based Drinking Water Value
Aluminum	7429905	300	4,100
tertiary Amyl methyl ether	994058	910	2,600
Copper	7440508	1,400	4,000
Diethyl ether	60297	3,700	10,000
Ethylbenzene	100414	700	700
Iron	7439896	2,000	5,600
Manganese	7439965	860	2,500
Methyl-tert-butyl ether (MTBE)	1634044	240	690
Toluene	108883	1,000	1,000
1,2,4-Trimethylbenzene	95636	1,000	2,900
1,3,5-Trimethylbenzene	108678	1,000	2,900
Xylenes	1330207	10,000	10,000

(F) Criterion is based on adverse impacts to plant life and phytotoxicity.

(G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water. Where water hardness exceeds 400 mg $CaCO_3$/L, use 400 mg $CaCO_3$/L for the FCV calculation. The FCV formula provides values in units of ug/l or ppb. The generic GSI criterion is the lesser of the calculated FCV, the wildlife value (WV), and the surface water human non-drinking water value (HNDV). The soil GSI protection criteria for these hazardous substances are the greater of the

20 times the GSI criterion or the GSI soil-water partition values using the GSI criteria developed with the procedure described in this footnote.

Hazardous Substance	FCV Formula ug/L	FCV Conversion Factor (CF)	WV ug/L	HNDV ug/L
Barium⊗	EXP(1.0629*(LnH)+1.1869)	NA	NA	1.6E+5
Beryllium	EXP(2.5279*(LnH)-10.7689)	NA	NA	1,200
Cadmium⊗	(EXP(0.7852*(LnH)-2.715))*CF	1.101672-((LnH)*(0.041838))	NA	130
Chromium (III) ⊗	(EXP(0.819*(LnH)+0.6848))*CF	0.86	NA	9,400
Copper	(EXP(0.8545*(LnH)-1.702)) *CF	0.96	NA	64,000
Lead⊗	(EXP(1.273*(LnH)-3.296))*CF	1.46203-((LnH)*(0.14571))	NA	190
Manganese	EXP(0.8784*(LnH)+3.5199)	NA	NA	59,000
Nickel	(EXP(0.846*(LnH)+0.0584))*CF	0.997	NA	2.1E+5
Pentachlorophenol	EXP(1.005*(pH)-5.134)	NA	NA	2.8
Zinc	(EXP(0.8473*(LnH)+0.884))*CF	0.986	NA	22,000

where,

EXP(x) = The base of the natural logarithm raised to power x (e^x).
LnH = The natural logarithm of water hardness in mg $CaCO_3$/L.
* = The multiplication symbol.
⊗ = The GSI criterion developed here may not be protective for surface water that is used as a drinking water source. Refer to footnote (X) for further guidance.

A spreadsheet that may be used to calculate GSI and GSI protection criteria for (G)-footnoted hazardous substances is available on the department's internet web site.

(H) Valence-specific chromium data (Cr III and Cr VI) shall be compared to the corresponding valence-specific cleanup criteria. If both Cr III AND Cr VI are present in groundwater, the total concentration of both cannot exceed the drinking water criterion of 100 ug/L. If analytical data are provided for total chromium only, they shall be compared to the cleanup criteria for Cr VI. Cr III soil cleanup criterion for protection of drinking water can only be used at sites where groundwater is prevented from being used as a public water supply, currently and in the future, through an approved land or resource use restriction.

(I) Hazardous substance may exhibit the characteristic of ignitability as defined in 40 C.F.R. §261.21 (revised as of July 1, 2001), which is adopted by reference in these rules and which is available for inspection a the Lansing office of the department, 525 West Allegan Street, Lansing, Michigan. Copies of the regulation may be purchased, at a cost as of the time of adoption of these rules of $45.00, from the Superintendent of Documents, Government Printing Office, Washington, DC 20401 (stock number 869-044-00155-1), or from the Department of Environmental Quality, Remediation and Redevelopment Division, 525 West Allegan Street, Lansing, MI 48933, at cost.

(J) Hazardous substance may be present in several isomer forms. Isomer-specific concentrations shall be added together for comparison to criteria.

(K) Hazardous substance may be flammable or explosive, or both.

(L) Criteria for lead are derived using a biologically based model, as allowed for under section 20120a(10) of the act, and are not calculated using the algorithms and assumptions specified in pathway-specific rules. The generic residential drinking water criterion of 4 ug/l is linked to the generic residential soil direct contact criterion of 400 mg/kg. A higher concentration in the drinking water, up to the state action level of 15 ug/l, may be allowed as a site-specific remedy, and still allow for drinking water use, under section 20120a(2) of the act if soil concentrations are appropriately lower than 400 mg/kg. If a site-specific criterion is approved based on this subdivision, a notice shall be filed on the deed for all property where the groundwater concentrations will exceed 4 ug/l to provide notice of the potential for unacceptable risk if soil or groundwater concentrations increase. Acceptable combinations of site-specific soil and drinking water concentrations are presented in the following table:

Acceptable Combinations of Lead in Drinking Water and Soil

Drinking Water Concentration (ug/L)	Soil Concentration (mg/kg)
5	386-395
6	376-385
7	376-385
8	366-375
9	356-365
10	346-355
11	336-345
12	336-345
13	326-335
14	316-325
15	306-315

(M) Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.

(N) The concentrations of all potential sources of nitrate-nitrogen (e.g., ammonia-N, nitrite-N, nitrate-N) in groundwater that is used as a source of drinking water shall not, when added together, exceed the nitrate drinking water criterion of 10,000 ug/l. Where leaching to groundwater is a relevant pathway, soil concentrations of all potential sources of nitrate-nitrogen shall not, when added together, exceed the nitrate drinking water protection criterion of 2.0E+5 ug/kg.

(O) The concentration of all polychlorinated and polybrominated dibenzodioxin and dibenzofuran isomers present at a facility, expressed as an equivalent concentration of 2,3,7,8-tetrachlorodibenzo-p-dioxin based upon their relative potency, shall be added together and compared to the criteria for 2,3,7,8-tetrachlorodibenzo-p-dioxin. The generic cleanup criteria for 2,3,7,8-tetrachlorodibenzo-p-dioxin are not calculated according to the algorithms presented in R 299.5714 to R 299.5726. The generic cleanup criteria are being held at the values that the department has used since August 1998, in recognition of the fact that national efforts to reassess risks posed by dioxin are not yet complete. Until these studies are

complete, it is premature to select a revised slope factor and/or reference dose for calculation of generic cleanup criteria.

(P) Amenable cyanide methods or method OIA-1677 shall be used to quantify cyanide concentrations for compliance with all groundwater criteria. Total cyanide methods or method OIA-1677 shall be used to quantify cyanide concentrations for compliance with soil criteria. Industrial/commercial direct contact criteria may not be protective of the potential for release of hydrogen cyanide gas. Additional land or resource use restrictions may be necessary to protect for the acute inhalation concerns associated with hydrogen cyanide gas.

(Q) Criteria for carcinogenic polycyclic aromatic hydrocarbons were developed using relative potential potencies to benzo(a)pyrene.

(R) Hazardous substance may exhibit the characteristic of reactivity as defined in 40 C.F.R. §261.23 (revised as of July 1, 2001), which is adopted by reference in these rules and which is available for inspection a the Lansing office of the Department, 525 West Allegan Street, Lansing, Michigan. Copies of the regulation may be purchased, at a cost as of the time of adoption of these rules of $45.00, from the Superintendent of Documents, Government Printing Office, Washington, DC 20401 (stock number 869-044-00155-1), or from the Department of Environmental Quality, Remediation and Redevelopment Division, 525 West Allegan Street, Lansing, MI 48933, at cost.

(S) Criterion defaults to the hazardous substance-specific water solubility limit.

(T) Refer to the federal toxic substances control act (TSCA), 40 C.F.R. §761, Subpart D and 40 C.F.R. §761, Subpart G, to determine the applicability of TSCA cleanup standards. Subpart D and Subpart G of 40 C.F.R. §761 (July 1, 2001), are adopted by reference in these rules and are available for inspection a the Lansing office of the department, 525 West Allegan Street, Lansing, Michigan. Copies of the regulations may be purchased, at a cost as of the time of adoption of these rules of $55.00, from the Superintendent of Documents, Government Printing Office, Washington, DC 20401, or from the Department of Environmental Quality, Remediation and Redevelopment Division, 525 West Allegan Street, Lansing, MI 48933, at cost. Alternatives to compliance with the TSCA standards listed below are possible under 40 C.F.R. §761 Subpart D. New releases may be subject to the standards identified in 40 C.F.R. §761, Subpart G. Use part 201 soil direct contact cleanup criteria in the following table if TSCA standards are not applicable:

Land Use Category	TSCA, Subpart D Cleanup Standards	Part 201 Soil Direct Contact Cleanup Criteria
Residential & Commercial I	1,000 ppb, or 10,000 ppb if capped	4,000 ppb
Industrial & Commercial II	1,000 ppb, or 10,000 ppb if capped	16,000 ppb
Commercial III	1,000 ppb, or 10,000 ppb if capped	33,000 ppb
Commercial IV	1,000 ppb, or 10,000 ppb if capped	22,000 ppb

(U) Hazardous substance may exhibit the characteristic of corrosivity as defined in 40 C.F.R. §261.22 (revised as of July 1, 2001), which is adopted by reference in these rules and which is available for inspection a the Lansing office of the department, 525 West Allegan Street, Lansing, Michigan. Copies of the regulation may be purchased, at a cost as of the time of adoption of these rules of $45.00, from the Superintendent of Documents, Government Printing Office, Washington, DC 20401 (stock number 869-044-00155-1), or from the Department of Environmental Quality, Remediation and Redevelopment Division, 525 West Allegan Street, Lansing, MI 48933, at cost.

(V) Criterion is the aesthetic drinking water value, as required by section 20120(a)(5) of the act. Concentrations up to 200 ug/l may be acceptable, and still allow for drinking water use, as part of a site-specific cleanup under section 20120a(2) of the act.

(W) Concentrations of trihalomethanes in groundwater shall be added together to determine compliance with the Michigan drinking water standard of 100 ug/l. Concentrations of trihalomethanes in soil shall be added together to determine compliance with the drinking water protection criterion of 2,000 ug/kg.

(X) The groundwater surface water interface (GSI) criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source. For a groundwater discharge to the Great Lakes and their connecting waters or discharge in close proximity to a water supply intake in inland surface waters, the generic GSI criterion shall be the surface water human drinking water value (HDV) listed in the table in this footnote, except for those HDV indicated with an asterisk. For HDV with an asterisk, the generic GSI criterion shall be the lowest of the HDV, the WV, and the calculated FCV. See formulas in footnote (G). Soil protection criteria based on the HDV shall be as listed in the table in this footnote, except for those values with an asterisk. Soil GSI protection criteria based on the HDV shall be as listed in the table in this footnote, except for those values with an asterisk. Soil GSI protection criteria for compounds with an asterisk shall be the greater of 20 times the GSI criterion or the GSI soil-water partition values using the GSI criteria developed with the procedure described in this footnote.

Hazardous Substance	Chemical Abstract Service Number	Surface Water Human Drinking Water Values (HDV) (ug/L)	Soil GSI Protection Criteria for HDV (ug/kg)
Acrylonitrile	107131	0.87	17
Alachlor	15972608	3.5	91
Antimony	7440360	2	1,400
Arsenic	7440382	50	23,000
Atrazine	1912249	4.3	86
Barium	7440393	1,900*	*
Benzene	71432	12	240
Butyl benzyl phthalate	85687	6.9	13,000
Cadmium	7440439	2.5*	*
Carbon tetrachloride	56235	5.6	110
Chloride	16887006	50,000	1.0E+6
Chloroform	67663	77	1,500
Chromium (III)	16065831	120*	*
Cyanazine	21725462	10 (M)	500 (M)
3,3'-Dichlorobenzidine	91941	0.3 (M)	2,000 (M)
1,2-Dichloroethane	107062	6	120
1,1-Dichloroethylene	75354	24	480
1,2-Dichloropropane	78875	9.1	180
N,N-Dimethylacetamide	127195	700	14,000
1,4-Dioxane	123911	34	680
Ethylene glycol	107211	56,000	1.1E+6
Heptachlor	76448	0.01 (M)	NLL
beta-Hexachlorocyclohexane	319857	0.024	20 (M)
Hexachloroethane	67721	5.3	310
Isophorone	78591	310	6,200
Isopropyl alcohol	67630	28,000	5.6E+5
Lead	7439921	14*	*
Manganese	7439965	3600	72,000
Methyl-tert-butyl ether (MTBE)	1634044	100	2,000
Methylene chloride	75092	47	940
Mirex	2385855	0.02 (M)	NLL
Molybdenum	7439987	120	2,400
Nitrobenzene	98953	4.7	200 (M)
Pentachlorophenol	87865	1.8*	*
1,2,4,5-Tetrachlorobenzene	95943	2.8	3,300
1,1,1,2-Tetrachloroethane	630206	19	380
1,1,2,2-Tetrachloroethane	79345	3.2	64
Tetrachloroethylene	127184	11	220
Tetrahydrofuran	109999	350	7,000
Thallium	7440280	1.2	1400
1,1,2-Trichloroethane	79005	12	240
Trichloroethylene	79016	29	580

(Y) Source size modifiers shown in the following table shall be used to determine soil inhalation criteria for ambient air when the source size is not 1/2 acre. The modifier shall be multiplied by the generic soil inhalation criteria shown in the table of generic cleanup criteria to determine the applicable criterion.

Source Size sq. feet or acres	Modifier
400 sq feet	3.17
1000 sq feet	2.2
2000 sq feet	1.76
1/4 acre	1.15
1/2 acre	1
1 acre	0.87
2 acre	0.77
5 acre	0.66
10 acre	0.6
32 acre	0.5
100 acre	0.43

(Z) Mercury is typically measured as total mercury. The generic cleanup criteria, however, are based on data for different species of mercury. Specifically, data for elemental mercury, chemical abstract service number 7439976, serve as the basis for the soil volatilization to indoor air criteria, groundwater volatilization to indoor air, and soil inhalation criteria. Data for methyl mercury, chemical abstract service number 22967926, serve as the basis for the groundwater surface water interface criterion; and data for mercuric chloride, chemical abstract service number 7487947, serve as the basis for the drinking water, groundwater contact, soil direct contact, and the groundwater protection criteria. Comparison to criteria shall be based on species-specific analytical data only if sufficient facility characterization has been conducted to rule out the presence of other species of mercury.

(AA) Comparison to these criteria may take into account an evaluation of whether the hazardous substances are adsorbed to particulates rather than dissolved in water and whether filtered groundwater samples were used to evaluate groundwater.

(BB) The state drinking water standard for asbestos is in units of fibers per milliliter of water (f/mL) longer than 10 millimicrons. Soil concentrations of asbestos are determined by polarized light microscopy.

(CC) Groundwater: The generic groundwater surface water interface criteria are based on the toxicity of unionized ammonia (NH_3); the criteria are 29 ug/l and 53 ug/l for coldwater and warmwater surface water, respectively. As a result, the GSI criterion shall be compared to the percent of the total ammonia concentration in the groundwater that will become NH_3 in the surface water. This percent NH_3 is a function of the pH and temperature of the receiving surface water and can be estimated using the following table, taken from Emerson, et al. [J. Fish. Res. Board Can., Vol. 32(12):2382, 1975]

Percent NH_3 in Aqueous Ammonia Solutions for 0-30 °C and pH 6-10

Temp (°F)	Temp (°C)	pH 6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0
32.0	0	0.00827	0.0261	0.0826	0.261	0.820	2.55	7.64	20.7	45.3
33.8	1	0.00899	0.0284	0.0898	0.284	0.891	2.77	8.25	22.1	47.3
35.6	2	0.00977	0.0309	0.0977	0.308	0.968	3.00	8.90	23.6	49.4
37.4	3	0.0106	0.0336	0.106	0.335	1.05	3.25	9.60	25.1	51.5
39.2	4	0.0115	0.0364	0.115	0.363	1.14	3.52	10.3	26.7	53.5
41.0	5	0.0125	0.0395	0.125	0.394	1.23	3.80	11.1	28.3	55.6
42.8	6	0.0136	0.0429	0.135	0.427	1.34	4.11	11.9	30.0	57.6
44.6	7	0.0147	0.0464	0.147	0.462	1.45	4.44	12.8	31.7	59.5
46.4	8	0.0159	0.0503	0.159	0.501	1.57	4.79	13.7	33.5	61.4
48.2	9	0.0172	0.0544	0.172	0.542	1.69	5.16	14.7	35.3	63.3
50.0	10	0.0186	0.0589	0.186	0.586	1.83	5.56	15.7	37.1	65.1
51.8	11	0.0201	0.0637	0.201	0.633	1.97	5.99	16.8	38.9	66.8
53.6	12	0.0218	0.0688	0.217	0.684	2.13	6.44	17.9	40.8	68.5
55.4	13	0.0235	0.0743	0.235	0.738	2.30	6.92	19.0	42.6	70.2
57.2	14	0.0254	0.0802	0.253	0.796	2.48	7.43	20.2	44.5	71.7
59.0	15	0.0274	0.0865	0.273	0.859	2.67	7.97	21.5	46.4	73.3
60.8	16	0.0295	0.0933	0.294	0.925	2.87	8.54	22.8	48.3	74.7
62.6	17	0.0318	0.101	0.317	0.996	3.08	9.14	24.1	50.2	76.1
64.4	18	0.0343	0.108	0.342	1.07	3.31	9.78	25.5	52.0	77.4
66.2	19	0.0369	0.117	0.368	1.15	3.56	10.5	27.0	53.9	78.7
68.0	20	0.0397	0.125	0.396	1.24	3.82	11.2	28.4	55.7	79.9
69.8	21	0.0427	0.135	0.425	1.33	4.10	11.9	29.9	57.5	81.0
71.6	22	0.0459	0.145	0.457	1.43	4.39	12.7	31.5	59.2	82.1
73.4	23	0.0493	0.156	0.491	1.54	4.70	13.5	33.0	60.9	83.2
75.2	24	0.0530	0.167	0.527	1.65	5.03	14.4	34.6	62.6	84.1
77.0	25	0.0569	0.180	0.566	1.77	5.38	15.3	36.3	64.3	85.1
78.8	26	0.0610	0.193	0.607	1.89	5.75	16.2	37.9	65.9	85.9
80.6	27	0.0654	0.207	0.651	2.03	6.15	17.2	39.6	67.4	86.8
82.4	28	0.0701	0.221	0.697	2.17	6.56	18.2	41.2	68.9	87.3
84.2	29	0.0752	0.237	0.747	2.32	7.00	19.2	42.9	70.4	88.3
86.0	30	0.0805	0.254	0.799	2.48	7.46	20.3	44.6	71.8	89.0

The generic approach for estimating NH_3 assumes a default pH of 8 and default temperatures of 68°F and 85°F for coldwater and warmwater surface water, respectively. The resulting percent NH_3 is 3.8% and 7.2% for coldwater and warmwater, respectively. This default percentage shall be multiplied by the total ammonia-nitrogen (NH_3-N) concentration in the

groundwater and the resulting NH_3 concentration compared to the applicable groundwater surface water interface criterion. As an alternative, the maximum pH and temperature data from the specific receiving surface water can be used to estimate, from the table in this footnote, a lower percent unionized ammonia concentration for comparison to the generic groundwater surface water interface criteria. Soil: The generic soil groundwater surface water interface protection criteria for unionized ammonia are 580 ug/kg and 1,100 ug/kg for coldwater and warmwater surface water, respectively.

(DD) Hazardous substance causes developmental effects. Residential and commercial I direct contact criteria are protective of both prenatal and postnatal exposure. Industrial and commercial II, III and IV DCC are protective for a pregnant adult receptor.

(EE) The following are applicable generic groundwater surface water interface criteria as required by section 20120a(15) of the act.

Hazardous Substance	GSI (ug/L)	Notes
Phosphorus	1,000	Criteria applicable unless receiving water is a surface water that has a phosphorus waste load allocation or is an inland lake. In those cases, contact the department for applicable values.
Total dissolved solids (TDS)	5.0E+5	If TDS data are not available, the TDS criterion may be used a screening level for the sum of the concentrations of the following substances: Calcium, Chlorides, Iron, Magnesium, Potassium, Sodium, Sulfate.
Dissolved Oxygen (DO): Cold receiving waters Warm receiving waters	 ≥ 7,000 ≥ 5,000	Since a low level of DO can be harmful to aquatic life, the criterion represents a minimum level that on-site samples must exceed. This is in contrast to other criteria which represent "not to exceed" concentrations. DO criteria are not applicable if groundwater Carbonaceous Biochemical Oxygen Demand (CBOD) is less than 10,000 ug/L and groundwater ammonia concentration is less than 2,000 ug/L.

(FF) The chloride groundwater surface water interface criterion shall be 125 mg/l when the discharge is to surface waters of the state designated as public water supply sources or 50 mg/l when the discharge is to the Great Lakes or connecting waters. Chloride GSI criteria shall not apply for surface waters of the state that are not designated as a public water supply source, however, the total dissolved solids criterion is applicable.

(2) When used in the generic cleanup criteria tables in R 299.5744, R 299.5746, and R 299.5748, abbreviations have the following meanings:

(a) "ID" means insufficient data to develop criterion.

(b) "NA" means a criterion or value is not available or, in the case of background and chemical abstract service numbers, not applicable.

(c) "NLL" means hazardous substance is not likely to leach under most soil conditions.

(d) "NLV" means hazardous substance is not likely to volatilize under most conditions.

R 299.5752 Toxicological and chemical-physical properties.

Rule 752. (1) The toxicological and chemical-physical properties used to calculate generic and site-specific cleanup criteria under section 20120a of the act shall be as shown in table 4, except as provided in section 20120a(10) of the act, R 299.5706a(9), R 299.5750(1)(l) and R 299.5750(1)(o).

(2) Abbreviations used in table 4 have the following meanings when used in this rule:

(a) "Ionizing" denotes those substances for which the generic cleanup criteria in R 299.5746 and R 299.5748 shall not apply if the soil pH is significantly different from 6.8. The generic cleanup criteria are based on a default soil pH of 6.8 and the assumption that the neutral species of the hazardous substance is present.

(b) "NA" means not available.

(c) "NR" means not relevant.