



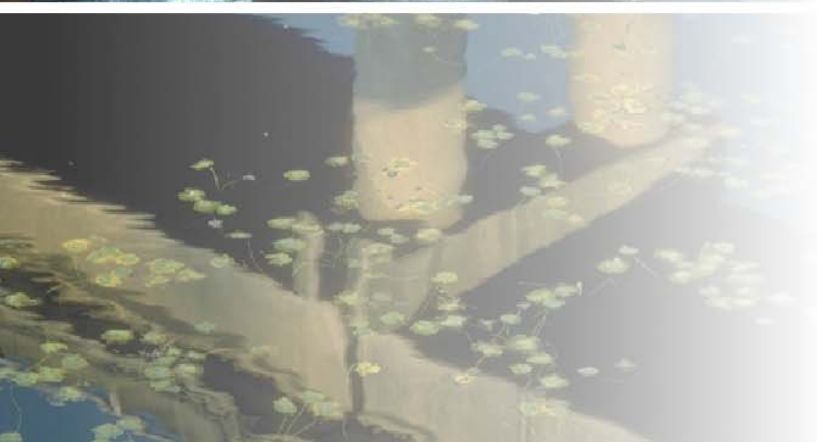
**Baseline Sediment  
Characterization Report  
Earley Business Center (EBC)  
401 East Alexander Avenue  
Port of Tacoma, Washington**



**Prepared for  
Anchor Environmental, LLC  
and Port of Tacoma  
Port Project No. E2729**



**December 1, 2009  
17490-02**





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Prepared by  
**Hart Crowser, Inc.**

**Richard F. Moore, LHG  
Principal**

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**BASELINE SEDIMENT CHARACTERIZATION REPORT  
EARLEY BUSINESS CENTER (EBC)  
401 EAST ALEXANDER AVENUE  
PORT OF TACOMA, WASHINGTON**

## **1.0 INTRODUCTION**

This report presents the results of chemical characterization sampling and testing of sediment quality conditions offshore of the Earley Business Center (EBC) at the northern end of the Blair-Hylebos Peninsula at the Port of Tacoma (Port). The EBC area is identified on the Figure 1 Vicinity Map. Note that the report figures and text reference “project north,” defined as being parallel with the axis of the Blair-Hylebos Peninsula.

Specifically, this report addresses sediment quality data from the following sources:

- Historical sediment sampling and chemical characterization studies conducted by the US Army in the Pier 23 lease area located in the north-northeastern portion of the EBC.
- Laboratory analytical results from previous subsurface sediment samples collected by Hart Crowser during geotechnical drilling completed in the offshore portion of the EBC in January, 2008.
- Laboratory analytical results from surface sediment samples collected by Hart Crowser in the subtidal and nearshore areas of the EBC in July, 2008.

A separate report summarizes results of upland soil and groundwater quality characterization in the northwestern portion of the EBC (Hart Crowser 2009a).

## **2.0 SITE LOCATION AND DESCRIPTION**

The January and July 2008 sediment characterization efforts for the EBC offshore area includes nearshore areas and subtidal waters of Commencement Bay to the Outer Harbor Line identified on Figure 3. This area is bounded by the Pier 23 Army Reserve Lease Line on the east and by the entrance to the Blair Waterway on the west. The sediment sampling locations lie on Port-owned land, or within the boundaries of the Port Management Area (PMA), as established in an Aquatic Lands Management Agreement between the Port and the Washington State Department of Natural Resources (DNR).

The sediment sampling area offshore of the EBC comprises nearshore and subtidal aquatic lands ranging in elevation from about 8 to -35 feet mean lower low water (MLLW) shown on Figure 3. This area extends northward to form a shelf that drops off rapidly beyond the Outer Harbor Line. Nearshore sediment in the intertidal area generally consists of resorted beach sands with local silt and gravel deposited by intertidal wave and tidal action. Sediment in the shelf area consists of native material and sandy fill previously placed via hydraulic dredging of the adjacent waterways during construction of the north end of the Blair-Hylebos Peninsula, circa World War I. Several steps in the shelf area bathymetry appear to be remnant dredging benches.

Related EBC features of interest include the Pier 23 Army Reserve lease area, discussed further below, and the sediment capping area for Piers 24 and 25 (Figure 2). Sediment dredging is planned by the Army at Pier 23 as an upcoming CERCLA action. In 2007 and 2008, the Port completed extensive sediment capping and cleanup of aquatic areas along the embankment beneath Pier 24, Pier 25, and along intervening shoreline areas. Remediation at Piers 24 and 25 was conducted as a CERCLA cleanup under direction from the EPA and review from the Washington State Department of Ecology (Ecology). Cleanup activities completed at Piers 24 and 25, and planned for Pier 23 are not associated with the EBC environmental issues evaluated in this report.

### **3.0 SITE HISTORICAL SUMMARY**

The EBC comprises an area of about 80 acres at the northern end of the Blair-Hylebos Peninsula that has historically been used for shipyard operations, metal fabrication, and other activities. The peninsula was formed using sandy and silty materials that resulted from hydraulic dredging of the adjacent waterways. Todd Shipyards' development of a shipyard followed creation of the peninsula between the Blair and Hylebos Waterways circa World War I.

Aerial photographs, historical maps, and other sources of information illustrate that extensive use of the EBC as a shipyard commenced during the early 1940s and included construction, maintenance, and retrofitting of military vessels. Development of historical outfitting piers at the locations of existing Piers 23, 24, and 25, began around 1940, along with construction of the prominent shipways at the northern EBC shoreline transition to Commencement Bay.

Post-World War II to approximately 1960, historical activities included construction, maintenance, and retrofitting of military vessels. Ship dismantling and salvage operations were also conducted, and aircraft carriers were moored

in berthing areas next to the current Pier 23, 24, and 25 locations in the post-war years.

In 1960, the Port of Tacoma acquired title from the Navy to the area known as the Industrial Yard Complex, including the present EBC area. The Port subsequently leased the area to various tenants for commercial and industrial purposes including freight hauling and distribution, furniture manufacturing, drilling services, lumber milling, and vessel decommissioning and dismantling. The shipways at the north end of the EBC uplands were dismantled by the mid-1960s, and a 1969 aerial photograph shows that filling included considerable debris fill upslope of the shipways. This fill area was the focus of a separate upland investigation by the Port in 2008 (Hart Crowser 2009a).

Later uses of the Industrial Yard Complex (later known as the Port Industrial Yard) through the 1970s included ship maintenance, dismantling, and other industrial and commercial operations. These operations included barge construction, steel materials storage, metal fabrication, and rebar shaping in the west-central portion of the EBC, and Trident Seafoods in the Pier 24 and 25 areas.

The Pier 23 lease area identified on Figures 2, 3, and 4 was operated by the Washington Army National Guard since the mid-1960s, with transfer of operations to the US Army Reserve in 1995. The Army signed a 50-year lease with the Port in 1991 for the use of the Pier 23 aquatic and adjacent upland area shown on Figure 2 and Figure 3. Facility uses have included vessel moorage and maintenance, with additional subleases for ship repair.

## **4.0 PRIOR EBC SEDIMENT CHARACTERIZATION/REMEDIATION**

As background for January and July 2008 sediment sampling conducted in the EBC offshore areas by Hart Crowser, this section summarizes the results of several rounds of sediment quality characterization sampling and analysis completed elsewhere in the EBC. CERCLA cleanup actions and related ongoing and future monitoring at Piers 24 and 25, and cleanup actions planned by the Army for Pier 23 were not further addressed in the most recent upland and offshore investigations for the EBC.

### ***4.1 Piers 24 and 25 CERCLA Remediation and Investigations***

The Port conducted CERCLA sediment remediation at Piers 24 and 25 in 2007 and 2008 pursuant to a 2005 RD/RA Consent Decree for the Mouth of the Hylebos Waterway and Statement of Work appended thereto. The Mouth of

the Hylebos Waterway is one of the problem areas identified for cleanup within the much larger Commencement Bay Nearshore/Tideflats (CB/NT) Superfund Site. The Piers 24 and 25 project area is identified on Figure 2. Remedial activities conducted under the Consent Decree were under the direction of EPA, with additional review and comment provided by Ecology, the US Army Corps of Engineers, and NOAA Fisheries.

Cleanup actions at Piers 24 and 25 followed numerous investigations by the Port and other parties for the Hylebos Waterway beginning in the mid-1980s. The Port completed further investigations specific to Piers 24 and 25 in the 1990s, prepared pre-remedial design documents (Hart Crowser 1998 and 1999), and evaluated design alternatives for remediation (Hart Crowser 2000). Final design was completed in 2007 (Port of Tacoma) under the RD/RA Consent Decree. The Piers 24 and 25 cleanup effort involved excavation of contaminated sediments and debris and capping along the embankment beneath Pier 24, Pier 25 and along the intervening shoreline areas (Figure 2).

#### ***4.2 Pier 23 Sediment Investigations and Planned Remediation***

The Pier 23 lease area and summarized sampling data are presented on Figure 4, excerpted from a 2008 Final Feasibility Study (FS) completed by Kemron for the Army. As posted on Figure 4, sediments in the Pier 23 lease area contain concentrations of cadmium, copper, mercury, and zinc above applicable state and federal regulatory criteria. These criteria include Cleanup Screening Levels (CSLs) established in the Washington State Sediment Management Standards (SMS; Chapter 173-204 WAC) as the level above which minor adverse effects are defined for station clusters of potential concern.

The Army has chosen dredging and off-site disposal as the preferred sediment cleanup option at Pier 23 (Army 2009). The Pier 23 remediation is being conducted by the Army pursuant to CERCLA requirements with oversight provided by Ecology. The preferred alternative involves dredging of Pier 23 contaminated sediment and shoreline slag over the area identified on Figure 4. The Army plans to temporarily remove Pier 23 to facilitate the dredging/slag removal action. Conceptual dredging cross sections in the Final FS depict cut depths varying from about 3 to 20 feet below current mudline elevations. The deepest cuts are planned beneath the Pier 23 footprint. The Army had planned to commence dredging in July 2009, but at the time of this report, delays have prohibited the start of dredging.



## 5.0 SCOPE OF WORK FOR HART CROWSER JANUARY AND JULY 2008 SEDIMENT SAMPLING

Because previous sampling efforts have characterized sediment conditions elsewhere in the EBC, the sediment quality investigation work completed by Hart Crowser and the Port in 2008 focused on collecting field and laboratory analytical data to provide general baseline information and address spatial data gaps offshore of the north-northwest portion of the EBC. Samples from this work provide representative coverage of the area offshore of the north-northwest portion of the EBC to complete the baseline sediment quality assessment (Figure 3). This work included:

- Conducting an historical evaluation to identify previous activities and areas of environmental interest and concern associated with potential sediment quality issues.
- Collecting subsurface sediment samples on January 17, 18, 21, and 25, 2008, from four geotechnical borings identified on Figure 3. The borings were completed via hollow-stem auger under contract to Hart Crowser. The primary objective was to obtain subsurface split-spoon sediment samples for physical testing and evaluation of engineering properties. Opportunistically, portions of selected subsurface samples were also submitted for preliminary chemical testing as sample volume allowed. The samples for chemical testing were selected at depths representative of the near-surface sediment materials (i.e., 0 to 1.0 feet, and 0 to 1.5 feet below mudline). Deeper sediment samples were also obtained at various depths for chemical characterization, should dredging be needed, to construct a subsurface key structure for an engineered berm. This berm was previously planned as part of a constructed fill for the terminal expansion. The berm structure and fill are no longer envisioned as part of future terminal development. Samples and associated depth are presented in Table 1.
- Collecting seven surface (0 to 10 cm) sediment samples (EBC-SD-1 through EBC-SD-7) on July 18, 2008, from subtidal areas at the north end of the EBC using a Van Veen grab sampler deployed from a sampling boat.
- Collecting six surface sediment samples (EBC-NS-1 through EBC-NS-6) by hand from the nearshore area at the north end of the EBC on July 22, 2008.
- Using Global Positioning System (GPS) for locating and recording sediment sampling locations.

- Submitting the sediment samples to Analytical Resources, Inc. (ARI) laboratory in Tukwila for analytical testing of the standard Ecology SMS analytes.
- Evaluating laboratory chemical analysis results and completing this report.

Summarized field activities and methods are presented in Appendix A.

Sediment characterization for the January 2008 sampling was completed using available samples from a geotechnical drilling effort, as described further below. The Port and KPFF approved the sampling and testing methods used, as summarized in this report. KPFF served as the engineering design firm for previously planned development and expansion of terminal activities at the northern end of the Blair-Hylebos Peninsula. Nearshore surface sediment characterization for the July 2008 EBC sampling effort was completed in general accordance with our Soil/Debris, Groundwater, and Sediment Sampling and Analysis Work Plan (Hart Crowser 2008a). Subtidal surface sediment characterization for the July 2008 EBC sampling effort was completed in general accordance with our Additional Sediment Characterization Work Plan for the project, dated July 17, 2008 (Hart Crowser 2008b).

## **6.0 SEDIMENT DESCRIPTION AND CONDITIONS**

Subsurface sediment samples from the geotechnical boring samples collected in January 2008 generally consisted of silty sand with shell fragments. No debris, foreign material, or other obvious indications of contamination were observed in any of the samples collected during drilling.

Subtidal surface sediment samples EBC-SD-1 through EBC-SD-7 collected in July 2008 were physically similar and generally consisted of a thin, upper layer of light brown Silt overlying light gray to brown and black Silt with common shell fragments and scattered small woody material. Tube worms were noted in all samples to several inches depth into the surface sediment. No debris, foreign material were observed in the samples collected.

Nearshore surface sediment samples EBC-NS-1 through EBC-NS-6 collected in July 2008 consisted of SAND with some silt and gravel. The samples exhibited some reddish coloration of sand grains and contained common shell fragments. Samples EBC-NS-1, EBC-NS-4, and EBC-NS-5 also contained concrete fragments. Live crabs, worms, and bivalves were observed in the vicinity of samples EBC-NS-1, EBC-NS-3, and EBC-NS-5. Some of the nearshore surface sediment samples contained scattered darker grains, suspected to be sandblast grit.

## 7.0 LABORATORY ANALYTICAL RESULTS

Sediment samples collected in January and July 2008 were submitted to ARI's Tukwila laboratory for chemical testing. Samples were analyzed for the following constituents inclusive of the standard Ecology SMS compounds as follows:

- Semivolatile Organic Compounds (SVOCs) by EPA Method 8270D;
- Polycyclic Aromatic Hydrocarbons (PAHs) by EPA Method 8270D-SIM;
- Pesticides by EPA Method 8081A (January 2008 sediment samples only);
- Polychlorinated biphenyls (PCBs) by EPA Method 8082;
- Total Metals (arsenic, cadmium, chromium, copper, lead, mercury, silver, and zinc) by EPA Methods 6010B and 7471A (plus antimony and nickel for January 2008 samples, antimony for July 2008 subtidal samples, and nickel for July nearshore samples); and
- Total Organic Carbon (TOC) in accordance with Plumb (1981) for the July 2008 subtidal and nearshore sediment samples only.

Pesticides were included with the January 2008 geotechnical sample testing for sediment management and disposal characterization purposes. As noted above, the January 2008 sediment characterization included potential dredging areas for an offshore structural berm associated with the previous Blair-Hylebos expansion project.

As described below, surface sediment analytical results were compared to applicable SMS screening criteria including the Sediment Quality Standards (SQS) and Cleanup Screening Levels (CSLs) listed in Chapter 173-204 WAC. The SQS defines the level below which there is no adverse effect on biological resources, and corresponds to no significant health risks to humans. The CSL is established as the level above which minor adverse effects are defined for station clusters of potential concern under the SMS.

Laboratory analytical documentation and data quality reviews for the testing completed are provided in Appendix B.

## **7.1 January 2008 Geotechnical Boring Sample Testing Results**

Laboratory analytical data for the January 2008 sediment samples from the geotechnical borings are summarized in Table 1. Elevated concentrations of mercury, and dibenzofuran were detected during laboratory testing of the uppermost sample from boring HC08-B5 and of PAHs from boring HC08-B14. For comparative purposes, these concentrations would exceed Ecology SMS CSLs if the samples were representative of the surface sediment conditions in the upper 10 centimeters (cm). However, as noted above, the January 2008 samples were collected for geotechnical evaluations using a split-spoon sampler. Because of this, the uppermost samples at each location include but also extend beyond the upper 10-cm depth, and therefore are not directly comparable to the CSLs.

The elevated concentrations of chemical constituents detected in sediment samples from HC08-B5 and HC08-14 are spatially limited. No chemical constituents were detected at elevated concentrations (i.e., above comparative CSLs) in samples from the other geotechnical borings HC08-B4 and HC08-B13.

Variability was noted between SIM and non-SIM analytical testing results for PAH constituents, particularly in sample HC08-B14-0-1.5. Although significant for this sample, the level of variability was still within the range that can occur based on sample aliquot selection during testing. Although the samples were well homogenized, sample HC08-B14-0-1.5 may have been affected by PAHs from very minute particles in the wet sample matrix that could not be further mixed and dispersed during the homogenization process.

It should be further noted that no sand blast grit, foreign material, or other debris was observed in the sandy and silty sediments from the boring samples.

## **7.2 July 2008 Subtidal Surface Sediment Sample Testing Results**

Laboratory analytical data for the July 2008 subtidal surface sediment samples are summarized in Table 2. Review of the analytical results for the surface sediment samples indicates that constituents were detected at concentrations well below applicable Ecology SMS criteria:

- Metals concentrations were comparable to typical upland soil background concentrations.
- Although some PAHs were detected, concentrations of any single compound did not exceed 26 milligrams per kilogram (mg/kg) (fluoranthene

in Sample EBC-SD-1). The PAH concentrations were below respective Ecology SMS criteria, including the most restrictive SQS values.

- Few other SVOCs were detected, and where present, concentrations were below the applicable SQS.
- PCBs were not detected at the specified reporting limit.

### **7.3 July 2008 Nearshore Sediment Sample Testing Results**

Laboratory analytical data for the July 2008 nearshore surface sediment samples are presented in Table 3 for total organic carbon (TOC) -normalized data and in Table 4 for samples with TOC below 0.5 percent. Per Ecology policy, samples containing less than 0.5 percent TOC are not TOC-normalized. The latter samples are therefore compared to applicable Apparent Effects Threshold (AET) criteria on a dry weight basis in accordance with Ecology policy.

Review of the analytical results for the surface sediment samples indicates that constituents were detected at concentrations below applicable Ecology SMS criteria for both TOC-normalized sample results (Table 3) and sample results compared to AET criteria (Table 4).

- Although some PAHs were detected, concentrations of any single compound did not exceed 114 milligrams per kilogram (mg/kg) (total benzofluoranthenes Sample EBC-NS-3). The PAH concentrations were below respective Ecology SMS criteria, including the most restrictive SQS values.
- Few other SVOCs were detected, and where present, concentrations were below the applicable SMS screening criteria.
- PCBs were detected in sample EBC-NS-4 only. The total PCB concentration was 5.36 mg/kg, below the SQS screening level of 12 mg/kg, and below the CSL of 65 mg/kg.
- Analytical results of PAHs and dibenzofuran using the selective ion (SIM) testing method for SVOCs differed somewhat from the testing results using the standard SVOC method. These differences are likely due to the variability of the matrix of the sample aliquots used for extraction for each separate test. Although the samples from which the aliquots were obtained were thoroughly homogenized both in the field and in the lab, the differences between the SIM versus non-SIM testing results are neither unexpected nor atypical, given the inherent variability of the sediment

matrix. None of the constituents in question were detected at concentrations above applicable SMS criteria using either method.

As noted above for the January 2008 samples, the July 2008 samples show some degree variability for SIM versus non-SIM PAH testing results. This is attributable to the sample aliquot selection process for each test method.

#### **7.4 Elevated Reporting Limits**

Although no exceedances to the Ecology SMS criteria were identified within the data sets, laboratory reporting limits (RLs) for several of the chlorinated hydrocarbons analyzed in the July 2008 subtidal and nearshore surface sediment samples were unavoidably elevated above their respective SQS and/or CSL values because of limitations inherent to the method and instrumentation. These compounds included 1,2,4-trichlorobenzene (nearshore samples EBC-NS-3, EBC-NS-4, EBC-NS-5, and all subtidal samples), 1,2-dichlorobenzene (nearshore sample EBC-NS-3 and subtidal samples EBC-SD-3 through EBC-SD-7), 1,4-dichlorobenzene (nearshore sample EBC-NS-3), and hexachlorobenzene (all subtidal samples).

Accordingly, the compounds in question were further evaluated using method detection limits (MDLs). The MDLs represent the lower limit that a compound can be determined to be present in a sample. Corresponding MDLs are presented at the bottom of Table 3 and Table 4 for constituents with RLs exceeding Ecology SMS criteria. None of the compounds in question were detected above their respective MDLs, indicating that the compounds are not present. The MDL values were further compared with the SMS Lowest Apparent Effects Threshold (LAET), with no MDL exceedances of applicable LAET values.

### **8.0 LIMITATIONS**

Work for this project was performed, and this report prepared, in accordance with generally accepted professional practices for the nature and conditions of the work completed in the same or similar localities, at the time the work was performed. It is intended for the exclusive use of Anchor Environmental, LLC and the Port of Tacoma for specific application to the referenced property. This report is not meant to represent a legal opinion. No other warranty, express or implied, is made.

The SMS cleanup levels included in this report are used for screening and comparison purposes only and are based on our understanding of cleanup levels

required by Ecology for similar projects. This comparison does not represent an interpretation of SMS cleanup standards applicable to this site, since such standards are established by Ecology through site-specific evaluation and public approval process.

Any questions regarding our work and this report, the presentation of the information, and the interpretation of the data are welcome.

## 9.0 REFERENCES

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**Table 1 - Analytical Results for January 2008 Geotechnical Boring  
Subsurface Sediment Samples**

Sample ID			HC08-B4-0-1'	HC08-B4-5-6'	HC08-B5-0-1'	HC08-B5-5-6'
Sampling Date	SQS	CSL	1/17/2008	1/17/2008	1/18/2008	1/18/2008
Total Solids in %			61.20	76.10	57.60	60.20
Total Organic Carbon in %			3.38	0.715	1.7	2.01
<b>Metals in mg/kg</b>						
Antimony			8 UJ	6 UJ	8 UJ	7 UJ
Arsenic	57	93	10	6 U	8 U	14
Cadmium	5.1	6.7	0.3 U	0.2 U	0.3 U	0.6
Chromium	260	270	20.4	12.0	23.3	22.7
Copper	390	390	80.3	12.1	81.5	81.0
Lead	450	530	43	2 U	33	70
Mercury	0.41	0.59	0.24 J	0.06 U	1.27	0.63
Nickel			15	7	17	16
Silver	6.1	6.1	0.5 U	0.4 U	0.5 U	0.5
Zinc	410	960	82 J	22	97	144
<b>Phenolics (Acids) in µg/kg</b>						
Phenol	420	1200	27	20 U	20 U	30
2-Methylphenol	63	63	20 U	20 U	20 U	19 U
4-Methylphenol	670	670	20 U	20 U	20 U	19 U
2,4-Dimethylphenol	29	29	20 U	20 U	20 U	19 U
Pentachlorophenol	360	690	98 U	98 U	98 U	97 U
Benzyl Alcohol	57	73	20 UJ	20 UJ	20 UJ	19 UJ
Benzoic Acid	650	650	200 U	200 U	200 U	190 U
<b>LPAHs in mg/kg TOC-N</b>						
Naphthalene	99	170	2.3	2.8 U	1.3	3.1
1-Methylnaphthalene			1.4	2.8 U	1.2 U	0.9 U
2-Methylnaphthalene	38	64	2.1	2.8 U	1.2 U	1.4
Acenaphthene	16	57	1.4	2.8 U	1.2 U	1.2
Acenaphthylene	66	66	1.0	2.8 U	1.2	1.3
Fluorene	23	79	2.2	2.8 U	1.5	1.7
Phenanthrene	100	480	7.1	2.8 U	8.2	8.5
Anthracene	220	1200	4.7	2.8 U	5.6	5.5
Total LPAHs	370	780	21.0	2.8 U	18	23
<b>HPAHs in mg/kg TOC-N</b>						
Fluoranthene	160	1200	13	2.8 U	14	16
Pyrene	1000	1400	20	2.8 U	33	42
Benzo(a)anthracene	110	270	7.1	2.8 U	11	9.0
Chrysene	110	460	11	2.8 U	22	16
Benzo(b)fluoranthene			13	2.8 U	25	34
Benzo(k)fluoranthene			12	2.8 U	16	31
Total Benzofluoranthenes	230	450	25	2.8 U	41	65
Benzo(a)pyrene	99	210	12	2.8 U	19	27
Indeno(1,2,3-cd)pyrene	34	88	3.8	2.8 U	5.9	7.0
Dibenz(a,h)anthracene	12	33	1.1	2.8 U	2.8	2.2
Benzo(g,h,i)perylene	31	78	3.6	2.8 U	4.9	6.5
Total HPAHs	960	5300	96	2.8 U	150	190

**Table 1 - Analytical Results for January 2008 Geotechnical Boring  
Subsurface Sediment Samples**

Sample ID			HC08-B4-0-1'	HC08-B4-5-6'	HC08-B5-0-1'	HC08-B5-5-6'
Sampling Date	SQS	CSL	1/17/2008	1/17/2008	1/18/2008	1/18/2008
<b>Chlorinated Aromatics in mg/kg TOC-N</b>						
1,2,4-Trichlorobenzene	0.81	1.8	0.59 U	2.8 U	1.2 U	0.95 U
1,2-Dichlorobenzene	2.3	2.3	0.59 U	2.8 U	1.2 U	0.95 U
1,3-Dichlorobenzene			0.59 U	2.8 U	1.2 U	0.95 U
1,4-Dichlorobenzene	3.1	9	0.59 U	2.8 U	1.2 U	0.95 U
Hexachlorobenzene	0.38	2.3	0.59 U	2.8 U	1.2 U	0.95 U
<b>Phthalates in mg/kg TOC-N</b>						
bis(2-Ethylhexyl)phthalate	47	78	2.9	2.8 U	4.9	4.7
Butylbenzylphthalate	4.9	64	0.59 U	2.8 U	1.2 U	0.95 U
Diethylphthalate	61	110	0.59 U	2.8 U	1.2 U	0.95 U
Dimethylphthalate	53	53	0.59 U	2.8 U	1.2 U	0.95 U
Di-n-Butylphthalate	220	1700	0.59 U	2.8 U	1.2 U	0.95 U
Di-n-Octyl phthalate	58	4500	0.59 U	2.8 U	1.2 U	0.95 U
<b>Pesticide/PCBs in mg/kg TOC-N</b>						
4,4'-DDD			0.12 U	0.28 U	0.22 U	0.22 U
4,4'-DDE			0.12 U	0.28 U	0.22 U	0.19 U
4,4'-DDT			0.12 U	0.28 U	0.22 U	0.42 U
Aldrin			0.06 U	0.14 U	0.11 U	0.09 U
alpha Chlordane			0.06 U	0.14 U	0.11 U	0.09 U
Dieldrin			0.12 U	0.28 U	0.22 U	0.19 U
gamma Chlordane			0.06 U	0.14 U	0.11 U	0.09 U
gamma-BHC (Lindane)			0.06 U	0.14 U	0.11 U	0.09 U
Heptachlor			0.06 U	0.14 U	0.11 U	0.09 U
Hexachlorobenzene			0.06 U	0.14 U	0.11 U	0.09 U
Hexachlorobutadiene			0.06 U	0.14 U	0.11 U	0.09 U
Aroclor 1016			0.59 U	2.7 U	1.2 U	0.95 U
Aroclor 1221			0.59 U	2.7 U	1.2 U	0.95 U
Aroclor 1232			0.89 U	2.7 U	1.2 U	0.95 U
Aroclor 1242			0.59 U	2.7 U	1.2 U	0.95 U
Aroclor 1248			0.59 U	2.7 U	1.2 U	2.5
Aroclor 1254			1.0	2.7 U	1.9	6.5
Aroclor 1260			0.71	2.7 U	2.2	5.5 P
Total PCBs	12	65	1.7	2.7 U	4.1	14
<b>Misc. Extractables in mg/kg TOC-N</b>						
Dibenzofuran	15	58	2.0	2.8 U	1.2 U	1.6
Hexachlorobutadiene			0.59 U	2.8 U	1.2 U	0.95 U
Hexachloroethane	3.9	6.2	0.59 U	2.8 U	1.2 U	0.95 U
N-Nitrosodiphenylamine	11	11	0.59 U	2.8 U	1.2 U	0.95 U

**Table 1 - Analytical Results for January 2008 Geotechnical Boring  
Subsurface Sediment Samples**

Sample ID			HC08-B4-0-1'	HC08-B4-5-6'	HC08-B5-0-1'	HC08-B5-5-6'
Sampling Date	SQS	CSL	1/17/2008	1/17/2008	1/18/2008	1/18/2008
<b>Semivolatiles (SIM) in mg/kg TOC-N</b>						
Naphthalene	99	170	0.86	0.70 U	1.7	0.90
1-Methylnaphthalene			0.41	0.70 U	0.82	0.44
2-Methylnaphthalene	38	64	0.62	0.70 U	1.2	0.60
Acenaphthene	16	57	0.71	0.70 U	1.3	0.55
Acenaphthylene	66	66	0.47	0.70 U	1.2	0.44
Anthracene	220	1200	2.6	0.70 U	7.6	2.3
Fluorene	23	79	0.95	0.70 U	2.3	0.75
Phenanthrene	100	480	4.1	0.70 U	12	4.2
Total LPAHs	370	780	10	0.70 U	28	9.7
Fluoranthene	160	1200	7.4	0.70 U	19	8.0
Pyrene	1000	1400	11	0.70 U	41	12
Benzo(a)anthracene	110	270	5.3	0.70 U	17	5.0
Benzo(a)pyrene	99	210	8.0	0.70 U	24	7.5
Dibenzo(a,h)anthracene	12	33	1.0	0.70 U	3.0	0.90
Benzo(ghi)perylene	31	78	3.3	0.70 U	7.6	2.8
Chrysene	110	460	9.8	0.70 U	30	10
Benzo(b)fluoranthene			12	0.70 U	42	12
Benzo(k)fluoranthene			5.3	0.70 U	15	5.5
Total Benzofluoranthenes	230	450	17	0.70 U	58	18
Indeno(1,2,3-cd)pyrene	34	88	3.3	0.70 U	8.2	2.9
Total HPAHs	960	5300	66	0.70 U	210	67
Dibenzofuran	15	58	0.74	0.70 U	1.6	0.60

**Table 1 - Analytical Results for January 2008 Geotechnical Boring  
Subsurface Sediment Samples**

Sample ID			HC08-B13-0-1'	HC08-B13-6-7'	HC08-B14-0-1.5'	HC08-B14-6.5-7.5' (a)
Sampling Date	SQS	CSL	1/21/2008	1/21/2008	1/25/2008	1/25/2008
Total Solids in %			63.10	72.80	60.70	78.30
Total Organic Carbon in %			1.12	1.69	1.65	0.268
<b>Metals in mg/kg</b>						
Antimony			8 UJ	7 UJ	8 UJ	6 UJ
Arsenic	57	93	8 U	7	14	6 U
Cadmium	5.1	6.7	0.3 U	0.3 U	0.3 U	0.2 U
Chromium	260	270	20.8	17.5	24.7	12.7
Copper	390	390	60.7	43.7	71.5	11.4
Lead	450	530	27	23	45	2 U
Mercury	0.41	0.59	0.19	0.29	0.26	0.05 U
Nickel			15	12	15	8
Silver	6.1	6.1	0.5 U	0.4 U	0.5 U	0.4 U
Zinc	410	960	75	51	138	37
<b>Phenolics (Acids) in µg/kg</b>						
Phenol	420	1200	20 U	19 U	20 U	20 U
2-Methylphenol	63	63	20 U	19 U	20 U	20 U
4-Methylphenol	670	670	20 U	19 U	20 U	20 U
2,4-Dimethylphenol	29	29	20 U	19 U	20 U	20 U
Pentachlorophenol	360	690	98 U	96 U	98 U	98 U
Benzyl Alcohol	57	73	20 UJ	19 UJ	20 UJ	20 UJ
Benzoic Acid	650	650	200 U	190 U	200 U	200 U
<b>LPAHs in mg/kg TOC-N</b>						
Naphthalene	99	170	1.9	2.5	8.5	7.5 U
1-Methylnaphthalene			1.8 U	1.1 U	2.5	7.5 U
2-Methylnaphthalene	38	64	1.8 U	1.3	3.3	7.5 U
Acenaphthene	16	57	1.8 U	1.5	13	7.5 U
Acenaphthylene	66	66	1.8 U	1.2	1.9	7.5 U
Fluorene	23	79	1.8	2.3	14	7.5 U
Phenanthrene	100	480	9.8	19	130	16
Anthracene	220	1200	4.7	5.6	18	7.5 U
Total LPAHs	370	780	18	33	190	16
<b>HPAHs in mg/kg TOC-N</b>						
Fluoranthene	160	1200	17	31	210	25
Pyrene	1000	1400	24	36	150	29
Benzo(a)anthracene	110	270	8.9	12	50	8.2
Chrysene	110	460	15	17	59	10
Benzo(b)fluoranthene			23	32	91	13
Benzo(k)fluoranthene			9.8	14	73	7.8
Total Benzofluoranthenes	230	450	33	46	160	21
Benzo(a)pyrene	99	210	14	21	73	12
Indeno(1,2,3-cd)pyrene	34	88	4.5	6.5	23	7.5 U
Dibenz(a,h)anthracene	12	33	1.8 U	1.8	9.1	7.5 U
Benzo(g,h,i)perylene	31	78	4.0	5.8	19	7.5 U
Total HPAHs	960	5300	120	180	750	110

**Table 1 - Analytical Results for January 2008 Geotechnical Boring  
Subsurface Sediment Samples**

Sample ID			HC08-B13-0-1'	HC08-B13-6-7'	HC08-B14-0-1.5'	HC08-B14-6.5-7.5' (a)
Sampling Date	SQS	CSL	1/21/2008	1/21/2008	1/25/2008	1/25/2008
<b>Chlorinated Aromatics in mg/kg TOC-N</b>						
1,2,4-Trichlorobenzene	0.81	1.8	1.8 U	1.1 U	1.2 U	7.5 U
1,2-Dichlorobenzene	2.3	2.3	1.8 U	1.1 U	1.2 U	7.5 U
1,3-Dichlorobenzene			1.8 U	1.1 U	1.2 U	7.5 U
1,4-Dichlorobenzene	3.1	9	1.8 U	1.1 U	1.2 U	7.5 U
Hexachlorobenzene	0.38	2.3	1.8 U	1.1 U	1.2 U	7.5 U
<b>Phthalates in mg/kg TOC-N</b>						
bis(2-Ethylhexyl)phthalate	47	78	7.2	5.9	6.7	7.5 U
Butylbenzylphthalate	4.9	64	1.8 U	1.1 U	1.2 U	7.5 U
Diethylphthalate	61	110	1.8 U	1.1 U	1.2 U	7.5 U
Dimethylphthalate	53	53	1.8 U	1.1 U	1.2 U	7.5 U
Di-n-Butylphthalate	220	1700	1.8 U	1.1 U	1.2 U	7.5 U
Di-n-Octyl phthalate	58	4500	1.8 U	1.1 U	1.2 U	7.5 U
<b>Pesticide/PCBs in mg/kg TOC-N</b>						
4,4'-DDD			0.35 U	0.22 U	0.24 U	0.75 U
4,4'-DDE			0.35 U	0.22 U	0.24 U	0.75 U
4,4'-DDT			0.35 U	0.22 U	0.24 U	0.75 U
Aldrin			0.18 U	0.11 U	0.12 U	0.37 U
alpha Chlordane			0.18 U	0.11 U	0.12 U	0.37 U
Dieldrin			0.35 U	0.22 U	0.24 U	0.75 U
gamma Chlordane			0.18 U	0.11 U	0.12 U	0.37 U
gamma-BHC (Lindane)			0.18 U	0.11 U	0.12 U	0.37 U
Heptachlor			0.18 U	0.11 U	0.12 U	0.37 U
Hexachlorobenzene			0.18 U	0.17	0.12 U	0.37 U
Hexachlorobutadiene			0.18 U	0.27 U	0.12 U	0.37 U
Aroclor 1016			1.8 U	1.1 U	1.2 U	7.5 U
Aroclor 1221			1.8 U	1.1 U	1.2 U	7.5 U
Aroclor 1232			1.8 U	1.1 U	1.2 U	7.5 U
Aroclor 1242			1.8 U	1.1 U	1.2 U	7.5 U
Aroclor 1248			1.8 U	2.0	1.2 U	7.5 U
Aroclor 1254			2.2	3.5	1.4	7.5 U
Aroclor 1260			1.8	3.1	2.4	7.5 U
Total PCBs	12	65	4.0	8.6	3.8	7.5 U
<b>Misc. Extractables in mg/kg TOC-N</b>						
Dibenzofuran	15	58	1.8 U	1.7	11	7.5 U
Hexachlorobutadiene			1.8 U	1.1 U	1.2 U	7.5 U
Hexachloroethane	3.9	6.2	1.8 U	1.1 U	1.2 U	7.5 U
N-Nitrosodiphenylamine	11	11	1.8 U	1.1 U	1.2 U	7.5 U

**Table 1 - Analytical Results for January 2008 Geotechnical Boring  
Subsurface Sediment Samples**

Sample ID			HC08-B13-0-1'	HC08-B13-6-7'	HC08-B14-0-1.5'	HC08-B14-6.5-7.5' (a)
Sampling Date	SQS	CSL	1/21/2008	1/21/2008	1/25/2008	1/25/2008
<b>Semivolatiles (SIM) in mg/kg TOC-N</b>						
Naphthalene	99	170	4.3	1.4	130	4.5
1-Methylnaphthalene			1.4	0.65	42	4.1
2-Methylnaphthalene	38	64	2.2	0.83	55	5.6
Acenaphthene	16	57	2.2	1.0	330	3.2
Acenaphthylene	66	66	2.0	0.65	12	1.8 U
Anthracene	220	1200	8.9	3.2	360	2.9
Fluorene	23	79	3.2	1.2	290	4.1
Phenanthrene	100	480	16	9.5	3000	16
Total LPAHs	370	780	39	18	4200	37
Fluoranthene	160	1200	28	15	3400	15
Pyrene	1000	1400	77	20	2700	16
Benzo(a)anthracene	110	270	23	7.7	970	5.2
Benzo(a)pyrene	99	210	51	13	970	6.0
Dibenzo(a,h)anthracene	12	33	5.9	1.5	100	1.8 U
Benzo(ghi)perylene	31	78	17	5.0	410	2.4
Chrysene	110	460	39	12	1100	6.7
Benzo(b)fluoranthene			86	21	1300	8.2
Benzo(k)fluoranthene			36	7.1	610	3.4
Total Benzofluoranthenes	230	450	120	28	1900	12
Indeno(1,2,3-cd)pyrene	34	88	17	5.0	400	2.2
Total HPAHs	960	5300	380	110	12000	77
Dibenzofuran	15	58	2.4	0.95	220	3.4

U = Not detected at reporting limits indicated.

J = Estimated values.

P = The relative percent difference is greater than 40% between the GC primary and confirmation column results.

TOC-N = Total Organic Carbon Normalized.

Blank indicates no SQS or CSL available for specific analyte.

(a) TOC concentration outside of range (0.5 to 3.5%) for OC normalization.

**Table 2 - Analytical Results for July 2008 Surface Sediment Samples**

Sample ID: Sampling Date:	SQS	CSL	EBC-SD-1 7/18/2008	EBC-SD-2 7/18/2008	EBC-SD-3 7/18/2008	EBC-SD-4 7/18/2008
<b>Conventionals in %</b>						
Total Solids			58.4	59.5	60.9	60.7
Total Organic Carbon			0.937	0.892	0.866	0.74
<b>Metals in mg/kg</b>						
Antimony			9 UJ	9 UJ	8 UJ	8 UJ
Arsenic	57	93	9 U	9 U	8 U	8 U
Cadmium	5.1	6.7	0.4 U	0.3 U	0.3 U	0.3 U
Chromium	260	270	16.4	17	15.2	14.9
Copper	390	390	41.9	42.6	36.5	33.1
Lead	450	530	10	10	9	8
Mercury	0.41	0.59	0.08	0.06	0.06 U	0.06 U
Silver	6.1	6.1	0.5 U	0.5 U	0.5 U	0.5 U
Zinc	410	960	46	47	40	37
<b>LPAHs in mg/kg OC</b>						
1-Methylnaphthalene			2.1 U	2.2 U	2.3 U	2.7 U
2-Methylnaphthalene	38	64	1.3 T	1.1 T	1.2 T	1.4 T
Acenaphthene	16	57	2.1 U	2.2 U	2.3 U	2.7 U
Acenaphthylene	66	66	2.1 U	2.2 U	2.3 U	2.7 U
Anthracene	220	1200	2.8	2.0 T	1.6 T	2.2 T
Fluorene	23	79	2.1 U	2.2 U	2.3 U	2.7 U
Naphthalene	99	170	1.2 T	2.2 U	2.3 U	2.7 U
Phenanthrene	100	480	6.6	4.7	5.3	5.4
Total LPAHs	370	780	12	7.8	8.1	8.9
<b>HPAHs in mg/kg OC</b>						
Benzo(a)anthracene	110	270	6.5	5.7	4.0	5.0
Benzo(a)pyrene	99	210	7.4	5.6	4.5	5.0
Benzo(b)fluoranthene			6.0	7.2	4.3	5.1
Benzo(k)fluoranthene			11	7.7	6.7	7.3
Total Benzofluoranthenes	230	450	17	15	11	12
Benzo(g,h,i)perylene	31	78	3.3	2.6	2.4	2.4 T
Chrysene	110	460	11	11	6.1	9.3
Dibenz(a,h)anthracene	12	33	2.1 U	2.2 U	2.3 U	2.7 U
Fluoranthene	160	1200	14	16	11	11
Indeno(1,2,3-cd)pyrene	34	88	2.9	2.2	2.1 T	2.2 T
Pyrene	1000	1400	12	10	8.5	8.5
Total HPAHs	960	5300	73	68	49	56
<b>Chlorinated Hydrocarbons in mg/kg OC</b>						
1,2,4-Trichlorobenzene <sup>a</sup>	0.81	1.8	2.1 U	2.2 U	2.3 U	2.7 U
1,2-Dichlorobenzene <sup>a</sup>	2.3	2.3	2.1 U	2.2 U	2.3 U	2.7 U
1,3-Dichlorobenzene			2.1 U	2.2 U	2.3 U	2.7 U
1,4-Dichlorobenzene	3.1	9	2.1 U	2.2 U	2.3 U	2.7 U
Hexachlorobenzene <sup>a</sup>	0.38	2.3	2.1 U	2.2 U	2.3 U	2.7 U
<b>Phthalates in mg/kg OC</b>						
bis(2-Ethylhexyl)phthalate	47	78	5.1 J	2.4 J	2.3 U	2.7 U
Butylbenzylphthalate	4.9	64	2.1 U	2.2 U	2.3 U	2.7 U
Diethylphthalate	61	110	3.0	4.0	2.0 T	2.7 U
Dimethylphthalate	53	53	2.1 U	2.2 U	2.3 U	2.7 U
Di-n-Butylphthalate	220	1700	2.1 U	2.2 U	2.3 U	2.7 U
Di-n-Octyl phthalate	58	4500	2.1 U	2.2 U	2.3 U	2.7 U

**Table 2 - Analytical Results for July 2008 Surface Sediment Samples**

Sample ID: Sampling Date:	SQS	CSL	EBC-SD-1 7/18/2008	EBC-SD-2 7/18/2008	EBC-SD-3 7/18/2008	EBC-SD-4 7/18/2008
<b>Phenols/Acid Extractables in ug/kg dw</b>						
2,4-Dimethylphenol	29	29	20 U	20 U	20 U	20 U
2-Methylphenol	63	63	20 U	20 U	20 U	20 U
4-Methylphenol	670	670	20 U	20 U	20 U	20 U
Pentachlorophenol	360	690	98 U	98 U	98 U	99 U
Phenol	420	1200	58	20 U	26	20 U
Benzoic Acid	650	650	200 U	200 U	200 U	200 U
Benzyl Alcohol	57	73	20 U	20 U	20 U	20 U
<b>Miscellaneous Extractables in mg/kg OC</b>						
Dibenzofuran	15	58	1.2 T	2.2 U	2.3 U	2.7 U
Hexachlorobutadiene	3.9	6.2	2.1 U	2.2 U	2.3 U	2.7 U
Hexachloroethane			2.1 U	2.2 U	2.3 U	2.7 U
N-Nitrosodiphenylamine	11	11	2.1 U	2.2 U	2.3 U	2.7 U
<b>Semivolatiles (SIM) in mg/kg OC</b>						
Benzo(a)anthracene	110	270	9.0	7.8	5.8	7.4
Benzo(a)pyrene	99	210	9.1	9.6	5.8	7.4
Benzo(b)fluoranthene			12	12	8.2	8.5
Benzo(k)fluoranthene			8.5	9.1	6.0	7.0
Total Benzofluoranthenes	230	450	20	21	14	16
Benzo(g,h,i)perylene	31	78	5.1	5.7	3.7	4.7
Chrysene	110	460	14	11	9.8	8.9
Dibenz(a,h)anthracene	12	33	2.0	2.5	1.3	1.5
Fluoranthene	160	1200	26	18	17	22
Indeno(1,2,3-cd)pyrene	34	88	5.0	5.5	3.7	4.3
Pyrene	1000	1400	20	16	14	16
1-Methylnaphthalene			1.3	1.7	1.5	1.5
2-Methylnaphthalene	38	64	1.9	2.4	1.8	2.2
Acenaphthene	16	57	1.1	0.89	0.82	1.3
Acenaphthylene	66	66	0.51 U	0.56 U	0.54 U	0.65 U
Anthracene	220	1200	3.5	3.0	2.4	3.1
Fluorene	23	79	1.5	1.3	1.3	1.8
Naphthalene	99	170	1.6	2.0	1.7	1.8
Phenanthrene	100	480	10	7.1	9.1	13
Dibenzofuran	15	58	1.3	1.3	1.1	1.5
<b>PCBs in mg/kg OC</b>						
Aroclor 1016			2.1 U	2.2 U	2.3 U	2.7 U
Aroclor 1221			2.1 U	2.2 U	2.3 U	2.7 U
Aroclor 1232			2.1 U	2.2 U	2.3 U	2.7 U
Aroclor 1242			2.1 U	2.2 U	2.3 U	2.7 U
Aroclor 1248			2.1 U	2.2 U	2.3 U	2.7 U
Aroclor 1254			2.1 U	2.2 U	2.3 U	2.7 U
Aroclor 1260			2.1 U	2.2 U	2.3 U	2.7 U
Aroclor 1262			2.1 U	2.2 U	2.3 U	2.7 U
Aroclor 1268			2.1 U	2.2 U	2.3 U	2.7 U
Total PCBs	12	65	2.1 U	2.2 U	2.3 U	2.7 U



**Table 2 - Analytical Results for July 2008 Surface Sediment Samples**

Sample ID: Sampling Date:	SQS	CSL	EBC-SD-5 7/18/2008	EBC-SD-6 7/18/2008	EBC-SD-7 7/18/2008
<b>Conventionals in %</b>					
Total Solids			62.2	61.6	61.8
Total Organic Carbon			0.903	0.921	0.869
<b>Metals in mg/kg</b>					
Antimony			8 UJ	8 UJ	8 UJ
Arsenic	57	93	8 U	8 U	8 U
Cadmium	5.1	6.7	0.3 U	0.3 U	0.3 U
Chromium	260	270	17.2	16.2	16.9
Copper	390	390	35.8	35.9	38.2
Lead	450	530	11	9	9
Mercury	0.41	0.59	0.07	0.07 U	0.06
Silver	6.1	6.1	0.5 U	0.5 U	0.5 U
Zinc	410	960	43	42	40
<b>LPAHs in mg/kg OC</b>					
1-Methylnaphthalene			2.2 U	2.2 U	2.3 U
2-Methylnaphthalene	38	64	1.3 T	1.3 T	1.3 T
Acenaphthene	16	57	2.2 U	2.2 U	2.3 U
Acenaphthylene	66	66	2.2 U	2.2 U	2.3 U
Anthracene	220	1200	1.9 T	2.4	3.3
Fluorene	23	79	2.2 U	1.2 T	1.4 T
Naphthalene	99	170	1.3 T	1.3 T	2.3 U
Phenanthrene	100	480	4.8	4.6	9.6
Total LPAHs	370	780	9.3	11	16
<b>HPAHs in mg/kg OC</b>					
Benzo(a)anthracene	110	270	3.9	4.8	8.5
Benzo(a)pyrene	99	210	4.8	4.7	9.7
Benzo(b)fluoranthene			5.1	5.6	8.7
Benzo(k)fluoranthene			5.3	6.1	10
Total Benzofluoranthenes	230	450	10	12	19
Benzo(g,h,i)perylene	31	78	2.2	2.2 T	3.8
Chrysene	110	460	6.2	8.5	12
Dibenz(a,h)anthracene	12	33	2.2 U	2.2 U	2.3 U
Fluoranthene	160	1200	9.0	10	20
Indeno(1,2,3-cd)pyrene	34	88	2.0 T	2.0 T	3.8
Pyrene	1000	1400	7.1	8.0	15
Total HPAHs	960	5300	46	52	91
<b>Chlorinated Hydrocarbons in mg/kg OC</b>					
1,2,4-Trichlorobenzene <sup>a</sup>	0.81	1.8	2.2 U	2.2 U	2.3 U
1,2-Dichlorobenzene <sup>a</sup>	2.3	2.3	2.2 U	2.2 U	2.3 U
1,3-Dichlorobenzene			2.2 U	2.2 U	2.3 U
1,4-Dichlorobenzene	3.1	9	2.2 U	2.2 U	2.3 U
Hexachlorobenzene <sup>a</sup>	0.38	2.3	2.2 U	2.2 U	2.3 U
<b>Phthalates in mg/kg OC</b>					
bis(2-Ethylhexyl)phthalate	47	78	2.2 U	2.2 U	2.3 U
Butylbenzylphthalate	4.9	64	2.2 U	2.2 U	2.3 U
Diethylphthalate	61	110	2.2 U	2.1 T	2.8
Dimethylphthalate	53	53	2.2 U	2.2 U	2.3 U
Di-n-Butylphthalate	220	1700	2.2 U	2.2 U	2.3 U
Di-n-Octyl phthalate	58	4500	2.2 U	2.2 UJ	2.3 U

**Table 2 - Analytical Results for July 2008 Surface Sediment Samples**

Sample ID: Sampling Date:	SQS	CSL	EBC-SD-5 7/18/2008	EBC-SD-6 7/18/2008	EBC-SD-7 7/18/2008
<b>Phenols/Acid Extractables in ug/kg dw</b>					
2,4-Dimethylphenol	29	29	20 U	20 U	20 U
2-Methylphenol	63	63	20 U	20 U	20 U
4-Methylphenol	670	670	20 U	20 U	20 U
Pentachlorophenol	360	690	98 U	99 U	98 U
Phenol	420	1200	18 T	40	20 U
Benzoic Acid	650	650	200 U	200 U	200 U
Benzyl Alcohol	57	73	20 U	20 UJ	20 U
<b>Miscellaneous Extractables in mg/kg OC</b>					
Dibenzofuran	15	58	2.2 U	1.2 T	2.3 U
Hexachlorobutadiene	3.9	6.2	2.2 U	2.2 U	2.3 U
Hexachloroethane			2.2 U	2.2 U	2.3 U
N-Nitrosodiphenylamine	11	11	2.2 U	2.2 U	2.3 U
<b>Semivolatiles (SIM) in mg/kg OC</b>					
Benzo(a)anthracene	110	270	4.9	7.3	4.6
Benzo(a)pyrene	99	210	5.0	6.6	5.1
Benzo(b)fluoranthene			6.6	9.4	6.8
Benzo(k)fluoranthene			4.9	6.0	5.5
Total Benzofluoranthenes	230	450	12	15	12
Benzo(g,h,i)perylene	31	78	3.2	3.6	2.8
Chrysene	110	460	6.2	14	6.2
Dibenz(a,h)anthracene	12	33	1.1	1.4	1.4
Fluoranthene	160	1200	13	14	12
Indeno(1,2,3-cd)pyrene	34	88	2.9	3.5	2.8
Pyrene	1000	1400	11	12	9.3
1-Methylnaphthalene			1.6	1.3	1.3
2-Methylnaphthalene	38	64	2.1	2.1	1.6
Acenaphthene	16	57	0.79	0.75	0.61
Acenaphthylene	66	66	0.52 U	0.59	0.55 U
Anthracene	220	1200	2.1	3.4	1.8
Fluorene	23	79	1.2	1.4	1.0
Naphthalene	99	170	2.0	2.2	1.6
Phenanthrene	100	480	6.8	6.3	4.8
Dibenzofuran	15	58	1.1	1.3	0.94
<b>PCBs in mg/kg OC</b>					
Aroclor 1016			2.2 U	2.2 U	2.3 U
Aroclor 1221			2.2 U	2.2 U	2.3 U
Aroclor 1232			2.2 U	2.2 U	2.3 U
Aroclor 1242			2.2 U	2.2 U	2.3 U
Aroclor 1248			2.2 U	2.2 U	2.3 U
Aroclor 1254			2.2 U	2.2 U	2.3 U
Aroclor 1260			2.2 U	2.2 U	2.3 U
Aroclor 1262			2.2 U	2.2 U	2.3 U
Aroclor 1268			2.2 U	2.2 U	2.3 U
Total PCBs	12	65	2.2 U	2.2 U	2.3 U

Notes

U: Not detected at reporting limits indicated

J: Estimated value

T: Reported concentration below the analytical Reporting Limit

<sup>a</sup>

Analytical reporting limits unavoidably exceeded SMS criteria for some samples because of limitations inherent to the method and instrumentation. However, compound was not detected at dry weight Method Detection Limits (MDLs) indicated below. All MDLs were below applicable Lowest Apparent Effects Threshold (LAET) values.

**Method Detection Limits in ug/kg (Dry Weight)**

	LAET	EBC-SD-1	EBC-SD-2	EBC-SD-3	EBC-SD-4
1,2,4-Trichlorobenzene	31	8.9 U	8.9 U	8.9 U	9 U
1,2-Dichlorobenzene	35	7.7 U	7.7 U	7.7 U	7.8 U
Hexachlorobenzene	22	7.9 U	7.9 U	7.9 U	7.9 U

	LAET	EBC-SD-5	EBC-SD-6	EBC-SD-7
1,2,4-Trichlorobenzene	31	8.9 U	9 U	8.9 U
1,2-Dichlorobenzene	35	7.7 U	7.8 U	7.7 U
Hexachlorobenzene	22	7.9 U	8 U	7.9 U

**Table 3 - Analytical Results for July 2008 Nearshore Surface Sediment Samples (TOC-Normalized)**

Sample ID:			EBC-NS-3	EBC-NS-4	EBC-NS-5
Sampling Date:	SQS	CSL	7/22/2008	7/22/2008	7/22/2008
<b>Conventionals in %</b>					
Total Solids			75	77.5	73.2
Total Organic Carbon			0.544	1.25	1.44
<b>Metals in mg/kg</b>					
Arsenic	57	93	9	30	8
Cadmium	5.1	6.7	0.3 U	0.7	0.3 U
Chromium	260	270	20.8	39	20.3
Copper	390	390	59.4	308	46.6
Lead	450	530	28	160	48
Mercury	0.41	0.59	0.07 U	0.14	0.05 U
Nickel			15	26	15
Silver	6.1	6.1	0.4 U	1 U	0.4 U
Zinc	410	960	73	409	56
<b>LPAHs in mg/kg OC</b>					
1-Methylnaphthalene			3.49 U	7.12	1.32 U
2-Methylnaphthalene	38	64	1.84 T	9.60	1.32 U
Acenaphthene	16	57	3.68	5.60	0.90 T
Acenaphthylene	66	66	1.84 T	2.88	1.32 U
Anthracene	220	1200	11.76	12.00	1.74
Fluorene	23	79	4.41	8.80	0.97 T
Naphthalene	99	170	6.99	19.20	1.04 T
Phenanthrene	100	480	14.89	59.20	4.38
Total LPAHs	370	780	45.40	124.40	9.03
<b>HPAHs in mg/kg OC</b>					
Benzo(a)anthracene	110	270	22.06	24.00	3.13
Benzo(a)pyrene	99	210	47.79	26.40	4.17
Benzo(b)fluoranthene			62.50	24.00	4.93
Benzo(k)fluoranthene			51.47	25.60	4.93
Total Benzofluoranthenes	230	450	113.97	49.60	9.86
Benzo(g,h,i)perylene	31	78	11.76	9.60	1.94
Chrysene	110	460	44.12	32.00	5.00
Dibenz(a,h)anthracene	12	33	3.31 T	3.12	1.32 U
Fluoranthene	160	1200	27.57	51.20	7.64
Indeno(1,2,3-cd)pyrene	34	88	13.97	8.00	1.88
Pyrene	1000	1400	82.72	59.20	11.11
Total HPAHs	960	5300	367.28	263.12	44.72
<b>Chlorinated Hydrocarbons in mg/kg OC</b>					
1,2,4-Trichlorobenzene <sup>a</sup>	0.81	1.8	3.49 U	1.60 U	1.32 U
1,2-Dichlorobenzene <sup>a</sup>	2.3	2.3	3.49 U	1.60 U	1.32 U
1,3-Dichlorobenzene			3.49 U	1.60 U	1.32 U
1,4-Dichlorobenzene <sup>a</sup>	3.1	9	3.49 U	1.60 U	1.32 U
Hexachlorobenzene <sup>a</sup>	0.38	2.3	3.49 U	1.60 U	1.32 U
<b>Phthalates in mg/kg OC</b>					
bis(2-Ethylhexyl)phthalate	47	78	4.23	15.20	1.25 T
Butylbenzylphthalate	4.9	64	3.49 U	1.60 U	1.32 U
Diethylphthalate	61	110	3.49 U	1.60 U	1.32 U
Dimethylphthalate	53	53	3.49 U	1.60 U	1.32 U
Di-n-Butylphthalate	220	1700	3.49 U	1.60 U	1.32 U
Di-n-Octyl phthalate	58	4500	3.49 U	1.60 U	1.32 U

**Table 3 - Analytical Results for July 2008 Nearshore Surface Sediment Samples (TOC-Normalized)**

Sample ID:			EBC-NS-3	EBC-NS-4	EBC-NS-5
Sampling Date:	SQS	CSL	7/22/2008	7/22/2008	7/22/2008
<b>Phenols/Acid Extractables in ug/kg dw</b>					
2,4-Dimethylphenol	29	29	19 U	20 U	19 U
2-Methylphenol	63	63	19 U	20 U	19 U
4-Methylphenol	670	670	62	260	16 T
Pentachlorophenol	360	690	95 U	99 U	97 U
Phenol	420	1200	150	22	150
Benzoic Acid	650	650	190 U	200 U	190 U
Benzyl Alcohol	57	73	19 U	20 U	19 U
<b>Miscellaneous Extractables in mg/kg OC</b>					
Dibenzofuran	15	58	3.68	3.52	0.97 T
Hexachlorobutadiene	3.9	6.2	3.49 U	1.60 U	1.32 U
Hexachloroethane			3.49 U	1.60 U	1.32 U
N-Nitrosodiphenylamine	11	11	3.49 U	1.60 U	1.32 U
<b>Semivolatiles (SIM) in mg/kg OC</b>					
1-Methylnaphthalene			0.94	0.75	0.46
2-Methylnaphthalene	38	64	1.29	1.44	0.61
Acenaphthene	16	57	1.84	0.63	0.58
Acenaphthylene	66	66	0.94	0.38 U	0.58
Anthracene	220	1200	5.88	1.60	1.67
Fluorene	23	79	2.39	0.75	0.61
Naphthalene	99	170	5.88	2.24	1.32
Phenanthrene	100	480	10.11	5.52	2.36
Benzo(a)anthracene	110	270	20.22	4.72	6.18
Benzo(a)pyrene	99	210	34.93	4.96	11.11
Benzo(b)fluoranthene			38.60	5.76	14.58
Benzo(k)fluoranthene			33.09	5.44	14.58
Benzo(g,h,i)perylene	31	78	14.52	2.80	5.83
Chrysene	110	460	33.09	8.80	18.06
Dibenz(a,h)anthracene	12	33	7.72	1.28	2.36
Fluoranthene	160	1200	18.01	12.00	6.04
Indeno(1,2,3-cd)pyrene	34	88	15.26	2.48	5.56
Pyrene	1000	1400	38.60	8.00	6.81
Dibenzofuran	15	58	2.02	1.12	0.61
<b>PCBs in mg/kg OC</b>					
Aroclor 1016			3.49 U	1.60 U	1.39 U
Aroclor 1221			3.49 U	1.60 U	1.39 U
Aroclor 1232			3.49 U	1.60 U	1.39 U
Aroclor 1242			3.49 U	1.60 U	1.39 U
Aroclor 1248			3.49 U	1.60 U	1.39 U
Aroclor 1254			3.49 U	2.88	1.39 U
Aroclor 1260			3.49 U	1.60 U	1.39 U
Aroclor 1262			3.49 U	2.48	1.39 U
Aroclor 1268			3.49 U	1.60 U	1.39 U
Total PCBs	12	65	3.49 U	5.36	1.39 U

**Table 3 - Analytical Results for July 2008 Nearshore Surface Sediment Samples (TOC-Normalized)**

Sample ID:			EBC-NS-3	EBC-NS-4	EBC-NS-5
Sampling Date:	SQS	CSL	7/22/2008	7/22/2008	7/22/2008

Notes:

Results are compared to SMS criteria for samples where total organic carbon concentration is greater than 0.5 and less than 3.5 percent.

Blank entries indicate no SMS criteria established.

U: Not detected at reporting limit indicated.

J: Estimated value

T: Reported concentration below the analytical Reporting Limit

<sup>a</sup> Analytical reporting limits unavoidably exceeded SMS criteria for some samples because of matrix type and analytical method limitations. However, compound was not detected at dry weight Method Detection Limits (MDLs) indicated below. All MDLs were below applicable Lowest Apparent Effects Threshold (LAET) values.

**Method Detection Limits in ug/kg (Dry Weight)**

	LAET	EBC-NS-3	EBC-NS-4	EBC-NS-5
1,2,4-Trichlorobenzene	31	8.6 U	9 U	8.8 U
1,2-Dichlorobenzene	35	7.5 U	7.8 U	7.6 U
1,4-Dichlorobenzene	110	7 U	7.3 U	7.1 U
Hexachlorobenzene	22	7.6 U	7.9 U	7.8 U

**Table 4 - Analytical Results for July 2008 Nearshore Surface Sediment Samples (Low-TOC Samples)**

Sample ID: Sampling Date:	LAET	2LAET	EBC-NS-1 7/22/2008	EBC-NS-2 7/22/2008	EBC-NS-6 7/22/2008
<b>Conventionals in %</b>					
Total Solids			76.9	79.8	88.5
Total Organic Carbon			0.432	0.435	0.331
<b>Metals in mg/kg</b>					
Arsenic	57	93	10 U	6 U	10 U
Cadmium	5.1	6.7	0.6 U	0.2 U	0.5 U
Chromium	260	270	80 J	24.5	30
Copper	390	390	81	53.3	166
Lead	450	530	50	59	29
Mercury	0.41	0.59	0.24 J	0.09	0.05 U
Nickel	140	140	31	19	21
Silver	6.1	6.1	0.9 U	0.4 U	0.8 U
Zinc	410	960	192	129	98
<b>LPAHs in mg/kg</b>					
1-Methylnaphthalene			0.019 U	0.02 U	0.019 U
2-Methylnaphthalene	0.67	1.4	0.019 U	0.02 U	0.019 U
Acenaphthene	0.5	0.73	0.019 U	0.02 U	0.019 U
Acenaphthylene	1.3	1.3	0.019 U	0.02 U	0.019 U
Anthracene	0.96	4.4	0.028	0.026	0.026
Fluorene	0.54	1	0.019 U	0.02 U	0.019 U
Naphthalene	2.1	2.4	0.013 T	0.02 U	0.019 U
Phenanthrene	1.5	5.4	0.048	0.033	0.032
Total LPAHs	5.2	13	0.089	0.059	0.058
<b>HPAHs in mg/kg</b>					
Benzo(a)anthracene	1.3	1.6	0.061	0.062	0.066
Benzo(a)pyrene	1.6	3	0.069	0.056	0.094
Benzo(b)fluoranthene			0.094	0.099	0.13
Benzo(k)fluoranthene			0.084	0.093	0.12
Total Benzofluoranthenes	3.2	3.6	0.178	0.192	0.25
Benzo(g,h,i)perylene	0.67	0.72	0.025	0.024	0.029
Chrysene	1.4	2.8	0.13	0.21	0.12
Dibenz(a,h)anthracene	0.23	0.54	0.019 U	0.013 T	0.019 U
Fluoranthene	1.7	2.5	0.11	0.14	0.12
Indeno(1,2,3-cd)pyrene	0.6	0.69	0.024	0.023	0.032
Pyrene	2.6	3.3	0.13	0.14	0.1
Total HPAHs	12	17	0.727	0.86	0.811
<b>Chlorinated Hydrocarbons in mg/kg</b>					
1,2,4-Trichlorobenzene	0.031	0.051	0.019 U	0.02 U	0.019 U
1,2-Dichlorobenzene	0.035	0.05	0.019 U	0.02 U	0.019 U
1,3-Dichlorobenzene	0.17	0.17	0.019 U	0.02 U	0.019 U
1,4-Dichlorobenzene	0.11	0.12	0.019 U	0.02 U	0.019 U
Hexachlorobenzene	0.022	0.07	0.019 U	0.02 U	0.019 U
<b>Phthalates in mg/kg</b>					
bis(2-Ethylhexyl)phthalate	1.3	1.9	0.079	0.05	0.019
Butylbenzylphthalate	0.063	0.9	0.019 U	0.02 U	0.019 U
Diethylphthalate	0.2	0.2	0.019 U	0.019 T	0.019 U
Dimethylphthalate	0.071	0.16	0.019 U	0.02 U	0.019 U
Di-n-Butylphthalate	1.4	1.4	0.019 U	0.02 U	0.019 U
Di-n-Octyl phthalate	6.2	6.2	0.019 U	0.02 U	0.019 U

**Table 4 - Analytical Results for July 2008 Nearshore Surface Sediment Samples (Low-TOC Samples)**

Sample ID: Sampling Date:	LAET	2LAET	EBC-NS-1 7/22/2008	EBC-NS-2 7/22/2008	EBC-NS-6 7/22/2008
<b>Phenols/Acid Extractables in mg/kg</b>					
2,4-Dimethylphenol	0.029	0.029	0.019 U	0.02 U	0.019 U
2-Methylphenol	0.063	0.063	0.019 U	0.02 U	0.019 U
4-Methylphenol	0.67	0.67	0.019 U	0.02 U	0.019 U
Pentachlorophenol	0.36	0.69	0.097 U	0.098 U	0.096 U
Phenol	0.42	1.2	0.074	0.02 U	0.019 U
Benzoic Acid	0.65	0.65	0.19 U	0.2 U	0.19 U
Benzyl Alcohol	0.057	0.073	0.019 U	0.02 U	0.019 UJ
<b>Miscellaneous Extractables in mg/kg</b>					
Dibenzofuran	0.54	0.7	0.019 U	0.02 U	0.019 U
Hexachlorobutadiene <sup>a</sup>	0.011	0.12	0.019 U	0.02 U	0.019 U
Hexachloroethane			0.019 U	0.02 U	0.019 U
N-Nitrosodiphenylamine	0.028	0.04	0.019 U	0.02 U	0.019 U
<b>Semivolatiles (SIM) in mg/kg</b>					
1-Methylnaphthalene	0.67	1.4	0.063	0.0073	0.0045 U
2-Methylnaphthalene	0.5	0.73	0.076	0.0091	0.0045 U
Acenaphthene	1.3	1.3	0.076	0.012	0.0081
Acenaphthylene	0.96	4.4	0.0048 U	0.0046 U	0.0045 U
Anthracene	0.54	1	0.1	0.057	0.0072
Fluorene	2.1	2.4	0.058	0.02	0.005
Naphthalene	1.5	5.4	0.21	0.0096	0.0063
Phenanthrene	1.5	5.4	0.46	0.16	0.018
Benzo(a)anthracene	1.3	1.6	0.25	0.14	0.017
Benzo(a)pyrene	1.6	3	0.29	0.11	0.024
Benzo(b)fluoranthene			0.19	0.13	0.036
Benzo(k)fluoranthene			0.18	0.12	0.022
Benzo(g,h,i)perylene	0.67	0.72	0.17	0.04	0.013
Chrysene	1.4	2.8	0.32	0.28	0.025
Dibenz(a,h)anthracene	0.23	0.54	0.058	0.021	0.0063
Fluoranthene	1.7	2.5	0.5	0.39	0.038
Indeno(1,2,3-cd)pyrene	0.6	0.69	0.13	0.044	0.014
Pyrene	2.6	3.3	0.65	0.3	0.034
Dibenzofuran	0.54	0.7	0.012	0.012	0.0068
<b>PCBs in mg/kg</b>					
Aroclor 1016			0.019 U	0.019 U	0.019 U
Aroclor 1221			0.019 U	0.019 U	0.019 U
Aroclor 1232			0.019 U	0.019 U	0.019 U
Aroclor 1242			0.019 U	0.019 U	0.019 U
Aroclor 1248			0.019 U	0.019 U	0.019 U
Aroclor 1254			0.018 T	0.019 U	0.019 U
Aroclor 1260			0.019 U	0.019 U	0.019 U
Aroclor 1262			0.019 U	0.019 U	0.019 U
Aroclor 1268			0.019 U	0.019 U	0.019 U
Total PCBs	0.13	1	0.018 T	0.019 U	0.019 U



**Table 4 - Analytical Results for July 2008 Nearshore Surface Sediment Samples (Low-TOC Samples)**

Sample ID:		EBC-NS-1	EBC-NS-2	EBC-NS-6
Sampling Date:	LAET 2LAET	7/22/2008	7/22/2008	7/22/2008

Notes:

Results are compared to AETs for samples where total organic carbon concentration is less than 0.5 or greater than 3.5 percent.

Blank entries indicate no SMS criteria established.

U: Not detected at reporting limit indicated.

J: Estimated value

T: Reported concentration below the analytical Reporting Limit

<sup>a</sup> Analytical reporting limits unavoidably exceeded SMS criteria for some samples because of matrix type and analytical method limitations. However, compound was not detected at dry weight Method Detection Limits (MDLs) indicated below. All MDLs were below applicable Lowest Apparent Effects Threshold (LAET) values.

**Method Detection Limits in ug/kg (Dry Weight)**

	LAET	EBC-NS-1	EBC-NS-2	EBC-NS-6
Hexachlorobutadiene	0.12	0.0079 U	0.0080 U	0.0078 U

**Table 5 - Easting and Northing Coordinates for Sediment Sample Locations**

<b>Sample ID</b>	<b>Easting</b>	<b>Northing</b>
<b>Surface Sediment Samples</b>		
EBC-SD-1	1165599.920	716909.470
EBC-SD-2	1165430.080	717084.530
EBC-SD-3	1165193.800	717246.670
EBC-SD-4	1165262.330	716871.500
EBC-SD-5	1165112.710	716557.670
EBC-SD-6	1165140.530	716109.790
EBC-SD-7	1165335.570	716554.990
<b>Nearshore Surface Samples</b>		
EBC-NS-1	1166090.110	716465.433
EBC-NS-2	1166063.672	716312.463
EBC-NS-3	1165888.133	716293.162
EBC-NS-4	1165874.259	716117.285
EBC-NS-5	1165725.108	716103.244
EBC-NS-6	1165583.634	715959.635
<b>Subsurface Samples</b>		
HC08-B4	1165577.362	716238.763
HC08-B5	1165796.801	716463.331
HC08-B13	1165559.305	716455.424
HC08-B14	1165741.540	716660.940

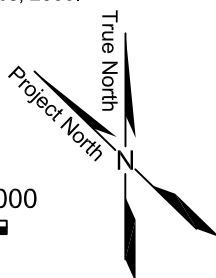
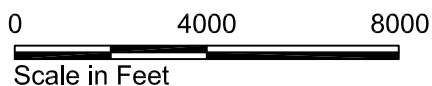
**Note:**

Coordinates are in NAD83 datum.



**Source:** Base map prepared from Microsoft Streets and Trips, 2005.

**Note:** Project area includes the offshore portion of the Earley Business Center west of Pier 23.



Port of Tacoma Earley Business Center  
Tacoma, Washington

**Vicinity Map**

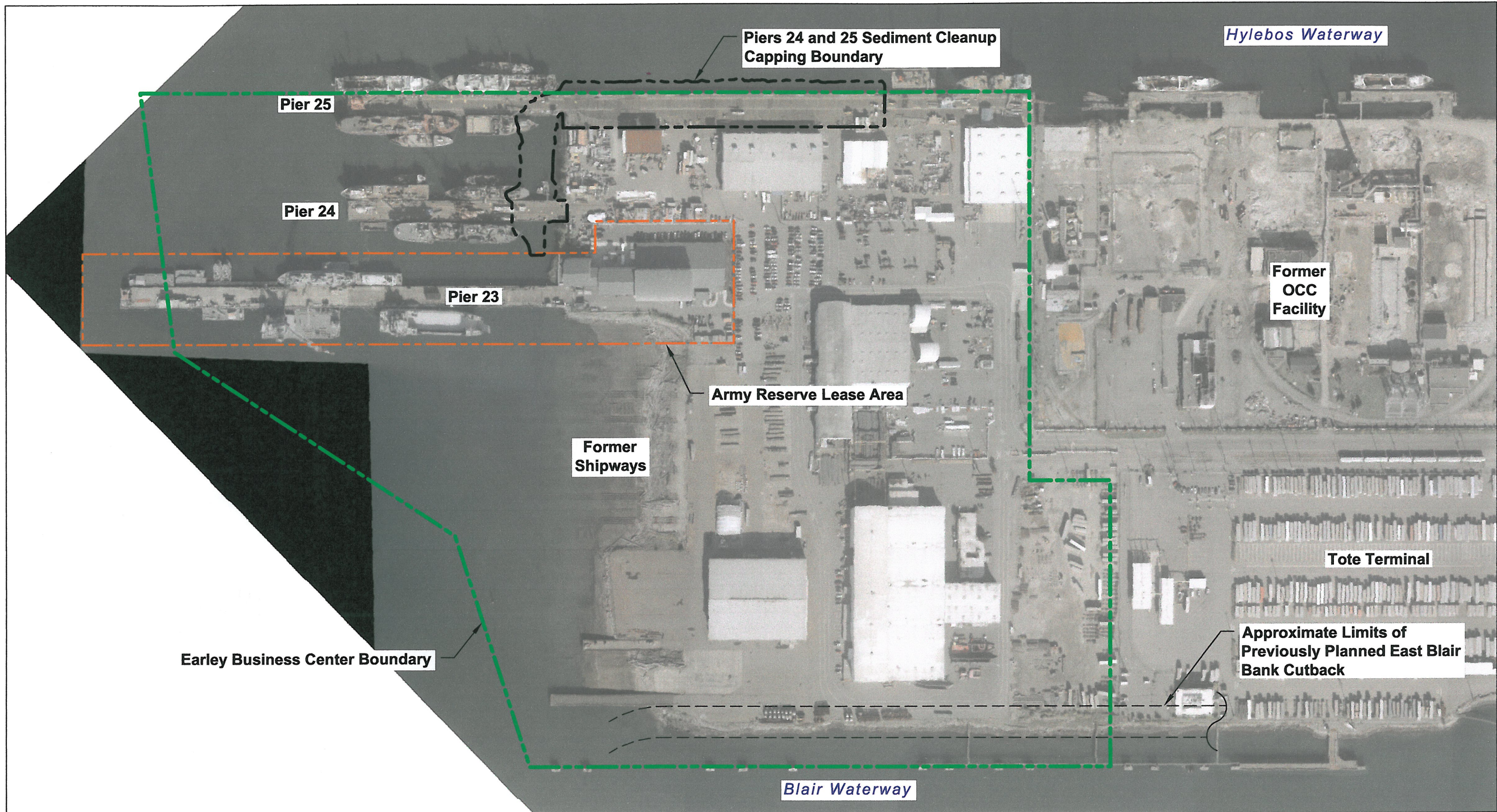
17490-02

9/09



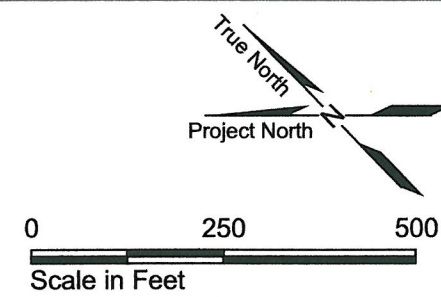
Figure

**1**



EAL\_11/30/09\_17490203-002.dwg

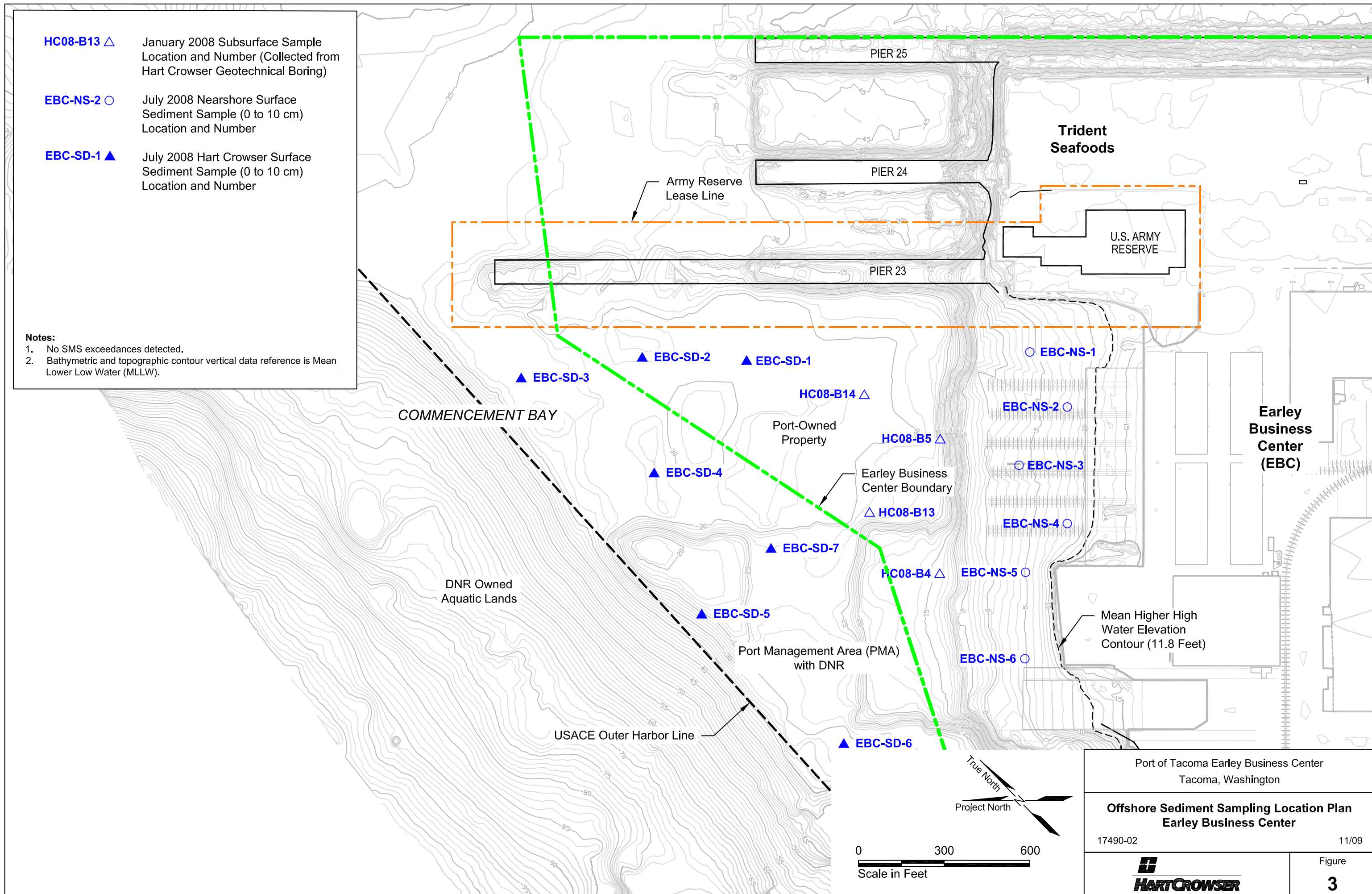
Note: Modified from 2007 aerial photograph provided by the Port of Tacoma.




Port of Tacoma Earley Business Center Tacoma, Washington	
<b>Earley Business Center Areas of Interest</b>	
17490-02	11/09
HARTCROWSER	Figure <b>2</b>

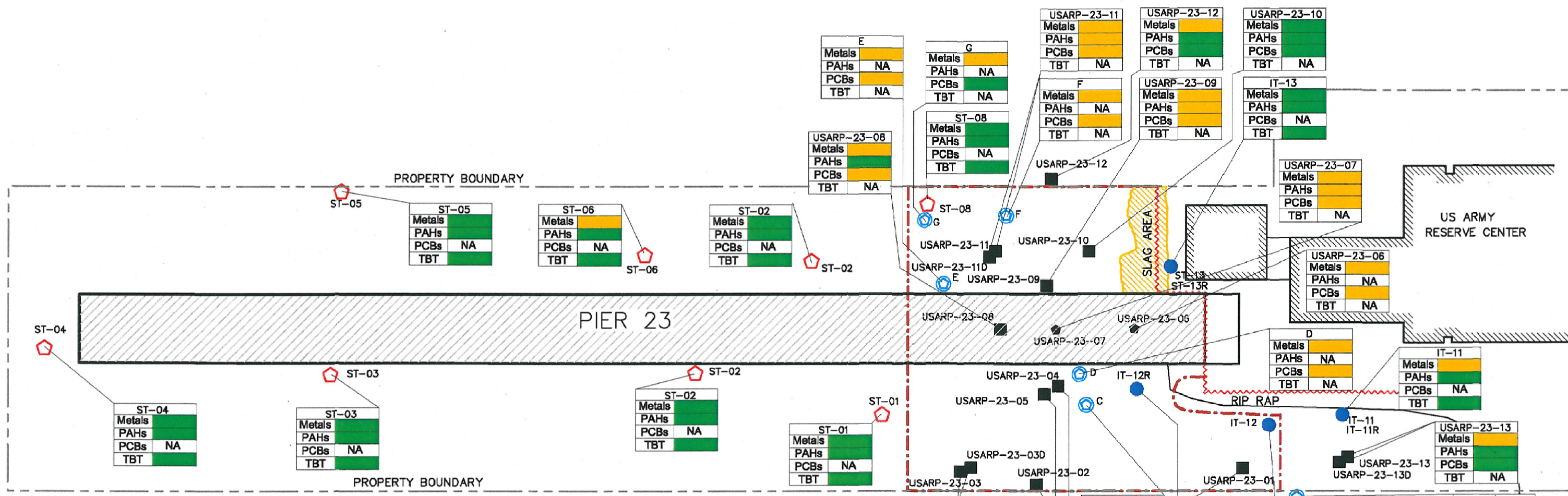
- HC08-B13** ▲ January 2008 Subsurface Sample Location and Number (Collected from Hart Crowser Geotechnical Boring)
- EBC-NS-2** ○ July 2008 Nearshore Surface Sediment Sample (0 to 10 cm) Location and Number
- EBC-SD-1** ▲ July 2008 Hart Crowser Surface Sediment Sample (0 to 10 cm) Location and Number

**Notes:**  
 1. No SMS exceedances detected.  
 2. Bathymetric and topographic contour vertical data reference is Mean Lower Low Water (MLLW).



EAL 11/30/09 17490203-005.dwg

Port of Tacoma Earley Business Center Tacoma, Washington	
<b>Offshore Sediment Sampling Location Plan Earley Business Center</b>	
17490-02	11/09
	Figure <b>3</b>



### LEGEND

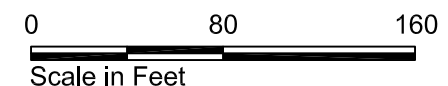
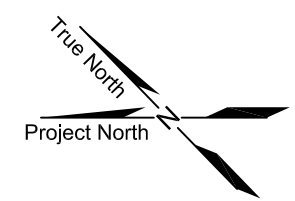
- ◆ Surface Sediment Sample Location KEMRON 2005
- Surface & Subsurface Sediment Sample Location KEMRON 2005
- 30- Bathymetry in feet
- - - Sediment Remediation Area
- ~ Sheetpile Wall
- Pacific NM National Laboratory 1999 Intertidal Sample
- ⊕ HART CROWSER Remedial Investigation 2004
- ⬠ Pacific NM National Laboratory 1999 Subtidal Sample

### Chemistry Color Codes:

- Concentration Exceeds SQO
- Concentration Below SQO

Horizontal Datum is NAD 1983 (2007)  
 Projection is Washington State Plane Zone South 4802, U.S. Survey Feet  
 Vertical Datum is Mean Lower Low Water (MLLW) as defined by the National Ocean Service for Commencement Bay  
 Branch Mark:  
 Tidal 22 (1960-1978 Epoch)  
 BGS PID: #SY0538  
 NOAA VM: #13315  
 Elevation-19.39 MLLW US Feet

**Note:** Excerpted and modified from December 22, 2008, Final Feasibility Study, Pier 23, Prepared by Kemron Environmental Services for the U.S. Army Reserve.



Port of Tacoma Earley Business Center Tacoma, Washington	
<b>Analytical Results of Historical Sediment Sample Locations in Pier 23 Lease Area</b>	
17490-02	9/09
	Figure <b>4</b>

**APPENDIX A**  
**FIELD EXPLORATION AND SEDIMENT COLLECTION METHODS**

## **APPENDIX A**

### **FIELD EXPLORATION AND SEDIMENT COLLECTION METHODS**

This appendix describes the field exploration and sediment collection methods used to obtain surface and subsurface sediment samples.

#### ***January 2008 Geotechnical Boring Sediment Samples***

Eight subsurface sediment samples were obtained on January 17, 18, 21, and 25, 2008 during drilling of mud rotary boring HC08-B4, HC08-B5, HC08-B13, and HC08-B14 locations identified on Figure 3. The borings were completed for geotechnical engineering purposes to support the previous planned expansion of terminal operations on the Blair-Hylebos Peninsula. The subsurface sediment samples were collected from split spoon samplers from the depth intervals below mudline noted with the sample I.D. on Table 1.

The borings used a 6.5-inch diameter drill advanced with a truck-mounted drill rig subcontracted by Hart Crowser, staged on a barge. The drilling was continuously observed by an engineering geologist from Hart Crowser. The standard penetration test (SPT) (as described in ASTM D 1587) was used to obtain disturbed subsurface sediment samples at 2-1/2- to 5-foot-depth intervals. This test employs a standard 2-inch outside diameter split-spoon sampler. Using a 140-pound hammer, free-falling 30 inches, the sampler is driven into the soil for 18 inches. The sediment samples were recovered from the split-barrel sampler, field classified, and handled as noted below.

#### ***July 2008 Subtidal Surface Sediment Samples***

Seven surface sediment samples (EBC-SD-1 through EBC-SD-7) were collected on July 18, 2008 at the subtidal sampling locations identified on Figure 3. Sampling was completed in accordance with Hart Crowser's July 17, 2008 Additional Sediment Characterization Work Plan (Hart Crowser 2008b). The samples were collected using a Van Veen grab sampler deployed from a Port of Tacoma sampling boat using a hydraulic winch. The boat was positioned over the sampling locations based on location coordinates input into a hand-held GPS unit. The descent and retrieval of the Van Veen sampler was controlled at a rate of approximately 1 foot per second to minimize wake and ensure proper orientation upon contact with the bottom, as well as to minimize potential disturbance of the sediment within the sampler. Once the sample was on board, sample integrity and acceptance criteria were evaluated as outlined in the July 17, 2008, Work Plan and Puget Sound Estuary Program Protocols (PSEP 1986 and updates). Surface samples were then collected from the sampler using a



stainless steel spoon to obtain sediment from the upper 10 centimeters (cm) of the sediment profile.

### ***July 2008 Nearshore Surface Sediment Samples***

Six surface sediment samples (EBC-NS-1 through EBC-NS-6) were collected on July 2, 2008 at the nearshore sampling locations identified on Figure 3. The samples were collected at beach elevations varying from about 4 to 10 feet elevation MLLW. Sampling was completed in accordance with our July 16, 2008 Soil/Debris, Groundwater, and Sediment Sampling and Analysis Work Plan (Hart Crowser 2008a). The samples were collected by hand using pre-cleaned stainless steel spoons to obtain surface samples from the upper 10 cm of the sediment profile.

### ***Sediment Handling and Transfer to Analytical Resources, Inc. (ARI) Laboratory***

The sampling time, location coordinates, and sediment sampling depths were recorded on field sampling logs for the January 2008 borings and July 2008 surface sediments. The sediment penetration depth was also noted for the July 18, 2008 Van Veen sampling. Portions of the sediment samples submitted for laboratory chemical testing were first homogenized in a stainless steel bowl and placed in labeled, laboratory-cleaned sample jars from ARI in accordance with PSEP protocols, and as described in the Work Plans for the July 2008 surface sediment samples. The samples were submitted to the ARI laboratory in Tukwila, Washington, for chemical analysis. The samples were delivered to the laboratory following standard chain of custody procedures.

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**APPENDIX B  
CHEMICAL DATA QUALITY REVIEW AND  
LABORATORY CERTIFICATES OF ANALYSIS**

## **APPENDIX B CHEMICAL DATA QUALITY REVIEW AND LABORATORY CERTIFICATES OF ANALYSIS**

### ***Chemical Data Quality Review, July 2008 Subtidal Surface Sediment Samples***

Seven surface sediment samples were collected on July 18, 2008. The samples were submitted to Analytical Resources, Inc. (ARI), for analysis. The cooler temperatures of the samples ranged from 7.2 to 9.2°C. The samples were received within 4 hours of collection and may not have had time to equilibrate with the coolant. The results were not qualified. The laboratory reported results as ARI Job No. NG39. The samples were analyzed for semivolatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), total organic carbon (TOC), total solids (TS), and total metals.

Quality assurance/quality control (QA/QC) reviews of laboratory procedures were performed on an ongoing basis by the laboratory. Hart Crowser performed the data review, using laboratory quality control results summary sheets and raw data, as required, to ensure they met data quality objectives for the project. Data review followed the format outlined in the National Functional Guidelines for Inorganic Data Review (EPA 2004) and the National Functional Guidelines for Organic Data Review (EPA 1999) modified to include specific criteria of the individual analytical methods. The following criteria were evaluated in the standard data quality review process:

- Holding times;
- Method blanks;
- Laboratory control sample (LCS) recoveries;
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries;
- Laboratory duplicate relative percent differences (RPDs);
- Initial calibration curves and continuing calibration verifications (CCVs); and
- Reporting limits.

The data were determined to be acceptable for use, with certain qualifiers. Full laboratory results are presented at the end of this appendix. Results of the data reviews, organized by analysis class, follow.

## **Semivolatile Organic Compounds (SVOCs)**

### ***Analytical Methods***

SVOCs were extracted following PSDDA. The extracts were analyzed by a Gas Chromatograph fitted with a Mass Spectrometer (GC/MS) following EPA Method 8270D.

### ***Sample Holding Times***

The samples were frozen upon arrival at the laboratory. The samples were extracted and analyzed within the method recommended holding time.

### ***Laboratory Detection Limits***

The laboratory achieved specified SMS criteria detection limits, with the following exceptions. The TOC corrected values for 1,2,4-Trichlorobenzene and Hexachlorobenzene exceeded the reporting limit criteria. Reported detection limits and analytical results were adjusted for any required dilution factors.

The laboratory submitted an addendum containing the Method Detection Limits (MDL) for the sample results. The addendum is identified as NG39A.

### ***Blank Contamination***

Bis(2-ethylhexyl)phthalate was detected in the method blank above the reporting limit. The associated samples EBC-SD-3, EBC-SD-4, EBC-SD-5, EBC-SD-6, and EBC-SD-7 were non-detect for bis(2-ethylhexyl)phthalate and were not qualified. The associated samples EBC-SD-1 and EBC-SD-2 had detections less than five times the concentration in the method blank and the results were qualified as estimated (J).

### ***Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery***

Laboratory control sample recoveries were within laboratory control limits with the following exceptions. The recovery for bis(2-ethylhexyl)phthalate fell below the laboratory control limits for the laboratory control sample duplicate (LCSD). The recovery for di-n-octyl phthalate fell below the marginal exceedance (ME) limit in the LCSD. The RPD for those compounds exceeded the laboratory control limits. As the recoveries for those compounds were within the laboratory control limits in the LCS, no results were qualified.

### ***Matrix Spike/Matrix Spike Duplicate Recoveries***

Matrix spike recoveries were within laboratory control limits with the following exceptions. The recoveries for benzyl alcohol were below the reporting limit in the MS and MSD. The recoveries for benzyl alcohol were within control limits in the LCS and LCSD, indicating matrix effects. The results for Benzyl alcohol were qualified as estimated (J) in the source sample, EBC-SD-6.

The recoveries for bis(2-ethylhexyl)phthalate fell below the control limits for the MS, but were within the limits for the MSD. The results for bis(2-ethylhexyl) phthalate were not qualified in the associated samples.

The recoveries for di-n-octyl phthalate were below the marginal exceedance limits in the MS and MSD. The results for di-n-octyl phthalate were qualified as estimated (J) in the source sample, EBC-SD-6.

### ***Surrogate Recovery***

Surrogate recoveries were within laboratory control limits.

### ***Initial Calibration Curve and CCVs***

The initial calibration curve and CCV recoveries were within acceptance criteria with the following exception. The Initial Calibration Verification check (ICV) for N-nitrosodiphenylamine exceeded the acceptance criteria. There were no detections for that compound in the associated samples and results were not qualified.

### ***Polycyclic Aromatic Hydrocarbons (PAHs)***

#### ***Analytical Methods***

PAHs were extracted following PSDDA. The extracts were analyzed by GC/MS in Selected Ion Monitoring (SIM) mode following EPA Method 8270D - SIM.

#### ***Sample Holding Times***

The samples were frozen upon arrival at the laboratory. The samples were extracted and analyzed within the method recommended holding time.

### ***Laboratory Detection Limits***

The laboratory achieved specified SMS criteria detection limits. Reported detection limits and analytical results were adjusted for any required dilution factors.

### ***Blank Contamination***

No target analytes were detected in laboratory blanks associated with the samples.

### ***Laboratory Control Sample/Laboratory Control Sample Duplicate Recovery***

Laboratory control sample recoveries were within laboratory control limits with the following exception. The recovery for benzo(a)pyrene were below the laboratory control limits for the LCS. As the recovery was within control limits for the LCSD, no results were qualified.

### ***Matrix Spike/Matrix Spike Duplicate Recoveries***

Matrix spike recoveries were within laboratory control limits with the following exceptions. The recovery for pyrene fell below the control limits in the MSD, but was within the control limits for the MS, LCS, and LCSD. The results were not qualified.

The recoveries for benzo(k)fluoranthene fell below the control limits for the MS and MSD. The results were within control limits for the LCS and LCSD, and the results were not qualified.

### ***Surrogate Recovery***

Surrogate recoveries were within laboratory control limits.

### ***Initial Calibration Curve and CCVs***

The initial calibration curve and CCV recoveries were within acceptance criteria.

## **Polychlorinated Biphenyls (PCBs)**

### ***Analytical Methods***

The samples were extracted following PSDDA. The samples were analyzed by Gas Chromatograph fitted with an Electron Capture Detector (GC/ECD) following EPA Method 8082.

### ***Sample Holding Times***

The samples were frozen upon arrival at the laboratory. The samples were extracted and analyzed within holding time limits for frozen sediment samples.

### ***Laboratory Detection Limits***

Reporting limits met SMS criteria. Reported detection limits and analytical results were adjusted for any required dilution factors.

### ***Blank Contamination***

No target analytes were detected in laboratory blanks associated with the samples.

### ***Laboratory Control Sample Recovery***

Laboratory control sample recoveries were within laboratory control limits.

### ***Matrix Spike/Matrix Spike Duplicate Recovery***

Matrix spike recoveries were within laboratory control limits.

### ***Surrogate Recovery***

Surrogate recoveries were within laboratory control limits.

### ***Initial Calibration Curve and CCV Recoveries***

The initial calibration curve was within acceptance criteria. The CCV recoveries were within control limits with the following exceptions. The CCVs for Aroclor 1260 exceeded the control limits. The associated samples were below the reporting limits for Aroclor 1260 and no results were qualified.

## **Total Metals**

### ***Analytical Methods***

Analysis for antimony, arsenic, cadmium, chromium, copper, lead, silver, and zinc were conducted by ICP following EPA Method 6010B. Analysis for mercury was conducted by CVAA following EPA Method 7471A.

### ***Sample Holding Times***

All samples were prepared and analyzed within holding time limits.

### ***Laboratory Detection Limits***

The laboratory achieved specified detection limits. Reported detection limits and analytical results were adjusted for any required dilution factors.

### ***Blank Contamination***

No target analytes were detected in laboratory blanks associated with the samples.

### ***Laboratory Control Sample Recovery***

Laboratory control sample recoveries were within QC limits of 80 to 120 percent for all analytes.

### ***Matrix Spike/Matrix Spike Duplicate Recovery***

Matrix spike recoveries met QC limits of 75 to 125 percent, with the following exceptions. The recoveries for antimony fell below the control limits. A post spike was performed, with recoveries for antimony within the control limits, indicating a matrix effect. Results for antimony were qualified as estimated (J/U) in the associated samples.

### ***Laboratory Duplicate Sample Analysis***

The RPD between replicate measurements was within QC limits for all analytes.

### ***CCV Recoveries***

The CCV recoveries were within control limits.



## **Total Organic Carbon (TOC)**

### ***Analytical Methods***

Analysis for TOC was conducted following Plumb (1981).

### ***Sample Holding Times***

The samples were frozen upon arrival at the laboratory. The samples were extracted and analyzed within holding time limits for frozen sediment samples.

### ***Blank Contamination***

No target analytes were detected in laboratory blanks associated with the samples.

### ***Laboratory Control Sample Recovery***

Laboratory control sample recoveries were within QC limits.

### ***Matrix Spike/Matrix Spike Duplicate Recovery***

Matrix spike recoveries were within QC limits.

### ***Laboratory Duplicate Sample Analysis***

The RPD between replicate measurements was within QC limits.

### ***Standard Reference Material (SRM) Recovery***

SRM recovery was within QC limits.

## ***Chemical Data Quality Review, July 2008 Nearshore Surface Sediment Samples***

Six sediment samples were collected on July 22, 2008. The samples were submitted to ARI for analysis. The samples were analyzed for SVOCs, PAHs, PCBs, TOC, and total metals. The laboratory reported results as ARI Job No. NG93.

QA/QC reviews of laboratory procedures were performed on an ongoing basis by the laboratory. Hart Crowser performed the data review, using laboratory quality control results summary sheets and raw data, as required, to ensure they met data quality objectives for the project. Data review followed the format

outlined in the National Functional Guidelines for Inorganic Data Review (EPA 2004) and the National Functional Guidelines for Organic Data Review (EPA 1999) modified to include specific criteria of the individual analytical methods. The following criteria were evaluated in the standard data quality review process:

- Holding times;
- Method blanks;
- Laboratory control sample (LCS) recoveries;
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries;
- Laboratory duplicate relative percent differences (RPDs);
- Initial calibration curves and continuing calibration verifications (CCVs); and
- Reporting limits.

The data were determined to be acceptable for use, with certain qualifiers. Full laboratory results are presented at the end of this memo. Results of the data reviews, organized by analysis class, follow.

## **SVOCs**

### ***Analytical Methods***

SVOCs were extracted following PSDDA. The extracts were analyzed by a Gas Chromatograph fitted with a Mass Spectrometer (GC/MS) following EPA Method 8270D.

### ***Sample Holding Times***

The samples were frozen upon arrival at the laboratory. The samples were extracted and analyzed within the six month holding time for frozen samples.

### ***Laboratory Detection Limits***

Reported detection limits and analytical results were adjusted for any required dilution factors. The laboratory achieved specified SMS and AET criteria detection limits, with the following exceptions:

- The TOC corrected values for 1,2,4-Trichlorobenzene and Hexachlorobenzene exceeded the detection limit criteria for all samples.
- Hexachlorobutadiene exceeded the AET detection limit criteria for all samples.
- The TOC corrected values for 1,2-dichlorobenzene and 1,4-dichlorobenzene exceeded the detection limit criteria for sample EBC-NS-3.

### ***Blank Contamination***

Phenol was detected in MB-080408 above the reporting limit and exceeding the instrument calibration due to laboratory contamination. The associated samples were re-extracted and re-analyzed. The method blank associated with the re-extracted samples was non-detect. Sample results were reported from the re-extracted samples.

### ***Surrogate Recovery***

Surrogate recoveries were within laboratory control limits with the following exception. The recovery for d14-p-Terphenyl exceeded the control limit in EBC-NS-6 MSD. As all other surrogates were within control, no results were qualified.

### ***LCS Recovery***

LCS recoveries were within laboratory control limits with the following exceptions. The recoveries for several compounds were outside the limits for the LCS and LCSD in the batch extracted on August 4, 2008. The entire batch was re-extracted on August 25, 2008, and results were reported from the re-extracted batch. There were no anomalies associated with the LCS recoveries for the August 25, 2008 batch.

### ***Matrix Spike/Matrix Spike Duplicate Recoveries***

Matrix spike recoveries were within laboratory control limits with the following exceptions:

- The recoveries for several compounds were outside the control limits for the MS and MSD associated with the batch extracted on August 4, 2008. The entire batch was re-extracted on August 25, 2008.
- For the August 25, 2008 MS and MSD, benzyl alcohol did not recover. The recoveries for benzyl alcohol were within control limits in the LCS and LCSD, indicating matrix effects. The results for benzyl alcohol were qualified as estimated (J) in the source sample, EBC-NS-6.
- For the August 25, 2008 MSD, the recovery for N-nitrosodiphenylamine exceeded the control limit. The recovery was within control in the MS, and results were not qualified.

### ***Initial Calibration Curve and CCVs***

The initial calibration curve and CCV recoveries were within acceptance criteria with the following exception. The Initial Calibration Verification check (ICV) for N-nitrosodiphenylamine and 2,4-dinitrophenol exceeded the acceptance criteria. There were no detections for those compounds in the associated samples and results were not qualified.

### **PAHs**

#### ***Analytical Methods***

PAHs were extracted following PSDDA. The extracts were analyzed by GC/MS in Selected Ion Monitoring (SIM) mode following EPA Method 8270D - SIM.

#### ***Sample Holding Times***

The samples were frozen upon arrival at the laboratory. The samples were extracted and analyzed within the method recommended holding time.

#### ***Laboratory Detection Limits***

The laboratory achieved specified SMS and AET criteria detection limits. Reported detection limits and analytical results were adjusted for any required dilution factors.

#### ***Blank Contamination***

No target analytes were detected in laboratory blanks associated with the samples.

#### ***Surrogate Recovery***

Surrogate recoveries were within laboratory control limits.

#### ***LCS Recovery***

LCS recoveries were within laboratory control limits.

#### ***Matrix Spike/Matrix Spike Duplicate Recoveries***

Matrix spike recoveries were within laboratory control limits with the following exception. The recovery for Pyrene fell outside the Marginal Exceedance limits

in the MS, but was within the control limits for the MSD, LCS, and LCSD. The results were not qualified.

### ***Initial Calibration Curve and CCVs***

The initial calibration curve and CCV recoveries were within acceptance criteria.

## **PCBs**

### ***Analytical Methods***

The samples were extracted following PSDDA. The samples were analyzed by Gas Chromatograph fitted with an Electron Capture Detector (GC/ECD) following EPA Method 8082.

### ***Sample Holding Times***

The samples were frozen upon arrival at the laboratory. The samples were extracted and analyzed within holding time limits for frozen sediment samples.

### ***Laboratory Detection Limits***

Reporting limits met SMS and AET criteria. Reported detection limits and analytical results were adjusted for any required dilution factors.

### ***Blank Contamination***

No target analytes were detected in laboratory blanks associated with the samples.

### ***Surrogate Recovery***

Surrogate recoveries were within laboratory control limits.

### ***Laboratory Control Sample Recovery***

Laboratory control sample recoveries were within laboratory control limits.

### ***Matrix Spike/Matrix Spike Duplicate Recovery***

Matrix spike recoveries were within laboratory control limits.

### ***Initial Calibration Curve and CCV Recoveries***

The initial calibration curve and CCVs were within acceptance criteria.

### **Total Metals**

#### ***Analytical Methods***

Analysis for arsenic, cadmium, chromium, copper, lead, nickel, and zinc were conducted by ICP following EPA Method 6010B. Analysis for mercury was conducted by CVAA following EPA Method 7471A.

#### ***Sample Holding Times***

All samples were prepared and analyzed within holding time limits.

#### ***Laboratory Detection Limits***

Reporting limits met SMS and AET criteria. Reported detection limits and analytical results were adjusted for any required dilution factors.

#### ***Blank Contamination***

No target analytes were detected in laboratory blanks associated with the samples.

#### ***Laboratory Control Sample Recovery***

Laboratory control sample recoveries were within QC limits of 80 to 120 percent for all analytes.

#### ***Matrix Spike/Matrix Spike Duplicate Recovery***

Matrix spike recoveries met QC limits of 75 to 125 percent, with the following exceptions. The recoveries for copper, mercury, and zinc exceeded the control limits. The amount of copper and zinc in the source sample exceeded the spiking amount, and results were not qualified for those analytes. The result for mercury was qualified as estimated (J) in the source sample, EBC-NS-1.

#### ***Laboratory Duplicate Sample Analysis***

The RPD between replicate measurements was within QC limits with the following exceptions. The RPDs for chromium and mercury exceeded the

control limits. Results for chromium and mercury were qualified as estimated (J) in the sample, EBC-NS-1.

### ***CCV Recoveries***

The CCV recoveries were within control limits.

### **TOC**

#### ***Analytical Methods***

Analysis for TOC was conducted following Plumb, 1981.

#### ***Sample Holding Times***

The samples were frozen upon arrival at the laboratory. The samples were extracted and analyzed within holding time limits for frozen sediment samples.

#### ***Blank Contamination***

No target analytes were detected in laboratory blanks associated with the samples.

#### ***Laboratory Control Sample Recovery***

Laboratory control sample recoveries were within QC limits.

#### ***Matrix Spike/Matrix Spike Duplicate Recovery***

Matrix spike recoveries were within QC limits.

#### ***Laboratory Duplicate Sample Analysis***

The RPD between replicate measurements was within QC limits.

### ***Chemical Data Quality Review, January 2008 Geotechnical Boring Sediment Samples***

Twelve sediment samples were collected on January 17, 18, 21, and 25, 2008. The samples were submitted to ARI, for analysis and were placed on hold and frozen at the laboratory. On February 8, 2008, the laboratory was requested to analyze eight of the samples. The samples were analyzed for SVOCs, PAHs,

pesticides, PCBs, sulfide, TOC, and total metals. The laboratory reported results as ARI Job No. MI20.

QA/QC reviews of laboratory procedures were performed on an ongoing basis by the laboratory. Hart Crowser performed the data review, using laboratory quality control results summary sheets and raw data, as required, to ensure they met data quality objectives for the project. Data review followed the format outlined in the National Functional Guidelines for Inorganic Data Review (EPA 2004) and the National Functional Guidelines for Organic Data Review (EPA 1999) modified to include specific criteria of the individual analytical methods. The following criteria were evaluated in the standard data quality review process:

- Holding times;
- Method blanks;
- Laboratory control sample (LCS) recoveries;
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries;
- Laboratory duplicate relative percent differences (RPDs);
- Initial calibration curves and continuing calibration verifications (CCVs); and
- Reporting limits.

The data were determined to be acceptable for use, with certain qualifiers. Full laboratory results are presented at the end of this memo. Results of the data reviews, organized by analysis class, follow.

## **SVOCs**

### ***Analytical Methods***

SVOCs were extracted following PSDDA. The extracts were analyzed by a Gas Chromatograph fitted with a Mass Spectrometer (GC/MS) following EPA Method 8270D.

### ***Sample Holding Times***

The samples were frozen upon arrival at the laboratory. The samples were extracted and analyzed within the method recommended holding time for sediment samples.



### ***Laboratory Detection Limits***

Reported detection limits and analytical results were adjusted for any required dilution factors. The laboratory achieved specified SMS criteria detection limits, with the following exceptions:

- The TOC-corrected values for 1,2,4-trichlorobenzene and hexachlorobenzene exceeded the detection limit criteria for all samples. Hexachlorobenzene was also analyzed by EPA Method 8081A, and met the detection limit criteria.
- The TOC-corrected values for hexachloroethane, butylbenzylphthalate, 1,4-dichlorobenzene, and 1,2-dichlorobenzene exceeded the SMS criteria in sample HC08-B14-6.5-7.5'. However, the TOC results were below the range for TOC normalization, and results for this sample would default to the LAET.

### ***Blank Contamination***

No target analytes were detected in laboratory blanks associated with the samples.

### ***Surrogate Recovery***

Surrogate recoveries were within laboratory control limits.

### ***LCS Recovery***

LCS recoveries were within laboratory control limits with the following exceptions:

- The laboratory extracted an LCS and an LCSD. However, the recoveries of the LCS were below the control limits. The laboratory therefore reported only the LCSD results, which were reported as LCS-021208. The results in the associated samples were not qualified,
- The recovery for benzyl alcohol fell below the control limits in the LCS. Results for benzyl alcohol in the associated samples were qualified as estimated (J).

### ***Initial Calibration Curve and CCVs***

The initial calibration curve and CCV recoveries were within acceptance criteria with the following exception. The Initial Calibration Verification (ICV) check for n-nitrosodiphenylamine exceeded the acceptance criteria. There were no

detections for that compound in the associated samples and results were not qualified.

## **PAHs**

### ***Analytical Methods***

PAHs were extracted following PSDDA. The extracts were analyzed by GC/MS in Selected Ion Monitoring (SIM) mode following EPA Method 8270D - SIM.

### ***Sample Holding Times***

The samples were frozen upon arrival at the laboratory. The samples were extracted and analyzed within the method recommended holding time for sediment samples.

### ***Laboratory Detection Limits***

The laboratory achieved specified SMS criteria detection limits. Reported detection limits and analytical results were adjusted for any required dilution factors.

### ***Blank Contamination***

No target analytes were detected in laboratory blanks associated with the samples.

### ***Surrogate Recovery***

Surrogate recoveries were within laboratory control limits with the following exception. For sample HC08-B14-0-1.5', there was no surrogate recovery for the diluted analysis. The surrogates were within control for the undiluted analysis, and no results were qualified.

### ***Laboratory Control Sample (LCS) Recovery***

Laboratory control sample recoveries were within laboratory control limits.

### ***Initial Calibration Curve and CCVs***

The initial calibration curve and CCV recoveries were within acceptance criteria.

## **Pesticides**

### ***Analytical Methods***

The samples were extracted following PSDDA. The samples were analyzed by Gas Chromatograph fitted with an Electron Capture Detector (GC/ECD) following EPA Method 8081A.

### ***Sample Holding Times***

The samples were frozen upon arrival at the laboratory. The samples were extracted and analyzed within holding time limits for frozen sediment samples.

### ***Laboratory Detection Limits***

Reporting limits were elevated for selected compounds in samples HC08-B5-5-6' and HC08-B13-6-7' due to matrix interferences and the presence of Aroclors. Reported detection limits and analytical results were adjusted for any required dilution factors.

### ***Blank Contamination***

No target analytes were detected in laboratory blanks associated with the samples.

### ***Surrogate Recovery***

Surrogate recoveries were within laboratory control limits with the following exceptions:

- For LCSD-021208, the recoveries of the surrogates decachlorobiphenyl (DCBP) and tetrachlorometaxylene (TCMX) fell below the control limits. The recoveries for the target analytes were within the control limits, and the surrogate recoveries in the LCS were within the control limits. Therefore, results were not qualified.
- For sample HC08-B5-0-1', the recovery of the surrogate TCMX was below the control limits. As the recovery of the surrogate DCBP was within control, results were not qualified.
- For sample HC08-B5-5-6', the recovery of the surrogate TCMX was below the control limits. As the recovery of the surrogate DCBP was within control, results were not qualified.

### ***LCS Recovery***

Laboratory control sample recoveries were within laboratory control limits.

### ***Initial Calibration Curve and CCV Recoveries***

The initial calibration curve was within acceptance criteria. The CCV recoveries were within control limits.

### **PCBs**

#### ***Analytical Methods***

The samples were extracted following PSDDA. The samples were analyzed by GC/ECD following EPA Method 8082.

#### ***Sample Holding Times***

The samples were frozen upon arrival at the laboratory. The samples were extracted and analyzed within holding time limits for frozen sediment samples.

#### ***Laboratory Detection Limits***

Reporting limits met SMS criteria. Reported detection limits and analytical results were adjusted for any required dilution factors.

Sample HC08-B5-5-6', Aroclor 1260 was identified on both columns, with greater than 40 percent difference in results. The analyte was qualified with "P."

#### ***Blank Contamination***

No target analytes were detected in laboratory blanks associated with the samples.

#### ***Surrogate Recovery***

Surrogate recoveries were within laboratory control limits with the following exception. For sample HC08-B13-6-7', the surrogate DCBP was not reported due to matrix interferences. The recovery of the surrogate TCMX was within control; therefore, no results were qualified.

### ***Laboratory Control Sample Recovery***

Laboratory control sample recoveries were within laboratory control limits.

### ***Initial Calibration Curve and CCV Recoveries***

The initial calibration curve was within acceptance criteria. The CCV recoveries were within control limits.

### **Total Metals**

#### ***Analytical Methods***

Analysis for antimony, arsenic, cadmium, chromium, copper, lead, nickel, silver, and zinc were conducted by ICP following EPA Method 6010B. Analysis for mercury was conducted by CVAA following EPA Method 7471A.

#### ***Sample Holding Times***

All samples were prepared and analyzed within holding time limits.

#### ***Laboratory Detection Limits***

The laboratory achieved specified detection limits. Reported detection limits and analytical results were adjusted for any required dilution factors.

#### ***Blank Contamination***

No target analytes were detected in laboratory blanks associated with the samples.

### ***Laboratory Control Sample Recovery***

Laboratory control sample recoveries were within QC limits of 80 to 120 percent for all analytes.

### ***Matrix Spike/Matrix Spike Duplicate Recovery***

Matrix spike recoveries met QC limits of 75 to 125 percent, with the following exceptions. The recoveries for antimony fell below the control limits. A post spike was performed, with recoveries for antimony within the control limits, indicating a matrix effect. Results for antimony were qualified as estimated (J/U) in the associated samples.

### ***Laboratory Duplicate Sample Analysis***

The RPDs between replicate measurements were within QC limits with the following exceptions. The RPDs for mercury and zinc exceeded the control limits. Results for mercury and zinc were qualified as estimated (J) in sample HC08-B4-0-1'.

### ***CCV Recoveries***

The CCV recoveries were within control limits.

### **TOC**

#### ***Analytical Methods***

Analysis for TOC was conducted following Plumb (1981).

#### ***Sample Holding Times***

The samples were frozen upon arrival at the laboratory. The samples were extracted and analyzed within holding time limits for frozen sediment samples.

#### ***Blank Contamination***

No target analytes were detected in laboratory blanks associated with the samples.

#### ***Laboratory Control Sample Recovery***

Laboratory control sample recoveries were within QC limits.

#### ***Matrix Spike/Matrix Spike Duplicate Recovery***

Matrix spike recoveries were within QC limits.

### ***Laboratory Duplicate Sample Analysis***

The RPD between replicate measurements was within QC limits.

#### ***SRM Recovery***

SRM recovery was within QC limits.

## **Total Sulfide**

### ***Analytical Methods***

Analysis for sulfide was conducted following EPA Method 376.2.

### ***Sample Holding Times***

The samples were extracted outside the 7-day holding time. The sample results were qualified as estimated (J).

### ***Blank Contamination***

No target analytes were detected in laboratory blanks associated with the samples.

### ***Laboratory Control Sample Recovery***

Laboratory control sample recoveries were within QC limits.

J:\Jobs\1749002\Phase 03\EBC Offshore Summary Report (12-1-09).doc

**LABORATORY CERTIFICATES OF ANALYSIS  
ANALYTICAL RESOURCES, INC. (ARI)  
ARI JOB NO. NG39**





**Analytical Resources, Incorporated**

Analytical Chemists and Consultants  
August 28, 2008

Rick Moore  
Hart Crowser, Inc.  
1700 Westlake Avenue N. Suite 200  
Seattle, WA 98109-3256

**RE: Client Project: EBC**  
**ARI Job No. NG39**

Dear Rick;

Please find enclosed the chain of custody (COC), sample receipt documentation, and data package for samples from the project referenced above

Sample receipt and details of the analyses are discussed in the Case Narrative.

An electronic copy of this package will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

  
Kelly Bottem  
Client Services Manager  
kellyb@arilabs.com  
206/695-6211

Enclosures

cc: eFile NG39

KFB/co

**Chain of Custody  
Documentation**

**prepared  
for**

**HART CROWSER, INC.**

**Project: EBC, 17441-02**

**ARI JOB NO.: NG39**

**prepared  
by**

**Analytical Resources, Inc.**

# Sample Custody Record

Samples Shipped to: ARI NG 39

10F1



## HART CROWSER

Hart Crowser, Inc.  
1910 Fairview Avenue East  
Seattle, Washington 98102-3699  
Phone: 206-324-9530 FAX: 206-328-5581

JOB	LAB NUMBER		REQUESTED ANALYSIS				NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS			
	PROJECT NAME	HART CROWSER CONTACT	TOC/TSS	METALS(SMS)	PCBs 8082	BHCs 8270			PAHs 8270-5M		
17441-02	EBC	Sonia Fernandez									
SAMPLED BY: <u>CFR/CU</u>											
LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX	TOC/TSS	METALS(SMS)	PCBs 8082	BHCs 8270	PAHs 8270-5M	NO. OF CONTAINERS
EBC-SD-1		Soil	7/18/08	850	Soil	X	X	X	X	X	3
EBC-SD-2				821							3
EBC-SD-3				934							3
EBC-SD-4				1012							3
EBC-SD-5				1050							3
EBC-SD-6				1215							3
EBC-SD-7		↓	↓	1135	↓	↓	↓	↓	↓	↓	3
RELINQUISHED BY: <u>[Signature]</u> DATE: <u>7/19/08</u> RECEIVED BY: <u>[Signature]</u> DATE: <u>7/18/08</u> SIGNATURE: <u>Colleen Rust</u> TIME: <u>1417</u> SIGNATURE: <u>Dr. Gresting</u> TIME: <u>1417</u> PRINT NAME: <u>HC</u> COMPANY: <u>ARL</u> COMPANY: <u>ARL</u>											
SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS: <u>Metals w/06 Mercury 7471)</u> <u>SMS CRITERIA</u>											
TOTAL NUMBER OF CONTAINERS: <u>21</u> SAMPLE RECEIPT INFORMATION: YES <input type="checkbox"/> NO <input type="checkbox"/> N/A <input type="checkbox"/> CUSTODY SEALS: YES <input type="checkbox"/> NO <input type="checkbox"/> GOOD CONDITION: YES <input type="checkbox"/> NO <input type="checkbox"/> TEMPERATURE: SHIPMENT METHOD: <input type="checkbox"/> HAND <input type="checkbox"/> OVERNIGHT <input type="checkbox"/> <input type="checkbox"/> COURIER											
COOLER NO.:						STORAGE LOCATION:			TURNAROUND TIME:		
See Lab Work Order No. _____						24 HOURS <input type="checkbox"/> 1 WEEK <input type="checkbox"/>			48 HOURS <input type="checkbox"/> STANDARD <input checked="" type="checkbox"/>		
for Other Contract Requirements _____						72 HOURS <input type="checkbox"/> OTHER _____					



# Cooler Receipt Form

ARI Client: Hart Crowser  
COC No: \_\_\_\_\_  
Assigned ARI Job No: NG39

Project Name: EBC  
Delivered by: Hard  
Tracking No: \_\_\_\_\_

### Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES  NO   
 Were custody papers included with the cooler? ..... YES  NO   
 Were custody papers properly filled out (ink, signed, etc.) ..... YES  NO   
 Record cooler temperature (recommended 2.0-6.0 °C for chemistry) ..... 7.2 A. 2 C

Cooler Accepted by: JL Date: 7/18/08 Time: 1417

**Complete custody forms and attach all shipping documents**

### Log-In Phase:

Was a temperature blank included in the cooler? ..... YES  NO   
 What kind of packing material was used? ..... BW  
 Was sufficient ice used (if appropriate)? ..... YES  NO   
 Were all bottles sealed in individual plastic bags? ..... YES  NO   
 Did all bottle arrive in good condition (unbroken)? ..... YES  NO   
 Were all bottle labels complete and legible? ..... YES  NO   
 Did all bottle labels and tags agree with custody papers? ..... YES  NO   
 Were all bottles used correct for the requested analyses? ..... YES  NO   
 Do any of the analyses (bottles) require preservation? (attach preservation checklist) ..... YES  NO   
 Were all VOC vials free of air bubbles? ..... NA YES  NO   
 Was sufficient amount of sample sent in each bottle? ..... YES  NO

Samples Logged by: JL Date: 7/21/08 Time: 740

**\*\* Notify Project Manager of discrepancies or concerns \*\***

Explain discrepancies or negative responses:

By: \_\_\_\_\_ Date: \_\_\_\_\_

**Case Narrative**

**prepared  
for**

**HART CROWSER, INC.**

**Project: EBC, 17441-02**

**ARI JOB NO.: NG39**

**prepared  
by**

**Analytical Resources, Inc.**



**Case Narrative**  
**Hart Crowser**  
**EBD**  
**ARI Job: NG39**  
**August 28, 2008**

**Sample Receipt:**

Analytical Resources, Inc. (ARI) accepted seven soil samples on July 18, 2008. The samples were received in good condition with a temperature range of 7.2 to 9.2°C. There were no discrepancies between the sample containers' labels and the COC.

The samples were analyzed for PSDDA SVOCs, PSDDA SIM PNA, PSDDA PCBs, Total Metals and TOC, as requested on the COC.

**Semivolatile Analysis (PSDDA 8270D):**

The samples were extracted on 07/25/08 and analyzed on 08/07/08 within the method recommended holding time.

***Initial calibration (s):*** All analytes were within method acceptance criteria.

***Continuing calibration (s):*** All analytes of interest were within method acceptance criteria for the associated Semivolatile organics list.

***Method Blank (s):*** bis(2-Ethylhexyl)phthalate was present in the method blank, **MB-072508**, at a level greater than the RL. All samples were non-detect or flagged with a "B" qualifier on Forms I. No further corrective action was required.

***Surrogate(s):*** All surrogate recoveries are within control limits..

***Samples:*** There were no anomalies associated with this analysis.

***MS/MSD (s):*** There were no MS/MSD percent recoveries for Benzyl Alcohol due to matrix effects for sample **NG39F**. The LCS/LCSD percent recoveries for Benzyl Alcohol were in control, therefore no further corrective action was required.

***LCS/LCSD (s):*** The LCSD percent recoveries for bis(2-Ethylhexyl)phthalate and Di-n-Octyl phthalate were outside control limits low. As a result, the LCS duplicate relative percent differences (RPD) for these analytes were outside control limits high. Since the LCS percent recoveries for bis(2-Ethylhexyl)phthalate and Di-n-Octyl phthalate were in control, no further action was required.

**SIM PNA (PSDDA 8270D):**

The samples were extracted on 07/26/08 and analyzed on 08/01/08 within the method recommended holding time.



**Case Narrative**  
**Hart Crowser**  
**EBD**  
**ARI Job: NG39**  
**August 28, 2008**

***Initial calibration (s):*** All analytes were within method acceptance criteria.

***Continuing calibration (s):*** All analytes of interest were within method acceptance criteria for the associated Semivolatile organics list.

***Method Blank (s):*** The method blanks were free of contamination

***Surrogate(s):*** All surrogate recoveries were within control limits.

***Samples:*** There were no anomalies associated with this analysis.

***MS/MSD (s):*** All percent recoveries and RPDs were within control limits.

***LCS/LCSD (s):*** The LCS/LCSD percent recoveries for Benzo(a)pyrene were outside control limits. Since the MS/MSD percent recoveries were within LCS/LCSD control limits, no further corrective action was required.

**PCB Analysis (PSDDA):**

The samples were extracted on 07/31/08 and analyzed on 08/05/08 within the method recommended holding time for frozen samples.

***Initial calibration (s):*** All analytes were within method acceptance criteria.

***Continuing calibration (s):*** The CCals for Aroclor 1260 were outside control limits high. All associated samples contained concentrations of Aroclor 1260 that were less than the RL, therefore no corrective action was required..

***Method Blank (s):*** All method blanks were free of contamination

***Surrogate(s):*** Are in control.

***Samples:*** There were no anomalies associated with the samples.

***MS/MSD (s):*** All percent recoveries and RPDs were within control limits.

***LCS/LCSD (s):*** All percent recoveries and RPDs were within control limits.

**Total Metals Analysis:**

The samples were digested on 08/11/08, 08/13/08, and 08/22/08 and analyzed on 08/15/08 and 08/26/08, within the method recommended holding time.



**Case Narrative**

**Hart Crowser**

**EBD**

**ARI Job: NG39**

**August 28, 2008**

***Initial calibration (s):*** All analytes were within method acceptance criteria.

***Continuing calibration (s):*** All analytes of interest were within method acceptance criteria.

***Method Blank (s):*** The method blanks were free of contamination

***Samples:*** There were no anomalies associated with the analyses.

***Matrix Spike/ Sample Duplicate/ RPDs(s):*** The matrix spike percent recovery of antimony for sample NG39A, was outside control limits low. A post digestion spike was performed and the recovery was within control limits. No further corrective action was taken.

***LCS/LCSD (s):*** All percent recoveries were within control limits.

**General Chemistry Analysis**

The TOC and Total Solids samples were analyzed 08/04/08 and 08/20/08 within the recommended holding time.

***Samples:*** There were no anomalies with these samples.

***Method Blank(s):*** All method blanks were free of contamination.

***SRM/ LCS/ Sample Replicates:*** All percent recoveries and RPDs were within control limits.



## Data Reporting Qualifiers

Effective 12/28/04

### Inorganic Data

- U Indicates that the target analyte was not detected at the reported concentration
- \* Duplicate RPD is not within established control limits
- B Reported value is less than the CRDL but  $\geq$  the Reporting Limit
- N Matrix Spike recovery not within established control limits
- NA Not Applicable, analyte not spiked
- H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
- L Analyte concentration is  $\leq 5$  times the Reporting Limit and the replicate control limit defaults to  $\pm 1$  RL instead of the normal 20% RPD

### Organic Data

- U Indicates that the target analyte was not detected at the reported concentration
- \* Flagged value is not within established control limits
- B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
- J Estimated concentration when the value is less than ARI's established reporting limits
- D The spiked compound was not detected due to sample extract dilution
- NR Spiked compound recovery is not reported due to chromatographic interference
- E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
- S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
- NA The flagged analyte was not analyzed for
- NS The flagged analyte was not spiked into the sample

- M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
- M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
- Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.
- C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
- P The analyte was detected on both chromatographic columns but the quantified values differ by  $\geq 40\%$  RPD with no obvious chromatographic interference

### **Geotechnical Data**

- A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
- F Samples were frozen prior to particle size determination
- SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
- SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
- W Weight of sample in some pipette aliquots was below the level required for accurate weighting

## LCS SOLUTIONS

8/5/2008

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1526-2	PCB	20	MEOH	06/27/09
2	1472-3	BCOC PEST	10	ACETONE	07/20/08
3	1517-1	PEST	02/04/20	ACETONE	05/15/09
4	1515-1	LOW PEST	0.2/0.4/2	ACETONE	01/24/09
5	1476-2	EPH	1500	MECL2	09/14/08
6*	1456-3	PCP	12.5	ACETONE	04/18/09
7	1529-1	ABN	100	ACETONE	03/28/09
8	1487-2	TBT	10	MECL2	12/15/08
9	1493-3	PORE TBT	.25/.5	MECL2	12/15/08
10	1512-1	ABN ACID	100/200	MEOH	04/10/09
11	1526-1	TPHD	15000	ACETONE	06/25/09
12	1533-1	ABN BASE	200	ACETONE	07/01/09
13*	1427-3	LOW PCB	2	ACETONE	10/11/08
14	1480-2	LOW ABN ACID	10/20	MEOH	10/09/08
15*	1452-1	SIM PNA	15/75	MEOH	04/09/09
16	1502-2	DIOXANE	100	MEOH	02/20/09
17	1516-2	1248 PCB	20	ACETONE	05/07/09
18	1514-4	LOW SIM PNA	1.5/7.5	ACETONE	04/24/09
19	1517-3	AK103	7500	MECL2	12/29/08
20	1490-4	PNA	100	MEOH	01/10/09
21*	1414-4	SKY/BHT	100	MEOH	04/08/09
22	1500-1	HERB	12.5/12500	MEOH	02/28/09
23	1505-1	LOW ABN BASE	20	MEOH	03/20/09
24	1504-4	LOW ABN	10	ACETONE	10/01/08
25	1481-1	DIPHENYL	100	MEOH	07/20/08
26	1522-2	OP-PEST	30	MEOH	11/30/08
27	1495-1	STEROLS	200	MEOH	12/29/08
28	1494-1	ADD. PEST	4	ACETONE	01/23/09
29	1496-3	DECANES	100	MEOH	02/12/09
30	1497-2	EDB/DBCP	2	ACETONE	02/12/09
31	1510-3	TERPINEOL	100	MEOH	03/21/09

# LCS SOLUTIONS

8/5/2008

32	1533-2	GUAIACOL	50-200	ACETONE	06/05/09
33	1522-1	RESIN ACID	250	ACETONE	06/11/09
34	1530-2	CONGENERS	250	ACETONE	07/23/09
50	1523-1	FULL RESIN	250	ACETONE	06/10/09
*=REVERIFIED		SOLUTION			

# SURR SOLUTIONS

8/5/2008

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1525-4	ABN	100/150	MEOH	03/13/09
B	1513-1	SIM PNA	15/75	MEOH	04/15/09
C*	1443-1	SIM ABN	10/15	MEOH	04/03/09
D	1516-3	LOW PCB	0.2	ACETONE	05/09/09
E	1478-1	HERB	62.5	MEOH	09/21/08
F	1520-3	PCP	12.5	ACETONE	04/18/09
G	1502-3	1,4DIOXANE	100	MEOH	02/20/09
H	1504-2	OP-PEST	25	MEOH	03/20/09
I*	1458-1	LOW S. PNA	03/15	MEOH	06/05/09
J	1493-2	TBT-PORE	0.25	MECL2	12/15/08
K	1490-3	MED PCB	20	ACETONE	01/14/09
L	1486-5	TBT	10	MECL2	12/15/08
M	1518-3	EPH	1500	MECL2	05/10/09
N	1518-4	PCB	2	ACETONE	05/29/09
O	1521-3	TPH	450	MECL2	12/29/08
P	1518-2	HCID	2250	MECL2	12/29/08
Q	1497-3	EDB	2	ACETONE	02/12/09
R	1521-4	RESIN ACID	250	ACETONE	06/11/09
S	*RE-VER	IFIED SOLUTION	ON		
T					
U					
V					
W					
X					
Y					
Z					

**Data Summary Package**

**prepared  
for**

**HART CROWSER, INC.**

**Project: EBC, 17441-02**

**ARI JOB NO.: NG39**

**prepared  
by**

**Analytical Resources, Inc.**

## **SEMIVOLATILES**

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
Page 1 of 2

Sample ID: EBC-SD-1  
SAMPLE

Lab Sample ID: NG39A  
LIMS ID: 08-16299  
Matrix: Soil  
Data Release Authorized:  
Reported: 08/11/08

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02  
Date Sampled: 07/18/08  
Date Received: 07/18/08

Date Extracted: 07/25/08  
Date Analyzed: 08/07/08 14:54  
Instrument/Analyst: NT4/LJR  
GPC Cleanup: Yes

Sample Amount: 25.5 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 42.1%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	58
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
91-20-3	Naphthalene	20	11 J
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	2-Methylnaphthalene	20	12 J
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	Acenaphthylene	20	< 20 U
83-32-9	Acenaphthene	20	< 20 U
132-64-9	Dibenzofuran	20	11 J
84-66-2	Diethylphthalate	20	28
86-73-7	Fluorene	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	98	< 98 U
85-01-8	Phenanthrene	20	62
120-12-7	Anthracene	20	26
84-74-2	Di-n-Butylphthalate	20	< 20 U
206-44-0	Fluoranthene	20	130
129-00-0	Pyrene	20	110
85-68-7	Butylbenzylphthalate	20	< 20 U
56-55-3	Benzo(a)anthracene	20	61
117-81-7	bis(2-Ethylhexyl)phthalate	20	48 B
218-01-9	Chrysene	20	100
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo(b)fluoranthene	20	56
207-08-9	Benzo(k)fluoranthene	20	100
50-32-8	Benzo(a)pyrene	20	69
193-39-5	Indeno(1,2,3-cd)pyrene	20	27
53-70-3	Dibenz(a,h)anthracene	20	< 20 U
191-24-2	Benzo(g,h,i)perylene	20	31



ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
Page 2 of 2



Sample ID: EBC-SD-1  
SAMPLE

Lab Sample ID: NG39A  
LIMS ID: 08-16299  
Matrix: Soil  
Date Analyzed: 08/07/08 14:54

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	39.8%	2-Fluorobiphenyl	51.2%
d14-p-Terphenyl	54.4%	d4-1,2-Dichlorobenzene	40.4%
d5-Phenol	44.5%	2-Fluorophenol	41.3%
2,4,6-Tribromophenol	70.9%	d4-2-Chlorophenol	46.4%

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 PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: EBC-SD-2  
 SAMPLE

Lab Sample ID: NG39B  
 LIMS ID: 08-16300  
 Matrix: Soil  
 Data Release Authorized:  
 Reported: 08/11/08

QC Report No: NG39-HART CROWSER, INC.  
 Project: EBC  
 17441-02  
 Date Sampled: 07/18/08  
 Date Received: 07/18/08

Date Extracted: 07/25/08  
 Date Analyzed: 08/07/08 15:27  
 Instrument/Analyst: NT4/LJR  
 GPC Cleanup: Yes

Sample Amount: 25.4 g-dry-wt  
 Final Extract Volume: 0.5 mL  
 Dilution Factor: 1.00  
 Percent Moisture: 40.9%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	< 20 U
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
91-20-3	Naphthalene	20	< 20 U
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	2-Methylnaphthalene	20	9.8 J
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	Acenaphthylene	20	< 20 U
83-32-9	Acenaphthene	20	< 20 U
132-64-9	Dibenzofuran	20	< 20 U
84-66-2	Diethylphthalate	20	36
86-73-7	Fluorene	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	98	< 98 U
85-01-8	Phenanthrene	20	42
120-12-7	Anthracene	20	18 J
84-74-2	Di-n-Butylphthalate	20	< 20 U
206-44-0	Fluoranthene	20	140
129-00-0	Pyrene	20	92
85-68-7	Butylbenzylphthalate	20	< 20 U
56-55-3	Benzo (a) anthracene	20	51
117-81-7	bis (2-Ethylhexyl) phthalate	20	21 B
218-01-9	Chrysene	20	97
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo (b) fluoranthene	20	64
207-08-9	Benzo (k) fluoranthene	20	69
50-32-8	Benzo (a) pyrene	20	50
193-39-5	Indeno (1,2,3-cd) pyrene	20	20
53-70-3	Dibenz (a, h) anthracene	20	< 20 U
191-24-2	Benzo (g, h, i) perylene	20	23

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PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: EBC-SD-2  
SAMPLE

Lab Sample ID: NG39B  
LIMS ID: 08-16300  
Matrix: Soil  
Date Analyzed: 08/07/08 15:27

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	41.2%	2-Fluorobiphenyl	51.2%
d14-p-Terphenyl	52.8%	d4-1,2-Dichlorobenzene	41.2%
d5-Phenol	44.0%	2-Fluorophenol	42.7%
2,4,6-Tribromophenol	73.9%	d4-2-Chlorophenol	46.9%

Sample ID: EBC-SD-3  
SAMPLE

Lab Sample ID: NG39C  
LIMS ID: 08-16301  
Matrix: Soil  
Data Release Authorized:  
Reported: 08/11/08

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02  
Date Sampled: 07/18/08  
Date Received: 07/18/08

Date Extracted: 07/25/08  
Date Analyzed: 08/07/08 16:00  
Instrument/Analyst: NT4/LJR  
GPC Cleanup: Yes

Sample Amount: 25.5 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 37.8%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	26
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
91-20-3	Naphthalene	20	< 20 U
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	2-Methylnaphthalene	20	10 J
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	Acenaphthylene	20	< 20 U
83-32-9	Acenaphthene	20	< 20 U
132-64-9	Dibenzofuran	20	< 20 U
84-66-2	Diethylphthalate	20	17 J
86-73-7	Fluorene	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	98	< 98 U
85-01-8	Phenanthrene	20	46
120-12-7	Anthracene	20	14 J
84-74-2	Di-n-Butylphthalate	20	< 20 U
206-44-0	Fluoranthene	20	92
129-00-0	Pyrene	20	74
85-68-7	Butylbenzylphthalate	20	< 20 U
56-55-3	Benzo (a) anthracene	20	35
117-81-7	bis(2-Ethylhexyl)phthalate	20	< 20 U
218-01-9	Chrysene	20	53
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo (b) fluoranthene	20	37
207-08-9	Benzo (k) fluoranthene	20	58
50-32-8	Benzo (a) pyrene	20	39
193-39-5	Indeno (1,2,3-cd) pyrene	20	18 J
53-70-3	Dibenz (a,h) anthracene	20	< 20 U
191-24-2	Benzo (g,h,i) perylene	20	21

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PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: EBC-SD-3  
SAMPLE

Lab Sample ID: NG39C  
LIMS ID: 08-16301  
Matrix: Soil  
Date Analyzed: 08/07/08 16:00

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	40.4%	2-Fluorobiphenyl	50.4%
d14-p-Terphenyl	54.0%	d4-1,2-Dichlorobenzene	40.0%
d5-Phenol	42.9%	2-Fluorophenol	41.3%
2,4,6-Tribromophenol	73.6%	d4-2-Chlorophenol	45.9%

Sample ID: EBC-SD-4  
 SAMPLE

Lab Sample ID: NG39D  
 LIMS ID: 08-16302  
 Matrix: Soil  
 Data Release Authorized:  
 Reported: 08/11/08

QC Report No: NG39-HART CROWSER, INC.  
 Project: EBC  
 17441-02  
 Date Sampled: 07/18/08  
 Date Received: 07/18/08

Date Extracted: 07/25/08  
 Date Analyzed: 08/07/08 16:32  
 Instrument/Analyst: NT4/LJR  
 GPC Cleanup: Yes

Sample Amount: 25.3 g-dry-wt  
 Final Extract Volume: 0.5 mL  
 Dilution Factor: 1.00  
 Percent Moisture: 39.8%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	< 20 U
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
91-20-3	Naphthalene	20	< 20 U
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	2-Methylnaphthalene	20	10 J
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	Acenaphthylene	20	< 20 U
83-32-9	Acenaphthene	20	< 20 U
132-64-9	Dibenzofuran	20	< 20 U
84-66-2	Diethylphthalate	20	< 20 U
86-73-7	Fluorene	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	99	< 99 U
85-01-8	Phenanthrene	20	40
120-12-7	Anthracene	20	16 J
84-74-2	Di-n-Butylphthalate	20	< 20 U
206-44-0	Fluoranthene	20	81
129-00-0	Pyrene	20	63
85-68-7	Butylbenzylphthalate	20	< 20 U
56-55-3	Benzo (a) anthracene	20	37
117-81-7	bis (2-Ethylhexyl) phthalate	20	< 20 U
218-01-9	Chrysene	20	69
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo (b) fluoranthene	20	38
207-08-9	Benzo (k) fluoranthene	20	54
50-32-8	Benzo (a) pyrene	20	37
193-39-5	Indeno (1,2,3-cd) pyrene	20	16 J
53-70-3	Dibenz (a,h) anthracene	20	< 20 U
191-24-2	Benzo (g,h,i) perylene	20	18 J

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PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: EBC-SD-4  
SAMPLE

Lab Sample ID: NG39D  
LIMS ID: 08-16302  
Matrix: Soil  
Date Analyzed: 08/07/08 16:32

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02


CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	38.8%	2-Fluorobiphenyl	49.2%
d14-p-Terphenyl	51.6%	d4-1,2-Dichlorobenzene	40.0%
d5-Phenol	41.1%	2-Fluorophenol	40.3%
2,4,6-Tribromophenol	70.1%	d4-2-Chlorophenol	44.3%

Sample ID: EBC-SD-5  
SAMPLE

Lab Sample ID: NG39E  
LIMS ID: 08-16303  
Matrix: Soil  
Data Release Authorized:   
Reported: 08/11/08

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02  
Date Sampled: 07/18/08  
Date Received: 07/18/08

Date Extracted: 07/25/08  
Date Analyzed: 08/07/08 17:05  
Instrument/Analyst: NT4/LJR  
GPC Cleanup: Yes

Sample Amount: 25.5 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 37.9%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	18 J
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
91-20-3	Naphthalene	20	12 J
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	2-Methylnaphthalene	20	12 J
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	Acenaphthylene	20	< 20 U
83-32-9	Acenaphthene	20	< 20 U
132-64-9	Dibenzofuran	20	< 20 U
84-66-2	Diethylphthalate	20	< 20 U
86-73-7	Fluorene	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	98	< 98 U
85-01-8	Phenanthrene	20	43
120-12-7	Anthracene	20	17 J
84-74-2	Di-n-Butylphthalate	20	< 20 U
206-44-0	Fluoranthene	20	81
129-00-0	Pyrene	20	64
85-68-7	Butylbenzylphthalate	20	< 20 U
56-55-3	Benzo (a) anthracene	20	35
117-81-7	bis(2-Ethylhexyl)phthalate	20	< 20 U
218-01-9	Chrysene	20	56
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo (b) fluoranthene	20	46
207-08-9	Benzo (k) fluoranthene	20	48
50-32-8	Benzo (a) pyrene	20	43
193-39-5	Indeno (1,2,3-cd) pyrene	20	18 J
53-70-3	Dibenz (a, h) anthracene	20	< 20 U
191-24-2	Benzo (g, h, i) perylene	20	20



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PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: EBC-SD-5  
SAMPLE

Lab Sample ID: NG39E  
LIMS ID: 08-16303  
Matrix: Soil  
Date Analyzed: 08/07/08 17:05

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	41.2%	2-Fluorobiphenyl	52.0%
d14-p-Terphenyl	56.0%	d4-1,2-Dichlorobenzene	42.8%
d5-Phenol	43.2%	2-Fluorophenol	42.4%
2,4,6-Tribromophenol	76.3%	d4-2-Chlorophenol	46.7%

**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS

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Sample ID: EBC-SD-6

SAMPLE

Lab Sample ID: NG39F

LIMS ID: 08-16304

Matrix: Soil

Data Release Authorized:

Reported: 08/11/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Date Extracted: 07/25/08

Date Analyzed: 08/07/08 17:38

Instrument/Analyst: NT4/LJR

GPC Cleanup: Yes

Sample Amount: 25.2 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 37.0%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	40
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
91-20-3	Naphthalene	20	12 J
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	2-Methylnaphthalene	20	12 J
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	Acenaphthylene	20	< 20 U
83-32-9	Acenaphthene	20	< 20 U
132-64-9	Dibenzofuran	20	11 J
84-66-2	Diethylphthalate	20	19 J
86-73-7	Fluorene	20	11 J
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	99	< 99 U
85-01-8	Phenanthrene	20	42
120-12-7	Anthracene	20	22
84-74-2	Di-n-Butylphthalate	20	< 20 U
206-44-0	Fluoranthene	20	93
129-00-0	Pyrene	20	74
85-68-7	Butylbenzylphthalate	20	< 20 U
56-55-3	Benzo (a) anthracene	20	44
117-81-7	bis (2-Ethylhexyl) phthalate	20	< 20 U
218-01-9	Chrysene	20	78
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo (b) fluoranthene	20	52
207-08-9	Benzo (k) fluoranthene	20	56
50-32-8	Benzo (a) pyrene	20	43
193-39-5	Indeno (1,2,3-cd) pyrene	20	18 J
53-70-3	Dibenz (a, h) anthracene	20	< 20 U
191-24-2	Benzo (g, h, i) perylene	20	20 J

**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: EBC-SD-6  
SAMPLE

Lab Sample ID: NG39F

QC Report No: NG39-HART CROWSER, INC.

LIMS ID: 08-16304

Project: EBC

Matrix: Soil

17441-02

Date Analyzed: 08/07/08 17:38

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	41.6%	2-Fluorobiphenyl	53.6%
d14-p-Terphenyl	56.4%	d4-1,2-Dichlorobenzene	42.4%
d5-Phenol	43.7%	2-Fluorophenol	42.4%
2,4,6-Tribromophenol	74.1%	d4-2-Chlorophenol	47.2%

Sample ID: EBC-SD-7  
 SAMPLE

Lab Sample ID: NG39G  
 LIMS ID: 08-16305  
 Matrix: Soil  
 Data Release Authorized:  
 Reported: 08/11/08

QC Report No: NG39-HART CROWSER, INC.  
 Project: EBC  
 17441-02  
 Date Sampled: 07/18/08  
 Date Received: 07/18/08

Date Extracted: 07/25/08  
 Date Analyzed: 08/07/08 19:16  
 Instrument/Analyst: NT4/LJR  
 GPC Cleanup: Yes

Sample Amount: 25.5 g-dry-wt  
 Final Extract Volume: 0.5 mL  
 Dilution Factor: 1.00  
 Percent Moisture: 39.2%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	< 20 U
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
91-20-3	Naphthalene	20	< 20 U
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	2-Methylnaphthalene	20	11 J
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	Acenaphthylene	20	< 20 U
83-32-9	Acenaphthene	20	< 20 U
132-64-9	Dibenzofuran	20	< 20 U
84-66-2	Diethylphthalate	20	24
86-73-7	Fluorene	20	12 J
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	98	< 98 U
85-01-8	Phenanthrene	20	83
120-12-7	Anthracene	20	29
84-74-2	Di-n-Butylphthalate	20	< 20 U
206-44-0	Fluoranthene	20	170
129-00-0	Pyrene	20	130
85-68-7	Butylbenzylphthalate	20	< 20 U
56-55-3	Benzo (a) anthracene	20	74
117-81-7	bis (2-Ethylhexyl) phthalate	20	< 20 U
218-01-9	Chrysene	20	100
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo (b) fluoranthene	20	76
207-08-9	Benzo (k) fluoranthene	20	91
50-32-8	Benzo (a) pyrene	20	84
193-39-5	Indeno (1,2,3-cd) pyrene	20	33
53-70-3	Dibenz (a,h) anthracene	20	< 20 U
191-24-2	Benzo (g,h,i) perylene	20	33

**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS

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Sample ID: EBC-SD-7

SAMPLE

Lab Sample ID: NG39G

QC Report No: NG39-HART CROWSER, INC.

LIMS ID: 08-16305

Project: EBC

Matrix: Soil

17441-02

Date Analyzed: 08/07/08 19:16

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	39.5%	2-Fluorobiphenyl	50.8%
d14-p-Terphenyl	52.0%	d4-1,2-Dichlorobenzene	40.4%
d5-Phenol	42.7%	2-Fluorophenol	41.6%
2,4,6-Tribromophenol	68.5%	d4-2-Chlorophenol	46.7%

**SW8270 SEMIVOLATILES SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY**

Matrix: Soil

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02

Client ID	NBZ	FBP	TPH	DCB	PHL	2FP	TBP	2CP	TOT	OUT
EBC-SD-1	39.8%	51.2%	54.4%	40.4%	44.5%	41.3%	70.9%	46.4%		0
EBC-SD-2	41.2%	51.2%	52.8%	41.2%	44.0%	42.7%	73.9%	46.9%		0
EBC-SD-3	40.4%	50.4%	54.0%	40.0%	42.9%	41.3%	73.6%	45.9%		0
EBC-SD-4	38.8%	49.2%	51.6%	40.0%	41.1%	40.3%	70.1%	44.3%		0
EBC-SD-5	41.2%	52.0%	56.0%	42.8%	43.2%	42.4%	76.3%	46.7%		0
MB-072508	44.8%	51.6%	70.0%	48.0%	49.3%	49.9%	72.8%	53.9%		0
LCS-072508	40.8%	49.6%	61.2%	41.6%	51.5%	46.7%	78.1%	51.2%		0
LCSD-072508	43.2%	54.0%	69.2%	44.8%	56.0%	50.9%	86.1%	55.5%		0
EBC-SD-6	41.6%	53.6%	56.4%	42.4%	43.7%	42.4%	74.1%	47.2%		0
EBC-SD-6 MS	42.4%	54.4%	54.8%	42.4%	48.3%	42.9%	77.6%	48.5%		0
EBC-SD-6 MSD	44.8%	56.4%	56.8%	46.0%	50.7%	46.1%	78.7%	52.5%		0
EBC-SD-7	39.5%	50.8%	52.0%	40.4%	42.7%	41.6%	68.5%	46.7%		0

(NBZ) = d5-Nitrobenzene  
(FBP) = 2-Fluorobiphenyl  
(TPH) = d14-p-Terphenyl  
(DCB) = d4-1,2-Dichlorobenzene  
(PHL) = d5-Phenol  
(2FP) = 2-Fluorophenol  
(TBP) = 2,4,6-Tribromophenol  
(2CP) = d4-2-Chlorophenol

LCS/MB LIMITS	QC LIMITS
(37-85)	(29-87)
(39-82)	(32-88)
(38-105)	(21-97)
(33-79)	(25-82)
(40-85)	(29-85)
(20-93)	(10-114)
(40-96)	(25-103)
(41-81)	(30-84)

Prep Method: SW3550B  
Log Number Range: 08-16299 to 08-16305

ORGANICS ANALYSIS DATA SHEET  
 PSDDA Semivolatiles by SW8270D GC/MS  
 Page 1 of 1



Sample ID: EBC-SD-6  
 MS/MSD

Lab Sample ID: NG39F  
 LIMS ID: 08-16304  
 Matrix: Soil  
 Data Release Authorized:  
 Reported: 08/11/08

QC Report No: NG39-HART CROWSER, INC.  
 Project: EBC  
 17441-02  
 Date Sampled: 07/18/08  
 Date Received: 07/18/08

Date Extracted MS/MSD: 07/25/08

Sample Amount MS: 25.2 g-dry-wt  
 MSD: 25.2 g-dry-wt

Date Analyzed MS: 08/07/08 18:10  
 MSD: 08/07/08 18:43

Final Extract Volume MS: 0.5 mL  
 MSD: 0.5 mL

Instrument/Analyst MS: NT4/LJR  
 MSD: NT4/LJR

Dilution Factor MS: 1.00  
 MSD: 1.00

GPC Cleanup: YES

Percent Moisture: 37.0 %

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Phenol	39.7	241	496	40.6%	260	495	44.5%	7.6%
1,3-Dichlorobenzene	< 19.8	208	496	41.9%	223	495	45.1%	7.0%
1,4-Dichlorobenzene	< 19.8	209	496	42.1%	227	495	45.9%	8.3%
Benzyl Alcohol	< 19.8	< 19.8 U	992	NA	< 19.8 U	990	NA	NA
1,2-Dichlorobenzene	< 19.8	223	496	45.0%	237	495	47.9%	6.1%
2-Methylphenol	< 19.8	239	496	48.2%	248	495	50.1%	3.7%
4-Methylphenol	< 19.8	477	992	48.1%	514	990	51.9%	7.5%
Hexachloroethane	< 19.8	190	496	38.3%	205	495	41.4%	7.6%
2,4-Dimethylphenol	< 19.8	196	496	39.5%	221	495	44.6%	12.0%
Benzoic Acid	< 198	724	1490	48.6%	746	1490	50.1%	3.0%
1,2,4-Trichlorobenzene	< 19.8	253	496	51.0%	265	495	53.5%	4.6%
Naphthalene	11.9	256	496	49.2%	270	495	52.1%	5.3%
Hexachlorobutadiene	< 19.8	245	496	49.4%	261	495	52.7%	6.3%
2-Methylnaphthalene	12.3	289	496	55.8%	301	495	58.3%	4.1%
Dimethylphthalate	< 19.8	319	496	64.3%	328	495	66.3%	2.8%
Acenaphthylene	< 19.8	291	496	58.7%	301	495	60.8%	3.4%
Acenaphthene	< 19.8	284	496	57.3%	292	495	59.0%	2.8%
Dibenzofuran	11.3	313	496	60.8%	317	495	61.8%	1.3%
Diethylphthalate	18.6	311	496	59.0%	315	495	59.9%	1.3%
Fluorene	10.9	309	496	60.1%	316	495	61.6%	2.2%
N-Nitrosodiphenylamine	< 19.8	410	496	82.7%	412	495	83.2%	0.5%
Hexachlorobenzene	< 19.8	352	496	71.0%	354	495	71.5%	0.6%
Pentachlorophenol	< 99.2	339	496	68.3%	349	495	70.5%	2.9%
Phenanthrene	41.8	358	496	63.8%	370	495	66.3%	3.3%
Anthracene	22.0	312	496	58.5%	309	495	58.0%	1.0%
Di-n-Butylphthalate	< 19.8	333	496	67.1%	341	495	68.9%	2.4%
Fluoranthene	92.6	450	496	72.1%	457	495	73.6%	1.5%
Pyrene	74.0	333	496	52.2%	340	495	53.7%	2.1%
Butylbenzylphthalate	< 19.8	262	496	52.8%	278	495	56.2%	5.9%
Benzo(a)anthracene	44.0	350	496	61.7%	356	495	63.0%	1.7%
bis(2-Ethylhexyl)phthalate	< 19.8	110	496	22.2%	172	495	34.7%	44.0%
Chrysene	78.1	382	496	61.3%	401	495	65.2%	4.9%
Di-n-Octyl phthalate	< 19.8	53.4	496	10.8%	100	495	20.2%	60.8%
Benzo(b)fluoranthene	51.8	447	496	79.7%	457	495	81.9%	2.2%
Benzo(k)fluoranthene	55.9	403	496	70.0%	392	495	67.9%	2.8%
Benzo(a)pyrene	42.8	353	496	62.5%	356	495	63.3%	0.8%
Indeno(1,2,3-cd)pyrene	17.5	221	496	41.0%	227	495	42.3%	2.7%
Dibenz(a,h)anthracene	< 19.8	265	496	53.4%	258	495	52.1%	2.7%
Benzo(g,h,i)perylene	19.6	263	496	49.1%	252	495	46.9%	4.3%
1-Methylnaphthalene	< 19.8	281	496	56.7%	292	495	59.0%	3.8%

Results reported in µg/kg

RPD calculated using sample concentrations per SW846.

NA-No recovery due to high concentration of analyte in original sample and/or calculated negative recovery.

ORGANICS ANALYSIS DATA SHEET

PSDDA Semivolatiles by SW8270D GC/MS

Page 1 of 2



Sample ID: EBC-SD-6

MATRIX SPIKE

Lab Sample ID: NG39F

LIMS ID: 08-16304

Matrix: Soil

Data Release Authorized: *[Signature]*

Reported: 08/11/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Date Extracted: 07/25/08

Date Analyzed: 08/07/08 18:10

Instrument/Analyst: NT4/LJR

GPC Cleanup: Yes

Sample Amount: 25.2 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 37.0%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	---
541-73-1	1,3-Dichlorobenzene	20	---
106-46-7	1,4-Dichlorobenzene	20	---
100-51-6	Benzyl Alcohol	20	---
95-50-1	1,2-Dichlorobenzene	20	---
95-48-7	2-Methylphenol	20	---
106-44-5	4-Methylphenol	20	---
67-72-1	Hexachloroethane	20	---
105-67-9	2,4-Dimethylphenol	20	---
65-85-0	Benzoic Acid	200	---
120-82-1	1,2,4-Trichlorobenzene	20	---
91-20-3	Naphthalene	20	---
87-68-3	Hexachlorobutadiene	20	---
91-57-6	2-Methylnaphthalene	20	---
131-11-3	Dimethylphthalate	20	---
208-96-8	Acenaphthylene	20	---
83-32-9	Acenaphthene	20	---
132-64-9	Dibenzofuran	20	---
84-66-2	Diethylphthalate	20	---
86-73-7	Fluorene	20	---
86-30-6	N-Nitrosodiphenylamine	20	---
118-74-1	Hexachlorobenzene	20	---
87-86-5	Pentachlorophenol	99	---
85-01-8	Phenanthrene	20	---
120-12-7	Anthracene	20	---
84-74-2	Di-n-Butylphthalate	20	---
206-44-0	Fluoranthene	20	---
129-00-0	Pyrene	20	---
85-68-7	Butylbenzylphthalate	20	---
56-55-3	Benzo(a)anthracene	20	---
117-81-7	bis(2-Ethylhexyl)phthalate	20	---
218-01-9	Chrysene	20	---
117-84-0	Di-n-Octyl phthalate	20	---
205-99-2	Benzo(b)fluoranthene	20	---
207-08-9	Benzo(k)fluoranthene	20	---
50-32-8	Benzo(a)pyrene	20	---
193-39-5	Indeno(1,2,3-cd)pyrene	20	---
53-70-3	Dibenz(a,h)anthracene	20	---
191-24-2	Benzo(g,h,i)perylene	20	---



Sample ID: EBC-SD-6  
MATRIX SPIKE

Lab Sample ID: NG39F  
LIMS ID: 08-16304  
Matrix: Soil  
Date Analyzed: 08/07/08 18:10

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	20	---

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	42.4%	2-Fluorobiphenyl	54.4%
d14-p-Terphenyl	54.8%	d4-1,2-Dichlorobenzene	42.4%
d5-Phenol	48.3%	2-Fluorophenol	42.9%
2,4,6-Tribromophenol	77.6%	d4-2-Chlorophenol	48.5%

Sample ID: EBC-SD-6  
MATRIX SPIKE DUPLICATE

Lab Sample ID: NG39F  
LIMS ID: 08-16304  
Matrix: Soil  
Data Release Authorized:  
Reported: 08/11/08

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02  
Date Sampled: 07/18/08  
Date Received: 07/18/08

Date Extracted: 07/25/08  
Date Analyzed: 08/07/08 18:43  
Instrument/Analyst: NT4/LJR  
GPC Cleanup: Yes

Sample Amount: 25.2 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 37.0%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	---
541-73-1	1,3-Dichlorobenzene	20	---
106-46-7	1,4-Dichlorobenzene	20	---
100-51-6	Benzyl Alcohol	20	---
95-50-1	1,2-Dichlorobenzene	20	---
95-48-7	2-Methylphenol	20	---
106-44-5	4-Methylphenol	20	---
67-72-1	Hexachloroethane	20	---
105-67-9	2,4-Dimethylphenol	20	---
65-85-0	Benzoic Acid	200	---
120-82-1	1,2,4-Trichlorobenzene	20	---
91-20-3	Naphthalene	20	---
87-68-3	Hexachlorobutadiene	20	---
91-57-6	2-Methylnaphthalene	20	---
131-11-3	Dimethylphthalate	20	---
208-96-8	Acenaphthylene	20	---
83-32-9	Acenaphthene	20	---
132-64-9	Dibenzofuran	20	---
84-66-2	Diethylphthalate	20	---
86-73-7	Fluorene	20	---
86-30-6	N-Nitrosodiphenylamine	20	---
118-74-1	Hexachlorobenzene	20	---
87-86-5	Pentachlorophenol	99	---
85-01-8	Phenanthrene	20	---
120-12-7	Anthracene	20	---
84-74-2	Di-n-Butylphthalate	20	---
206-44-0	Fluoranthene	20	---
129-00-0	Pyrene	20	---
85-68-7	Butylbenzylphthalate	20	---
56-55-3	Benzo (a) anthracene	20	---
117-81-7	bis (2-Ethylhexyl) phthalate	20	---
218-01-9	Chrysene	20	---
117-84-0	Di-n-Octyl phthalate	20	---
205-99-2	Benzo (b) fluoranthene	20	---
207-08-9	Benzo (k) fluoranthene	20	---
50-32-8	Benzo (a) pyrene	20	---
193-39-5	Indeno (1,2,3-cd) pyrene	20	---
53-70-3	Dibenz (a,h) anthracene	20	---
191-24-2	Benzo (g,h,i) perylene	20	---



Sample ID: EBC-SD-6  
 MATRIX SPIKE DUPLICATE

Lab Sample ID: NG39F  
 LIMS ID: 08-16304  
 Matrix: Soil  
 Date Analyzed: 08/07/08 18:43

QC Report No: NG39-HART CROWSER, INC.  
 Project: EBC  
 17441-02

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	20	---

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	44.8%	2-Fluorobiphenyl	56.4%
d14-p-Terphenyl	56.8%	d4-1,2-Dichlorobenzene	46.0%
d5-Phenol	50.7%	2-Fluorophenol	46.1%
2,4,6-Tribromophenol	78.7%	d4-2-Chlorophenol	52.5%

Sample ID: LCS-072508  
 LCS/LCSD

Lab Sample ID: LCS-072508  
 LIMS ID: 08-16304  
 Matrix: Soil  
 Data Release Authorized:  
 Reported: 08/11/08

QC Report No: NG39-HART CROWSER, INC.  
 Project: EBC  
 17441-02  
 Date Sampled: 07/18/08  
 Date Received: 07/18/08

Date Extracted LCS/LCSD: 07/25/08

Sample Amount LCS: 25.0 g

Date Analyzed LCS: 08/06/08 21:29

LCSD: 25.0 g

LCSD: 08/06/08 22:02

Final Extract Volume LCS: 0.5 mL

Instrument/Analyst LCS: NT4/LJR

LCSD: 0.5 mL

LCSD: NT4/LJR

Dilution Factor LCS: 1.00

LCSD: 1.00

GPC Cleanup: YES

Percent Moisture: NA

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Phenol	279	500	55.8%	287	500	57.4%	2.8%
1,3-Dichlorobenzene	235	500	47.0%	235	500	47.0%	0.0%
1,4-Dichlorobenzene	234	500	46.8%	233	500	46.6%	0.4%
Benzyl Alcohol	413	1000	41.3%	414	1000	41.4%	0.2%
1,2-Dichlorobenzene	251	500	50.2%	252	500	50.4%	0.4%
2-Methylphenol	256	500	51.2%	274	500	54.8%	6.8%
4-Methylphenol	547	1000	54.7%	581	1000	58.1%	6.0%
Hexachloroethane	213	500	42.6%	213	500	42.6%	0.0%
2,4-Dimethylphenol	214	500	42.8%	203	500	40.6%	5.3%
Benzoic Acid	824	1500	54.9%	861	1500	57.4%	4.4%
1,2,4-Trichlorobenzene	272	500	54.4%	266	500	53.2%	2.2%
Naphthalene	263	500	52.6%	267	500	53.4%	1.5%
Hexachlorobutadiene	265	500	53.0%	263	500	52.6%	0.8%
2-Methylnaphthalene	289	500	57.8%	299	500	59.8%	3.4%
Dimethylphthalate	336	500	67.2%	352	500	70.4%	4.7%
Acenaphthylene	308	500	61.6%	318	500	63.6%	3.2%
Acenaphthene	287	500	57.4%	301	500	60.2%	4.8%
Dibenzofuran	314	500	62.8%	327	500	65.4%	4.1%
Diethylphthalate	339	500	67.8%	347	500	69.4%	2.3%
Fluorene	311	500	62.2%	326	500	65.2%	4.7%
N-Nitrosodiphenylamine	443	500	88.6%	458	500	91.6%	3.3%
Hexachlorobenzene	359	500	71.8%	366	500	73.2%	1.9%
Pentachlorophenol	283	500	56.6%	289	500	57.8%	2.1%
Phenanthrene	322	500	64.4%	331	500	66.2%	2.8%
Anthracene	319	500	63.8%	322	500	64.4%	0.9%
Di-n-Butylphthalate	371	500	74.2%	349	500	69.8%	6.1%
Fluoranthene	375	500	75.0%	373	500	74.6%	0.5%
Pyrene	299	500	59.8%	327	500	65.4%	8.9%
Butylbenzylphthalate	321	500	64.2%	313	500	62.6%	2.5%
Benzo(a)anthracene	327	500	65.4%	326	500	65.2%	0.3%
bis(2-Ethylhexyl)phthalate	412	500	82.4%	120	500	24.0%	110%
Chrysene	350	500	70.0%	349	500	69.8%	0.3%
Di-n-Octyl phthalate	361	500	72.2%	64.8	500	13.0%	139%
Benzo(b)fluoranthene	351	500	70.2%	358	500	71.6%	2.0%

**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS  
Page 2 of 2

Sample ID: LCSD-072508  
LCS/LCSD

Lab Sample ID: LCS-072508

QC Report No: NG39-HART CROWSER, INC.

LIMS ID: 08-16304

Project: EBC

Matrix: Soil

17441-02

Date Analyzed LCS: 08/06/08 21:29

LCSD: 08/06/08 22:02

Analyte	LCS			LCSD			RPD
	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	
Benzo(k)fluoranthene	407	500	81.4%	429	500	85.8%	5.3%
Benzo(a)pyrene	329	500	65.8%	332	500	66.4%	0.9%
Indeno(1,2,3-cd)pyrene	232	500	46.4%	252	500	50.4%	8.3%
Dibenz(a,h)anthracene	285	500	57.0%	310	500	62.0%	8.4%
Benzo(g,h,i)perylene	299	500	59.8%	328	500	65.6%	9.3%
1-Methylnaphthalene	286	500	57.2%	293	500	58.6%	2.4%

**Semivolatile Surrogate Recovery**

	LCS	LCSD
d5-Nitrobenzene	40.8%	43.2%
2-Fluorobiphenyl	49.6%	54.0%
d14-p-Terphenyl	61.2%	69.2%
d4-1,2-Dichlorobenzene	41.6%	44.8%
d5-Phenol	51.5%	56.0%
2-Fluorophenol	46.7%	50.9%
2,4,6-Tribromophenol	78.1%	86.1%
d4-2-Chlorophenol	51.2%	55.5%

Results reported in  $\mu\text{g}/\text{kg}$

RPD calculated using sample concentrations per SW846.

4B  
SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

NG39MBS1

Lab Name: ANALYTICAL RESOURCES, INC  
 ARI Job No: NG39  
 Lab File ID: NG39MB  
 Instrument ID: NT4  
 Matrix: SOLID

Client: HART CROWSER, INC.  
 Project: EBC  
 Date Extracted: 07/25/08  
 Date Analyzed: 08/06/08  
 Time Analyzed: 2057

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	NG39LCSS1	NG39LCSS1	NG39SB	08/06/08
02	NG39LCSDS1	NG39LCSDS1	NG39SBD	08/06/08
03	EBC-SD-1	NG39A	NG39A	08/07/08
04	EBC-SD-2	NG39B	NG39B	08/07/08
05	EBC-SD-3	NG39C	NG39C	08/07/08
06	EBC-SD-4	NG39D	NG39D	08/07/08
07	EBC-SD-5	NG39E	NG39E	08/07/08
08	EBC-SD-6	NG39F	NG39F	08/07/08
09	EBC-SD-6 MS	NG39FMS	NG39FMS	08/07/08
10	EBC-SD-6 MSD	NG39FMSD	NG39FMD	08/07/08
11	EBC-SD-7	NG39G	NG39G	08/07/08
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COMMENTS:

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ORGANICS ANALYSIS DATA SHEET

PSDDA Semivolatiles by SW8270D GC/MS

Page 1 of 2

Sample ID: MB-072508

METHOD BLANK

Lab Sample ID: MB-072508

LIMS ID: 08-16304

Matrix: Soil

Data Release Authorized:

Reported: 08/11/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: NA

Date Received: NA

Date Extracted: 07/25/08

Date Analyzed: 08/06/08 20:57

Instrument/Analyst: NT4/LJR

GPC Cleanup: Yes

Sample Amount: 25.0 g

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: NA

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	< 20 U
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
91-20-3	Naphthalene	20	< 20 U
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	2-Methylnaphthalene	20	< 20 U
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	Acenaphthylene	20	< 20 U
83-32-9	Acenaphthene	20	< 20 U
132-64-9	Dibenzofuran	20	< 20 U
84-66-2	Diethylphthalate	20	< 20 U
86-73-7	Fluorene	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	100	< 100 U
85-01-8	Phenanthrene	20	< 20 U
120-12-7	Anthracene	20	< 20 U
84-74-2	Di-n-Butylphthalate	20	< 20 U
206-44-0	Fluoranthene	20	< 20 U
129-00-0	Pyrene	20	< 20 U
85-68-7	Butylbenzylphthalate	20	< 20 U
56-55-3	Benzo(a)anthracene	20	< 20 U
117-81-7	bis(2-Ethylhexyl)phthalate	20	27
218-01-9	Chrysene	20	< 20 U
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo(b)fluoranthene	20	< 20 U
207-08-9	Benzo(k)fluoranthene	20	< 20 U
50-32-8	Benzo(a)pyrene	20	< 20 U
193-39-5	Indeno(1,2,3-cd)pyrene	20	< 20 U
53-70-3	Dibenz(a,h)anthracene	20	< 20 U
191-24-2	Benzo(g,h,i)perylene	20	< 20 U

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
Page 2 of 2

Sample ID: MB-072508  
METHOD BLANK

Lab Sample ID: MB-072508  
LIMS ID: 08-16304  
Matrix: Soil  
Date Analyzed: 08/06/08 20:57

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	44.8%	2-Fluorobiphenyl	51.6%
d14-p-Terphenyl	70.0%	d4-1,2-Dichlorobenzene	48.0%
d5-Phenol	49.3%	2-Fluorophenol	49.9%
2,4,6-Tribromophenol	72.8%	d4-2-Chlorophenol	53.9%



**SIMPNA**

**ORGANICS ANALYSIS DATA SHEET**

PNAs by SW8270D-SIM GC/MS

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Sample ID: EBC-SD-1

SAMPLE

Lab Sample ID: NG39A

LIMS ID: 08-16299

Matrix: Soil

Data Release Authorized: *AS*

Reported: 08/06/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

Event: 17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Date Extracted: 07/26/08

Date Analyzed: 08/01/08 12:15

Instrument/Analyst: NT2/PK

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 10.5 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 42.1%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.8	15
91-57-6	2-Methylnaphthalene	4.8	18
90-12-0	1-Methylnaphthalene	4.8	12
208-96-8	Acenaphthylene	4.8	< 4.8 U
83-32-9	Acenaphthene	4.8	10
86-73-7	Fluorene	4.8	14
85-01-8	Phenanthrene	4.8	98
120-12-7	Anthracene	4.8	33
206-44-0	Fluoranthene	4.8	240
129-00-0	Pyrene	4.8	190
56-55-3	Benzo (a) anthracene	4.8	84
218-01-9	Chrysene	4.8	130
205-99-2	Benzo (b) fluoranthene	4.8	110
207-08-9	Benzo (k) fluoranthene	4.8	80
50-32-8	Benzo (a) pyrene	4.8	85
193-39-5	Indeno (1,2,3-cd) pyrene	4.8	47
53-70-3	Dibenz (a,h) anthracene	4.8	19
191-24-2	Benzo (g,h,i) perylene	4.8	48
132-64-9	Dibenzofuran	4.8	12

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 58.0%

d14-Dibenzo (a,h) anthracen 59.0%

ORGANICS ANALYSIS DATA SHEET

PNAs by SW8270D-SIM GC/MS

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
Sample ID: EBC-SD-2

SAMPLE

Lab Sample ID: NG39B

LIMS ID: 08-16300

Matrix: Soil

Data Release Authorized: 

Reported: 08/06/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

Event: 17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Date Extracted: 07/26/08

Date Analyzed: 08/01/08 12:38

Instrument/Analyst: NT2/PK

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 10.1 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 40.9%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	5.0	18
91-57-6	2-Methylnaphthalene	5.0	21
90-12-0	1-Methylnaphthalene	5.0	15
208-96-8	Acenaphthylene	5.0	< 5.0 U
83-32-9	Acenaphthene	5.0	7.9
86-73-7	Fluorene	5.0	12
85-01-8	Phenanthrene	5.0	63
120-12-7	Anthracene	5.0	27
206-44-0	Fluoranthene	5.0	160
129-00-0	Pyrene	5.0	140
56-55-3	Benzo (a) anthracene	5.0	70
218-01-9	Chrysene	5.0	96
205-99-2	Benzo (b) fluoranthene	5.0	110
207-08-9	Benzo (k) fluoranthene	5.0	81
50-32-8	Benzo (a) pyrene	5.0	86
193-39-5	Indeno (1,2,3-cd) pyrene	5.0	49
53-70-3	Dibenz (a,h) anthracene	5.0	22
191-24-2	Benzo (g,h,i) perylene	5.0	51
132-64-9	Dibenzofuran	5.0	12

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene 56.0%

d14-Dibenzo (a,h) anthracen 58.7%

Sample ID: EBC-SD-3  
 SAMPLE

Lab Sample ID: NG39C  
 LIMS ID: 08-16301  
 Matrix: Soil  
 Data Release Authorized:  
 Reported: 08/06/08

QC Report No: NG39-HART CROWSER, INC.  
 Project: EBC  
 Event: 17441-02  
 Date Sampled: 07/18/08  
 Date Received: 07/18/08

Date Extracted: 07/26/08  
 Date Analyzed: 08/01/08 13:01  
 Instrument/Analyst: NT2/PK  
 GPC Cleanup: No  
 Silica Gel Cleanup: Yes  
 Alumina Cleanup: No

Sample Amount: 10.6 g-dry-wt  
 Final Extract Volume: 0.5 mL  
 Dilution Factor: 1.00  
 Percent Moisture: 37.8%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.7	15
91-57-6	2-Methylnaphthalene	4.7	16
90-12-0	1-Methylnaphthalene	4.7	13
208-96-8	Acenaphthylene	4.7	< 4.7 U
83-32-9	Acenaphthene	4.7	7.1
86-73-7	Fluorene	4.7	11
85-01-8	Phenanthrene	4.7	79
120-12-7	Anthracene	4.7	21
206-44-0	Fluoranthene	4.7	150
129-00-0	Pyrene	4.7	120
56-55-3	Benzo (a) anthracene	4.7	50
218-01-9	Chrysene	4.7	85
205-99-2	Benzo (b) fluoranthene	4.7	71
207-08-9	Benzo (k) fluoranthene	4.7	52
50-32-8	Benzo (a) pyrene	4.7	50
193-39-5	Indeno (1, 2, 3-cd) pyrene	4.7	32
53-70-3	Dibenz (a, h) anthracene	4.7	11
191-24-2	Benzo (g, h, i) perylene	4.7	32
132-64-9	Dibenzofuran	4.7	9.4

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 60.7%  
 d14-Dibenzo (a, h) anthracen 59.0%

Sample ID: EBC-SD-4  
SAMPLE

Lab Sample ID: NG39D  
LIMS ID: 08-16302  
Matrix: Soil  
Data Release Authorized:  
Reported: 08/06/08

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
Event: 17441-02  
Date Sampled: 07/18/08  
Date Received: 07/18/08

Date Extracted: 07/26/08  
Date Analyzed: 08/01/08 13:24  
Instrument/Analyst: NT2/PK  
GPC Cleanup: No  
Silica Gel Cleanup: Yes  
Alumina Cleanup: No

Sample Amount: 10.3 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 39.8%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.8	13
91-57-6	2-Methylnaphthalene	4.8	16
90-12-0	1-Methylnaphthalene	4.8	11
208-96-8	Acenaphthylene	4.8	< 4.8 U
83-32-9	Acenaphthene	4.8	9.7
86-73-7	Fluorene	4.8	13
85-01-8	Phenanthrene	4.8	97
120-12-7	Anthracene	4.8	23
206-44-0	Fluoranthene	4.8	160
129-00-0	Pyrene	4.8	120
56-55-3	Benzo (a) anthracene	4.8	55
218-01-9	Chrysene	4.8	66
205-99-2	Benzo (b) fluoranthene	4.8	63
207-08-9	Benzo (k) fluoranthene	4.8	52
50-32-8	Benzo (a) pyrene	4.8	55
193-39-5	Indeno (1,2,3-cd) pyrene	4.8	32
53-70-3	Dibenz (a,h) anthracene	4.8	11
191-24-2	Benzo (g,h,i) perylene	4.8	35
132-64-9	Dibenzofuran	4.8	11

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 55.0%  
d14-Dibenzo (a,h) anthracen 57.3%

Sample ID: EBC-SD-5  
 SAMPLE

Lab Sample ID: NG39E  
 LIMS ID: 08-16303  
 Matrix: Soil  
 Data Release Authorized:  
 Reported: 08/06/08

QC Report No: NG39-HART CROWSER, INC.  
 Project: EBC  
 Event: 17441-02  
 Date Sampled: 07/18/08  
 Date Received: 07/18/08

Date Extracted: 07/26/08  
 Date Analyzed: 08/01/08 13:47  
 Instrument/Analyst: NT2/PK  
 GPC Cleanup: No  
 Silica Gel Cleanup: Yes  
 Alumina Cleanup: No

Sample Amount: 10.6 g-dry-wt  
 Final Extract Volume: 0.5 mL  
 Dilution Factor: 1.00  
 Percent Moisture: 37.9%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.7	18
91-57-6	2-Methylnaphthalene	4.7	19
90-12-0	1-Methylnaphthalene	4.7	14
208-96-8	Acenaphthylene	4.7	< 4.7 U
83-32-9	Acenaphthene	4.7	7.1
86-73-7	Fluorene	4.7	11
85-01-8	Phenanthrene	4.7	61
120-12-7	Anthracene	4.7	19
206-44-0	Fluoranthene	4.7	120
129-00-0	Pyrene	4.7	100
56-55-3	Benzo (a) anthracene	4.7	44
218-01-9	Chrysene	4.7	56
205-99-2	Benzo (b) fluoranthene	4.7	60
207-08-9	Benzo (k) fluoranthene	4.7	44
50-32-8	Benzo (a) pyrene	4.7	45
193-39-5	Indeno (1,2,3-cd) pyrene	4.7	26
53-70-3	Dibenz (a,h) anthracene	4.7	10
191-24-2	Benzo (g,h,i) perylene	4.7	29
132-64-9	Dibenzofuran	4.7	9.9

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene 61.3%  
 d14-Dibenzo (a,h) anthracene 61.0%



Sample ID: EBC-SD-6  
 SAMPLE

Lab Sample ID: NG39F  
 LIMS ID: 08-16304  
 Matrix: Soil  
 Data Release Authorized:  
 Reported: 08/06/08

QC Report No: NG39-HART CROWSER, INC.  
 Project: EBC  
 Event: 17441-02  
 Date Sampled: 07/18/08  
 Date Received: 07/18/08

Date Extracted: 07/26/08  
 Date Analyzed: 08/01/08 14:10  
 Instrument/Analyst: NT2/PK  
 GPC Cleanup: No  
 Silica Gel Cleanup: Yes  
 Alumina Cleanup: No

Sample Amount: 10.1 g-dry-wt  
 Final Extract Volume: 0.5 mL  
 Dilution Factor: 1.00  
 Percent Moisture: 37.0%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	5.0	20
91-57-6	2-Methylnaphthalene	5.0	19
90-12-0	1-Methylnaphthalene	5.0	12
208-96-8	Acenaphthylene	5.0	5.4
83-32-9	Acenaphthene	5.0	6.9
86-73-7	Fluorene	5.0	13
85-01-8	Phenanthrene	5.0	58
120-12-7	Anthracene	5.0	31
206-44-0	Fluoranthene	5.0	130
129-00-0	Pyrene	5.0	110
56-55-3	Benzo (a) anthracene	5.0	67
218-01-9	Chrysene	5.0	130
205-99-2	Benzo (b) fluoranthene	5.0	87
207-08-9	Benzo (k) fluoranthene	5.0	55
50-32-8	Benzo (a) pyrene	5.0	61
193-39-5	Indeno (1,2,3-cd) pyrene	5.0	32
53-70-3	Dibenz (a,h) anthracene	5.0	13
191-24-2	Benzo (g,h,i) perylene	5.0	33
132-64-9	Dibenzofuran	5.0	12

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene 56.7%  
 d14-Dibenzo(a,h)anthracen 55.3%

ORGANICS ANALYSIS DATA SHEET

PNAs by SW8270D-SIM GC/MS

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Sample ID: EBC-SD-7

SAMPLE

Lab Sample ID: NG39G

LIMS ID: 08-16305

Matrix: Soil

Data Release Authorized:

Reported: 08/06/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

Event: 17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Date Extracted: 07/26/08

Date Analyzed: 08/01/08 14:33

Instrument/Analyst: NT2/PK

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 10.4 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 39.2%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.8	14
91-57-6	2-Methylnaphthalene	4.8	14
90-12-0	1-Methylnaphthalene	4.8	11
208-96-8	Acenaphthylene	4.8	< 4.8 U
83-32-9	Acenaphthene	4.8	5.3
86-73-7	Fluorene	4.8	8.6
85-01-8	Phenanthrene	4.8	42
120-12-7	Anthracene	4.8	16
206-44-0	Fluoranthene	4.8	100
129-00-0	Pyrene	4.8	81
56-55-3	Benzo (a) anthracene	4.8	40
218-01-9	Chrysene	4.8	54
205-99-2	Benzo (b) fluoranthene	4.8	59
207-08-9	Benzo (k) fluoranthene	4.8	48
50-32-8	Benzo (a) pyrene	4.8	44
193-39-5	Indeno (1,2,3-cd) pyrene	4.8	24
53-70-3	Dibenz (a,h) anthracene	4.8	12
191-24-2	Benzo (g,h,i) perylene	4.8	24
132-64-9	Dibenzofuran	4.8	8.2

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene 53.7%

d14-Dibenzo(a,h) anthracen 52.3%



**SIM SW8270 SURROGATE RECOVERY SUMMARY**

Matrix: Soil

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02

<u>Client ID</u>	<u>MNP</u>	<u>DBA</u>	<u>TOT OUT</u>
EBC-SD-1	58.0%	59.0%	0
EBC-SD-2	56.0%	58.7%	0
EBC-SD-3	60.7%	59.0%	0
EBC-SD-4	55.0%	57.3%	0
EBC-SD-5	61.3%	61.0%	0
EBC-SD-6	56.7%	55.3%	0
MB-072608	52.0%	60.0%	0
LCS-072608	59.7%	69.3%	0
LCSD-072608	60.3%	68.7%	0
EBC-SD-7	53.7%	52.3%	0
EBC-SD-7 MS	55.0%	51.7%	0
EBC-SD-7 MSD	51.0%	51.7%	0


**LCS/MB LIMITS      QC LIMITS**

(MNP) = d10-2-Methylnaphthalene      (44-100)      (37-106)  
(DBA) = d14-Dibenzo(a,h)anthracene      (46-121)      (16-118)

Prep Method: SW3550B  
Log Number Range: 08-16299 to 08-16305

ORGANICS ANALYSIS DATA SHEET  
PNAs by SW8270D-SIM GC/MS  
Page 1 of 1

Sample ID: EBC-SD-7  
MATRIX SPIKE

Lab Sample ID: NG39G  
LIMS ID: 08-16305  
Matrix: Soil  
Data Release Authorized:   
Reported: 08/06/08

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
Event: 17441-02  
Date Sampled: 07/18/08  
Date Received: 07/18/08

Date Extracted MS/MSD: 07/26/08

Sample Amount MS: 10.4 g-dry-wt

Date Analyzed MS: 08/01/08 14:56

MSD: 10.3 g-dry-wt

MSD: 08/01/08 15:19

Final Extract Volume MS: 0.50 mL

Instrument/Analyst MS: NT2/PK

MSD: 0.50 mL

MSD: NT2/PK

Dilution Factor MS: 1.00

MSD: 1.00

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Naphthalene	13.9	87.5	144	51.1%	86.9	146	50.0%	0.7%
2-Methylnaphthalene	14.4	91.8	144	53.8%	90.8	146	52.3%	1.1%
1-Methylnaphthalene	10.6	90.4	144	55.4%	88.8	146	53.6%	1.8%
Acenaphthylene	< 4.8 U	82.2	144	57.1%	81.6	146	55.9%	0.7%
Acenaphthene	5.3	83.7	144	54.4%	83.5	146	53.6%	0.2%
Fluorene	8.6	92.8	144	58.5%	92.7	146	57.6%	0.1%
Phenanthrene	41.8	122	144	55.7%	122	146	54.9%	0.0%
Anthracene	16.3	98.6	144	57.2%	99.5	146	57.0%	0.9%
Fluoranthene	104	184	144	55.6%	183	146	54.1%	0.5%
Pyrene	81.2	158	144	53.3%	152	146	48.5%	3.9%
Benzo(a)anthracene	40.4	123	144	57.4%	120	146	54.5%	2.5%
Chrysene	54.3	136	144	56.7%	133	146	53.9%	2.2%
Benzo(b)fluoranthene	58.7	160	144	70.3%	156	146	66.6%	2.5%
Benzo(k)fluoranthene	47.6	115	144	46.8%	120	146	49.6%	4.3%
Benzo(a)pyrene	44.2	124	144	55.4%	121	146	52.6%	2.4%
Indeno(1,2,3-cd)pyrene	24.0	95.7	144	49.8%	94.7	146	48.4%	1.1%
Dibenz(a,h)anthracene	11.5	85.6	144	51.5%	85.0	146	50.3%	0.7%
Benzo(g,h,i)perylene	24.5	90.4	144	45.8%	88.8	146	44.0%	1.8%
Dibenzofuran	8.2	85.6	144	53.8%	85.0	146	52.6%	0.7%

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

RPD calculated using sample concentrations per SW846.

**ORGANICS ANALYSIS DATA SHEET**

PNA's by SW8270D-SIM GC/MS

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Sample ID: EBC-SD-7

**MATRIX SPIKE**

Lab Sample ID: NG39G

LIMS ID: 08-16305

Matrix: Soil

Data Release Authorized: 

Reported: 08/06/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

Event: 17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Date Extracted: 07/26/08

Date Analyzed: 08/01/08 14:56

Instrument/Analyst: NT2/PK

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 10.4 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 39.2%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.8	---
91-57-6	2-Methylnaphthalene	4.8	---
90-12-0	1-Methylnaphthalene	4.8	---
208-96-8	Acenaphthylene	4.8	---
83-32-9	Acenaphthene	4.8	---
86-73-7	Fluorene	4.8	---
85-01-8	Phenanthrene	4.8	---
120-12-7	Anthracene	4.8	---
206-44-0	Fluoranthene	4.8	---
129-00-0	Pyrene	4.8	---
56-55-3	Benzo (a) anthracene	4.8	---
218-01-9	Chrysene	4.8	---
205-99-2	Benzo (b) fluoranthene	4.8	---
207-08-9	Benzo (k) fluoranthene	4.8	---
50-32-8	Benzo (a) pyrene	4.8	---
193-39-5	Indeno (1, 2, 3-cd) pyrene	4.8	---
53-70-3	Dibenz (a, h) anthracene	4.8	---
191-24-2	Benzo (g, h, i) perylene	4.8	---
132-64-9	Dibenzofuran	4.8	---

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 55.0%

d14-Dibenzo (a, h) anthracen 51.7%



ORGANICS ANALYSIS DATA SHEET  
 PNAs by SW8270D-SIM GC/MS  
 Page 1 of 1

Sample ID: EBC-SD-7  
 MATRIX SPIKE DUPLICATE

Lab Sample ID: NG39G  
 LIMS ID: 08-16305  
 Matrix: Soil  
 Data Release Authorized: *AS*  
 Reported: 08/06/08

QC Report No: NG39-HART CROWSER, INC.  
 Project: EBC  
 Event: 17441-02  
 Date Sampled: 07/18/08  
 Date Received: 07/18/08

Date Extracted: 07/26/08  
 Date Analyzed: 08/01/08 15:19  
 Instrument/Analyst: NT2/PK  
 GPC Cleanup: No  
 Silica Gel Cleanup: Yes  
 Alumina Cleanup: No

Sample Amount: 10.3 g-dry-wt  
 Final Extract Volume: 0.5 mL  
 Dilution Factor: 1.00  
 Percent Moisture: 39.2%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.8	---
91-57-6	2-Methylnaphthalene	4.8	---
90-12-0	1-Methylnaphthalene	4.8	---
208-96-8	Acenaphthylene	4.8	---
83-32-9	Acenaphthene	4.8	---
86-73-7	Fluorene	4.8	---
85-01-8	Phenanthrene	4.8	---
120-12-7	Anthracene	4.8	---
206-44-0	Fluoranthene	4.8	---
129-00-0	Pyrene	4.8	---
56-55-3	Benzo (a) anthracene	4.8	---
218-01-9	Chrysene	4.8	---
205-99-2	Benzo (b) fluoranthene	4.8	---
207-08-9	Benzo (k) fluoranthene	4.8	---
50-32-8	Benzo (a) pyrene	4.8	---
193-39-5	Indeno (1,2,3-cd) pyrene	4.8	---
53-70-3	Dibenz (a,h) anthracene	4.8	---
191-24-2	Benzo (g,h,i) perylene	4.8	---
132-64-9	Dibenzofuran	4.8	---

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 51.0%  
 d14-Dibenzo (a,h) anthracen 51.7%

ORGANICS ANALYSIS DATA SHEET  
PNAs by SW8270D-SIM GC/MS  
Page 1 of 1

Sample ID: LCS-072608  
LAB CONTROL SAMPLE

Lab Sample ID: LCS-072608  
LIMS ID: 08-16305  
Matrix: Soil  
Data Release Authorized:  
Reported: 08/06/08

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
Event: 17441-02  
Date Sampled: NA  
Date Received: NA

Date Extracted: 07/26/08

Sample Amount LCS: 10.0 g-dry-wt  
LCSD: 10.0 g-dry-wt

Date Analyzed LCS: 08/01/08 11:29  
LCSD: 08/01/08 11:52

Final Extract Volume LCS: 0.50 mL  
LCSD: 0.50 mL

Instrument/Analyst LCS: NT2/PK  
LCSD: NT2/PK

Dilution Factor LCS: 1.00  
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	87.0	150	58.0%	87.0	150	58.0%	0.0%
2-Methylnaphthalene	89.5	150	59.7%	89.0	150	59.3%	0.6%
1-Methylnaphthalene	89.5	150	59.7%	91.0	150	60.7%	1.7%
Acenaphthylene	77.0	150	51.3%	82.5	150	55.0%	6.9%
Acenaphthene	87.5	150	58.3%	87.5	150	58.3%	0.0%
Fluorene	91.5	150	61.0%	97.0	150	64.7%	5.8%
Phenanthrene	92.5	150	61.7%	93.0	150	62.0%	0.5%
Anthracene	73.5	150	49.0%	78.5	150	52.3%	6.6%
Fluoranthene	105	150	70.0%	107	150	71.3%	1.9%
Pyrene	97.0	150	64.7%	97.5	150	65.0%	0.5%
Benzo(a)anthracene	92.5	150	61.7%	96.0	150	64.0%	3.7%
Chrysene	97.0	150	64.7%	96.0	150	64.0%	1.0%
Benzo(b)fluoranthene	123	150	82.0%	112	150	74.7%	9.4%
Benzo(k)fluoranthene	100	150	66.7%	95.0	150	63.3%	5.1%
Benzo(a)pyrene	76.0	150	50.7%	79.0	150	52.7%	3.9%
Indeno(1,2,3-cd)pyrene	102	150	68.0%	99.5	150	66.3%	2.5%
Dibenz(a,h)anthracene	112	150	74.7%	107	150	71.3%	4.6%
Benzo(g,h,i)perylene	104	150	69.3%	100	150	66.7%	3.9%
Dibenzofuran	85.5	150	57.0%	88.0	150	58.7%	2.9%

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

RPD calculated using sample concentrations per SW846.

**SIM Semivolatile Surrogate Recovery**

	LCS	LCSD
d10-2-Methylnaphthalene	59.7%	60.3%
d14-Dibenzo(a,h)anthracen	69.3%	68.7%

4B  
SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

NG39MBS1
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Lab Name: ANALYTICAL RESOURCES, INC

Client: HART CROWSER, INC.

ARI Job No: NG39

Project: EBC

Lab File ID: 080108

Date Extracted: 07/26/08

Instrument ID: NT2

Date Analyzed: 08/01/08

Matrix: SOLID

Time Analyzed: 1106

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	-----	-----	-----	-----
01	NG39LCSS1	NG39LCSS1	080109	08/01/08
02	NG39LCSDS1	NG39LCSDS1	080110	08/01/08
03	EBC-SD-1	NG39A	080111	08/01/08
04	EBC-SD-2	NG39B	080112	08/01/08
05	EBC-SD-3	NG39C	080113	08/01/08
06	EBC-SD-4	NG39D	080114	08/01/08
07	EBC-SD-5	NG39E	080115	08/01/08
08	EBC-SD-6	NG39F	080116	08/01/08
09	EBC-SD-7	NG39G	080117	08/01/08
10	EBC-SD-7 MS	NG39GMS	080118	08/01/08
11	EBC-SD-7 MSD	NG39GMSD	080119	08/01/08
12				
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COMMENTS:

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**ORGANICS ANALYSIS DATA SHEET**

PNAs by SW8270D-SIM GC/MS

Page 1 of 1


Sample ID: MB-072608

METHOD BLANK

Lab Sample ID: MB-072608

LIMS ID: 08-16305

Matrix: Soil

Data Release Authorized: 

Reported: 08/06/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

Event: 17441-02

Date Sampled: NA

Date Received: NA

Date Extracted: 07/26/08

Date Analyzed: 08/01/08 11:06

Instrument/Analyst: NT2/PK

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 10.0 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	5.0	< 5.0 U
90-12-0	1-Methylnaphthalene	5.0	< 5.0 U
208-96-8	Acenaphthylene	5.0	< 5.0 U
83-32-9	Acenaphthene	5.0	< 5.0 U
86-73-7	Fluorene	5.0	< 5.0 U
85-01-8	Phenanthrene	5.0	< 5.0 U
120-12-7	Anthracene	5.0	< 5.0 U
206-44-0	Fluoranthene	5.0	< 5.0 U
129-00-0	Pyrene	5.0	< 5.0 U
56-55-3	Benzo (a) anthracene	5.0	< 5.0 U
218-01-9	Chrysene	5.0	< 5.0 U
205-99-2	Benzo (b) fluoranthene	5.0	< 5.0 U
207-08-9	Benzo (k) fluoranthene	5.0	< 5.0 U
50-32-8	Benzo (a) pyrene	5.0	< 5.0 U
193-39-5	Indeno (1, 2, 3-cd) pyrene	5.0	< 5.0 U
53-70-3	Dibenz (a, h) anthracene	5.0	< 5.0 U
191-24-2	Benzo (g, h, i) perylene	5.0	< 5.0 U
132-64-9	Dibenzofuran	5.0	< 5.0 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 52.0%  
d14-Dibenzo(a,h)anthracen 60.0%

**PCBS**



**ORGANICS ANALYSIS DATA SHEET**

PSDDA PCB by GC/ECD

Page 1 of 1

Sample ID: EBC-SD-1

SAMPLE

Lab Sample ID: NG39A

LIMS ID: 08-16299

Matrix: Soil

Data Release Authorized:

Reported: 08/15/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Date Extracted: 07/31/08

Date Analyzed: 08/05/08 03:59

Instrument/Analyst: ECD6/JGR

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 25.5 g-dry-wt

Final Extract Volume: 5.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: 42.1%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U
37324-23-5	Aroclor 1262	20	< 20 U
11100-14-4	Aroclor 1268	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**PCB Surrogate Recovery**

Decachlorobiphenyl	89.0%
Tetrachlorometaxylene	80.2%



ORGANICS ANALYSIS DATA SHEET  
 PSDDA PCB by GC/ECD  
 Page 1 of 1

Sample ID: EBC-SD-2  
 SAMPLE

Lab Sample ID: NG39B  
 LIMS ID: 08-16300  
 Matrix: Soil  
 Data Release Authorized:  
 Reported: 08/15/08

QC Report No: NG39-HART CROWSER, INC.  
 Project: EBC  
 17441-02  
 Date Sampled: 07/18/08  
 Date Received: 07/18/08

Date Extracted: 07/31/08  
 Date Analyzed: 08/05/08 04:21  
 Instrument/Analyst: ECD6/JGR  
 GPC Cleanup: No  
 Sulfur Cleanup: Yes  
 Acid Cleanup: Yes  
 Florisil Cleanup: No

Sample Amount: 25.4 g-dry-wt  
 Final Extract Volume: 5.0 mL  
 Dilution Factor: 1.00  
 Silica Gel: No  
 Percent Moisture: 40.9%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U
37324-23-5	Aroclor 1262	20	< 20 U
11100-14-4	Aroclor 1268	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	89.0%
Tetrachlorometaxylene	77.0%

**ORGANICS ANALYSIS DATA SHEET**

PSDDA PCB by GC/ECD


Page 1 of 1

Sample ID: EBC-SD-3  
SAMPLE

Lab Sample ID: NG39C

LIMS ID: 08-16301

Matrix: Soil

Data Release Authorized: 

Reported: 08/15/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Date Extracted: 07/31/08

Date Analyzed: 08/05/08 04:44

Instrument/Analyst: ECD6/JGR

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 25.6 g-dry-wt

Final Extract Volume: 5.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: 37.8%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U
37324-23-5	Aroclor 1262	20	< 20 U
11100-14-4	Aroclor 1268	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**PCB Surrogate Recovery**

Decachlorobiphenyl	85.5%
Tetrachlorometaxylene	79.5%

**ORGANICS ANALYSIS DATA SHEET**

PSDDA PCB by GC/ECD

Page 1 of 1

Sample ID: EBC-SD-4  
SAMPLE

Lab Sample ID: NG39D

LIMS ID: 08-16302

Matrix: Soil

Data Release Authorized:

Reported: 08/15/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Date Extracted: 07/31/08

Date Analyzed: 08/05/08 05:06

Instrument/Analyst: ECD6/JGR

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 25.3 g-dry-wt

Final Extract Volume: 5.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: 39.8%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U
37324-23-5	Aroclor 1262	20	< 20 U
11100-14-4	Aroclor 1268	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**PCB Surrogate Recovery**

Decachlorobiphenyl	87.2%
Tetrachlorometaxylene	81.2%

ORGANICS ANALYSIS DATA SHEET

PSDDA PCB by GC/ECD

Page 1 of 1



Sample ID: EBC-SD-5  
SAMPLE

Lab Sample ID: NG39E

LIMS ID: 08-16303

Matrix: Soil

Data Release Authorized: *[Signature]*

Reported: 08/15/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Date Extracted: 07/31/08

Date Analyzed: 08/05/08 05:28

Instrument/Analyst: ECD6/JGR

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 25.6 g-dry-wt

Final Extract Volume: 5.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: 37.9%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U
37324-23-5	Aroclor 1262	20	< 20 U
11100-14-4	Aroclor 1268	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	85.5%
Tetrachlorometaxylene	81.0%

ORGANICS ANALYSIS DATA SHEET

PSDDA PCB by GC/ECD

Page 1 of 1



Sample ID: EBC-SD-6  
SAMPLE

Lab Sample ID: NG39F

LIMS ID: 08-16304

Matrix: Soil

Data Release Authorized: *[Signature]*

Reported: 08/15/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Date Extracted: 07/31/08

Date Analyzed: 08/05/08 06:35

Instrument/Analyst: ECD6/JGR

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 25.3 g-dry-wt

Final Extract Volume: 5.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: 37.0%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U
37324-23-5	Aroclor 1262	20	< 20 U
11100-14-4	Aroclor 1268	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	81.8%
Tetrachlorometaxylene	77.8%

**ORGANICS ANALYSIS DATA SHEET**

PSDDA PCB by GC/ECD

Page 1 of 1


Sample ID: EBC-SD-7

SAMPLE

Lab Sample ID: NG39G

LIMS ID: 08-16305

Matrix: Soil

Data Release Authorized: 

Reported: 08/15/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Date Extracted: 07/31/08

Date Analyzed: 08/05/08 06:58

Instrument/Analyst: ECD6/JGR

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 25.6 g-dry-wt

Final Extract Volume: 5.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: 39.2%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U
37324-23-5	Aroclor 1262	20	< 20 U
11100-14-4	Aroclor 1268	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**PCB Surrogate Recovery**

Decachlorobiphenyl	77.2%
Tetrachlorometaxylene	67.2%

SW8082/PCB SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02

Client ID	DCBP	DCBP	TCMX	TCMX	TOT OUT
	% REC	LCL-UCL	% REC	LCL-UCL	
EBC-SD-1	89.0%	43-148	80.2%	48-123	0
EBC-SD-2	89.0%	43-148	77.0%	48-123	0
EBC-SD-3	85.5%	43-148	79.5%	48-123	0
EBC-SD-4	87.2%	43-148	81.2%	48-123	0
MB-073108	84.2%	65-117	71.8%	63-119	0
LCS-073108	90.5%	65-117	75.5%	63-119	0
LCSD-073108	89.8%	65-117	77.8%	63-119	0
EBC-SD-5	85.5%	43-148	81.0%	48-123	0
EBC-SD-5 MS	97.2%	43-148	91.8%	48-123	0
EBC-SD-5 MSD	75.2%	43-148	69.0%	48-123	0
EBC-SD-6	81.8%	43-148	77.8%	48-123	0
EBC-SD-7	77.2%	43-148	67.2%	48-123	0

PSDDA Control Limits  
Prep Method: SW3550B  
Log Number Range: 08-16299 to 08-16305



ORGANICS ANALYSIS DATA SHEET

PSDDA PCB by GC/ECD

Page 1 of 1



Sample ID: EBC-SD-5  
MS/MSD

Lab Sample ID: NG39E

LIMS ID: 08-16303

Matrix: Soil

Data Release Authorized:

Reported: 08/15/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Date Extracted MS/MSD: 07/31/08

Sample Amount MS: 25.5 g-dry-wt

MSD: 25.8 g-dry-wt

Date Analyzed MS: 08/05/08 05:51

MSD: 08/05/08 06:13

Final Extract Volume MS: 5.0 mL

MSD: 5.0 mL

Instrument/Analyst MS: ECD6/JGR

Dilution Factor MS: 1.00

MSD: 1.00

MSD: ECD6/JGR

Silica Gel: No

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Percent Moisture: 37.9%

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Aroclor 1016	< 19.6 U	82.6	98.2	84.1%	64.0	97.0	66.0%	25.4%
Aroclor 1260	< 19.6 U	114	98.2	116%	87.2	97.0	89.9%	26.6%

Results reported in  $\mu\text{g}/\text{kg}$  (ppb)

RPD calculated using sample concentrations per SW846.

ORGANICS ANALYSIS DATA SHEET

PSDDA PCB by GC/ECD

Page 1 of 1



Sample ID: EBC-SD-5  
MATRIX SPIKE

Lab Sample ID: NG39E

LIMS ID: 08-16303

Matrix: Soil

Data Release Authorized:

Reported: 08/15/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Date Extracted: 07/31/08

Date Analyzed: 08/05/08 05:51

Instrument/Analyst: ECD6/JGR

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 25.5 g-dry-wt

Final Extract Volume: 5.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: 37.9%


CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	---
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	---
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U
37324-23-5	Aroclor 1262	20	< 20 U
11100-14-4	Aroclor 1268	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	97.2%
Tetrachlorometaxylene	91.8%

Sample ID: EBC-SD-5  
MATRIX SPIKE DUP

Lab Sample ID: NG39E  
LIMS ID: 08-16303  
Matrix: Soil  
Data Release Authorized:   
Reported: 08/15/08

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02  
Date Sampled: 07/18/08  
Date Received: 07/18/08

Date Extracted: 07/31/08  
Date Analyzed: 08/05/08 06:13  
Instrument/Analyst: ECD6/JGR  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 25.8 g-dry-wt  
Final Extract Volume: 5.0 mL  
Dilution Factor: 1.00  
Silica Gel: No  
Percent Moisture: 37.9%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	19	---
53469-21-9	Aroclor 1242	19	< 19 U
12672-29-6	Aroclor 1248	19	< 19 U
11097-69-1	Aroclor 1254	19	< 19 U
11096-82-5	Aroclor 1260	19	---
11104-28-2	Aroclor 1221	19	< 19 U
11141-16-5	Aroclor 1232	19	< 19 U
37324-23-5	Aroclor 1262	19	< 19 U
11100-14-4	Aroclor 1268	19	< 19 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**PCB Surrogate Recovery**

Decachlorobiphenyl	75.2%
Tetrachlorometaxylene	69.0%

Sample ID: LCS-073108  
 LCS/LCSD

Lab Sample ID: LCS-073108  
 LIMS ID: 08-16303  
 Matrix: Soil  
 Data Release Authorized:  
 Reported: 08/15/08

QC Report No: NG39-HART CROWSER, INC.  
 Project: EBC  
 17441-02  
 Date Sampled: NA  
 Date Received: NA

Date Extracted LCS/LCSD: 07/31/08

Sample Amount LCS: 25.0 g-dry-wt  
 LCSD: 25.0 g-dry-wt

Date Analyzed LCS: 08/05/08 03:14  
 LCSD: 08/05/08 03:36

Final Extract Volume LCS: 5.0 mL  
 LCSD: 5.0 mL

Instrument/Analyst LCS: ECD6/JGR  
 LCSD: ECD6/JGR

Dilution Factor LCS: 1.00  
 LCSD: 1.00

GPC Cleanup: No  
 Sulfur Cleanup: Yes  
 Acid Cleanup: Yes  
 Florisil Cleanup: No

Silica Gel: No

Percent Moisture: NA

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	75.9	100	75.9%	80.1	100	80.1%	5.4%
Aroclor 1260	116	100	116%	113	100	113%	2.6%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	90.5%	89.8%
Tetrachlorometaxylene	75.5%	77.8%

Results reported in  $\mu\text{g}/\text{kg}$  (ppb)  
 RPD calculated using sample concentrations per SW846.

4  
PCB METHOD BLANK SUMMARY

BLANK NO.

NG39MBS1
----------

Lab Name: ANALYTICAL RESOURCES, INC  
 ARI Job No.: NG39  
 Lab Sample ID: NG39MBS1  
 Date Extracted: 07/31/08  
 Date Analyzed: 08/05/08  
 Time Analyzed: 0252


Client: HART CROWSER, INC.  
 Project: EBC  
 Lab File ID: 0804A055  
 Matrix: SOLID  
 Instrument ID: ECD6  
 GC Columns: ZB5/ZB35

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
	=====	=====	=====
01	CB123-071808	NG32A	08/04/08
02	NG39LCSS1	NG39LCSS1	08/05/08
03	NG39LCSDS1	NG39LCSDS1	08/05/08
04	EBC-SD-1	NG39A	08/05/08
05	EBC-SD-2	NG39B	08/05/08
06	EBC-SD-3	NG39C	08/05/08
07	EBC-SD-4	NG39D	08/05/08
08	EBC-SD-5	NG39E	08/05/08
09	EBC-SD-5 MS	NG39EMS	08/05/08
10	EBC-SD-5 MSD	NG39EMSD	08/05/08
11	EBC-SD-6	NG39F	08/05/08
12	EBC-SD-7	NG39G	08/05/08

ALL RUNS ARE DUAL COLUMN

Sample ID: MB-073108  
METHOD BLANK

Lab Sample ID: MB-073108  
LIMS ID: 08-16303  
Matrix: Soil  
Data Release Authorized:   
Reported: 08/15/08

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02  
Date Sampled: NA  
Date Received: NA

Date Extracted: 07/31/08  
Date Analyzed: 08/05/08 02:52  
Instrument/Analyst: ECD6/JGR  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 25.0 g  
Final Extract Volume: 5.0 mL  
Dilution Factor: 1.00  
Silica Gel: No  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U
37324-23-5	Aroclor 1262	20	< 20 U
11100-14-4	Aroclor 1268	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	84.2%
Tetrachlorometaxylene	71.8%

## **METALS**

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**


Page 1 of 1

Sample ID: EBC-SD-1  
SAMPLE

Lab Sample ID: NG39A

LIMS ID: 08-16299

Matrix: Soil

Data Release Authorized: 

Reported: 08/27/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Percent Total Solids: 54.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	08/22/08	6010B	08/26/08	7440-36-0	Antimony	9	9	U
3050B	08/22/08	6010B	08/26/08	7440-38-2	Arsenic	9	9	U
3050B	08/22/08	6010B	08/26/08	7440-43-9	Cadmium	0.4	0.4	U
3050B	08/22/08	6010B	08/26/08	<b>7440-47-3</b>	<b>Chromium</b>	0.9	<b>16.4</b>	
3050B	08/22/08	6010B	08/26/08	<b>7440-50-8</b>	<b>Copper</b>	0.4	<b>41.9</b>	
3050B	08/22/08	6010B	08/26/08	<b>7439-92-1</b>	<b>Lead</b>	4	<b>10</b>	
CLP	08/13/08	7471A	08/15/08	<b>7439-97-6</b>	<b>Mercury</b>	0.08	<b>0.08</b>	
3050B	08/22/08	6010B	08/26/08	7440-22-4	Silver	0.5	0.5	U
3050B	08/22/08	6010B	08/26/08	<b>7440-66-6</b>	<b>Zinc</b>	2	<b>46</b>	

U-Analyte undetected at given RL

RL-Reporting Limit



**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**


Page 1 of 1

Sample ID: EBC-SD-1  
DUPLICATE

Lab Sample ID: NG39A

LIMS ID: 08-16299

Matrix: Soil

Data Release Authorized: 

Reported: 08/27/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

**MATRIX DUPLICATE QUALITY CONTROL REPORT**

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Antimony	6010B	9 U	9 U	0.0%	+/- 9	L
Arsenic	6010B	9 U	9 U	0.0%	+/- 9	L
Cadmium	6010B	0.4 U	0.4 U	0.0%	+/- 0.4	L
Chromium	6010B	16.4	15.7	4.4%	+/- 20%	
Copper	6010B	41.9	41.2	1.7%	+/- 20%	
Lead	6010B	10	10	0.0%	+/- 4	L
Mercury	7471A	0.08	0.08 U	0.0%	+/- 0.08	L
Silver	6010B	0.5 U	0.5 U	0.0%	+/- 0.5	L
Zinc	6010B	46	46	0.0%	+/- 20%	

Reported in mg/kg-dry

\*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**

Page 1 of 1

Sample ID: EBC-SD-1

**MATRIX SPIKE**

Lab Sample ID: NG39A

LIMS ID: 08-16299

Matrix: Soil

Data Release Authorized

Reported: 08/27/08



QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

**MATRIX SPIKE QUALITY CONTROL REPORT**

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Antimony	6010B	9 U	60	364	16.5%	N
Arsenic	6010B	9 U	358	364	98.4%	
Cadmium	6010B	0.4 U	85.3	91.0	93.7%	
Chromium	6010B	16.4	101	91.0	93.0%	
Copper	6010B	41.9	129	91.0	95.7%	
Lead	6010B	10	340	364	90.7%	
Mercury	7471A	0.08	0.86	0.770	101%	
Silver	6010B	0.5 U	83.9	91.0	92.2%	
Zinc	6010B	46	126	91.0	87.9%	

Reported in mg/kg-dry

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%



INORGANICS ANALYSIS DATA SHEET  
TOTAL METALS

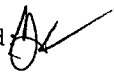
Page 1 of 1

Sample ID: EBC-SD-2  
SAMPLE

Lab Sample ID: NG39B

LIMS ID: 08-16300

Matrix: Soil

Data Release Authorized 

Reported: 08/27/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Percent Total Solids: 55.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	08/22/08	6010B	08/26/08	7440-36-0	Antimony	9	9	U
3050B	08/22/08	6010B	08/26/08	7440-38-2	Arsenic	9	9	U
3050B	08/22/08	6010B	08/26/08	7440-43-9	Cadmium	0.3	0.3	U
3050B	08/22/08	6010B	08/26/08	7440-47-3	Chromium	0.9	17.0	
3050B	08/22/08	6010B	08/26/08	7440-50-8	Copper	0.3	42.6	
3050B	08/22/08	6010B	08/26/08	7439-92-1	Lead	3	10	
CLP	08/13/08	7471A	08/15/08	7439-97-6	Mercury	0.06	0.06	
3050B	08/22/08	6010B	08/26/08	7440-22-4	Silver	0.5	0.5	U
3050B	08/22/08	6010B	08/26/08	7440-66-6	Zinc	2	47	

U-Analyte undetected at given RL  
RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**

Page 1 of 1

Sample ID: EBC-SD-3  
SAMPLE

Lab Sample ID: NG39C

LIMS ID: 08-16301

Matrix: Soil

Data Release Authorized: *[Signature]*

Reported: 08/27/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Percent Total Solids: 60.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	08/22/08	6010B	08/26/08	7440-36-0	Antimony	8	8	U
3050B	08/22/08	6010B	08/26/08	7440-38-2	Arsenic	8	8	U
3050B	08/22/08	6010B	08/26/08	7440-43-9	Cadmium	0.3	0.3	U
3050B	08/22/08	6010B	08/26/08	<b>7440-47-3</b>	<b>Chromium</b>	0.8	<b>15.2</b>	
3050B	08/22/08	6010B	08/26/08	<b>7440-50-8</b>	<b>Copper</b>	0.3	<b>36.5</b>	
3050B	08/22/08	6010B	08/26/08	<b>7439-92-1</b>	<b>Lead</b>	3	9	
CLP	08/13/08	7471A	08/15/08	7439-97-6	Mercury	0.06	0.06	U
3050B	08/22/08	6010B	08/26/08	7440-22-4	Silver	0.5	0.5	U
3050B	08/22/08	6010B	08/26/08	<b>7440-66-6</b>	<b>Zinc</b>	2	<b>40</b>	

U-Analyte undetected at given RL

RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**

Page 1 of 1

Sample ID: EBC-SD-4  
SAMPLE

Lab Sample ID: NG39D

LIMS ID: 08-16302

Matrix: Soil

Data Release Authorized: *[Signature]*

Reported: 08/27/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Percent Total Solids: 60.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	08/22/08	6010B	08/26/08	7440-36-0	Antimony	8	8	U
3050B	08/22/08	6010B	08/26/08	7440-38-2	Arsenic	8	8	U
3050B	08/22/08	6010B	08/26/08	7440-43-9	Cadmium	0.3	0.3	U
3050B	08/22/08	6010B	08/26/08	<b>7440-47-3</b>	<b>Chromium</b>	0.8	<b>14.9</b>	
3050B	08/22/08	6010B	08/26/08	<b>7440-50-8</b>	<b>Copper</b>	0.3	<b>33.1</b>	
3050B	08/22/08	6010B	08/26/08	<b>7439-92-1</b>	<b>Lead</b>	3	<b>8</b>	
CLP	08/13/08	7471A	08/15/08	7439-97-6	Mercury	0.06	0.06	U
3050B	08/22/08	6010B	08/26/08	7440-22-4	Silver	0.5	0.5	U
3050B	08/22/08	6010B	08/26/08	<b>7440-66-6</b>	<b>Zinc</b>	2	<b>37</b>	

U-Analyte undetected at given RL

RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**


Page 1 of 1

Sample ID: EBC-SD-5  
SAMPLE

Lab Sample ID: NG39E

LIMS ID: 08-16303

Matrix: Soil

Data Release Authorized 

Reported: 08/27/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Percent Total Solids: 59.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	08/22/08	6010B	08/26/08	7440-36-0	Antimony	8	8	U
3050B	08/22/08	6010B	08/26/08	7440-38-2	Arsenic	8	8	U
3050B	08/22/08	6010B	08/26/08	7440-43-9	Cadmium	0.3	0.3	U
3050B	08/22/08	6010B	08/26/08	<b>7440-47-3</b>	<b>Chromium</b>	0.8	<b>17.2</b>	
3050B	08/22/08	6010B	08/26/08	<b>7440-50-8</b>	<b>Copper</b>	0.3	<b>35.8</b>	
3050B	08/22/08	6010B	08/26/08	<b>7439-92-1</b>	<b>Lead</b>	3	<b>11</b>	
CLP	08/13/08	7471A	08/15/08	<b>7439-97-6</b>	<b>Mercury</b>	0.06	<b>0.07</b>	
3050B	08/22/08	6010B	08/26/08	7440-22-4	Silver	0.5	0.5	U
3050B	08/22/08	6010B	08/26/08	<b>7440-66-6</b>	<b>Zinc</b>	2	<b>43</b>	

U-Analyte undetected at given RL

RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**


Page 1 of 1

Sample ID: EBC-SD-6  
SAMPLE

Lab Sample ID: NG39F

LIMS ID: 08-16304

Matrix: Soil

Data Release Authorized: 

Reported: 08/27/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Percent Total Solids: 60.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	08/22/08	6010B	08/26/08	7440-36-0	Antimony	8	8	U
3050B	08/22/08	6010B	08/26/08	7440-38-2	Arsenic	8	8	U
3050B	08/22/08	6010B	08/26/08	7440-43-9	Cadmium	0.3	0.3	U
3050B	08/22/08	6010B	08/26/08	<b>7440-47-3</b>	<b>Chromium</b>	0.8	<b>16.2</b>	
3050B	08/22/08	6010B	08/26/08	<b>7440-50-8</b>	<b>Copper</b>	0.3	<b>35.9</b>	
3050B	08/22/08	6010B	08/26/08	<b>7439-92-1</b>	<b>Lead</b>	3	9	
CLP	08/13/08	7471A	08/15/08	7439-97-6	Mercury	0.07	0.07	U
3050B	08/22/08	6010B	08/26/08	7440-22-4	Silver	0.5	0.5	U
3050B	08/22/08	6010B	08/26/08	<b>7440-66-6</b>	<b>Zinc</b>	2	<b>42</b>	

U-Analyte undetected at given RL

RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**

Page 1 of 1

Sample ID: EBC-SD-7  
SAMPLE

Lab Sample ID: NG39G

LIMS ID: 08-16305

Matrix: Soil

Data Release Authorized: *[Signature]*

Reported: 08/27/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Percent Total Solids: 60.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	08/22/08	6010B	08/26/08	7440-36-0	Antimony	8	8	U
3050B	08/22/08	6010B	08/26/08	7440-38-2	Arsenic	8	8	U
3050B	08/22/08	6010B	08/26/08	7440-43-9	Cadmium	0.3	0.3	U
3050B	08/22/08	6010B	08/26/08	<b>7440-47-3</b>	<b>Chromium</b>	0.8	<b>16.9</b>	
3050B	08/22/08	6010B	08/26/08	<b>7440-50-8</b>	<b>Copper</b>	0.3	<b>38.2</b>	
3050B	08/22/08	6010B	08/26/08	<b>7439-92-1</b>	<b>Lead</b>	3	9	
CLP	08/13/08	7471A	08/15/08	<b>7439-97-6</b>	<b>Mercury</b>	0.06	<b>0.06</b>	
3050B	08/22/08	6010B	08/26/08	7440-22-4	Silver	0.5	0.5	U
3050B	08/22/08	6010B	08/26/08	<b>7440-66-6</b>	<b>Zinc</b>	2	<b>40</b>	

U-Analyte undetected at given RL

RL-Reporting Limit



**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**


Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: NG39MB

LIMS ID: 08-16300

Matrix: Soil

Data Release Authorized: 

Reported: 08/27/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: NA

Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	08/22/08	6010B	08/26/08	7440-36-0	Antimony	5	5	U
3050B	08/22/08	6010B	08/26/08	7440-38-2	Arsenic	5	5	U
3050B	08/22/08	6010B	08/26/08	7440-43-9	Cadmium	0.2	0.2	U
3050B	08/22/08	6010B	08/26/08	7440-47-3	Chromium	0.5	0.5	U
3050B	08/22/08	6010B	08/26/08	7440-50-8	Copper	0.2	0.2	U
3050B	08/22/08	6010B	08/26/08	7439-92-1	Lead	2	2	U
CLP	08/13/08	7471A	08/15/08	7439-97-6	Mercury	0.05	0.05	U
3050B	08/22/08	6010B	08/26/08	7440-22-4	Silver	0.3	0.3	U
3050B	08/22/08	6010B	08/26/08	7440-66-6	Zinc	1	1	U

U-Analyte undetected at given RL

RL-Reporting Limit

# **GENERAL CHEMISTRY**

SAMPLE RESULTS-CONVENTIONALS  
NG39-HART CROWSER, INC.



Matrix: Soil  
Data Release Authorized: *[Signature]*  
Reported: 08/22/08

Project: EBC  
Event: 17441-02  
Date Sampled: 07/18/08  
Date Received: 07/18/08

Client ID: EBC-SD-1  
ARI ID: 08-16299 NG39A

Analyte	Date	Method	Units	RL	Sample
Total Solids	08/04/08 080408#1	EPA 160.3	Percent	0.01	58.40
Total Organic Carbon	08/20/08 082008#1	Plumb, 1981	Percent	0.020	0.937

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
NG39-HART CROWSER, INC.



Matrix: Soil  
Data Release Authorized *[Signature]*  
Reported: 08/22/08

Project: EBC  
Event: 17441-02  
Date Sampled: 07/18/08  
Date Received: 07/18/08

Client ID: EBC-SD-2  
ARI ID: 08-16300 NG39B

Analyte	Date	Method	Units	RL	Sample
Total Solids	08/04/08 080408#1	EPA 160.3	Percent	0.01	59.50
Total Organic Carbon	08/21/08 082108#1	Plumb, 1981	Percent	0.020	0.892

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
NG39-HART CROWSER, INC.



Matrix: Soil  
Data Release Authorized: *[Signature]*  
Reported: 08/22/08

Project: EBC  
Event: 17441-02  
Date Sampled: 07/18/08  
Date Received: 07/18/08

Client ID: EBC-SD-3  
ARI ID: 08-16301 NG39C

Analyte	Date	Method	Units	RL	Sample
Total Solids	08/04/08 080408#1	EPA 160.3	Percent	0.01	60.90
Total Organic Carbon	08/21/08 082108#1	Plumb, 1981	Percent	0.020	0.866

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
NG39-HART CROWSER, INC.



Matrix: Soil  
Data Release Authorized: *[Signature]*  
Reported: 08/22/08

Project: EBC  
Event: 17441-02  
Date Sampled: 07/18/08  
Date Received: 07/18/08

Client ID: EBC-SD-4  
ARI ID: 08-16302 NG39D

Analyte	Date	Method	Units	RL	Sample
Total Solids	08/04/08 080408#1	EPA 160.3	Percent	0.01	60.70
Total Organic Carbon	08/21/08 082108#1	Plumb, 1981	Percent	0.020	0.740

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
NG39-HART CROWSER, INC.



Matrix: Soil  
Data Release Authorized  
Reported: 08/22/08

A handwritten signature in black ink, appearing to be 'J. H. Crowser', written over the 'Data Release Authorized' text.

Project: EBC  
Event: 17441-02  
Date Sampled: 07/18/08  
Date Received: 07/18/08

Client ID: EBC-SD-5  
ARI ID: 08-16303 NG39E

Analyte	Date	Method	Units	RL	Sample
Total Solids	08/04/08 080408#1	EPA 160.3	Percent	0.01	62.20
Total Organic Carbon	08/21/08 082108#1	Plumb, 1981	Percent	0.020	0.903

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
NG39-HART CROWSER, INC.



Matrix: Soil  
Data Release Authorized  
Reported: 08/22/08

A handwritten signature in black ink, appearing to be 'JA' or similar, written over the 'Data Release Authorized' text.

Project: EBC  
Event: 17441-02  
Date Sampled: 07/18/08  
Date Received: 07/18/08

Client ID: EBC-SD-6  
ARI ID: 08-16304 NG39F


Analyte	Date	Method	Units	RL	Sample
Total Solids	08/04/08 080408#1	EPA 160.3	Percent	0.01	61.60
Total Organic Carbon	08/21/08 082108#1	Plumb, 1981	Percent	0.020	0.921

RL Analytical reporting limit  
U Undetected at reported detection limit



SAMPLE RESULTS-CONVENTIONALS  
NG39-HART CROWSER, INC.



Matrix: Soil  
Data Release Authorized:   
Reported: 08/22/08

Project: EBC  
Event: 17441-02  
Date Sampled: 07/18/08  
Date Received: 07/18/08


Client ID: EBC-SD-7  
ARI ID: 08-16305 NG39G

Analyte	Date	Method	Units	RL	Sample
Total Solids	08/04/08 080408#1	EPA 160.3	Percent	0.01	61.80
Total Organic Carbon	08/21/08 082108#1	Plumb, 1981	Percent	0.020	0.869

RL Analytical reporting limit  
U Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS  
NG39-HART CROWSER, INC.



Matrix: Soil  
Data Release Authorized:   
Reported: 08/22/08

Project: EBC  
Event: 17441-02  
Date Sampled: 07/18/08  
Date Received: 07/18/08

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: NG39A Client ID: EBC-SD-1						
Total Organic Carbon	08/20/08	Percent	0.937	1.89	1.15	82.5%

REPLICATE RESULTS-CONVENTIONALS  
NG39-HART CROWSER, INC.



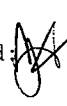
Matrix: Soil  
Data Release Authorized: *[Signature]*  
Reported: 08/22/08

Project: EBC  
Event: 17441-02  
Date Sampled: 07/18/08  
Date Received: 07/18/08

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: NG39A    Client ID: EBC-SD-1					
Total Solids	08/04/08	Percent	58.40	58.30 58.50	0.2%
Total Organic Carbon	08/20/08	Percent	0.937	0.828 0.786	9.2%

LAB CONTROL RESULTS-CONVENTIONALS  
NG39-HART CROWSER, INC.



Matrix: Soil  
Data Release Authorized:   
Reported: 08/22/08

Project: EBC  
Event: 17441-02  
Date Sampled: NA  
Date Received: NA

Analyte	Date	Units	LCS	Spike Added	Recovery
Total Organic Carbon	08/20/08	Percent	0.508	0.500	101.6%
	08/21/08		0.515	0.500	103.0%

METHOD BLANK RESULTS-CONVENTIONALS  
NG39-HART CROWSER, INC.




Matrix: Soil  
Data Release Authorized *[Signature]*  
Reported: 08/22/08

Project: EBC  
Event: 17441-02  
Date Sampled: NA  
Date Received: NA

Analyte	Date	Units	Blank
Total Solids	08/04/08	Percent	< 0.01 U
	08/04/08		< 0.01 U
	08/04/08		< 0.01 U
	08/04/08		< 0.01 U
Total Organic Carbon	08/20/08	Percent	< 0.020 U
	08/21/08		< 0.020 U

STANDARD REFERENCE RESULTS-CONVENTIONALS  
NG39-HART CROWSER, INC.



Matrix: Soil  
Data Release Authorized:   
Reported: 08/22/08

Project: EBC  
Event: 17441-02  
Date Sampled: NA  
Date Received: NA

Analyte/SRM ID	Date	Units	SRM	True Value	Recovery
Total Organic Carbon	08/20/08	Percent	3.79	3.35	113.1%
NIST #8704	08/21/08		3.48	3.35	103.9%

**TOTAL SOLIDS**

Extractions Total Solids-exttts  
Data By: Tae K. You  
Created: 7/24/08

Worklist: 2166  
Analyst: MH  
Comments:

ARI ID CLIENT ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	% Solids	pH
1. NG39A 08-16299 EBC-SD-1	1.18	11.64	7.24	57.9	NR
2. NG39B 08-16300 EBC-SD-2	1.16	11.24	7.12	59.1	NR
3. NG39C 08-16301 EBC-SD-3	1.18	11.76	7.76	62.2	NR
4. NG39D 08-16302 EBC-SD-4	1.16	11.20	7.20	60.2	NR
5. NG39E 08-16303 EBC-SD-5	1.18	11.58	7.64	62.1	NR
6. NG39F 08-16304 EBC-SD-6	1.16	11.86	7.90	63.0	NR
7. NG39G 08-16305 EBC-SD-7	1.18	11.78	7.62	60.8	NR



Solids Data Entry Report  
Date: 08/12/08

Checked by: MH  
Data Analyst: DM

Date: 8/12/08

Solids Determination performed on 08/11/08 by DM

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
NG39	A	EBC-SD-1	1.026	10.253	6.063	54.59
NG39	B	EBC-SD-2	1.014	10.910	6.531	55.75
NG39	C	EBC-SD-3	1.022	10.538	6.753	60.22
NG39	D	EBC-SD-4	1.006	10.325	6.622	60.26
NG39	E	EBC-SD-5	0.995	10.150	6.406	59.10
NG39	F	EBC-SD-6	1.045	10.268	6.582	60.03
NG39	G	EBC-SD-7	1.031	10.146	6.516	60.18

**LABORATORY CERTIFICATES OF ANALYSIS  
ANALYTICAL RESOURCES, INC. (ARI)  
ARI JOB NO. NG39A**

**Note: The attached analytical results provide additional Method Detection Limit (MDL) data for semivolatile compounds by SW8270D GC/MS reports for ARI Job No. NG39**

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
Page 1 of 2

Sample ID: EBC-SD-1  
SAMPLE

Lab Sample ID: NG39A  
LIMS ID: 08-16299  
Matrix: Soil  
Data Release Authorized:  
Reported: 09/29/08

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02  
Date Sampled: 07/18/08  
Date Received: 07/18/08

Date Extracted: 07/25/08  
Date Analyzed: 08/07/08 14:54  
Instrument/Analyst: NT4/LJR  
GPC Cleanup: Yes

Sample Amount: 25.5 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 42.1%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	13	20	58
541-73-1	1,3-Dichlorobenzene	7.3	20	< 20 U
106-46-7	1,4-Dichlorobenzene	7.2	20	< 20 U
100-51-6	Benzyl Alcohol	14	20	< 20 U
95-50-1	1,2-Dichlorobenzene	7.7	20	< 20 U
95-48-7	2-Methylphenol	14	20	< 20 U
106-44-5	4-Methylphenol	13	20	< 20 U
67-72-1	Hexachloroethane	7.1	20	< 20 U
105-67-9	2,4-Dimethylphenol	15	20	< 20 U
65-85-0	Benzoic Acid	110	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	8.9	20	< 20 U
91-20-3	Naphthalene	8.5	20	11 J
87-68-3	Hexachlorobutadiene	8.0	20	< 20 U
91-57-6	2-Methylnaphthalene	8.0	20	12 J
131-11-3	Dimethylphthalate	7.6	20	< 20 U
208-96-8	Acenaphthylene	8.5	20	< 20 U
83-32-9	Acenaphthene	8.1	20	< 20 U
132-64-9	Dibenzofuran	7.4	20	11 J
84-66-2	Diethylphthalate	16	20	28
86-73-7	Fluorene	8.8	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	8.5	20	< 20 U
118-74-1	Hexachlorobenzene	7.9	20	< 20 U
87-86-5	Pentachlorophenol	47	98	< 98 U
85-01-8	Phenanthrene	8.2	20	62
120-12-7	Anthracene	7.6	20	26
84-74-2	Di-n-Butylphthalate	12	20	< 20 U
206-44-0	Fluoranthene	7.8	20	130
129-00-0	Pyrene	7.6	20	110
85-68-7	Butylbenzylphthalate	11	20	< 20 U
56-55-3	Benzo (a) anthracene	5.8	20	61
117-81-7	bis (2-Ethylhexyl)phthalate	11	20	48 B
218-01-9	Chrysene	6.5	20	100
117-84-0	Di-n-Octyl phthalate	8.2	20	< 20 U
205-99-2	Benzo (b) fluoranthene	9.3	20	56
207-08-9	Benzo (k) fluoranthene	9.1	20	100
50-32-8	Benzo (a) pyrene	8.0	20	69
193-39-5	Indeno (1,2,3-cd) pyrene	8.4	20	27
53-70-3	Dibenz (a,h) anthracene	8.4	20	< 20 U
191-24-2	Benzo (g,h,i) perylene	6.6	20	31

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
Page 2 of 2

Sample ID: EBC-SD-1  
SAMPLE

Lab Sample ID: NG39A  
LIMS ID: 08-16299  
Matrix: Soil  
Date Analyzed: 08/07/08 14:54

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02

CAS Number	Analyte	MDL	RL	Result
90-12-0	1-Methylnaphthalene	7.1	20	< 20 U

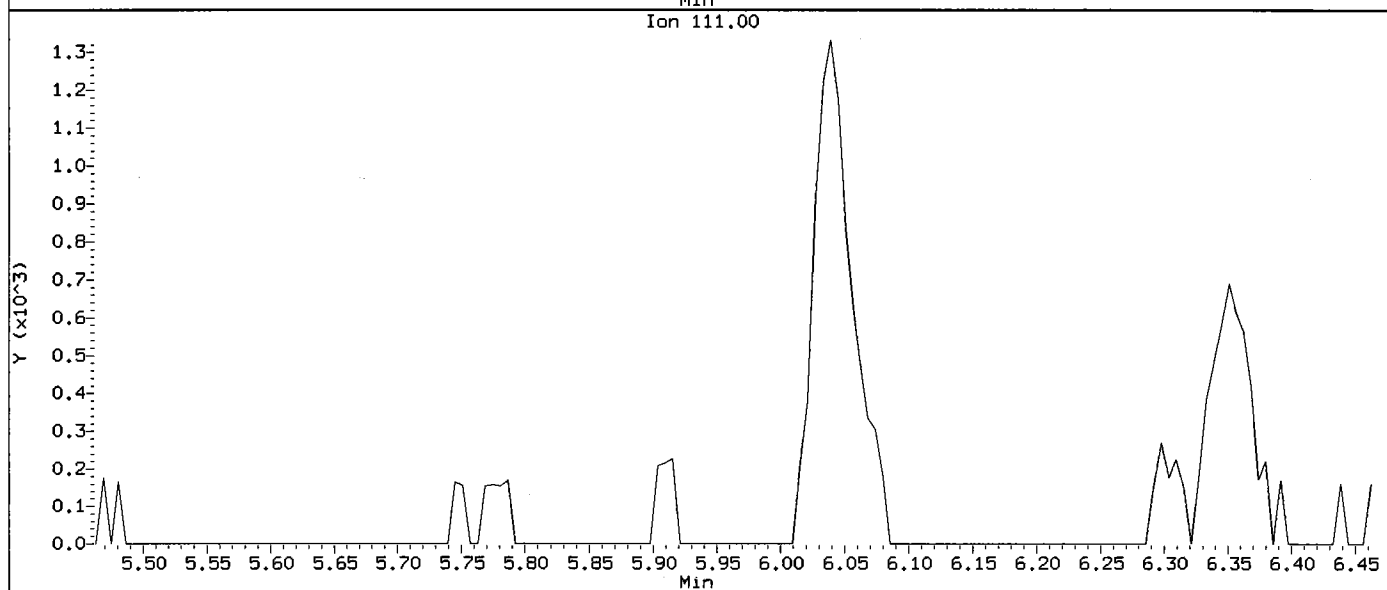
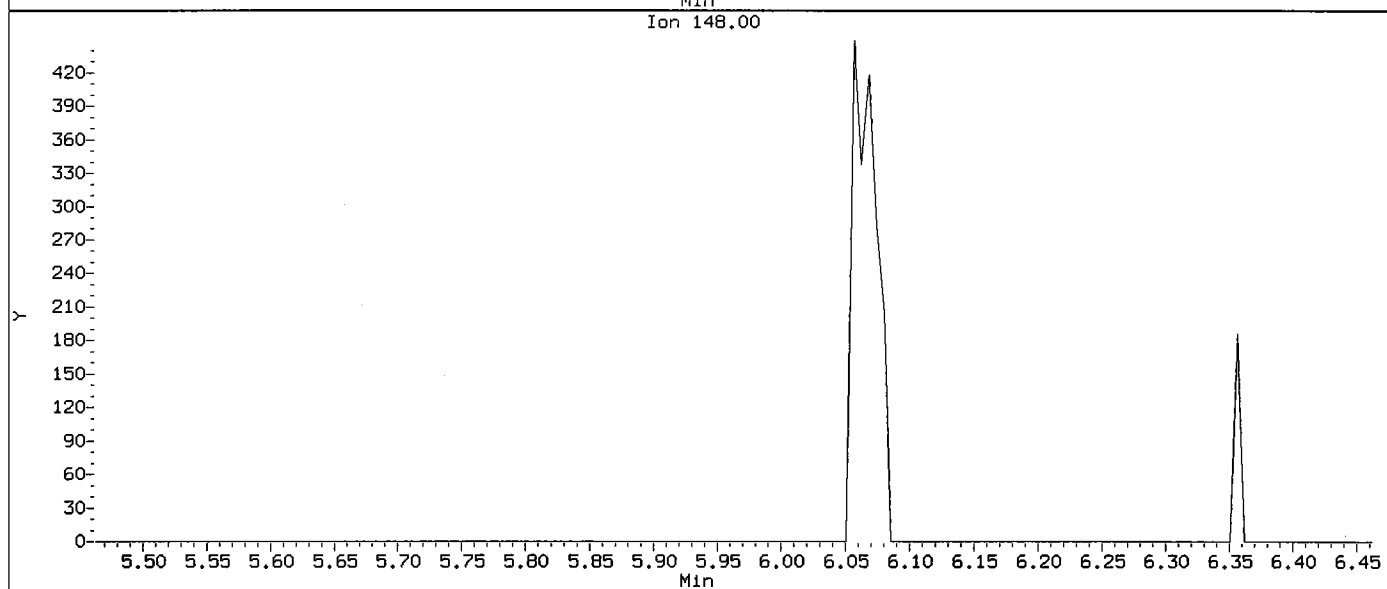
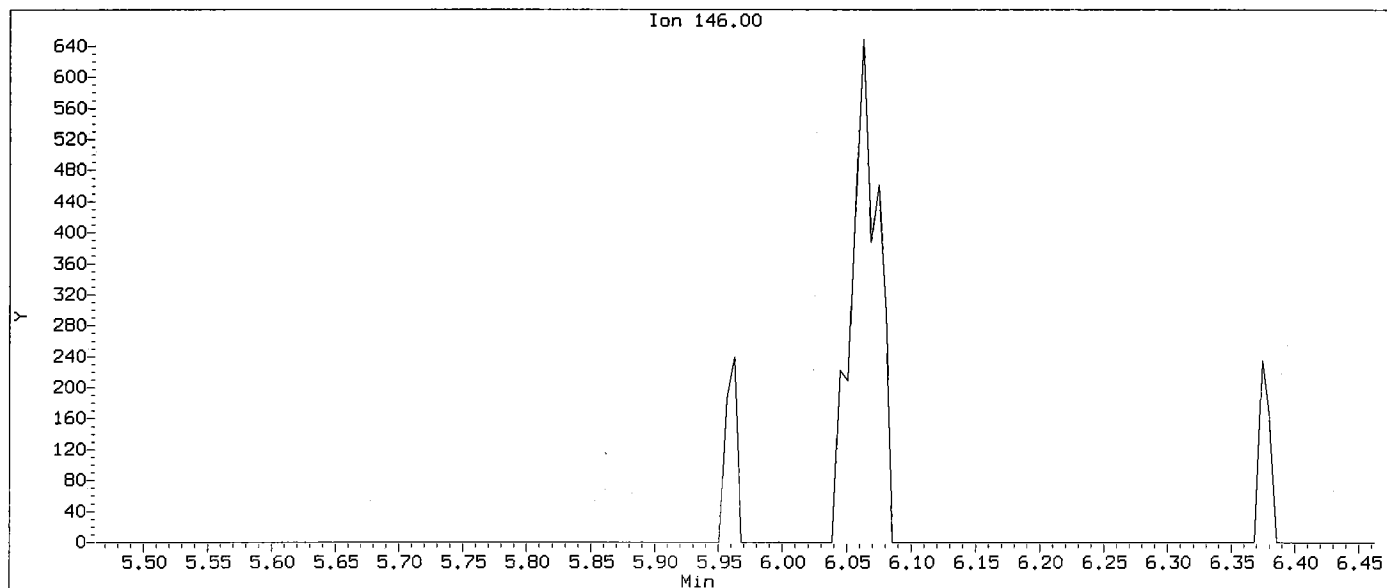
Reported in µg/kg (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	39.8%	2-Fluorobiphenyl	51.2%
d14-p-Terphenyl	54.4%	d4-1,2-Dichlorobenzene	40.4%
d5-Phenol	44.5%	2-Fluorophenol	41.3%
2,4,6-Tribromophenol	70.9%	d4-2-Chlorophenol	46.4%

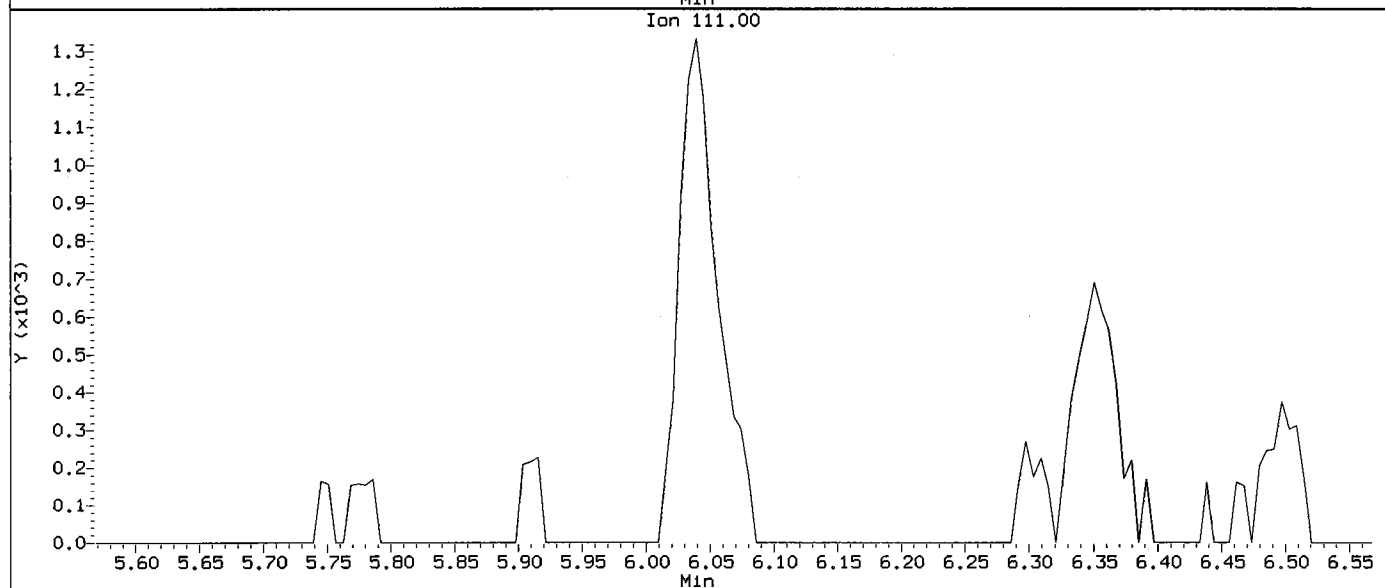
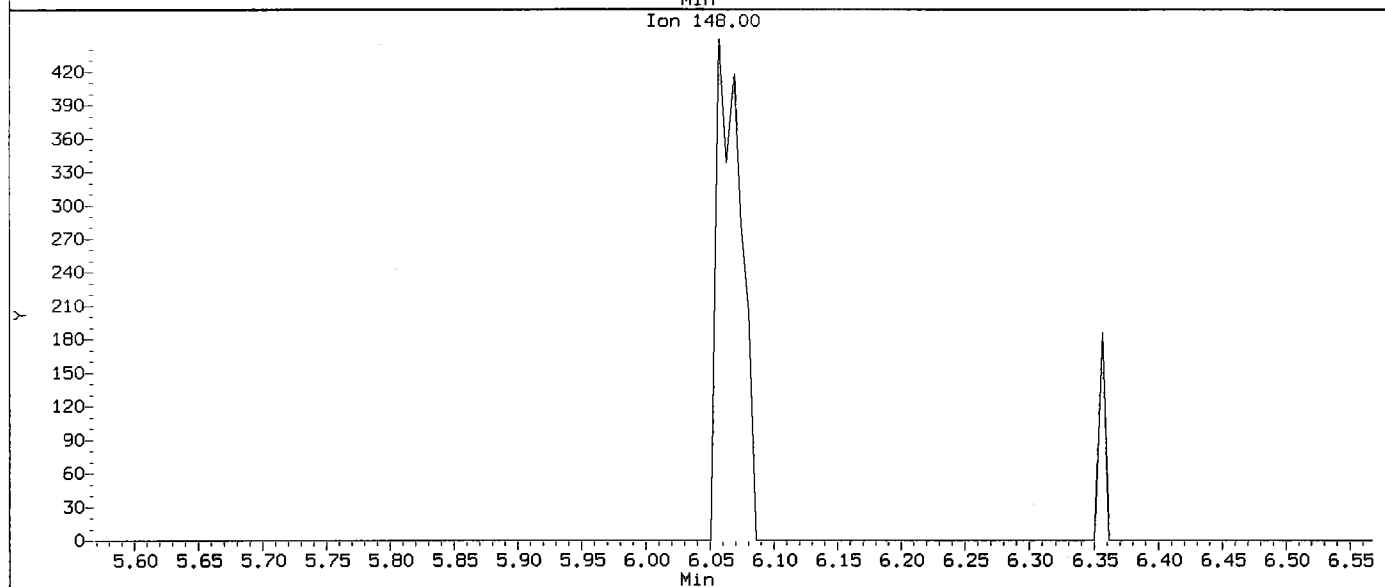
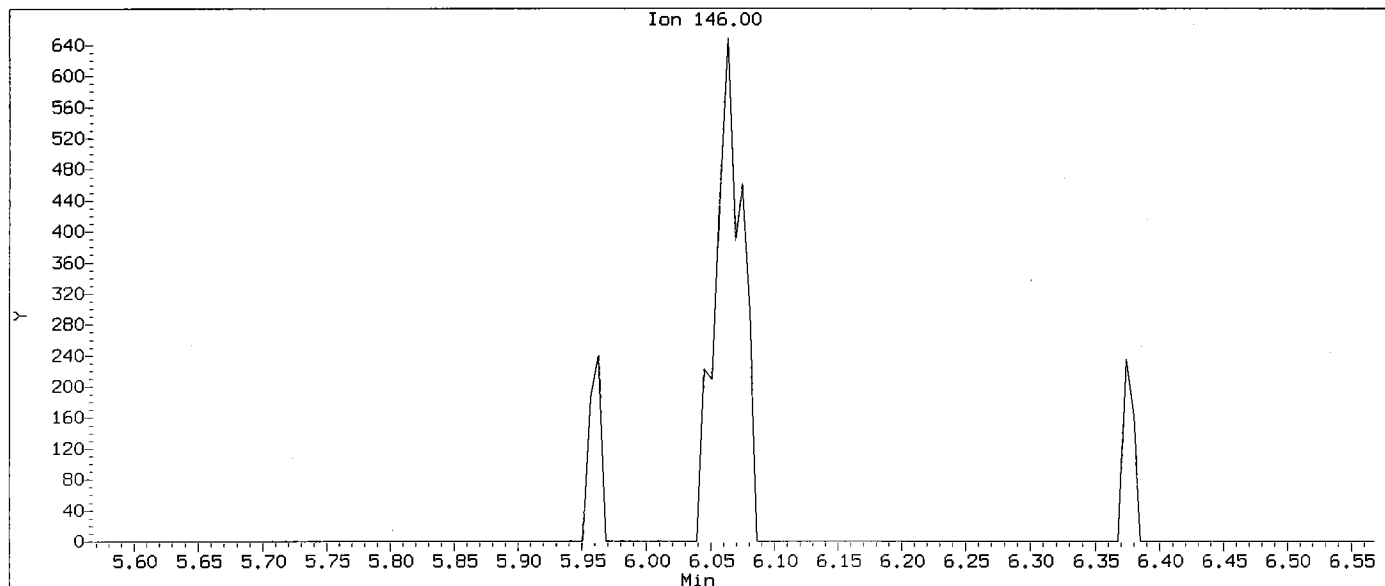
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Injection Date: 07-AUG-2008 14:54  
Instrument: nt4.1  
Client Sample ID: EBC-SD-1

Compound: 1,3-Dichlorobenzene  
CAS Number: 541-73-1



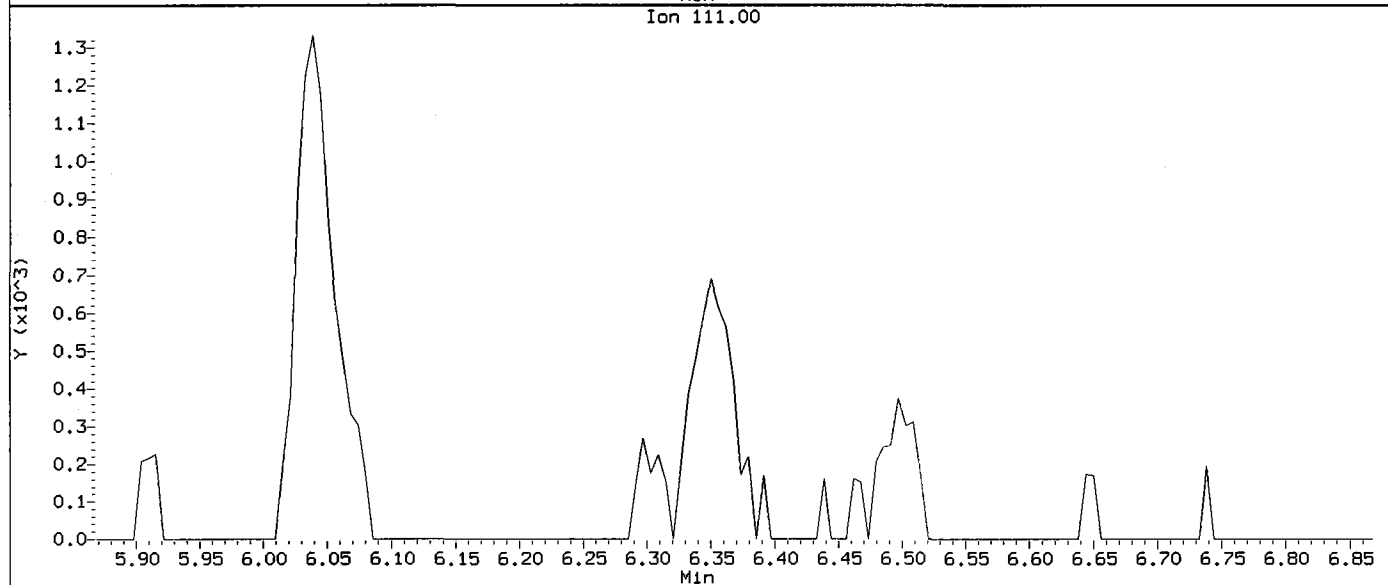
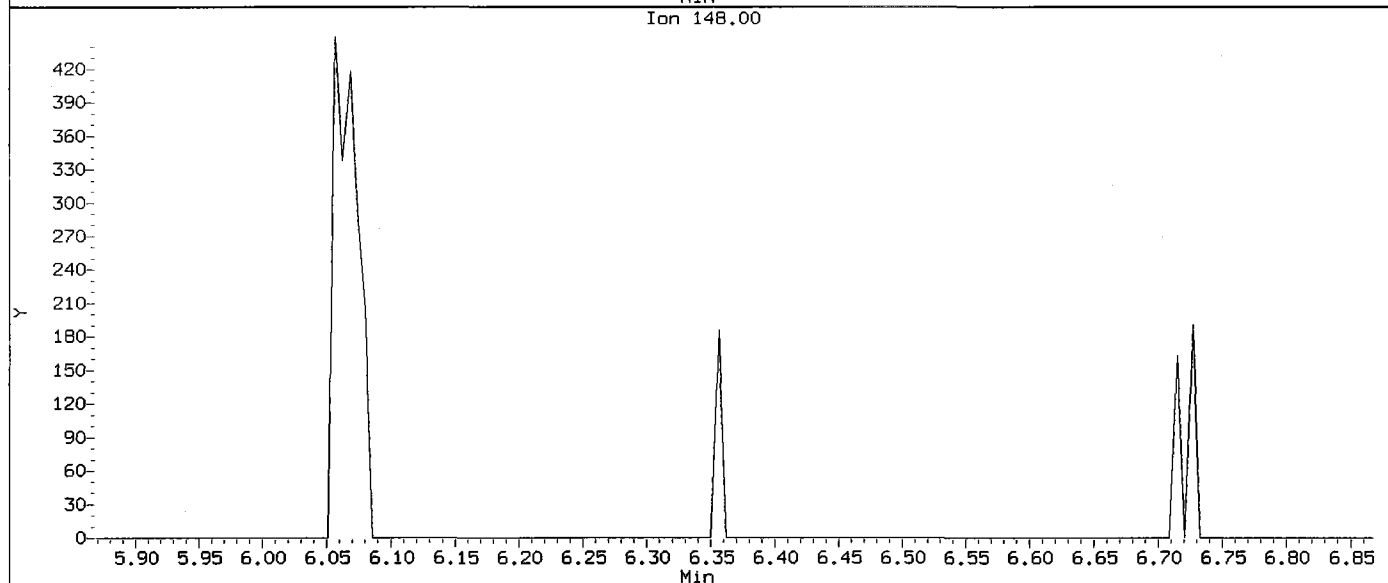
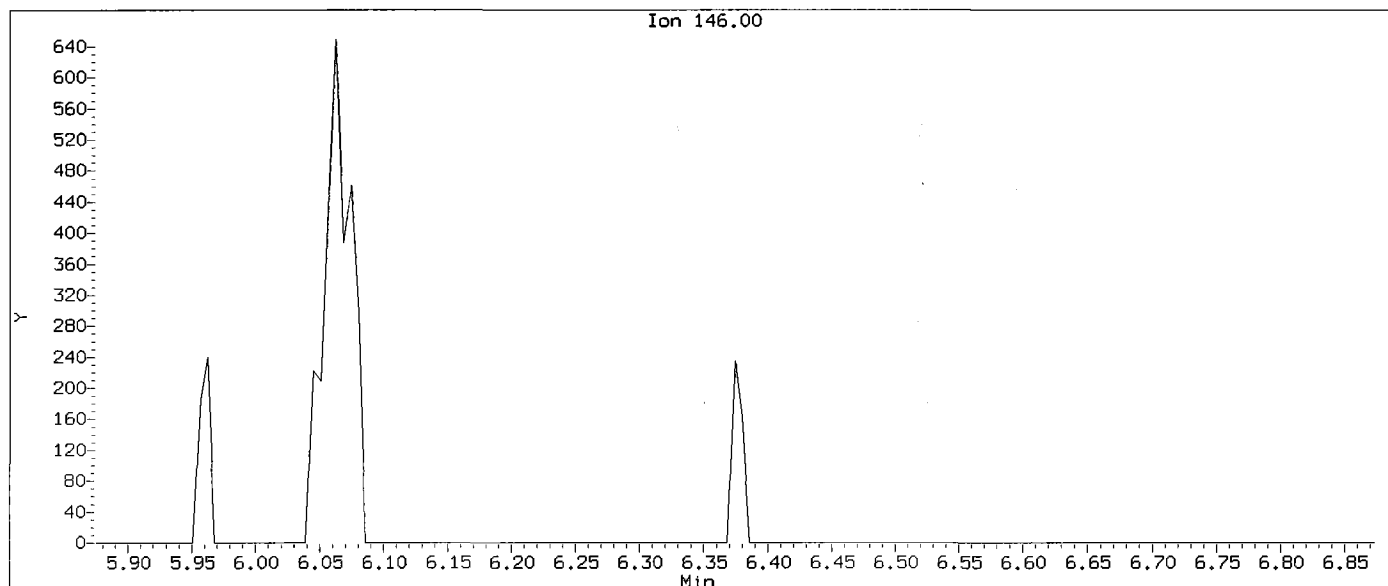
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Injection Date: 07-AUG-2008 14:54  
Instrument: nt4.1  
Client Sample ID: EBC-SD-1

Compound: 1,4-Dichlorobenzene  
CAS Number: 106-46-7



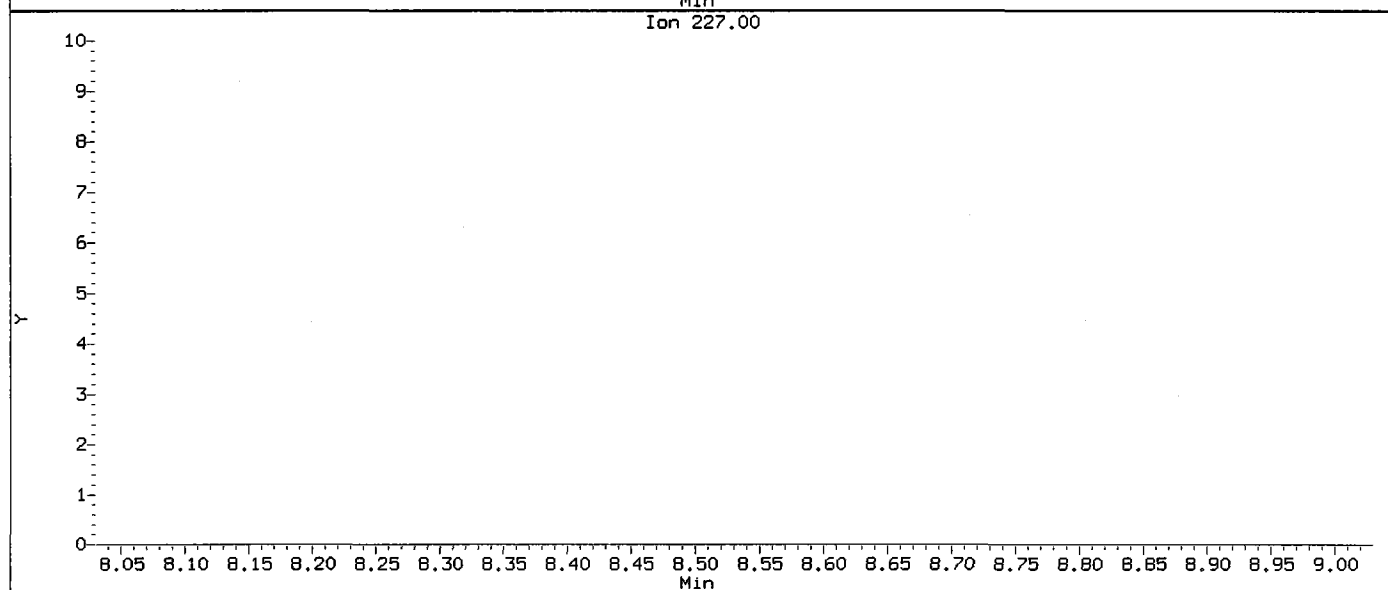
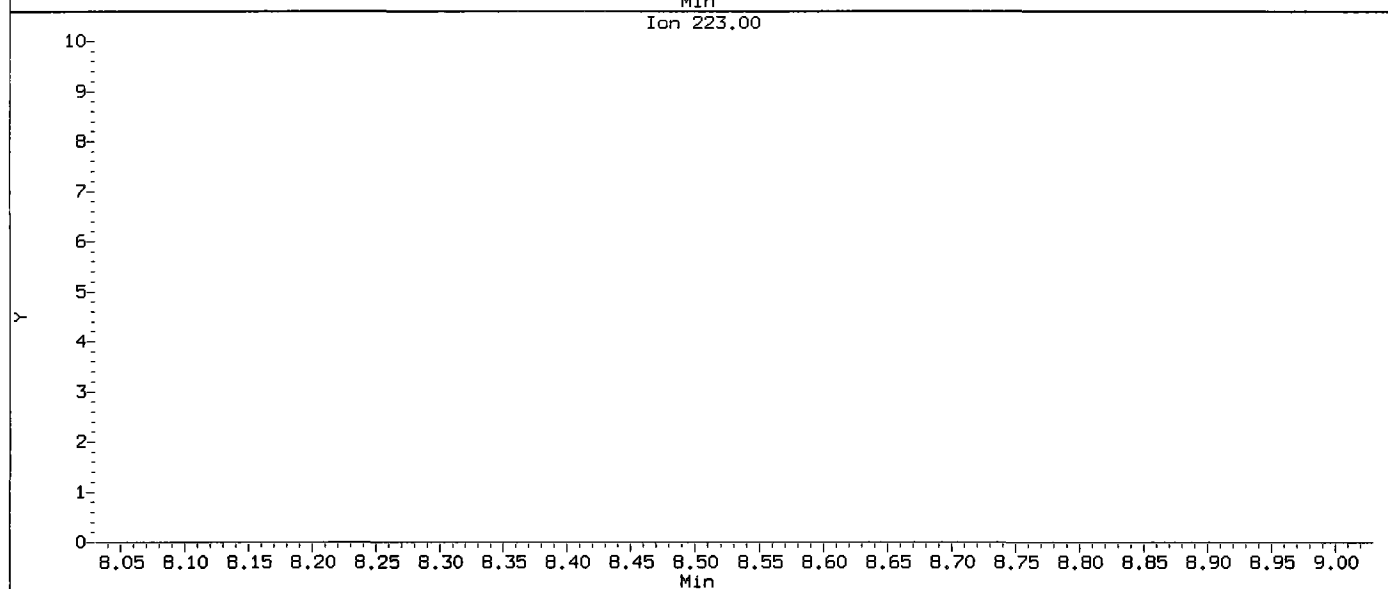
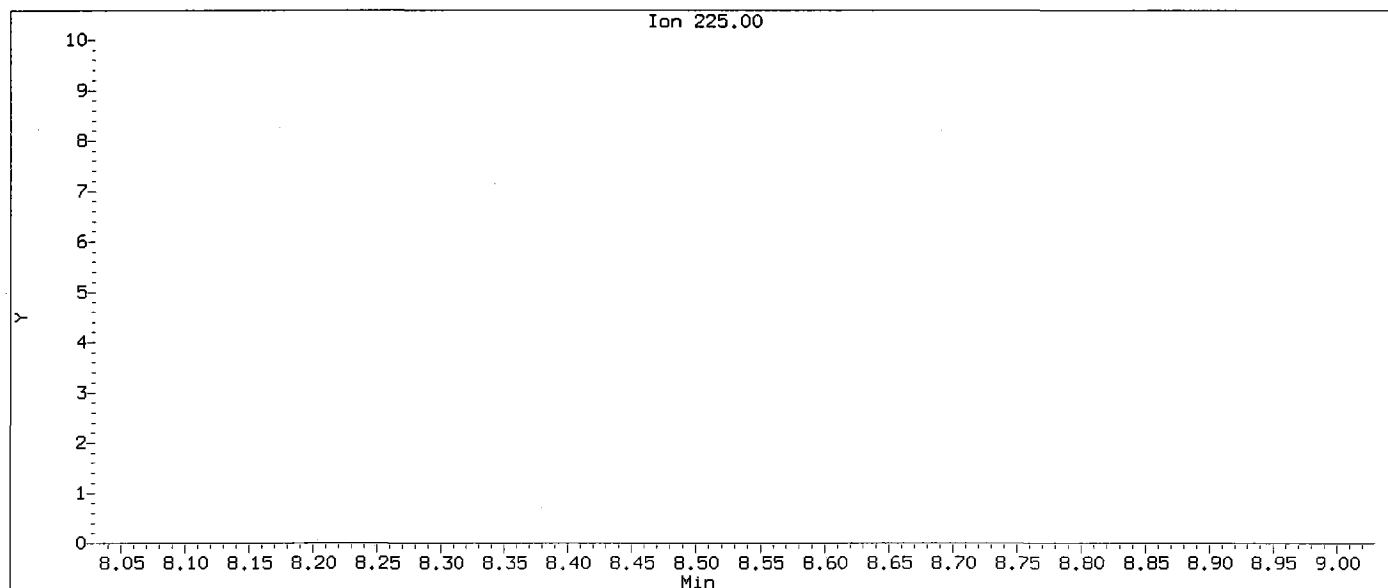
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Injection Date: 07-AUG-2008 14:54  
Instrument: nt4.1  
Client Sample ID: EBC-SD-1

Compound: 1,2-Dichlorobenzene  
CAS Number: 95-50-1



Data File: /chem3/nt4.i/AUG08.b/20080807.b/ng39a.d  
Injection Date: 07-AUG-2008 14:54  
Instrument: nt4.i  
Client Sample ID: EBC-SD-1

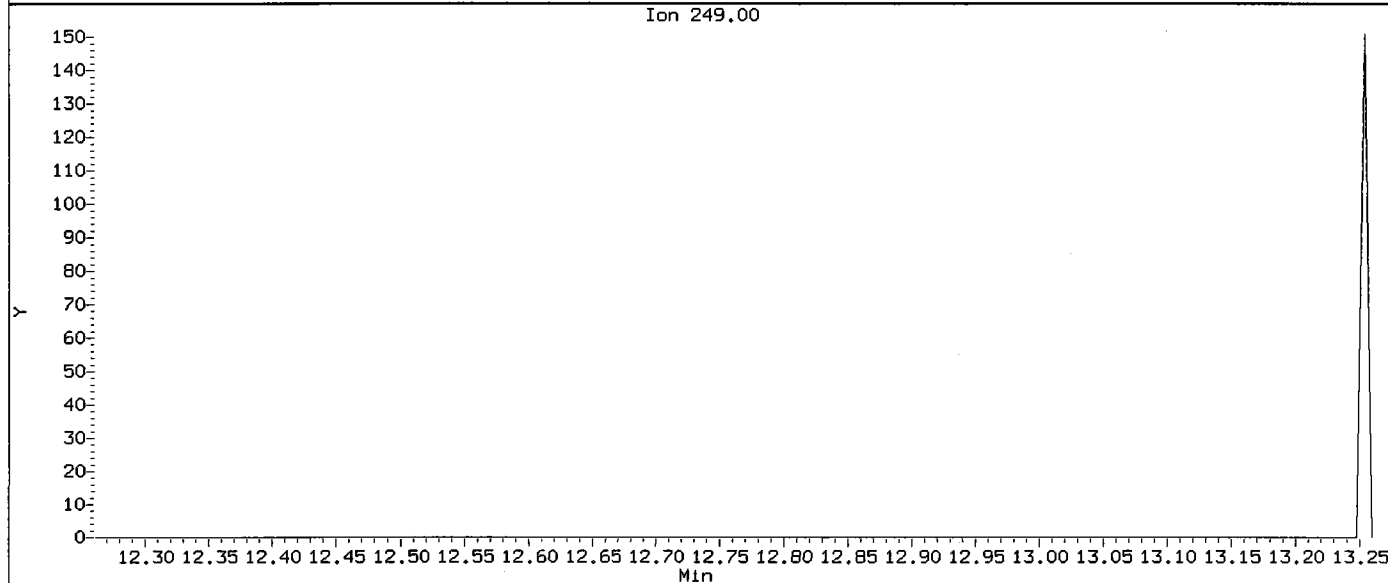
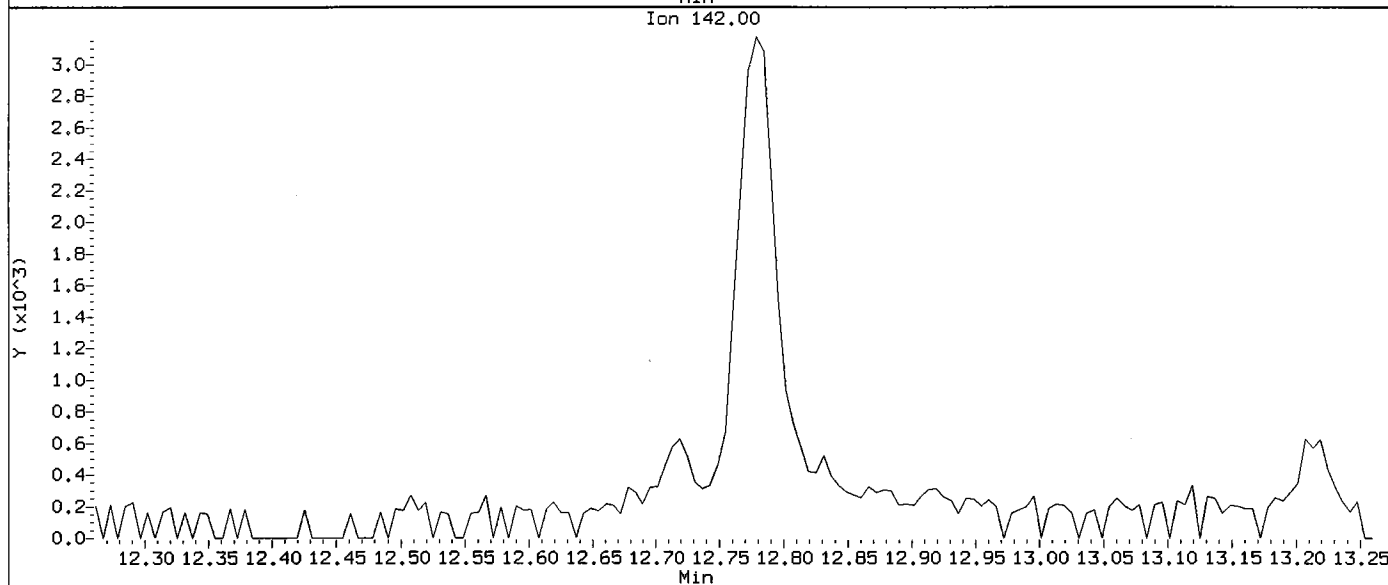
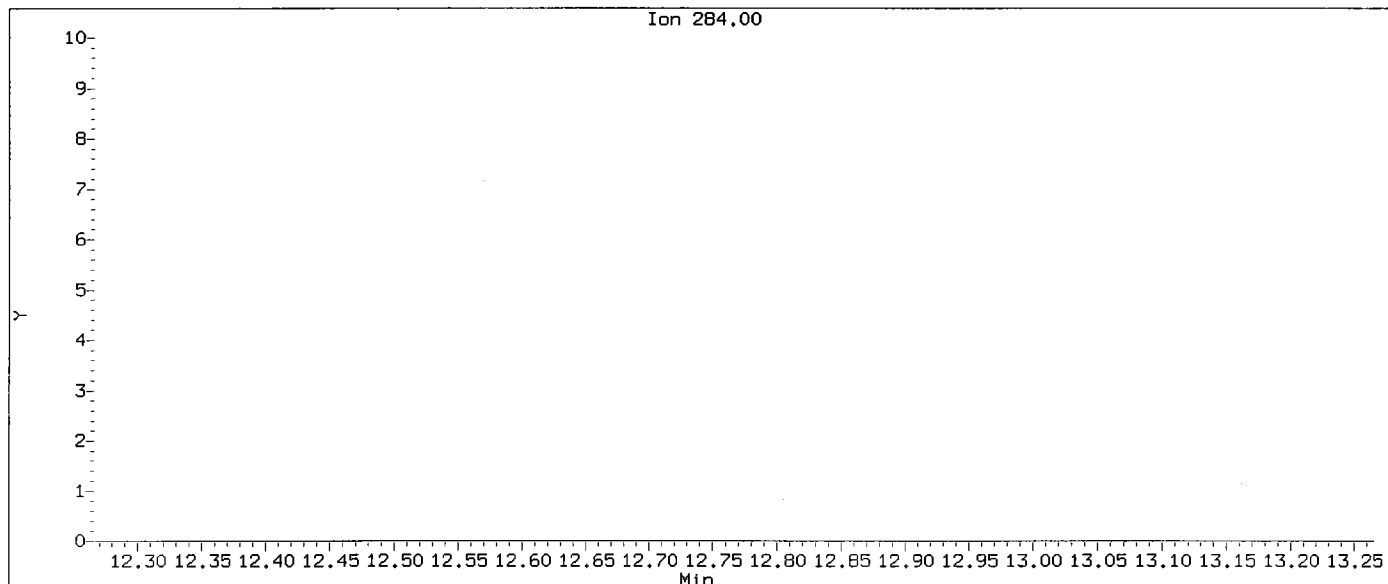
Compound: Hexachlorobutadiene  
CAS Number: 87-68-3





Data File: /chem3/nt4.1/AUG08.b/20080807.b/ng39a.d  
Injection Date: 07-AUG-2008 14:54  
Instrument: nt4.1  
Client Sample ID: EBC-SD-1

Compound: Hexachlorobenzene  
CAS Number: 118-74-1



**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS

Page 1 of 2

Sample ID: EBC-SD-2

SAMPLE

Lab Sample ID: NG39B

LIMS ID: 08-16300

Matrix: Soil

Data Release Authorized:

Reported: 09/29/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Date Extracted: 07/25/08

Date Analyzed: 08/07/08 15:27

Instrument/Analyst: NT4/LJR

GPC Cleanup: Yes

Sample Amount: 25.4 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 40.9%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	13	20	< 20 U
541-73-1	1,3-Dichlorobenzene	7.3	20	< 20 U
106-46-7	1,4-Dichlorobenzene	7.2	20	< 20 U
100-51-6	Benzyl Alcohol	14	20	< 20 U
95-50-1	1,2-Dichlorobenzene	7.7	20	< 20 U
95-48-7	2-Methylphenol	14	20	< 20 U
106-44-5	4-Methylphenol	13	20	< 20 U
67-72-1	Hexachloroethane	7.1	20	< 20 U
105-67-9	2,4-Dimethylphenol	15	20	< 20 U
65-85-0	Benzoic Acid	110	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	8.9	20	< 20 U
91-20-3	Naphthalene	8.5	20	< 20 U
87-68-3	Hexachlorobutadiene	8.0	20	< 20 U
<b>91-57-6</b>	<b>2-Methylnaphthalene</b>	<b>8.1</b>	<b>20</b>	<b>9.8 J</b>
131-11-3	Dimethylphthalate	7.6	20	< 20 U
208-96-8	Acenaphthylene	8.5	20	< 20 U
83-32-9	Acenaphthene	8.1	20	< 20 U
132-64-9	Dibenzofuran	7.4	20	< 20 U
<b>84-66-2</b>	<b>Diethylphthalate</b>	<b>16</b>	<b>20</b>	<b>36</b>
86-73-7	Fluorene	8.8	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	8.5	20	< 20 U
118-74-1	Hexachlorobenzene	7.9	20	< 20 U
87-86-5	Pentachlorophenol	47	98	< 98 U
<b>85-01-8</b>	<b>Phenanthrene</b>	<b>8.3</b>	<b>20</b>	<b>42</b>
<b>120-12-7</b>	<b>Anthracene</b>	<b>7.6</b>	<b>20</b>	<b>18 J</b>
84-74-2	Di-n-Butylphthalate	12	20	< 20 U
<b>206-44-0</b>	<b>Fluoranthene</b>	<b>7.8</b>	<b>20</b>	<b>140</b>
<b>129-00-0</b>	<b>Pyrene</b>	<b>7.6</b>	<b>20</b>	<b>92</b>
85-68-7	Butylbenzylphthalate	11	20	< 20 U
<b>56-55-3</b>	<b>Benzo (a) anthracene</b>	<b>5.8</b>	<b>20</b>	<b>51</b>
<b>117-81-7</b>	<b>bis (2-Ethylhexyl) phthalate</b>	<b>11</b>	<b>20</b>	<b>21 B</b>
<b>218-01-9</b>	<b>Chrysene</b>	<b>6.5</b>	<b>20</b>	<b>97</b>
117-84-0	Di-n-Octyl phthalate	8.2	20	< 20 U
<b>205-99-2</b>	<b>Benzo (b) fluoranthene</b>	<b>9.4</b>	<b>20</b>	<b>64</b>
<b>207-08-9</b>	<b>Benzo (k) fluoranthene</b>	<b>9.1</b>	<b>20</b>	<b>69</b>
<b>50-32-8</b>	<b>Benzo (a) pyrene</b>	<b>8.0</b>	<b>20</b>	<b>50</b>
<b>193-39-5</b>	<b>Indeno (1,2,3-cd) pyrene</b>	<b>8.5</b>	<b>20</b>	<b>20</b>
53-70-3	Dibenz(a,h)anthracene	8.4	20	< 20 U
<b>191-24-2</b>	<b>Benzo (g,h,i) perylene</b>	<b>6.6</b>	<b>20</b>	<b>23</b>

**ORGANICS ANALYSIS DATA SHEET**  
**PSDDA Semivolatiles by SW8270D GC/MS**  
 Page 2 of 2

**Sample ID: EBC-SD-2**  
**SAMPLE**

Lab Sample ID: NG39B  
 LIMS ID: 08-16300  
 Matrix: Soil  
 Date Analyzed: 08/07/08 15:27

QC Report No: NG39-HART CROWSER, INC.  
 Project: EBC  
 17441-02

CAS Number	Analyte	MDL	RL	Result
90-12-0	1-Methylnaphthalene	7.1	20	< 20 U

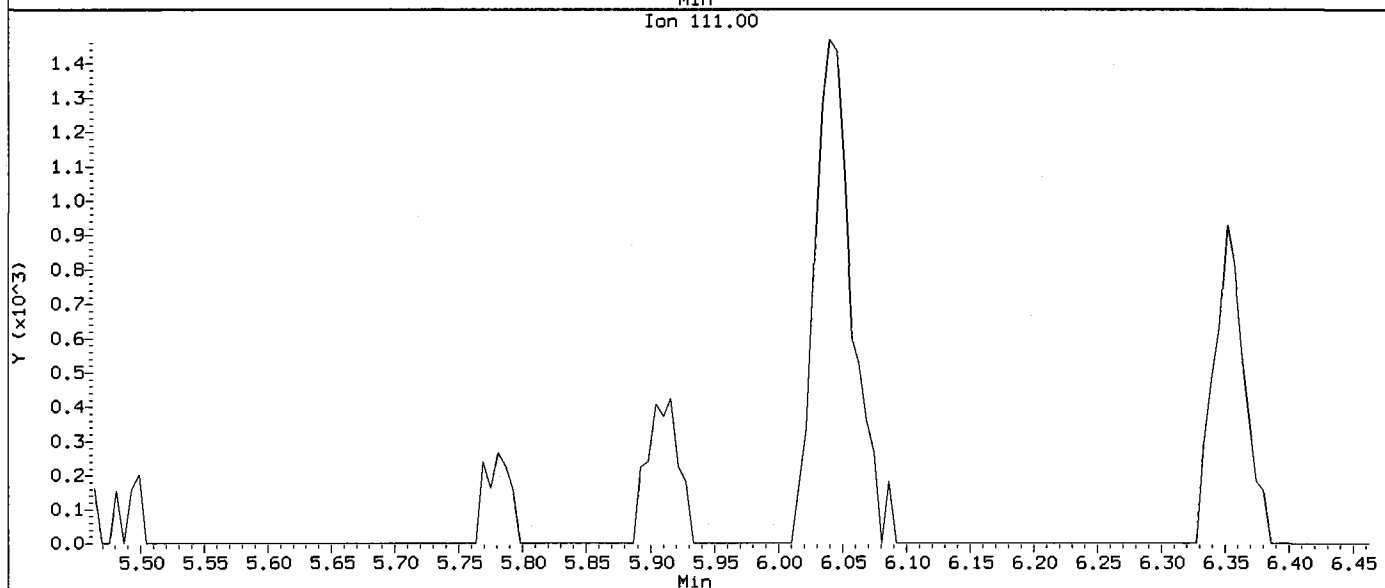
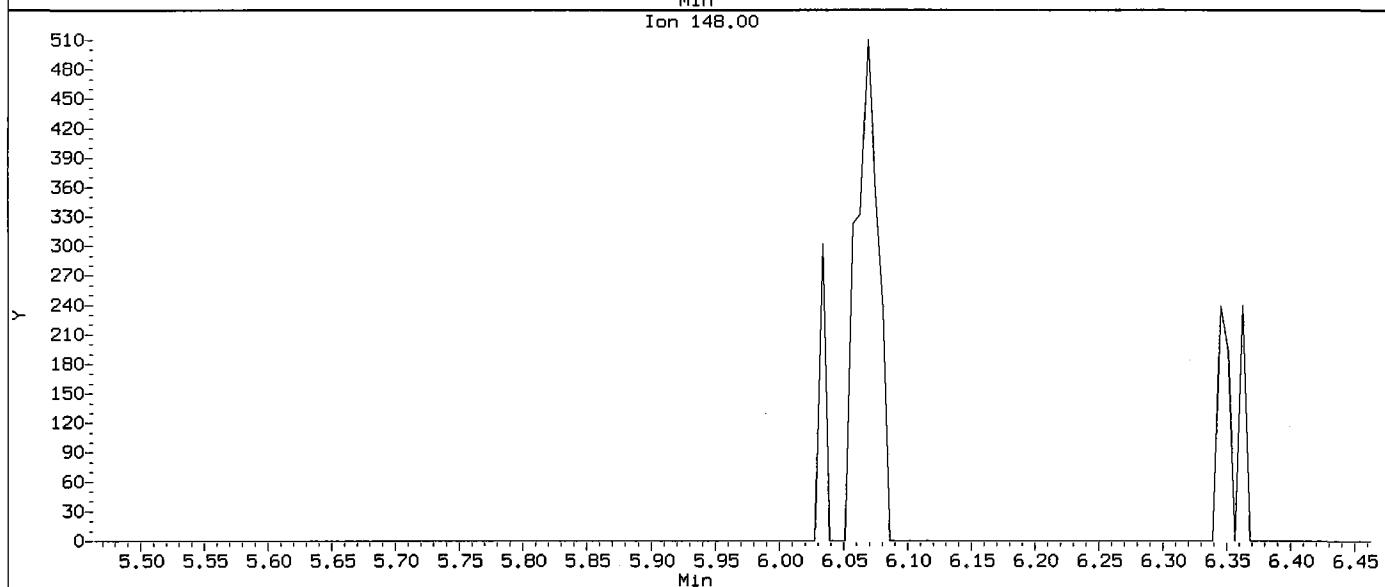
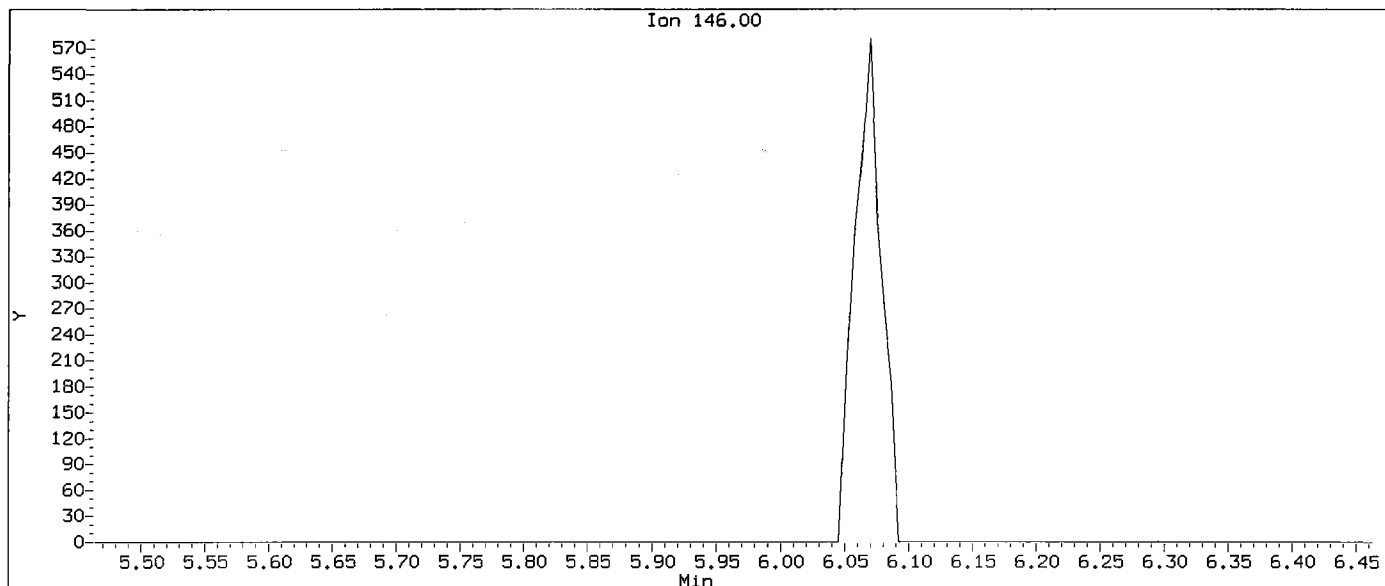
Reported in µg/kg (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	41.2%	2-Fluorobiphenyl	51.2%
d14-p-Terphenyl	52.8%	d4-1,2-Dichlorobenzene	41.2%
d5-Phenol	44.0%	2-Fluorophenol	42.7%
2,4,6-Tribromophenol	73.9%	d4-2-Chlorophenol	46.9%

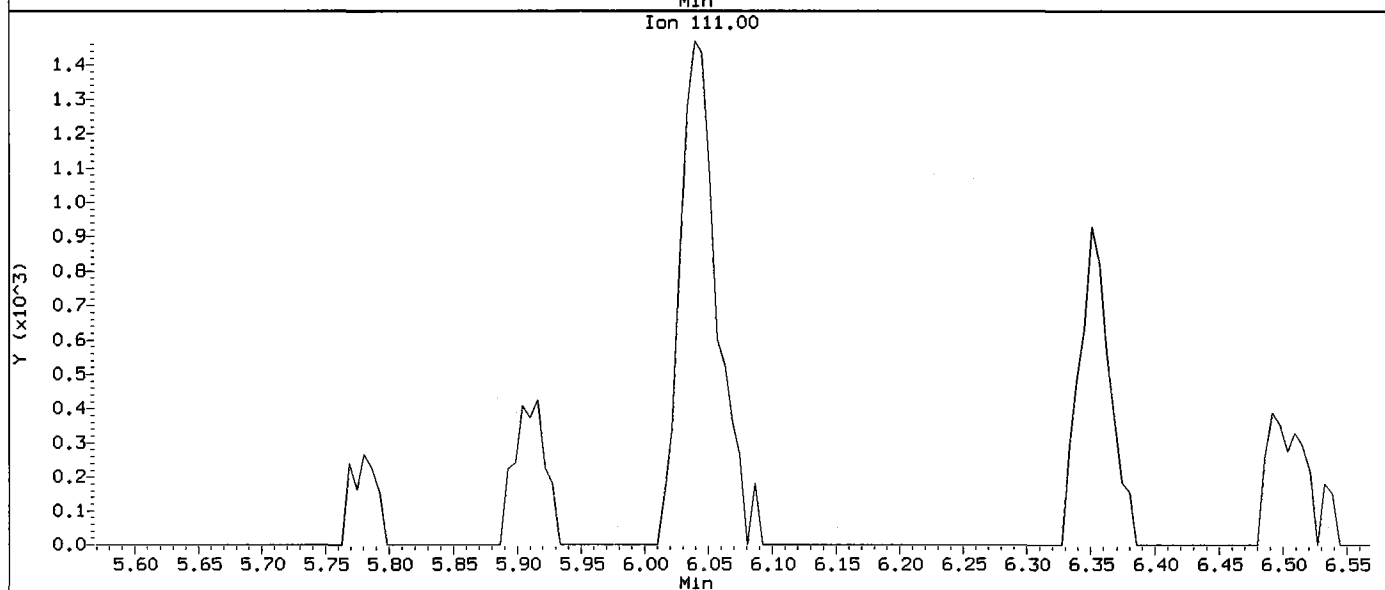
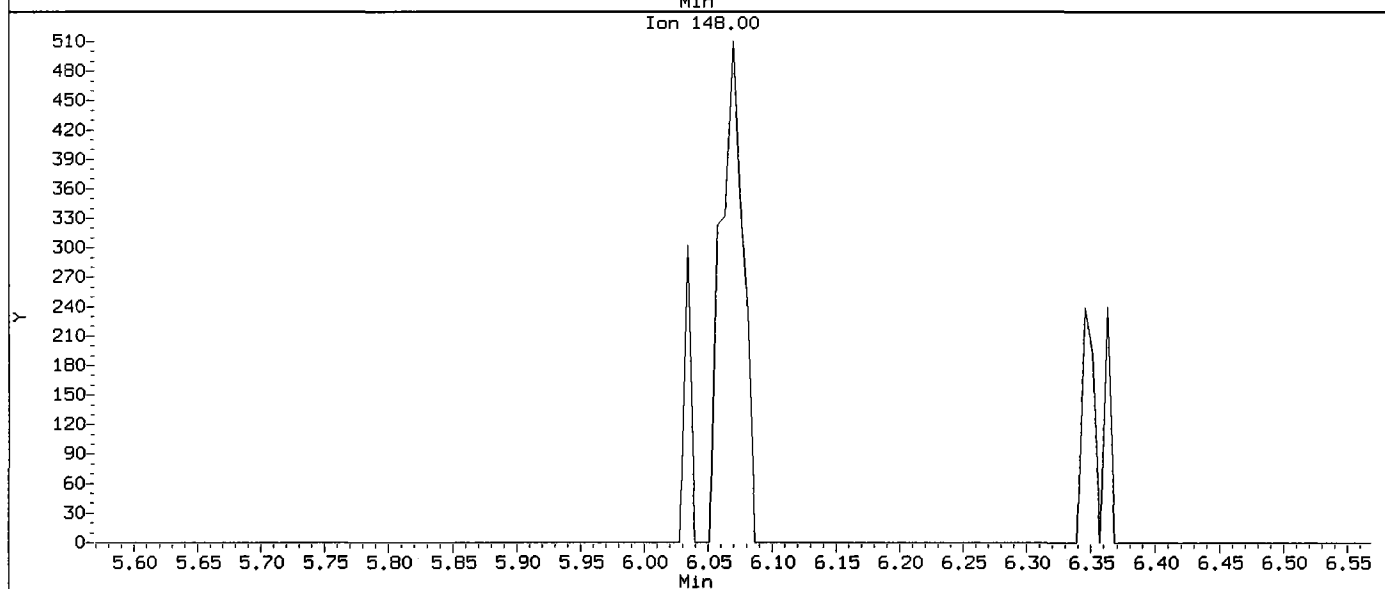
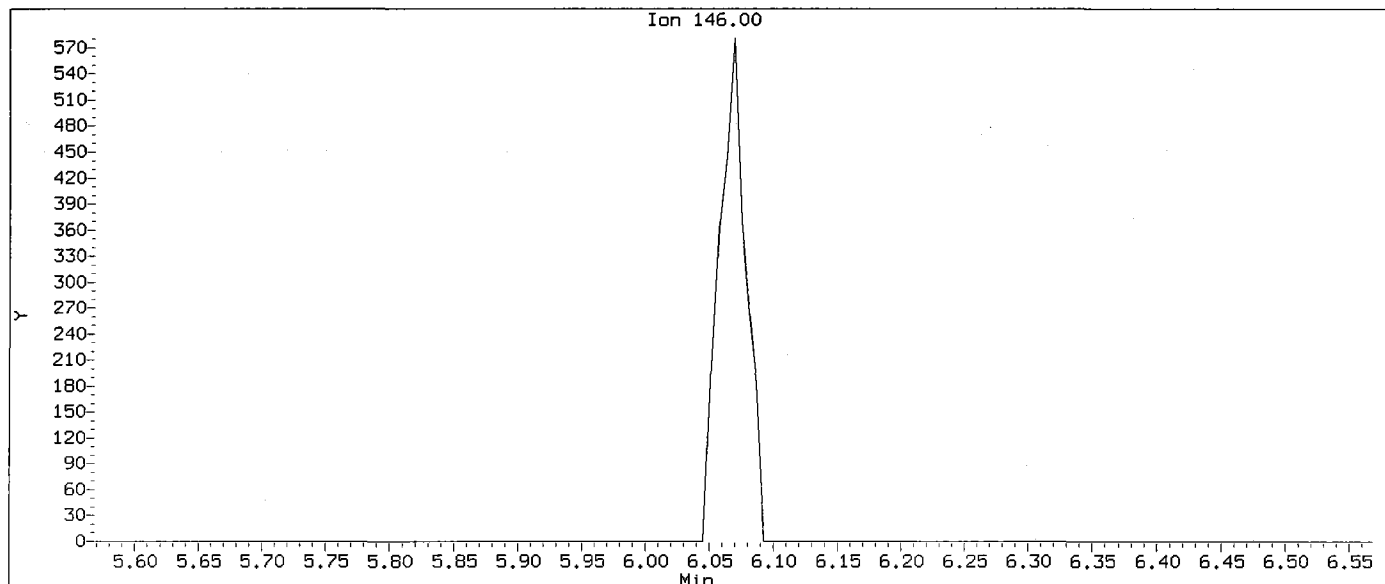
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Injection Date: 07-AUG-2008 15:27  
Instrument: nt4.1  
Client Sample ID: EBC-SD-2

Compound: 1,3-Dichlorobenzene  
CAS Number: 541-73-1



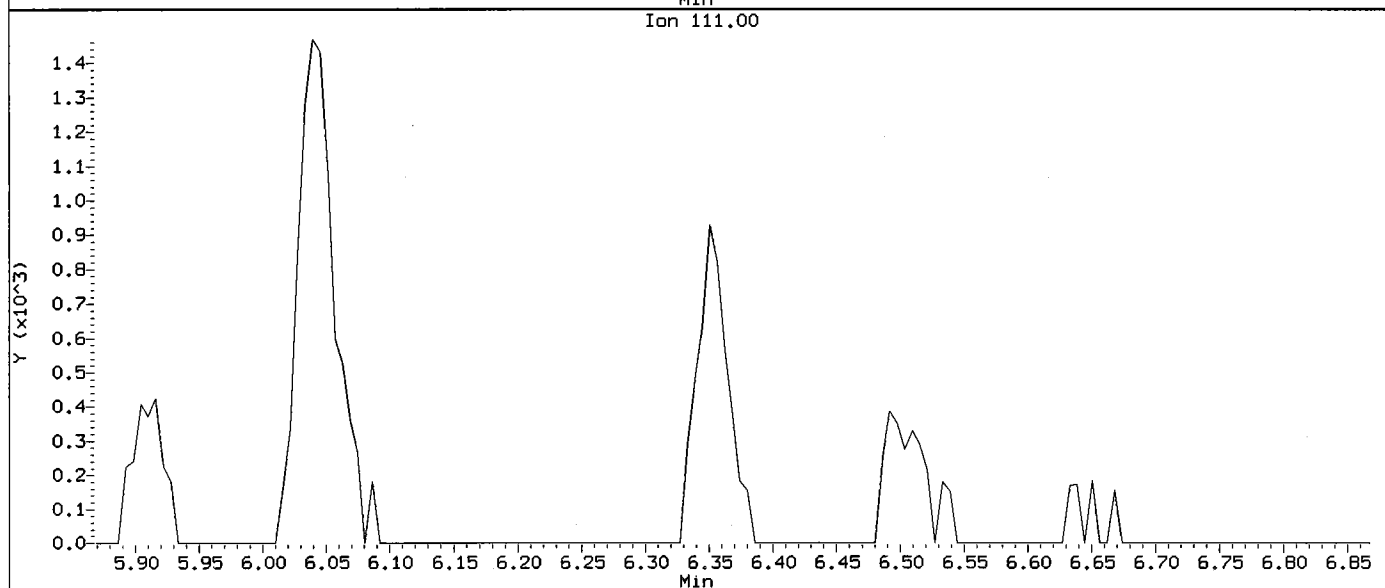
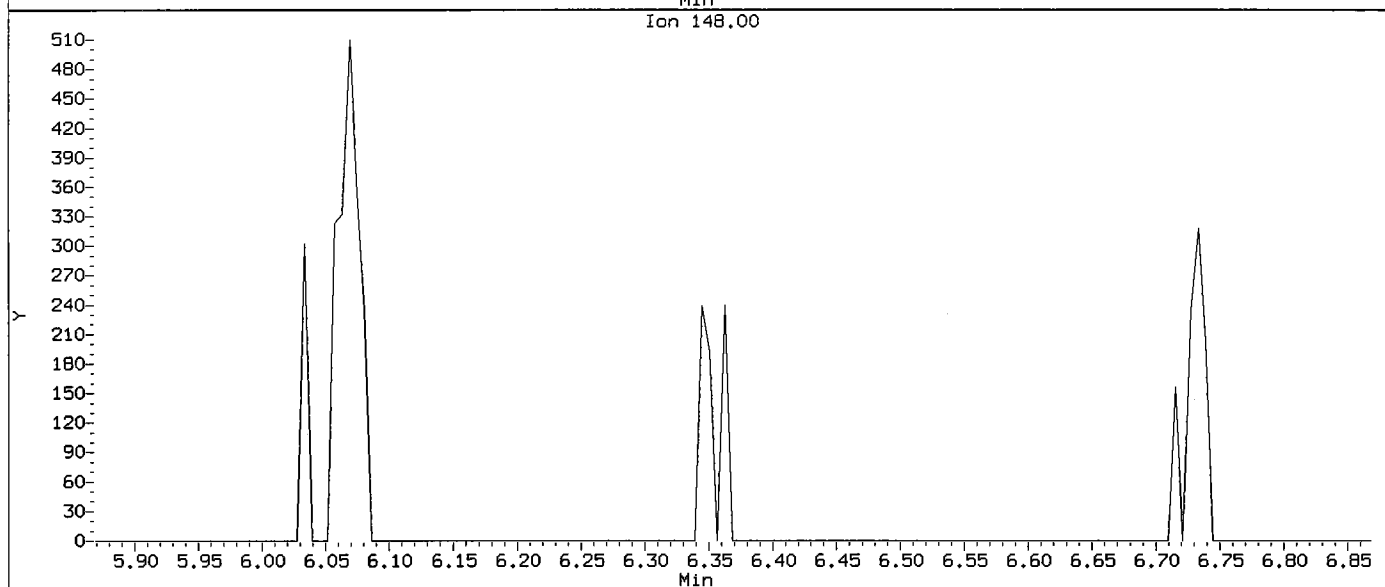
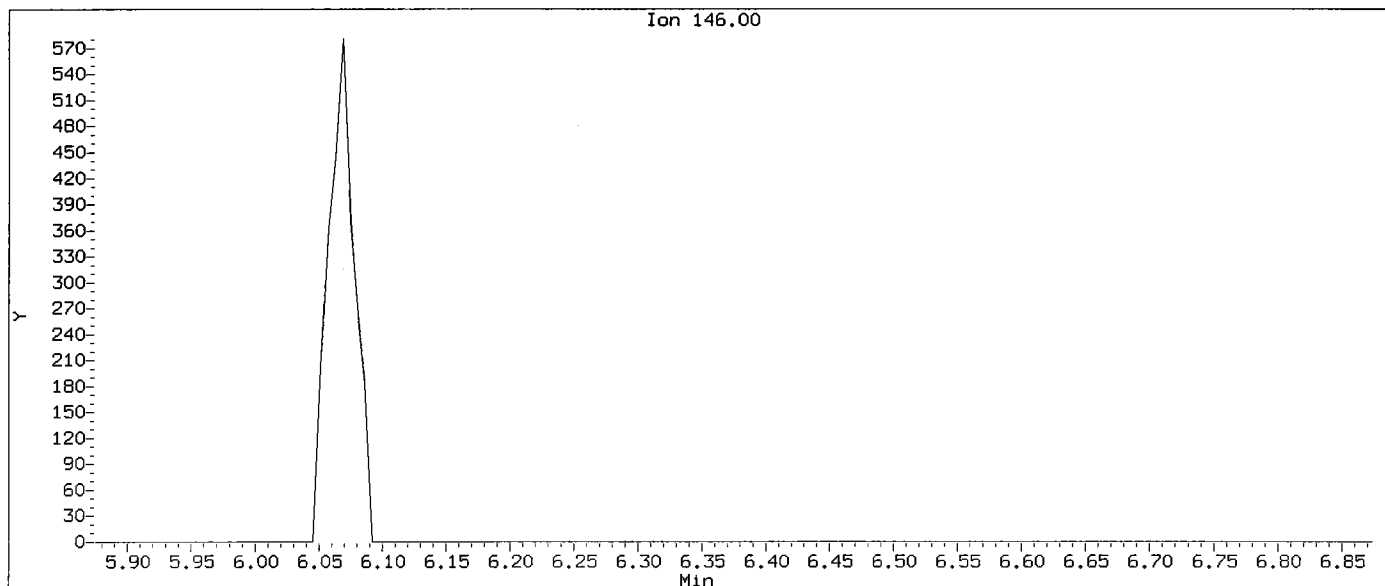
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Injection Date: 07-AUG-2008 15:27  
Instrument: nt4.1  
Client Sample ID: EBC-SD-2

Compound: 1,4-Dichlorobenzene  
CAS Number: 106-46-7



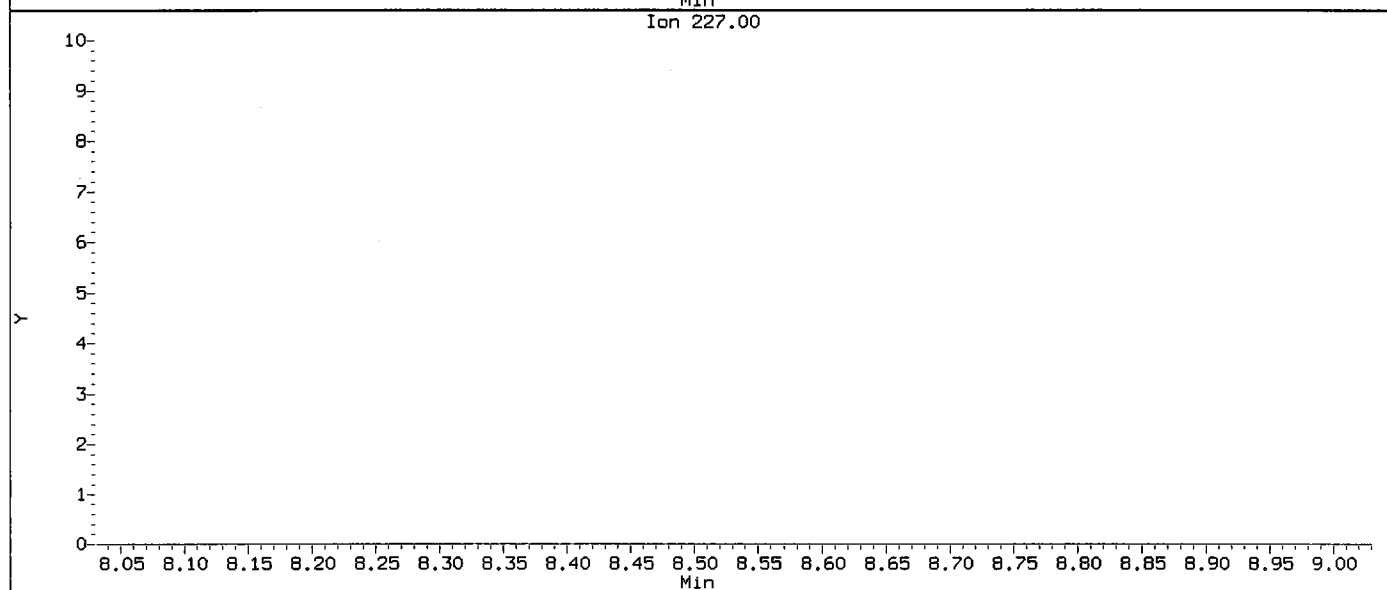
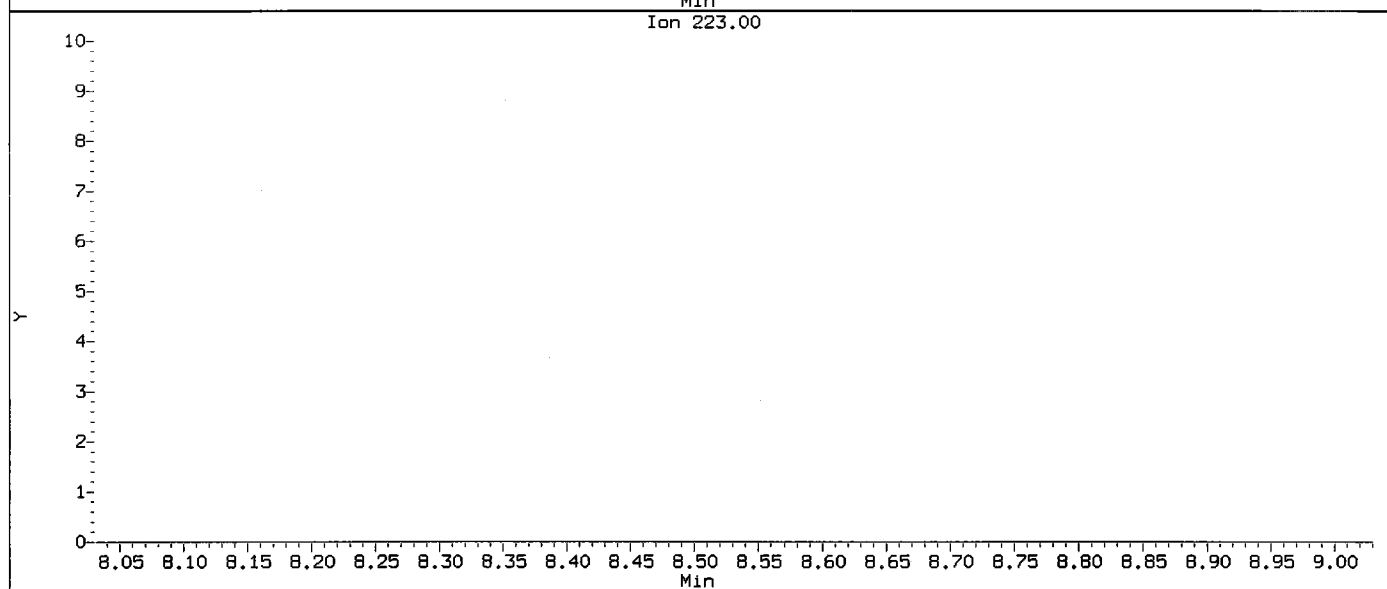
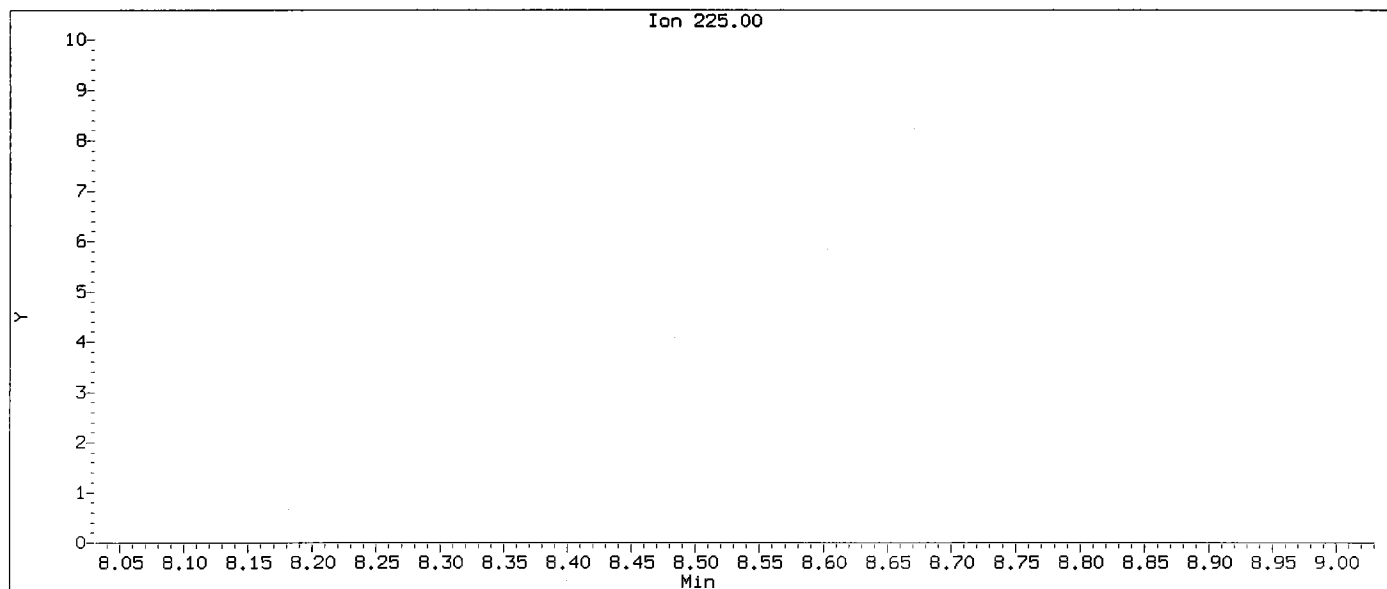
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Instrument: nt4.1  
Client Sample ID: EBC-SD-2

Compound: 1,2-Dichlorobenzene  
CAS Number: 95-50-1



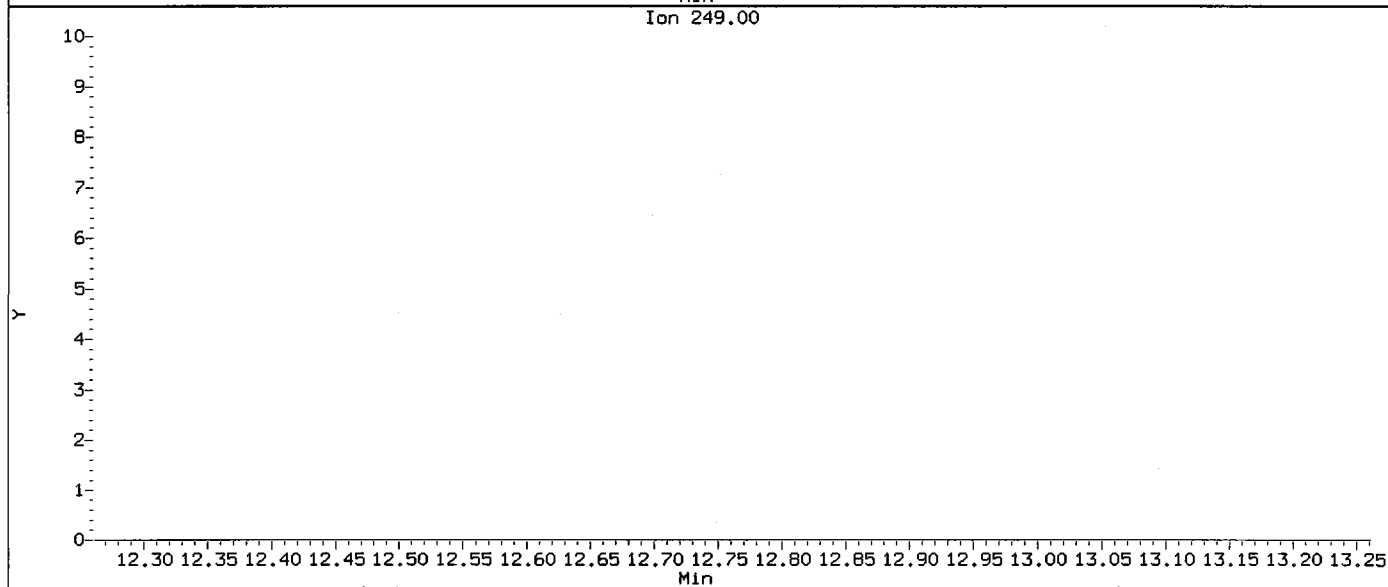
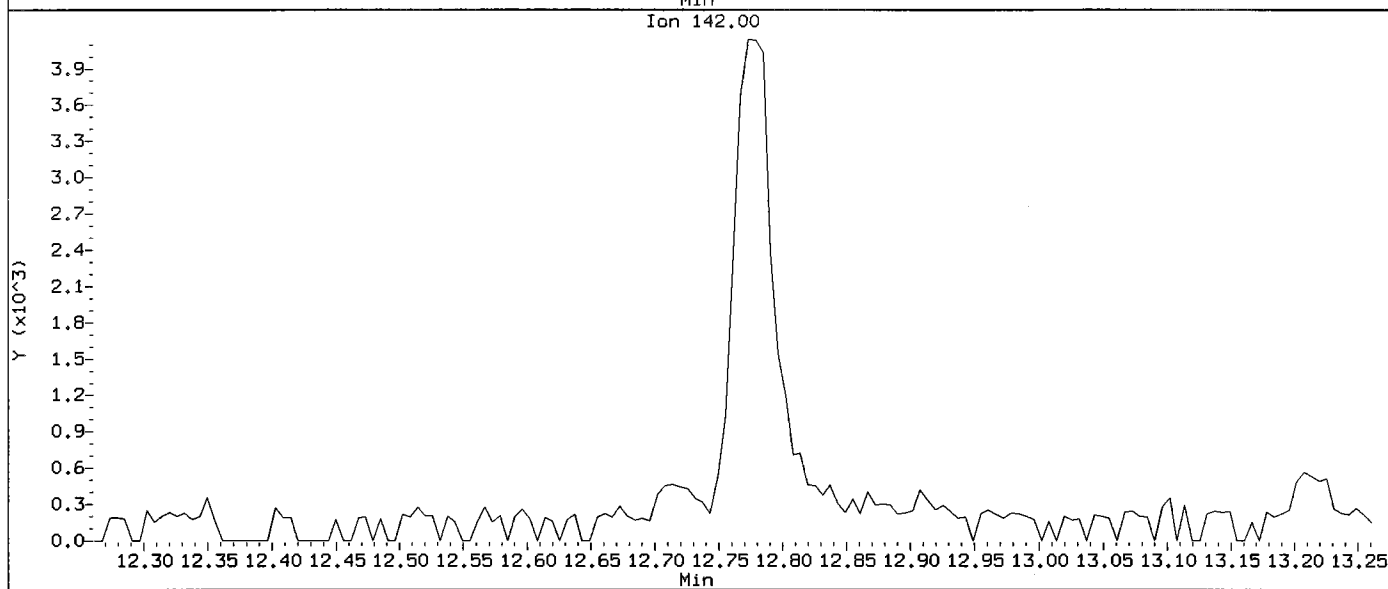
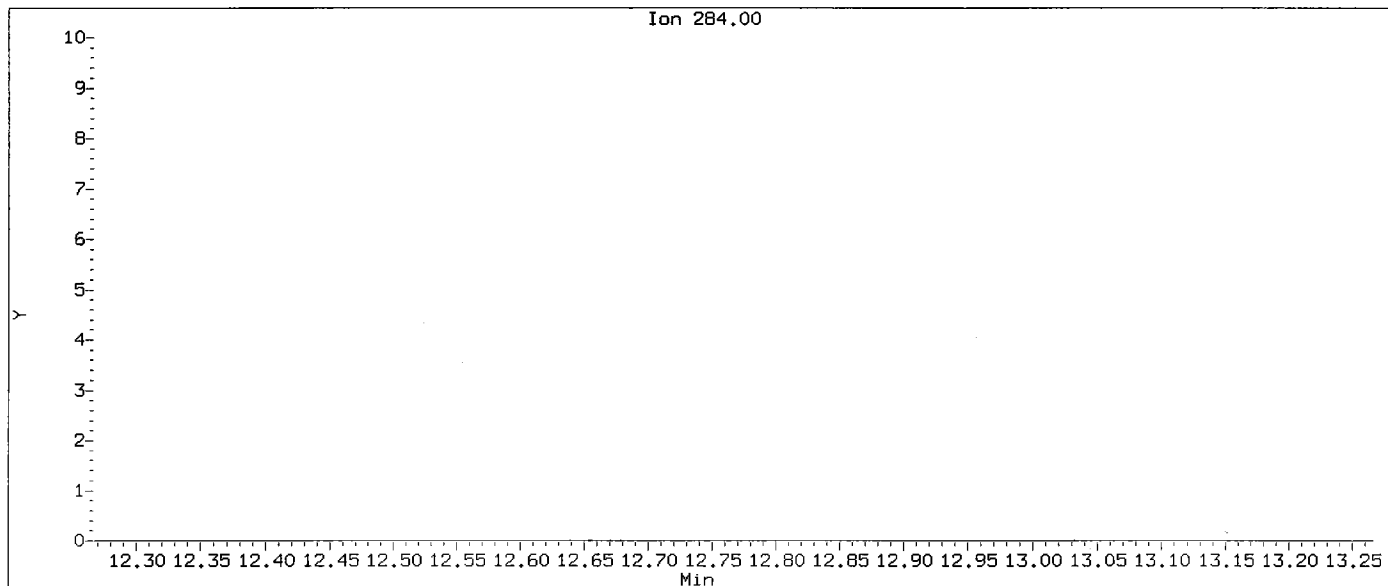
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Instrument: nt4.i  
Client Sample ID: EBC-SD-2

Compound: Hexachlorobutadiene  
CAS Number: 87-68-3



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Injection Date: 07-AUG-2008 15:27  
Instrument: nt4.i  
Client Sample ID: EBC-SD-2

Compound: Hexachlorobenzene  
CAS Number: 118-74-1





**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: EBC-SD-3

Page 1 of 2

SAMPLE

Lab Sample ID: NG39C

QC Report No: NG39-HART CROWSER, INC.

LIMS ID: 08-16301

Project: EBC

Matrix: Soil

17441-02

Data Release Authorized:

Date Sampled: 07/18/08

Reported: 09/29/08

Date Received: 07/18/08

Date Extracted: 07/25/08

Sample Amount: 25.5 g-dry-wt

Date Analyzed: 08/07/08 16:00

Final Extract Volume: 0.5 mL

Instrument/Analyst: NT4/LJR

Dilution Factor: 1.00

GPC Cleanup: Yes

Percent Moisture: 37.8%

CAS Number	Analyte	MDL	RL	Result
<b>108-95-2</b>	<b>Phenol</b>	<b>13</b>	<b>20</b>	<b>26</b>
541-73-1	1,3-Dichlorobenzene	7.3	20	< 20 U
106-46-7	1,4-Dichlorobenzene	7.2	20	< 20 U
100-51-6	Benzyl Alcohol	14	20	< 20 U
95-50-1	1,2-Dichlorobenzene	7.7	20	< 20 U
95-48-7	2-Methylphenol	14	20	< 20 U
106-44-5	4-Methylphenol	13	20	< 20 U
67-72-1	Hexachloroethane	7.1	20	< 20 U
105-67-9	2,4-Dimethylphenol	15	20	< 20 U
65-85-0	Benzoic Acid	110	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	8.9	20	< 20 U
91-20-3	Naphthalene	8.5	20	< 20 U
87-68-3	Hexachlorobutadiene	8.0	20	< 20 U
<b>91-57-6</b>	<b>2-Methylnaphthalene</b>	<b>8.0</b>	<b>20</b>	<b>10 J</b>
131-11-3	Dimethylphthalate	7.6	20	< 20 U
208-96-8	Acenaphthylene	8.5	20	< 20 U
83-32-9	Acenaphthene	8.1	20	< 20 U
132-64-9	Dibenzofuran	7.4	20	< 20 U
<b>84-66-2</b>	<b>Diethylphthalate</b>	<b>16</b>	<b>20</b>	<b>17 J</b>
86-73-7	Fluorene	8.8	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	8.5	20	< 20 U
118-74-1	Hexachlorobenzene	7.9	20	< 20 U
87-86-5	Pentachlorophenol	47	98	< 98 U
<b>85-01-8</b>	<b>Phenanthrene</b>	<b>8.2</b>	<b>20</b>	<b>46</b>
<b>120-12-7</b>	<b>Anthracene</b>	<b>7.6</b>	<b>20</b>	<b>14 J</b>
84-74-2	Di-n-Butylphthalate	12	20	< 20 U
<b>206-44-0</b>	<b>Fluoranthene</b>	<b>7.8</b>	<b>20</b>	<b>92</b>
<b>129-00-0</b>	<b>Pyrene</b>	<b>7.6</b>	<b>20</b>	<b>74</b>
85-68-7	Butylbenzylphthalate	11	20	< 20 U
<b>56-55-3</b>	<b>Benzo (a) anthracene</b>	<b>5.8</b>	<b>20</b>	<b>35</b>
117-81-7	bis(2-Ethylhexyl)phthalate	11	20	< 20 U
<b>218-01-9</b>	<b>Chrysene</b>	<b>6.5</b>	<b>20</b>	<b>53</b>
117-84-0	Di-n-Octyl phthalate	8.2	20	< 20 U
<b>205-99-2</b>	<b>Benzo (b) fluoranthene</b>	<b>9.3</b>	<b>20</b>	<b>37</b>
<b>207-08-9</b>	<b>Benzo (k) fluoranthene</b>	<b>9.1</b>	<b>20</b>	<b>58</b>
<b>50-32-8</b>	<b>Benzo (a) pyrene</b>	<b>8.0</b>	<b>20</b>	<b>39</b>
<b>193-39-5</b>	<b>Indeno (1,2,3-cd) pyrene</b>	<b>8.4</b>	<b>20</b>	<b>18 J</b>
53-70-3	Dibenz(a,h)anthracene	8.4	20	< 20 U
<b>191-24-2</b>	<b>Benzo (g,h,i) perylene</b>	<b>6.6</b>	<b>20</b>	<b>21</b>

ORGANICS ANALYSIS DATA SHEET  
 PSDDA Semivolatiles by SW8270D GC/MS  
 Page 2 of 2

Sample ID: EBC-SD-3  
 SAMPLE

Lab Sample ID: NG39C  
 LIMS ID: 08-16301  
 Matrix: Soil  
 Date Analyzed: 08/07/08 16:00

QC Report No: NG39-HART CROWSER, INC.  
 Project: EBC  
 17441-02

CAS Number	Analyte	MDL	RL	Result
90-12-0	1-Methylnaphthalene	7.1	20	< 20 U

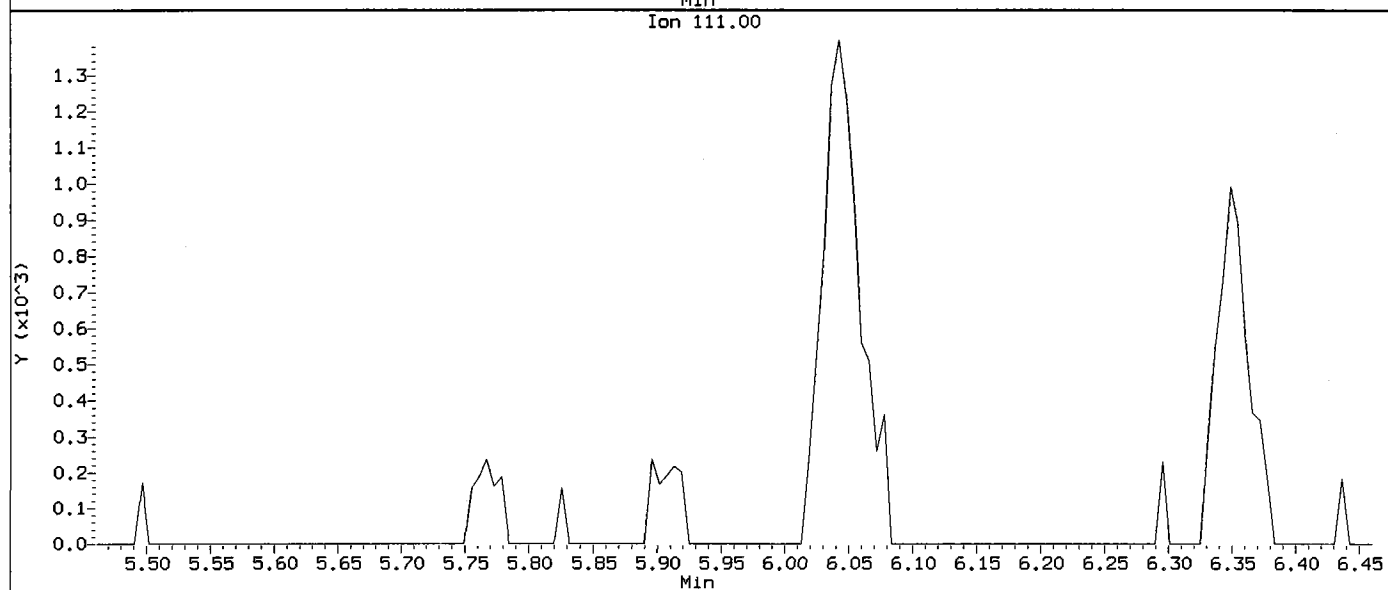
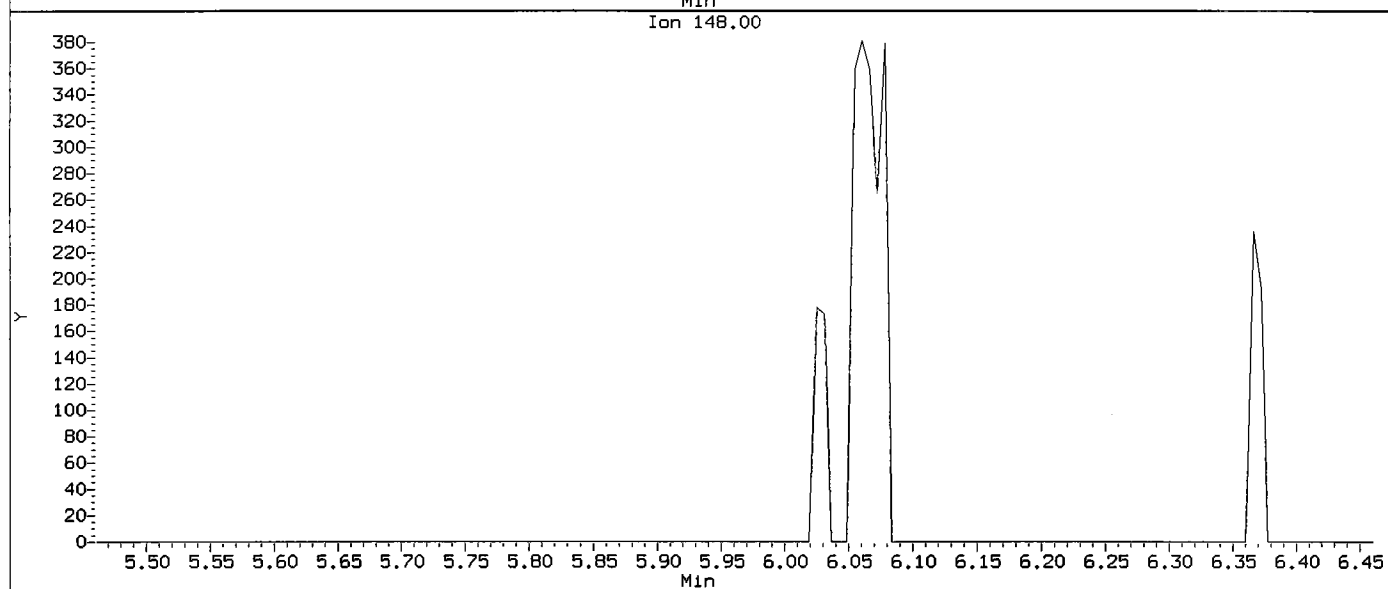
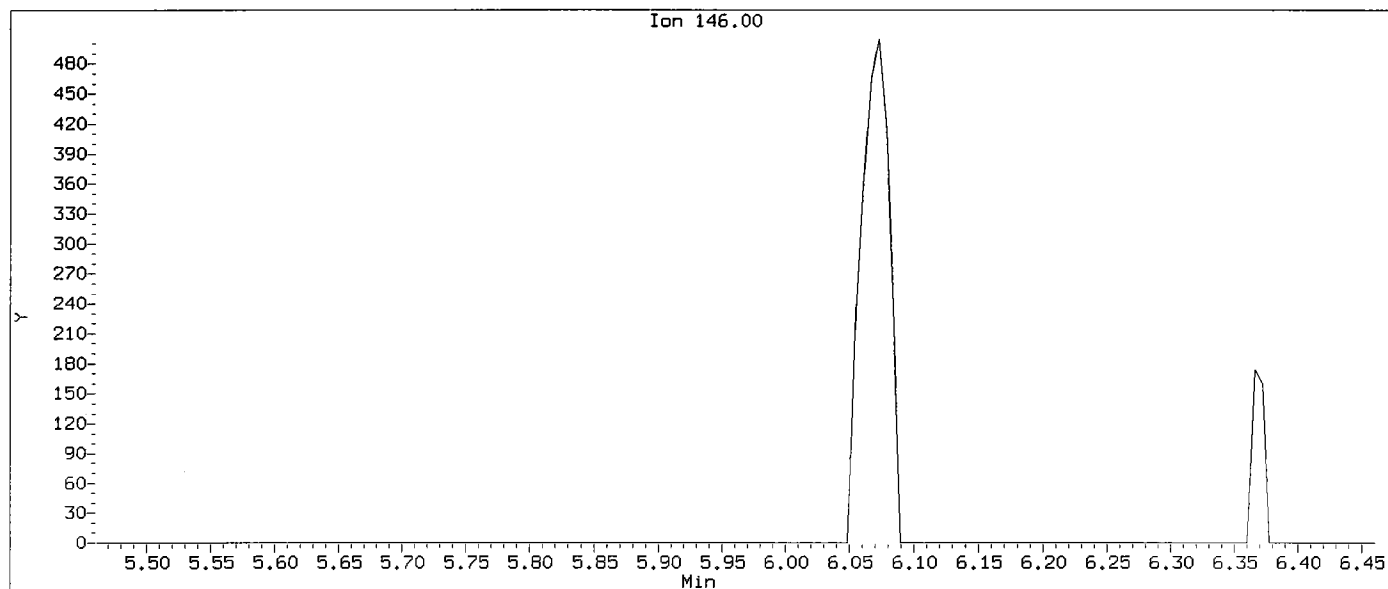
Reported in µg/kg (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	40.4%	2-Fluorobiphenyl	50.4%
d14-p-Terphenyl	54.0%	d4-1,2-Dichlorobenzene	40.0%
d5-Phenol	42.9%	2-Fluorophenol	41.3%
2,4,6-Tribromophenol	73.6%	d4-2-Chlorophenol	45.9%

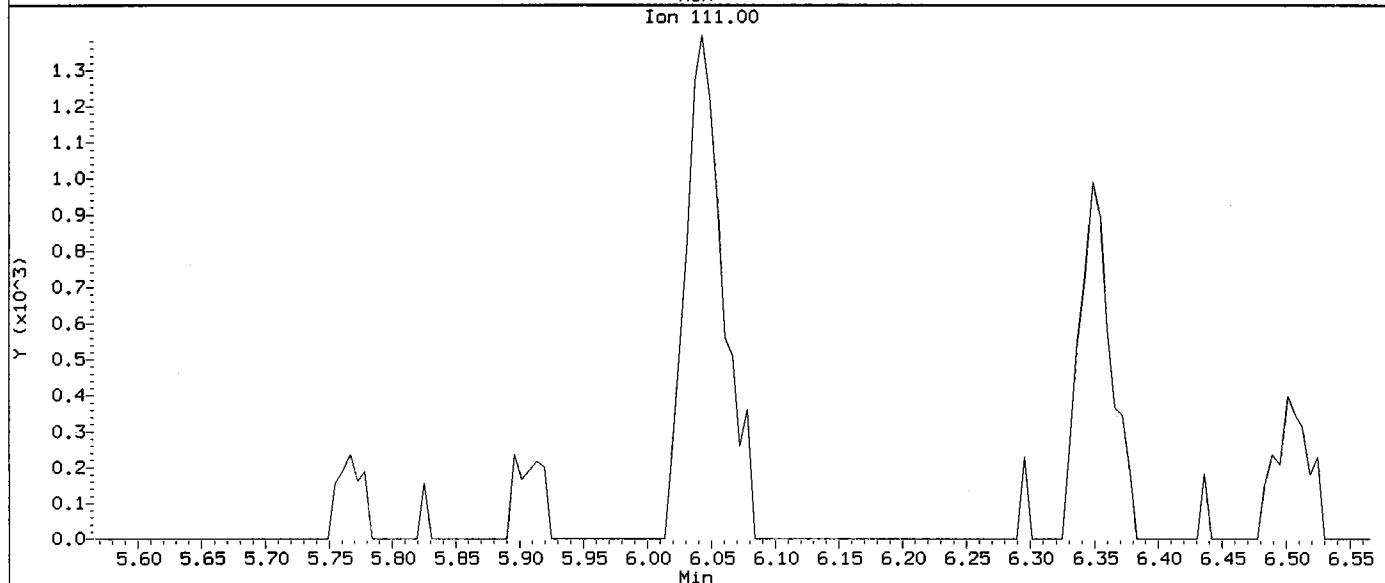
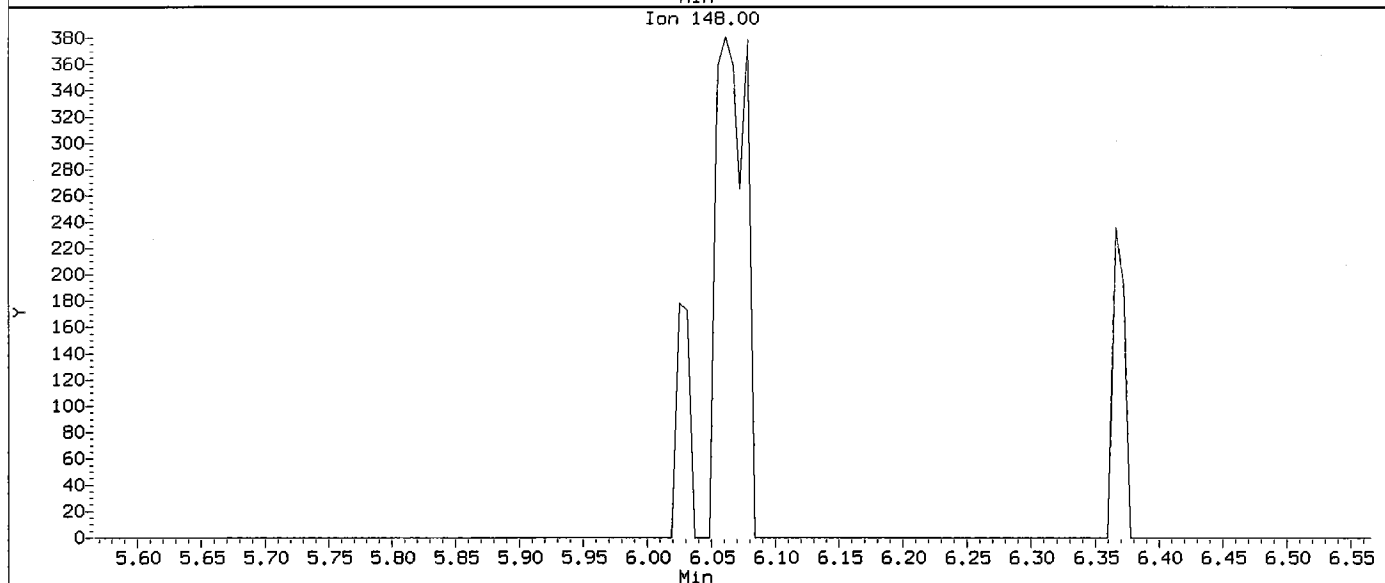
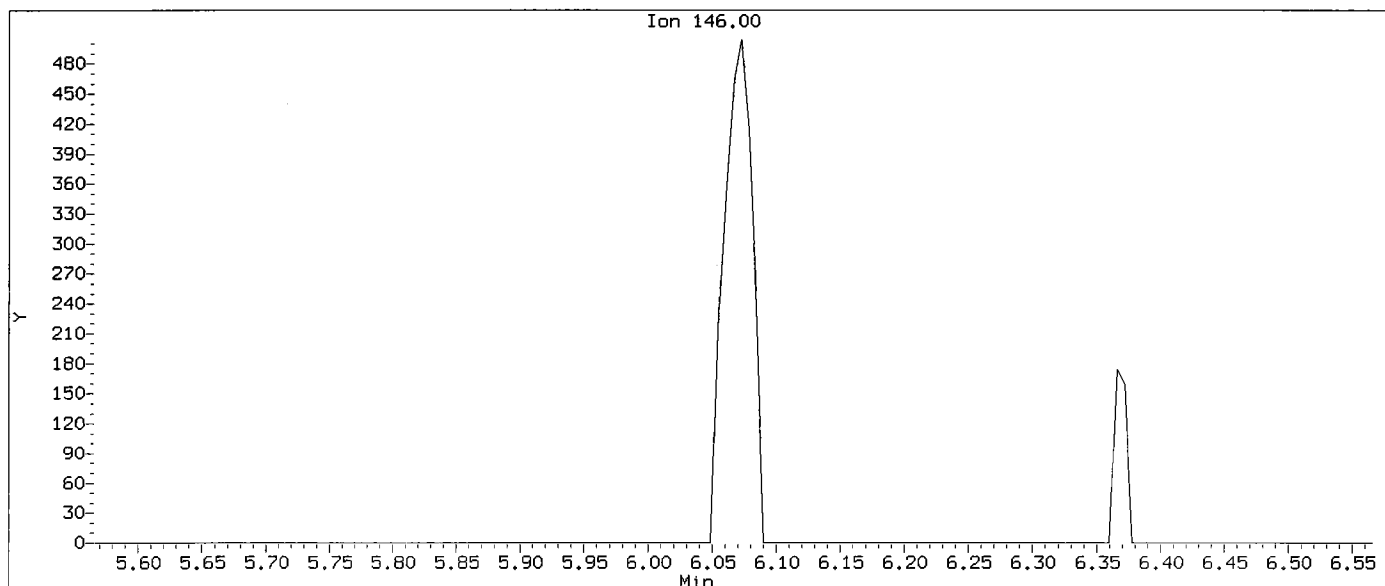
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Injection Date: 07-AUG-2008 16:00  
Instrument: nt4.1  
Client Sample ID: EBC-SD-3

Compound: 1,3-Dichlorobenzene  
CAS Number: 541-73-1



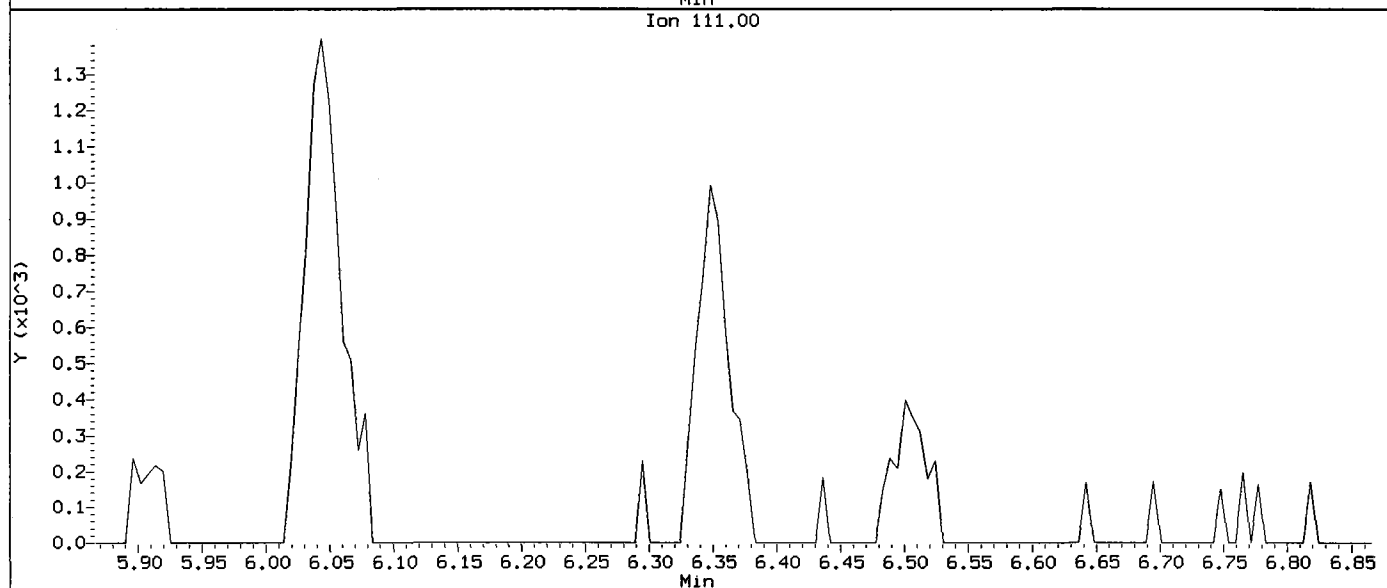
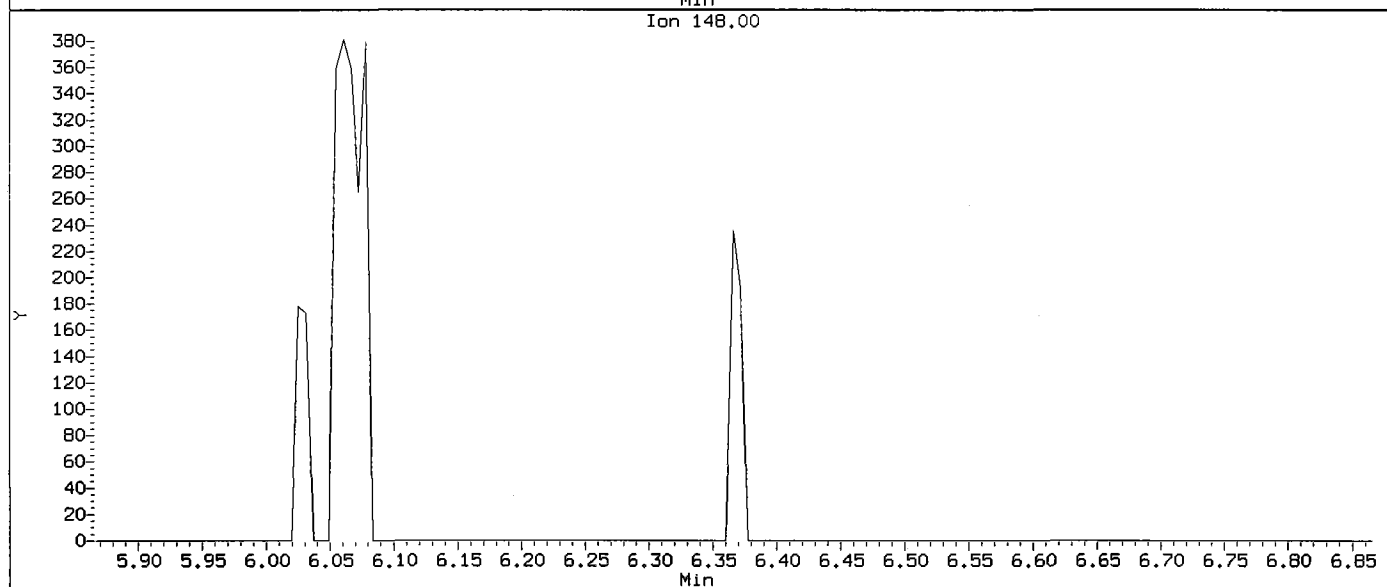
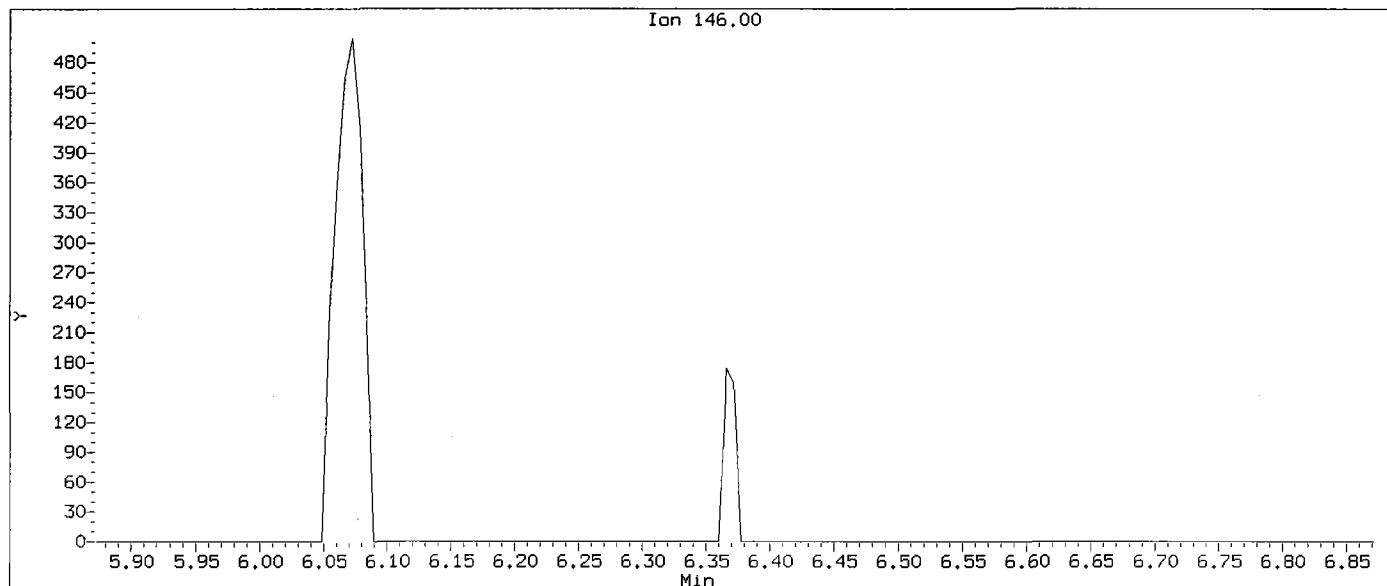
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Injection Date: 07-AUG-2008 16:00  
Instrument: nt4.1  
Client Sample ID: EBC-SD-3

Compound: 1,4-Dichlorobenzene  
CAS Number: 106-46-7



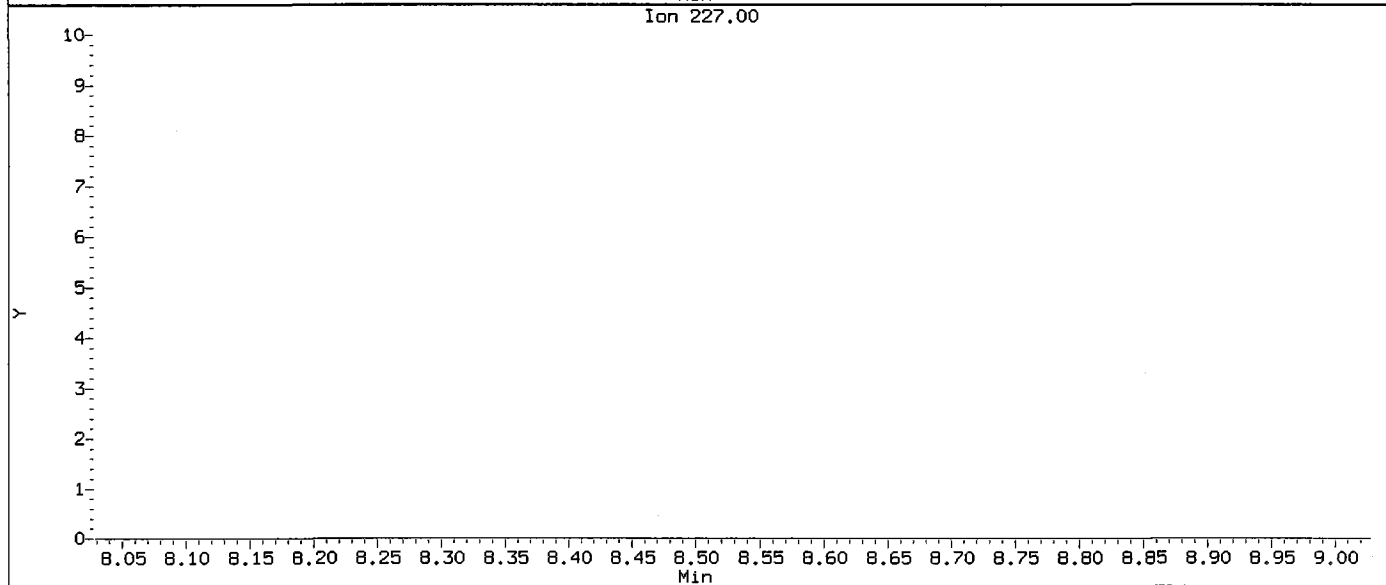
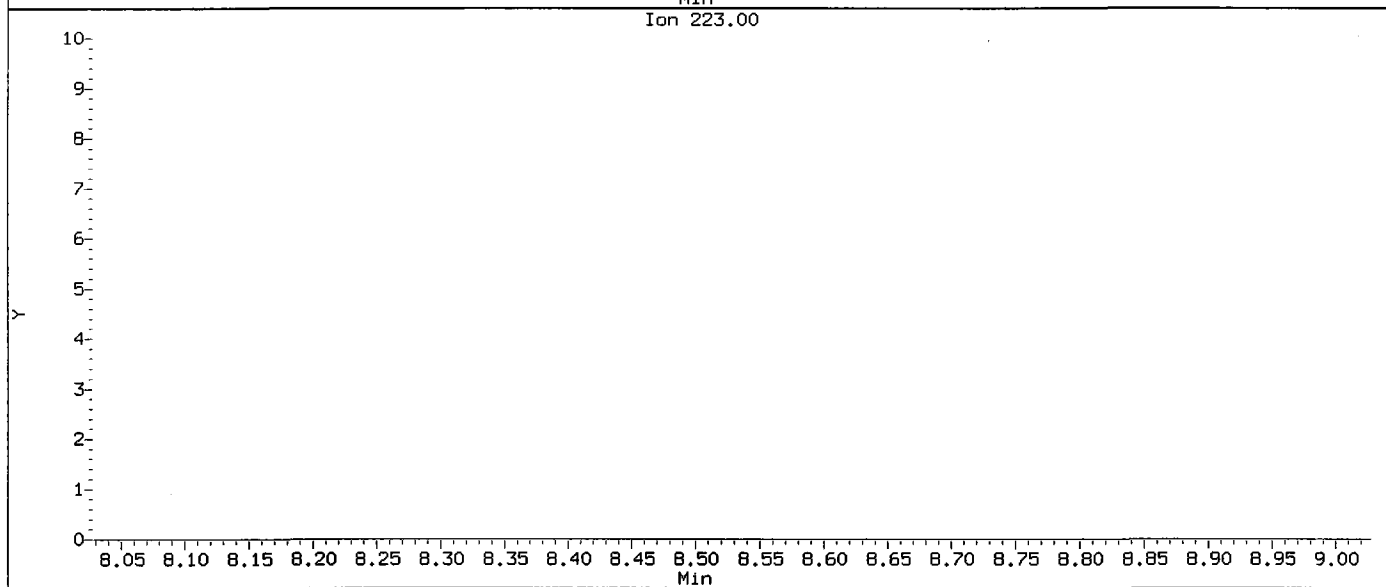
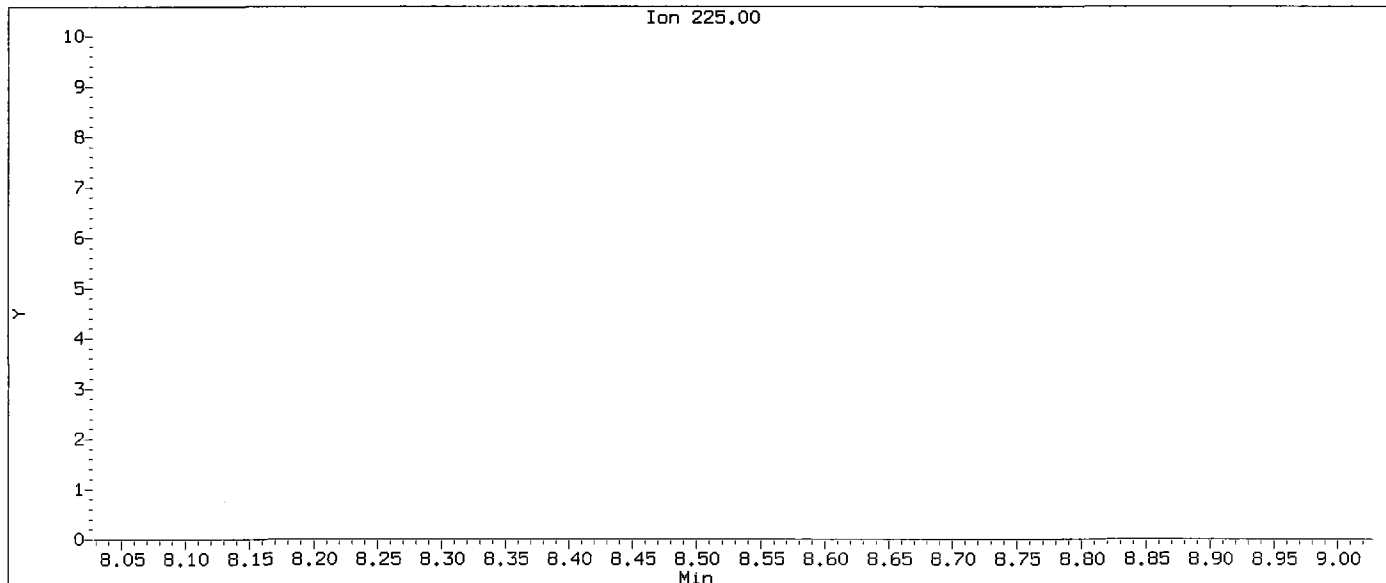
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Instrument: nt4.1  
Client Sample ID: EBC-SD-3

Compound: 1,2-Dichlorobenzene  
CAS Number: 95-50-1



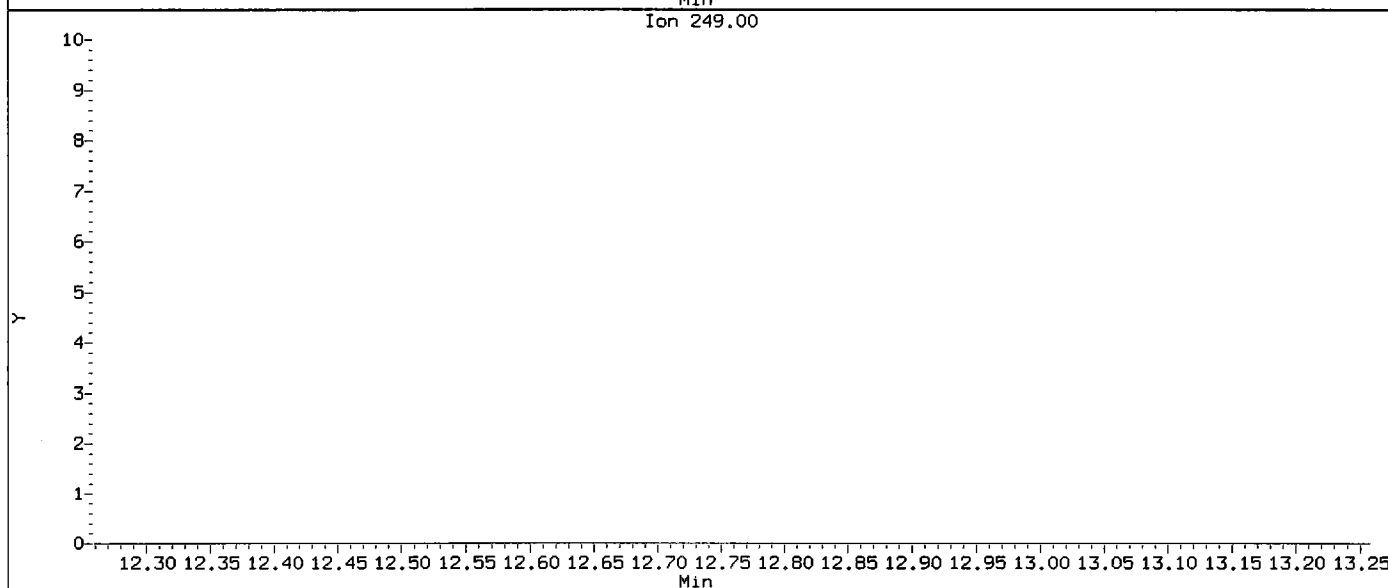
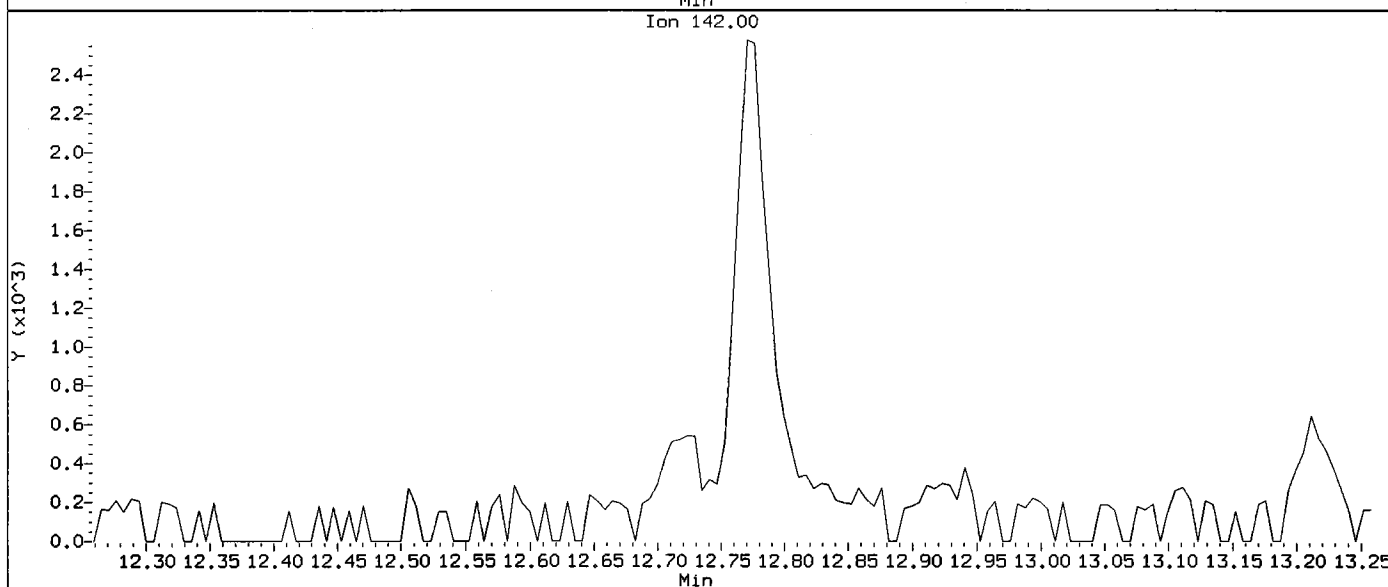
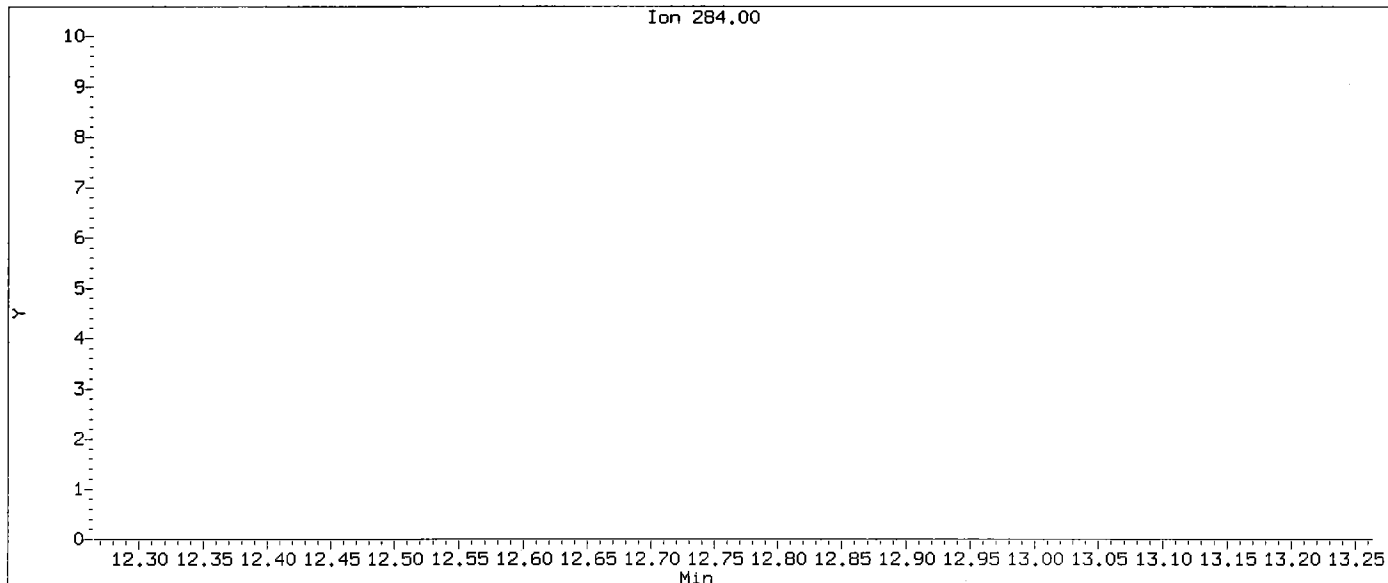
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Injection Date: 07-AUG-2008 16:00  
Instrument: nt4.1  
Client Sample ID: EBC-SD-3

Compound: Hexachlorobutadiene  
CAS Number: 87-68-3



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Injection Date: 07-AUG-2008 16:00  
Instrument: nt4.1  
Client Sample ID: EBC-SD-3

Compound: Hexachlorobenzene  
CAS Number: 118-74-1



**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS

Page 1 of 2

Sample ID: EBC-SD-4

SAMPLE

Lab Sample ID: NG39D

LIMS ID: 08-16302

Matrix: Soil

Data Release Authorized:

Reported: 09/29/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Date Extracted: 07/25/08

Date Analyzed: 08/07/08 16:32

Instrument/Analyst: NT4/LJR

GPC Cleanup: Yes

Sample Amount: 25.3 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 39.8%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	14	20	< 20 U
541-73-1	1,3-Dichlorobenzene	7.3	20	< 20 U
106-46-7	1,4-Dichlorobenzene	7.3	20	< 20 U
100-51-6	Benzyl Alcohol	14	20	< 20 U
95-50-1	1,2-Dichlorobenzene	7.8	20	< 20 U
95-48-7	2-Methylphenol	14	20	< 20 U
106-44-5	4-Methylphenol	13	20	< 20 U
67-72-1	Hexachloroethane	7.1	20	< 20 U
105-67-9	2,4-Dimethylphenol	15	20	< 20 U
65-85-0	Benzoic Acid	110	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	9.0	20	< 20 U
91-20-3	Naphthalene	8.6	20	< 20 U
87-68-3	Hexachlorobutadiene	8.0	20	< 20 U
<b>91-57-6</b>	<b>2-Methylnaphthalene</b>	<b>8.1</b>	<b>20</b>	<b>10 J</b>
131-11-3	Dimethylphthalate	7.7	20	< 20 U
208-96-8	Acenaphthylene	8.6	20	< 20 U
83-32-9	Acenaphthene	8.1	20	< 20 U
132-64-9	Dibenzofuran	7.5	20	< 20 U
84-66-2	Diethylphthalate	16	20	< 20 U
86-73-7	Fluorene	8.8	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	8.6	20	< 20 U
118-74-1	Hexachlorobenzene	7.9	20	< 20 U
87-86-5	Pentachlorophenol	47	99	< 99 U
<b>85-01-8</b>	<b>Phenanthrene</b>	<b>8.3</b>	<b>20</b>	<b>40</b>
<b>120-12-7</b>	<b>Anthracene</b>	<b>7.6</b>	<b>20</b>	<b>16 J</b>
84-74-2	Di-n-Butylphthalate	12	20	< 20 U
<b>206-44-0</b>	<b>Fluoranthene</b>	<b>7.8</b>	<b>20</b>	<b>81</b>
<b>129-00-0</b>	<b>Pyrene</b>	<b>7.7</b>	<b>20</b>	<b>63</b>
85-68-7	Butylbenzylphthalate	11	20	< 20 U
<b>56-55-3</b>	<b>Benzo (a) anthracene</b>	<b>5.8</b>	<b>20</b>	<b>37</b>
117-81-7	bis(2-Ethylhexyl)phthalate	11	20	< 20 U
<b>218-01-9</b>	<b>Chrysene</b>	<b>6.6</b>	<b>20</b>	<b>69</b>
117-84-0	Di-n-Octyl phthalate	8.2	20	< 20 U
<b>205-99-2</b>	<b>Benzo (b) fluoranthene</b>	<b>9.4</b>	<b>20</b>	<b>38</b>
<b>207-08-9</b>	<b>Benzo (k) fluoranthene</b>	<b>9.1</b>	<b>20</b>	<b>54</b>
<b>50-32-8</b>	<b>Benzo (a) pyrene</b>	<b>8.1</b>	<b>20</b>	<b>37</b>
<b>193-39-5</b>	<b>Indeno (1,2,3-cd) pyrene</b>	<b>8.5</b>	<b>20</b>	<b>16 J</b>
53-70-3	Dibenz (a,h)anthracene	8.5	20	< 20 U
<b>191-24-2</b>	<b>Benzo (g,h,i) perylene</b>	<b>6.7</b>	<b>20</b>	<b>18 J</b>



**ORGANICS ANALYSIS DATA SHEET**  
**PSDDA Semivolatiles by SW8270D GC/MS**  
 Page 2 of 2

Sample ID: **EBC-SD-4**  
**SAMPLE**

Lab Sample ID: NG39D  
 LIMS ID: 08-16302  
 Matrix: Soil  
 Date Analyzed: 08/07/08 16:32

QC Report No: NG39-HART CROWSER, INC.  
 Project: EBC  
 17441-02

CAS Number	Analyte	MDL	RL	Result
90-12-0	1-Methylnaphthalene	7.1	20	< 20 U

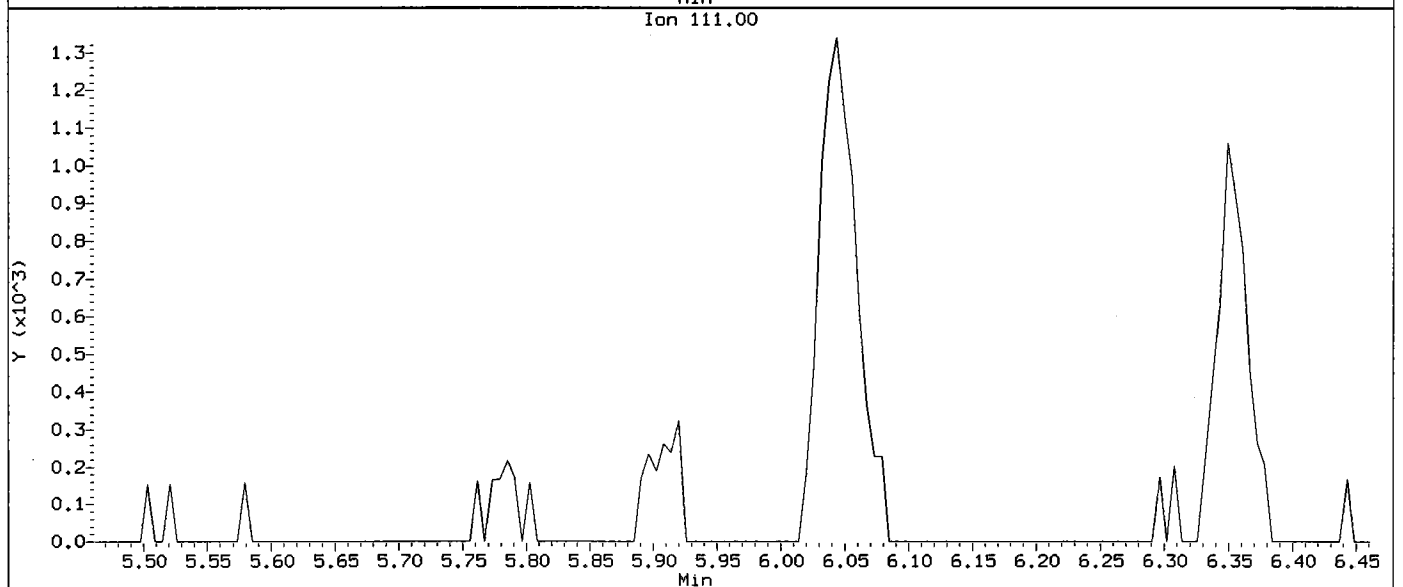
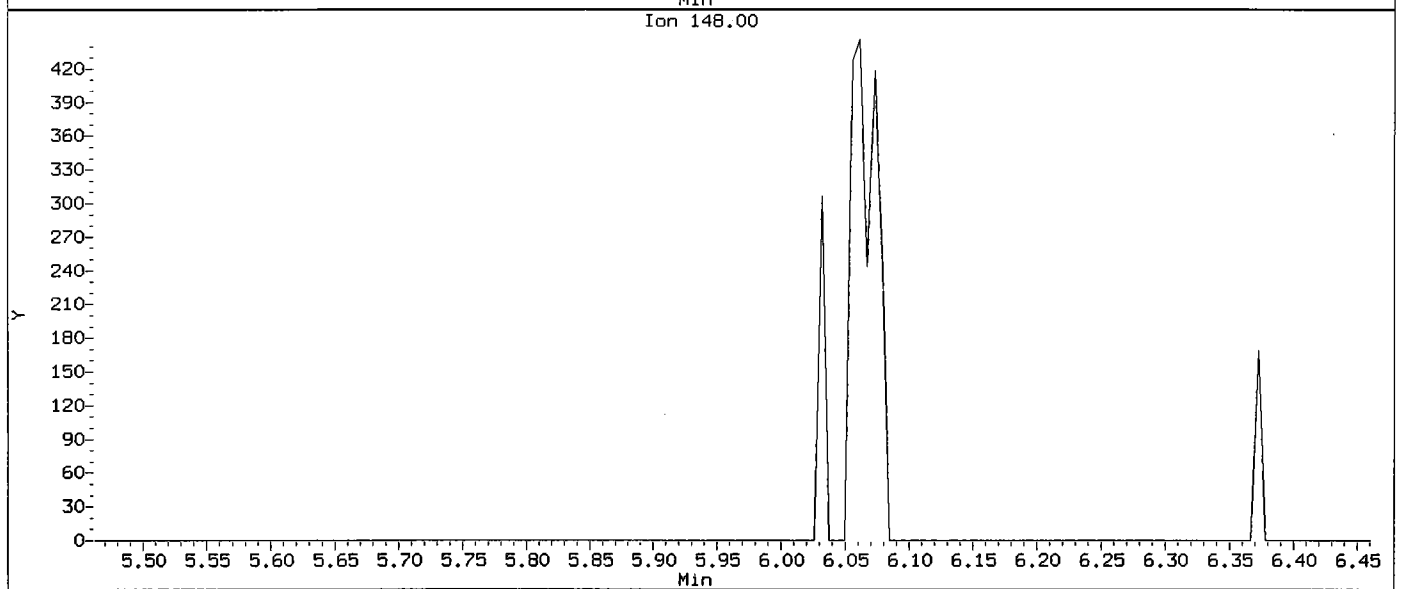
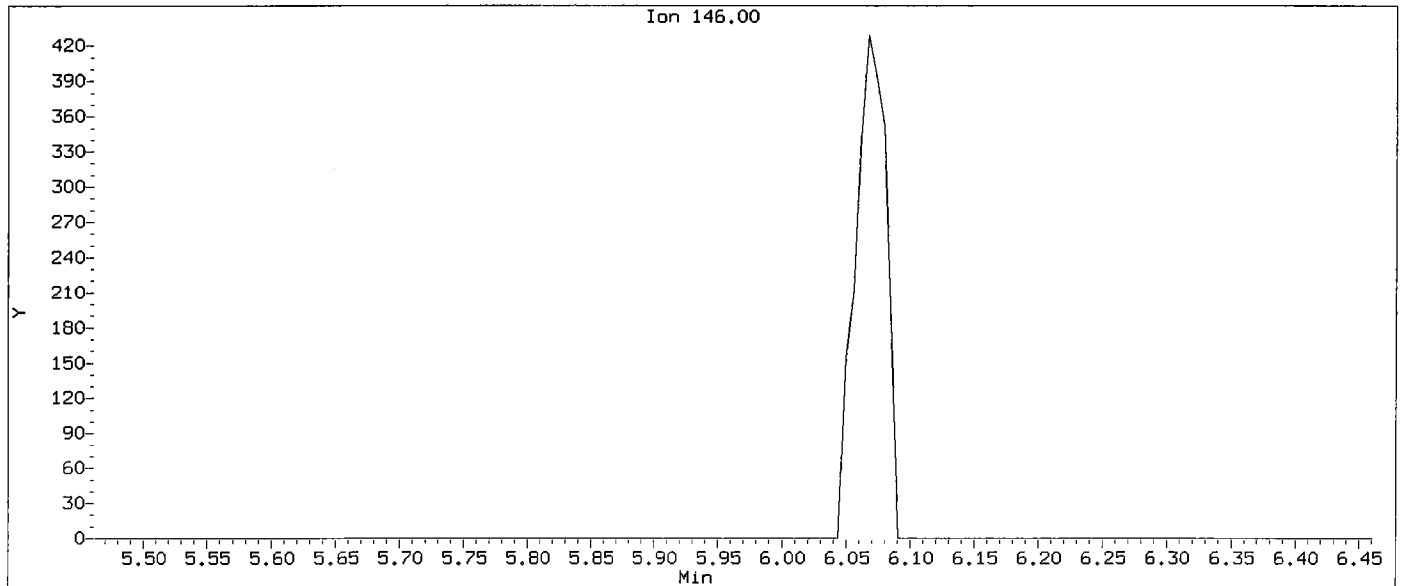
Reported in µg/kg (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	38.8%	2-Fluorobiphenyl	49.2%
d14-p-Terphenyl	51.6%	d4-1,2-Dichlorobenzene	40.0%
d5-Phenol	41.1%	2-Fluorophenol	40.3%
2,4,6-Tribromophenol	70.1%	d4-2-Chlorophenol	44.3%

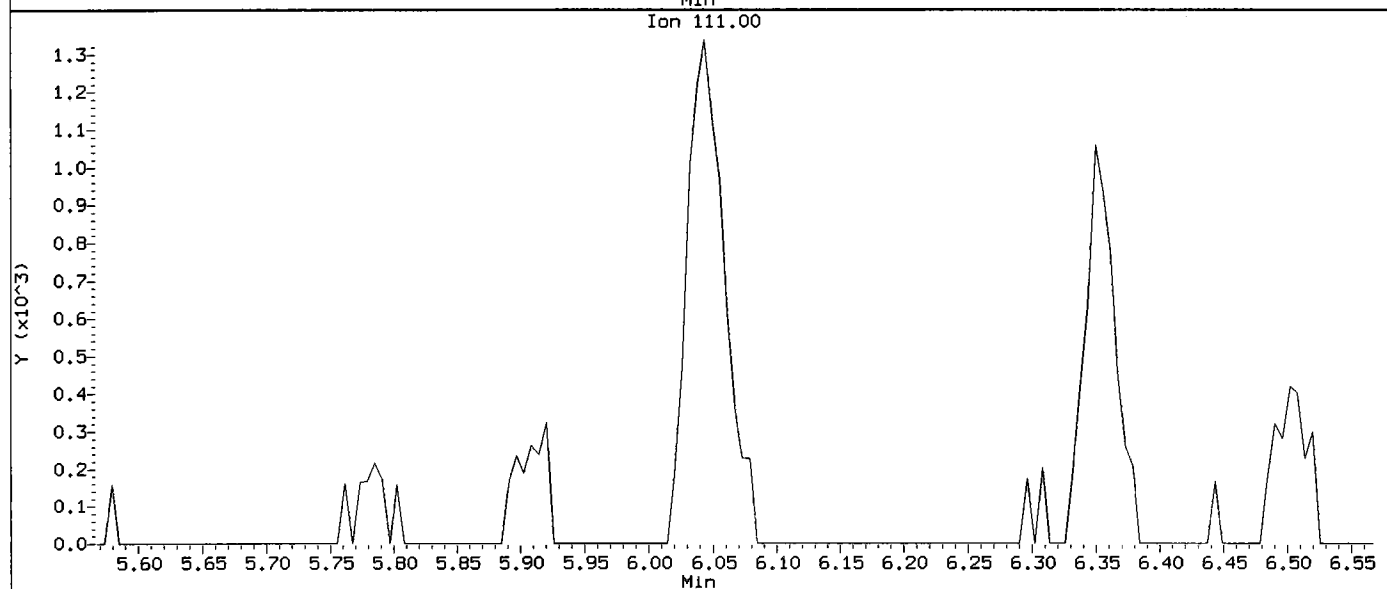
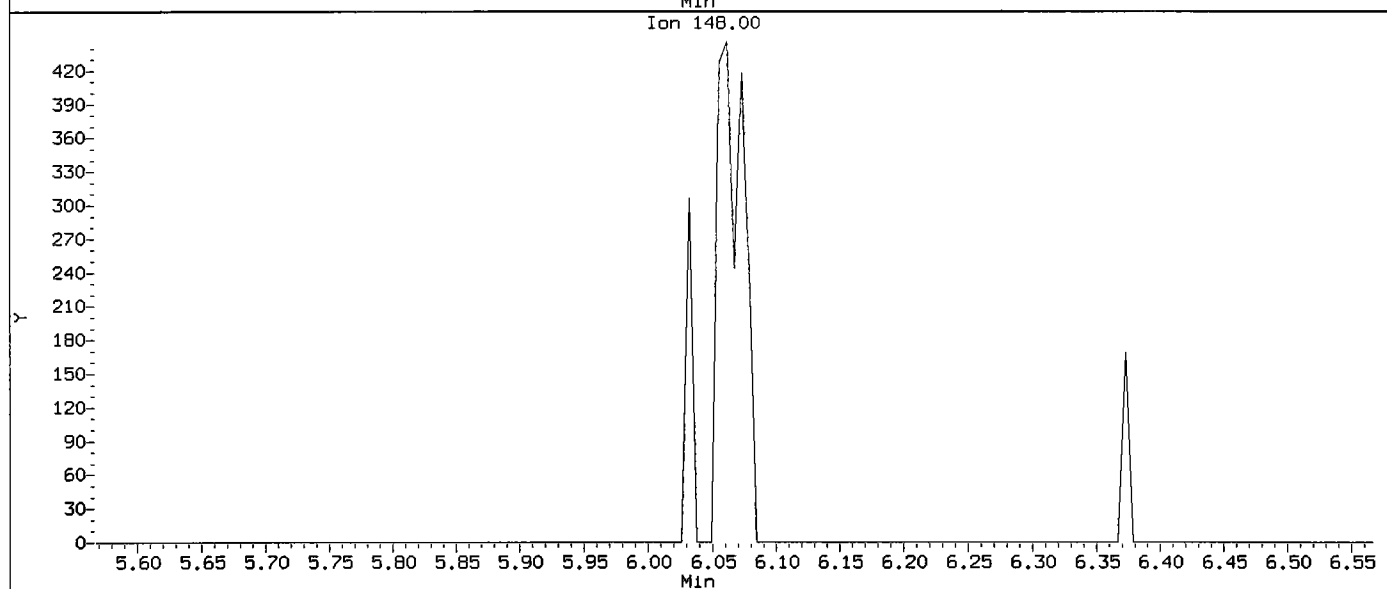
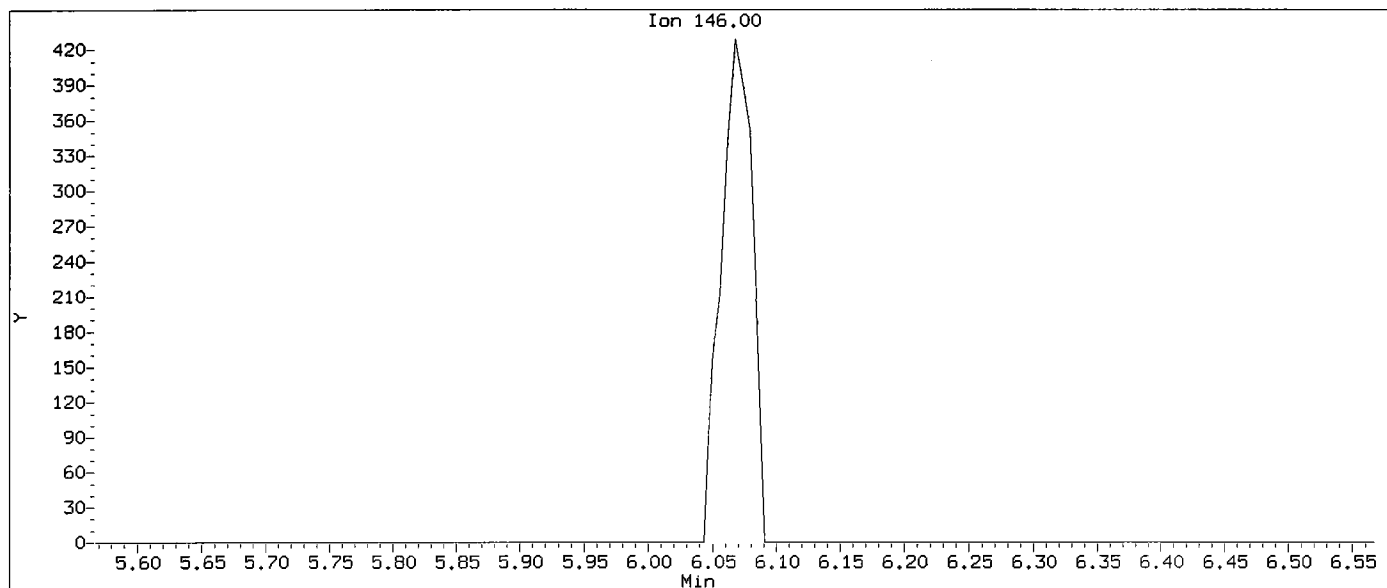
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Injection Date: 07-AUG-2008 16:32  
Instrument: nt4.i  
Client Sample ID: EBC-SD-4

Compound: 1,3-Dichlorobenzene  
CAS Number: 541-73-1



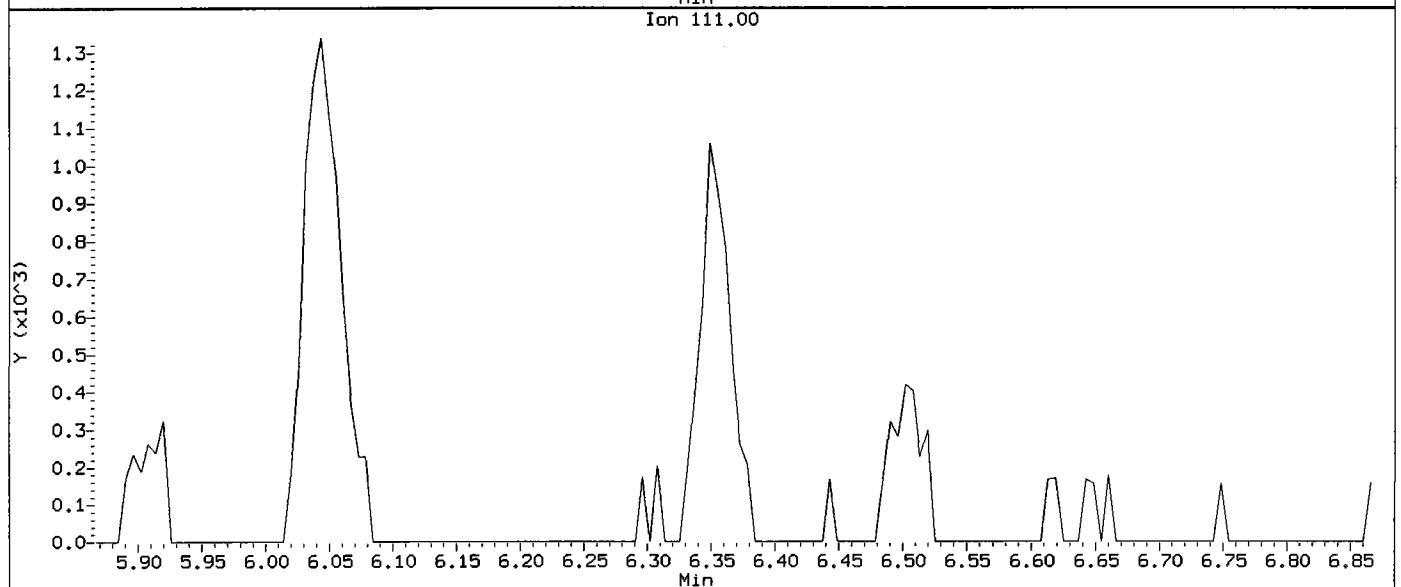
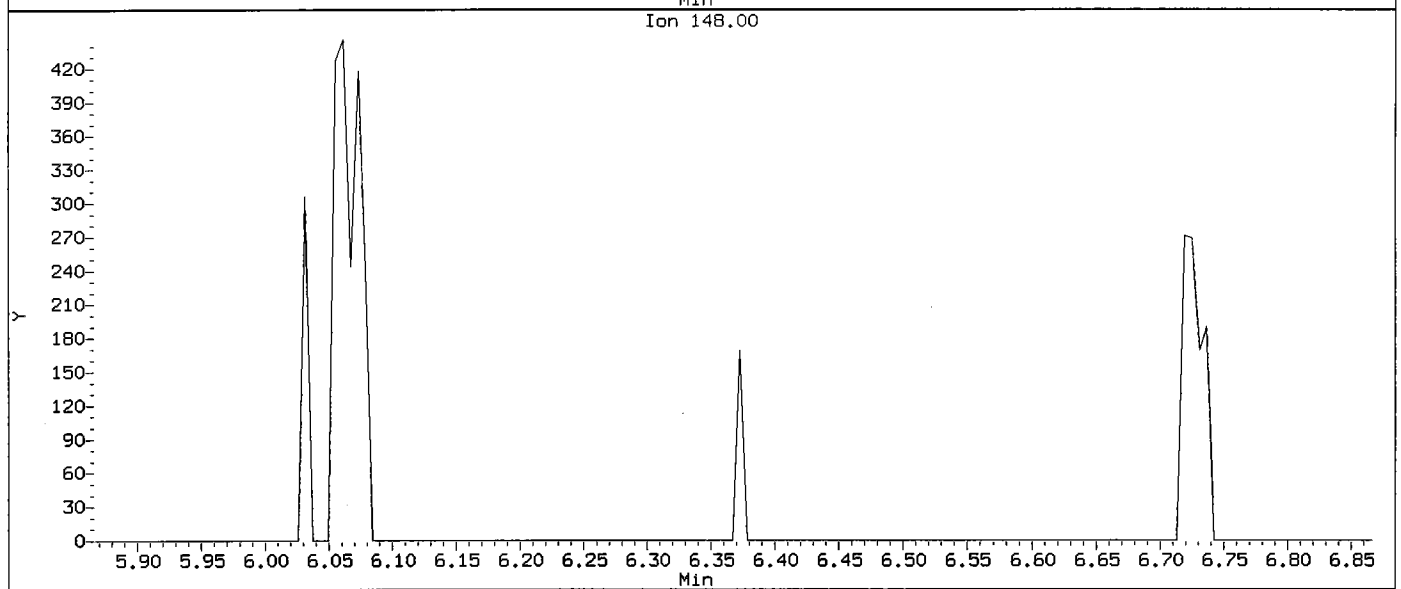
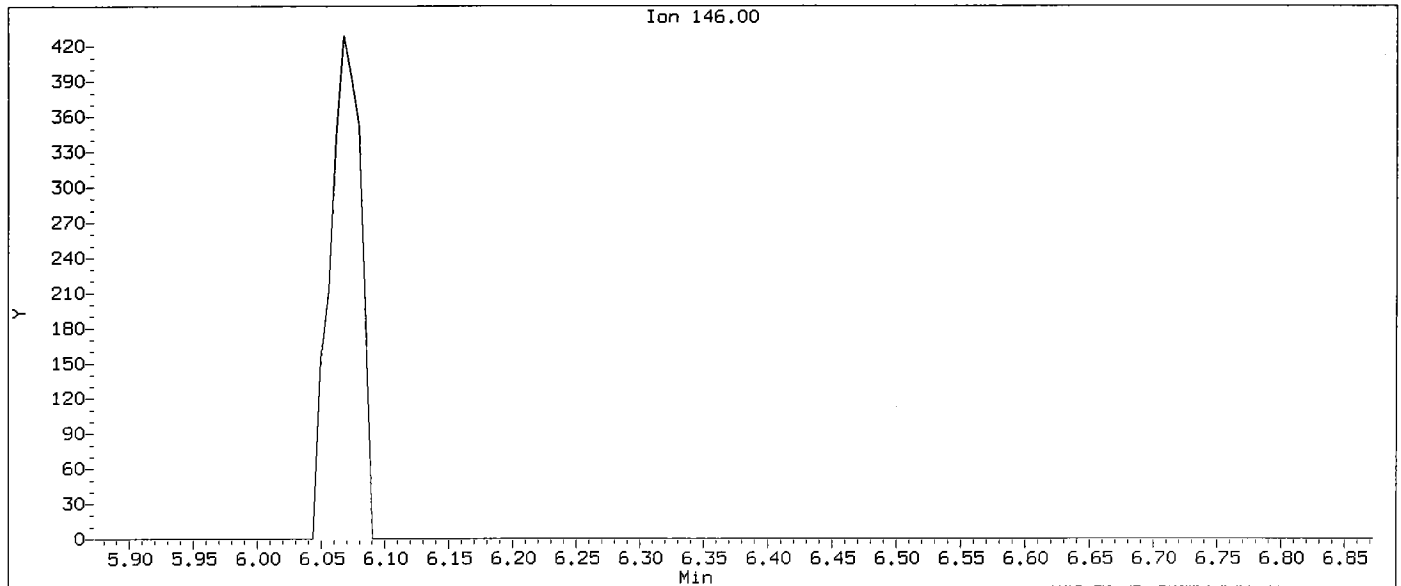
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Injection Date: 07-AUG-2008 16:32  
Instrument: nt4.1  
Client Sample ID: EBC-SD-4

Compound: 1,4-Dichlorobenzene  
CAS Number: 106-46-7



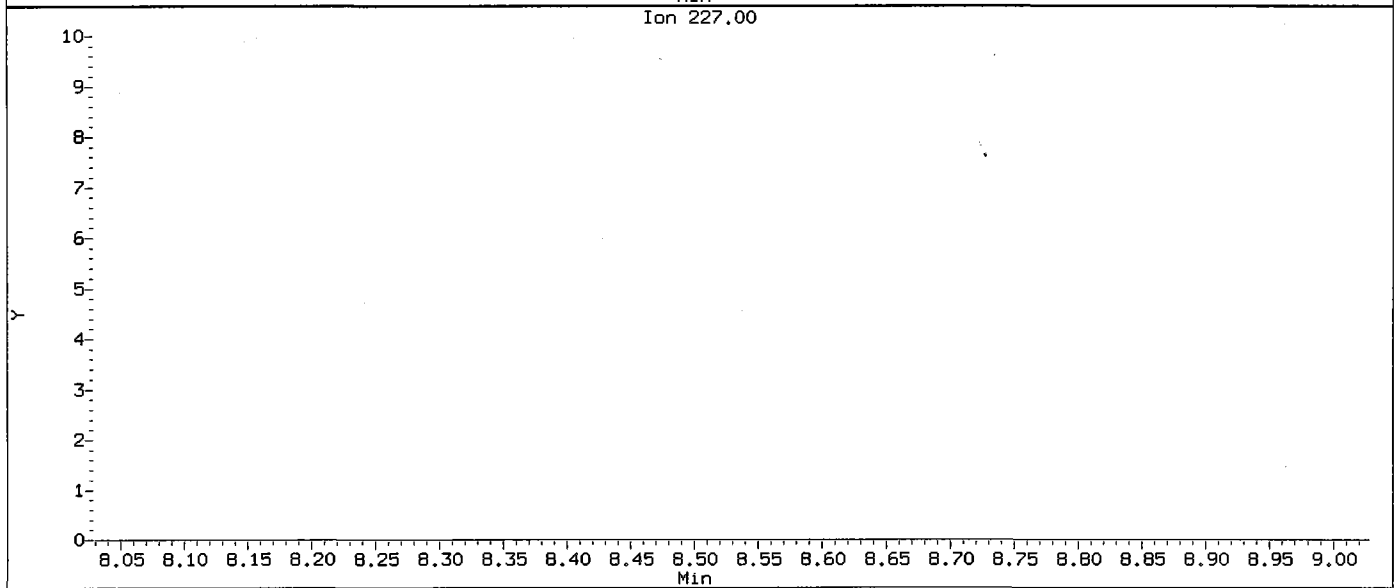
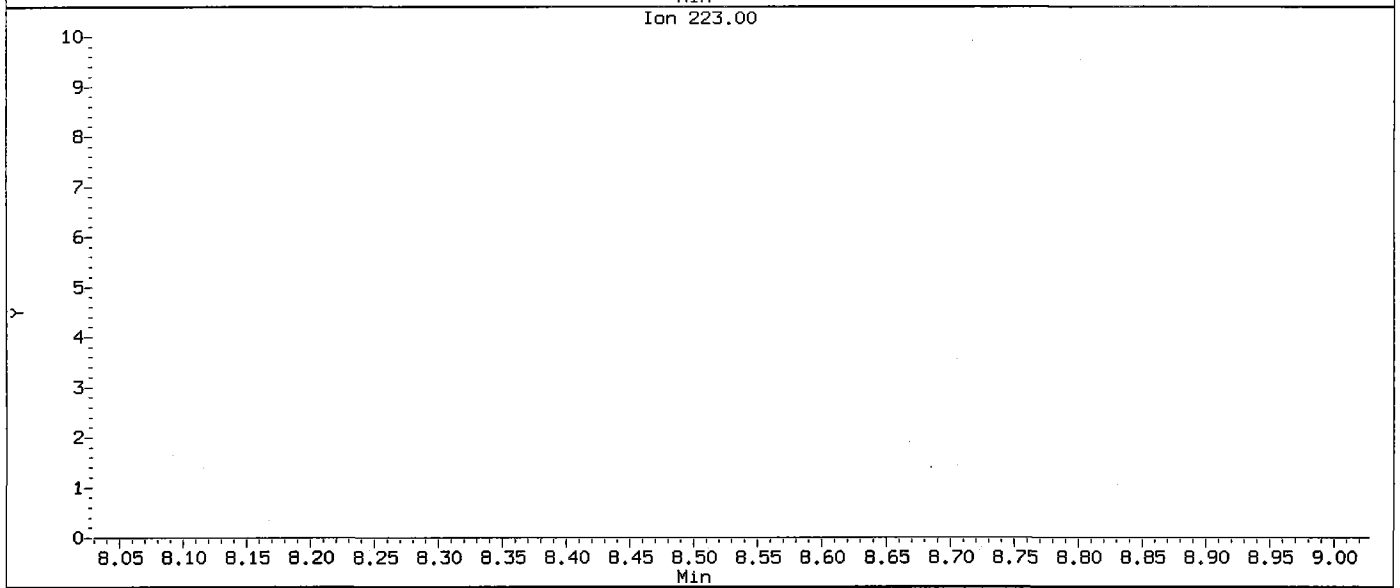
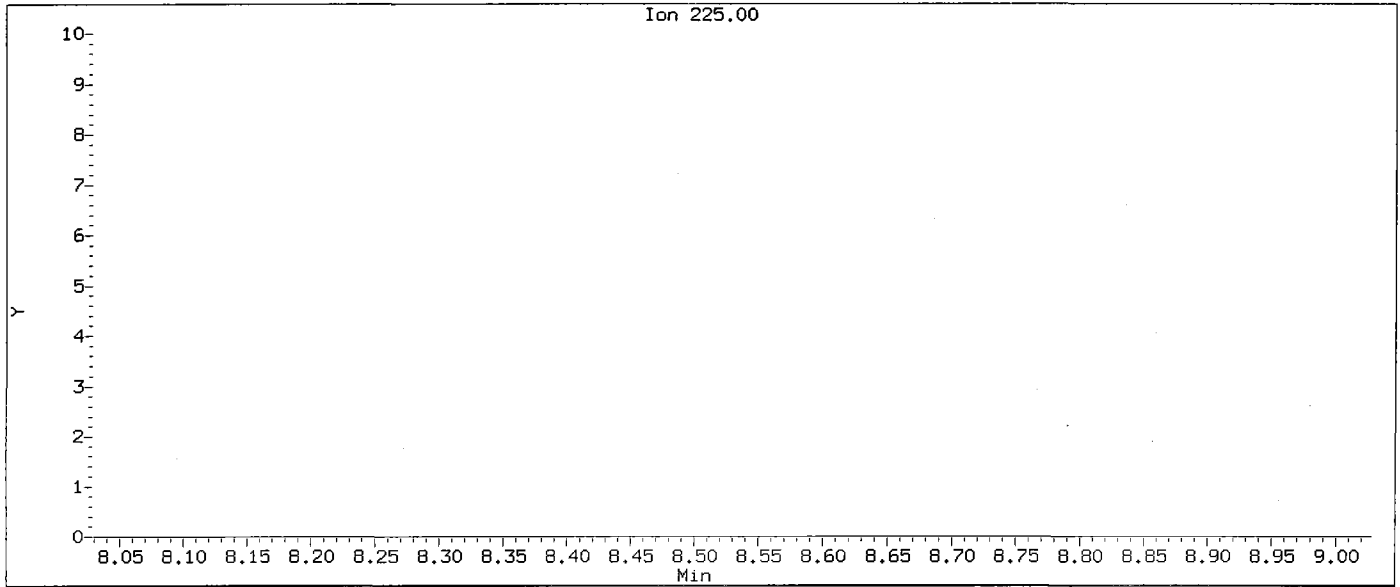
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Instrument: nt4.i  
Client Sample ID: EBC-SD-4

Compound: 1,2-Dichlorobenzene  
CAS Number: 95-50-1



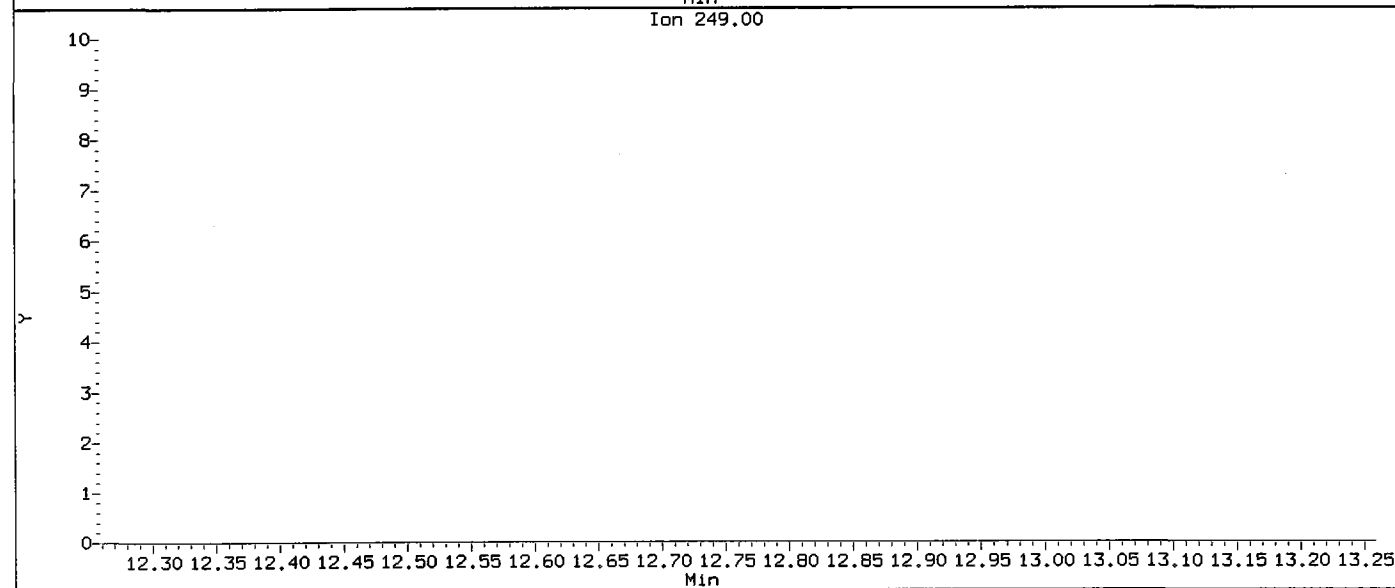
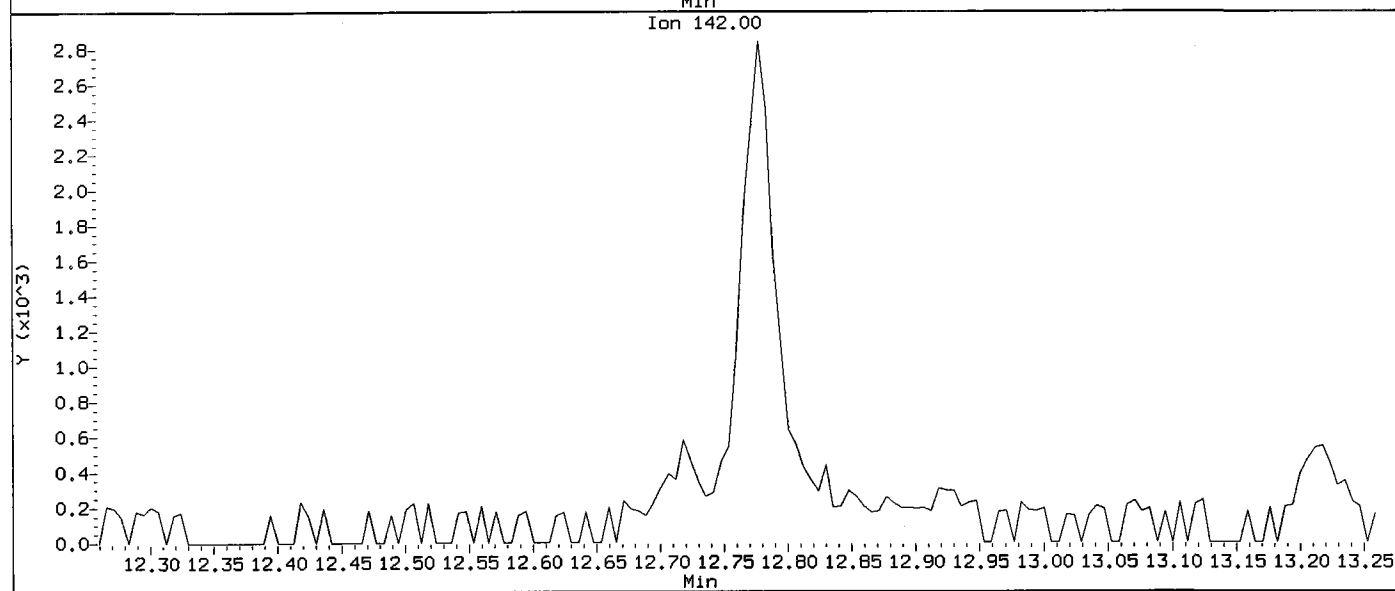
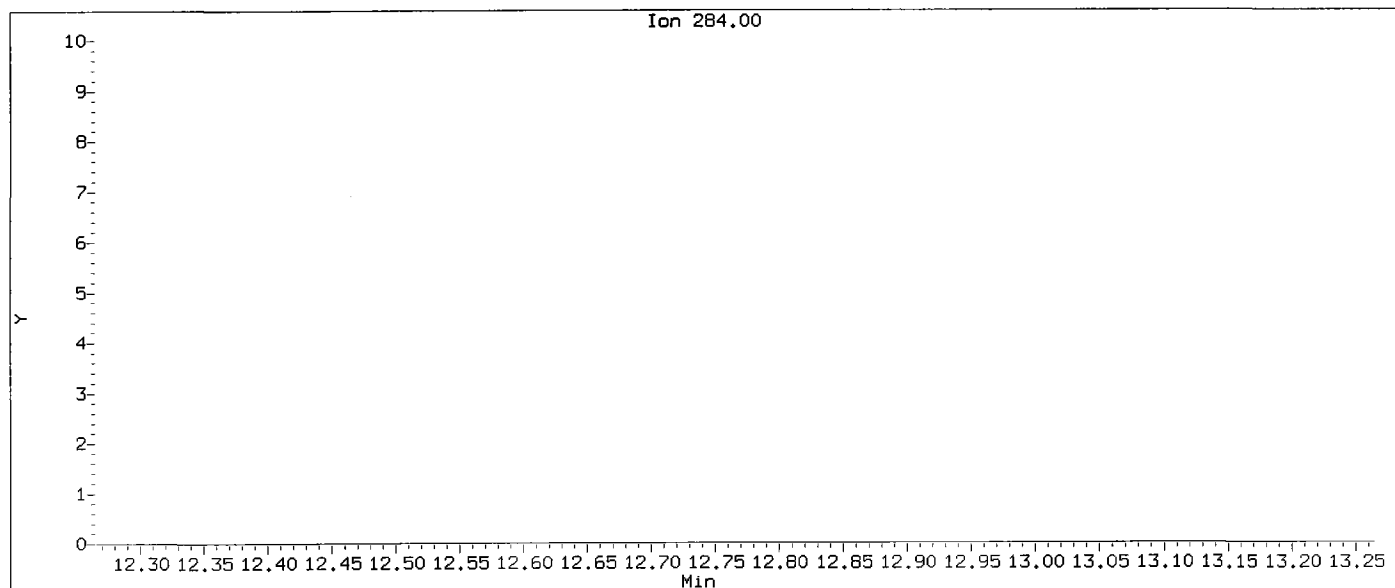
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Instrument: nt4.1  
Client Sample ID: EBC-SD-4

Compound: Hexachlorobutadiene  
CAS Number: 87-68-3



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Injection Date: 07-AUG-2008 16:32  
Instrument: nt4.1  
Client Sample ID: EBC-SD-4

Compound: Hexachlorobenzene  
CAS Number: 118-74-1



**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS

Page 1 of 2

Sample ID: EBC-SD-5

SAMPLE

Lab Sample ID: NG39E

LIMS ID: 08-16303

Matrix: Soil

Data Release Authorized:

Reported: 09/29/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Date Extracted: 07/25/08

Date Analyzed: 08/07/08 17:05

Instrument/Analyst: NT4/LJR

GPC Cleanup: Yes

Sample Amount: 25.5 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 37.9%

CAS Number	Analyte	MDL	RL	Result
<b>108-95-2</b>	<b>Phenol</b>	<b>13</b>	<b>20</b>	<b>18 J</b>
541-73-1	1,3-Dichlorobenzene	7.3	20	< 20 U
106-46-7	1,4-Dichlorobenzene	7.2	20	< 20 U
100-51-6	Benzyl Alcohol	14	20	< 20 U
95-50-1	1,2-Dichlorobenzene	7.7	20	< 20 U
95-48-7	2-Methylphenol	14	20	< 20 U
106-44-5	4-Methylphenol	13	20	< 20 U
67-72-1	Hexachloroethane	7.1	20	< 20 U
105-67-9	2,4-Dimethylphenol	15	20	< 20 U
65-85-0	Benzoic Acid	110	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	8.9	20	< 20 U
<b>91-20-3</b>	<b>Naphthalene</b>	<b>8.5</b>	<b>20</b>	<b>12 J</b>
87-68-3	Hexachlorobutadiene	8.0	20	< 20 U
<b>91-57-6</b>	<b>2-Methylnaphthalene</b>	<b>8.0</b>	<b>20</b>	<b>12 J</b>
131-11-3	Dimethylphthalate	7.6	20	< 20 U
208-96-8	Acenaphthylene	8.5	20	< 20 U
83-32-9	Acenaphthene	8.1	20	< 20 U
132-64-9	Dibenzofuran	7.4	20	< 20 U
84-66-2	Diethylphthalate	16	20	< 20 U
86-73-7	Fluorene	8.8	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	8.5	20	< 20 U
118-74-1	Hexachlorobenzene	7.9	20	< 20 U
87-86-5	Pentachlorophenol	47	98	< 98 U
<b>85-01-8</b>	<b>Phenanthrene</b>	<b>8.2</b>	<b>20</b>	<b>43</b>
<b>120-12-7</b>	<b>Anthracene</b>	<b>7.6</b>	<b>20</b>	<b>17 J</b>
84-74-2	Di-n-Butylphthalate	12	20	< 20 U
<b>206-44-0</b>	<b>Fluoranthene</b>	<b>7.8</b>	<b>20</b>	<b>81</b>
<b>129-00-0</b>	<b>Pyrene</b>	<b>7.6</b>	<b>20</b>	<b>64</b>
85-68-7	Butylbenzylphthalate	11	20	< 20 U
<b>56-55-3</b>	<b>Benzo (a) anthracene</b>	<b>5.8</b>	<b>20</b>	<b>35</b>
117-81-7	bis(2-Ethylhexyl)phthalate	11	20	< 20 U
<b>218-01-9</b>	<b>Chrysene</b>	<b>6.5</b>	<b>20</b>	<b>56</b>
117-84-0	Di-n-Octyl phthalate	8.2	20	< 20 U
<b>205-99-2</b>	<b>Benzo (b) fluoranthene</b>	<b>9.3</b>	<b>20</b>	<b>46</b>
<b>207-08-9</b>	<b>Benzo (k) fluoranthene</b>	<b>9.1</b>	<b>20</b>	<b>48</b>
<b>50-32-8</b>	<b>Benzo (a) pyrene</b>	<b>8.0</b>	<b>20</b>	<b>43</b>
<b>193-39-5</b>	<b>Indeno (1,2,3-cd) pyrene</b>	<b>8.4</b>	<b>20</b>	<b>18 J</b>
53-70-3	Dibenz(a,h)anthracene	8.4	20	< 20 U
<b>191-24-2</b>	<b>Benzo (g,h,i) perylene</b>	<b>6.6</b>	<b>20</b>	<b>20</b>

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
Page 2 of 2

Sample ID: EBC-SD-5  
SAMPLE

Lab Sample ID: NG39E  
LIMS ID: 08-16303  
Matrix: Soil  
Date Analyzed: 08/07/08 17:05

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02

CAS Number	Analyte	MDL	RL	Result
90-12-0	1-Methylnaphthalene	7.1	20	< 20 U

Reported in µg/kg (ppb)

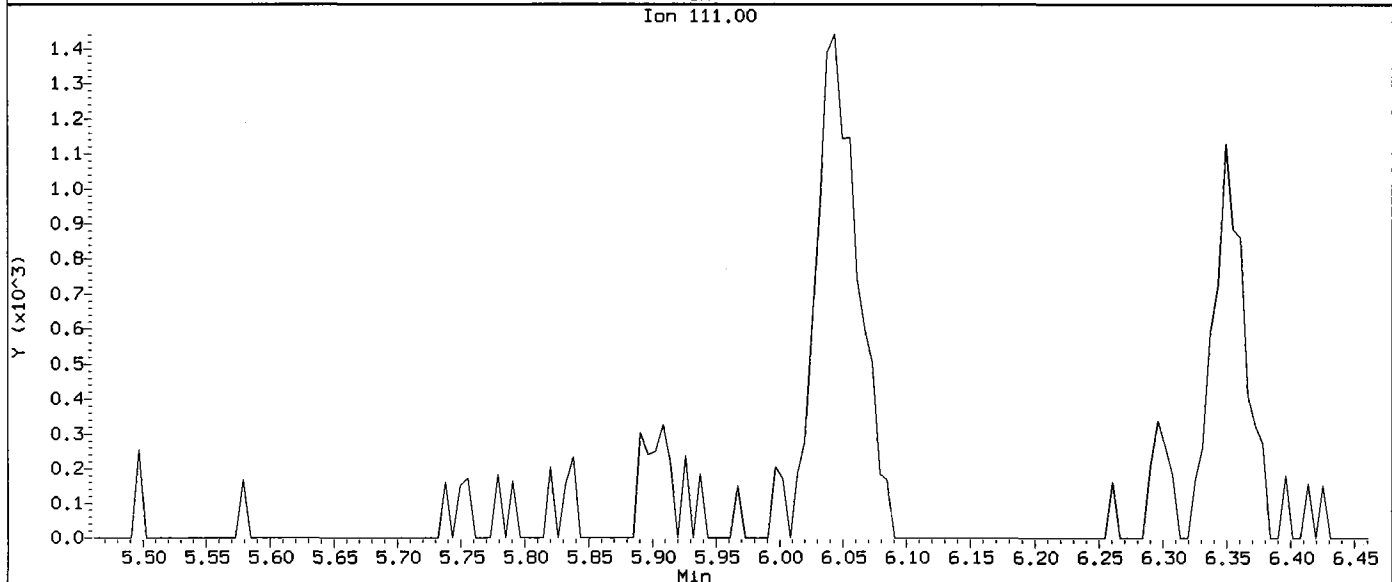
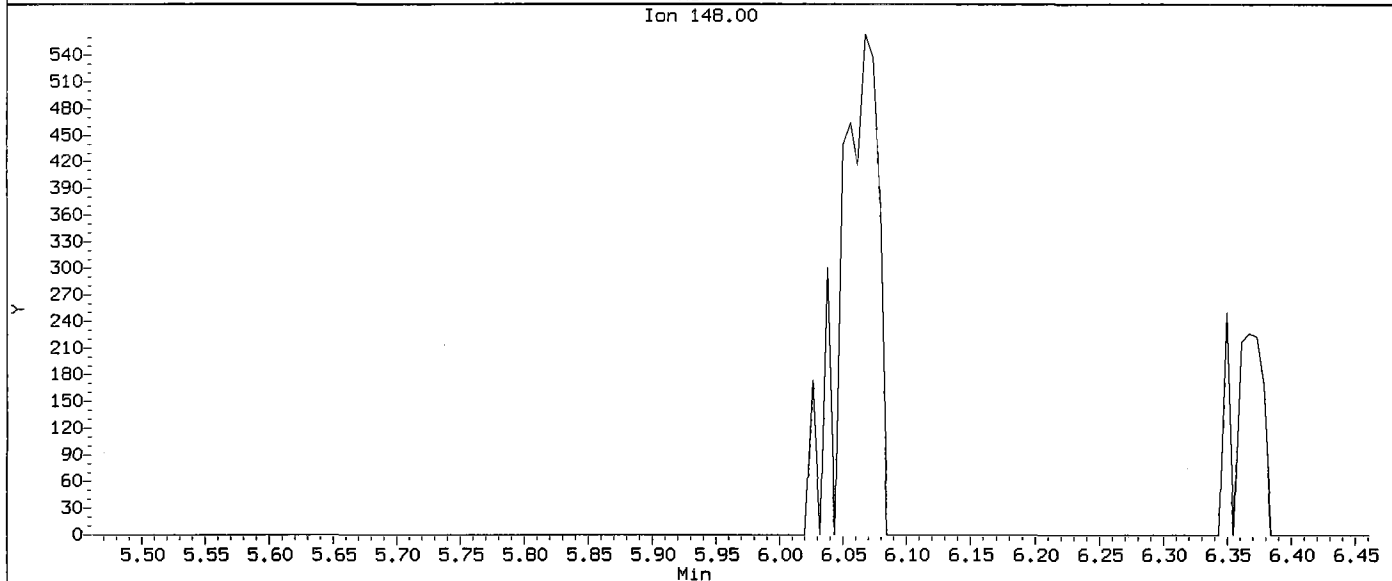
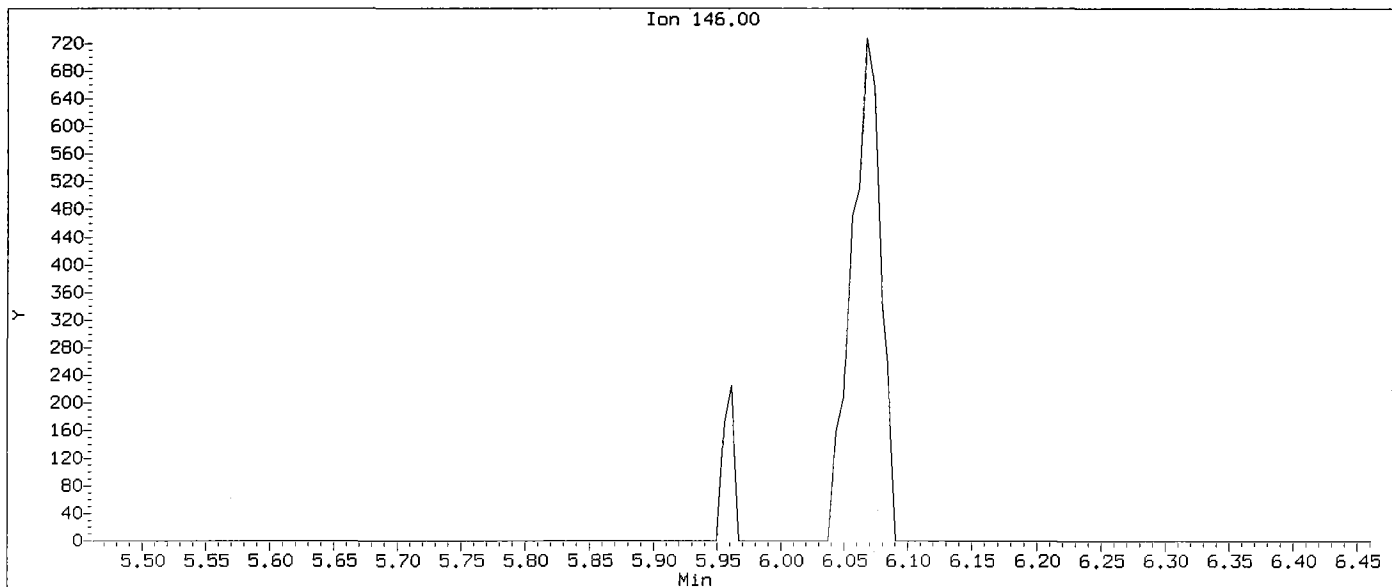
**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	41.2%	2-Fluorobiphenyl	52.0%
d14-p-Terphenyl	56.0%	d4-1,2-Dichlorobenzene	42.8%
d5-Phenol	43.2%	2-Fluorophenol	42.4%
2,4,6-Tribromophenol	76.3%	d4-2-Chlorophenol	46.7%



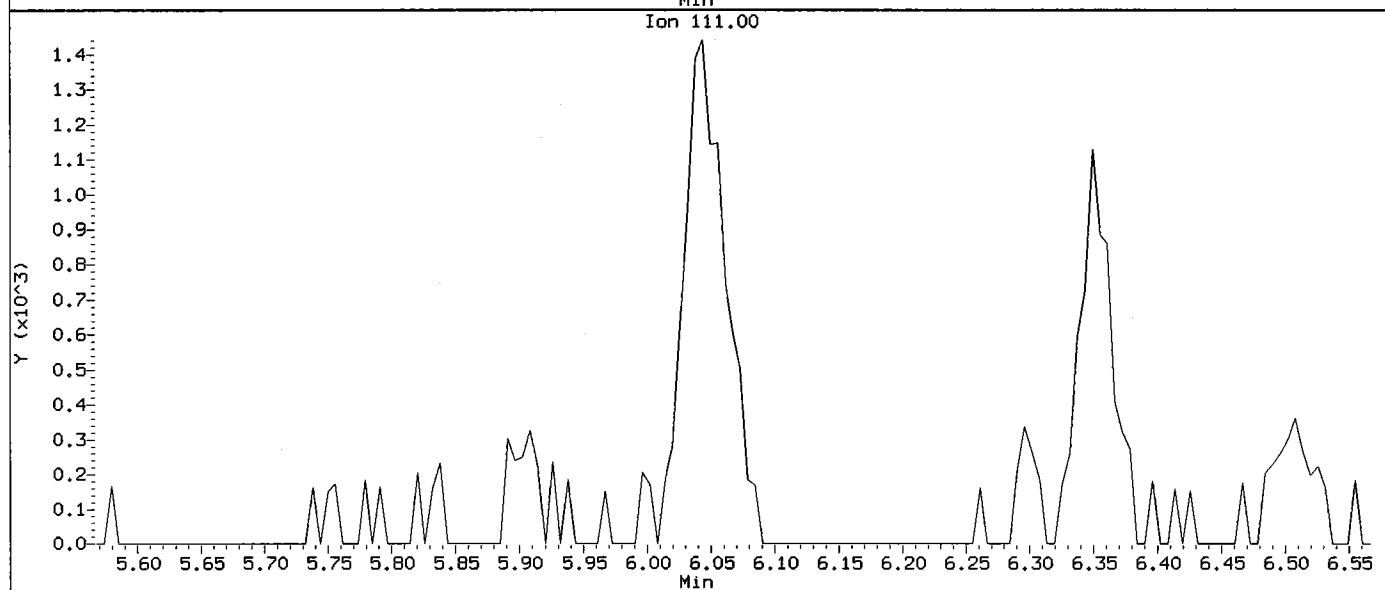
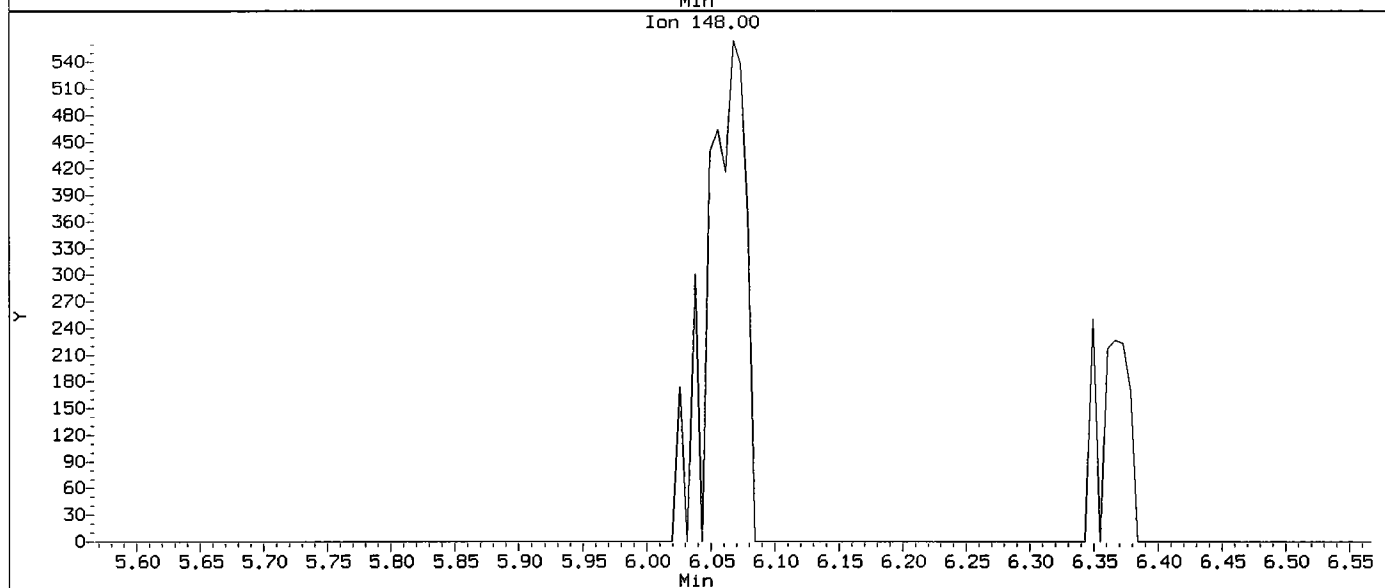
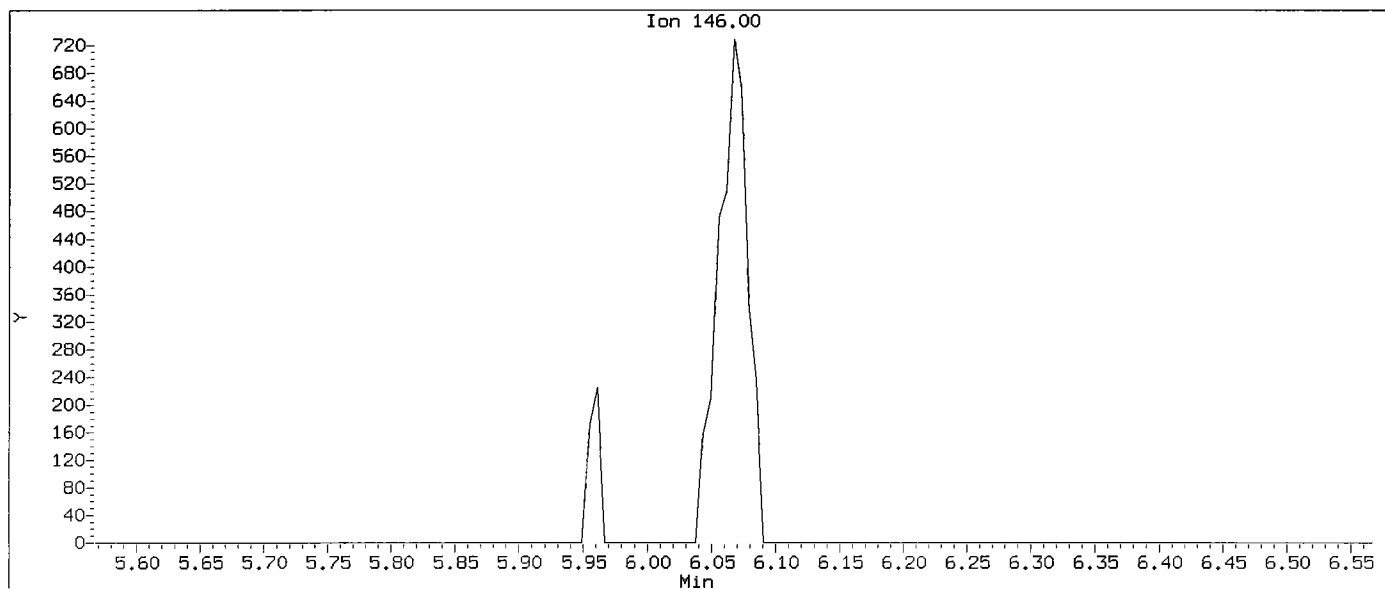
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Instrument: nt4.1  
Client Sample ID: EBC-SD-5

Compound: 1,3-Dichlorobenzene  
CAS Number: 541-73-1



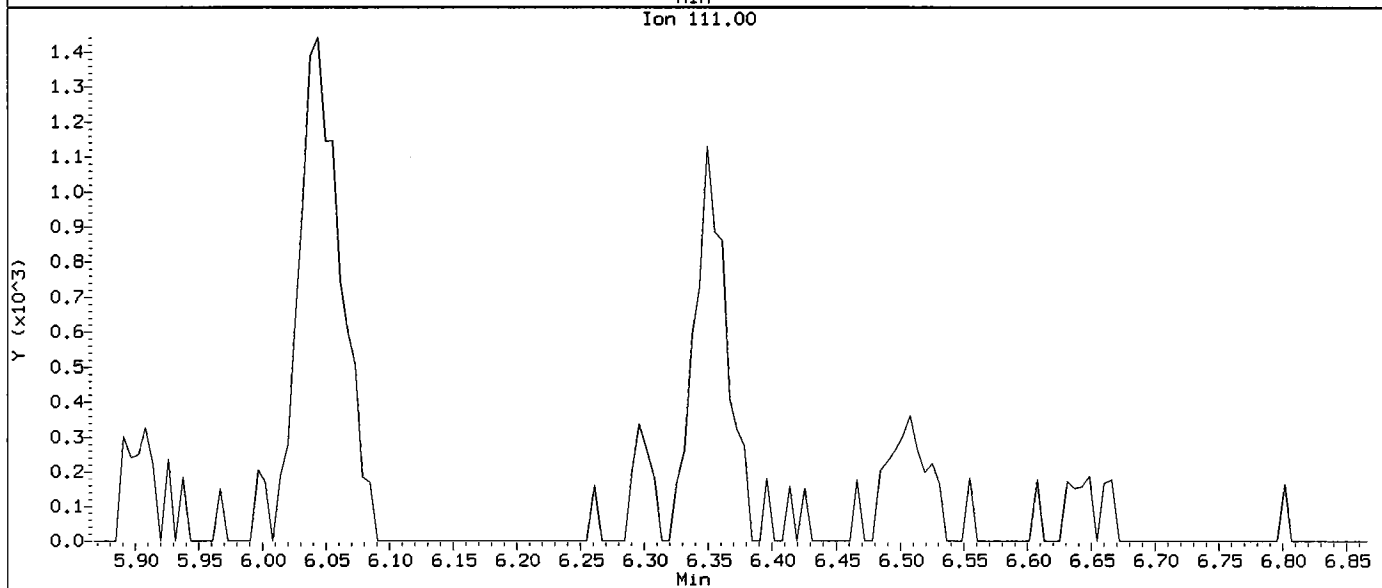
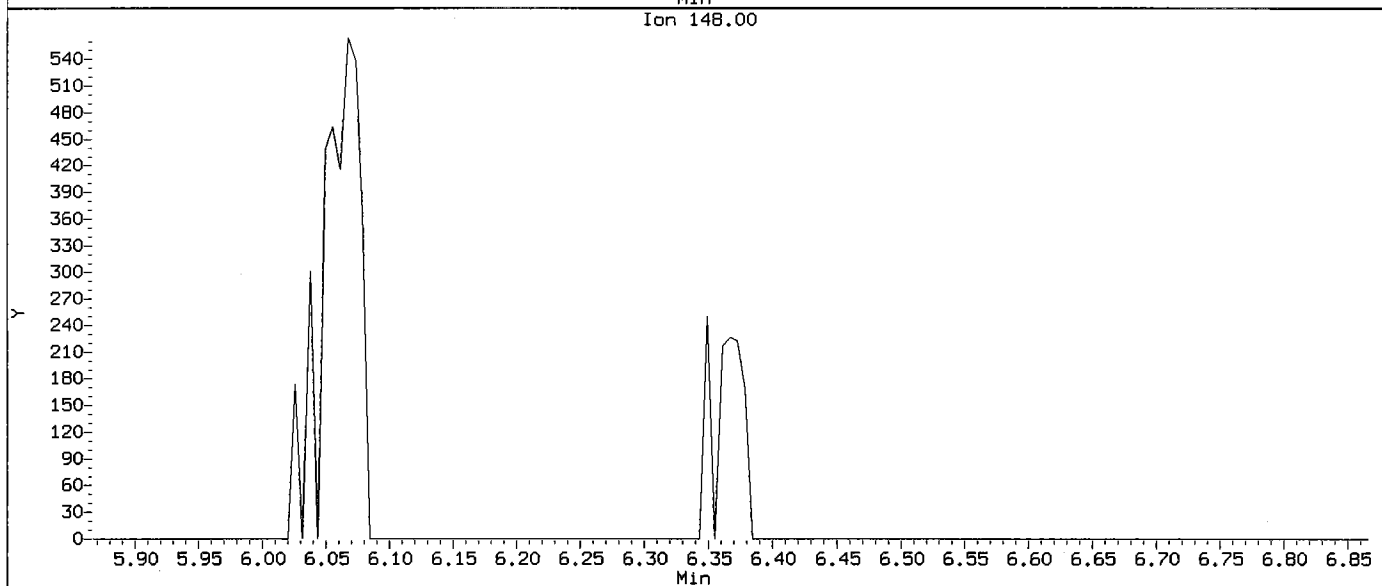
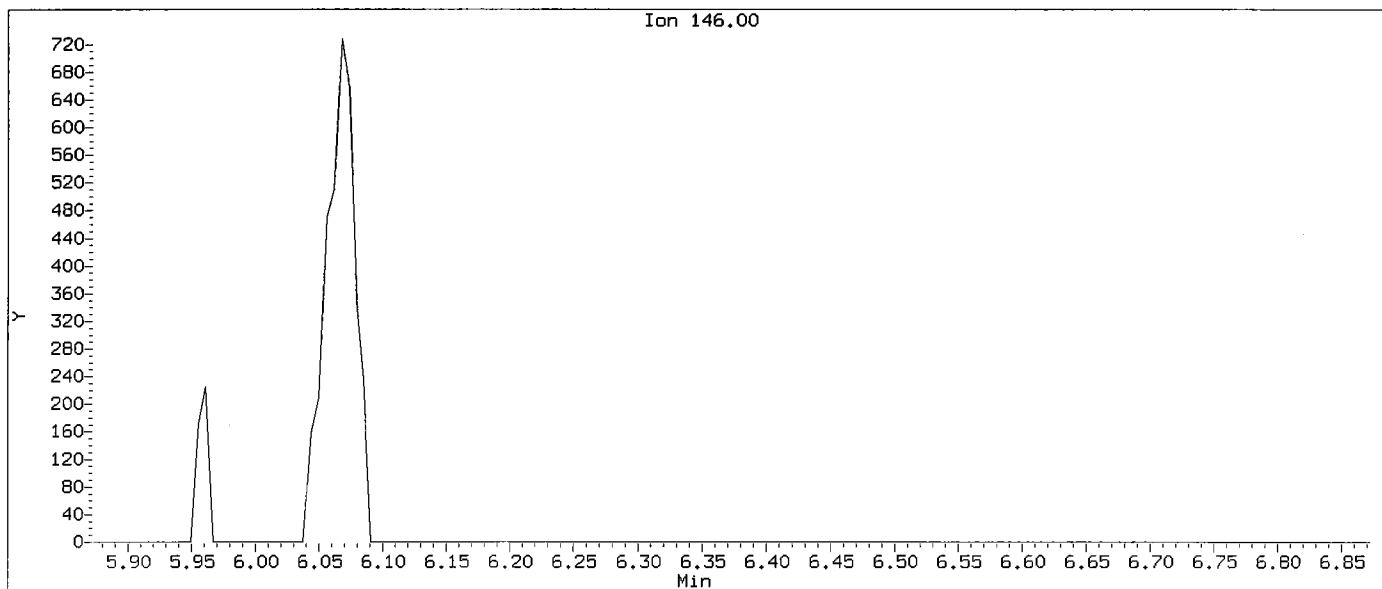
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Instrument: nt4.1  
Client Sample ID: EBC-SD-5

Compound: 1,4-Dichlorobenzene  
CAS Number: 106-46-7



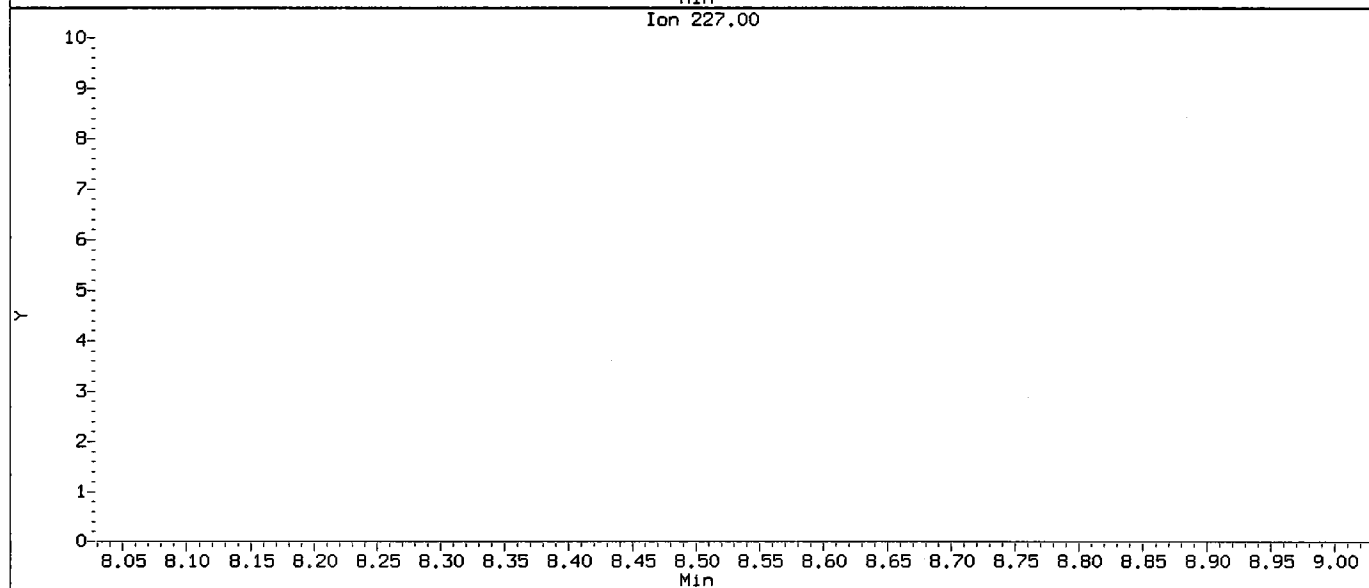
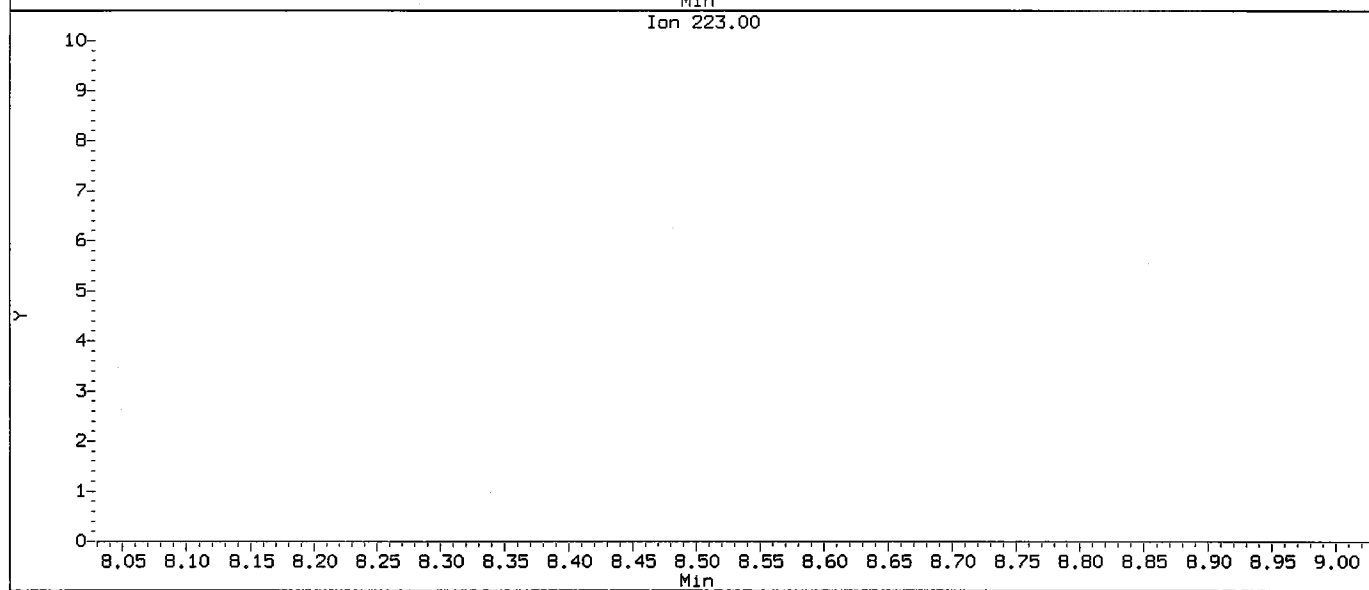
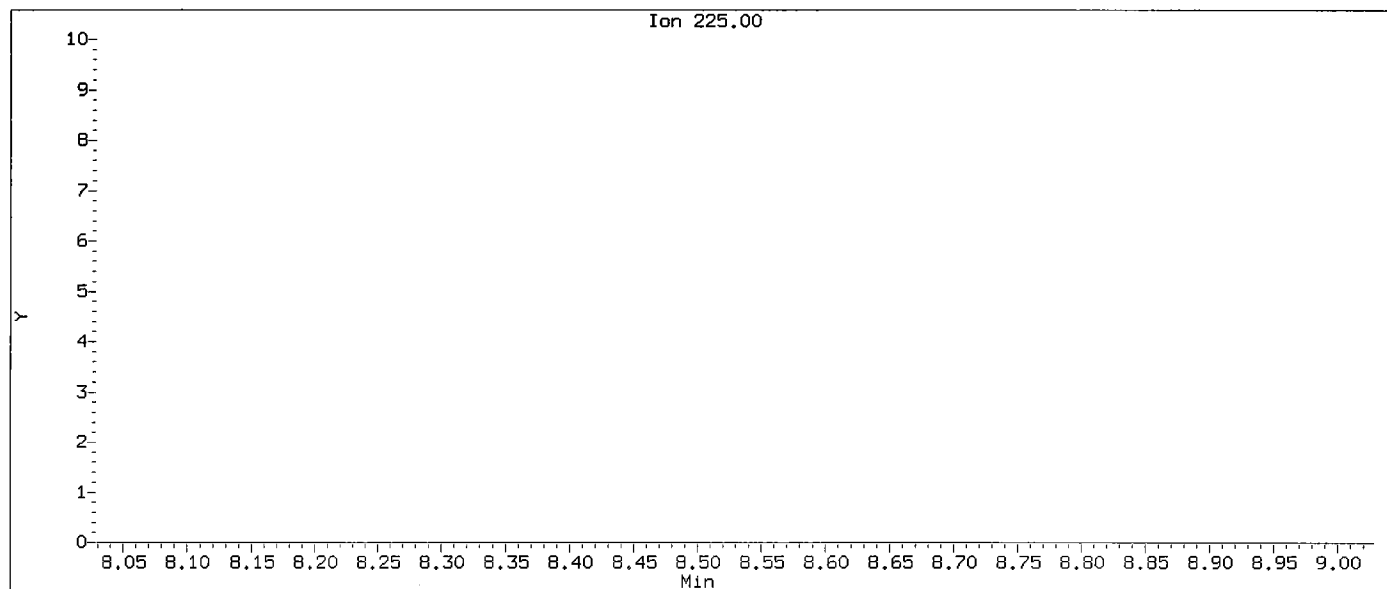
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Instrument: nt4.1  
Client Sample ID: EBC-SD-5

Compound: 1,2-Dichlorobenzene  
CAS Number: 95-50-1



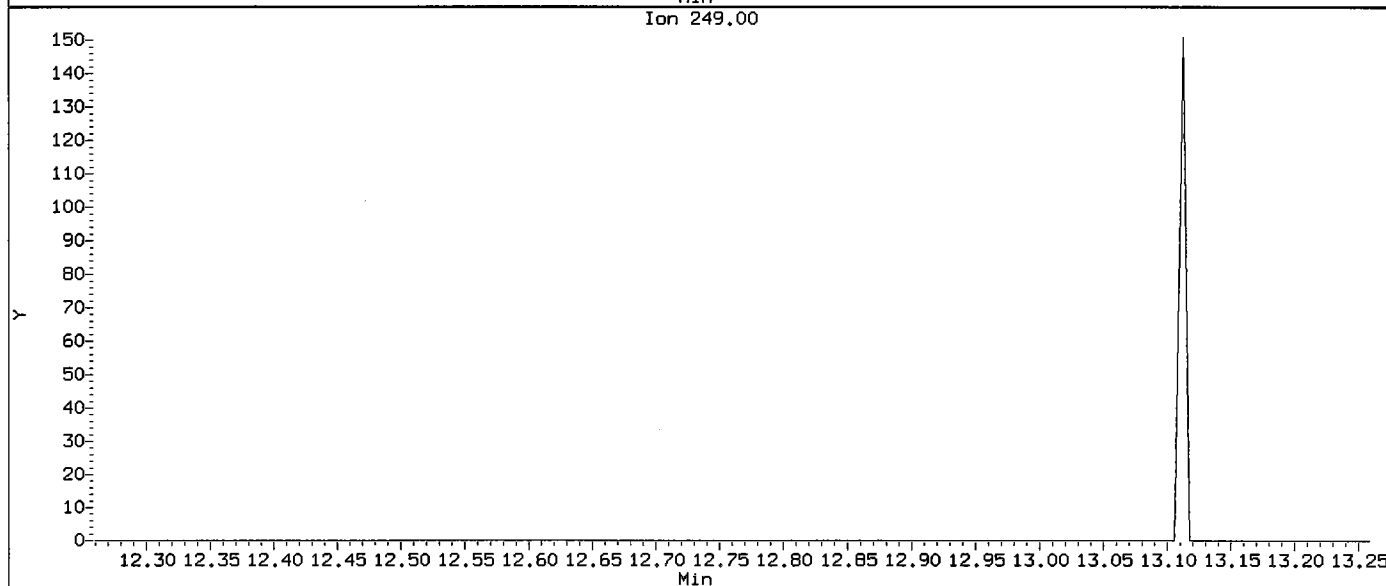
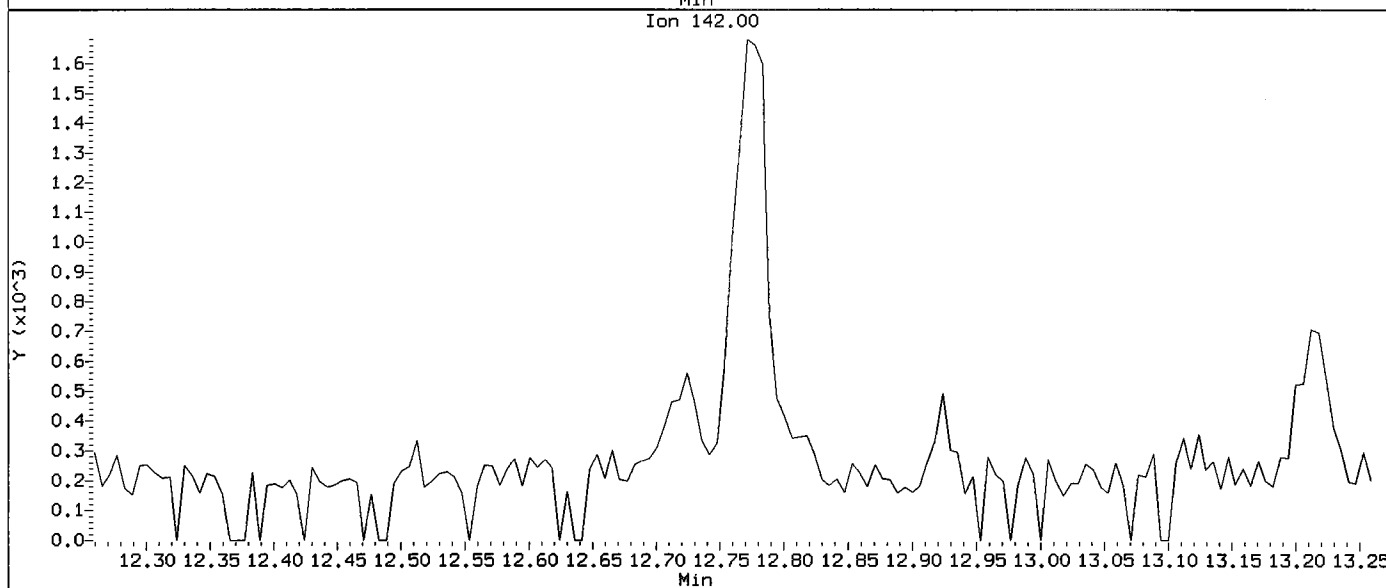
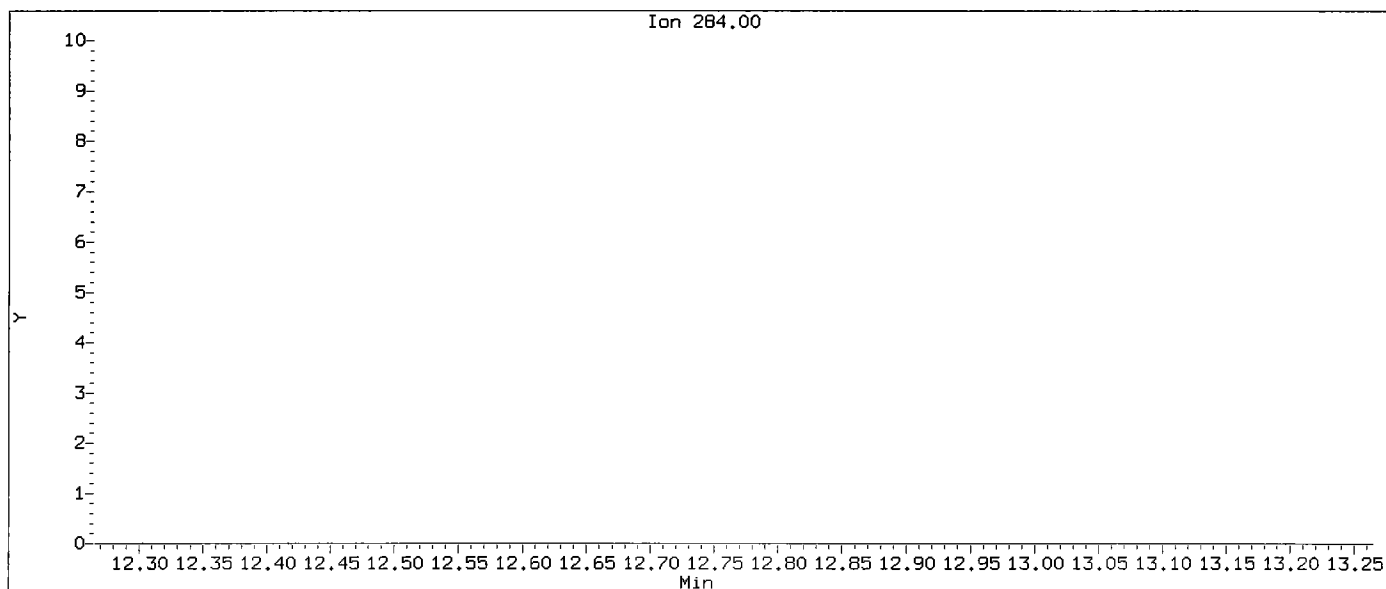
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Instrument: nt4.i  
Client Sample ID: EBC-SD-5

Compound: Hexachlorobutadiene  
CAS Number: 87-68-3



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Injection Date: 07-AUG-2008 17:05  
Instrument: nt4.i  
Client Sample ID: EBC-SD-5

Compound: Hexachlorobenzene  
CAS Number: 118-74-1



**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS

Page 1 of 2

Sample ID: EBC-SD-6

SAMPLE

Lab Sample ID: NG39F

LIMS ID: 08-16304

Matrix: Soil

Data Release Authorized:

Reported: 09/29/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Date Extracted: 07/25/08

Date Analyzed: 08/07/08 17:38

Instrument/Analyst: NT4/LJR

GPC Cleanup: Yes

Sample Amount: 25.2 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 37.0%

CAS Number	Analyte	MDL	RL	Result
<b>108-95-2</b>	<b>Phenol</b>	<b>14</b>	<b>20</b>	<b>40</b>
541-73-1	1,3-Dichlorobenzene	7.4	20	< 20 U
106-46-7	1,4-Dichlorobenzene	7.3	20	< 20 U
100-51-6	Benzyl Alcohol	14	20	< 20 U
95-50-1	1,2-Dichlorobenzene	7.8	20	< 20 U
95-48-7	2-Methylphenol	14	20	< 20 U
106-44-5	4-Methylphenol	13	20	< 20 U
67-72-1	Hexachloroethane	7.1	20	< 20 U
105-67-9	2,4-Dimethylphenol	15	20	< 20 U
65-85-0	Benzoic Acid	110	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	9.0	20	< 20 U
<b>91-20-3</b>	<b>Naphthalene</b>	<b>8.6</b>	<b>20</b>	<b>12 J</b>
87-68-3	Hexachlorobutadiene	8.1	20	< 20 U
<b>91-57-6</b>	<b>2-Methylnaphthalene</b>	<b>8.1</b>	<b>20</b>	<b>12 J</b>
131-11-3	Dimethylphthalate	7.7	20	< 20 U
208-96-8	Acenaphthylene	8.6	20	< 20 U
83-32-9	Acenaphthene	8.2	20	< 20 U
<b>132-64-9</b>	<b>Dibenzofuran</b>	<b>7.5</b>	<b>20</b>	<b>11 J</b>
<b>84-66-2</b>	<b>Diethylphthalate</b>	<b>16</b>	<b>20</b>	<b>19 J</b>
<b>86-73-7</b>	<b>Fluorene</b>	<b>8.9</b>	<b>20</b>	<b>11 J</b>
86-30-6	N-Nitrosodiphenylamine	8.6	20	< 20 U
118-74-1	Hexachlorobenzene	8.0	20	< 20 U
87-86-5	Pentachlorophenol	47	99	< 99 U
<b>85-01-8</b>	<b>Phenanthrene</b>	<b>8.3</b>	<b>20</b>	<b>42</b>
<b>120-12-7</b>	<b>Anthracene</b>	<b>7.7</b>	<b>20</b>	<b>22</b>
84-74-2	Di-n-Butylphthalate	12	20	< 20 U
<b>206-44-0</b>	<b>Fluoranthene</b>	<b>7.9</b>	<b>20</b>	<b>93</b>
<b>129-00-0</b>	<b>Pyrene</b>	<b>7.7</b>	<b>20</b>	<b>74</b>
85-68-7	Butylbenzylphthalate	11	20	< 20 U
<b>56-55-3</b>	<b>Benzo (a) anthracene</b>	<b>5.9</b>	<b>20</b>	<b>44</b>
117-81-7	bis(2-Ethylhexyl)phthalate	11	20	< 20 U
<b>218-01-9</b>	<b>Chrysene</b>	<b>6.6</b>	<b>20</b>	<b>78</b>
117-84-0	Di-n-Octyl phthalate	8.3	20	< 20 U
<b>205-99-2</b>	<b>Benzo (b) fluoranthene</b>	<b>9.4</b>	<b>20</b>	<b>52</b>
<b>207-08-9</b>	<b>Benzo (k) fluoranthene</b>	<b>9.2</b>	<b>20</b>	<b>56</b>
<b>50-32-8</b>	<b>Benzo (a) pyrene</b>	<b>8.1</b>	<b>20</b>	<b>43</b>
<b>193-39-5</b>	<b>Indeno (1,2,3-cd) pyrene</b>	<b>8.5</b>	<b>20</b>	<b>18 J</b>
53-70-3	Dibenz(a,h)anthracene	8.5	20	< 20 U
<b>191-24-2</b>	<b>Benzo (g,h,i) perylene</b>	<b>6.7</b>	<b>20</b>	<b>20 J</b>

**ORGANICS ANALYSIS DATA SHEET**  
**PSDDA Semivolatiles by SW8270D GC/MS**  
 Page 2 of 2

Sample ID: EBC-SD-6  
 SAMPLE

Lab Sample ID: NG39F  
 LIMS ID: 08-16304  
 Matrix: Soil  
 Date Analyzed: 08/07/08 17:38

QC Report No: NG39-HART CROWSER, INC.  
 Project: EBC  
 17441-02

CAS Number	Analyte	MDL	RL	Result
90-12-0	1-Methylnaphthalene	7.1	20	< 20 U

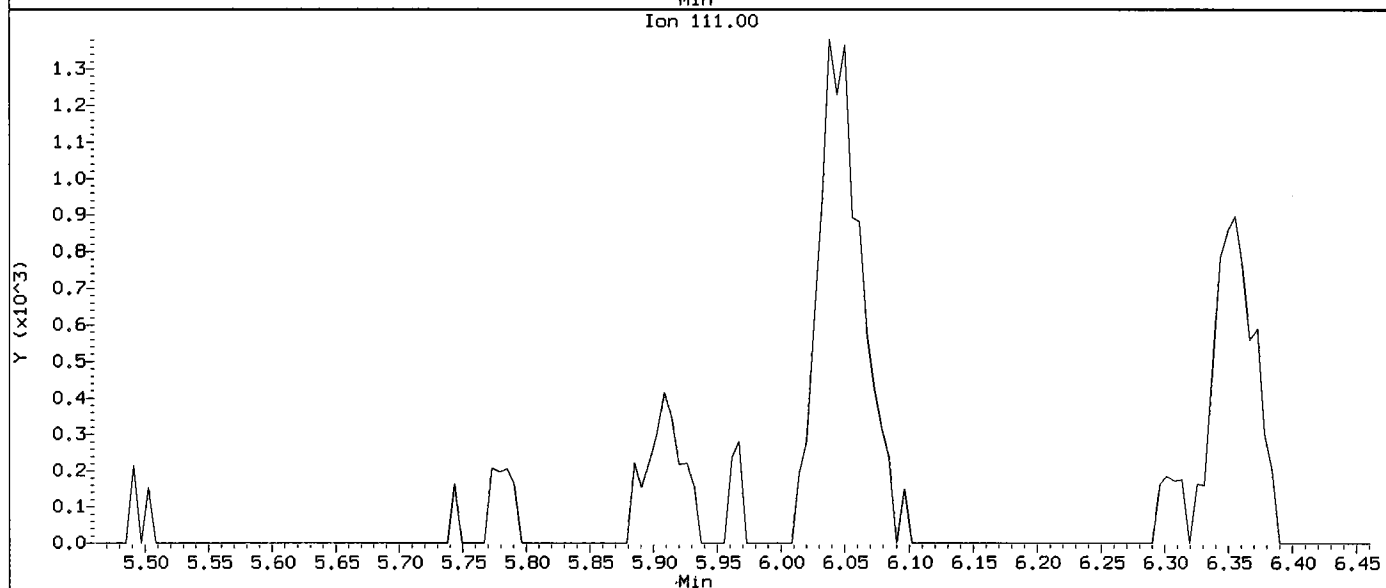
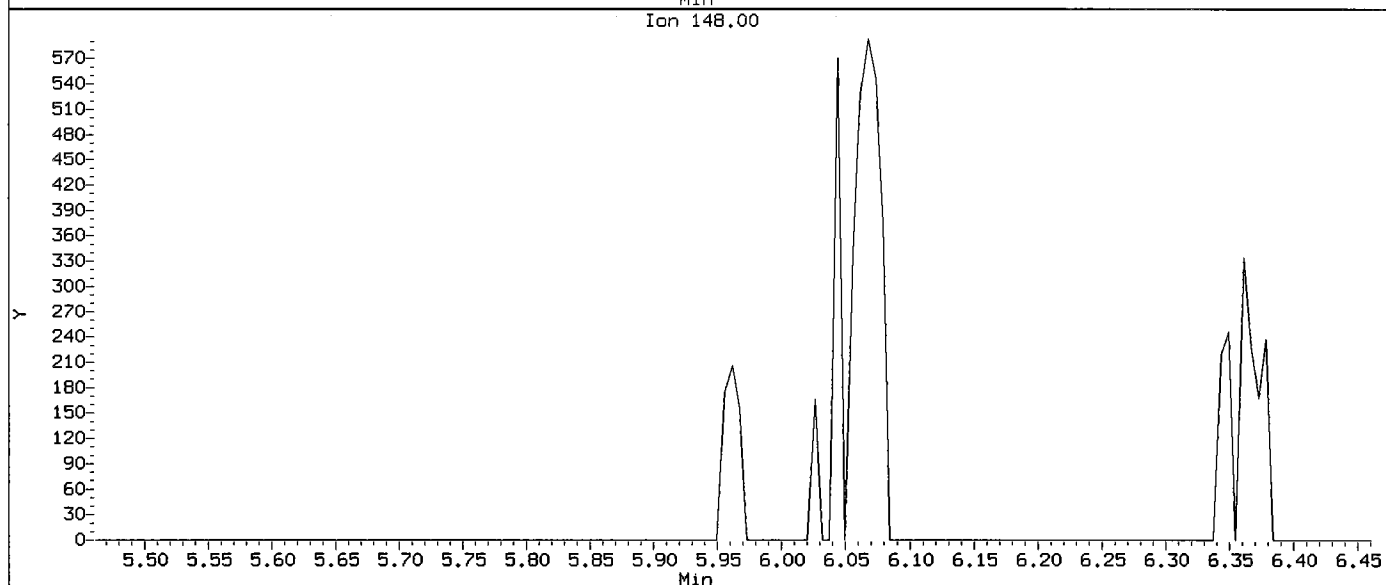
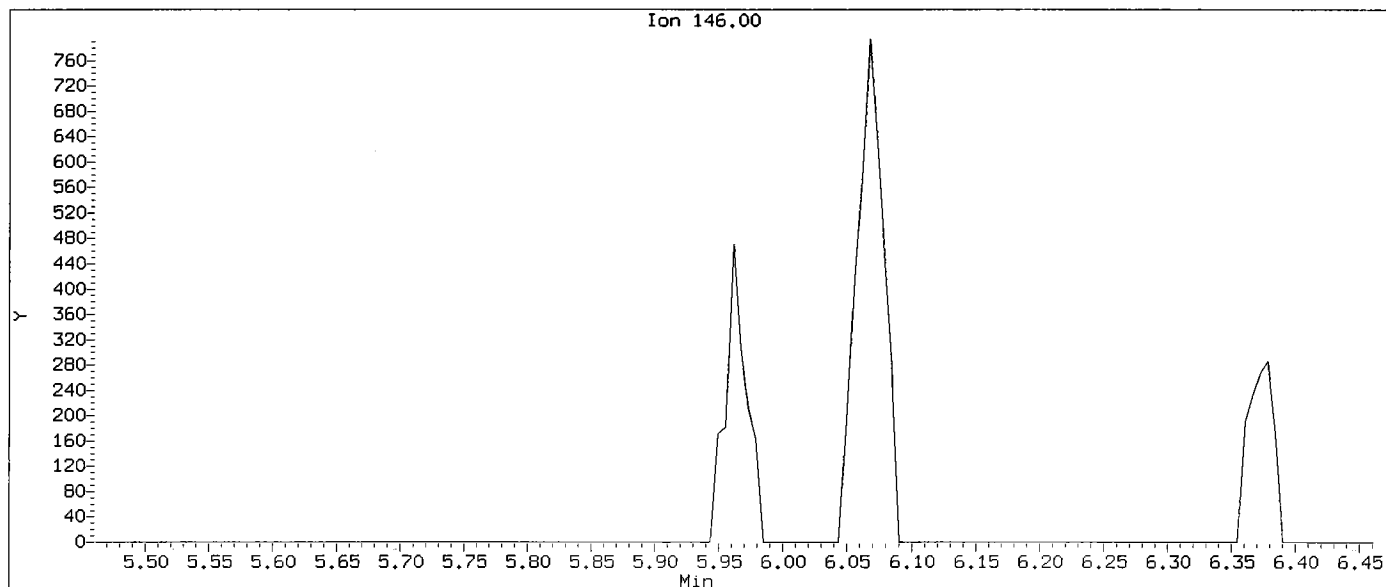
Reported in µg/kg (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	41.6%	2-Fluorobiphenyl	53.6%
d14-p-Terphenyl	56.4%	d4-1,2-Dichlorobenzene	42.4%
d5-Phenol	43.7%	2-Fluorophenol	42.4%
2,4,6-Tribromophenol	74.1%	d4-2-Chlorophenol	47.2%

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Injection Date: 07-AUG-2008 17:38  
Instrument: nt4.i  
Client Sample ID: EBC-SD-6

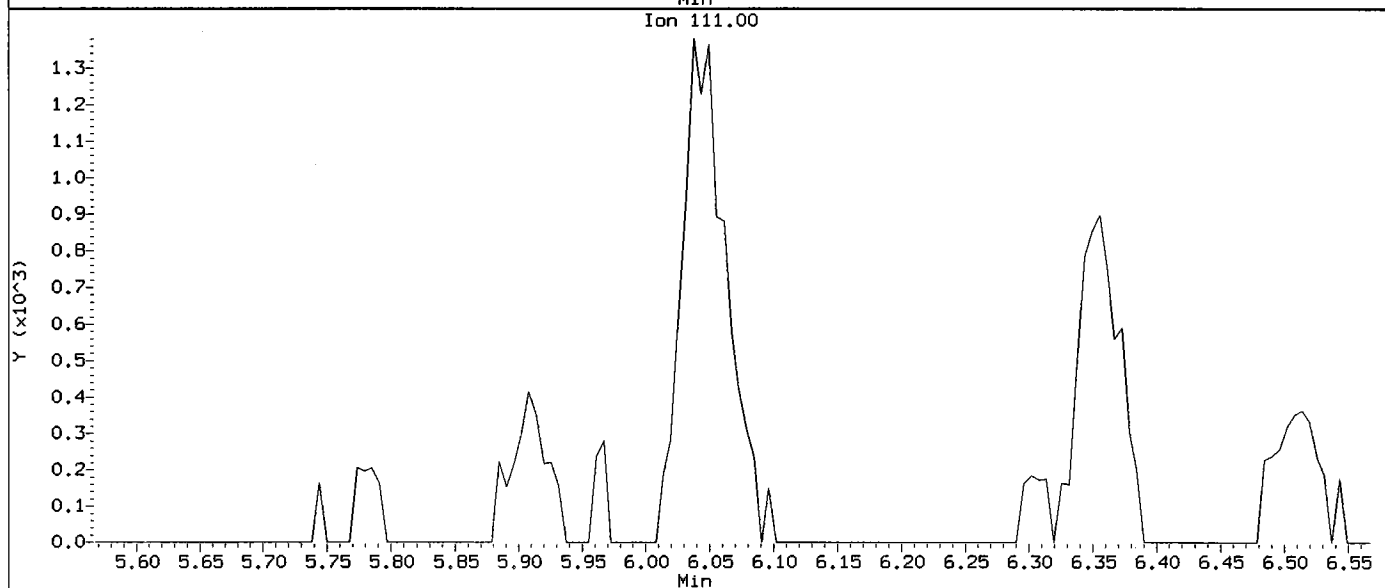
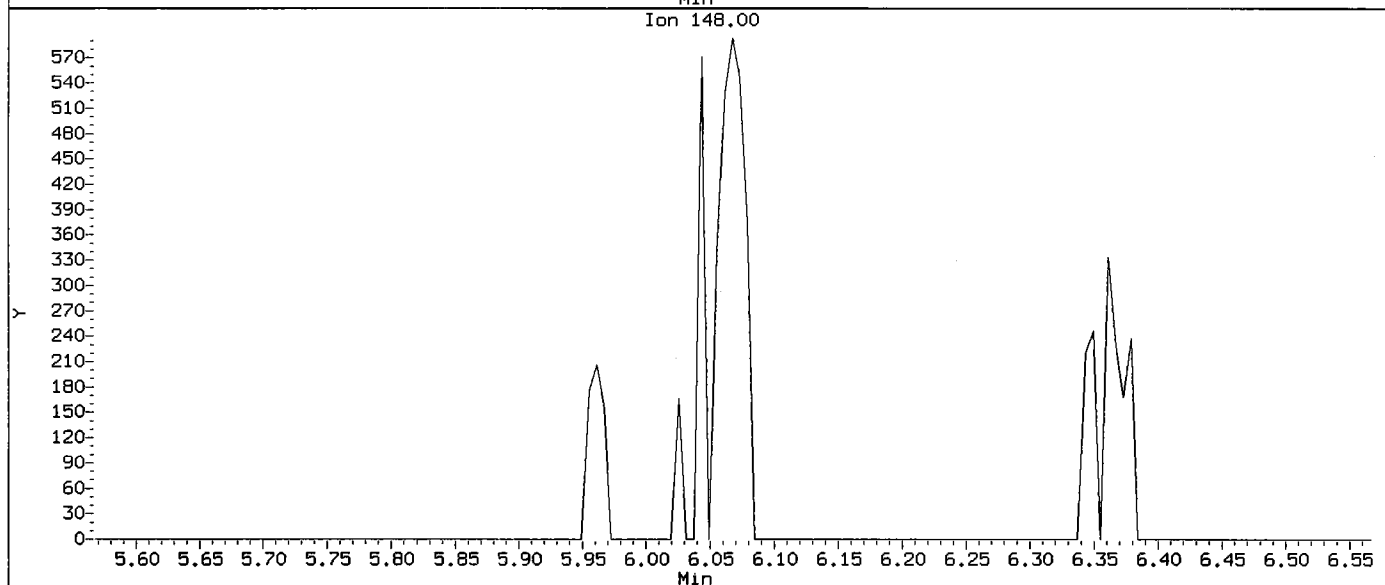
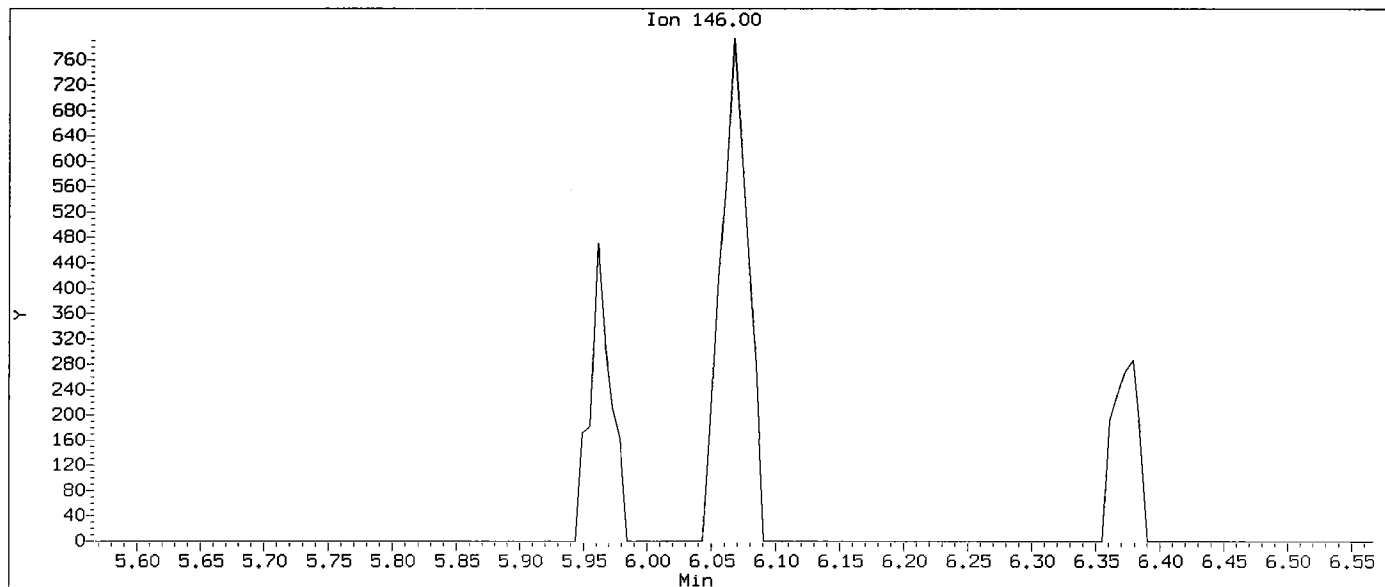
Compound: 1,3-Dichlorobenzene  
CAS Number: 541-73-1





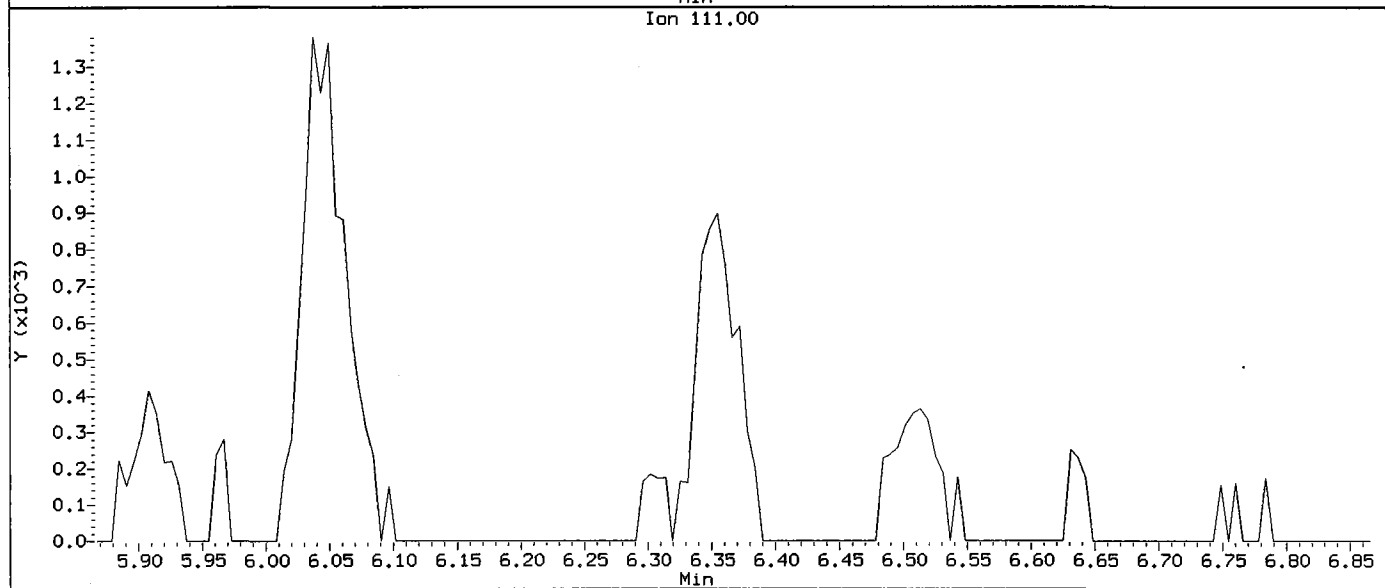
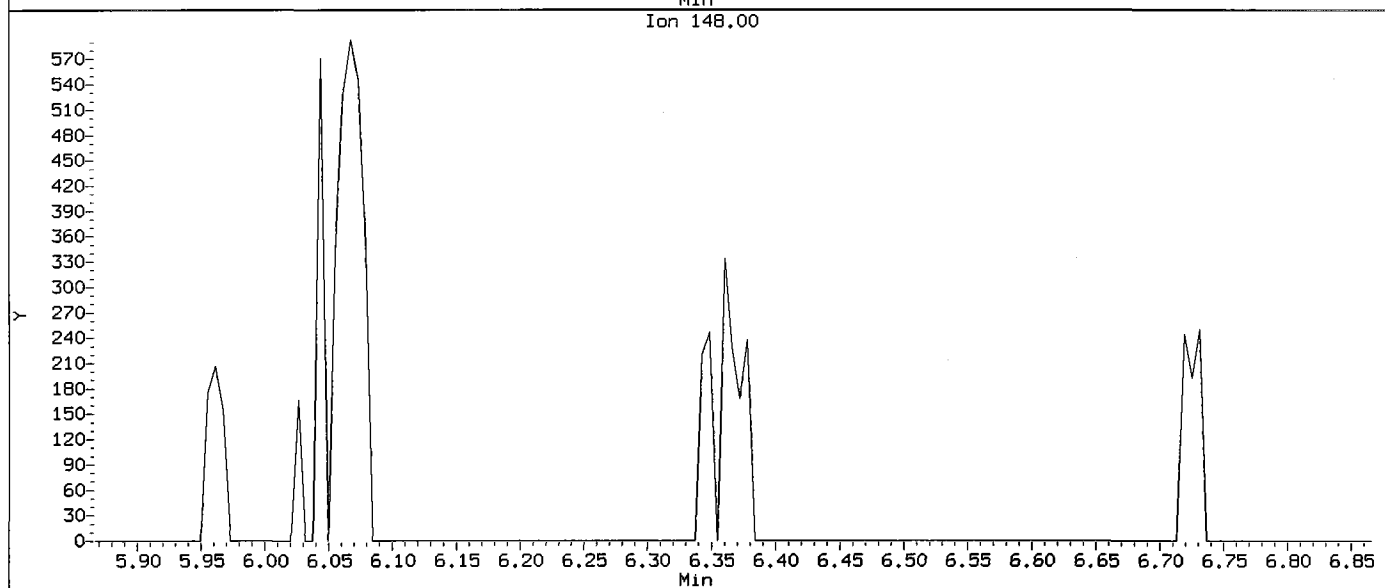
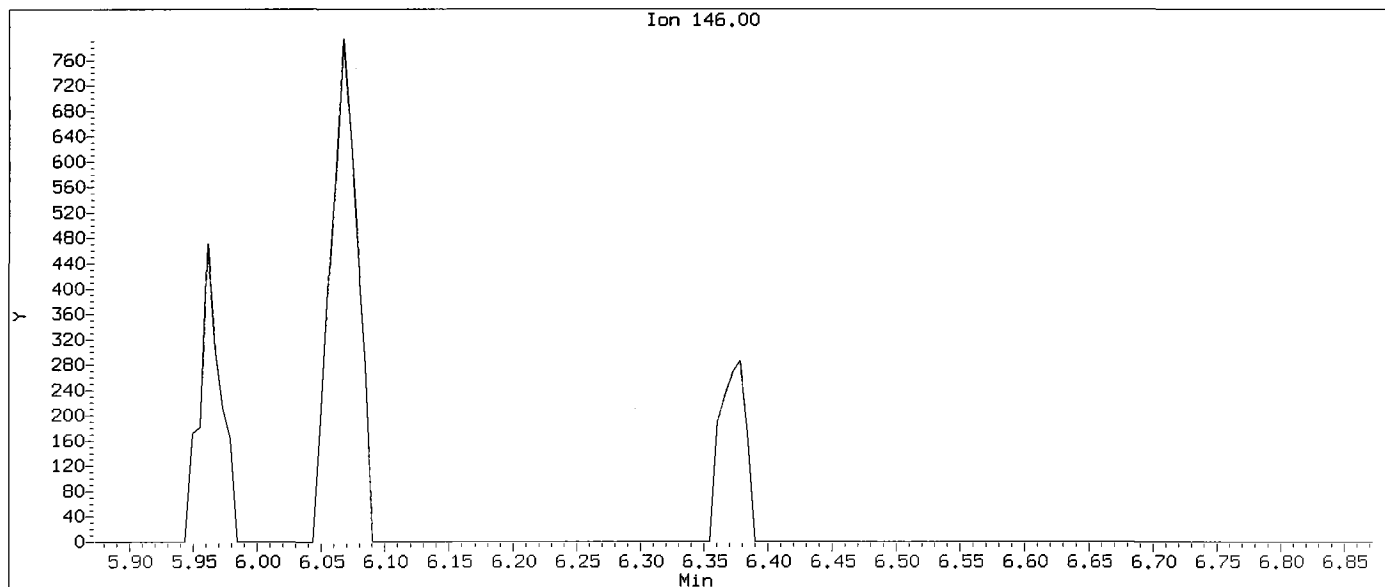
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Instrument: nt4.i  
Client Sample ID: EBC-SD-6

Compound: 1,4-Dichlorobenzene  
CAS Number: 106-46-7



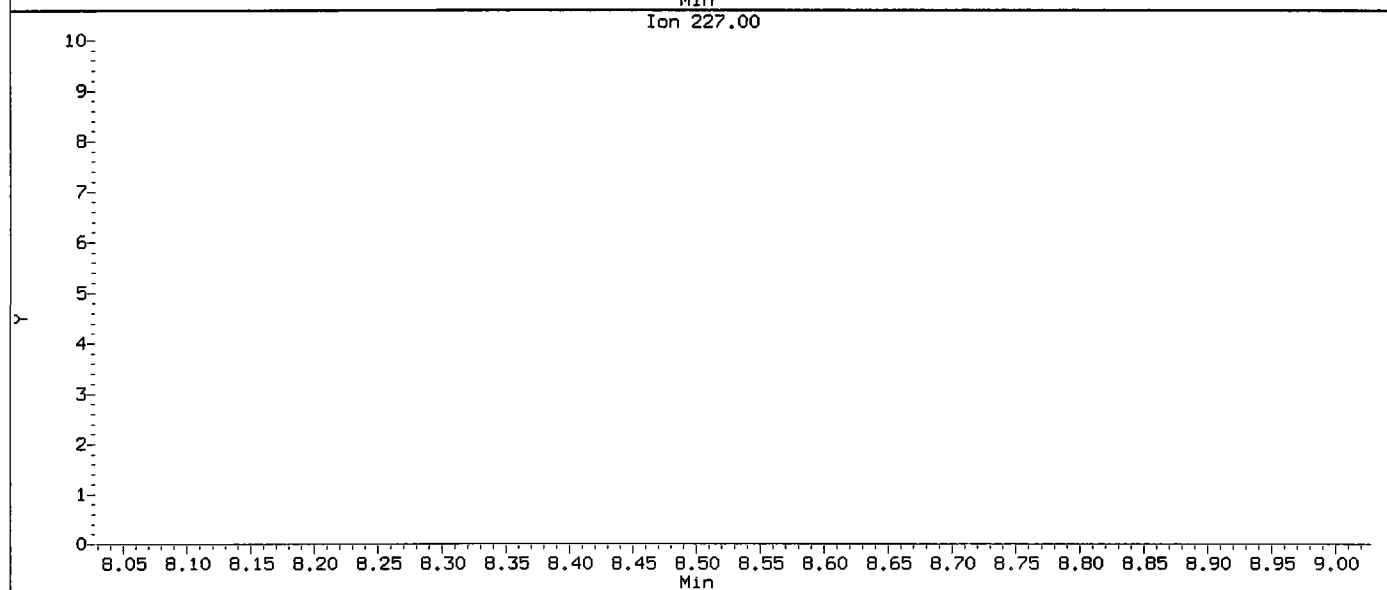
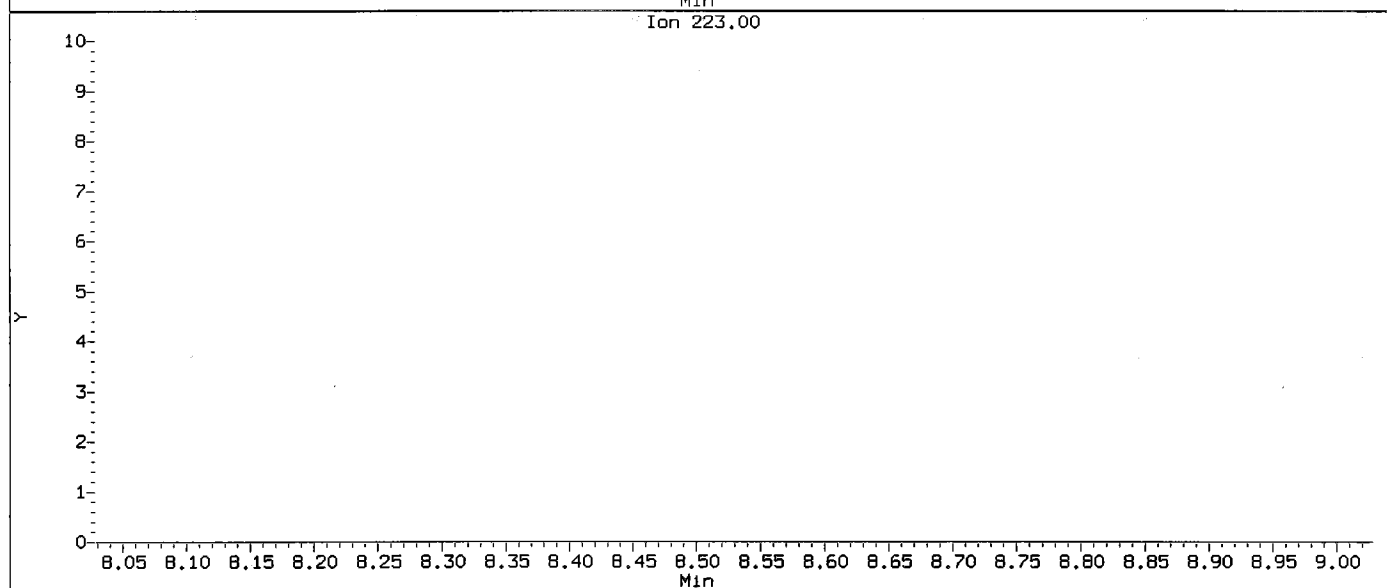
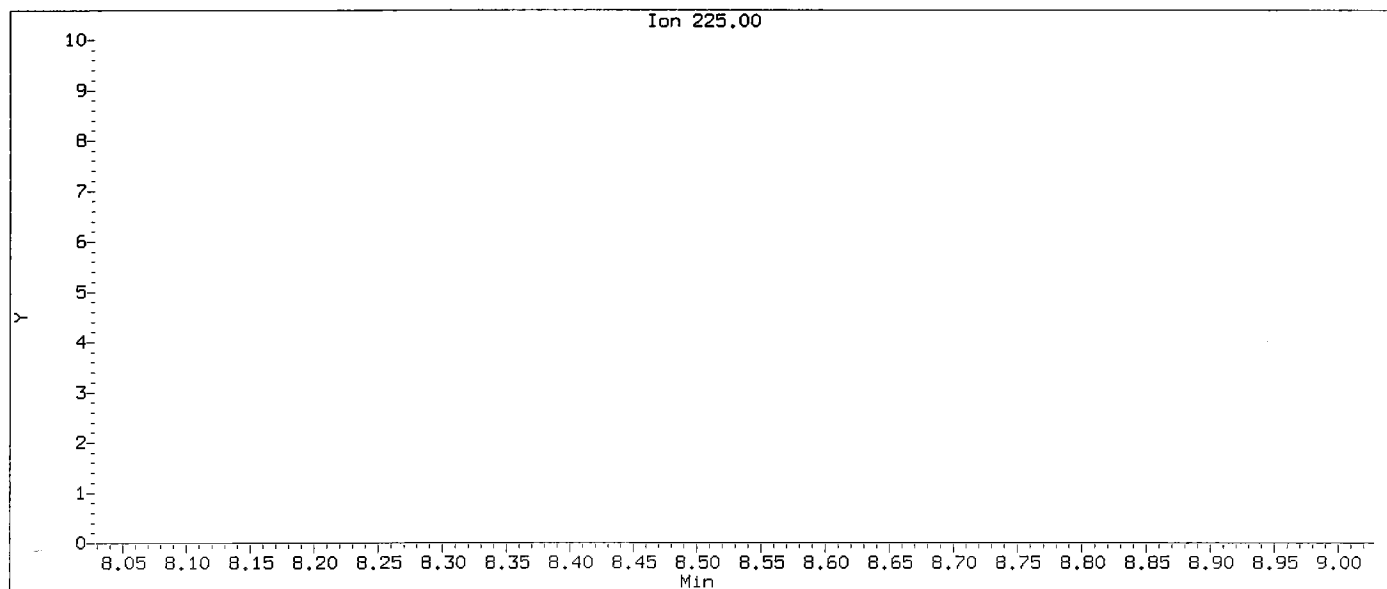
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Instrument: nt4.i  
Client Sample ID: EBC-SD-6

Compound: 1,2-Dichlorobenzene  
CAS Number: 95-50-1



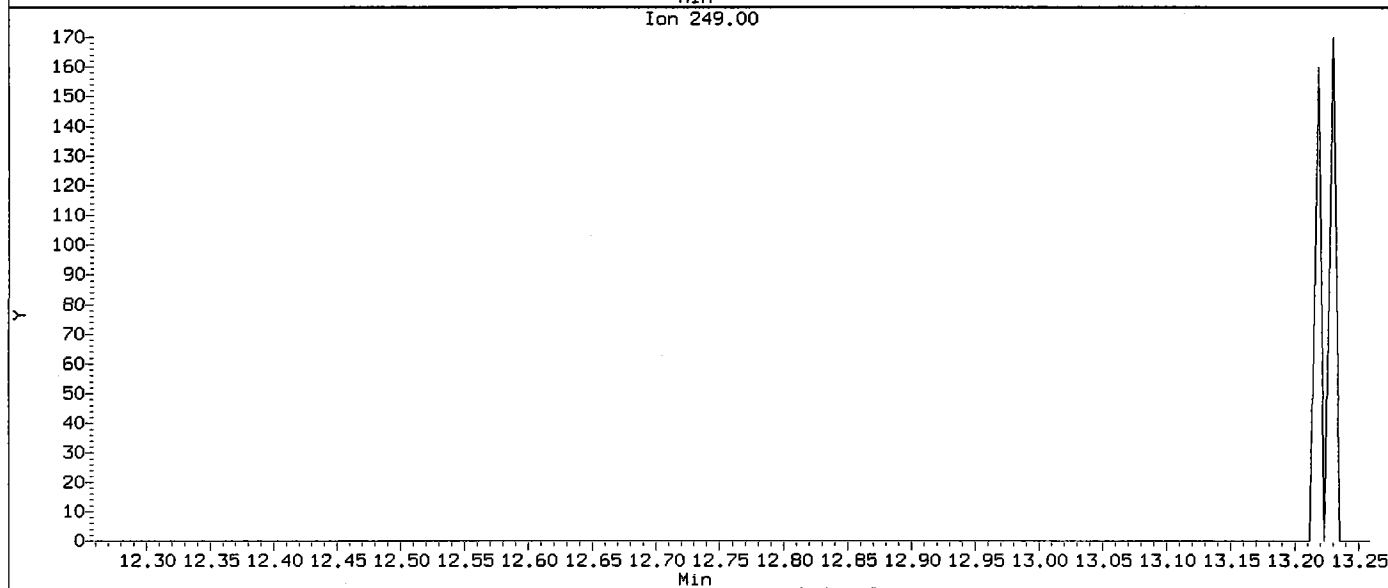
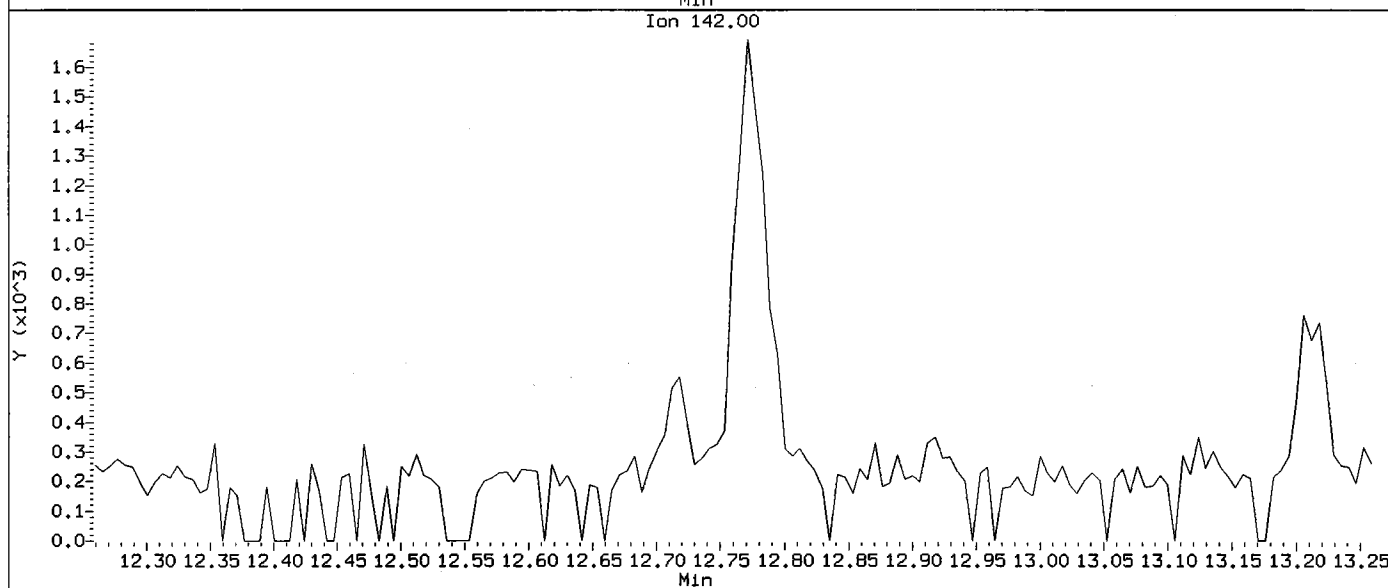
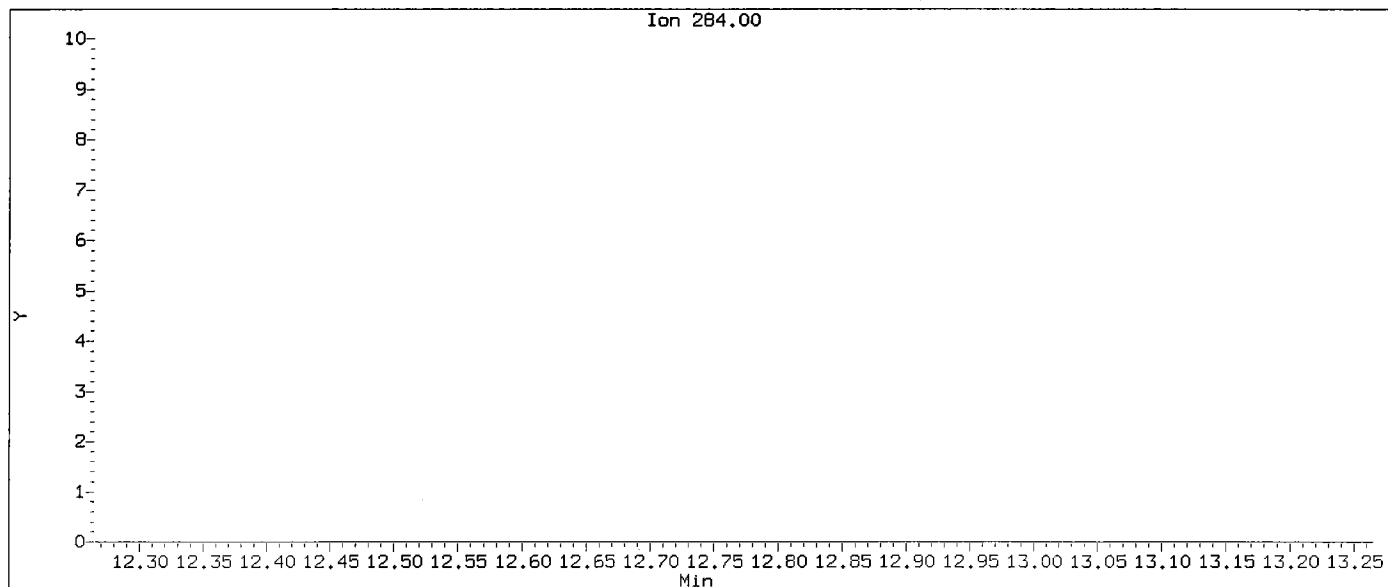
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Injection Date: 07-AUG-2008 17:38  
Instrument: nt4.1  
Client Sample ID: EBC-SD-6

Compound: Hexachlorobutadiene  
CAS Number: 87-68-3



Data File: /chem3/nt4.1/AUG08.b/20080807.b/ng39f.d  
Injection Date: 07-AUG-2008 17:38  
Instrument: nt4.1  
Client Sample ID: EBC-SD-6

Compound: Hexachlorobenzene  
CAS Number: 118-74-1



ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
Page 1 of 2

Sample ID: EBC-SD-7  
SAMPLE

Lab Sample ID: NG39G  
LIMS ID: 08-16305  
Matrix: Soil  
Data Release Authorized:  
Reported: 09/29/08

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02  
Date Sampled: 07/18/08  
Date Received: 07/18/08

Date Extracted: 07/25/08  
Date Analyzed: 08/07/08 19:16  
Instrument/Analyst: NT4/LJR  
GPC Cleanup: Yes

Sample Amount: 25.5 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 39.2%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	13	20	< 20 U
541-73-1	1,3-Dichlorobenzene	7.3	20	< 20 U
106-46-7	1,4-Dichlorobenzene	7.2	20	< 20 U
100-51-6	Benzyl Alcohol	14	20	< 20 U
95-50-1	1,2-Dichlorobenzene	7.7	20	< 20 U
95-48-7	2-Methylphenol	14	20	< 20 U
106-44-5	4-Methylphenol	13	20	< 20 U
67-72-1	Hexachloroethane	7.0	20	< 20 U
105-67-9	2,4-Dimethylphenol	14	20	< 20 U
65-85-0	Benzoic Acid	110	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	8.9	20	< 20 U
91-20-3	Naphthalene	8.5	20	< 20 U
87-68-3	Hexachlorobutadiene	7.9	20	< 20 U
<b>91-57-6</b>	<b>2-Methylnaphthalene</b>	<b>8.0</b>	<b>20</b>	<b>11 J</b>
131-11-3	Dimethylphthalate	7.6	20	< 20 U
208-96-8	Acenaphthylene	8.5	20	< 20 U
83-32-9	Acenaphthene	8.0	20	< 20 U
132-64-9	Dibenzofuran	7.4	20	< 20 U
<b>84-66-2</b>	<b>Diethylphthalate</b>	<b>16</b>	<b>20</b>	<b>24</b>
<b>86-73-7</b>	<b>Fluorene</b>	<b>8.8</b>	<b>20</b>	<b>12 J</b>
86-30-6	N-Nitrosodiphenylamine	8.5	20	< 20 U
118-74-1	Hexachlorobenzene	7.9	20	< 20 U
87-86-5	Pentachlorophenol	47	98	< 98 U
<b>85-01-8</b>	<b>Phenanthrene</b>	<b>8.2</b>	<b>20</b>	<b>83</b>
<b>120-12-7</b>	<b>Anthracene</b>	<b>7.6</b>	<b>20</b>	<b>29</b>
84-74-2	Di-n-Butylphthalate	12	20	< 20 U
<b>206-44-0</b>	<b>Fluoranthene</b>	<b>7.8</b>	<b>20</b>	<b>170</b>
<b>129-00-0</b>	<b>Pyrene</b>	<b>7.6</b>	<b>20</b>	<b>130</b>
85-68-7	Butylbenzylphthalate	11	20	< 20 U
<b>56-55-3</b>	<b>Benzo (a) anthracene</b>	<b>5.8</b>	<b>20</b>	<b>74</b>
117-81-7	bis(2-Ethylhexyl)phthalate	11	20	< 20 U
<b>218-01-9</b>	<b>Chrysene</b>	<b>6.5</b>	<b>20</b>	<b>100</b>
117-84-0	Di-n-Octyl phthalate	8.2	20	< 20 U
<b>205-99-2</b>	<b>Benzo (b) fluoranthene</b>	<b>9.3</b>	<b>20</b>	<b>76</b>
<b>207-08-9</b>	<b>Benzo (k) fluoranthene</b>	<b>9.1</b>	<b>20</b>	<b>91</b>
<b>50-32-8</b>	<b>Benzo (a) pyrene</b>	<b>8.0</b>	<b>20</b>	<b>84</b>
<b>193-39-5</b>	<b>Indeno (1,2,3-cd) pyrene</b>	<b>8.4</b>	<b>20</b>	<b>33</b>
53-70-3	Dibenz(a,h)anthracene	8.4	20	< 20 U
<b>191-24-2</b>	<b>Benzo (g,h,i) perylene</b>	<b>6.6</b>	<b>20</b>	<b>33</b>

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
Page 2 of 2

Sample ID: EBC-SD-7  
SAMPLE

Lab Sample ID: NG39G  
LIMS ID: 08-16305  
Matrix: Soil  
Date Analyzed: 08/07/08 19:16

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02

CAS Number	Analyte	MDL	RL	Result
90-12-0	1-Methylnaphthalene	7.0	20	< 20 U

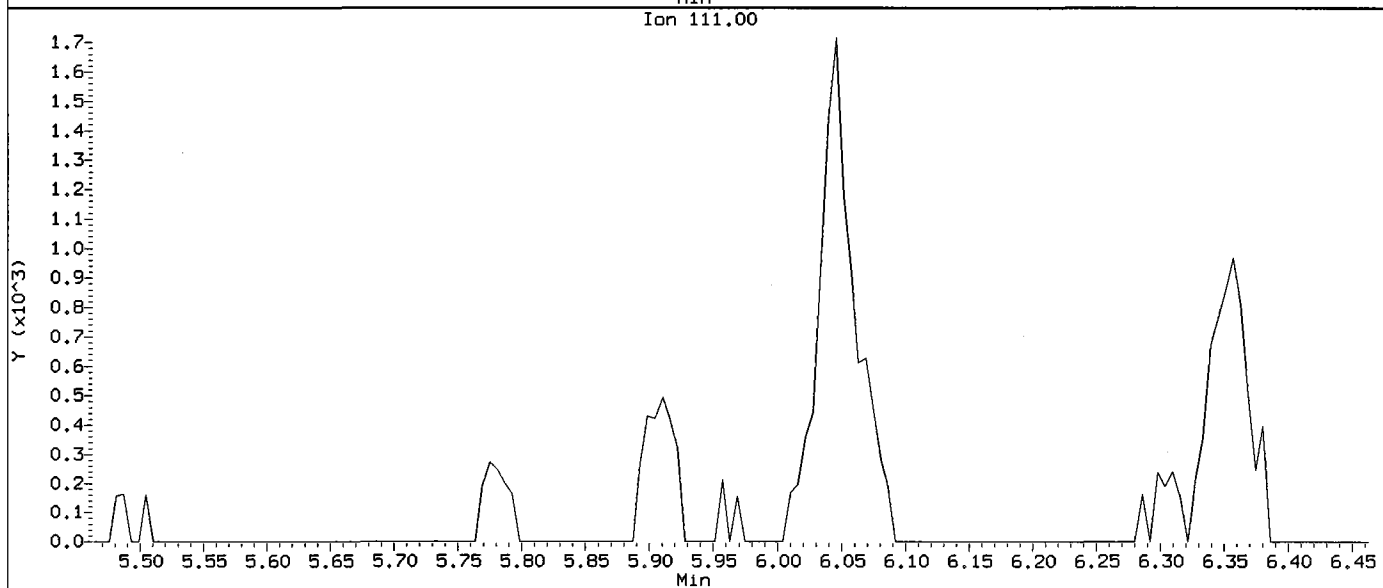
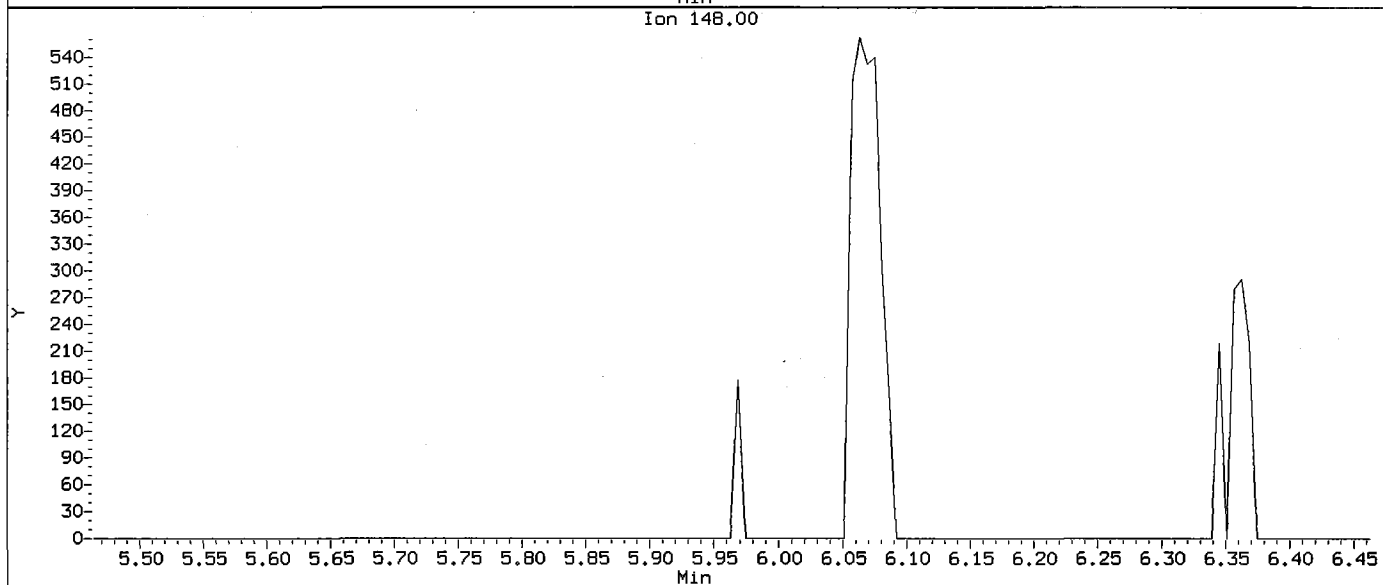
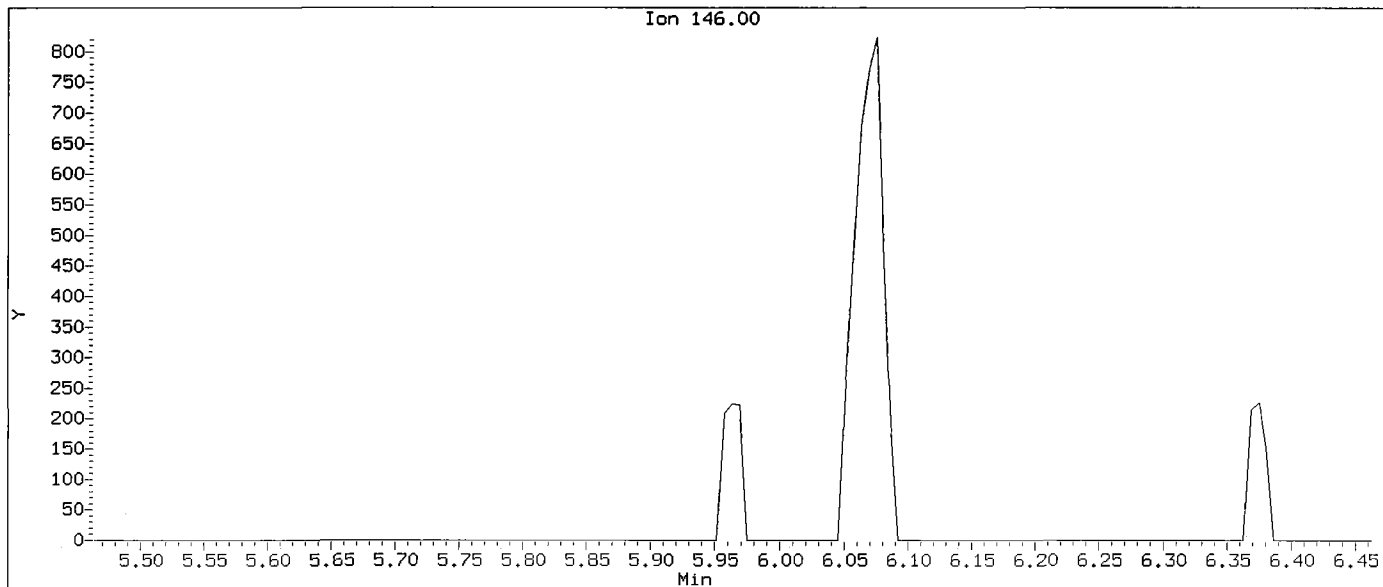
Reported in µg/kg (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	39.5%	2-Fluorobiphenyl	50.8%
d14-p-Terphenyl	52.0%	d4-1,2-Dichlorobenzene	40.4%
d5-Phenol	42.7%	2-Fluorophenol	41.6%
2,4,6-Tribromophenol	68.5%	d4-2-Chlorophenol	46.7%

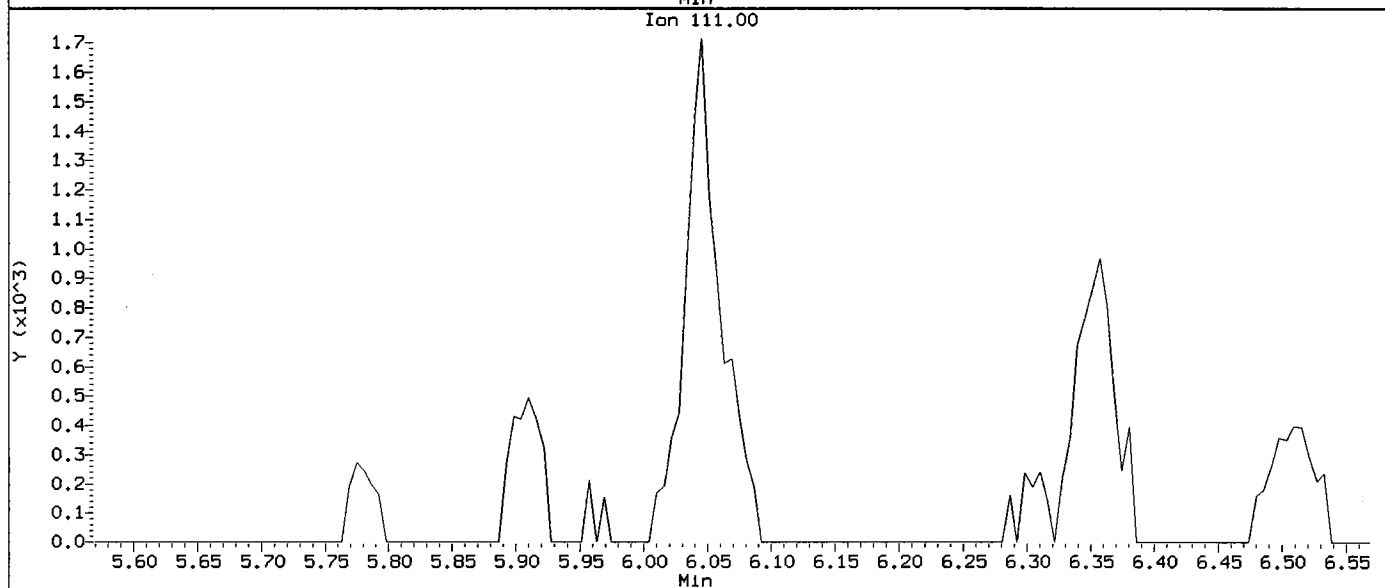
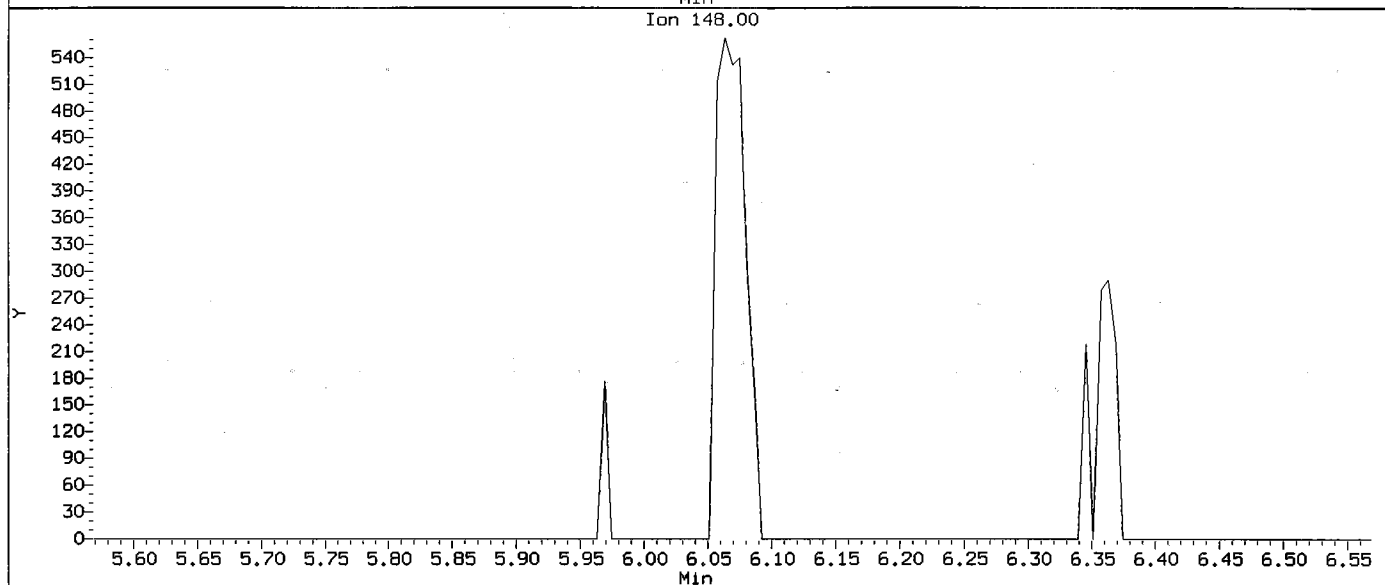
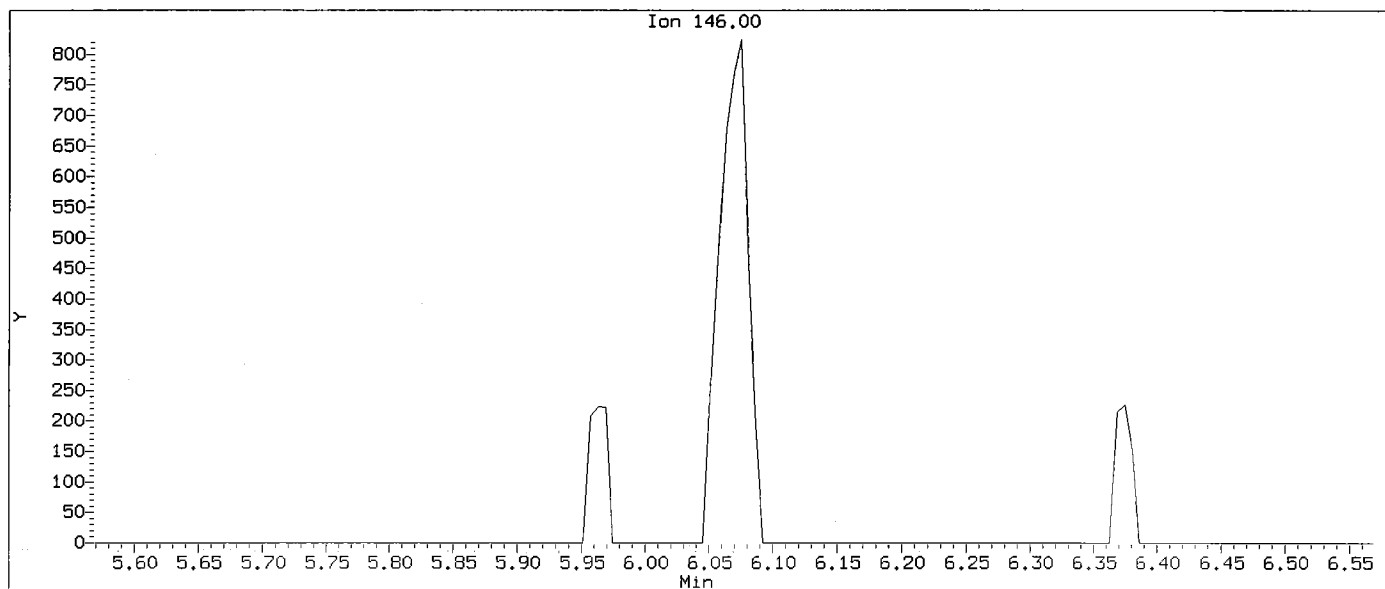
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Instrument: nt4.i  
Client Sample ID: EBC-SD-7

Compound: 1,3-Dichlorobenzene  
CAS Number: 541-73-1



Data File: /chem3/nt4.i/AUG08.b/20080807.b/ng39g.d  
Injection Date: 07-AUG-2008 19:16  
Instrument: nt4.i  
Client Sample ID: EBC-SD-7

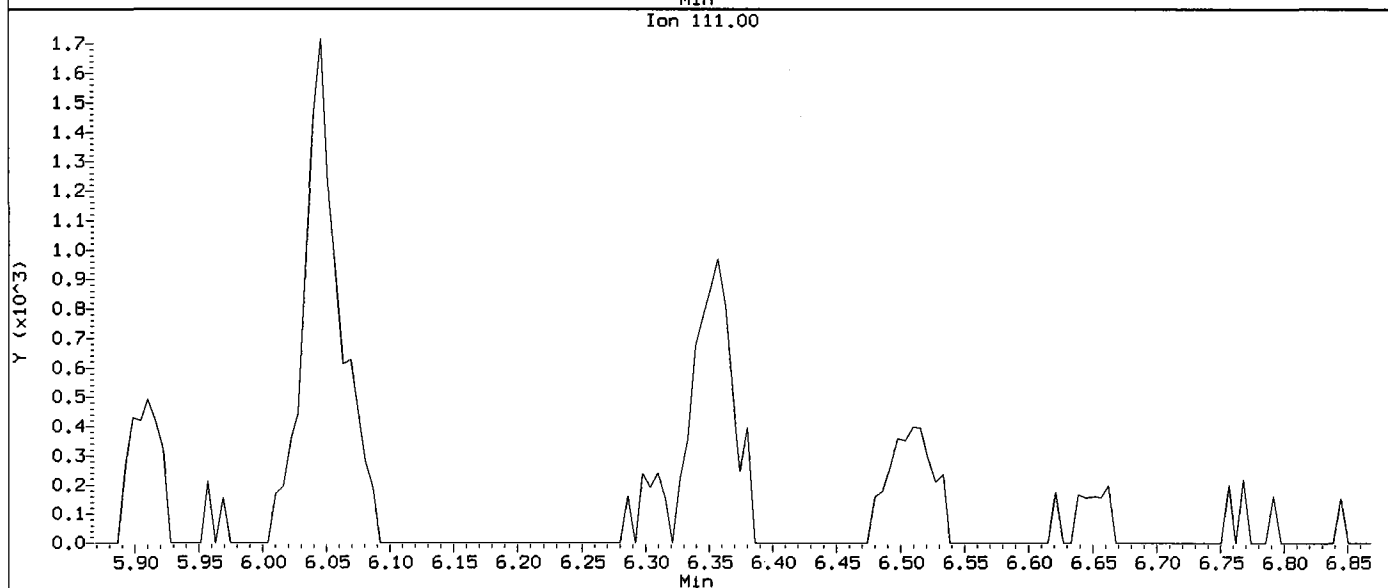
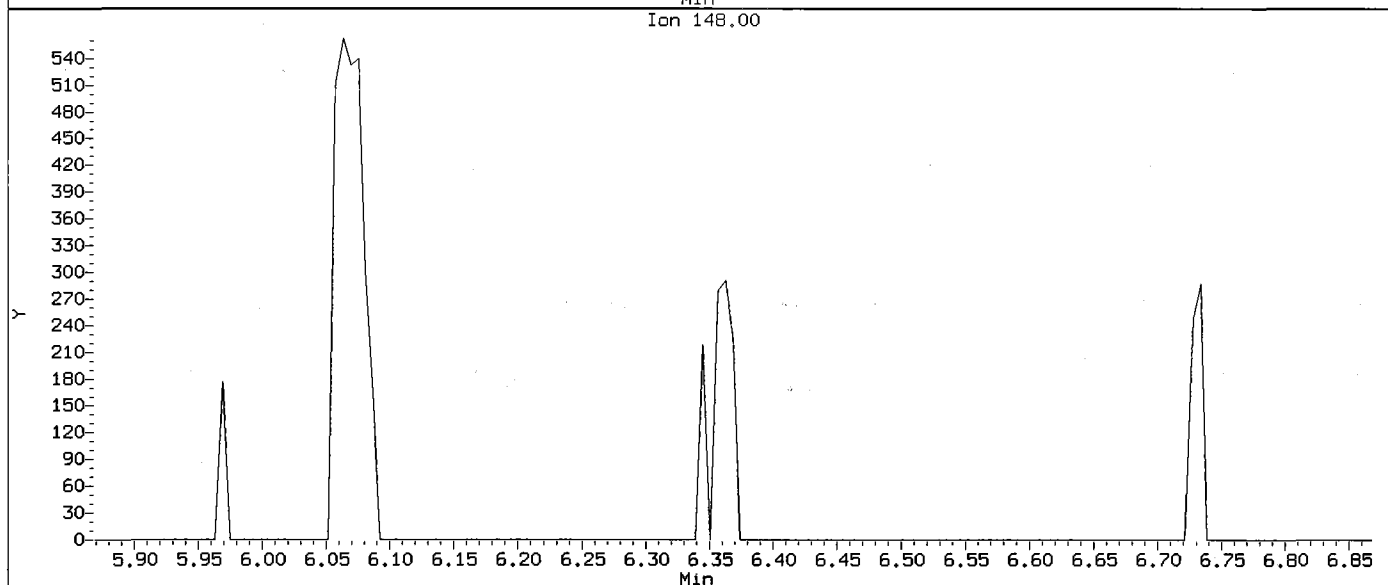
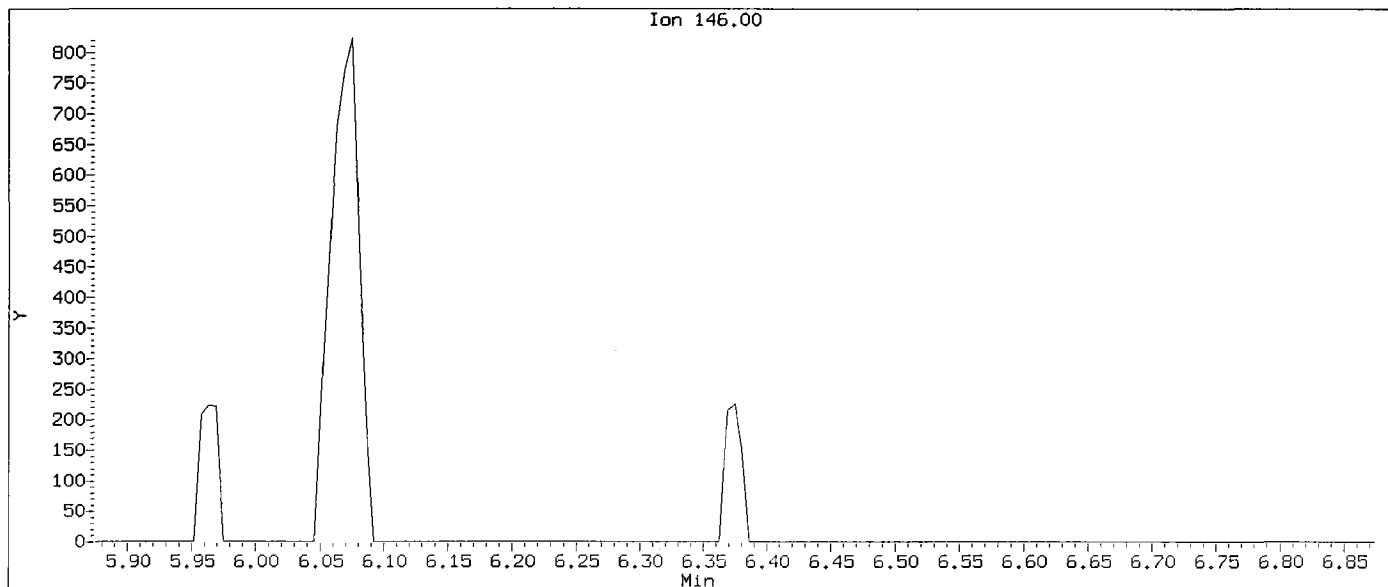
Compound: 1,4-Dichlorobenzene  
CAS Number: 106-46-7





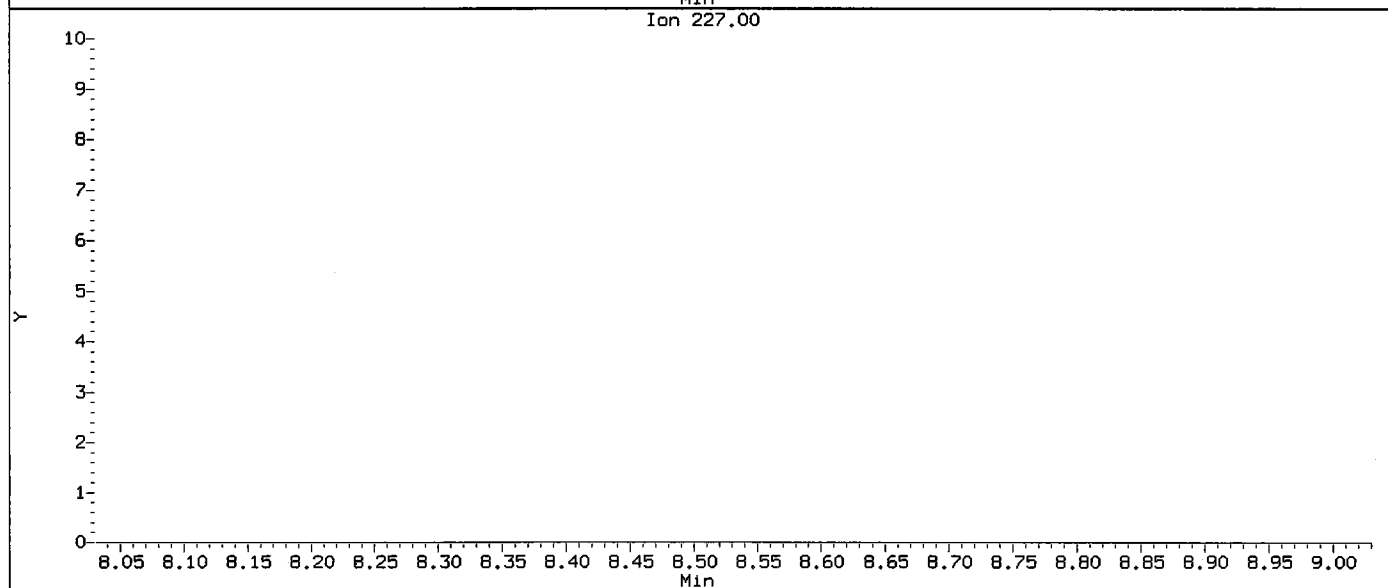
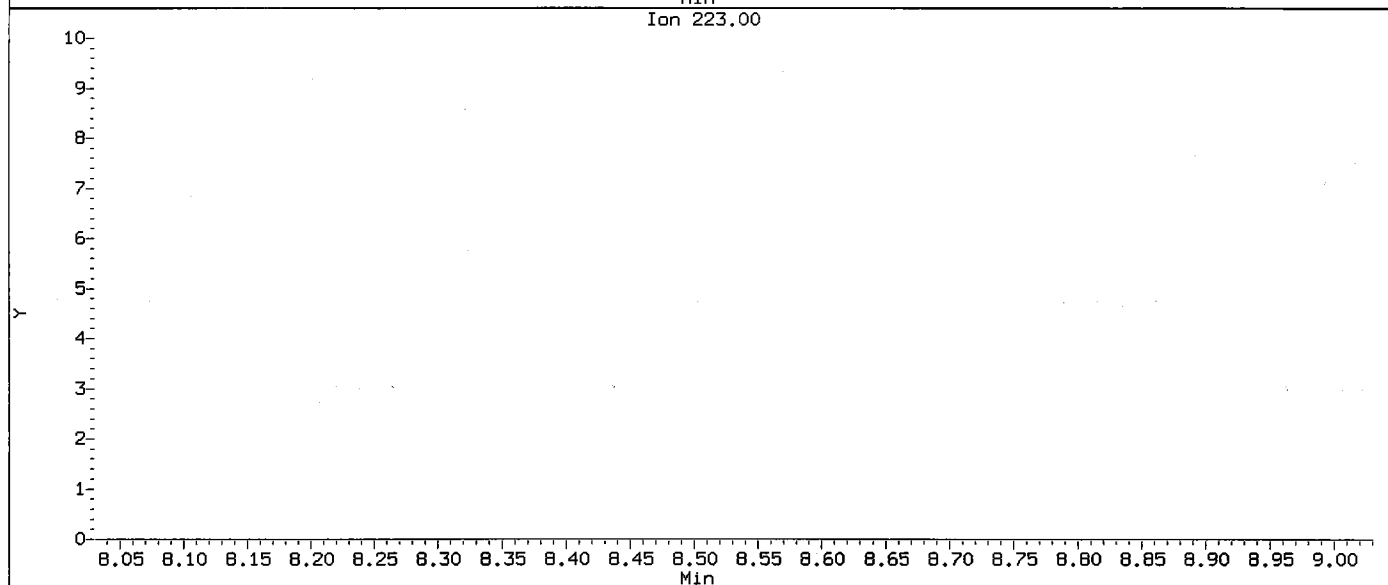
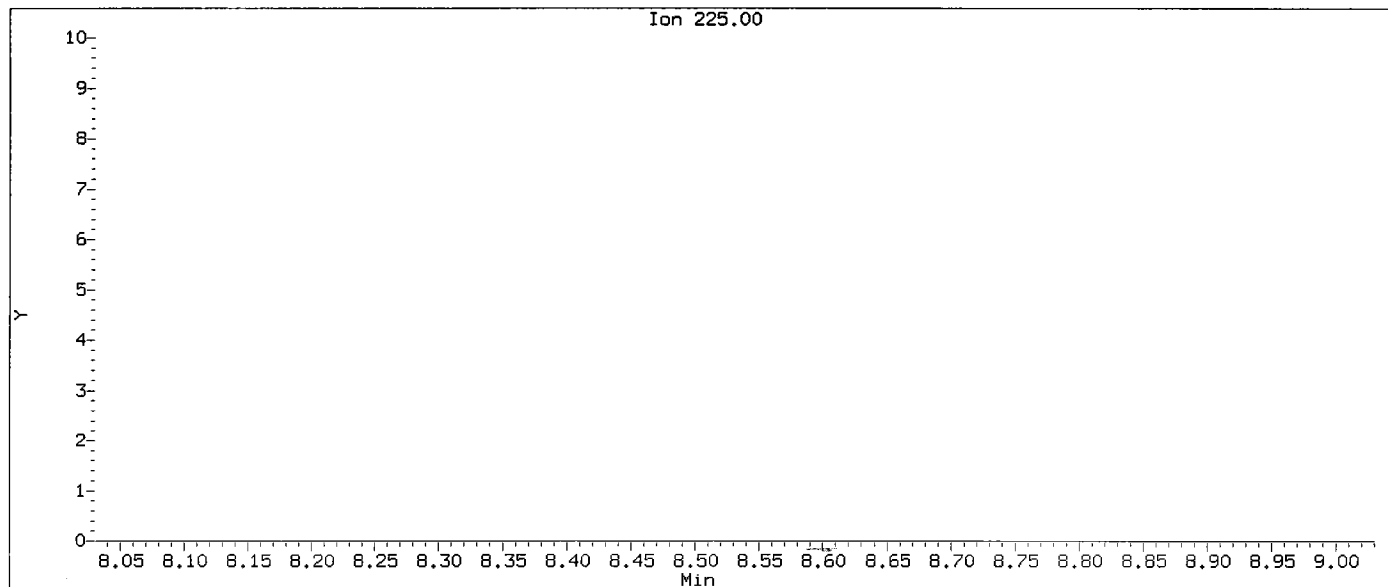
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Injection Date: 07-AUG-2008 19:16  
Instrument: nt4.1  
Client Sample ID: EBC-SD-7

Compound: 1,2-Dichlorobenzene  
CAS Number: 95-50-1



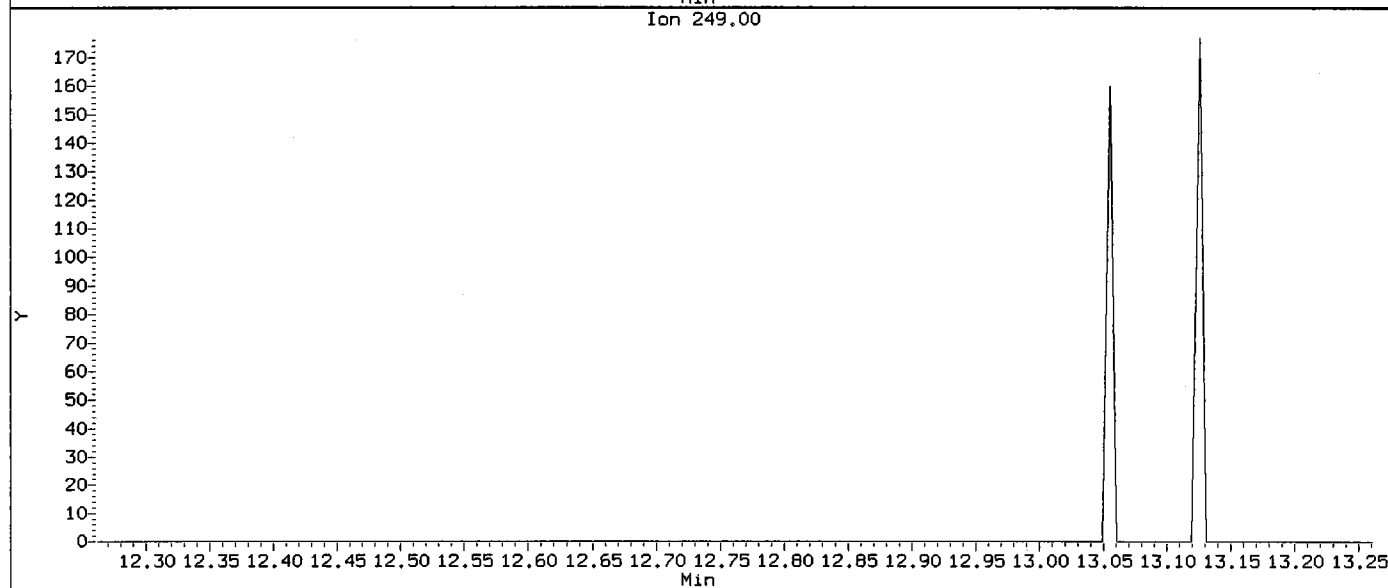
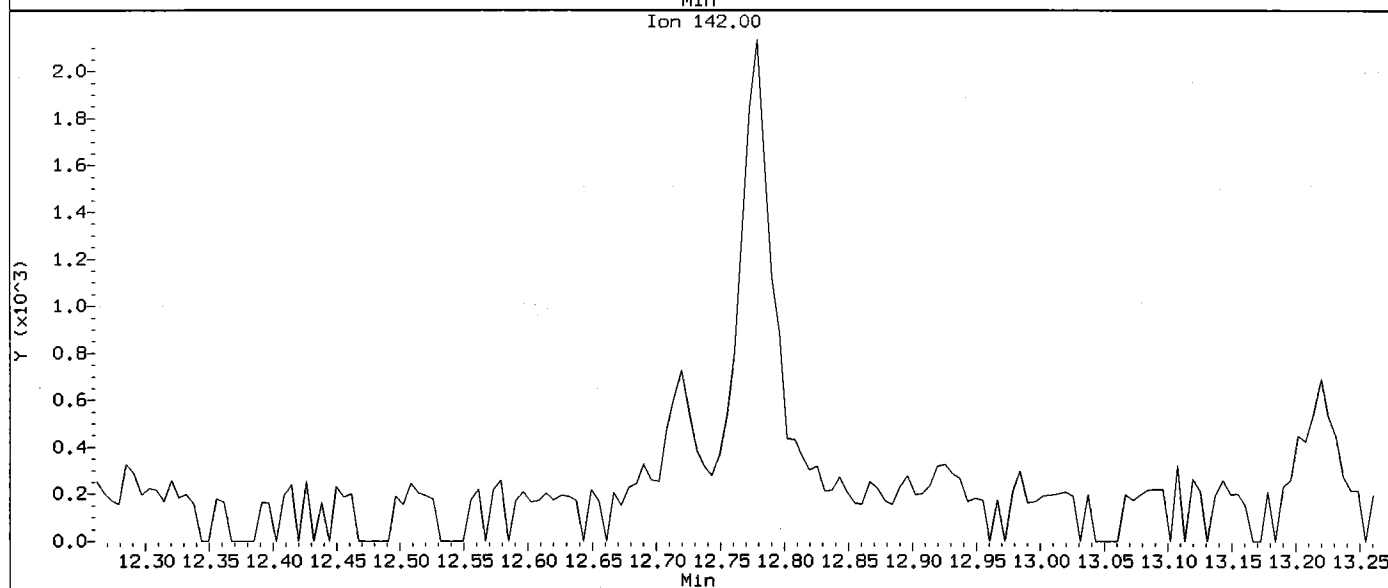
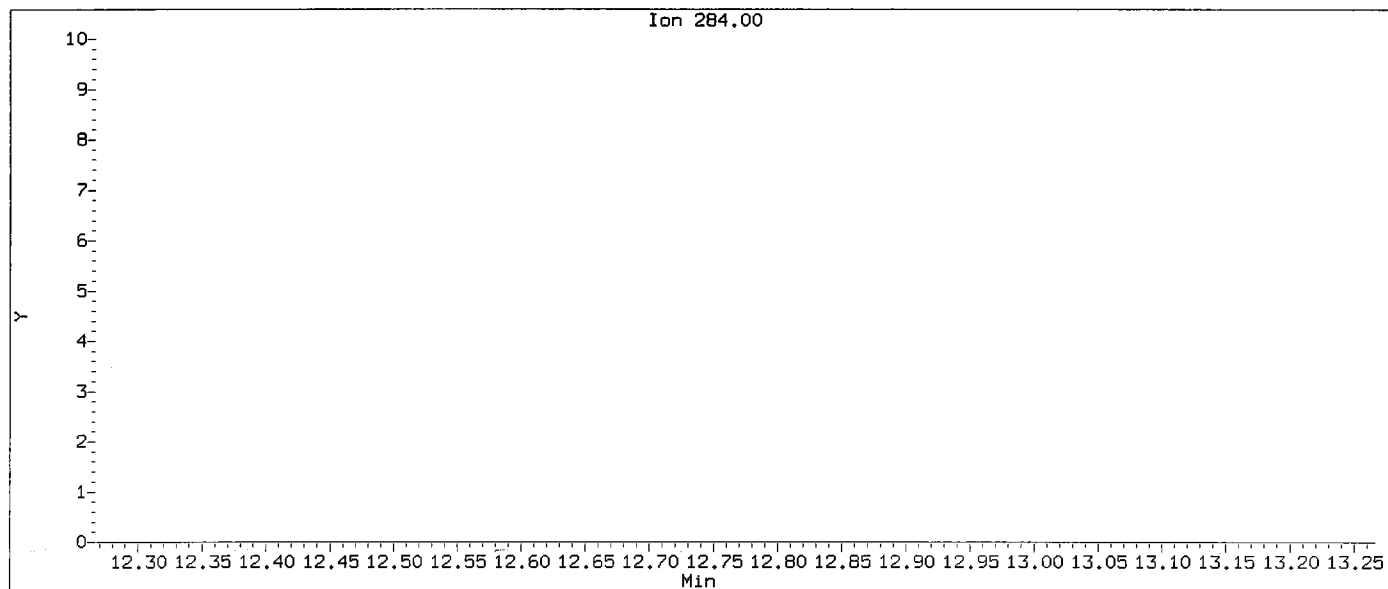
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Injection Date: 07-AUG-2008 19:16  
Instrument: nt4.i  
Client Sample ID: EBC-SD-7

Compound: Hexachlorobutadiene  
CAS Number: 87-68-3



Data File: /chem3/nt4.1/AUG08.b/20080807.b/ng39g.d  
Injection Date: 07-AUG-2008 19:16  
Instrument: nt4.1  
Client Sample ID: EBC-SD-7

Compound: Hexachlorobenzene  
CAS Number: 118-74-1



**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS

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Sample ID: EBC-SD-6

MATRIX SPIKE

Lab Sample ID: NG39F  
LIMS ID: 08-16304  
Matrix: Soil  
Data Release Authorized:  
Reported: 09/29/08

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02  
Date Sampled: 07/18/08  
Date Received: 07/18/08

Date Extracted: 07/25/08  
Date Analyzed: 08/07/08 18:10  
Instrument/Analyst: NT4/LJR  
GPC Cleanup: Yes

Sample Amount: 25.2 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 37.0%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	14	20	---
541-73-1	1,3-Dichlorobenzene	7.4	20	---
106-46-7	1,4-Dichlorobenzene	7.3	20	---
100-51-6	Benzyl Alcohol	14	20	---
95-50-1	1,2-Dichlorobenzene	7.8	20	---
95-48-7	2-Methylphenol	14	20	---
106-44-5	4-Methylphenol	13	20	---
67-72-1	Hexachloroethane	7.1	20	---
105-67-9	2,4-Dimethylphenol	15	20	---
65-85-0	Benzoic Acid	110	200	---
120-82-1	1,2,4-Trichlorobenzene	9.0	20	---
91-20-3	Naphthalene	8.6	20	---
87-68-3	Hexachlorobutadiene	8.1	20	---
91-57-6	2-Methylnaphthalene	8.1	20	---
131-11-3	Dimethylphthalate	7.7	20	---
208-96-8	Acenaphthylene	8.6	20	---
83-32-9	Acenaphthene	8.2	20	---
132-64-9	Dibenzofuran	7.5	20	---
84-66-2	Diethylphthalate	16	20	---
86-73-7	Fluorene	8.9	20	---
86-30-6	N-Nitrosodiphenylamine	8.6	20	---
118-74-1	Hexachlorobenzene	8.0	20	---
87-86-5	Pentachlorophenol	47	99	---
85-01-8	Phenanthrene	8.3	20	---
120-12-7	Anthracene	7.7	20	---
84-74-2	Di-n-Butylphthalate	12	20	---
206-44-0	Fluoranthene	7.9	20	---
129-00-0	Pyrene	7.7	20	---
85-68-7	Butylbenzylphthalate	11	20	---
56-55-3	Benzo(a)anthracene	5.9	20	---
117-81-7	bis(2-Ethylhexyl)phthalate	11	20	---
218-01-9	Chrysene	6.6	20	---
117-84-0	Di-n-Octyl phthalate	8.3	20	---
205-99-2	Benzo(b)fluoranthene	9.4	20	---
207-08-9	Benzo(k)fluoranthene	9.2	20	---
50-32-8	Benzo(a)pyrene	8.1	20	---
193-39-5	Indeno(1,2,3-cd)pyrene	8.5	20	---
53-70-3	Dibenz(a,h)anthracene	8.5	20	---
191-24-2	Benzo(g,h,i)perylene	6.7	20	---

**ORGANICS ANALYSIS DATA SHEET**  
**PSDDA Semivolatiles by SW8270D GC/MS**  
 Page 2 of 2

Sample ID: EBC-SD-6  
 MATRIX SPIKE

Lab Sample ID: NG39F  
 LIMS ID: 08-16304  
 Matrix: Soil  
 Date Analyzed: 08/07/08 18:10

QC Report No: NG39-HART CROWSER, INC.  
 Project: EBC  
 17441-02

CAS Number	Analyte	MDL	RL	Result
90-12-0	1-Methylnaphthalene	7.1	20	---

Reported in µg/kg (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	42.4%	2-Fluorobiphenyl	54.4%
d14-p-Terphenyl	54.8%	d4-1,2-Dichlorobenzene	42.4%
d5-Phenol	48.3%	2-Fluorophenol	42.9%
2,4,6-Tribromophenol	77.6%	d4-2-Chlorophenol	48.5%

**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS

Page 1 of 2

Sample ID: EBC-SD-6

MATRIX SPIKE DUPLICATE

Lab Sample ID: NG39F

LIMS ID: 08-16304

Matrix: Soil

Data Release Authorized:

Reported: 09/29/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: 07/18/08

Date Received: 07/18/08

Date Extracted: 07/25/08

Date Analyzed: 08/07/08 18:43

Instrument/Analyst: NT4/LJR

GPC Cleanup: Yes

Sample Amount: 25.2 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 37.0%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	14	20	---
541-73-1	1,3-Dichlorobenzene	7.4	20	---
106-46-7	1,4-Dichlorobenzene	7.3	20	---
100-51-6	Benzyl Alcohol	14	20	---
95-50-1	1,2-Dichlorobenzene	7.8	20	---
95-48-7	2-Methylphenol	14	20	---
106-44-5	4-Methylphenol	13	20	---
67-72-1	Hexachloroethane	7.1	20	---
105-67-9	2,4-Dimethylphenol	15	20	---
65-85-0	Benzoic Acid	110	200	---
120-82-1	1,2,4-Trichlorobenzene	9.0	20	---
91-20-3	Naphthalene	8.6	20	---
87-68-3	Hexachlorobutadiene	8.0	20	---
91-57-6	2-Methylnaphthalene	8.1	20	---
131-11-3	Dimethylphthalate	7.7	20	---
208-96-8	Acenaphthylene	8.6	20	---
83-32-9	Acenaphthene	8.1	20	---
132-64-9	Dibenzofuran	7.5	20	---
84-66-2	Diethylphthalate	16	20	---
86-73-7	Fluorene	8.9	20	---
86-30-6	N-Nitrosodiphenylamine	8.6	20	---
118-74-1	Hexachlorobenzene	7.9	20	---
87-86-5	Pentachlorophenol	47	99	---
85-01-8	Phenanthrene	8.3	20	---
120-12-7	Anthracene	7.7	20	---
84-74-2	Di-n-Butylphthalate	12	20	---
206-44-0	Fluoranthene	7.8	20	---
129-00-0	Pyrene	7.7	20	---
85-68-7	Butylbenzylphthalate	11	20	---
56-55-3	Benzo(a)anthracene	5.9	20	---
117-81-7	bis(2-Ethylhexyl)phthalate	11	20	---
218-01-9	Chrysene	6.6	20	---
117-84-0	Di-n-Octyl phthalate	8.3	20	---
205-99-2	Benzo(b)fluoranthene	9.4	20	---
207-08-9	Benzo(k)fluoranthene	9.2	20	---
50-32-8	Benzo(a)pyrene	8.1	20	---
193-39-5	Indeno(1,2,3-cd)pyrene	8.5	20	---
53-70-3	Dibenz(a,h)anthracene	8.5	20	---
191-24-2	Benzo(g,h,i)perylene	6.7	20	---

Sample ID: EBC-SD-6  
MATRIX SPIKE DUPLICATE

Lab Sample ID: NG39F  
LIMS ID: 08-16304  
Matrix: Soil  
Date Analyzed: 08/07/08 18:43

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02

CAS Number	Analyte	MDL	RL	Result
90-12-0	1-Methylnaphthalene	7.1	20	---

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	44.8%	2-Fluorobiphenyl	56.4%
d14-p-Terphenyl	56.8%	d4-1,2-Dichlorobenzene	46.0%
d5-Phenol	50.7%	2-Fluorophenol	46.1%
2,4,6-Tribromophenol	78.7%	d4-2-Chlorophenol	52.5%

**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS

Page 1 of 2

Sample ID: MB-072508

METHOD BLANK

Lab Sample ID: MB-072508

LIMS ID: 08-16304

Matrix: Soil

Data Release Authorized:

Reported: 09/29/08

QC Report No: NG39-HART CROWSER, INC.

Project: EBC

17441-02

Date Sampled: NA

Date Received: NA

Date Extracted: 07/25/08

Date Analyzed: 08/06/08 20:57

Instrument/Analyst: NT4/LJR

GPC Cleanup: Yes

Sample Amount: 25.0 g

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	14	20	< 20 U
541-73-1	1,3-Dichlorobenzene	7.4	20	< 20 U
106-46-7	1,4-Dichlorobenzene	7.4	20	< 20 U
100-51-6	Benzyl Alcohol	14	20	< 20 U
95-50-1	1,2-Dichlorobenzene	7.9	20	< 20 U
95-48-7	2-Methylphenol	14	20	< 20 U
106-44-5	4-Methylphenol	13	20	< 20 U
67-72-1	Hexachloroethane	7.2	20	< 20 U
105-67-9	2,4-Dimethylphenol	15	20	< 20 U
65-85-0	Benzoic Acid	120	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	9.1	20	< 20 U
91-20-3	Naphthalene	8.7	20	< 20 U
87-68-3	Hexachlorobutadiene	8.1	20	< 20 U
91-57-6	2-Methylnaphthalene	8.2	20	< 20 U
131-11-3	Dimethylphthalate	7.8	20	< 20 U
208-96-8	Acenaphthylene	8.7	20	< 20 U
83-32-9	Acenaphthene	8.2	20	< 20 U
132-64-9	Dibenzofuran	7.6	20	< 20 U
84-66-2	Diethylphthalate	16	20	< 20 U
86-73-7	Fluorene	9.0	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	8.7	20	< 20 U
118-74-1	Hexachlorobenzene	8.0	20	< 20 U
87-86-5	Pentachlorophenol	48	100	< 100 U
85-01-8	Phenanthrene	8.4	20	< 20 U
120-12-7	Anthracene	7.7	20	< 20 U
84-74-2	Di-n-Butylphthalate	12	20	< 20 U
206-44-0	Fluoranthene	7.9	20	< 20 U
129-00-0	Pyrene	7.8	20	< 20 U
85-68-7	Butylbenzylphthalate	11	20	< 20 U
56-55-3	Benzo(a)anthracene	5.9	20	< 20 U
<b>117-81-7</b>	<b>bis(2-Ethylhexyl)phthalate</b>	<b>11</b>	<b>20</b>	<b>27</b>
218-01-9	Chrysene	6.6	20	< 20 U
117-84-0	Di-n-Octyl phthalate	8.3	20	< 20 U
205-99-2	Benzo(b)fluoranthene	9.5	20	< 20 U
207-08-9	Benzo(k)fluoranthene	9.3	20	< 20 U
50-32-8	Benzo(a)pyrene	8.2	20	< 20 U
193-39-5	Indeno(1,2,3-cd)pyrene	8.6	20	< 20 U
53-70-3	Dibenz(a,h)anthracene	8.6	20	< 20 U
191-24-2	Benzo(g,h,i)perylene	6.8	20	< 20 U



Sample ID: MB-072508  
METHOD BLANK

Lab Sample ID: MB-072508  
LIMS ID: 08-16304  
Matrix: Soil  
Date Analyzed: 08/06/08 20:57

QC Report No: NG39-HART CROWSER, INC.  
Project: EBC  
17441-02

CAS Number	Analyte	MDL	RL	Result
90-12-0	1-Methylnaphthalene	7.2	20	< 20 U

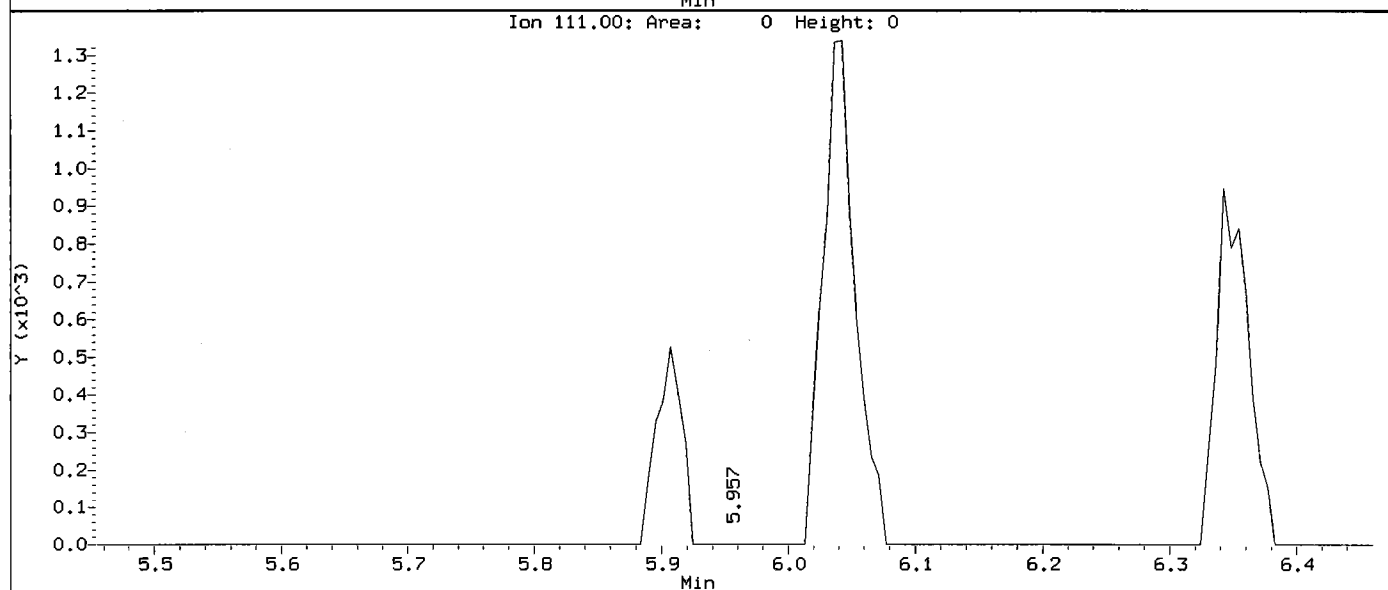
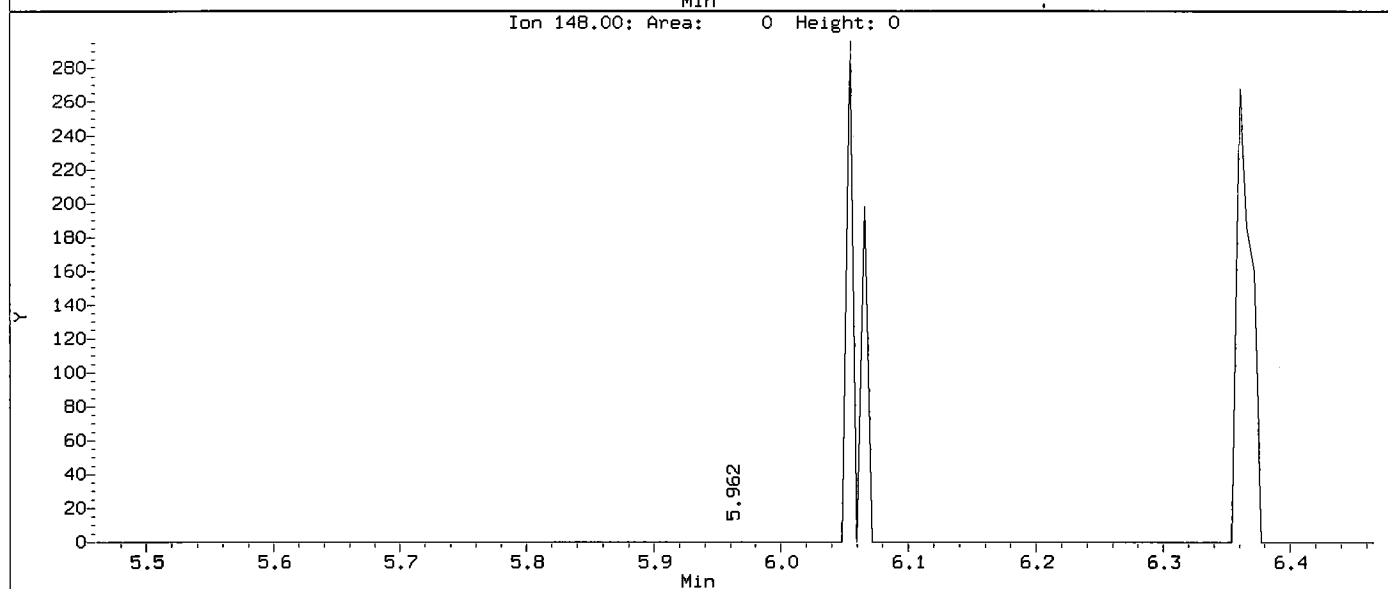
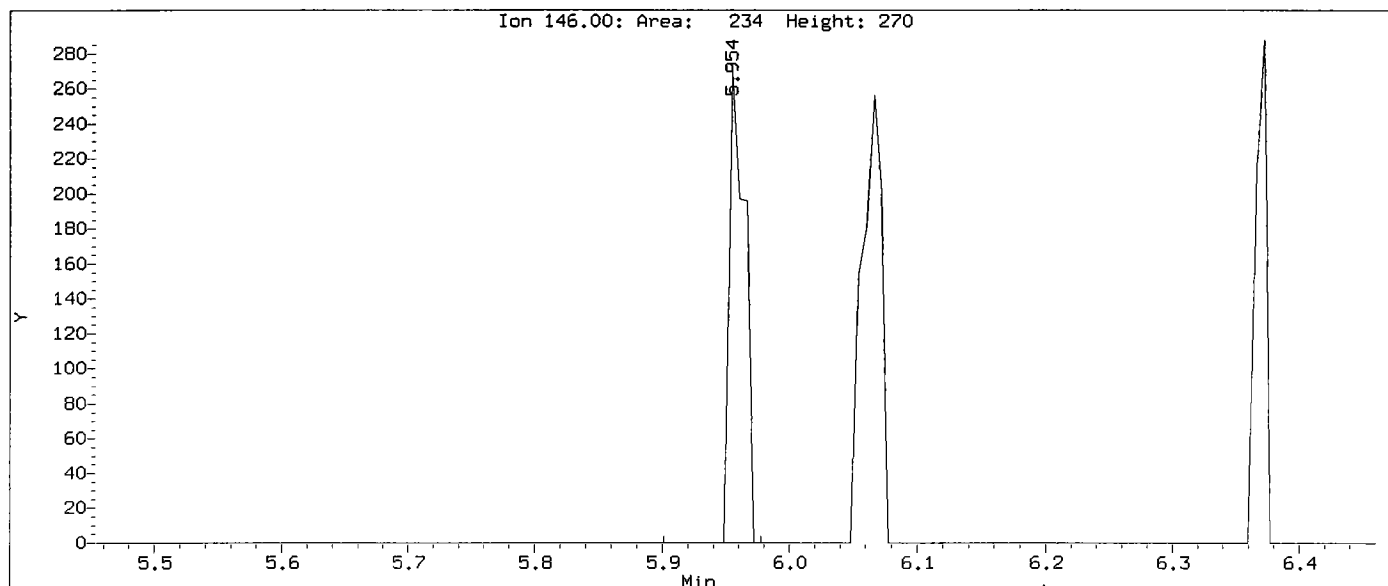
Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	44.8%	2-Fluorobiphenyl	51.6%
d14-p-Terphenyl	70.0%	d4-1,2-Dichlorobenzene	48.0%
d5-Phenol	49.3%	2-Fluorophenol	49.9%
2,4,6-Tribromophenol	72.8%	d4-2-Chlorophenol	53.9%

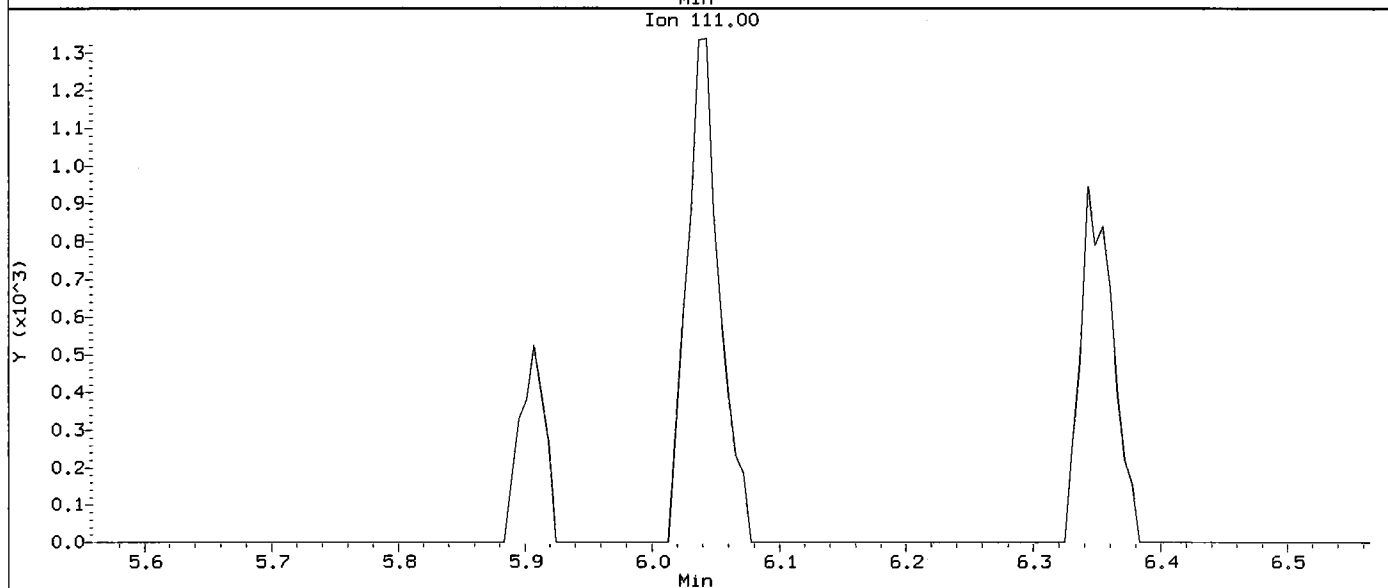
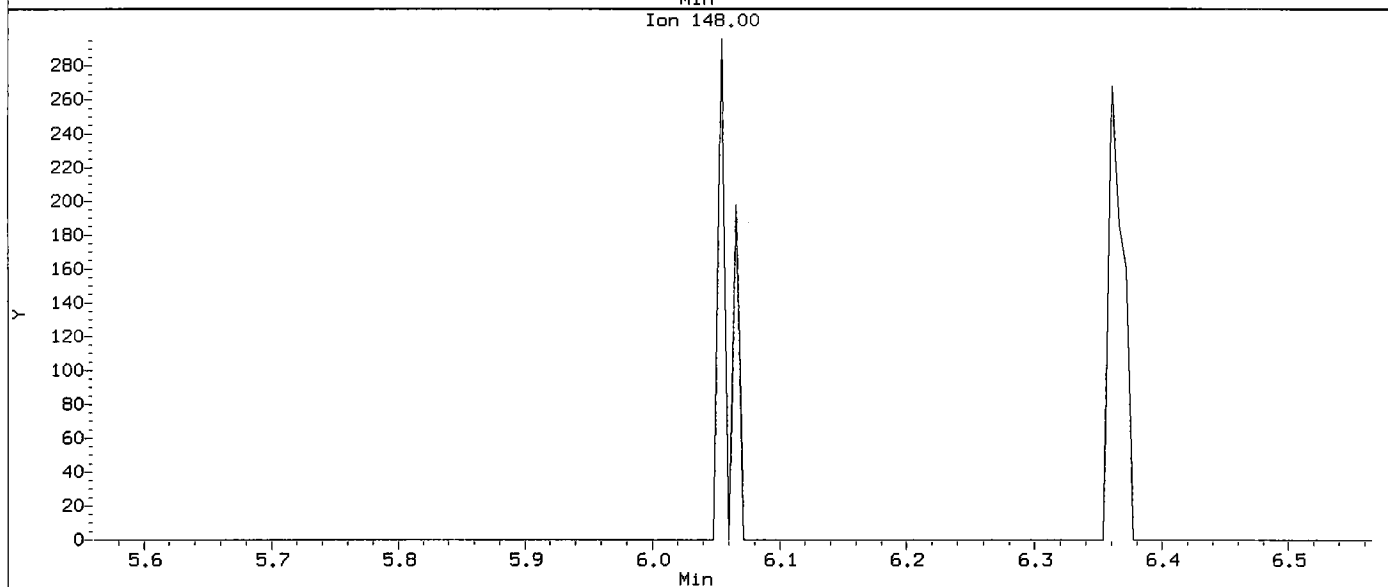
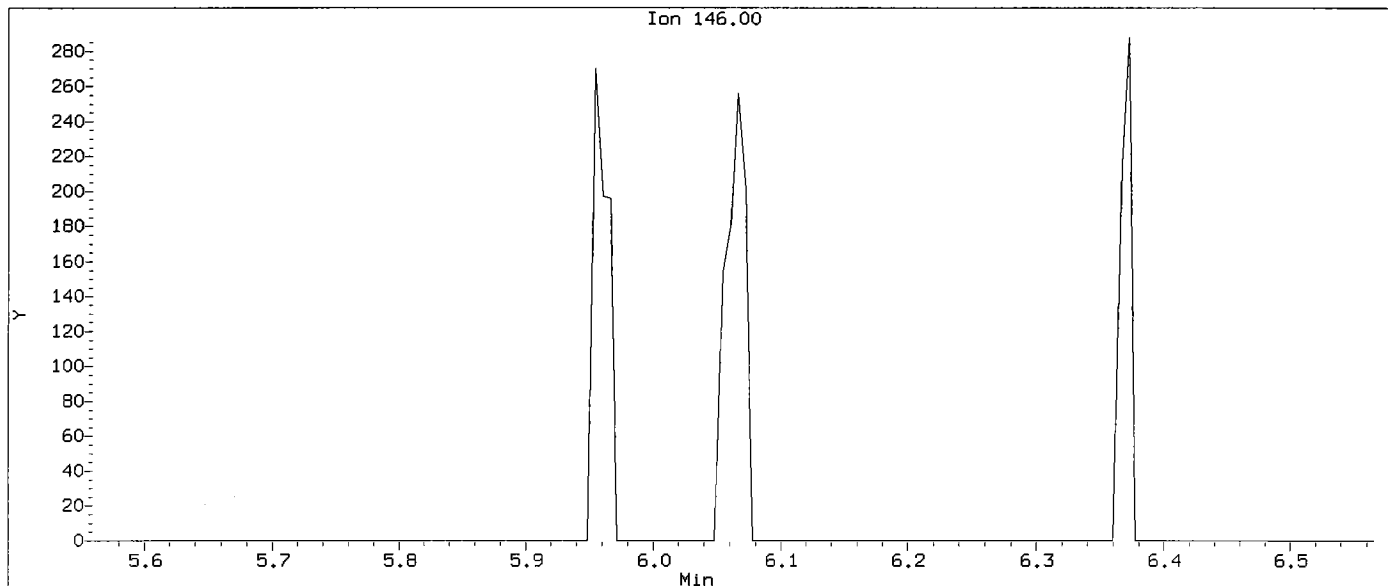
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Injection Date: 06-AUG-2008 20:57  
Instrument: nt4.i  
Client Sample ID: NG56MBS1

Compound: 1,3-Dichlorobenzene  
CAS Number: 541-73-1



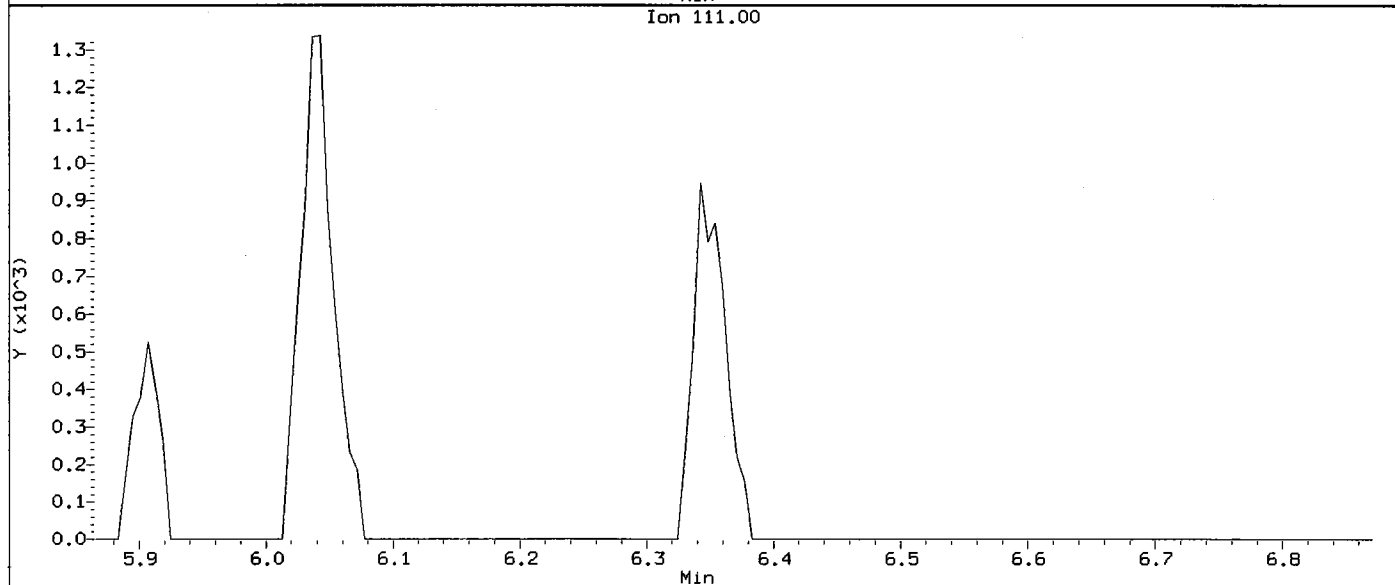
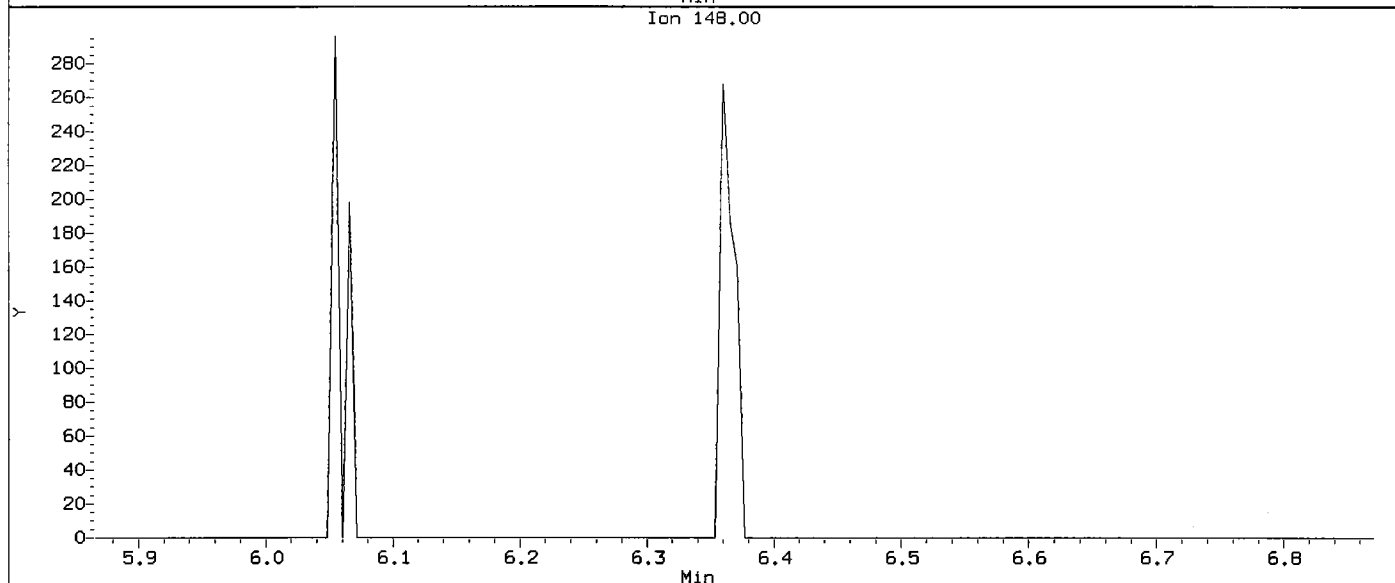
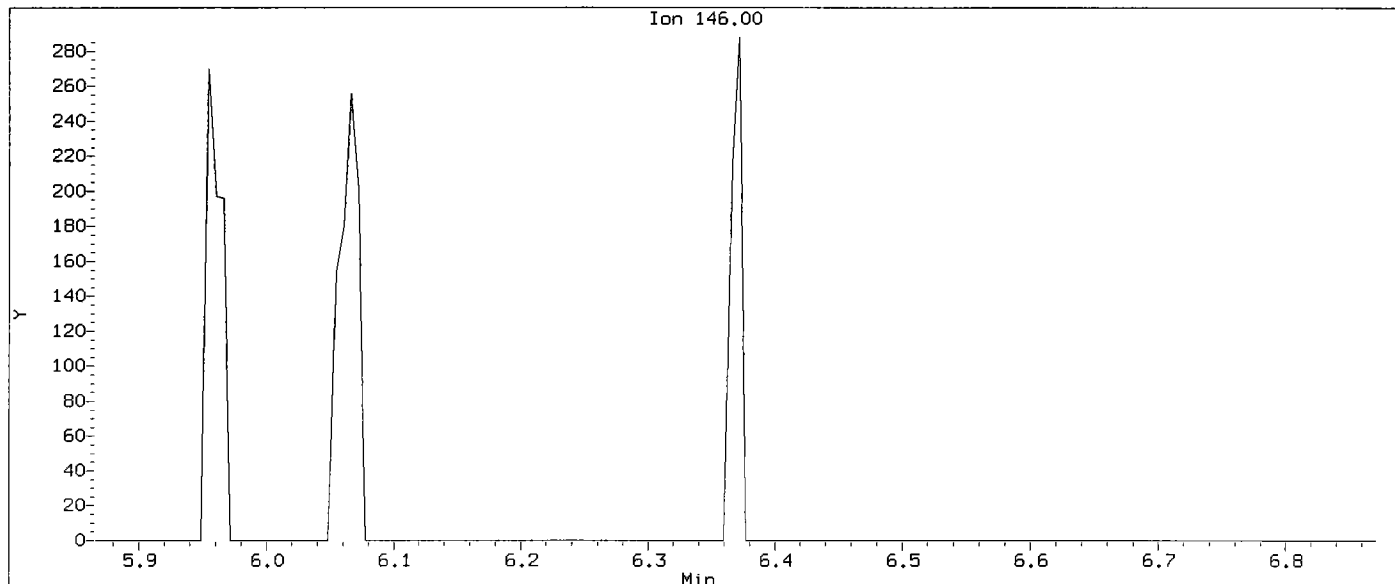
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Injection Date: 06-AUG-2008 20:57  
Instrument: nt4.1  
Client Sample ID: NG56MBS1

Compound: 1,4-Dichlorobenzene  
CAS Number: 106-46-7



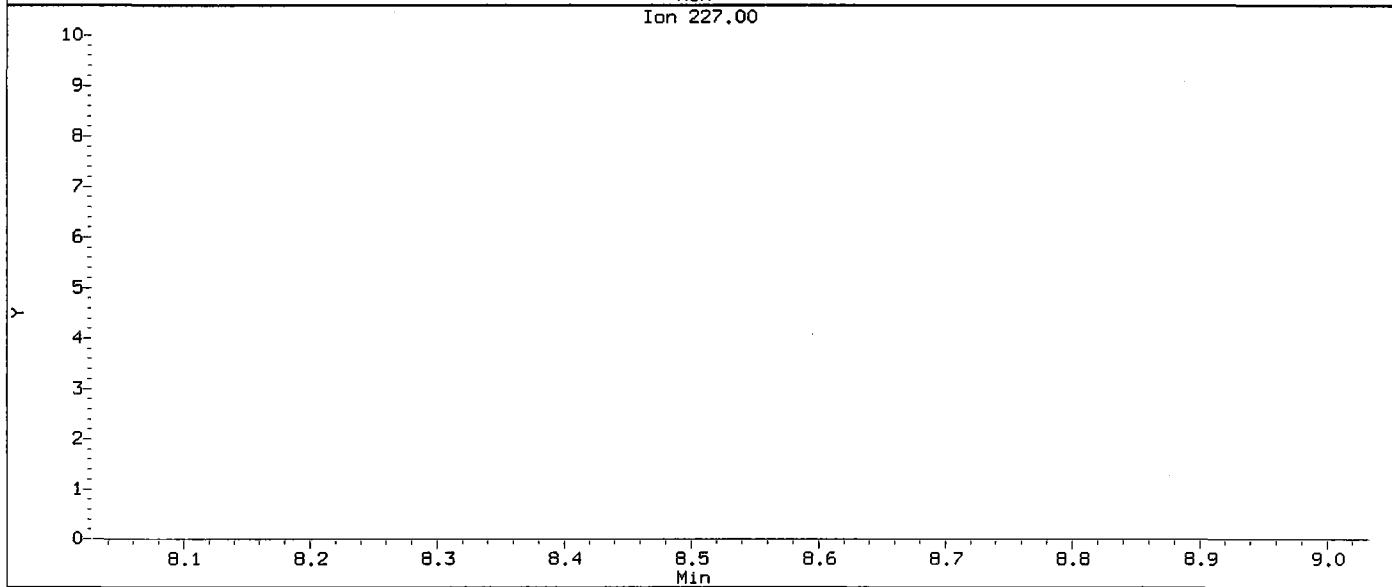
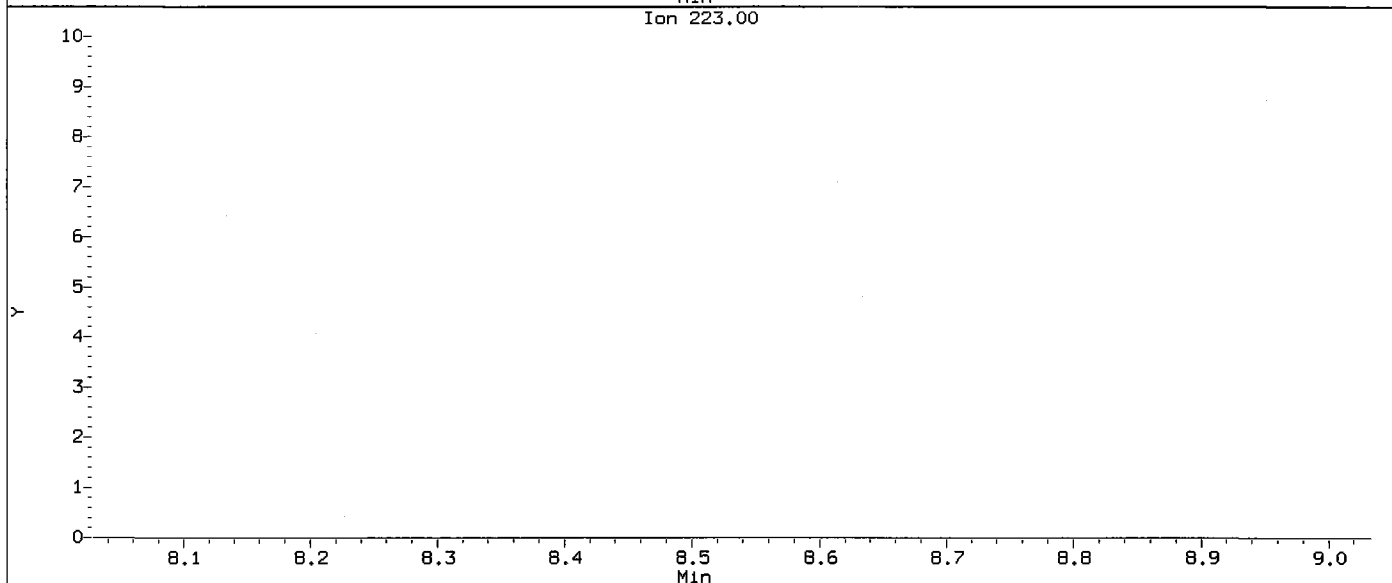
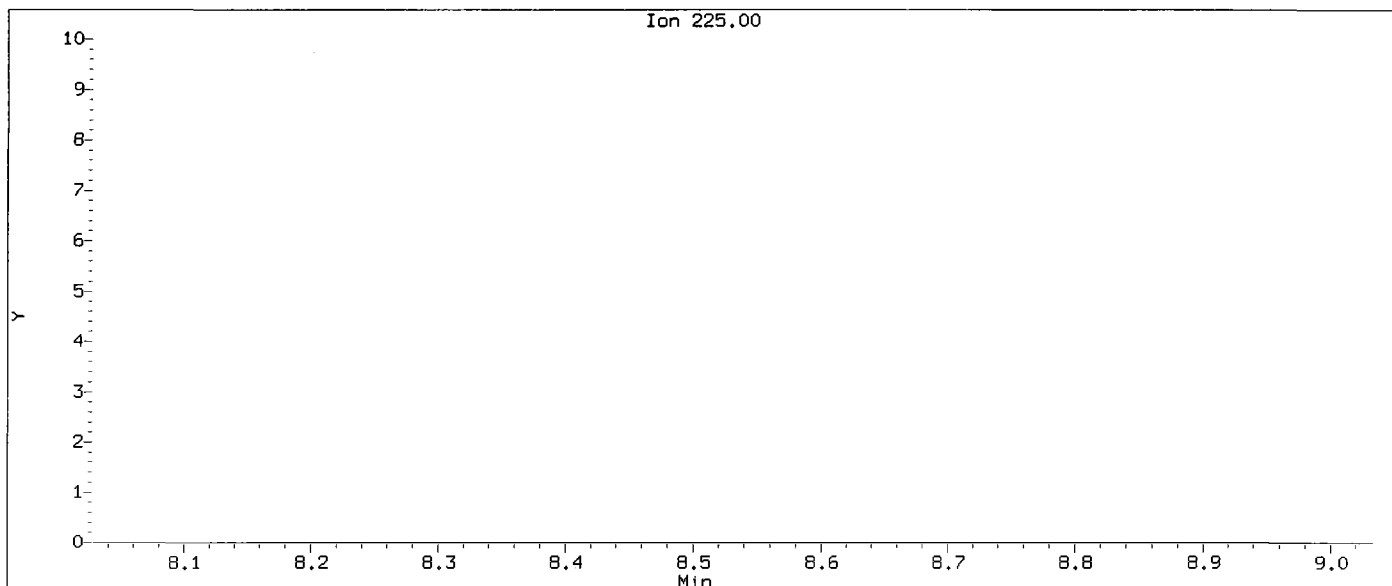
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Injection Date: 06-AUG-2008 20:57  
Instrument: nt4.1  
Client Sample ID: NG56MBS1

Compound: 1,2-Dichlorobenzene  
CAS Number: 95-50-1



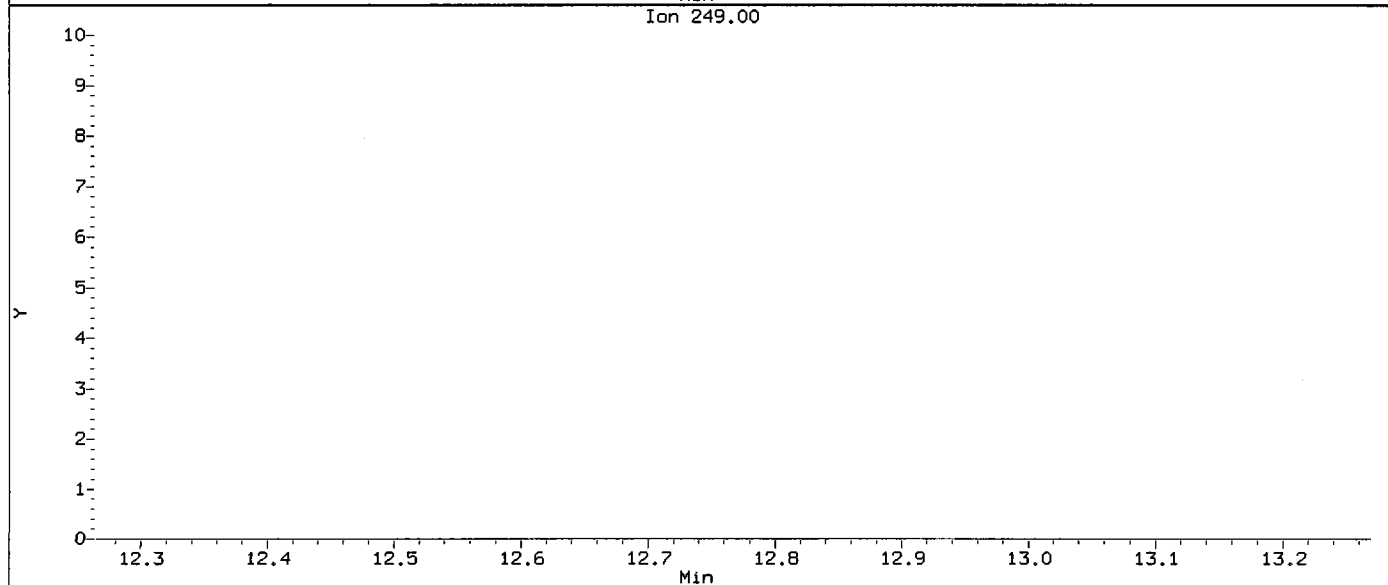
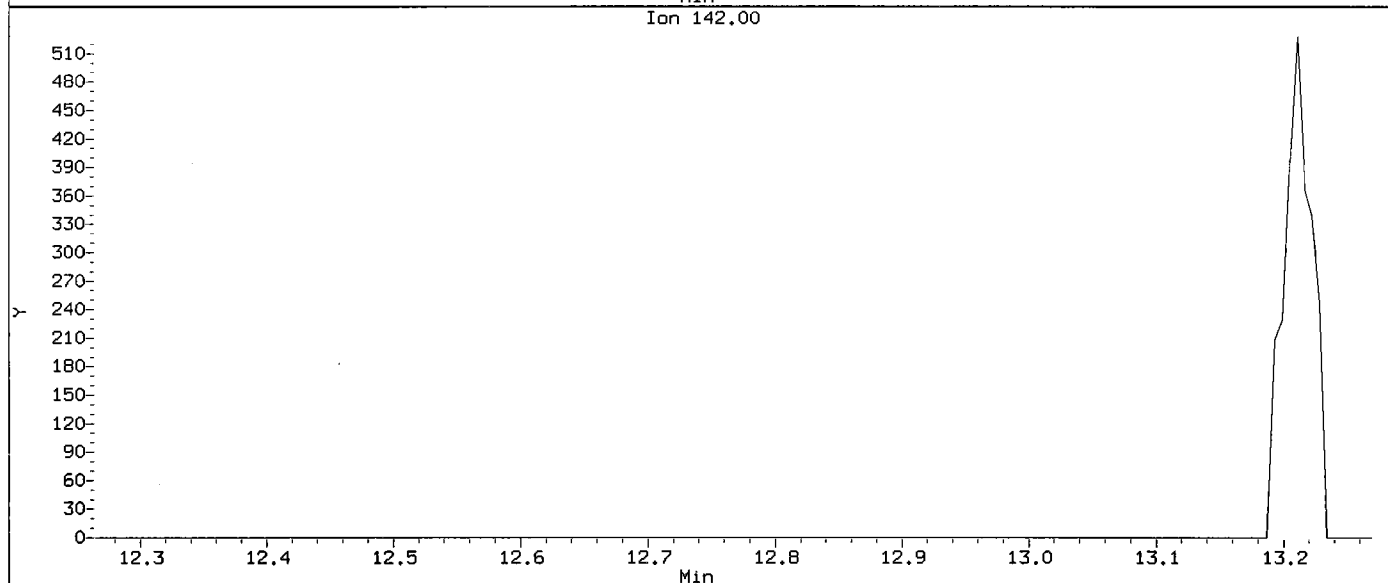
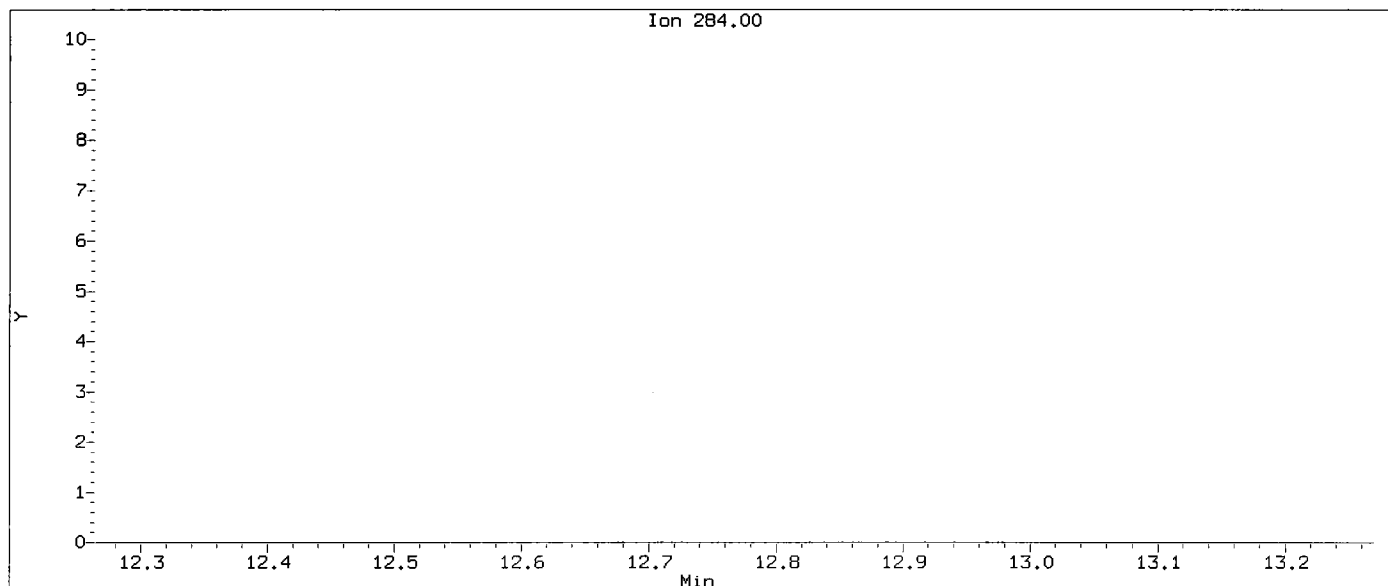
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Injection Date: 06-AUG-2008 20:57  
Instrument: nt4.i  
Client Sample ID: NG56MBS1

Compound: Hexachlorobutadiene  
CAS Number: 87-68-3



Data File: /chem3/nt4.i/AUG08.b/20080806.b/ng39mb.d  
Injection Date: 06-AUG-2008 20:57  
Instrument: nt4.1  
Client Sample ID: NG56MBS1

Compound: Hexachlorobenzene  
CAS Number: 118-74-1



**LABORATORY CERTIFICATES OF ANALYSIS  
ANALYTICAL RESOURCES, INC. (ARI)  
ARI JOB NO. NG93 (NEARSHORE SED)**



**Analytical Resources, Incorporated**

Analytical Chemists and Consultants

September 8, 2008

Rick Moore  
Hart Crowser, Inc.  
1700 Westlake Avenue N. Suite 200  
Seattle, WA 98109-3256

**RE: Client Project: Pier 23-EBC**  
**ARI Job No. NG93**

Dear Rick;

Please find enclosed the chain of custody (COC), sample receipt documentation, and data package for samples from the project referenced above

Sample receipt and details of the analyses are discussed in the Case Narrative.

An electronic copy of this package will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

  
Kelly Bottem  
Client Services Manager  
kellyb@arilabs.com  
206/695-6211

Enclosures

cc: eFile NG93

KFB/co



**Chain of Custody  
Documentation**

**prepared  
for**

**HART CROWSER, INC.**

**Project: PIER 23-EBD, 17490-01**

**ARI JOB NO.: NG93**

**prepared  
by**

**Analytical Resources, Inc.**

# Sample Custody Record 1 of 1

Samples Shipped to: ARR

NC-973 3 3.8% Ice-yeast

Hart Crowser, Inc.  
1910 Fairview Avenue East  
Seattle, Washington 98102-3699  
Phone: 206-324-9530 FAX: 206-328-5581



JOB 17490-01 LAB NUMBER \_\_\_\_\_  
PROJECT NAME Piër 23 - EBC  
HART CROWSER CONTACT Angie Goodwin  
SAMPLED BY: \_\_\_\_\_

OBSERVATIONS/COMMENTS/  
COMPOSTING INSTRUCTIONS

LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX	NO. OF CONTAINERS
EBC-NS-1		glass jars	7/20/08	1305	Sediment	3
EBC-NS-2				1205		3
EBC-NS-3				1335		3
EBC-NS-4				1225		3
EBC-NS-5				1430		3
EBC-NS-6				1500		3

REQUESTED ANALYSIS

SVOLS - 8270D  
PBKs - 8270STH  
PBKs - 8082  
TOL - Rumb 1981  
Metals (As, Cd, Hg, Ni, Pb, Zn)  
- 6010B/74

RELINQUISHED BY: <u>[Signature]</u> SIGNATURE PRINT NAME: <u>Ellen Rust</u> COMPANY: <u>HC</u>	DATE: <u>7/20/08</u> TIME: <u>1700</u>	RECEIVED BY: <u>[Signature]</u> SIGNATURE PRINT NAME: <u>Brian Hesse</u> COMPANY: _____	DATE: <u>7/20/08</u> TIME: <u>1700</u>
RELINQUISHED BY: _____ SIGNATURE PRINT NAME: _____ COMPANY: _____		RECEIVED BY: _____ SIGNATURE PRINT NAME: _____ COMPANY: _____	

SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS:  
**Analytical results will be compared to the SMS criteria**

COOLER NO.: \_\_\_\_\_ STORAGE LOCATION: \_\_\_\_\_

TURNAROUND TIME:  
 24 HOURS  
 48 HOURS  
 STANDARD  
 72 HOURS  
 1 WEEK  
 OTHER \_\_\_\_\_



# Cooler Receipt Form

ARI Client: Hart Crosser  
COC No: \_\_\_\_\_  
Assigned ARI Job No: NG93

Project Name: Pier 23-EBC  
Delivered by: Hand  
Tracking No: \_\_\_\_\_

**Preliminary Examination Phase:**

- Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES  NO
- Were custody papers included with the cooler? .....  YES NO
- Were custody papers properly filled out (ink, signed, etc.) .....  YES NO
- Record cooler temperature (recommended 2.0-6.0 °C for chemistry) ..... 3.8 °C

Cooler Accepted by: [Signature] Date: 7/22/08 Time: (7:00)

**Complete custody forms and attach all shipping documents**

**Log-In Phase:**

- Was a temperature blank included in the cooler? ..... YES  NO
- What kind of packing material was used? ..... Ice/BW
- Was sufficient ice used (if appropriate)? .....  YES NO
- Were all bottles sealed in individual plastic bags? ..... YES  NO
- Did all bottle arrive in good condition (unbroken)? .....  YES NO
- Were all bottle labels complete and legible? .....  YES NO
- Did all bottle labels and tags agree with custody papers? .....  YES NO
- Were all bottles used correct for the requested analyses? .....  YES NO
- Do any of the analyses (bottles) require preservation? (attach preservation checklist) ..... YES  NO
- Were all VOC vials free of air bubbles? .....  NA YES NO
- Was sufficient amount of sample sent in each bottle? .....  YES NO

Samples Logged by: JL Date: 7/23/08 Time: 1139

**\*\* Notify Project Manager of discrepancies or concerns \*\***

Explain discrepancies or negative responses:

By:

Date:

**Case Narrative**

**prepared  
for**

**HART CROWSER, INC.**

**Project: PIER 23-EBD, 17490-01**

**ARI JOB NO.: NG93**

**prepared  
by**

**Analytical Resources, Inc.**



Case Narrative  
**Hart Crowser**  
**Pier 23-EBC**  
**ARI Job: NG93**  
**September 8, 2008**

Sample Receipt:

Analytical Resources, Inc. (ARI) accepted six sediment samples on July 22, 2008. The samples were received in good condition with a cooler temperature of 3.8°C. There were no discrepancies between the sample container labels and the COC.

The samples were analyzed for PSDDA SVOCs, PSDDA SIM PNA, PSDDA PCBs, Total Metals and TOC, as requested on the COC. All samples were frozen upon receipt.

Semivolatile Analysis (PSDDA 8270D):

The samples were extracted on 08/07/08 and 08/25/08 and analyzed on 08/15/08 and 08/29/08 within the method recommended holding time.

*Initial calibration (s):* All analytes were within method acceptance criteria.

*Continuing calibration (s):* All analytes of interest were within method acceptance criteria for the associated Semivolatile organics list.

*Method Blank (s):* Phenol was present in the method blank, **MB-080408**, at a level greater than the reporting limit. Since Phenol also exceeded the instrument calibration range, all samples that were associated with this method blank were re-extracted and re-analyzed. The re-analysis data of the method blank contained concentrations of Phenol that were less than the reporting limit. All original data have been flagged with both "B" and "E" flag qualifiers on the appropriate Form I's. Both sets of data have been included in this package for your review. No further corrective action was required.

*Surrogate(s):* The surrogate percent recovery of d14-p-Terphenyl was outside control limits high for samples **EBC-NC-6MSD** on the 08/29/08 analysis. Since all other surrogate recoveries were within control limits, no further corrective action was required.

*Samples:* There were no anomalies associated with this analysis.

*MS/MSD (s):* The matrix spike and matrix spike duplicate percent recoveries for several analytes were outside the advisory control limits low for sample **EBC-NS-6** on the 08/25/08 analysis. As a result the matrix spike/matrix spike duplicate relative percent differences were outside advisory control limits. The matrix spike and matrix spike duplicate were re-extracted and re-analyzed and all percent recoveries were within control limits. Both sets of data have been reported for your review. No further corrective action was required.

There were no matrix spike and matrix spike duplicate percent recoveries on the 08/25/08 analysis and no matrix spike percent recovery on the 08/29/08 analysis for Benzyl Alcohol for sample **EBC-**



**Case Narrative**  
**Hart Crowser**  
**Pier 23-EBC**  
**ARI Job: NG93**  
**September 8, 2008**

NS-6. All LCS and LCSD percent recoveries were within control limits. No further corrective action was required.

**LCS/LCSD (s):** The LCS percent recoveries for the 08/25/08 analysis for several analytes were outside control limits both high and low. As a result, the LCS duplicate relative percent differences (RPD) for several analytes were outside control limits high. The LCS and LCSD were re-extracted and re-analyzed and all percent recoveries were within control limits. Both sets of data are included in this package for your review. No further action was required.

**SIM PNA (PSDDA 8270D):**

The samples were extracted on 08/04/08 and analyzed on 08/07/08 within the method recommended holding time.

**Initial calibration (s):** All analytes were within method acceptance criteria.

**Continuing calibration (s):** All analytes of interest were within method acceptance criteria for the associated Semivolatile organics list.

**Method Blank (s):** The method blanks were free of contamination

**Surrogate(s):** All surrogate recoveries were within control limits.

**Samples:** There were no anomalies associated with this analysis.

**MS/MSD (s):** The matrix spike percent recovery for Pyrene was outside control limits high for sample EBC-NS-6. Since all other quality control parameters were met, no further corrective action was required.

**LCS/LCSD (s):** All LCS/LCSD percent recoveries were within control limits.

**PCB Analysis (PSDDA):**

The samples were extracted on 08/05/08 and analyzed on 08/10/08 within the method recommended holding time.

**Initial calibration (s):** All analytes were within method acceptance criteria.

**Continuing calibration (s):** All analytes of interest were within method acceptance criteria for the associated Aroclor list.

**Method Blank (s):** All method blanks were free of contamination



**Case Narrative**

**Hart Crowser  
Pier 23-EBC  
ARI Job: NG93  
September 8, 2008**

***Surrogate(s):*** Are in control.

***Samples:*** There were no anomalies associated with the samples.

***MS/MSD (s):*** All percent recoveries and RPDs were within control limits.

***LCS/LCSD (s):*** All percent recoveries and RPDs were within control limits.

**Total Metals Analysis:**

The samples were digested on 08/11/08 and 08/13/08, and analyzed on 08/13/08 and 08/15/08, within the method recommended holding time.

***Initial calibration (s):*** All analytes were within method acceptance criteria.

***Continuing calibration (s):*** All analytes of interest were within method acceptance criteria.

***Method Blank (s):*** The method blanks were free of contamination

***Samples:*** There were no anomalies associated with the analyses.

***Matrix Spike/ Sample Duplicate/ RPDs(s):*** The duplicate sample relative percent differences for chromium and mercury were outside control limits for sample **EBC-NS-1**. All relevant data have been flagged with a "\*" on Form VI. No further corrective action was required.

The matrix spike percent recoveries for copper, mercury, and zinc were outside control limits high for sample **EBC-NS-1**. Since the LCS percent recoveries were within control limits, no further corrective action was taken.

***LCS/LCSD (s):*** All percent recoveries were within control limits.

**General Chemistry Analysis**

The TOC and Total Solids samples were analyzed 09/04/08 within the recommended holding time.

***Samples:*** There were no anomalies with these samples.

***Method Blank(s):*** All method blanks were free of contamination.

***SRM/ LCS/ Sample Replicates:*** All percent recoveries and RPDs were within control limits.

## Data Reporting Qualifiers

Effective 12/28/04

### Inorganic Data

- U Indicates that the target analyte was not detected at the reported concentration
- \* Duplicate RPD is not within established control limits
- B Reported value is less than the CRDL but  $\geq$  the Reporting Limit
- N Matrix Spike recovery not within established control limits
- NA Not Applicable, analyte not spiked
- H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
- L Analyte concentration is  $\leq 5$  times the Reporting Limit and the replicate control limit defaults to  $\pm 1$  RL instead of the normal 20% RPD

### Organic Data

- U Indicates that the target analyte was not detected at the reported concentration
- \* Flagged value is not within established control limits
- B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
- J Estimated concentration when the value is less than ARI's established reporting limits
- D The spiked compound was not detected due to sample extract dilution
- NR Spiked compound recovery is not reported due to chromatographic interference
- E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
- S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
- NA The flagged analyte was not analyzed for
- NS The flagged analyte was not spiked into the sample



- M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
- M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
- Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.
- C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
- P The analyte was detected on both chromatographic columns but the quantified values differ by  $\geq 40\%$  RPD with no obvious chromatographic interference

### **Geotechnical Data**

- A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
- F Samples were frozen prior to particle size determination
- SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
- SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
- W Weight of sample in some pipette aliquots was below the level required for accurate weighting

# LCS SOLUTIONS

8/5/200

LABEL	SOLN IC	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1526-2	PCB	20	MEOH	06/27/09
2	1472-3	BCOC PEST	10	ACETONE	07/20/08
3	1517-1	PEST	02/04/20	ACETONE	05/15/09
4	1515-1	LOW PEST	0.2/0.4/2	ACETONE	01/24/09
5	1476-2	EPH	1500	MECL2	09/14/08
6*	1456-3	PCP	12.5	ACETONE	04/18/09
7	1529-1	ABN	100	ACETONE	03/28/09
8	1487-2	TBT	10	MECL2	12/15/08
9	1493-3	PORE TBT	.25/.5	MECL2	12/15/08
10	1512-1	ABN ACID	100/200	MEOH	04/10/09
11	1526-1	TPHD	15000	ACETONE	06/25/09
12	1533-1	ABN BASE	200	ACETONE	07/01/09
13*	1427-3	LOW PCB	2	ACETONE	10/11/08
14	1480-2	LOW ABN ACID	10/20	MEOH	10/09/08
15*	1452-1	SIM PNA	15/75	MEOH	04/09/09
16	1502-2	DIOXANE	100	MEOH	02/20/09
17	1516-2	1248 PCB	20	ACETONE	05/07/09
18	1514-4	LOW SIM PNA	1.5/7.5	ACETONE	04/24/09
19	1517-3	AK103	7500	MECL2	12/29/08
20	1490-4	PNA	100	MEOH	01/10/09
21*	1414-4	SKY/BHT	100	MEOH	04/08/09
22	1500-1	HERB	12.5/12500	MEOH	02/28/09
23	1505-1	LOW ABN BASE	20	MEOH	03/20/09
24	1504-4	LOW ABN	10	ACETONE	10/01/08
25	1481-1	DIPHENYL	100	MEOH	07/20/08
26	1522-2	OP-PEST	30	MEOH	11/30/08
27	1495-1	STEROLS	200	MEOH	12/29/08
28	1494-1	ADD. PEST	4	ACETONE	01/23/09
29	1496-3	DECANES	100	MEOH	02/12/09
30	1497-2	EDB/DBCP	2	ACETONE	02/12/09
31	1510-3	TERPINEOL	100	MEOH	03/21/09

# LCS SOLUTIONS

8/5/2008

32	1533-2	GUAIACOL	50-200	ACETONE	06/05/09
33	1522-1	RESIN ACID	250	ACETONE	06/11/09
34	1530-2	CONGENERS	250	ACETONE	07/23/09
50	1523-1	FULL RESIN	250	ACETONE	06/10/09
*=REVERIFIED		SOLUTION			

# SURR SOLUTIONS

8/5/2008

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1525-4	ABN	100/150	MEOH	03/13/09
B	1513-1	SIM PNA	15/75	MEOH	04/15/09
C*	1443-1	SIM ABN	10/15	MEOH	04/03/09
D	1516-3	LOW PCB	0.2	ACETONE	05/09/09
E	1478-1	HERB	62.5	MEOH	09/21/08
F	1520-3	PCP	12.5	ACETONE	04/18/09
G	1502-3	1,4DIOXANE	100	MEOH	02/20/09
H	1504-2	OP-PEST	25	MEOH	03/20/09
I*	1458-1	LOW S. PNA	03/15	MEOH	06/05/09
J	1493-2	TBT-PORE	0.25	MECL2	12/15/08
K	1490-3	MED PCB	20	ACETONE	01/14/09
L	1486-5	TBT	10	MECL2	12/15/08
M	1518-3	EPH	1500	MECL2	05/10/09
N	1518-4	PCB	2	ACETONE	05/29/09
O	1521-3	TPH	450	MECL2	12/29/08
P	1518-2	HCID	2250	MECL2	12/29/08
Q	1497-3	EDB	2	ACETONE	02/12/09
R	1521-4	RESIN ACID	250	ACETONE	06/11/09
S	*RE-VERIFIED SOLUTION				
T					
U					
V					
W					
X					
Y					
Z					

**Data Summary Package**

**prepared  
for**

**HART CROWSER, INC.**

**Project: PIER 23-EBD, 17490-01**

**ARI JOB NO.: NG93**

**prepared  
by**

**Analytical Resources, Inc.**

## **SEMIVOLATILES**

ORGANICS ANALYSIS DATA SHEET

PSDDA Semivolatiles by SW8270D GC/MS

Page 1 of 2



Sample ID: EBC-NS-1

SAMPLE

Lab Sample ID: NG93A

LIMS ID: 08-16996

Matrix: Sediment

Data Release Authorized:

Reported: 08/21/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Date Extracted: 08/04/08

Date Analyzed: 08/15/08 17:05

Instrument/Analyst: NT4/LJR

GPC Cleanup: Yes

Sample Amount: 25.7 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 19.8%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	56 B
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
91-20-3	Naphthalene	20	< 20 U
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	2-Methylnaphthalene	20	< 20 U
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	Acenaphthylene	20	< 20 U
83-32-9	Acenaphthene	20	< 20 U
132-64-9	Dibenzofuran	20	< 20 U
84-66-2	Diethylphthalate	20	21
86-73-7	Fluorene	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	97	< 97 U
85-01-8	Phenanthrene	20	38
120-12-7	Anthracene	20	12 J
84-74-2	Di-n-Butylphthalate	20	18 J
206-44-0	Fluoranthene	20	94
129-00-0	Pyrene	20	74
85-68-7	Butylbenzylphthalate	20	< 20 U
56-55-3	Benzo(a)anthracene	20	31
117-81-7	bis(2-Ethylhexyl)phthalate	20	140
218-01-9	Chrysene	20	61
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo(b)fluoranthene	20	68
207-08-9	Benzo(k)fluoranthene	20	48
50-32-8	Benzo(a)pyrene	20	47
193-39-5	Indeno(1,2,3-cd)pyrene	20	18 J
53-70-3	Dibenz(a,h)anthracene	20	< 20 U
191-24-2	Benzo(g,h,i)perylene	20	25

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: EBC-NS-1  
SAMPLE

Lab Sample ID: NG93A  
LIMS ID: 08-16996  
Matrix: Sediment  
Date Analyzed: 08/15/08 17:05

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	67.2%	2-Fluorobiphenyl	66.8%
d14-p-Terphenyl	72.0%	d4-1,2-Dichlorobenzene	54.4%
d5-Phenol	63.5%	2-Fluorophenol	83.5%
2,4,6-Tribromophenol	80.3%	d4-2-Chlorophenol	69.9%



ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
Page 1 of 2

Sample ID: EBC-NS-2  
SAMPLE

Lab Sample ID: NG93B  
LIMS ID: 08-16997  
Matrix: Sediment  
Data Release Authorized: *[Signature]*  
Reported: 08/21/08

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01  
Date Sampled: 07/22/08  
Date Received: 07/22/08

Date Extracted: 08/04/08  
Date Analyzed: 08/15/08 17:40  
Instrument/Analyst: NT4/LJR  
GPC Cleanup: Yes

Sample Amount: 25.5 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 18.3%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	< 20 U
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
91-20-3	Naphthalene	20	< 20 U
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	2-Methylnaphthalene	20	< 20 U
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	Acenaphthylene	20	< 20 U
83-32-9	Acenaphthene	20	< 20 U
132-64-9	Dibenzofuran	20	< 20 U
<b>84-66-2</b>	<b>Diethylphthalate</b>	<b>20</b>	<b>30</b>
86-73-7	Fluorene	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	98	< 98 U
<b>85-01-8</b>	<b>Phenanthrene</b>	<b>20</b>	<b>54</b>
<b>120-12-7</b>	<b>Anthracene</b>	<b>20</b>	<b>32</b>
<b>84-74-2</b>	<b>Di-n-Butylphthalate</b>	<b>20</b>	<b>15 J</b>
<b>206-44-0</b>	<b>Fluoranthene</b>	<b>20</b>	<b>340</b>
<b>129-00-0</b>	<b>Pyrene</b>	<b>20</b>	<b>180</b>
85-68-7	Butylbenzylphthalate	20	< 20 U
56-55-3	Benzo (a) anthracene	20	100
117-81-7	bis (2-Ethylhexyl) phthalate	20	47
218-01-9	Chrysene	20	300
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo (b) fluoranthene	20	250
207-08-9	Benzo (k) fluoranthene	20	160
50-32-8	Benzo (a) pyrene	20	130
193-39-5	Indeno (1,2,3-cd) pyrene	20	43
53-70-3	Dibenz (a, h) anthracene	20	14 J
191-24-2	Benzo (g, h, i) perylene	20	51

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PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: EBC-NS-2  
SAMPLE

Lab Sample ID: NG93B  
LIMS ID: 08-16997  
Matrix: Sediment  
Date Analyzed: 08/15/08 17:40

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	70.0%	2-Fluorobiphenyl	74.4%
d14-p-Terphenyl	75.2%	d4-1,2-Dichlorobenzene	58.0%
d5-Phenol	62.9%	2-Fluorophenol	74.9%
2,4,6-Tribromophenol	60.8%	d4-2-Chlorophenol	70.1%

**ORGANICS ANALYSIS DATA SHEET**  
**PSDDA Semivolatiles by SW8270D GC/MS**  
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Sample ID: **EBC-NS-3**  
**SAMPLE**

Lab Sample ID: NG93C  
 LIMS ID: 08-16998  
 Matrix: Sediment  
 Data Release Authorized:  
 Reported: 08/21/08

QC Report No: NG93-HART CROWSER, INC.  
 Project: PIER 23-EBC  
 17490-01  
 Date Sampled: 07/22/08  
 Date Received: 07/22/08

Date Extracted: 08/04/08  
 Date Analyzed: 08/15/08 18:15  
 Instrument/Analyst: NT4/LJR  
 GPC Cleanup: Yes

Sample Amount: 25.9 g-dry-wt  
 Final Extract Volume: 0.5 mL  
 Dilution Factor: 1.00  
 Percent Moisture: 22.6%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	19	35 B
541-73-1	1,3-Dichlorobenzene	19	< 19 U
106-46-7	1,4-Dichlorobenzene	19	< 19 U
100-51-6	Benzyl Alcohol	19	< 19 U
95-50-1	1,2-Dichlorobenzene	19	< 19 U
95-48-7	2-Methylphenol	19	< 19 U
106-44-5	4-Methylphenol	19	< 19 U
67-72-1	Hexachloroethane	19	< 19 U
105-67-9	2,4-Dimethylphenol	19	< 19 U
65-85-0	Benzoic Acid	190	< 190 U
120-82-1	1,2,4-Trichlorobenzene	19	< 19 U
91-20-3	Naphthalene	19	22
87-68-3	Hexachlorobutadiene	19	< 19 U
91-57-6	2-Methylnaphthalene	19	< 19 U
131-11-3	Dimethylphthalate	19	< 19 U
208-96-8	Acenaphthylene	19	< 19 U
83-32-9	Acenaphthene	19	13 J
132-64-9	Dibenzofuran	19	14 J
84-66-2	Diethylphthalate	19	56
86-73-7	Fluorene	19	14 J
86-30-6	N-Nitrosodiphenylamine	19	< 19 U
118-74-1	Hexachlorobenzene	19	< 19 U
87-86-5	Pentachlorophenol	97	< 97 U
85-01-8	Phenanthrene	19	46
120-12-7	Anthracene	19	36
84-74-2	Di-n-Butylphthalate	19	16 J
206-44-0	Fluoranthene	19	130
129-00-0	Pyrene	19	290
85-68-7	Butylbenzylphthalate	19	< 19 U
56-55-3	Benzo (a) anthracene	19	82
117-81-7	bis (2-Ethylhexyl) phthalate	19	58
218-01-9	Chrysene	19	160
117-84-0	Di-n-Octyl phthalate	19	< 19 U
205-99-2	Benzo (b) fluoranthene	19	250
207-08-9	Benzo (k) fluoranthene	19	220
50-32-8	Benzo (a) pyrene	19	200
193-39-5	Indeno (1,2,3-cd) pyrene	19	59
53-70-3	Dibenz (a,h) anthracene	19	22
191-24-2	Benzo (g,h,i) perylene	19	65

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: EBC-NS-3  
SAMPLE

Lab Sample ID: NG93C  
LIMS ID: 08-16998  
Matrix: Sediment  
Date Analyzed: 08/15/08 18:15

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	19	< 19 U


Reported in  $\mu\text{g}/\text{kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	62.8%	2-Fluorobiphenyl	62.4%
d14-p-Terphenyl	70.4%	d4-1,2-Dichlorobenzene	50.8%
d5-Phenol	57.6%	2-Fluorophenol	72.3%
2,4,6-Tribromophenol	71.7%	d4-2-Chlorophenol	67.7%

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: EBC-NS-4  
SAMPLE

Lab Sample ID: NG93D  
LIMS ID: 08-16999  
Matrix: Sediment  
Data Release Authorized:   
Reported: 08/21/08

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01  
Date Sampled: 07/22/08  
Date Received: 07/22/08

Date Extracted: 08/04/08  
Date Analyzed: 08/15/08 18:50  
Instrument/Analyst: NT4/LJR  
GPC Cleanup: Yes

Sample Amount: 25.3 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 26.1%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	< 20 U
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
91-20-3	Naphthalene	20	< 20 U
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	2-Methylnaphthalene	20	10 J
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	Acenaphthylene	20	< 20 U
83-32-9	Acenaphthene	20	< 20 U
132-64-9	Dibenzofuran	20	< 20 U
84-66-2	Diethylphthalate	20	41
86-73-7	Fluorene	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	99	< 99 U
85-01-8	Phenanthrene	20	74
120-12-7	Anthracene	20	21
84-74-2	Di-n-Butylphthalate	20	15 J
206-44-0	Fluoranthene	20	200
129-00-0	Pyrene	20	110
85-68-7	Butylbenzylphthalate	20	< 20 U
56-55-3	Benzo (a) anthracene	20	75
117-81-7	bis (2-Ethylhexyl) phthalate	20	74
218-01-9	Chrysene	20	140
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo (b) fluoranthene	20	120
207-08-9	Benzo (k) fluoranthene	20	100
50-32-8	Benzo (a) pyrene	20	88
193-39-5	Indeno (1,2,3-cd) pyrene	20	22
53-70-3	Dibenz (a,h) anthracene	20	< 20 U
191-24-2	Benzo (g,h,i) perylene	20	27

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 PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: EBC-NS-4  
 SAMPLE

Lab Sample ID: NG93D  
 LIMS ID: 08-16999  
 Matrix: Sediment  
 Date Analyzed: 08/15/08 18:50

QC Report No: NG93-HART CROWSER, INC.  
 Project: PIER 23-EBC  
 17490-01

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	57.2%	2-Fluorobiphenyl	58.4%
d14-p-Terphenyl	57.2%	d4-1,2-Dichlorobenzene	45.6%
d5-Phenol	47.5%	2-Fluorophenol	54.9%
2,4,6-Tribromophenol	60.8%	d4-2-Chlorophenol	56.8%

**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS

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Sample ID: EBC-NS-5

SAMPLE

Lab Sample ID: NG93E

LIMS ID: 08-17000

Matrix: Sediment

Data Release Authorized:

Reported: 08/21/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Date Extracted: 08/04/08

Date Analyzed: 08/15/08 19:26

Instrument/Analyst: NT4/LJR

GPC Cleanup: Yes

Sample Amount: 25.6 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 23.5%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	31 B
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
91-20-3	Naphthalene	20	< 20 U
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	2-Methylnaphthalene	20	< 20 U
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	Acenaphthylene	20	< 20 U
83-32-9	Acenaphthene	20	< 20 U
132-64-9	Dibenzofuran	20	< 20 U
84-66-2	Diethylphthalate	20	28
86-73-7	Fluorene	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	98	< 98 U
85-01-8	Phenanthrene	20	14 J
120-12-7	Anthracene	20	13 J
84-74-2	Di-n-Butylphthalate	20	< 20 U
206-44-0	Fluoranthene	20	50
129-00-0	Pyrene	20	53
85-68-7	Butylbenzylphthalate	20	< 20 U
56-55-3	Benzo (a) anthracene	20	30
117-81-7	bis (2-Ethylhexyl) phthalate	20	< 20 U
218-01-9	Chrysene	20	45
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo (b) fluoranthene	20	50
207-08-9	Benzo (k) fluoranthene	20	37
50-32-8	Benzo (a) pyrene	20	39
193-39-5	Indeno (1,2,3-cd) pyrene	20	11 J
53-70-3	Dibenz (a, h) anthracene	20	< 20 U
191-24-2	Benzo (g, h, i) perylene	20	12 J

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: EBC-NS-5  
SAMPLE

Lab Sample ID: NG93E  
LIMS ID: 08-17000  
Matrix: Sediment  
Date Analyzed: 08/15/08 19:26

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	54.8%	2-Fluorobiphenyl	55.2%
d14-p-Terphenyl	51.2%	d4-1,2-Dichlorobenzene	45.6%
d5-Phenol	49.3%	2-Fluorophenol	57.6%
2,4,6-Tribromophenol	55.2%	d4-2-Chlorophenol	51.2%



## ORGANICS ANALYSIS DATA SHEET

PSDDA Semivolatiles by SW8270D GC/MS

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Sample ID: EBC-NS-6  
SAMPLE

Lab Sample ID: NG93F

LIMS ID: 08-17001

Matrix: Sediment

Data Release Authorized:

Reported: 08/21/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Date Extracted: 08/04/08

Date Analyzed: 08/15/08 20:01

Instrument/Analyst: NT4/LJR

GPC Cleanup: Yes

Sample Amount: 25.9 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 11.2%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	19	< 19 U
541-73-1	1,3-Dichlorobenzene	19	< 19 U
106-46-7	1,4-Dichlorobenzene	19	< 19 U
100-51-6	Benzyl Alcohol	19	< 19 U
95-50-1	1,2-Dichlorobenzene	19	< 19 U
95-48-7	2-Methylphenol	19	< 19 U
106-44-5	4-Methylphenol	19	< 19 U
67-72-1	Hexachloroethane	19	< 19 U
105-67-9	2,4-Dimethylphenol	19	< 19 U
65-85-0	Benzoic Acid	190	< 190 U
120-82-1	1,2,4-Trichlorobenzene	19	< 19 U
91-20-3	Naphthalene	19	< 19 U
87-68-3	Hexachlorobutadiene	19	< 19 U
91-57-6	2-Methylnaphthalene	19	< 19 U
131-11-3	Dimethylphthalate	19	< 19 U
208-96-8	Acenaphthylene	19	< 19 U
83-32-9	Acenaphthene	19	< 19 U
132-64-9	Dibenzofuran	19	< 19 U
84-66-2	Diethylphthalate	19	21
86-73-7	Fluorene	19	< 19 U
86-30-6	N-Nitrosodiphenylamine	19	< 19 U
118-74-1	Hexachlorobenzene	19	< 19 U
87-86-5	Pentachlorophenol	97	< 97 U
85-01-8	Phenanthrene	19	18 J
120-12-7	Anthracene	19	13 J
84-74-2	Di-n-Butylphthalate	19	14 J
206-44-0	Fluoranthene	19	76
129-00-0	Pyrene	19	52
85-68-7	Butylbenzylphthalate	19	< 19 U
56-55-3	Benzo (a) anthracene	19	22
117-81-7	bis (2-Ethylhexyl) phthalate	19	33
218-01-9	Chrysene	19	51
117-84-0	Di-n-Octyl phthalate	19	< 19 U
205-99-2	Benzo (b) fluoranthene	19	54
207-08-9	Benzo (k) fluoranthene	19	38
50-32-8	Benzo (a) pyrene	19	28
193-39-5	Indeno (1,2,3-cd) pyrene	19	< 19 U
53-70-3	Dibenz (a,h) anthracene	19	< 19 U
191-24-2	Benzo (g,h,i) perylene	19	< 19 U

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: EBC-NS-6  
SAMPLE

Lab Sample ID: NG93F  
LIMS ID: 08-17001  
Matrix: Sediment  
Date Analyzed: 08/15/08 20:01

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	19	< 19 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	61.6%	2-Fluorobiphenyl	63.2%
d14-p-Terphenyl	63.2%	d4-1,2-Dichlorobenzene	53.2%
d5-Phenol	56.0%	2-Fluorophenol	56.3%
2,4,6-Tribromophenol	60.5%	d4-2-Chlorophenol	55.5%

**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS

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Sample ID: EBC-NS-6

MATRIX SPIKE

Lab Sample ID: NG93F

QC Report No: NG93-HART CROWSER, INC.

LIMS ID: 08-17001

Project: PIER 23-EBC

Matrix: Sediment

17490-01

Data Release Authorized:

Date Sampled: 07/22/08

Reported: 08/21/08

Date Received: 07/22/08

Date Extracted: 08/04/08

Sample Amount: 26.0 g-dry-wt

Date Analyzed: 08/15/08 20:36

Final Extract Volume: 0.5 mL

Instrument/Analyst: NT4/LJR

Dilution Factor: 1.00

GPC Cleanup: Yes

Percent Moisture: 11.2%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	19	---
541-73-1	1,3-Dichlorobenzene	19	---
106-46-7	1,4-Dichlorobenzene	19	---
100-51-6	Benzyl Alcohol	19	---
95-50-1	1,2-Dichlorobenzene	19	---
95-48-7	2-Methylphenol	19	---
106-44-5	4-Methylphenol	19	---
67-72-1	Hexachloroethane	19	---
105-67-9	2,4-Dimethylphenol	19	---
65-85-0	Benzoic Acid	190	---
120-82-1	1,2,4-Trichlorobenzene	19	---
91-20-3	Naphthalene	19	---
87-68-3	Hexachlorobutadiene	19	---
91-57-6	2-Methylnaphthalene	19	---
131-11-3	Dimethylphthalate	19	---
208-96-8	Acenaphthylene	19	---
83-32-9	Acenaphthene	19	---
132-64-9	Dibenzofuran	19	---
84-66-2	Diethylphthalate	19	---
86-73-7	Fluorene	19	---
86-30-6	N-Nitrosodiphenylamine	19	---
118-74-1	Hexachlorobenzene	19	---
87-86-5	Pentachlorophenol	96	---
85-01-8	Phenanthrene	19	---
120-12-7	Anthracene	19	---
84-74-2	Di-n-Butylphthalate	19	---
206-44-0	Fluoranthene	19	---
129-00-0	Pyrene	19	---
85-68-7	Butylbenzylphthalate	19	---
56-55-3	Benzo(a)anthracene	19	---
117-81-7	bis(2-Ethylhexyl)phthalate	19	---
218-01-9	Chrysene	19	---
117-84-0	Di-n-Octyl phthalate	19	---
205-99-2	Benzo(b)fluoranthene	19	---
207-08-9	Benzo(k)fluoranthene	19	---
50-32-8	Benzo(a)pyrene	19	---
193-39-5	Indeno(1,2,3-cd)pyrene	19	---
53-70-3	Dibenz(a,h)anthracene	19	---
191-24-2	Benzo(g,h,i)perylene	19	---

ORGANICS ANALYSIS DATA SHEET

PSDDA Semivolatiles by SW8270D GC/MS

Page 2 of 2



Sample ID: EBC-NS-6

MATRIX SPIKE

Lab Sample ID: NG93F

LIMS ID: 08-17001

Matrix: Sediment

Date Analyzed: 08/15/08 20:36

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	19	---

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	58.8%	2-Fluorobiphenyl	60.8%
d14-p-Terphenyl	59.6%	d4-1,2-Dichlorobenzene	51.2%
d5-Phenol	48.8%	2-Fluorophenol	61.9%
2,4,6-Tribromophenol	62.1%	d4-2-Chlorophenol	54.7%

ORGANICS ANALYSIS DATA SHEET

PSDDA Semivolatiles by SW8270D GC/MS  
Page 1 of 2



Sample ID: EBC-NS-6  
MATRIX SPIKE DUPLICATE

Lab Sample ID: NG93F  
LIMS ID: 08-17001  
Matrix: Sediment  
Data Release Authorized:  
Reported: 08/21/08

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01  
Date Sampled: 07/22/08  
Date Received: 07/22/08

Date Extracted: 08/04/08  
Date Analyzed: 08/15/08 21:11  
Instrument/Analyst: NT4/LJR  
GPC Cleanup: Yes

Sample Amount: 26.3 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 11.2%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	19	---
541-73-1	1,3-Dichlorobenzene	19	---
106-46-7	1,4-Dichlorobenzene	19	---
100-51-6	Benzyl Alcohol	19	---
95-50-1	1,2-Dichlorobenzene	19	---
95-48-7	2-Methylphenol	19	---
106-44-5	4-Methylphenol	19	---
67-72-1	Hexachloroethane	19	---
105-67-9	2,4-Dimethylphenol	19	---
65-85-0	Benzoic Acid	190	---
120-82-1	1,2,4-Trichlorobenzene	19	---
91-20-3	Naphthalene	19	---
87-68-3	Hexachlorobutadiene	19	---
91-57-6	2-Methylnaphthalene	19	---
131-11-3	Dimethylphthalate	19	---
208-96-8	Acenaphthylene	19	---
83-32-9	Acenaphthene	19	---
132-64-9	Dibenzofuran	19	---
84-66-2	Diethylphthalate	19	---
86-73-7	Fluorene	19	---
86-30-6	N-Nitrosodiphenylamine	19	---
118-74-1	Hexachlorobenzene	19	---
87-86-5	Pentachlorophenol	95	---
85-01-8	Phenanthrene	19	---
120-12-7	Anthracene	19	---
84-74-2	Di-n-Butylphthalate	19	---
206-44-0	Fluoranthene	19	---
129-00-0	Pyrene	19	---
85-68-7	Butylbenzylphthalate	19	---
56-55-3	Benzo (a) anthracene	19	---
117-81-7	bis (2-Ethylhexyl) phthalate	19	---
218-01-9	Chrysene	19	---
117-84-0	Di-n-Octyl phthalate	19	---
205-99-2	Benzo (b) fluoranthene	19	---
207-08-9	Benzo (k) fluoranthene	19	---
50-32-8	Benzo (a) pyrene	19	---
193-39-5	Indeno (1,2,3-cd) pyrene	19	---
53-70-3	Dibenz (a,h) anthracene	19	---
191-24-2	Benzo (g,h,i) perylene	19	---

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
Page 2 of 2



Sample ID: EBC-NS-6  
MATRIX SPIKE DUPLICATE

Lab Sample ID: NG93F  
LIMS ID: 08-17001  
Matrix: Sediment  
Date Analyzed: 08/15/08 21:11

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	19	---

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	56.0%	2-Fluorobiphenyl	57.2%
d14-p-Terphenyl	59.2%	d4-1,2-Dichlorobenzene	46.0%
d5-Phenol	46.9%	2-Fluorophenol	57.9%
2,4,6-Tribromophenol	59.5%	d4-2-Chlorophenol	50.9%

**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS

Page 1 of 2

Sample ID: LCS-080408

LCS/LCSD

Lab Sample ID: LCS-080408

LIMS ID: 08-17001

Matrix: Sediment

Data Release Authorized:

Reported: 08/21/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Date Extracted LCS/LCSD: 08/04/08

Sample Amount LCS: 25.0 g

LCSD: 25.0 g

Date Analyzed LCS: 08/19/08 16:14

Final Extract Volume LCS: 0.5 mL

LCSD: 08/15/08 13:34

LCSD: 0.5 mL

Instrument/Analyst LCS: NT4/LJR

Dilution Factor LCS: 1.00

LCSD: NT4/LJR

LCSD: 1.00

GPC Cleanup: YES

Percent Moisture: NA

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Phenol	839	500	168%	421	500	84.2%	66.3%
1,3-Dichlorobenzene	227	500	45.4%	245	500	49.0%	7.6%
1,4-Dichlorobenzene	231	500	46.2%	243	500	48.6%	5.1%
Benzyl Alcohol	39.8	1000	4.0%	60.2	1000	6.0%	40.8%
1,2-Dichlorobenzene	239	500	47.8%	253	500	50.6%	5.7%
2-Methylphenol	273	500	54.6%	288	500	57.6%	5.3%
4-Methylphenol	573	1000	57.3%	623	1000	62.3%	8.4%
Hexachloroethane	240	500	48.0%	256	500	51.2%	6.5%
2,4-Dimethylphenol	243	500	48.6%	276	500	55.2%	12.7%
Benzoic Acid	1110	1500	74.0%	1110	1500	74.0%	0.0%
1,2,4-Trichlorobenzene	242	500	48.4%	249	500	49.8%	2.9%
Naphthalene	248	500	49.6%	261	500	52.2%	5.1%
Hexachlorobutadiene	259	500	51.8%	255	500	51.0%	1.6%
2-Methylnaphthalene	262	500	52.4%	272	500	54.4%	3.7%
Dimethylphthalate	305	500	61.0%	353	500	70.6%	14.6%
Acenaphthylene	244	500	48.8%	291	500	58.2%	17.6%
Acenaphthene	249	500	49.8%	286	500	57.2%	13.8%
Dibenzofuran	285	500	57.0%	321	500	64.2%	11.9%
Diethylphthalate	307	500	61.4%	367	500	73.4%	17.8%
Fluorene	275	500	55.0%	310	500	62.0%	12.0%
N-Nitrosodiphenylamine	214	500	42.8%	327	500	65.4%	41.8%
Hexachlorobenzene	266	500	53.2%	305	500	61.0%	13.7%
Pentachlorophenol	277	500	55.4%	306	500	61.2%	9.9%
Phenanthrene	277	500	55.4%	324	500	64.8%	15.6%
Anthracene	239	500	47.8%	281	500	56.2%	16.2%
Di-n-Butylphthalate	307	500	61.4%	360	500	72.0%	15.9%
Fluoranthene	324	500	64.8%	351	500	70.2%	8.0%
Pyrene	255	500	51.0%	343	500	68.6%	29.4%
Butylbenzylphthalate	262	500	52.4%	351	500	70.2%	29.0%
Benzo(a)anthracene	247	500	49.4%	299	500	59.8%	19.0%
bis(2-Ethylhexyl)phthalate	303	500	60.6%	362	500	72.4%	17.7%
Chrysene	277	500	55.4%	349	500	69.8%	23.0%
Di-n-Octyl phthalate	257	500	51.4%	308	500	61.6%	18.1%
Benzo(b)fluoranthene	343	500	68.6%	429	500	85.8%	22.3%

**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS

Page 2 of 2

Sample ID: LCSD-080408

LCS/LCSD

Lab Sample ID: LCS-080408

QC Report No: NG93-HART CROWSER, INC.

LIMS ID: 08-17001

Project: PIER 23-EBC

Matrix: Sediment

17490-01

Date Analyzed LCS: 08/19/08 16:14

LCSD: 08/15/08 13:34

Analyte	Spike		LCS	LCSD	Spike		LCSD	RPD
	LCS	Added-LCS	Recovery		Added-LCSD	Recovery		
Benzo(k)fluoranthene	362	500	72.4%	421	500	84.2%	15.1%	
Benzo(a)pyrene	226	500	45.2%	278	500	55.6%	20.6%	
Indeno(1,2,3-cd)pyrene	192	500	38.4%	333	500	66.6%	53.7%	
Dibenz(a,h)anthracene	189	500	37.8%	324	500	64.8%	52.6%	
Benzo(g,h,i)perylene	199	500	39.8%	355	500	71.0%	56.3%	
1-Methylnaphthalene	263	500	52.6%	287	500	57.4%	8.7%	

**Semivolatile Surrogate Recovery**

	LCS	LCSD
d5-Nitrobenzene	51.2%	56.0%
2-Fluorobiphenyl	50.0%	57.2%
d14-p-Terphenyl	59.2%	76.0%
d4-1,2-Dichlorobenzene	45.2%	50.8%
d5-Phenol	54.9%	56.8%
2-Fluorophenol	69.3%	72.8%
2,4,6-Tribromophenol	65.1%	66.9%
d4-2-Chlorophenol	51.5%	55.7%

Results reported in  $\mu\text{g}/\text{kg}$

RPD calculated using sample concentrations per SW846.



**ORGANICS ANALYSIS DATA SHEET**  
**PSDDA Semivolatiles by SW8270D GC/MS**  
 Page 1 of 1

Sample ID: **EBC-NS-6**  
 MS/MSD

Lab Sample ID: NG93F  
 LIMS ID: 08-17001  
 Matrix: Sediment  
 Data Release Authorized: *[Signature]*  
 Reported: 08/21/08

QC Report No: NG93-HART CROWSER, INC.  
 Project: PIER 23-EBC  
 17490-01  
 Date Sampled: 07/22/08  
 Date Received: 07/22/08

Date Extracted MS/MSD: 08/04/08  
 Date Analyzed MS: 08/15/08 20:36  
 MSD: 08/15/08 21:11  
 Instrument/Analyst MS: NT4/LJR  
 MSD: NT4/LJR  
 GPC Cleanup: YES

Sample Amount MS: 26.0 g-dry-wt  
 MSD: 26.3 g-dry-wt  
 Final Extract Volume MS: 0.5 mL  
 MSD: 0.5 mL  
 Dilution Factor MS: 1.00  
 MSD: 1.00  
 Percent Moisture: 11.2 %

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Phenol	< 19.3	187	482	38.8%	158	475	33.3%	16.8%
1,3-Dichlorobenzene	< 19.3	234	482	48.5%	208	475	43.8%	11.8%
1,4-Dichlorobenzene	< 19.3	234	482	48.5%	210	475	44.2%	10.8%
Benzyl Alcohol	< 19.3	< 19.3 U	963	NA	< 19.0 U	950	NA	NA
1,2-Dichlorobenzene	< 19.3	247	482	51.2%	220	475	46.3%	11.6%
2-Methylphenol	< 19.3	241	482	50.0%	237	475	49.9%	1.7%
4-Methylphenol	< 19.3	597	963	62.0%	545	950	57.4%	9.1%
Hexachloroethane	< 19.3	250	482	51.9%	224	475	47.2%	11.0%
2,4-Dimethylphenol	< 19.3	210	482	43.6%	127	475	26.7%	49.3%
Benzoic Acid	< 193	1120	1450	77.2%	1100	1420	77.5%	1.8%
1,2,4-Trichlorobenzene	< 19.3	258	482	53.5%	231	475	48.6%	11.0%
Naphthalene	< 19.3	262	482	54.4%	245	475	51.6%	6.7%
Hexachlorobutadiene	< 19.3	257	482	53.3%	238	475	50.1%	7.7%
2-Methylnaphthalene	< 19.3	291	482	60.4%	270	475	56.8%	7.5%
Dimethylphthalate	< 19.3	352	482	73.0%	326	475	68.6%	7.7%
Acenaphthylene	< 19.3	303	482	62.9%	268	475	56.4%	12.3%
Acenaphthene	< 19.3	295	482	61.2%	274	475	57.7%	7.4%
Dibenzofuran	< 19.3	320	482	66.4%	303	475	63.8%	5.5%
Diethylphthalate	20.9	345	482	67.2%	325	475	64.0%	6.0%
Fluorene	< 19.3	330	482	68.5%	302	475	63.6%	8.9%
N-Nitrosodiphenylamine	< 19.3	388	482	80.5%	343	475	72.2%	12.3%
Hexachlorobenzene	< 19.3	310	482	64.3%	276	475	58.1%	11.6%
Pentachlorophenol	< 96.7	311	482	64.5%	286	475	60.2%	8.4%
Phenanthrene	18.4	369	482	72.7%	334	475	66.4%	10.0%
Anthracene	12.6	351	482	70.2%	280	475	56.3%	22.5%
Di-n-Butylphthalate	14.1	380	482	75.9%	351	475	70.9%	7.9%
Fluoranthene	75.8	471	482	82.0%	467	475	82.4%	0.9%
Pyrene	51.8	322	482	56.1%	311	475	54.6%	3.5%
Butylbenzylphthalate	< 19.3	276	482	57.3%	263	475	55.4%	4.8%
Benzo(a)anthracene	22.0	411	482	80.7%	290	475	56.4%	34.5%
bis(2-Ethylhexyl)phthalate	33.4	509	482	98.7%	326	475	61.6%	43.8%
Chrysene	51.0	550	482	104%	344	475	61.7%	46.1%
Di-n-Octyl phthalate	< 19.3	307	482	63.7%	280	475	58.9%	9.2%
Benzo(b)fluoranthene	54.5	603	482	114%	389	475	70.4%	43.1%
Benzo(k)fluoranthene	37.7	538	482	104%	398	475	75.9%	29.9%
Benzo(a)pyrene	27.8	444	482	86.3%	293	475	55.8%	41.0%
Indeno(1,2,3-cd)pyrene	< 19.3	208	482	43.2%	158	475	33.3%	27.3%
Dibenz(a,h)anthracene	< 19.3	194	482	40.2%	159	475	33.5%	19.8%
Benzo(g,h,i)perylene	< 19.3	189	482	39.2%	145	475	30.5%	26.3%
1-Methylnaphthalene	< 19.3	290	482	60.2%	280	475	58.9%	3.5%

Results reported in  $\mu\text{g}/\text{kg}$   
 RPD calculated using sample concentrations per SW846.  
 NA-No recovery due to high concentration of analyte in original sample and/or  
 calculated negative recovery.

4B  
SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

NG93MBS1
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Lab Name: ANALYTICAL RESOURCES, INC

Client: HART CROWSER, INC.

ARI Job No: NG93

Project: PIER 23-EBC

Lab File ID: NG93MB2

Date Extracted: 08/04/08

Instrument ID: NT4

Date Analyzed: 08/19/08

Matrix: SOLID

Time Analyzed: 1539

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	=====			=====
01	NG93LCSDS1	NG93LCSDS1	NG93SBD	08/15/08
02	EBC-NS-1	NG93A	NG93A	08/15/08
03	EBC-NS-2	NG93B	NG93B	08/15/08
04	EBC-NS-3	NG93C	NG93C	08/15/08
05	EBC-NS-4	NG93D	NG93D	08/15/08
06	EBC-NS-5	NG93E	NG93E	08/15/08
07	EBC-NS-6	NG93F	NG93F	08/15/08
08	EBC-NS-6 MS	NG93FMS	NG93FMS	08/15/08
09	EBC-NS-6 MSD	NG93FMSD	NG93FMD	08/15/08
10	NG93LCSS1	NG93LCSS1	NG93SB2	08/19/08
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COMMENTS:

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**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS

Page 1 of 2

Sample ID: MB-080408

METHOD BLANK

Lab Sample ID: MB-080408

QC Report No: NG93-HART CROWSER, INC.

LIMS ID: 08-17001

Project: PIER 23-EBC

Matrix: Sediment

17490-01

Data Release Authorized: *AB*

Date Sampled: NA

Reported: 08/21/08

Date Received: NA

Date Extracted: 08/04/08

Sample Amount: 25.0 g

Date Analyzed: 08/19/08 15:39

Final Extract Volume: 0.5 mL

Instrument/Analyst: NT4/LJR

Dilution Factor: 1.00

GPC Cleanup: Yes

Percent Moisture: NA

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	1,700 E
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
91-20-3	Naphthalene	20	< 20 U
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	2-Methylnaphthalene	20	< 20 U
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	Acenaphthylene	20	< 20 U
83-32-9	Acenaphthene	20	< 20 U
132-64-9	Dibenzofuran	20	< 20 U
84-66-2	Diethylphthalate	20	< 20 U
86-73-7	Fluorene	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	100	< 100 U
85-01-8	Phenanthrene	20	< 20 U
120-12-7	Anthracene	20	< 20 U
84-74-2	Di-n-Butylphthalate	20	< 20 U
206-44-0	Fluoranthene	20	< 20 U
129-00-0	Pyrene	20	< 20 U
85-68-7	Butylbenzylphthalate	20	< 20 U
56-55-3	Benzo(a)anthracene	20	< 20 U
117-81-7	bis(2-Ethylhexyl)phthalate	20	< 20 U
218-01-9	Chrysene	20	< 20 U
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo(b)fluoranthene	20	< 20 U
207-08-9	Benzo(k)fluoranthene	20	< 20 U
50-32-8	Benzo(a)pyrene	20	< 20 U
193-39-5	Indeno(1,2,3-cd)pyrene	20	< 20 U
53-70-3	Dibenz(a,h)anthracene	20	< 20 U
191-24-2	Benzo(g,h,i)perylene	20	< 20 U

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
Page 2 of 2



Sample ID: MB-080408  
METHOD BLANK

Lab Sample ID: MB-080408  
LIMS ID: 08-17001  
Matrix: Sediment  
Date Analyzed: 08/19/08 15:39

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	60.4%	2-Fluorobiphenyl	59.6%
d14-p-Terphenyl	76.4%	d4-1,2-Dichlorobenzene	54.4%
d5-Phenol	64.8%	2-Fluorophenol	74.1%
2,4,6-Tribromophenol	71.5%	d4-2-Chlorophenol	60.3%

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
Page 1 of 2

Sample ID: EBC-NS-1  
REEXTRACT

Lab Sample ID: NG93A  
LIMS ID: 08-16996  
Matrix: Sediment  
Data Release Authorized:  
Reported: 09/03/08

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01  
Date Sampled: 07/22/08  
Date Received: 07/22/08

Date Extracted: 08/25/08  
Date Analyzed: 08/29/08 21:36  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: Yes

Sample Amount: 25.8 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 19.8%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	19	74
541-73-1	1,3-Dichlorobenzene	19	< 19 U
106-46-7	1,4-Dichlorobenzene	19	< 19 U
100-51-6	Benzyl Alcohol	19	< 19 U
95-50-1	1,2-Dichlorobenzene	19	< 19 U
95-48-7	2-Methylphenol	19	< 19 U
106-44-5	4-Methylphenol	19	< 19 U
67-72-1	Hexachloroethane	19	< 19 U
105-67-9	2,4-Dimethylphenol	19	< 19 U
65-85-0	Benzoic Acid	190	< 190 U
120-82-1	1,2,4-Trichlorobenzene	19	< 19 U
91-20-3	Naphthalene	19	13 J
87-68-3	Hexachlorobutadiene	19	< 19 U
91-57-6	2-Methylnaphthalene	19	< 19 U
131-11-3	Dimethylphthalate	19	< 19 U
208-96-8	Acenaphthylene	19	< 19 U
83-32-9	Acenaphthene	19	< 19 U
132-64-9	Dibenzofuran	19	< 19 U
84-66-2	Diethylphthalate	19	< 19 U
86-73-7	Fluorene	19	< 19 U
86-30-6	N-Nitrosodiphenylamine	19	< 19 U
118-74-1	Hexachlorobenzene	19	< 19 U
87-86-5	Pentachlorophenol	97	< 97 U
85-01-8	Phenanthrene	19	48
120-12-7	Anthracene	19	28
84-74-2	Di-n-Butylphthalate	19	< 19 U
206-44-0	Fluoranthene	19	110
129-00-0	Pyrene	19	130
85-68-7	Butylbenzylphthalate	19	< 19 U
56-55-3	Benzo (a) anthracene	19	61
117-81-7	bis (2-Ethylhexyl) phthalate	19	79
218-01-9	Chrysene	19	130
117-84-0	Di-n-Octyl phthalate	19	< 19 U
205-99-2	Benzo (b) fluoranthene	19	94
207-08-9	Benzo (k) fluoranthene	19	84
50-32-8	Benzo (a) pyrene	19	69
193-39-5	Indeno (1,2,3-cd) pyrene	19	24
53-70-3	Dibenz (a, h) anthracene	19	< 19 U
191-24-2	Benzo (g, h, i) perylene	19	25

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: EBC-NS-1  
REEXTRACT

Lab Sample ID: NG93A  
LIMS ID: 08-16996  
Matrix: Sediment  
Date Analyzed: 08/29/08 21:36

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	19	< 19 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	56.4%	2-Fluorobiphenyl	66.8%
d14-p-Terphenyl	82.8%	d4-1,2-Dichlorobenzene	56.0%
d5-Phenol	67.5%	2-Fluorophenol	62.4%
2,4,6-Tribromophenol	83.7%	d4-2-Chlorophenol	63.2%

**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: EBC-NS-2  
REEXTRACT

Lab Sample ID: NG93B

QC Report No: NG93-HART CROWSER, INC.

LIMS ID: 08-16997

Project: PIER 23-EBC

Matrix: Sediment

17490-01

Data Release Authorized: *[Signature]*

Date Sampled: 07/22/08

Reported: 09/03/08

Date Received: 07/22/08

Date Extracted: 08/25/08

Sample Amount: 25.5 g-dry-wt

Date Analyzed: 08/29/08 22:10

Final Extract Volume: 0.5 mL

Instrument/Analyst: NT6/LJR

Dilution Factor: 1.00

GPC Cleanup: Yes

Percent Moisture: 18.3%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	< 20 U
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
91-20-3	Naphthalene	20	< 20 U
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	2-Methylnaphthalene	20	< 20 U
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	Acenaphthylene	20	< 20 U
83-32-9	Acenaphthene	20	< 20 U
132-64-9	Dibenzofuran	20	< 20 U
<b>84-66-2</b>	<b>Diethylphthalate</b>	<b>20</b>	<b>19 J</b>
86-73-7	Fluorene	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	98	< 98 U
<b>85-01-8</b>	<b>Phenanthrene</b>	<b>20</b>	<b>33</b>
<b>120-12-7</b>	<b>Anthracene</b>	<b>20</b>	<b>26</b>
84-74-2	Di-n-Butylphthalate	20	< 20 U
<b>206-44-0</b>	<b>Fluoranthene</b>	<b>20</b>	<b>140</b>
<b>129-00-0</b>	<b>Pyrene</b>	<b>20</b>	<b>140</b>
85-68-7	Butylbenzylphthalate	20	< 20 U
56-55-3	Benzo (a) anthracene	20	62
117-81-7	bis (2-Ethylhexyl) phthalate	20	50
218-01-9	Chrysene	20	210
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo (b) fluoranthene	20	99
207-08-9	Benzo (k) fluoranthene	20	93
50-32-8	Benzo (a) pyrene	20	56
193-39-5	Indeno (1,2,3-cd) pyrene	20	23
53-70-3	Dibenz (a, h) anthracene	20	13 J
191-24-2	Benzo (g, h, i) perylene	20	24

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: EBC-NS-2  
REEXTRACT

Lab Sample ID: NG93B  
LIMS ID: 08-16997  
Matrix: Sediment  
Date Analyzed: 08/29/08 22:10

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	60.4%	2-Fluorobiphenyl	73.6%
d14-p-Terphenyl	95.6%	d4-1,2-Dichlorobenzene	60.0%
d5-Phenol	72.8%	2-Fluorophenol	65.6%
2,4,6-Tribromophenol	93.9%	d4-2-Chlorophenol	67.5%



**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS

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Sample ID: EBC-NS-3

REEXTRACT

Lab Sample ID: NG93C

QC Report No: NG93-HART CROWSER, INC.

LIMS ID: 08-16998

Project: PIER 23-EBC

Matrix: Sediment

17490-01

Data Release Authorized: *[Signature]*

Date Sampled: 07/22/08

Reported: 09/03/08

Date Received: 07/22/08

Date Extracted: 08/25/08

Sample Amount: 26.3 g-dry-wt

Date Analyzed: 08/29/08 22:45

Final Extract Volume: 0.5 mL

Instrument/Analyst: NT6/LJR

Dilution Factor: 1.00

GPC Cleanup: Yes

Percent Moisture: 22.6%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	19	150
541-73-1	1,3-Dichlorobenzene	19	< 19 U
106-46-7	1,4-Dichlorobenzene	19	< 19 U
100-51-6	Benzyl Alcohol	19	< 19 U
95-50-1	1,2-Dichlorobenzene	19	< 19 U
95-48-7	2-Methylphenol	19	< 19 U
106-44-5	4-Methylphenol	19	62
67-72-1	Hexachloroethane	19	< 19 U
105-67-9	2,4-Dimethylphenol	19	< 19 U
65-85-0	Benzoic Acid	190	< 190 U
120-82-1	1,2,4-Trichlorobenzene	19	< 19 U
91-20-3	Naphthalene	19	38
87-68-3	Hexachlorobutadiene	19	< 19 U
91-57-6	2-Methylnaphthalene	19	10 J
131-11-3	Dimethylphthalate	19	< 19 U
208-96-8	Acenaphthylene	19	10 J
83-32-9	Acenaphthene	19	20
132-64-9	Dibenzofuran	19	20
84-66-2	Diethylphthalate	19	< 19 U
86-73-7	Fluorene	19	24
86-30-6	N-Nitrosodiphenylamine	19	< 19 U
118-74-1	Hexachlorobenzene	19	< 19 U
87-86-5	Pentachlorophenol	95	< 95 U
85-01-8	Phenanthrene	19	81
120-12-7	Anthracene	19	64
84-74-2	Di-n-Butylphthalate	19	< 19 U
206-44-0	Fluoranthene	19	150
129-00-0	Pyrene	19	450
85-68-7	Butylbenzylphthalate	19	< 19 U
56-55-3	Benzo (a) anthracene	19	120
117-81-7	bis (2-Ethylhexyl) phthalate	19	23
218-01-9	Chrysene	19	240
117-84-0	Di-n-Octyl phthalate	19	< 19 U
205-99-2	Benzo (b) fluoranthene	19	340
207-08-9	Benzo (k) fluoranthene	19	280
50-32-8	Benzo (a) pyrene	19	260
193-39-5	Indeno (1,2,3-cd) pyrene	19	76
53-70-3	Dibenz (a,h) anthracene	19	18 J
191-24-2	Benzo (g,h,i) perylene	19	64

ORGANICS ANALYSIS DATA SHEET  
 PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: EBC-NS-3  
 REEXTRACT

Lab Sample ID: NG93C  
 LIMS ID: 08-16998  
 Matrix: Sediment  
 Date Analyzed: 08/29/08 22:45

QC Report No: NG93-HART CROWSER, INC.  
 Project: PIER 23-EBC  
 17490-01

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	19	< 19 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	54.8%	2-Fluorobiphenyl	65.6%
d14-p-Terphenyl	90.0%	d4-1,2-Dichlorobenzene	52.4%
d5-Phenol	67.2%	2-Fluorophenol	59.2%
2,4,6-Tribromophenol	86.7%	d4-2-Chlorophenol	61.3%

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
Page 1 of 2

Sample ID: EBC-NS-4  
REEXTRACT

Lab Sample ID: NG93D  
LIMS ID: 08-16999  
Matrix: Sediment  
Data Release Authorized:  
Reported: 09/03/08

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01  
Date Sampled: 07/22/08  
Date Received: 07/22/08

Date Extracted: 08/25/08  
Date Analyzed: 08/29/08 23:19  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: Yes

Sample Amount: 25.4 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 26.1%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	22
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	260
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
91-20-3	Naphthalene	20	240
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	2-Methylnaphthalene	20	120
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	Acenaphthylene	20	36
83-32-9	Acenaphthene	20	70
132-64-9	Dibenzofuran	20	44
84-66-2	Diethylphthalate	20	< 20 U
86-73-7	Fluorene	20	110
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	99	< 99 U
85-01-8	Phenanthrene	20	740
120-12-7	Anthracene	20	150
84-74-2	Di-n-Butylphthalate	20	< 20 U
206-44-0	Fluoranthene	20	640
129-00-0	Pyrene	20	740
85-68-7	Butylbenzylphthalate	20	< 20 U
56-55-3	Benzo (a) anthracene	20	300
117-81-7	bis (2-Ethylhexyl) phthalate	20	190
218-01-9	Chrysene	20	400
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo (b) fluoranthene	20	300
207-08-9	Benzo (k) fluoranthene	20	320
50-32-8	Benzo (a) pyrene	20	330
193-39-5	Indeno (1,2,3-cd) pyrene	20	100
53-70-3	Dibenz (a,h) anthracene	20	39
191-24-2	Benzo (g,h,i) perylene	20	120

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: EBC-NS-4  
REEXTRACT

Lab Sample ID: NG93D  
LIMS ID: 08-16999  
Matrix: Sediment  
Date Analyzed: 08/29/08 23:19

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	20	89

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	58.4%	2-Fluorobiphenyl	73.2%
d14-p-Terphenyl	91.6%	d4-1,2-Dichlorobenzene	57.6%
d5-Phenol	71.5%	2-Fluorophenol	60.3%
2,4,6-Tribromophenol	82.4%	d4-2-Chlorophenol	65.9%

**ORGANICS ANALYSIS DATA SHEET**  
**PSDDA Semivolatiles by SW8270D GC/MS**  
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Sample ID: EBC-NS-5  
 REEXTRACT

Lab Sample ID: NG93E  
 LIMS ID: 08-17000  
 Matrix: Sediment  
 Data Release Authorized: *AS*  
 Reported: 09/03/08

QC Report No: NG93-HART CROWSER, INC.  
 Project: PIER 23-EBC  
 17490-01  
 Date Sampled: 07/22/08  
 Date Received: 07/22/08

Date Extracted: 08/25/08  
 Date Analyzed: 08/29/08 23:53  
 Instrument/Analyst: NT6/LJR  
 GPC Cleanup: Yes

Sample Amount: 25.8 g-dry-wt  
 Final Extract Volume: 0.5 mL  
 Dilution Factor: 1.00  
 Percent Moisture: 23.5%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	19	150
541-73-1	1,3-Dichlorobenzene	19	< 19 U
106-46-7	1,4-Dichlorobenzene	19	< 19 U
100-51-6	Benzyl Alcohol	19	< 19 U
95-50-1	1,2-Dichlorobenzene	19	< 19 U
95-48-7	2-Methylphenol	19	< 19 U
106-44-5	4-Methylphenol	19	16 J
67-72-1	Hexachloroethane	19	< 19 U
105-67-9	2,4-Dimethylphenol	19	< 19 U
65-85-0	Benzoic Acid	190	< 190 U
120-82-1	1,2,4-Trichlorobenzene	19	< 19 U
91-20-3	Naphthalene	19	15 J
87-68-3	Hexachlorobutadiene	19	< 19 U
91-57-6	2-Methylnaphthalene	19	< 19 U
131-11-3	Dimethylphthalate	19	< 19 U
208-96-8	Acenaphthylene	19	< 19 U
83-32-9	Acenaphthene	19	13 J
132-64-9	Dibenzofuran	19	14 J
84-66-2	Diethylphthalate	19	< 19 U
86-73-7	Fluorene	19	14 J
86-30-6	N-Nitrosodiphenylamine	19	< 19 U
118-74-1	Hexachlorobenzene	19	< 19 U
87-86-5	Pentachlorophenol	97	< 97 U
85-01-8	Phenanthrene	19	63
120-12-7	Anthracene	19	25
84-74-2	Di-n-Butylphthalate	19	< 19 U
206-44-0	Fluoranthene	19	110
129-00-0	Pyrene	19	160
85-68-7	Butylbenzylphthalate	19	< 19 U
56-55-3	Benzo (a) anthracene	19	45
117-81-7	bis (2-Ethylhexyl) phthalate	19	18 J
218-01-9	Chrysene	19	72
117-84-0	Di-n-Octyl phthalate	19	< 19 U
205-99-2	Benzo (b) fluoranthene	19	71
207-08-9	Benzo (k) fluoranthene	19	71
50-32-8	Benzo (a) pyrene	19	60
193-39-5	Indeno (1,2,3-cd) pyrene	19	27
53-70-3	Dibenz (a, h) anthracene	19	< 19 U
191-24-2	Benzo (g, h, i) perylene	19	28

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: EBC-NS-5  
REEXTRACT

Lab Sample ID: NG93E  
LIMS ID: 08-17000  
Matrix: Sediment  
Date Analyzed: 08/29/08 23:53

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	19	< 19 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	58.4%	2-Fluorobiphenyl	68.8%
d14-p-Terphenyl	87.2%	d4-1,2-Dichlorobenzene	54.4%
d5-Phenol	69.9%	2-Fluorophenol	62.9%
2,4,6-Tribromophenol	89.6%	d4-2-Chlorophenol	65.1%

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: EBC-NS-6  
REEXTRACT

Lab Sample ID: NG93F  
LIMS ID: 08-22159  
Matrix: Sediment  
Data Release Authorized:  
Reported: 09/03/08

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01  
Date Sampled: 07/22/08  
Date Received: 07/22/08

Date Extracted: 08/25/08  
Date Analyzed: 08/30/08 00:27  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: Yes

Sample Amount: 26.0 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 11.2%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	19	< 19 U
541-73-1	1,3-Dichlorobenzene	19	< 19 U
106-46-7	1,4-Dichlorobenzene	19	< 19 U
100-51-6	Benzyl Alcohol	19	< 19 U
95-50-1	1,2-Dichlorobenzene	19	< 19 U
95-48-7	2-Methylphenol	19	< 19 U
106-44-5	4-Methylphenol	19	< 19 U
67-72-1	Hexachloroethane	19	< 19 U
105-67-9	2,4-Dimethylphenol	19	< 19 U
65-85-0	Benzoic Acid	190	< 190 U
120-82-1	1,2,4-Trichlorobenzene	19	< 19 U
91-20-3	Naphthalene	19	< 19 U
87-68-3	Hexachlorobutadiene	19	< 19 U
91-57-6	2-Methylnaphthalene	19	< 19 U
131-11-3	Dimethylphthalate	19	< 19 U
208-96-8	Acenaphthylene	19	< 19 U
83-32-9	Acenaphthene	19	< 19 U
132-64-9	Dibenzofuran	19	< 19 U
84-66-2	Diethylphthalate	19	< 19 U
86-73-7	Fluorene	19	< 19 U
86-30-6	N-Nitrosodiphenylamine	19	< 19 U
118-74-1	Hexachlorobenzene	19	< 19 U
87-86-5	Pentachlorophenol	96	< 96 U
<b>85-01-8</b>	<b>Phenanthrene</b>	<b>19</b>	<b>32</b>
<b>120-12-7</b>	<b>Anthracene</b>	<b>19</b>	<b>26</b>
84-74-2	Di-n-Butylphthalate	19	< 19 U
<b>206-44-0</b>	<b>Fluoranthene</b>	<b>19</b>	<b>120</b>
<b>129-00-0</b>	<b>Pyrene</b>	<b>19</b>	<b>100</b>
85-68-7	Butylbenzylphthalate	19	< 19 U
56-55-3	Benzo(a)anthracene	19	66
117-81-7	bis(2-Ethylhexyl)phthalate	19	19
218-01-9	Chrysene	19	120
117-84-0	Di-n-Octyl phthalate	19	< 19 U
205-99-2	Benzo(b)fluoranthene	19	130
207-08-9	Benzo(k)fluoranthene	19	120
50-32-8	Benzo(a)pyrene	19	94
193-39-5	Indeno(1,2,3-cd)pyrene	19	32
53-70-3	Dibenz(a,h)anthracene	19	< 19 U
191-24-2	Benzo(g,h,i)perylene	19	29

**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: EBC-NS-6  
REEXTRACT

Lab Sample ID: NG93F

QC Report No: NG93-HART CROWSER, INC.

LIMS ID: 08-22159

Project: PIER 23-EBC

Matrix: Sediment

17490-01

Date Analyzed: 08/30/08 00:27

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	19	< 19 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	64.4%	2-Fluorobiphenyl	73.2%
d14-p-Terphenyl	94.8%	d4-1,2-Dichlorobenzene	64.8%
d5-Phenol	74.7%	2-Fluorophenol	69.3%
2,4,6-Tribromophenol	92.8%	d4-2-Chlorophenol	69.9%



**SW8270 SEMIVOLATILES SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY**

Matrix: Sediment

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01

Client ID	NBZ	FBP	TPH	DCB	PHL	2FP	TBP	2CP	TOT	OUT
EBC-NS-1	67.2%	66.8%	72.0%	54.4%	63.5%	83.5%	80.3%	69.9%	0	
EBC-NS-1 RE	56.4%	66.8%	82.8%	56.0%	67.5%	62.4%	83.7%	63.2%	0	
EBC-NS-2	70.0%	74.4%	75.2%	58.0%	62.9%	74.9%	60.8%	70.1%	0	
EBC-NS-2 RE	60.4%	73.6%	95.6%	60.0%	72.8%	65.6%	93.9%	67.5%	0	
EBC-NS-3	62.8%	62.4%	70.4%	50.8%	57.6%	72.3%	71.7%	67.7%	0	
EBC-NS-3 RE	54.8%	65.6%	90.0%	52.4%	67.2%	59.2%	86.7%	61.3%	0	
EBC-NS-4	57.2%	58.4%	57.2%	45.6%	47.5%	54.9%	60.8%	56.8%	0	
EBC-NS-4 RE	58.4%	73.2%	91.6%	57.6%	71.5%	60.3%	82.4%	65.9%	0	
EBC-NS-5	54.8%	55.2%	51.2%	45.6%	49.3%	57.6%	55.2%	51.2%	0	
EBC-NS-5 RE	58.4%	68.8%	87.2%	54.4%	69.9%	62.9%	89.6%	65.1%	0	
MB-080408	60.4%	59.6%	76.4%	54.4%	64.8%	74.1%	71.5%	60.3%	0	
LCS-080408	51.2%	50.0%	59.2%	45.2%	54.9%	69.3%	65.1%	51.5%	0	
LCSD-080408	56.0%	57.2%	76.0%	50.8%	56.8%	72.8%	66.9%	55.7%	0	
EBC-NS-6	61.6%	63.2%	63.2%	53.2%	56.0%	56.3%	60.5%	55.5%	0	
EBC-NS-6 MS	58.8%	60.8%	59.6%	51.2%	48.8%	61.9%	62.1%	54.7%	0	
EBC-NS-6 MSD	56.0%	57.2%	59.2%	46.0%	46.9%	57.9%	59.5%	50.9%	0	
MB-082508	64.0%	68.8%	92.0%	67.6%	73.1%	65.6%	78.7%	66.7%	0	
LCS-082508	56.8%	62.0%	88.8%	56.8%	69.9%	60.5%	82.9%	59.2%	0	
LCSD-082508	60.0%	67.2%	90.4%	61.2%	70.7%	62.4%	84.8%	61.3%	0	
EBC-NS-6	64.4%	73.2%	94.8%	64.8%	74.7%	69.3%	92.8%	69.9%	0	
EBC-NS-6 MS	58.4%	64.8%	86.8%	56.0%	70.4%	64.0%	80.5%	61.6%	0	
EBC-NS-6 MSD	62.4%	70.8%	99.2%*	62.8%	74.7%	66.4%	96.8%	65.3%	1	

	LCS/MB LIMITS	QC LIMITS
(NBZ) = d5-Nitrobenzene	(37-85)	(29-87)
(FBP) = 2-Fluorobiphenyl	(39-82)	(32-88)
(TPH) = d14-p-Terphenyl	(38-105)	(21-97)
(DCB) = d4-1,2-Dichlorobenzene	(33-79)	(25-82)
(PHL) = d5-Phenol	(40-85)	(29-85)
(2FP) = 2-Fluorophenol	(20-93)	(10-114)
(TBP) = 2,4,6-Tribromophenol	(40-96)	(25-103)
(2CP) = d4-2-Chlorophenol	(41-81)	(30-84)

Prep Method: SW3550B  
Log Number Range: 08-16996 to 08-22159

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
Page 1 of 1

Sample ID: EBC-NS-6  
MS/MSD

Lab Sample ID: NG93F  
LIMS ID: 08-22159  
Matrix: Sediment  
Data Release Authorized:  
Reported: 09/03/08

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01  
Date Sampled: 07/22/08  
Date Received: 07/22/08

Date Extracted MS/MSD: 08/25/08  
Date Analyzed MS: 08/30/08 01:01  
MSD: 08/30/08 01:35  
Instrument/Analyst MS: NT6/LJR  
MSD: NT6/LJR  
GPC Cleanup: YES

Sample Amount MS: 26.3 g-dry-wt  
MSD: 26.3 g-dry-wt  
Final Extract Volume MS: 0.5 mL  
MSD: 0.5 mL  
Dilution Factor MS: 1.00  
MSD: 1.00  
Percent Moisture: 11.2 %

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Phenol	< 19.2	313	476	65.8%	393	476	82.6%	22.7%
1,3-Dichlorobenzene	< 19.2	268	476	56.3%	271	476	56.9%	1.1%
1,4-Dichlorobenzene	< 19.2	269	476	56.5%	278	476	58.4%	3.3%
Benzyl Alcohol	< 19.2	< 19.0 U	952	NA	331	952	34.8%	NA
1,2-Dichlorobenzene	< 19.2	284	476	59.7%	290	476	60.9%	2.1%
2-Methylphenol	< 19.2	339	476	71.2%	326	476	68.5%	3.9%
4-Methylphenol	< 19.2	708	952	74.4%	723	952	75.9%	2.1%
Hexachloroethane	< 19.2	246	476	51.7%	249	476	52.3%	1.2%
2,4-Dimethylphenol	< 19.2	256	476	53.8%	240	476	50.4%	6.5%
Benzoic Acid	< 19.2	1250	1430	87.4%	1460	1430	102%	15.5%
1,2,4-Trichlorobenzene	< 19.2	295	476	62.0%	300	476	63.0%	1.7%
Naphthalene	< 19.2	318	476	66.8%	323	476	67.9%	1.6%
Hexachlorobutadiene	< 19.2	277	476	58.2%	282	476	59.2%	1.8%
2-Methylnaphthalene	< 19.2	358	476	75.2%	378	476	79.4%	5.4%
Dimethylphthalate	< 19.2	342	476	71.8%	368	476	77.3%	7.3%
Acenaphthylene	< 19.2	340	476	71.4%	359	476	75.4%	5.4%
Acenaphthene	< 19.2	337	476	70.8%	361	476	75.8%	6.9%
Dibenzofuran	< 19.2	360	476	75.6%	384	476	80.7%	6.5%
Diethylphthalate	< 19.2	318	476	66.8%	353	476	74.2%	10.4%
Fluorene	< 19.2	373	476	78.4%	402	476	84.5%	7.5%
N-Nitrosodiphenylamine	< 19.2	501	476	105%	541	476	114%	7.7%
Hexachlorobenzene	< 19.2	379	476	79.6%	410	476	86.1%	7.9%
Pentachlorophenol	< 96.1	348	476	73.1%	379	476	79.6%	8.5%
Phenanthrene	31.5	420	476	81.6%	413	476	80.1%	1.7%
Anthracene	25.6	379	476	74.2%	382	476	74.9%	0.8%
Di-n-Butylphthalate	< 19.2	348	476	73.1%	392	476	82.4%	11.9%
Fluoranthene	124	535	476	86.3%	487	476	76.3%	9.4%
Pyrene	100	527	476	89.7%	502	476	84.5%	4.9%
Butylbenzylphthalate	< 19.2	367	476	77.1%	411	476	86.3%	11.3%
Benzo(a)anthracene	65.5	450	476	80.8%	437	476	78.0%	2.9%
bis(2-Ethylhexyl)phthalate	19.2	355	476	70.5%	465	476	93.7%	26.8%
Chrysene	125	455	476	69.3%	447	476	67.6%	1.8%
Di-n-Octyl phthalate	< 19.2	295	476	62.0%	418	476	87.8%	34.5%
Benzo(b)fluoranthene	132	568	476	91.6%	577	476	93.5%	1.6%
Benzo(k)fluoranthene	124	442	476	66.8%	467	476	72.1%	5.5%
Benzo(a)pyrene	93.8	418	476	68.1%	425	476	69.6%	1.7%
Indeno(1,2,3-cd)pyrene	31.7	271	476	50.3%	296	476	55.5%	8.8%
Dibenz(a,h)anthracene	< 19.2	282	476	59.2%	314	476	66.0%	10.7%
Benzo(g,h,i)perylene	28.6	229	476	42.1%	258	476	48.2%	11.9%
1-Methylnaphthalene	< 19.2	357	476	75.0%	378	476	79.4%	5.7%

Results reported in µg/kg

RPD calculated using sample concentrations per SW846.

NA-No recovery due to high concentration of analyte in original sample and/or calculated negative recovery.

**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS

Page 1 of 2

Sample ID: EBC-NS-6

MATRIX SPIKE

Lab Sample ID: NG93F

LIMS ID: 08-22159

Matrix: Sediment

Data Release Authorized: *[Signature]*

Reported: 09/03/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Date Extracted: 08/25/08

Date Analyzed: 08/30/08 01:01

Instrument/Analyst: NT6/LJR

GPC Cleanup: Yes

Sample Amount: 26.3 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 11.2%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	19	---
541-73-1	1,3-Dichlorobenzene	19	---
106-46-7	1,4-Dichlorobenzene	19	---
100-51-6	Benzyl Alcohol	19	---
95-50-1	1,2-Dichlorobenzene	19	---
95-48-7	2-Methylphenol	19	---
106-44-5	4-Methylphenol	19	---
67-72-1	Hexachloroethane	19	---
105-67-9	2,4-Dimethylphenol	19	---
65-85-0	Benzoic Acid	190	---
120-82-1	1,2,4-Trichlorobenzene	19	---
91-20-3	Naphthalene	19	---
87-68-3	Hexachlorobutadiene	19	---
91-57-6	2-Methylnaphthalene	19	---
131-11-3	Dimethylphthalate	19	---
208-96-8	Acenaphthylene	19	---
83-32-9	Acenaphthene	19	---
132-64-9	Dibenzofuran	19	---
84-66-2	Diethylphthalate	19	---
86-73-7	Fluorene	19	---
86-30-6	N-Nitrosodiphenylamine	19	---
118-74-1	Hexachlorobenzene	19	---
87-86-5	Pentachlorophenol	95	---
85-01-8	Phenanthrene	19	---
120-12-7	Anthracene	19	---
84-74-2	Di-n-Butylphthalate	19	---
206-44-0	Fluoranthene	19	---
129-00-0	Pyrene	19	---
85-68-7	Butylbenzylphthalate	19	---
56-55-3	Benzo(a)anthracene	19	---
117-81-7	bis(2-Ethylhexyl)phthalate	19	---
218-01-9	Chrysene	19	---
117-84-0	Di-n-Octyl phthalate	19	---
205-99-2	Benzo(b)fluoranthene	19	---
207-08-9	Benzo(k)fluoranthene	19	---
50-32-8	Benzo(a)pyrene	19	---
193-39-5	Indeno(1,2,3-cd)pyrene	19	---
53-70-3	Dibenz(a,h)anthracene	19	---
191-24-2	Benzo(g,h,i)perylene	19	---

**ORGANICS ANALYSIS DATA SHEET**  
**PSDDA Semivolatiles by SW8270D GC/MS**  
 Page 2 of 2

**Sample ID: EBC-NS-6**  
**MATRIX SPIKE**

Lab Sample ID: NG93F  
 LIMS ID: 08-22159  
 Matrix: Sediment  
 Date Analyzed: 08/30/08 01:01

QC Report No: NG93-HART CROWSER, INC.  
 Project: PIER 23-EBC  
 17490-01

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	19	---

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	58.4%	2-Fluorobiphenyl	64.8%
d14-p-Terphenyl	86.8%	d4-1,2-Dichlorobenzene	56.0%
d5-Phenol	70.4%	2-Fluorophenol	64.0%
2,4,6-Tribromophenol	80.5%	d4-2-Chlorophenol	61.6%

**ORGANICS ANALYSIS DATA SHEET**  
**PSDDA Semivolatiles by SW8270D GC/MS**  
 Page 1 of 2

**Sample ID: EBC-NS-6**  
**MATRIX SPIKE DUPLICATE**

Lab Sample ID: NG93F  
 LIMS ID: 08-22159  
 Matrix: Sediment  
 Data Release Authorized:  
 Reported: 09/03/08

QC Report No: NG93-HART CROWSER, INC.  
 Project: PIER 23-EBC  
 17490-01  
 Date Sampled: 07/22/08  
 Date Received: 07/22/08

Date Extracted: 08/25/08  
 Date Analyzed: 08/30/08 01:35  
 Instrument/Analyst: NT6/LJR  
 GPC Cleanup: Yes

Sample Amount: 26.3 g-dry-wt  
 Final Extract Volume: 0.5 mL  
 Dilution Factor: 1.00  
 Percent Moisture: 11.2%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	19	---
541-73-1	1,3-Dichlorobenzene	19	---
106-46-7	1,4-Dichlorobenzene	19	---
100-51-6	Benzyl Alcohol	19	---
95-50-1	1,2-Dichlorobenzene	19	---
95-48-7	2-Methylphenol	19	---
106-44-5	4-Methylphenol	19	---
67-72-1	Hexachloroethane	19	---
105-67-9	2,4-Dimethylphenol	19	---
65-85-0	Benzoic Acid	190	---
120-82-1	1,2,4-Trichlorobenzene	19	---
91-20-3	Naphthalene	19	---
87-68-3	Hexachlorobutadiene	19	---
91-57-6	2-Methylnaphthalene	19	---
131-11-3	Dimethylphthalate	19	---
208-96-8	Acenaphthylene	19	---
83-32-9	Acenaphthene	19	---
132-64-9	Dibenzofuran	19	---
84-66-2	Diethylphthalate	19	---
86-73-7	Fluorene	19	---
86-30-6	N-Nitrosodiphenylamine	19	---
118-74-1	Hexachlorobenzene	19	---
87-86-5	Pentachlorophenol	95	---
85-01-8	Phenanthrene	19	---
120-12-7	Anthracene	19	---
84-74-2	Di-n-Butylphthalate	19	---
206-44-0	Fluoranthene	19	---
129-00-0	Pyrene	19	---
85-68-7	Butylbenzylphthalate	19	---
56-55-3	Benzo (a) anthracene	19	---
117-81-7	bis (2-Ethylhexyl) phthalate	19	---
218-01-9	Chrysene	19	---
117-84-0	Di-n-Octyl phthalate	19	---
205-99-2	Benzo (b) fluoranthene	19	---
207-08-9	Benzo (k) fluoranthene	19	---
50-32-8	Benzo (a) pyrene	19	---
193-39-5	Indeno (1,2,3-cd) pyrene	19	---
53-70-3	Dibenz (a,h) anthracene	19	---
191-24-2	Benzo (g,h,i) perylene	19	---

**ORGANICS ANALYSIS DATA SHEET**  
**PSDDA Semivolatiles by SW8270D GC/MS**  
 Page 2 of 2

Sample ID: EBC-NS-6  
 MATRIX SPIKE DUPLICATE

Lab Sample ID: NG93F  
 LIMS ID: 08-22159  
 Matrix: Sediment  
 Date Analyzed: 08/30/08 01:35

QC Report No: NG93-HART CROWSER, INC.  
 Project: PIER 23-EBC  
 17490-01

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	19	---

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	62.4%	2-Fluorobiphenyl	70.8%
d14-p-Terphenyl	99.2%	d4-1,2-Dichlorobenzene	62.8%
d5-Phenol	74.7%	2-Fluorophenol	66.4%
2,4,6-Tribromophenol	96.8%	d4-2-Chlorophenol	65.3%

**ORGANICS ANALYSIS DATA SHEET**  
**PSDDA Semivolatiles by SW8270D GC/MS**  
 Page 1 of 2

Sample ID: LCS-082508  
 LCS/LCSD

Lab Sample ID: LCS-082508  
 LIMS ID: 08-22159  
 Matrix: Sediment  
 Data Release Authorized: *[Signature]*  
 Reported: 09/03/08

QC Report No: NG93-HART CROWSER, INC.  
 Project: PIER 23-EBC  
 17490-01  
 Date Sampled: 07/22/08  
 Date Received: 07/22/08

Date Extracted LCS/LCSD: 08/25/08  
 Date Analyzed LCS: 08/29/08 15:16  
 LCSD: 08/29/08 15:51  
 Instrument/Analyst LCS: NT6/LJR  
 LCSD: NT6/LJR  
 GPC Cleanup: YES

Sample Amount LCS: 25.0 g  
 LCSD: 25.0 g  
 Final Extract Volume LCS: 0.5 mL  
 LCSD: 0.5 mL  
 Dilution Factor LCS: 1.00  
 LCSD: 1.00  
 Percent Moisture: NA

Analyte	LCS			LCSD			RPD
	LCS	Spike Added-LCS	Recovery	LCS	Spike Added-LCSD	Recovery	
Phenol	350	500	70.0%	325	500	65.0%	7.4%
1,3-Dichlorobenzene	289	500	57.8%	273	500	54.6%	5.7%
1,4-Dichlorobenzene	299	500	59.8%	276	500	55.2%	8.0%
Benzyl Alcohol	304	1000	30.4%	255	1000	25.5%	17.5%
1,2-Dichlorobenzene	309	500	61.8%	287	500	57.4%	7.4%
2-Methylphenol	325	500	65.0%	304	500	60.8%	6.7%
4-Methylphenol	725	1000	72.5%	670	1000	67.0%	7.9%
Hexachloroethane	279	500	55.8%	261	500	52.2%	6.7%
2,4-Dimethylphenol	276	500	55.2%	240	500	48.0%	14.0%
Benzoic Acid	1210	1500	80.7%	1070	1500	71.3%	12.3%
1,2,4-Trichlorobenzene	302	500	60.4%	282	500	56.4%	6.8%
Naphthalene	329	500	65.8%	306	500	61.2%	7.2%
Hexachlorobutadiene	285	500	57.0%	262	500	52.4%	8.4%
2-Methylnaphthalene	354	500	70.8%	327	500	65.4%	7.9%
Dimethylphthalate	381	500	76.2%	357	500	71.4%	6.5%
Acenaphthylene	371	500	74.2%	348	500	69.6%	6.4%
Acenaphthene	340	500	68.0%	323	500	64.6%	5.1%
Dibenzofuran	377	500	75.4%	352	500	70.4%	6.9%
Diethylphthalate	366	500	73.2%	344	500	68.8%	6.2%
Fluorene	393	500	78.6%	369	500	73.8%	6.3%
N-Nitrosodiphenylamine	542	500	108%	488	500	97.6%	10.5%
Hexachlorobenzene	391	500	78.2%	364	500	72.8%	7.2%
Pentachlorophenol	359	500	71.8%	348	500	69.6%	3.1%
Phenanthrene	402	500	80.4%	375	500	75.0%	6.9%
Anthracene	392	500	78.4%	362	500	72.4%	8.0%
Di-n-Butylphthalate	440	500	88.0%	416	500	83.2%	5.6%
Fluoranthene	448	500	89.6%	420	500	84.0%	6.5%
Pyrene	451	500	90.2%	413	500	82.6%	8.8%
Butylbenzylphthalate	446	500	89.2%	408	500	81.6%	8.9%
Benzo(a)anthracene	429	500	85.8%	391	500	78.2%	9.3%
bis(2-Ethylhexyl)phthalate	403	500	80.6%	379	500	75.8%	6.1%
Chrysene	403	500	80.6%	381	500	76.2%	5.6%
Di-n-Octyl phthalate	350	500	70.0%	320	500	64.0%	9.0%
Benzo(b)fluoranthene	448	500	89.6%	433	500	86.6%	3.4%



ORGANICS ANALYSIS DATA SHEET

PSDDA Semivolatiles by SW8270D GC/MS

Page 2 of 2

Sample ID: LCSD-082508

LCS/LCSD

Lab Sample ID: LCS-082508

LIMS ID: 08-22159

Matrix: Sediment

Date Analyzed LCS: 08/29/08 15:16

LCSD: 08/29/08 15:51

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Benzo(k)fluoranthene	417	500	83.4%	386	500	77.2%	7.7%
Benzo(a)pyrene	406	500	81.2%	365	500	73.0%	10.6%
Indeno(1,2,3-cd)pyrene	413	500	82.6%	445	500	89.0%	7.5%
Dibenz(a,h)anthracene	482	500	96.4%	455	500	91.0%	5.8%
Benzo(g,h,i)perylene	508	500	102%	467	500	93.4%	8.4%
1-Methylnaphthalene	358	500	71.6%	332	500	66.4%	7.5%

Semivolatile Surrogate Recovery

	LCS	LCSD
d5-Nitrobenzene	56.8%	60.0%
2-Fluorobiphenyl	62.0%	67.2%
d14-p-Terphenyl	88.8%	90.4%
d4-1,2-Dichlorobenzene	56.8%	61.2%
d5-Phenol	69.9%	70.7%
2-Fluorophenol	60.5%	62.4%
2,4,6-Tribromophenol	82.9%	84.8%
d4-2-Chlorophenol	59.2%	61.3%

Results reported in µg/kg

RPD calculated using sample concentrations per SW846.



4B  
SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

NG93MBS2

Lab Name: ANALYTICAL RESOURCES, INC

Client: UNSPECIFIED

ARI Job No: NG93

Project: PIER 23-EBC

Lab File ID: NG93MB2

Date Extracted: 08/25/08

Instrument ID: NT6

Date Analyzed: 08/29/08

Matrix: SOLID

Time Analyzed: 1442

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	=====	=====	=====	=====
01	NG93LCSS2	NG93LCSS2	NG93SB2	08/29/08
02	NG93LCSDS2	NG93LCSDS2	NG93SBD2	08/29/08
03	EBC-NS-1	NG93ARE	NG93ARE	08/29/08
04	EBC-NS-2	NG93BRE	NG93BRE	08/29/08
05	EBC-NS-3	NG93CRE	NG93CRE	08/29/08
06	EBC-NS-4	NG93DRE	NG93DRE	08/29/08
07	EBC-NS-5	NG93ERE	NG93ERE	08/29/08
08	EBC-NS-6	NG93FRE	NG93FRE	08/30/08
09	EBC-NS-6 MS	NG93FMSRE	NG93FMS2	08/30/08
10	EBC-NS-6 MSD	NG93FMSDRE	NG93FMD2	08/30/08
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COMMENTS:

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**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS

Page 1 of 2


Sample ID: MB-082508

METHOD BLANK

Lab Sample ID: MB-082508

LIMS ID: 08-22159

Matrix: Sediment

Data Release Authorized: 

Reported: 09/03/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: NA

Date Received: NA

Date Extracted: 08/25/08

Date Analyzed: 08/29/08 14:42

Instrument/Analyst: NT6/LJR

GPC Cleanup: Yes

Sample Amount: 25.0 g

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: NA

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	< 20 U
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
91-20-3	Naphthalene	20	< 20 U
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	2-Methylnaphthalene	20	< 20 U
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	Acenaphthylene	20	< 20 U
83-32-9	Acenaphthene	20	< 20 U
132-64-9	Dibenzofuran	20	< 20 U
84-66-2	Diethylphthalate	20	< 20 U
86-73-7	Fluorene	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	100	< 100 U
85-01-8	Phenanthrene	20	< 20 U
120-12-7	Anthracene	20	< 20 U
84-74-2	Di-n-Butylphthalate	20	< 20 U
206-44-0	Fluoranthene	20	< 20 U
129-00-0	Pyrene	20	< 20 U
85-68-7	Butylbenzylphthalate	20	< 20 U
56-55-3	Benzo(a)anthracene	20	< 20 U
117-81-7	bis(2-Ethylhexyl)phthalate	20	< 20 U
218-01-9	Chrysene	20	< 20 U
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo(b)fluoranthene	20	< 20 U
207-08-9	Benzo(k)fluoranthene	20	< 20 U
50-32-8	Benzo(a)pyrene	20	< 20 U
193-39-5	Indeno(1,2,3-cd)pyrene	20	< 20 U
53-70-3	Dibenz(a,h)anthracene	20	< 20 U
191-24-2	Benzo(g,h,i)perylene	20	< 20 U

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
Page 2 of 2

Sample ID: MB-082508  
METHOD BLANK

Lab Sample ID: MB-082508  
LIMS ID: 08-22159  
Matrix: Sediment  
Date Analyzed: 08/29/08 14:42

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01

CAS Number	Analyte	RL	Result
90-12-0	1-Methylnaphthalene	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	64.0%	2-Fluorobiphenyl	68.8%
d14-p-Terphenyl	92.0%	d4-1,2-Dichlorobenzene	67.6%
d5-Phenol	73.1%	2-Fluorophenol	65.6%
2,4,6-Tribromophenol	78.7%	d4-2-Chlorophenol	66.7%

**SIMPNA**

**ORGANICS ANALYSIS DATA SHEET**

PNAs by SW8270D-SIM GC/MS

Page 1 of 1

Sample ID: EBC-NS-1  
SAMPLE

Lab Sample ID: NG93A

LIMS ID: 08-16996

Matrix: Sediment

Data Release Authorized:

Reported: 08/13/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

Event: 17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Date Extracted: 08/04/08

Date Analyzed: 08/07/08 15:30

Instrument/Analyst: NT2/VTS

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 10.5 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 19.8%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.8	210
91-57-6	2-Methylnaphthalene	4.8	76
90-12-0	1-Methylnaphthalene	4.8	63
208-96-8	Acenaphthylene	4.8	< 4.8 U
83-32-9	Acenaphthene	4.8	76
86-73-7	Fluorene	4.8	58
85-01-8	Phenanthrene	4.8	460
120-12-7	Anthracene	4.8	100
206-44-0	Fluoranthene	4.8	500 E
129-00-0	Pyrene	4.8	610 E
56-55-3	Benzo (a) anthracene	4.8	250
218-01-9	Chrysene	4.8	320
205-99-2	Benzo (b) fluoranthene	4.8	190
207-08-9	Benzo (k) fluoranthene	4.8	180
50-32-8	Benzo (a) pyrene	4.8	290
193-39-5	Indeno (1,2,3-cd) pyrene	4.8	130
53-70-3	Dibenz (a, h) anthracene	4.8	58
191-24-2	Benzo (g, h, i) perylene	4.8	170
132-64-9	Dibenzofuran	4.8	12

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 66.3%

d14-Dibenzo (a, h) anthracen 68.0%

**ORGANICS ANALYSIS DATA SHEET**

PNAs by SW8270D-SIM GC/MS

Page 1 of 1

Sample ID: EBC-NS-1

DILUTION

Lab Sample ID: NG93A

LIMS ID: 08-16996

Matrix: Sediment

Data Release Authorized: 

Reported: 08/13/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

Event: 17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Date Extracted: 08/04/08

Date Analyzed: 08/12/08 20:55

Instrument/Analyst: NT2/VTS

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 10.5 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 3.00

Percent Moisture: 19.8%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	14	210
91-57-6	2-Methylnaphthalene	14	79
90-12-0	1-Methylnaphthalene	14	64
208-96-8	Acenaphthylene	14	< 14 U
83-32-9	Acenaphthene	14	74
86-73-7	Fluorene	14	57
85-01-8	Phenanthrene	14	480
120-12-7	Anthracene	14	100
206-44-0	Fluoranthene	14	500
129-00-0	Pyrene	14	650
56-55-3	Benzo (a) anthracene	14	250
218-01-9	Chrysene	14	330
205-99-2	Benzo (b) fluoranthene	14	180
207-08-9	Benzo (k) fluoranthene	14	180
50-32-8	Benzo (a) pyrene	14	290
193-39-5	Indeno (1,2,3-cd) pyrene	14	150
53-70-3	Dibenz (a, h) anthracene	14	63
191-24-2	Benzo (g, h, i) perylene	14	210
132-64-9	Dibenzofuran	14	< 14 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 69.0%

d14-Dibenzo(a, h) anthracen 71.0%

**ORGANICS ANALYSIS DATA SHEET**

PNAs by SW8270D-SIM GC/MS

Page 1 of 1

Sample ID: EBC-NS-2

SAMPLE

Lab Sample ID: NG93B

LIMS ID: 08-16997

Matrix: Sediment

Data Release Authorized:

Reported: 08/13/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

Event: 17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Date Extracted: 08/04/08

Date Analyzed: 08/07/08 15:52

Instrument/Analyst: NT2/VTS

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 11.0 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 18.3%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.6	9.6
91-57-6	2-Methylnaphthalene	4.6	9.1
90-12-0	1-Methylnaphthalene	4.6	7.3
208-96-8	Acenaphthylene	4.6	< 4.6 U
83-32-9	Acenaphthene	4.6	12
86-73-7	Fluorene	4.6	20
85-01-8	Phenanthrene	4.6	160
120-12-7	Anthracene	4.6	57
206-44-0	Fluoranthene	4.6	390
129-00-0	Pyrene	4.6	300
56-55-3	Benzo (a) anthracene	4.6	140
218-01-9	Chrysene	4.6	280
205-99-2	Benzo (b) fluoranthene	4.6	130
207-08-9	Benzo (k) fluoranthene	4.6	120
50-32-8	Benzo (a) pyrene	4.6	110
193-39-5	Indeno (1,2,3-cd) pyrene	4.6	44
53-70-3	Dibenz (a,h) anthracene	4.6	21
191-24-2	Benzo (g,h,i) perylene	4.6	40
132-64-9	Dibenzofuran	4.6	12

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 63.3%

d14-Dibenzo (a,h) anthracen 61.7%

**ORGANICS ANALYSIS DATA SHEET**

PNAs by SW8270D-SIM GC/MS

Page 1 of 1

Sample ID: EBC-NS-3

SAMPLE

Lab Sample ID: NG93C

LIMS ID: 08-16998

Matrix: Sediment

Data Release Authorized: *B*

Reported: 08/13/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

Event: 17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Date Extracted: 08/04/08

Date Analyzed: 08/07/08 16:14

Instrument/Analyst: NT2/VTS

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 10.7 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 22.6%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.7	32
91-57-6	2-Methylnaphthalene	4.7	7.0
90-12-0	1-Methylnaphthalene	4.7	5.1
208-96-8	Acenaphthylene	4.7	5.1
83-32-9	Acenaphthene	4.7	10
86-73-7	Fluorene	4.7	13
85-01-8	Phenanthrene	4.7	55
120-12-7	Anthracene	4.7	32
206-44-0	Fluoranthene	4.7	98
129-00-0	Pyrene	4.7	210
56-55-3	Benzo (a) anthracene	4.7	110
218-01-9	Chrysene	4.7	180
205-99-2	Benzo (b) fluoranthene	4.7	210
207-08-9	Benzo (k) fluoranthene	4.7	180
50-32-8	Benzo (a) pyrene	4.7	190
193-39-5	Indeno (1,2,3-cd) pyrene	4.7	83
53-70-3	Dibenz (a,h) anthracene	4.7	42
191-24-2	Benzo (g,h,i) perylene	4.7	79
132-64-9	Dibenzofuran	4.7	11

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 62.7%

d14-Dibenzo (a,h) anthracen 72.3%



ORGANICS ANALYSIS DATA SHEET

PNAs by SW8270D-SIM GC/MS

Page 1 of 1



Sample ID: EBC-NS-4  
SAMPLE

Lab Sample ID: NG93D

LIMS ID: 08-16999

Matrix: Sediment

Data Release Authorized:

Reported: 08/13/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

Event: 17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Date Extracted: 08/04/08

Date Analyzed: 08/07/08 16:36

Instrument/Analyst: NT2/VTS

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 10.7 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 26.1%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.7	28
91-57-6	2-Methylnaphthalene	4.7	18
90-12-0	1-Methylnaphthalene	4.7	9.4
208-96-8	Acenaphthylene	4.7	< 4.7 U
83-32-9	Acenaphthene	4.7	7.9
86-73-7	Fluorene	4.7	9.4
85-01-8	Phenanthrene	4.7	69
120-12-7	Anthracene	4.7	20
206-44-0	Fluoranthene	4.7	150
129-00-0	Pyrene	4.7	100
56-55-3	Benzo (a) anthracene	4.7	59
218-01-9	Chrysene	4.7	110
205-99-2	Benzo (b) fluoranthene	4.7	72
207-08-9	Benzo (k) fluoranthene	4.7	68
50-32-8	Benzo (a) pyrene	4.7	62
193-39-5	Indeno (1,2,3-cd) pyrene	4.7	31
53-70-3	Dibenz (a, h) anthracene	4.7	16
191-24-2	Benzo (g, h, i) perylene	4.7	35
132-64-9	Dibenzofuran	4.7	14

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene 59.7%

d14-Dibenzo (a, h) anthracen 62.0%

Sample ID: EBC-NS-5  
SAMPLE

Lab Sample ID: NG93E  
LIMS ID: 08-17000  
Matrix: Sediment  
Data Release Authorized:  
Reported: 08/13/08

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
Event: 17490-01  
Date Sampled: 07/22/08  
Date Received: 07/22/08

Date Extracted: 08/04/08  
Date Analyzed: 08/07/08 16:59  
Instrument/Analyst: NT2/VTS  
GPC Cleanup: No  
Silica Gel Cleanup: Yes  
Alumina Cleanup: No

Sample Amount: 11.3 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 23.5%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.4	19
91-57-6	2-Methylnaphthalene	4.4	8.8
90-12-0	1-Methylnaphthalene	4.4	6.6
208-96-8	Acenaphthylene	4.4	8.4
83-32-9	Acenaphthene	4.4	8.4
86-73-7	Fluorene	4.4	8.8
85-01-8	Phenanthrene	4.4	34
120-12-7	Anthracene	4.4	24
206-44-0	Fluoranthene	4.4	87
129-00-0	Pyrene	4.4	98
56-55-3	Benzo (a) anthracene	4.4	89
218-01-9	Chrysene	4.4	260
205-99-2	Benzo (b) fluoranthene	4.4	210
207-08-9	Benzo (k) fluoranthene	4.4	210
50-32-8	Benzo (a) pyrene	4.4	160
193-39-5	Indeno (1,2,3-cd) pyrene	4.4	80
53-70-3	Dibenz (a, h) anthracene	4.4	34
191-24-2	Benzo (g, h, i) perylene	4.4	84
132-64-9	Dibenzofuran	4.4	8.8

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 59.7%  
d14-Dibenzo (a, h) anthracen 66.7%

**ORGANICS ANALYSIS DATA SHEET**

PNAs by SW8270D-SIM GC/MS

Page 1 of 1

Sample ID: EBC-NS-6

SAMPLE

Lab Sample ID: NG93F

LIMS ID: 08-17001

Matrix: Sediment

Data Release Authorized:

Reported: 08/13/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

Event: 17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Date Extracted: 08/04/08

Date Analyzed: 08/07/08 14:23

Instrument/Analyst: NT2/VTS

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 11.1 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 11.2%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.5	6.3
91-57-6	2-Methylnaphthalene	4.5	< 4.5 U
90-12-0	1-Methylnaphthalene	4.5	< 4.5 U
208-96-8	Acenaphthylene	4.5	< 4.5 U
83-32-9	Acenaphthene	4.5	8.1
86-73-7	Fluorene	4.5	5.0
85-01-8	Phenanthrene	4.5	18
120-12-7	Anthracene	4.5	7.2
206-44-0	Fluoranthene	4.5	38
129-00-0	Pyrene	4.5	34
56-55-3	Benzo (a) anthracene	4.5	17
218-01-9	Chrysene	4.5	25
205-99-2	Benzo (b) fluoranthene	4.5	36
207-08-9	Benzo (k) fluoranthene	4.5	22
50-32-8	Benzo (a) pyrene	4.5	24
193-39-5	Indeno (1,2,3-cd) pyrene	4.5	14
53-70-3	Dibenz (a,h) anthracene	4.5	6.3
191-24-2	Benzo (g,h,i) perylene	4.5	13
132-64-9	Dibenzofuran	4.5	6.8

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 59.3%

d14-Dibenzo (a,h) anthracen 70.3%

**ORGANICS ANALYSIS DATA SHEET**

PNAs by SW8270D-SIM GC/MS

Page 1 of 1

Sample ID: EBC-NS-6

MATRIX SPIKE

Lab Sample ID: NG93F

LIMS ID: 08-17001

Matrix: Sediment

Data Release Authorized: 

Reported: 08/13/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

Event: 17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Date Extracted: 08/04/08

Date Analyzed: 08/07/08 14:45

Instrument/Analyst: NT2/VTS

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 11.3 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 11.2%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.4	---
91-57-6	2-Methylnaphthalene	4.4	---
90-12-0	1-Methylnaphthalene	4.4	---
208-96-8	Acenaphthylene	4.4	---
83-32-9	Acenaphthene	4.4	---
86-73-7	Fluorene	4.4	---
85-01-8	Phenanthrene	4.4	---
120-12-7	Anthracene	4.4	---
206-44-0	Fluoranthene	4.4	---
129-00-0	Pyrene	4.4	---
56-55-3	Benzo (a) anthracene	4.4	---
218-01-9	Chrysene	4.4	---
205-99-2	Benzo (b) fluoranthene	4.4	---
207-08-9	Benzo (k) fluoranthene	4.4	---
50-32-8	Benzo (a) pyrene	4.4	---
193-39-5	Indeno (1,2,3-cd) pyrene	4.4	---
53-70-3	Dibenz (a,h) anthracene	4.4	---
191-24-2	Benzo (g,h,i) perylene	4.4	---
132-64-9	Dibenzofuran	4.4	---

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 60.3%  
d14-Dibenzo (a,h) anthracen 69.7%

**ORGANICS ANALYSIS DATA SHEET**

PNAs by SW8270D-SIM GC/MS

Page 1 of 1

Sample ID: EBC-NS-6

MATRIX SPIKE DUPLICATE

Lab Sample ID: NG93F

LIMS ID: 08-17001

Matrix: Sediment

Data Release Authorized:

Reported: 08/13/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

Event: 17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Date Extracted: 08/04/08

Date Analyzed: 08/07/08 15:07

Instrument/Analyst: NT2/VTS

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 10.7 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 11.2%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.7	---
91-57-6	2-Methylnaphthalene	4.7	---
90-12-0	1-Methylnaphthalene	4.7	---
208-96-8	Acenaphthylene	4.7	---
83-32-9	Acenaphthene	4.7	---
86-73-7	Fluorene	4.7	---
85-01-8	Phenanthrene	4.7	---
120-12-7	Anthracene	4.7	---
206-44-0	Fluoranthene	4.7	---
129-00-0	Pyrene	4.7	---
56-55-3	Benzo (a) anthracene	4.7	---
218-01-9	Chrysene	4.7	---
205-99-2	Benzo (b) fluoranthene	4.7	---
207-08-9	Benzo (k) fluoranthene	4.7	---
50-32-8	Benzo (a) pyrene	4.7	---
193-39-5	Indeno (1,2,3-cd) pyrene	4.7	---
53-70-3	Dibenz (a,h) anthracene	4.7	---
191-24-2	Benzo (g,h,i) perylene	4.7	---
132-64-9	Dibenzofuran	4.7	---

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 63.3%  
d14-Dibenzo (a,h) anthracen 74.0%

**SIM SW8270 SURROGATE RECOVERY SUMMARY**

Matrix: Sediment

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

<u>Client ID</u>	<u>MNP</u>	<u>DBA</u>	<u>TOT OUT</u>
EBC-NS-1	66.3%	68.0%	0
EBC-NS-1 DL	69.0%	71.0%	0
EBC-NS-2	63.3%	61.7%	0
EBC-NS-3	62.7%	72.3%	0
EBC-NS-4	59.7%	62.0%	0
EBC-NS-5	59.7%	66.7%	0
MB-080408	70.7%	70.3%	0
LCS-080408	65.0%	72.0%	0
LCSD-080408	71.7%	80.0%	0
EBC-NS-6	59.3%	70.3%	0
EBC-NS-6 MS	60.3%	69.7%	0
EBC-NS-6 MSD	63.3%	74.0%	0

**LCS/MB LIMITS      QC LIMITS**

(MNP) = d10-2-Methylnaphthalene

(44-100)

(37-106)

(DBA) = d14-Dibenzo (a, h) anthracene

(46-121)

(16-118)

Prep Method: SW3546

Log Number Range: 08-16996 to 08-17001

**ORGANICS ANALYSIS DATA SHEET**

PNAs by SW8270D-SIM GC/MS

Page 1 of 1

Sample ID: LCS-080408

LAB CONTROL SAMPLE

Lab Sample ID: LCS-080408

LIMS ID: 08-17001

Matrix: Sediment

Data Release Authorized:

Reported: 08/13/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

Event: 17490-01

Date Sampled: NA

Date Received: NA

Date Extracted: 08/04/08

Sample Amount LCS: 10.0 g-dry-wt

LCSD: 10.0 g-dry-wt

Date Analyzed LCS: 08/07/08 13:39

Final Extract Volume LCS: 0.50 mL

LCSD: 08/07/08 14:01

LCSD: 0.50 mL

Instrument/Analyst LCS: NT2/VTS

Dilution Factor LCS: 1.00

LCSD: NT2/VTS

LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	102	150	68.0%	112	150	74.7%	9.3%
2-Methylnaphthalene	98.5	150	65.7%	113	150	75.3%	13.7%
1-Methylnaphthalene	99.0	150	66.0%	114	150	76.0%	14.1%
Acenaphthylene	102	150	68.0%	116	150	77.3%	12.8%
Acenaphthene	106	150	70.7%	116	150	77.3%	9.0%
Fluorene	110	150	73.3%	122	150	81.3%	10.3%
Phenanthrene	111	150	74.0%	122	150	81.3%	9.4%
Anthracene	120	150	80.0%	128	150	85.3%	6.5%
Fluoranthene	120	150	80.0%	130	150	86.7%	8.0%
Pyrene	122	150	81.3%	134	150	89.3%	9.4%
Benzo(a)anthracene	117	150	78.0%	127	150	84.7%	8.2%
Chrysene	113	150	75.3%	123	150	82.0%	8.5%
Benzo(b)fluoranthene	112	150	74.7%	135	150	90.0%	18.6%
Benzo(k)fluoranthene	114	150	76.0%	114	150	76.0%	0.0%
Benzo(a)pyrene	123	150	82.0%	132	150	88.0%	7.1%
Indeno(1,2,3-cd)pyrene	114	150	76.0%	124	150	82.7%	8.4%
Dibenz(a,h)anthracene	112	150	74.7%	126	150	84.0%	11.8%
Benzo(g,h,i)perylene	114	150	76.0%	126	150	84.0%	10.0%
Dibenzofuran	98.5	150	65.7%	111	150	74.0%	11.9%

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

RPD calculated using sample concentrations per SW846.

**SIM Semivolatile Surrogate Recovery**

	LCS	LCSD
d10-2-Methylnaphthalene	65.0%	71.7%
d14-Dibenzo(a,h)anthracen	72.0%	80.0%



Sample ID: EBC-NS-6  
 MATRIX SPIKE

Lab Sample ID: NG93F  
 LIMS ID: 08-17001  
 Matrix: Sediment  
 Data Release Authorized: *[Signature]*  
 Reported: 08/13/08

QC Report No: NG93-HART CROWSER, INC.  
 Project: PIER 23-EBC  
 Event: 17490-01  
 Date Sampled: 07/22/08  
 Date Received: 07/22/08

Date Extracted MS/MSD: 08/04/08  
 Date Analyzed MS: 08/07/08 14:45  
 MSD: 08/07/08 15:07  
 Instrument/Analyst MS: NT2/VTS  
 MSD: NT2/VTS

Sample Amount MS: 11.3 g-dry-wt  
 MSD: 10.7 g-dry-wt  
 Final Extract Volume MS: 0.50 mL  
 MSD: 0.50 mL  
 Dilution Factor MS: 1.00  
 MSD: 1.00

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Naphthalene	6.3	99.6	133	70.2%	95.8	140	63.9%	3.9%
2-Methylnaphthalene	< 4.5 U	93.4	133	70.2%	96.7	140	69.1%	3.5%
1-Methylnaphthalene	< 4.5 U	88.9	133	66.8%	97.7	140	69.8%	9.4%
Acenaphthylene	< 4.5 U	93.4	133	70.2%	98.6	140	70.4%	5.4%
Acenaphthene	8.1	94.2	133	64.7%	114	140	75.6%	19.0%
Fluorene	5.0	102	133	72.9%	109	140	74.3%	6.6%
Phenanthrene	17.6	132	133	86.0%	123	140	75.3%	7.1%
Anthracene	7.2	115	133	81.1%	117	140	78.4%	1.7%
Fluoranthene	38.3	191	133	115%	156	140	84.1%	20.2%
Pyrene	33.8	202	133	126%	149	140	82.3%	30.2%
Benzo(a)anthracene	16.7	154	133	103%	137	140	85.9%	11.7%
Chrysene	25.2	170	133	109%	142	140	83.4%	17.9%
Benzo(b)fluoranthene	36.0	155	133	89.5%	163	140	90.7%	5.0%
Benzo(k)fluoranthene	22.5	139	133	87.6%	121	140	70.4%	13.8%
Benzo(a)pyrene	23.9	153	133	97.1%	141	140	83.6%	8.2%
Indeno(1,2,3-cd)pyrene	13.5	120	133	80.1%	123	140	78.2%	2.5%
Dibenz(a,h)anthracene	6.3	106	133	75.0%	111	140	74.8%	4.6%
Benzo(g,h,i)perylene	12.6	121	133	81.5%	121	140	77.4%	0.0%
Dibenzofuran	6.8	92.5	133	64.4%	97.2	140	64.6%	5.0%

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

RPD calculated using sample concentrations per SW846.



4B  
SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

NG93MBS1

Lab Name: ANALYTICAL RESOURCES, INC  
ARI Job No: NG93  
Lab File ID: 080707  
Instrument ID: NT2  
Matrix: SOLID

Client: HART CROWSER, INC.  
Project: PIER 23-EBC  
Date Extracted: 08/04/08  
Date Analyzed: 08/07/08  
Time Analyzed: 1317

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	=====	=====	=====	=====
01	NG93LCSS1	NG93LCSS1	080708	08/07/08
02	NG93LCSDS1	NG93LCSDS1	080709	08/07/08
03	EBC-NS-6	NG93F	080710	08/07/08
04	EBC-NS-6 MS	NG93FMS	080711	08/07/08
05	EBC-NS-6 MSD	NG93FMSD	080712	08/07/08
06	EBC-NS-1	NG93A	080713	08/07/08
07	EBC-NS-2	NG93B	080714	08/07/08
08	EBC-NS-3	NG93C	080715	08/07/08
09	EBC-NS-4	NG93D	080716	08/07/08
10	EBC-NS-5	NG93E	080717	08/07/08
11	EBC-NS-1	NG93A	NG93ADL	08/12/08
12				
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COMMENTS:

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**ORGANICS ANALYSIS DATA SHEET**

PNA's by SW8270D-SIM GC/MS

Page 1 of 1

Sample ID: MB-080408

METHOD BLANK

Lab Sample ID: MB-080408

LIMS ID: 08-17001

Matrix: Sediment

Data Release Authorized:

Reported: 08/13/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

Event: 17490-01

Date Sampled: NA

Date Received: NA

Date Extracted: 08/04/08

Date Analyzed: 08/07/08 13:17

Instrument/Analyst: NT2/VTS

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 10.0 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	5.0	< 5.0 U
90-12-0	1-Methylnaphthalene	5.0	< 5.0 U
208-96-8	Acenaphthylene	5.0	< 5.0 U
83-32-9	Acenaphthene	5.0	< 5.0 U
86-73-7	Fluorene	5.0	< 5.0 U
85-01-8	Phenanthrene	5.0	< 5.0 U
120-12-7	Anthracene	5.0	< 5.0 U
206-44-0	Fluoranthene	5.0	< 5.0 U
129-00-0	Pyrene	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	5.0	< 5.0 U
218-01-9	Chrysene	5.0	< 5.0 U
205-99-2	Benzo(b)fluoranthene	5.0	< 5.0 U
207-08-9	Benzo(k)fluoranthene	5.0	< 5.0 U
50-32-8	Benzo(a)pyrene	5.0	< 5.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	< 5.0 U
53-70-3	Dibenz(a,h)anthracene	5.0	< 5.0 U
191-24-2	Benzo(g,h,i)perylene	5.0	< 5.0 U
132-64-9	Dibenzofuran	5.0	< 5.0 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 70.7%  
d14-Dibenzo(a,h)anthracen 70.3%

**PCBS**



Sample ID: EBC-NS-1  
SAMPLE

Lab Sample ID: NG93A  
LIMS ID: 08-16996  
Matrix: Sediment  
Data Release Authorized: *[Signature]*  
Reported: 08/22/08

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01  
Date Sampled: 07/22/08  
Date Received: 07/22/08

Date Extracted: 08/05/08  
Date Analyzed: 08/10/08 15:51  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 26.2 g-dry-wt  
Final Extract Volume: 5.0 mL  
Dilution Factor: 1.00  
Silica Gel: No  
Percent Moisture: 19.8%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	19	< 19 U
53469-21-9	Aroclor 1242	19	< 19 U
12672-29-6	Aroclor 1248	19	< 19 U
11097-69-1	Aroclor 1254	19	18 J
11096-82-5	Aroclor 1260	19	< 19 U
11104-28-2	Aroclor 1221	19	< 19 U
11141-16-5	Aroclor 1232	19	< 19 U
37324-23-5	Aroclor 1262	19	< 19 U
11100-14-4	Aroclor 1268	19	< 19 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	87.5%
Tetrachlorometaxylene	77.2%

**ORGANICS ANALYSIS DATA SHEET**

PSDDA PCB by GC/ECD

Page 1 of 1

Sample ID: EBC-NS-2

SAMPLE

Lab Sample ID: NG93B

LIMS ID: 08-16997

Matrix: Sediment

Data Release Authorized: 

Reported: 08/22/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Date Extracted: 08/05/08

Date Analyzed: 08/10/08 16:09

Instrument/Analyst: ECD5/PK

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 25.9 g-dry-wt

Final Extract Volume: 5.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: 18.3%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	19	< 19 U
53469-21-9	Aroclor 1242	19	< 19 U
12672-29-6	Aroclor 1248	19	< 19 U
11097-69-1	Aroclor 1254	19	< 19 U
11096-82-5	Aroclor 1260	19	< 19 U
11104-28-2	Aroclor 1221	19	< 19 U
11141-16-5	Aroclor 1232	19	< 19 U
37324-23-5	Aroclor 1262	19	< 19 U
11100-14-4	Aroclor 1268	19	< 19 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**PCB Surrogate Recovery**

Decachlorobiphenyl	92.5%
Tetrachlorometaxylene	86.8%

ORGANICS ANALYSIS DATA SHEET

PSDDA PCB by GC/ECD

Page 1 of 1



Sample ID: EBC-NS-3

SAMPLE

Lab Sample ID: NG93C

LIMS ID: 08-16998

Matrix: Sediment

Data Release Authorized: *AB*

Reported: 08/22/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Date Extracted: 08/05/08

Date Analyzed: 08/10/08 17:02

Instrument/Analyst: ECD5/PK

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 26.0 g-dry-wt

Final Extract Volume: 5.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: 22.6%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	19	< 19 U
53469-21-9	Aroclor 1242	19	< 19 U
12672-29-6	Aroclor 1248	19	< 19 U
11097-69-1	Aroclor 1254	19	< 19 U
11096-82-5	Aroclor 1260	19	< 19 U
11104-28-2	Aroclor 1221	19	< 19 U
11141-16-5	Aroclor 1232	19	< 19 U
37324-23-5	Aroclor 1262	19	< 19 U
11100-14-4	Aroclor 1268	19	< 19 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	79.5%
Tetrachlorometaxylene	75.8%

**ORGANICS ANALYSIS DATA SHEET**

PSDDA PCB by GC/ECD

Page 1 of 1


Sample ID: EBC-NS-4

SAMPLE

Lab Sample ID: NG93D

LIMS ID: 08-16999

Matrix: Sediment

Data Release Authorized: 

Reported: 08/22/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Date Extracted: 08/05/08

Date Analyzed: 08/10/08 17:20

Instrument/Analyst: ECD5/PK

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 25.6 g-dry-wt

Final Extract Volume: 5.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: 26.1%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	<b>Aroclor 1254</b>	<b>20</b>	<b>36</b>
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U
37324-23-5	<b>Aroclor 1262</b>	<b>20</b>	<b>31</b>
11100-14-4	Aroclor 1268	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**PCB Surrogate Recovery**

Decachlorobiphenyl	91.2%
Tetrachlorometaxylene	78.0%

ORGANICS ANALYSIS DATA SHEET

PSDDA PCB by GC/ECD

Page 1 of 1

Sample ID: EBC-NS-5

SAMPLE



Lab Sample ID: NG93E

LIMS ID: 08-17000

Matrix: Sediment

Data Release Authorized: *[Signature]*

Reported: 08/22/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Date Extracted: 08/05/08

Date Analyzed: 08/10/08 17:38

Instrument/Analyst: ECD5/PK

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 25.4 g-dry-wt

Final Extract Volume: 5.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: 23.5%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U
37324-23-5	Aroclor 1262	20	< 20 U
11100-14-4	Aroclor 1268	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	89.0%
Tetrachlorometaxylene	80.2%



ORGANICS ANALYSIS DATA SHEET

PSDDA PCB by GC/ECD

Page 1 of 1



Sample ID: EBC-NS-6  
SAMPLE

Lab Sample ID: NG93F

LIMS ID: 08-17001

Matrix: Sediment

Data Release Authorized:

Reported: 08/22/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Date Extracted: 08/05/08

Date Analyzed: 08/10/08 17:56

Instrument/Analyst: ECD5/PK

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 26.2 g-dry-wt

Final Extract Volume: 5.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: 11.2%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	19	< 19 U
53469-21-9	Aroclor 1242	19	< 19 U
12672-29-6	Aroclor 1248	19	< 19 U
11097-69-1	Aroclor 1254	19	< 19 U
11096-82-5	Aroclor 1260	19	< 19 U
11104-28-2	Aroclor 1221	19	< 19 U
11141-16-5	Aroclor 1232	19	< 19 U
37324-23-5	Aroclor 1262	19	< 19 U
11100-14-4	Aroclor 1268	19	< 19 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	92.0%
Tetrachlorometaxylene	85.8%

**SW8082/PCB SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY**

Matrix: Sediment

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01

<u>Client ID</u>	<u>DCBP % REC</u>	<u>DCBP LCL-UCL</u>	<u>TCMX % REC</u>	<u>TCMX LCL-UCL</u>	<u>TOT OUT</u>
EBC-NS-1	87.5%	43-148	77.2%	48-123	0
MB-080508	82.0%	65-117	74.2%	63-119	0
LCS-080508	82.8%	65-117	76.0%	63-119	0
LCSD-080508	82.2%	65-117	79.8%	63-119	0
EBC-NS-2	92.5%	43-148	86.8%	48-123	0
EBC-NS-2 MS	90.5%	43-148	84.5%	48-123	0
EBC-NS-2 MSD	86.5%	43-148	80.2%	48-123	0
EBC-NS-3	79.5%	43-148	75.8%	48-123	0
EBC-NS-4	91.2%	43-148	78.0%	48-123	0
EBC-NS-5	89.0%	43-148	80.2%	48-123	0
EBC-NS-6	92.0%	43-148	85.8%	48-123	0

PSDDA Control Limits  
Prep Method: SW3550B  
Log Number Range: 08-16996 to 08-17001

**ORGANICS ANALYSIS DATA SHEET**

PSDDA PCB by GC/ECD

Page 1 of 1

Sample ID: EBC-NS-2

MS/MSD

Lab Sample ID: NG93B

LIMS ID: 08-16997

Matrix: Sediment

Data Release Authorized: *MS*

Reported: 08/22/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Date Extracted MS/MSD: 08/05/08

Sample Amount MS: 25.8 g-dry-wt

MSD: 25.7 g-dry-wt

Date Analyzed MS: 08/10/08 16:27

Final Extract Volume MS: 5.0 mL

MSD: 08/10/08 16:44

MSD: 5.0 mL

Instrument/Analyst MS: ECD5/PK

Dilution Factor MS: 1.00

MSD: ECD5/PK

MSD: 1.00

GPC Cleanup: No

Silica Gel: No

Sulfur Cleanup: Yes

Percent Moisture: 18.3%

Acid Cleanup: Yes

Florisil Cleanup: No

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Aroclor 1016	< 19.3 U	68.6	96.7	70.9%	68.1	97.3	70.0%	0.7%
Aroclor 1260	< 19.3 U	86.9	96.7	89.9%	88.2	97.3	90.6%	1.5%

Results reported in  $\mu\text{g}/\text{kg}$  (ppb)

RPD calculated using sample concentrations per SW846.

Sample ID: EBC-NS-2  
MATRIX SPIKE

Lab Sample ID: NG93B  
LIMS ID: 08-16997  
Matrix: Sediment  
Data Release Authorized:  
Reported: 08/22/08

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01  
Date Sampled: 07/22/08  
Date Received: 07/22/08

Date Extracted: 08/05/08  
Date Analyzed: 08/10/08 16:27  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 25.8 g-dry-wt  
Final Extract Volume: 5.0 mL  
Dilution Factor: 1.00  
Silica Gel: No  
Percent Moisture: 18.3%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	19	---
53469-21-9	Aroclor 1242	19	< 19 U
12672-29-6	Aroclor 1248	19	< 19 U
11097-69-1	Aroclor 1254	19	< 19 U
11096-82-5	Aroclor 1260	19	---
11104-28-2	Aroclor 1221	19	< 19 U
11141-16-5	Aroclor 1232	19	< 19 U
37324-23-5	Aroclor 1262	19	< 19 U
11100-14-4	Aroclor 1268	19	< 19 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**PCB Surrogate Recovery**

Decachlorobiphenyl	90.5%
Tetrachlorometaxylene	84.5%

**ORGANICS ANALYSIS DATA SHEET**

PSDDA PCB by GC/ECD

Page 1 of 1

Sample ID: EBC-NS-2

MATRIX SPIKE DUP

Lab Sample ID: NG93B

LIMS ID: 08-16997

Matrix: Sediment

Data Release Authorized: *B*

Reported: 08/22/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Date Extracted: 08/05/08

Date Analyzed: 08/10/08 16:44

Instrument/Analyst: ECD5/PK

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 25.7 g-dry-wt

Final Extract Volume: 5.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: 18.3%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	---
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	---
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U
37324-23-5	Aroclor 1262	20	< 20 U
11100-14-4	Aroclor 1268	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)


**PCB Surrogate Recovery**

Decachlorobiphenyl	86.5%
Tetrachlorometaxylene	80.2%

**ORGANICS ANALYSIS DATA SHEET**

PSDDA PCB by GC/ECD  
Page 1 of 1

Sample ID: LCS-080508  
LCS/LCSD

Lab Sample ID: LCS-080508  
LIMS ID: 08-16997  
Matrix: Sediment  
Data Release Authorized:   
Reported: 08/22/08

QC Report No: NG93-HART CROWSER, INC.  
Project: PIER 23-EBC  
17490-01  
Date Sampled: NA  
Date Received: NA

Date Extracted LCS/LCSD: 08/05/08  
Date Analyzed LCS: 08/10/08 04:15  
LCSD: 08/10/08 04:33  
Instrument/Analyst LCS: ECD5/PK  
LCSD: ECD5/PK

Sample Amount LCS: 25.0 g-dry-wt  
LCSD: 25.0 g-dry-wt  
Final Extract Volume LCS: 5.0 mL  
LCSD: 5.0 mL  
Dilution Factor LCS: 1.00  
LCSD: 1.00  
Silica Gel: No  
Percent Moisture: NA

GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	79.3	100	79.3%	77.5	100	77.5%	2.3%
Aroclor 1260	82.9	100	82.9%	81.0	100	81.0%	2.3%

**PCB Surrogate Recovery**

	LCS	LCSD
Decachlorobiphenyl	82.8%	82.2%
Tetrachlorometaxylene	76.0%	79.8%

Results reported in  $\mu\text{g}/\text{kg}$  (ppb)  
RPD calculated using sample concentrations per SW846.

4  
PCB METHOD BLANK SUMMARY

BLANK NO.

NG93MBS1

Lab Name: ANALYTICAL RESOURCES, INC

Client: HART CROWSER, INC.

ARI Job No.: NG93

Project: PIER 23-EBC

Lab Sample ID: NG93MBS1

Lab File ID: 0809B057

Date Extracted: 08/05/08

Matrix: SOLID

Date Analyzed: 08/10/08

Instrument ID: ECD5

Time Analyzed: 0357

GC Columns: ZB5/ZB35

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	NG93LCSS1	NG93LCSS1	08/10/08
02	NG93LCSDS1	NG93LCSDS1	08/10/08
03	EBC-NS-1	NG93A	08/10/08
04	EBC-NS-2	NG93B	08/10/08
05	EBC-NS-2 MS	NG93BMS	08/10/08
06	EBC-NS-2 MSD	NG93BMSD	08/10/08
07	EBC-NS-3	NG93C	08/10/08
08	EBC-NS-4	NG93D	08/10/08
09	EBC-NS-5	NG93E	08/10/08
10	EBC-NS-6	NG93F	08/10/08

ALL RUNS ARE DUAL COLUMN

**ORGANICS ANALYSIS DATA SHEET**

PSDDA PCB by GC/ECD

Page 1 of 1

Sample ID: MB-080508

METHOD BLANK

Lab Sample ID: MB-080508

LIMS ID: 08-16997

Matrix: Sediment

Data Release Authorized: *RB*

Reported: 08/22/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: NA

Date Received: NA

Date Extracted: 08/05/08

Date Analyzed: 08/10/08 03:57

Instrument/Analyst: ECD5/PK

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 25.0 g

Final Extract Volume: 5.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U
37324-23-5	Aroclor 1262	20	< 20 U
11100-14-4	Aroclor 1268	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**PCB Surrogate Recovery**

Decachlorobiphenyl	82.0%
Tetrachlorometaxylene	74.2%



## **METALS**

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**


Page 1 of 1

Sample ID: EBC-NS-1  
SAMPLE

Lab Sample ID: NG93A

LIMS ID: 08-16996

Matrix: Sediment

Data Release Authorized: 

Reported: 09/08/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Percent Total Solids: 78.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	08/11/08	6010B	08/13/08	7440-38-2	Arsenic	10	10	U
3050B	08/11/08	6010B	08/13/08	7440-43-9	Cadmium	0.6	0.6	U
3050B	08/11/08	6010B	08/13/08	7440-47-3	Chromium	1	80	
3050B	08/11/08	6010B	08/13/08	7440-50-8	Copper	0.6	81.0	
3050B	08/11/08	6010B	08/13/08	7439-92-1	Lead	6	50	
CLP	08/13/08	7471A	08/15/08	7439-97-6	Mercury	0.06	0.24	
3050B	08/11/08	6010B	08/13/08	7440-02-0	Nickel	3	31	
3050B	08/11/08	6010B	08/13/08	7440-66-6	Zinc	3	192	

U-Analyte undetected at given RL

RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**

Page 1 of 1

Sample ID: EBC-NS-2  
SAMPLE

Lab Sample ID: NG93B


QC Report No: NG93-HART CROWSER, INC.

LIMS ID: 08-16997

Project: PIER 23-EBC

Matrix: Sediment

17490-01

Data Release Authorized: 

Date Sampled: 07/22/08

Reported: 08/28/08

Date Received: 07/22/08

Percent Total Solids: 78.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	08/11/08	6010B	08/13/08	7440-38-2	Arsenic	6	6	U
3050B	08/11/08	6010B	08/13/08	7440-43-9	Cadmium	0.2	0.2	U
3050B	08/11/08	6010B	08/13/08	<b>7440-47-3</b>	<b>Chromium</b>	0.6	<b>24.5</b>	
3050B	08/11/08	6010B	08/13/08	<b>7440-50-8</b>	<b>Copper</b>	0.2	<b>53.3</b>	
3050B	08/11/08	6010B	08/13/08	<b>7439-92-1</b>	<b>Lead</b>	2	<b>59</b>	
CLP	08/13/08	7471A	08/15/08	<b>7439-97-6</b>	<b>Mercury</b>	0.06	<b>0.09</b>	
3050B	08/11/08	6010B	08/13/08	<b>7440-02-0</b>	<b>Nickel</b>	1	<b>19</b>	
3050B	08/11/08	6010B	08/13/08	<b>7440-66-6</b>	<b>Zinc</b>	1	<b>129</b>	

U-Analyte undetected at given RL

RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**


Page 1 of 1

Sample ID: EBC-NS-1  
DUPLICATE

Lab Sample ID: NG93A

LIMS ID: 08-16996

Matrix: Sediment

Data Release Authorized 

Reported: 08/28/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

**MATRIX DUPLICATE QUALITY CONTROL REPORT**

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	6010B	10 U	10. U	0.0%	+/- 10	L
Cadmium	6010B	0.6 U	0.6 U	0.0%	+/- 0.6	L
Chromium	6010B	80	101	23.2%	+/- 20%	*
Copper	6010B	81.0	83.0	2.4%	+/- 20%	
Lead	6010B	50	54	7.7%	+/- 20%	
Mercury	7471A	0.24	0.39	47.6%	+/- 0.06	L*
Nickel	6010B	31	37	17.6%	+/- 20%	
Zinc	6010B	192	189	1.6%	+/- 20%	

Reported in mg/kg-dry

\*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**

Page 1 of 1


Sample ID: EBC-NS-1

**MATRIX SPIKE**

Lab Sample ID: NG93A

LIMS ID: 08-16996

Matrix: Sediment

Data Release Authorized 

Reported: 08/28/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

**MATRIX SPIKE QUALITY CONTROL REPORT**

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	6010B	10 U	250	238	105%	
Cadmium	6010B	0.6 U	65.9	59.5	111%	
Chromium	6010B	80	126	59.5	77.3%	
Copper	6010B	81.0	158	59.5	129%	N
Lead	6010B	50	322	238	114%	
Mercury	7471A	0.24	1.06	0.564	145%	N
Nickel	6010B	31	95	59.5	108%	
Zinc	6010B	192	318	59.5	212%	N

Reported in mg/kg-dry

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**


Page 1 of 1

Sample ID: EBC-NS-3  
SAMPLE

Lab Sample ID: NG93C

LIMS ID: 08-16998

Matrix: Sediment

Data Release Authorized 

Reported: 08/28/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Percent Total Solids: 72.5%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	08/11/08	6010B	08/13/08	7440-38-2	Arsenic	7	9	
3050B	08/11/08	6010B	08/13/08	7440-43-9	Cadmium	0.3	0.3	U
3050B	08/11/08	6010B	08/13/08	7440-47-3	Chromium	0.7	20.8	
3050B	08/11/08	6010B	08/13/08	7440-50-8	Copper	0.3	59.4	
3050B	08/11/08	6010B	08/13/08	7439-92-1	Lead	3	28	
CLP	08/13/08	7471A	08/15/08	7439-97-6	Mercury	0.07	0.07	U
3050B	08/11/08	6010B	08/13/08	7440-02-0	Nickel	1	15	
3050B	08/11/08	6010B	08/13/08	7440-66-6	Zinc	1	73	

U-Analyte undetected at given RL

RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**

Page 1 of 1

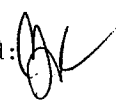
Sample ID: EBC-NS-4

SAMPLE

Lab Sample ID: NG93D

LIMS ID: 08-16999

Matrix: Sediment

Data Release Authorized: 

Reported: 08/28/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Percent Total Solids: 75.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	08/11/08	6010B	08/13/08	7440-38-2	Arsenic	20	30	
3050B	08/11/08	6010B	08/13/08	7440-43-9	Cadmium	0.6	0.7	
3050B	08/11/08	6010B	08/13/08	7440-47-3	Chromium	2	39	
3050B	08/11/08	6010B	08/13/08	7440-50-8	Copper	0.6	308	
3050B	08/11/08	6010B	08/13/08	7439-92-1	Lead	6	160	
CLP	08/13/08	7471A	08/15/08	7439-97-6	Mercury	0.06	0.14	
3050B	08/11/08	6010B	08/13/08	7440-02-0	Nickel	3	26	
3050B	08/11/08	6010B	08/13/08	7440-66-6	Zinc	3	409	

U-Analyte undetected at given RL

RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**


Page 1 of 1

Sample ID: EBC-NS-5  
SAMPLE

Lab Sample ID: NG93E

LIMS ID: 08-17000

Matrix: Sediment

Data Release Authorized: 

Reported: 08/28/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Percent Total Solids: 70.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	08/11/08	6010B	08/13/08	7440-38-2	Arsenic	7	8	
3050B	08/11/08	6010B	08/13/08	7440-43-9	Cadmium	0.3	0.3	U
3050B	08/11/08	6010B	08/13/08	7440-47-3	Chromium	0.7	20.3	
3050B	08/11/08	6010B	08/13/08	7440-50-8	Copper	0.3	46.6	
3050B	08/11/08	6010B	08/13/08	7439-92-1	Lead	3	48	
CLP	08/13/08	7471A	08/15/08	7439-97-6	Mercury	0.05	0.05	U
3050B	08/11/08	6010B	08/13/08	7440-02-0	Nickel	1	15	
3050B	08/11/08	6010B	08/13/08	7440-66-6	Zinc	1	56	

U-Analyte undetected at given RL

RL-Reporting Limit



**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**


Page 1 of 1

Sample ID: EBC-NS-6  
SAMPLE

Lab Sample ID: NG93F

LIMS ID: 08-17001

Matrix: Sediment

Data Release Authorized: 

Reported: 08/28/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: 07/22/08

Date Received: 07/22/08

Percent Total Solids: 84.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	08/11/08	6010B	08/14/08	7440-38-2	Arsenic	10	10	U
3050B	08/11/08	6010B	08/14/08	7440-43-9	Cadmium	0.5	0.5	U
3050B	08/11/08	6010B	08/14/08	<b>7440-47-3</b>	<b>Chromium</b>	1	<b>30</b>	
3050B	08/11/08	6010B	08/14/08	<b>7440-50-8</b>	<b>Copper</b>	0.5	<b>166</b>	
3050B	08/11/08	6010B	08/14/08	<b>7439-92-1</b>	<b>Lead</b>	5	<b>29</b>	
CLP	08/13/08	7471A	08/15/08	7439-97-6	Mercury	0.05	0.05	U
3050B	08/11/08	6010B	08/14/08	<b>7440-02-0</b>	<b>Nickel</b>	3	<b>21</b>	
3050B	08/11/08	6010B	08/14/08	<b>7440-66-6</b>	<b>Zinc</b>	3	<b>98</b>	

U-Analyte undetected at given RL

RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**

Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: NG93MB


QC Report No: NG93-HART CROWSER, INC.

LIMS ID: 08-16997

Project: PIER 23-EBC

Matrix: Sediment

17490-01

Data Release Authorized: 

Date Sampled: NA

Reported: 08/28/08

Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	08/11/08	6010B	08/13/08	7440-38-2	Arsenic	5	5	U
3050B	08/11/08	6010B	08/13/08	7440-43-9	Cadmium	0.2	0.2	U
3050B	08/11/08	6010B	08/13/08	7440-47-3	Chromium	0.5	0.5	U
3050B	08/11/08	6010B	08/13/08	7440-50-8	Copper	0.2	0.2	U
3050B	08/11/08	6010B	08/13/08	7439-92-1	Lead	2	2	U
CLP	08/13/08	7471A	08/15/08	7439-97-6	Mercury	0.05	0.05	U
3050B	08/11/08	6010B	08/13/08	7440-02-0	Nickel	1	1	U
3050B	08/11/08	6010B	08/13/08	7440-66-6	Zinc	1	1	U

U-Analyte undetected at given RL

RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**


Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: NG93LCS

LIMS ID: 08-16997

Matrix: Sediment

Data Release Authorized: 

Reported: 08/28/08

QC Report No: NG93-HART CROWSER, INC.

Project: PIER 23-EBC

17490-01

Date Sampled: NA

Date Received: NA

**BLANK SPIKE QUALITY CONTROL REPORT**

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	6010B	202	200	101%	
Cadmium	6010B	55.5	50.0	111%	
Chromium	6010B	53.1	50.0	106%	
Copper	6010B	50.4	50.0	101%	
Lead	6010B	206	200	103%	
Mercury	7471A	1.04	1.00	104%	
Nickel	6010B	54	50	108%	
Zinc	6010B	55	50	110%	

Reported in mg/kg-dry

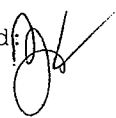
N-Control limit not met

Control Limits: 80-120%

# **GENERAL CHEMISTRY**

SAMPLE RESULTS-CONVENTIONALS  
NG93-HART CROWSER, INC.



Matrix: Sediment  
Data Release Authorized:   
Reported: 09/05/08

Project: PIER 23-EBC  
Event: 17490-01  
Date Sampled: 07/22/08  
Date Received: 07/22/08

Client ID: EBC-NS-1  
ARI ID: 08-16996 NG93A

Analyte	Date	Method	Units	RL	Sample
Total Solids	07/23/08 072308#9	EPA 160.3	Percent	0.01	78.60
Total Organic Carbon	09/04/08 090408#1	Plumb, 1981	Percent	0.020	0.435

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
NG93-HART CROWSER, INC.



Matrix: Sediment  
Data Release Authorized: *[Signature]*  
Reported: 09/05/08

Project: PIER 23-EBC  
Event: 17490-01  
Date Sampled: 07/22/08  
Date Received: 07/22/08

Client ID: EBC-NS-2  
ARI ID: 08-16997 NG93B

Analyte	Date	Method	Units	RL	Sample
Total Solids	07/23/08 072308#9	EPA 160.3	Percent	0.01	79.80
Total Organic Carbon	09/04/08 090408#1	Plumb, 1981	Percent	0.020	0.435

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
NG93-HART CROWSER, INC.



Matrix: Sediment  
Data Release Authorized: *[Signature]*  
Reported: 09/05/08

Project: PIER 23-EBC  
Event: 17490-01  
Date Sampled: 07/22/08  
Date Received: 07/22/08

Client ID: EBC-NS-3  
ARI ID: 08-16998 NG93C

Analyte	Date	Method	Units	RL	Sample
Total Solids	07/23/08 072308#9	EPA 160.3	Percent	0.01	75.00
Total Organic Carbon	09/04/08 090408#1	Plumb, 1981	Percent	0.020	0.544

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
NG93-HART CROWSER, INC.



Matrix: Sediment  
Data Release Authorized: *[Signature]*  
Reported: 09/05/08

Project: PIER 23-EBC  
Event: 17490-01  
Date Sampled: 07/22/08  
Date Received: 07/22/08

Client ID: EBC-NS-4  
ARI ID: 08-16999 NG93D

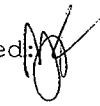
Analyte	Date	Method	Units	RL	Sample
Total Solids	07/23/08 072308#9	EPA 160.3	Percent	0.01	77.50
Total Organic Carbon	09/04/08 090408#1	Plumb, 1981	Percent	0.020	1.25

RL Analytical reporting limit  
U Undetected at reported detection limit



SAMPLE RESULTS-CONVENTIONALS  
NG93-HART CROWSER, INC.



Matrix: Sediment  
Data Release Authorized:   
Reported: 09/05/08

Project: PIER 23-EBC  
Event: 17490-01  
Date Sampled: 07/22/08  
Date Received: 07/22/08

Client ID: EBC-NS-5  
ARI ID: 08-17000 NG93E

Analyte	Date	Method	Units	RL	Sample
Total Solids	07/23/08 072308#9	EPA 160.3	Percent	0.01	73.20
Total Organic Carbon	09/04/08 090408#1	Plumb, 1981	Percent	0.020	1.44

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
NG93-HART CROWSER, INC.



Matrix: Sediment  
Data Release Authorized: *[Signature]*  
Reported: 09/05/08

Project: PIER 23-EBC  
Event: 17490-01  
Date Sampled: 07/22/08  
Date Received: 07/22/08


Client ID: EBC-NS-6  
ARI ID: 08-17001 NG93F

Analyte	Date	Method	Units	RL	Sample
Total Solids	07/23/08 072308#9	EPA 160.3	Percent	0.01	88.50
Total Organic Carbon	09/04/08 090408#1	Plumb, 1981	Percent	0.020	0.331

RL Analytical reporting limit  
U Undetected at reported detection limit

METHOD BLANK RESULTS-CONVENTIONALS  
NG93-HART CROWSER, INC.



Matrix: Sediment  
Data Release Authorized   
Reported: 09/05/08

Project: PIER 23-EBC  
Event: 17490-01  
Date Sampled: NA  
Date Received: NA

Analyte	Date	Units	Blank
Total Solids	07/23/08	Percent	< 0.01 U
	07/23/08		< 0.01 U
Total Organic Carbon	09/04/08	Percent	< 0.020 U

LAB CONTROL RESULTS-CONVENTIONALS  
NG93-HART CROWSER, INC.



Matrix: Sediment  
Data Release Authorized *[Signature]*  
Reported: 09/05/08

Project: PIER 23-EBC  
Event: 17490-01  
Date Sampled: NA  
Date Received: NA

Analyte	Date	Units	LCS	Spike Added	Recovery
Total Organic Carbon	09/04/08	Percent	0.523	0.500	104.6%

STANDARD REFERENCE RESULTS-CONVENTIONALS  
NG93-HART CROWSER, INC.




Matrix: Sediment  
Data Release Authorized: *[Signature]*  
Reported: 09/05/08

Project: PIER 23-EBC  
Event: 17490-01  
Date Sampled: NA  
Date Received: NA

Analyte/SRM ID	Date	Units	SRM	True Value	Recovery
Total Organic Carbon NIST #8704	09/04/08	Percent	3.51	3.35	104.8%

REPLICATE RESULTS-CONVENTIONALS  
NG93-HART CROWSER, INC.



Matrix: Sediment  
Data Release Authorized:   
Reported: 09/05/08

Project: PIER 23-EBC  
Event: 17490-01  
Date Sampled: 07/22/08  
Date Received: 07/22/08

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: NG93A Client ID: EBC-NS-1					
Total Solids	07/23/08	Percent	78.60	77.60 76.90	1.1%
Total Organic Carbon	09/04/08	Percent	0.435	0.333 0.432	14.5%

MS/MSD RESULTS-CONVENTIONALS  
NG93-HART CROWSER, INC.



Matrix: Sediment  
Data Release Authorized *[Signature]*  
Reported: 09/05/08

Project: PIER 23-EBC  
Event: 17490-01  
Date Sampled: 07/22/08  
Date Received: 07/22/08

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: NG93A Client ID: EBC-NS-1						
Total Organic Carbon	09/04/08	Percent	0.435	1.08	0.633	101.9%

**TOTAL SOLIDS**



Extractions Total Solids-exttts  
Data By: Jim Hawk  
Created: 7/30/08

Worklist: 4056  
Analyst: MH  
Comments:

ARI ID CLIENT ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	% Solids	pH
1. NG93A 08-16996 EBC-NS-1	1.10	10.92	8.98	80.2	NR
2. NG93B 08-16997 EBC-NS-2	1.10	11.90	9.92	81.7	NR
3. NG93C 08-16998 EBC-NS-3	1.12	12.18	9.68	77.4	NR
4. NG93D 08-16999 EBC-NS-4	1.10	12.74	9.70	73.9	NR
5. NG93E 08-17000 EBC-NS-5	1.12	13.98	10.96	76.5	NR
6. NG93F 08-17001 EBC-NS-6	1.12	12.18	10.94	88.8	NR

Total Solids Targets-Extractions  
Data By: Jim Hawk  
Created: 8/ 4/08

Worklist: 5545  
Analyst: JBH  
Comments:

ARI ID	Target Dry Wt (g)	Total Solids	Min Wet Wt (g)
1. NG93A	25.00	80.2	31.17
2. NG93B	25.00	81.7	30.60
3. NG93C	25.00	77.4	32.30
4. NG93D	25.00	73.9	33.83
5. NG93E	25.00	76.5	32.68
6. NG93F	25.00	88.8	28.15

**LABORATORY CERTIFICATES OF ANALYSIS  
ANALYTICAL RESOURCES, INC. (ARI)  
ARI JOB NO. M120**



**Analytical Resources, Incorporated**  
Analytical Chemists and Consultants

February 26, 2008

Mr. Roger McGinnis  
Hart Crowser, Inc.  
1700 Westlake Avenue North Suite 200  
Seattle, WA 98109-3056

**RE: Project: East Blair 3**  
**ARI Job No: MI20**

Dear Mr. McGinnis:

Please find enclosed the original chain of custody documentation and the analytical results for the samples from the project referenced above. Analytical Resources, Inc. (ARI) accepted twelve sediment samples on January 17, 18, 22, and 25, 2008. The samples were received in good condition at 2.0, 4.4, 3.6 and 4.6°C. There were no discrepancies between the sample containers' labels and the COC. All samples were frozen pending further instructions.

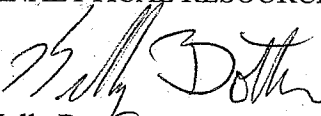
The samples were analyzed for PSDDA PCBs, PSDDA Pesticides, SIM PNAs, PSDDA SVOA, TOC, TS, sulfide, Grain Size and Total Metals, as requested from Hart Crowser on February 8, 2008

Please reference the Case Narrative for analytical details associated with this project.

An electronic copy of these reports and the supporting data will remain on file with ARI. If you have any questions or require additional information, please contact me at your convenience.

Respectfully,

ANALYTICAL RESOURCES, INC.

  
Kelly Bottem  
Project Manager  
kellyb@arilabs.com  
206/695-6211

Enclosures

cc: files MI20

**Chain of Custody  
Documentation**

**prepared  
for**

**HART CROWSER, INC.**

**Project: East Blair 3**

**ARI JOB NO: MI20**

**prepared  
by**

**Analytical Resources, Inc.**

**Subject:** Port of Tacoma East Blair 3 samples

**From:** "Roger McGinnis" <Roger.McGinnis@hartcrowser.com>

**Date:** Fri, 8 Feb 2008 08:31:57 -0800

**To:** "Kelly Bottem (E-mail)" <kellyb@arilabs.com>

**CC:** "Garry E. Horvitz" <garry.horvitz@hartcrowser.com>, "Rick Moore" <Rick.Moore@hartcrowser.com>, "Doug Lindquist" <Doug.Lindquist@hartcrowser.com>, "Mandy Michalsen" <Mandy.Michalsen@hartcrowser.com>

Kelly;

Please run the combined PSDDA/SMS analyses (no TBT or VOCs) that we discussed (ARI quote of 2/4/08) on the following samples:

HC08-B4 0 - 1'  
HC08-B4 5 - 6'  
HC08-B5 0 - 1'  
HC08-B5 5 - 6'  
HC08-B13 0 - 1'  
HC08-B13 6 - 7'  
HC08-B14 0 - 1.5'  
HC08-B14 6.5 - 7.5'

Please save the other samples until we can evaluate the analytical results.

Standard turn-around time and data package. Std Excel electronic delivery & EIM in addition to hardcopy.

If there is insufficient sample, grain size is the lowest priority compared to the chemical analyses. Sulfide is 2nd lowest priority.

Sample results should be sent to me and billing should go to the Port. I'll try to get the Port's WO number for you later today.

Please call if you have questions.

Thanks,

Roger McGinnis, Ph.D.

Sr. Associate, Chemist

Hart Crowser, Inc.

1700 Westlake Avenue N, Suite 200

Seattle, WA 98109-3056

[roger.mcginnis@hartcrowser.com](mailto:roger.mcginnis@hartcrowser.com)

(206) 826-4514 (direct)

(206) 612-5732 (cell)

(206) 328-5581 (fax)

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# Sample Custody Record

Samples Shipped to:

JOB 17441-00 LAB NUMBER

PROJECT NAME East Blair 3, Bld of Tacoma

HART CROWSER CONTACT Dave Lindqvist

SAMPLED BY: P. Cordell

Hart Crowser, Inc.  
1910 Fairview Avenue East  
Seattle, Washington 98102-3699  
Phone: 206-324-9530 FAX: 206-328-5581



## HART CROWSER

OBSERVATIONS/COMMENTS/  
COMPOSITING INSTRUCTIONS

NO. OF CONTAINERS

REQUESTED ANALYSIS

LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX
	H108-B4-0-1'		1/17/08	0945	SOIL
	H108-B4-5-6'		1/17/08	1008	SOIL
	H108-B4-10-11'		1/17/08	1035	SOIL

2 please hold freeze  
2 please hold freeze  
2 please hold freeze  
wait for instructions

TOTAL NUMBER OF CONTAINERS 6

SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS:

SAVILE/RECEIPT INFORMATION  
CUSTODY SEALS:  YES  NO  N/A  
GOOD CONDITION:  YES  NO  
TEMPERATURE:  HAND  OVERNIGHT  
SHIPMENT METHOD:  COURIER

TURNAROUND TIME:  
 24 HOURS  1 WEEK  
 48 HOURS  STANDARD  
 72 HOURS  OTHER

RELINQUISHED BY	DATE	RECEIVED BY	DATE
<u>P. Cordell</u>	1/17/08	<u>Allen</u>	1/17/08
SIGNATURE	TIME	SIGNATURE	TIME
<u>P. Cordell</u>		<u>Allen</u>	
PRINT NAME		PRINT NAME	
<u>HART CROWSER</u>	1730	<u>ARC</u>	1730
COMPANY		COMPANY	

RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE	TIME	SIGNATURE	TIME
PRINT NAME		PRINT NAME	
COMPANY		COMPANY	

COOLER NO.: STORAGE LOCATION:

See Lab Work Order No. \_\_\_\_\_  
for Other Contract Requirements

White and Yellow Copies to Lab

Pink to Project Manager

Lab to Return White Copy to Hart Crowser

Gold to Sample Custodian



# Cooler Receipt Form

ARI Client: HART CROWSER  
COC No: N/A  
Assigned ARI Job No: MF53

Project Name: EAST BLAIR 3, PORT OF TACOMA  
Delivered by: Hand-delivered  
Tracking No: N/A

### Preliminary Examination Phase:

- Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES  NO
- Were custody papers included with the cooler? ..... YES  NO
- Were custody papers properly filled out (ink, signed, etc.) ..... YES  NO
- Record cooler temperature (recommended 2.0-6.0 °C for chemistry) ..... 2.0 °C

Cooler Accepted by: [Signature] Date: 1/17/08 Time: 1730

**Complete custody forms and attach all shipping documents**

### Log-In Phase:

- Was a temperature blank included in the cooler? ..... YES  NO
- What kind of packing material was used? ..... ICE/BW
- Was sufficient ice used (if appropriate)? ..... YES  NO
- Were all bottles sealed in individual plastic bags? ..... YES  NO
- Did all bottle arrive in good condition (unbroken)? ..... YES  NO
- Were all bottle labels complete and legible? ..... YES  NO
- Did all bottle labels and tags agree with custody papers? ..... YES  NO
- Were all bottles used correct for the requested analyses? ..... YES  NO
- Do any of the analyses (bottles) require preservation? (attach preservation checklist) ..... YES  NO
- Were all VOC vials free of air bubbles? ..... NA YES NO
- Was sufficient amount of sample sent in each bottle? ..... YES  NO

Samples Logged by: [Signature] Date: 1/18/08 Time: 830

**\*\* Notify Project Manager of discrepancies or concerns \*\***

Explain discrepancies or negative responses:

By: \_\_\_\_\_ Date: \_\_\_\_\_







# Cooler Receipt Form

ARI Client: Hart Crowser  
COC No: N/A  
Assigned ARI Job No: M769

Project Name: EAST BLAIR 3  
Delivered by: Hand-delivered  
Tracking No: N/A

### Preliminary Examination Phase:

- Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES  NO
- Were custody papers included with the cooler? ..... YES  NO
- Were custody papers properly filled out (ink, signed, etc.) ..... YES  NO
- Record cooler temperature (recommended 2.0-6.0 °C for chemistry) ..... 4.4 °C

Cooler Accepted by: me Date: 1/18/08 Time: 1630

**Complete custody forms and attach all shipping documents**

### Log-In Phase:

- Was a temperature blank included in the cooler? ..... YES  NO
- What kind of packing material was used? ..... ICE
- Was sufficient ice used (if appropriate)? ..... YES  NO
- Were all bottles sealed in individual plastic bags? ..... YES  NO
- Did all bottle arrive in good condition (unbroken)? ..... YES  NO
- Were all bottle labels complete and legible? ..... YES  NO
- Did all bottle labels and tags agree with custody papers? ..... YES  NO
- Were all bottles used correct for the requested analyses? ..... YES  NO
- Do any of the analyses (bottles) require preservation? (attach preservation checklist) ..... YES  NO
- Were all VOC vials free of air bubbles? ..... (NA) YES  NO
- Was sufficient amount of sample sent in each bottle? ..... YES  NO

Samples Logged by: me Date: 1/18/08 Time: 1650

**\*\* Notify Project Manager of discrepancies or concerns \*\***

Explain discrepancies or negative responses:

By: \_\_\_\_\_ Date: \_\_\_\_\_

# Sample Custody Record

Samples Shipped to: MF94

JOB 17441-02 LAB NUMBER \_\_\_\_\_  
 PROJECT NAME East Blair 3, Port of Tacoma  
 HART CROWSER CONTACT Doug Lindqvist, Roger McGinnis  
 SAMPLED BY: PHIL CORDELL

LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX
	H108-B13-0-1		1/21/08	1420	SOIL
	H108-B13-6-7		↓	1430	
	H108-B13-11-12		↓	1435	↓

Hart Crowser, Inc.  
 1910 Fairview Avenue East  
 Seattle, Washington 98102-3699  
 Phone: 206-324-9530 FAX: 206-328-5581



## REQUESTED ANALYSIS

NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS
2	Please hold/freeze
2	samples and wait
2	for instructions

RELINQUISHED BY: <u>PHIL CORDELL</u> DATE: <u>1/21/08</u> SIGNATURE: _____ TIME: _____ PRINT NAME: <u>PHIL CORDELL</u> COMPANY: <u>HART CROWSER</u>		RECEIVED BY: <u>[Signature]</u> DATE: <u>1/27/08</u> SIGNATURE: _____ TIME: _____ PRINT NAME: <u>Arman</u> COMPANY: _____	
RELINQUISHED BY: _____ DATE: _____ SIGNATURE: _____ TIME: _____ PRINT NAME: _____ COMPANY: _____		RECEIVED BY: _____ DATE: _____ SIGNATURE: _____ TIME: _____ PRINT NAME: _____ COMPANY: _____	

SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS: \_\_\_\_\_

COOLER NO.: \_\_\_\_\_ STORAGE LOCATION: \_\_\_\_\_

TOTAL NUMBER OF CONTAINERS: 6

SAMPLE RECEIPT INFORMATION:  
 CUSTODY SEALS:  YES  NO  N/A  
 GOOD CONDITION:  YES  NO  
 TEMPERATURE: \_\_\_\_\_  
 SHIPMENT METHOD:  HAND  COURIER  OVERNIGHT

TURNAROUND TIME:  
 24 HOURS  1 WEEK  
 48 HOURS  STANDARD  
 72 HOURS  OTHER \_\_\_\_\_







# Cooler Receipt Form

ARI Client: HART CROWSER  
COC No: N/A  
Assigned ARI Job No: M643

Project Name: EAST BLAIR 3  
Delivered by: Hand delivered  
Tracking No: N/A

**Preliminary Examination Phase:**

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES  NO   
 Were custody papers included with the cooler? .....  YES  NO  
 Were custody papers properly filled out (ink, signed, etc.) .....  YES  NO  
 Record cooler temperature (recommended 2.0-6.0 °C for chemistry) ..... 4.6 °C

Cooler Accepted by: ane Date: 1/25/08 Time: 1715

**Complete custody forms and attach all shipping documents**

**Log-In Phase:**

Was a temperature blank included in the cooler? ..... YES  NO   
 What kind of packing material was used? ..... ICE  
 Was sufficient ice used (if appropriate)? .....  YES  NO  
 Were all bottles sealed in individual plastic bags? .....  YES  NO  
 Did all bottle arrive in good condition (unbroken)? .....  YES  NO  
 Were all bottle labels complete and legible? .....  YES  NO  
 Did all bottle labels and tags agree with custody papers? .....  YES  NO  
 Were all bottles used correct for the requested analyses? .....  YES  NO  
 Do any of the analyses (bottles) require preservation? (attach preservation checklist) ..... YES  NO   
 Were all VOC vials free of air bubbles? ..... NA YES  NO   
 Was sufficient amount of sample sent in each bottle? .....  YES  NO

Samples Logged by: ane Date: 1/25/08 Time: 1718

**\*\* Notify Project Manager of discrepancies or concerns \*\***

Explain discrepancies or negative responses:

By:

Date:

**Case Narrative**

**prepared  
for**

**HART CROWSER, INC.**

**Project: East Blair 3**

**ARI JOB NO: MI20**

**prepared  
by**

**Analytical Resources, Inc.**



**Case Narrative**  
**Hart Crowser**  
**East Blair 3**  
**ARI Job: MI20**  
**February 26, 2008**

**Semivolatile Analysis (PSDDA 8270D):**

The samples were extracted on 2/12/08 and analyzed on 2/19/08 within the method recommended holding time for frozen sediment samples.

***Initial calibration (s):*** All analytes were within method acceptance criteria.

***Continuing calibration (s):*** All analytes of interest were within method acceptance criteria for the associated Semivolatile organics list.

***Method Blank (s):*** The method blank was free of contamination.

***Surrogate(s):*** All surrogate recoveries were within control limits.

***Samples:*** There were no anomalies associated with this analysis.

***LCS/LCSD (s):*** All percent recoveries and RPDs were in control.

**Semivolatile SIM Analysis (8270D):**

The samples were extracted on 2/12/08 and analyzed on 2/20/08 within the method recommended holding time for frozen sediment samples.

***Initial calibration (s):*** All analytes were within method acceptance criteria.

***Continuing calibration (s):*** All analytes of interest were within method acceptance criteria for the associated SIM Semivolatile organics list.

***Method Blank (s):*** The method blank was free of contamination.

***Surrogate(s):*** The surrogate MNP and DBA were diluted out of sample *HC08-B14-0-1.5*. All other surrogate recoveries were within control limits.

***Samples:*** There were no anomalies associated with this analysis.

***LCS/LCSD (s):*** All percent recoveries and RPDs were in control.





**Case Narrative**  
**Hart Crowser**  
**East Blair 3**  
**ARI Job: MI20**  
**February 26, 2008**  
**Page 2**

**PCB and Pesticides Analysis (PSDDA):**

The samples were extracted on 2/12/08 and analyzed on 2/14/08 within the method recommended holding time for frozen sediment samples.

***Initial calibration (s):*** All analytes were within method acceptance criteria.

***Continuing calibration (s):*** All analytes of interest were within method acceptance criteria.

***Method Blank (s):*** All method blanks were free of contamination

***Surrogate(s):*** The surrogates DCBP and TCMX are out of control low for the LCSD and samples **HC08-B5-0-1** and **HC08-B5-5-6** for the Pesticide analysis. The LCSD and all other surrogate recoveries were within control limits.

\*\*\* The control limits are based on a sample amount of 25g/ 5 mL final volume and due to limited sample volume samples were extracted using 12.5g / 2.5 mL.

***Samples:*** Samples A, C and E had DCBP RPDs >40% between columns due to matrix effects. There were no other anomalies associated with the analyses.

***LCS/LCSD (s):*** All percent recoveries and RPDs were in control.

**Total Metals Analysis:**

The samples were digested on 2/13/08 and analyzed between 2/15/08 and 2/18/08 within the method recommended holding time.

***Initial calibration (s):*** All analytes were within method acceptance criteria.

***Continuing calibration (s):*** All analytes of interest were within method acceptance criteria.

***Method Blank (s):*** The method blank was free of contamination

***Samples:*** There were no anomalies associated with this analysis.

***Matrix spike(s):*** A matrix spike was performed in association with sample HC08-B4-0-1. The matrix spike is out of control low for antimony with wide sample duplicate RPDs for Mercury and Zinc. All other QC was in control; therefore no further corrective action was taken.

***LCS/LCSD (s):*** All percent recoveries were in control.



**Case Narrative**  
**Hart Crowser**  
**East Blair 3**  
**ARI Job: MI20**  
**February 26, 2008**  
**Page 3**

**General Chemistry Analyses**

All General chemistry samples were frozen and analyzed per the client request.

**Samples:** No anomalies were encountered for these samples.

**Method Blank(s):** All method blanks were free of element contamination.

**LCS/SRM/Replicate:** All percent recoveries and RPDs were in control.



Client: Hart Crowser, Inc.

Project No.: MI20

Client Project: East Blair 3

### Case Narrative

1. Eight samples were submitted for grain size analysis according to PSEP methodology.
2. The samples were run in a single batch and one sample was chosen for triplicate analysis. The triplicate data is reported on the QA summary.
3. Samples HC08-B4-0-1' and HC08-B5-0-1' contained woody matter, which may have broken down during the sieving process, affecting grain size analysis.
4. The data is provided in summary tables and plots.
5. There were no other noted anomalies in this project.

Approved by: *Taylor McKenzie*  
Title: Lead Technician

Date: 2-18-08



## Data Reporting Qualifiers

Effective 12/28/04

### Inorganic Data

- U Indicates that the target analyte was not detected at the reported concentration
- \* Duplicate RPD is not within established control limits
- B Reported value is less than the CRDL but  $\geq$  the Reporting Limit
- N Matrix Spike recovery not within established control limits
- NA Not Applicable, analyte not spiked
- H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
- L Analyte concentration is  $\leq 5$  times the Reporting Limit and the replicate control limit defaults to  $\pm 1$  RL instead of the normal 20% RPD

### Organic Data

- U Indicates that the target analyte was not detected at the reported concentration
- \* Flagged value is not within established control limits
- B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
- J Estimated concentration when the value is less than ARI's established reporting limits
- D The spiked compound was not detected due to sample extract dilution
- NR Spiked compound recovery is not reported due to chromatographic interference
- E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
- S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
- NA The flagged analyte was not analyzed for



- NS The flagged analyte was not spiked into the sample
- M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
- Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.
- C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
- P The analyte was detected on both chromatographic columns but the quantified values differ by  $\geq 40\%$  RPD with no obvious chromatographic interference

### Geotechnical Data

- A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
- F Samples were frozen prior to particle size determination
- SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
- SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
- W Weight of sample in some pipette aliquots was below the level required for accurate weighting

**Data Summary Package**

**prepared  
for**

**HART CROWSER, INC.**

**Project: East Blair 3**

**ARI JOB NO: MI20**

**prepared  
by**

**Analytical Resources, Inc.**

**TOTAL SOLIDS**

Extractions Total Solids-extts  
Data By: Adam L. Rains  
Created: 2/11/08

Worklist: 7119  
Analyst: ALR  
Comments:

	ARI ID CLIENT ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	% Solids	pH
1.	MI20A 08-2462 HC08-B4-0-1'	1.12	11.20	7.50	63.3	NR
2.	MI20B 08-2463 HC08-B4-5-6'	1.12	10.98	8.46	74.4	NR
3.	MI20C 08-2464 HC08-B5-0-1'	1.08	10.78	6.80	59.0	NR
4.	MI20D 08-2465 HC08-B5-5-6'	1.10	12.22	8.00	62.1	NR
5.	MI20E 08-2466 HC08-B13-0-1'	1.12	14.28	9.56	64.1	NR
6.	MI20F 08-2467 HC08-B13-6-7'	1.10	10.56	7.62	68.9	NR
7.	MI20G 08-2468 HC08-B14-0-1.5'	1.10	10.28	7.00	64.3	NR
8.	MI20H 08-2469 HC08-B14-6.5-7.5'	1.10	10.94	8.82	78.5	NR



Solids Data Entry Report  
Date: 02/14/08

Checked by: DM Date: 2/14/08  
Data Analyst: DM

Solids Determination performed on 02/13/08 by EG

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
MI20	A	HC08-B4-0-1'	1.027	10.457	6.704	60.20
MI20	B	HC08-B4-5-6'	1.016	10.111	7.986	76.64
MI20	C	HC08-B5-0-1'	0.997	10.129	6.208	57.06
MI20	D	HC08-B5-5-6'	1.006	10.197	6.738	62.37
MI20	E	HC08-B13-0-1'	1.022	10.226	6.714	61.84
MI20	F	HC08-B13-6-7'	1.013	10.121	7.586	72.17
MI20	G	HC08-B14-0-1.5'	1.001	10.671	6.741	59.36
MI20	H	HC08-B14-6.5-7.5'	1.031	10.197	8.117	77.31

## **SEMIVOLATILE ORGANICS**

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PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: HC08-B4-0-1'  
SAMPLE

Lab Sample ID: MI20A  
LIMS ID: 08-2462  
Matrix: Soil  
Data Release Authorized: **VTS**  
Reported: 02/22/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3  
NA  
Date Sampled: 01/17/08  
Date Received: 01/17/08

Date Extracted: 02/12/08  
Date Analyzed: 02/19/08 19:40  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: Yes

Sample Amount: 25.5 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 36.7%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	27
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
91-20-3	<b>Naphthalene</b>	20	79
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	<b>2-Methylnaphthalene</b>	20	71
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	<b>Acenaphthylene</b>	20	35
83-32-9	<b>Acenaphthene</b>	20	48
132-64-9	<b>Dibenzofuran</b>	20	66
84-66-2	Diethylphthalate	20	< 20 U
86-73-7	<b>Fluorene</b>	20	73
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	98	< 98 U
85-01-8	<b>Phenanthrene</b>	20	240
120-12-7	<b>Anthracene</b>	20	160
84-74-2	Di-n-Butylphthalate	20	< 20 U
206-44-0	<b>Fluoranthene</b>	20	440
129-00-0	<b>Pyrene</b>	20	690
85-68-7	Butylbenzylphthalate	20	< 20 U
56-55-3	<b>Benzo (a) anthracene</b>	20	240
117-81-7	<b>bis (2-Ethylhexyl) phthalate</b>	20	97
218-01-9	<b>Chrysene</b>	20	370

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PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: HC08-B4-0-1'  
SAMPLE

Lab Sample ID: MI20A  
LIMS ID: 08-2462  
Matrix: Soil  
Date Analyzed: 02/19/08 19:40

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3  
NA

CAS Number	Analyte	RL	Result
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo (b) fluoranthene	20	440
207-08-9	Benzo (k) fluoranthene	20	400
50-32-8	Benzo (a) pyrene	20	390
193-39-5	Indeno (1, 2, 3-cd) pyrene	20	130
53-70-3	Dibenz (a, h) anthracene	20	38
191-24-2	Benzo (g, h, i) perylene	20	120
90-12-0	1-Methylnaphthalene	20	47

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	51.2%	2-Fluorobiphenyl	51.6%
d14-p-Terphenyl	59.2%	d4-1,2-Dichlorobenzene	48.4%
d5-Phenol	52.8%	2-Fluorophenol	33.6%
2,4,6-Tribromophenol	50.7%	d4-2-Chlorophenol	50.1%

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Sample ID: HC08-B4-5-6'  
SAMPLE

Lab Sample ID: MI20B  
LIMS ID: 08-2463  
Matrix: Soil  
Data Release Authorized: *VTS*  
Reported: 02/22/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3  
NA  
Date Sampled: 01/17/08  
Date Received: 01/17/08

Date Extracted: 02/12/08  
Date Analyzed: 02/19/08 20:15  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: Yes

Sample Amount: 25.5 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 25.6%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	< 20 U
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
91-20-3	Naphthalene	20	< 20 U
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	2-Methylnaphthalene	20	< 20 U
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	Acenaphthylene	20	< 20 U
83-32-9	Acenaphthene	20	< 20 U
132-64-9	Dibenzofuran	20	< 20 U
84-66-2	Diethylphthalate	20	< 20 U
86-73-7	Fluorene	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	98	< 98 U
85-01-8	Phenanthrene	20	< 20 U
120-12-7	Anthracene	20	< 20 U
84-74-2	Di-n-Butylphthalate	20	< 20 U
206-44-0	Fluoranthene	20	< 20 U
129-00-0	Pyrene	20	< 20 U
85-68-7	Butylbenzylphthalate	20	< 20 U
56-55-3	Benzo(a)anthracene	20	< 20 U
117-81-7	bis(2-Ethylhexyl)phthalate	20	< 20 U
218-01-9	Chrysene	20	< 20 U

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PSDDA Semivolatiles by SW8270D GC/MS

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Sample ID: HC08-B4-5-6'  
SAMPLE

Lab Sample ID: MI20B

LIMS ID: 08-2463

Matrix: Soil

Date Analyzed: 02/19/08 20:15

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

NA

CAS Number	Analyte	RL	Result
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo(b)fluoranthene	20	< 20 U
207-08-9	Benzo(k)fluoranthene	20	< 20 U
50-32-8	Benzo(a)pyrene	20	< 20 U
193-39-5	Indeno(1,2,3-cd)pyrene	20	< 20 U
53-70-3	Dibenz(a,h)anthracene	20	< 20 U
191-24-2	Benzo(g,h,i)perylene	20	< 20 U
90-12-0	1-Methylnaphthalene	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	52.0%	2-Fluorobiphenyl	54.8%
d14-p-Terphenyl	60.4%	d4-1,2-Dichlorobenzene	51.2%
d5-Phenol	53.6%	2-Fluorophenol	37.3%
2,4,6-Tribromophenol	49.9%	d4-2-Chlorophenol	52.8%

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Sample ID: HC08-B5-0-1'  
SAMPLE

Lab Sample ID: MI20C  
LIMS ID: 08-2464  
Matrix: Soil  
Data Release Authorized: **VTS**  
Reported: 02/22/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3  
NA  
Date Sampled: 01/18/08  
Date Received: 01/18/08

Date Extracted: 02/12/08  
Date Analyzed: 02/19/08 20:50  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: Yes

Sample Amount: 25.4 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 41.0%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	< 20 U
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
91-20-3	<b>Naphthalene</b>	20	22
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	2-Methylnaphthalene	20	< 20 U
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	<b>Acenaphthylene</b>	20	20
83-32-9	Acenaphthene	20	< 20 U
132-64-9	Dibenzofuran	20	< 20 U
84-66-2	Diethylphthalate	20	< 20 U
86-73-7	<b>Fluorene</b>	20	25
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	98	< 98 U
85-01-8	<b>Phenanthrene</b>	20	140
120-12-7	<b>Anthracene</b>	20	95
84-74-2	Di-n-Butylphthalate	20	< 20 U
206-44-0	<b>Fluoranthene</b>	20	240
129-00-0	<b>Pyrene</b>	20	560
85-68-7	Butylbenzylphthalate	20	< 20 U
56-55-3	Benzo(a)anthracene	20	190
117-81-7	bis(2-Ethylhexyl)phthalate	20	83
218-01-9	Chrysene	20	370

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Sample ID: HC08-B5-0-1'  
SAMPLE

Lab Sample ID: MI20C  
LIMS ID: 08-2464  
Matrix: Soil  
Date Analyzed: 02/19/08 20:50

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3  
NA

CAS Number	Analyte	RL	Result
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo (b) fluoranthene	20	420
207-08-9	Benzo (k) fluoranthene	20	280
50-32-8	Benzo (a) pyrene	20	320
193-39-5	Indeno (1,2,3-cd) pyrene	20	100
53-70-3	Dibenz (a,h) anthracene	20	48
191-24-2	Benzo (g,h,i) perylene	20	84
90-12-0	1-Methylnaphthalene	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	39.4%	2-Fluorobiphenyl	41.2%
d14-p-Terphenyl	41.2%	d4-1,2-Dichlorobenzene	36.8%
d5-Phenol	40.5%	2-Fluorophenol	27.2%
2,4,6-Tribromophenol	41.3%	d4-2-Chlorophenol	39.2%



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PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: HC08-B5-5-6'  
SAMPLE

Lab Sample ID: MI20D  
LIMS ID: 08-2465  
Matrix: Soil  
Data Release Authorized: **VTS**  
Reported: 02/22/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3  
NA  
Date Sampled: 01/18/08  
Date Received: 01/18/08

Date Extracted: 02/12/08  
Date Analyzed: 02/19/08 21:25  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: Yes

Sample Amount: 25.7 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 37.9%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	19	30
541-73-1	1,3-Dichlorobenzene	19	< 19 U
106-46-7	1,4-Dichlorobenzene	19	< 19 U
100-51-6	Benzyl Alcohol	19	< 19 U
95-50-1	1,2-Dichlorobenzene	19	< 19 U
95-48-7	2-Methylphenol	19	< 19 U
106-44-5	4-Methylphenol	19	< 19 U
67-72-1	Hexachloroethane	19	< 19 U
105-67-9	2,4-Dimethylphenol	19	< 19 U
65-85-0	Benzoic Acid	190	< 190 U
120-82-1	1,2,4-Trichlorobenzene	19	< 19 U
91-20-3	Naphthalene	19	62
87-68-3	Hexachlorobutadiene	19	< 19 U
91-57-6	2-Methylnaphthalene	19	28
131-11-3	Dimethylphthalate	19	< 19 U
208-96-8	Acenaphthylene	19	27
83-32-9	Acenaphthene	19	24
132-64-9	Dibenzofuran	19	33
84-66-2	Diethylphthalate	19	< 19 U
86-73-7	Fluorene	19	34
86-30-6	N-Nitrosodiphenylamine	19	< 19 U
118-74-1	Hexachlorobenzene	19	< 19 U
87-86-5	Pentachlorophenol	97	< 97 U
85-01-8	Phenanthrene	19	170
120-12-7	Anthracene	19	110
84-74-2	Di-n-Butylphthalate	19	< 19 U
206-44-0	Fluoranthene	19	320
129-00-0	Pyrene	19	850
85-68-7	Butylbenzylphthalate	19	< 19 U
56-55-3	Benzo (a) anthracene	19	180
117-81-7	bis (2-Ethylhexyl) phthalate	19	94
218-01-9	Chrysene	19	330

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Sample ID: HC08-B5-5-6'  
SAMPLE

Lab Sample ID: MI20D  
LIMS ID: 08-2465  
Matrix: Soil  
Date Analyzed: 02/19/08 21:25

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3  
NA

CAS Number	Analyte	RL	Result
117-84-0	Di-n-Octyl phthalate	19	< 19 U
205-99-2	Benzo (b) fluoranthene	19	680
207-08-9	Benzo (k) fluoranthene	19	620
50-32-8	Benzo (a) pyrene	19	540
193-39-5	Indeno (1, 2, 3-cd) pyrene	19	140
53-70-3	Dibenz (a, h) anthracene	19	45
191-24-2	Benzo (g, h, i) perylene	19	130
90-12-0	1-Methylnaphthalene	19	< 19 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	41.6%	2-Fluorobiphenyl	42.8%
d14-p-Terphenyl	48.0%	d4-1,2-Dichlorobenzene	38.0%
d5-Phenol	41.9%	2-Fluorophenol	31.2%
2,4,6-Tribromophenol	45.6%	d4-2-Chlorophenol	40.8%

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Sample ID: HC08-B13-0-1'  
SAMPLE

Lab Sample ID: MI20E  
LIMS ID: 08-2466  
Matrix: Soil  
Data Release Authorized: **VTS**  
Reported: 02/22/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3  
NA  
Date Sampled: 01/21/08  
Date Received: 01/22/08

Date Extracted: 02/12/08  
Date Analyzed: 02/19/08 22:00  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: Yes

Sample Amount: 25.4 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 35.9%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	< 20 U
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
<b>91-20-3</b>	<b>Naphthalene</b>	<b>20</b>	<b>21</b>
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	2-Methylnaphthalene	20	< 20 U
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	Acenaphthylene	20	< 20 U
83-32-9	Acenaphthene	20	< 20 U
132-64-9	Dibenzofuran	20	< 20 U
84-66-2	Diethylphthalate	20	< 20 U
<b>86-73-7</b>	<b>Fluorene</b>	<b>20</b>	<b>20</b>
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	98	< 98 U
<b>85-01-8</b>	<b>Phenanthrene</b>	<b>20</b>	<b>110</b>
<b>120-12-7</b>	<b>Anthracene</b>	<b>20</b>	<b>53</b>
84-74-2	Di-n-Butylphthalate	20	< 20 U
<b>206-44-0</b>	<b>Fluoranthene</b>	<b>20</b>	<b>190</b>
<b>129-00-0</b>	<b>Pyrene</b>	<b>20</b>	<b>270</b>
85-68-7	Butylbenzylphthalate	20	< 20 U
56-55-3	Benzo(a)anthracene	20	100
117-81-7	bis(2-Ethylhexyl)phthalate	20	81
218-01-9	Chrysene	20	170

ORGANICS ANALYSIS DATA SHEET  
 PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: HC08-B13-0-1'  
 SAMPLE

Lab Sample ID: MI20E  
 LIMS ID: 08-2466  
 Matrix: Soil  
 Date Analyzed: 02/19/08 22:00

QC Report No: MI20-Hart Crowser, Inc.  
 Project: East Blair 3  
 NA

CAS Number	Analyte	RL	Result
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo(b) fluoranthene	20	260
207-08-9	Benzo(k) fluoranthene	20	110
50-32-8	Benzo(a) pyrene	20	160
193-39-5	Indeno(1,2,3-cd)pyrene	20	50
53-70-3	Dibenz(a,h)anthracene	20	< 20 U
191-24-2	Benzo(g,h,i)perylene	20	45
90-12-0	1-Methylnaphthalene	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	39.2%	2-Fluorobiphenyl	40.8%
d14-p-Terphenyl	49.2%	d4-1,2-Dichlorobenzene	37.9%
d5-Phenol	40.5%	2-Fluorophenol	31.2%
2,4,6-Tribromophenol	42.4%	d4-2-Chlorophenol	39.2%

ORGANICS ANALYSIS DATA SHEET  
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Sample ID: HC08-B13-6-7'  
SAMPLE

Lab Sample ID: MI20F  
LIMS ID: 08-2467  
Matrix: Soil  
Data Release Authorized: **VTS**  
Reported: 02/22/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3  
NA  
Date Sampled: 01/21/08  
Date Received: 01/22/08

Date Extracted: 02/12/08  
Date Analyzed: 02/19/08 22:35  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: Yes

Sample Amount: 26.0 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 31.1%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	19	< 19 U
541-73-1	1,3-Dichlorobenzene	19	< 19 U
106-46-7	1,4-Dichlorobenzene	19	< 19 U
100-51-6	Benzyl Alcohol	19	< 19 U
95-50-1	1,2-Dichlorobenzene	19	< 19 U
95-48-7	2-Methylphenol	19	< 19 U
106-44-5	4-Methylphenol	19	< 19 U
67-72-1	Hexachloroethane	19	< 19 U
105-67-9	2,4-Dimethylphenol	19	< 19 U
65-85-0	Benzoic Acid	190	< 190 U
120-82-1	1,2,4-Trichlorobenzene	19	< 19 U
91-20-3	<b>Naphthalene</b>	19	43
87-68-3	Hexachlorobutadiene	19	< 19 U
91-57-6	<b>2-Methylnaphthalene</b>	19	22
131-11-3	Dimethylphthalate	19	< 19 U
208-96-8	<b>Acenaphthylene</b>	19	21
83-32-9	<b>Acenaphthene</b>	19	25
132-64-9	<b>Dibenzofuran</b>	19	28
84-66-2	Diethylphthalate	19	< 19 U
86-73-7	<b>Fluorene</b>	19	39
86-30-6	N-Nitrosodiphenylamine	19	< 19 U
118-74-1	Hexachlorobenzene	19	< 19 U
87-86-5	Pentachlorophenol	96	< 96 U
85-01-8	<b>Phenanthrene</b>	19	320
120-12-7	<b>Anthracene</b>	19	94
84-74-2	Di-n-Butylphthalate	19	< 19 U
206-44-0	<b>Fluoranthene</b>	19	530
129-00-0	<b>Pyrene</b>	19	600
85-68-7	Butylbenzylphthalate	19	< 19 U
56-55-3	<b>Benzo (a) anthracene</b>	19	210
117-81-7	<b>bis (2-Ethylhexyl) phthalate</b>	19	100
218-01-9	<b>Chrysene</b>	19	280

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
Page 2 of 2

Sample ID: HC08-B13-6-7'  
SAMPLE

Lab Sample ID: MI20F  
LIMS ID: 08-2467  
Matrix: Soil  
Date Analyzed: 02/19/08 22:35

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3  
NA

CAS Number	Analyte	RL	Result
117-84-0	Di-n-Octyl phthalate	19	< 19 U
205-99-2	Benzo (b) fluoranthene	19	540
207-08-9	Benzo (k) fluoranthene	19	230
50-32-8	Benzo (a) pyrene	19	360
193-39-5	Indeno (1, 2, 3-cd) pyrene	19	110
53-70-3	Dibenz (a, h) anthracene	19	30
191-24-2	Benzo (g, h, i) perylene	19	98
90-12-0	1-Methylnaphthalene	19	< 19 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	42.0%	2-Fluorobiphenyl	43.2%
d14-p-Terphenyl	52.0%	d4-1,2-Dichlorobenzene	39.6%
d5-Phenol	42.9%	2-Fluorophenol	29.3%
2,4,6-Tribromophenol	45.1%	d4-2-Chlorophenol	41.6%

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
Page 1 of 2

Sample ID: HC08-B14-0-1.5'  
SAMPLE

Lab Sample ID: MI20G  
LIMS ID: 08-2468  
Matrix: Soil  
Data Release Authorized: **VTS**  
Reported: 02/22/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3  
NA  
Date Sampled: 01/25/08  
Date Received: 01/25/08

Date Extracted: 02/12/08  
Date Analyzed: 02/19/08 23:10  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: Yes

Sample Amount: 25.5 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 35.7%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	< 20 U
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
<b>91-20-3</b>	<b>Naphthalene</b>	<b>20</b>	<b>140</b>
87-68-3	Hexachlorobutadiene	20	< 20 U
<b>91-57-6</b>	<b>2-Methylnaphthalene</b>	<b>20</b>	<b>54</b>
131-11-3	Dimethylphthalate	20	< 20 U
<b>208-96-8</b>	<b>Acenaphthylene</b>	<b>20</b>	<b>32</b>
<b>83-32-9</b>	<b>Acenaphthene</b>	<b>20</b>	<b>210</b>
<b>132-64-9</b>	<b>Dibenzofuran</b>	<b>20</b>	<b>180</b>
84-66-2	Diethylphthalate	20	< 20 U
<b>86-73-7</b>	<b>Fluorene</b>	<b>20</b>	<b>230</b>
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	98	< 98 U
<b>85-01-8</b>	<b>Phenanthrene</b>	<b>20</b>	<b>1,600 E</b>
<b>120-12-7</b>	<b>Anthracene</b>	<b>20</b>	<b>300</b>
84-74-2	Di-n-Butylphthalate	20	< 20 U
<b>206-44-0</b>	<b>Fluoranthene</b>	<b>20</b>	<b>2,200 E</b>
<b>129-00-0</b>	<b>Pyrene</b>	<b>20</b>	<b>2,300 E</b>
85-68-7	Butylbenzylphthalate	20	< 20 U
<b>56-55-3</b>	<b>Benzo (a) anthracene</b>	<b>20</b>	<b>830</b>
117-81-7	bis (2-Ethylhexyl) phthalate	20	110
218-01-9	Chrysene	20	980

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: HC08-B14-0-1.5'  
SAMPLE

Lab Sample ID: MI20G  
LIMS ID: 08-2468  
Matrix: Soil  
Date Analyzed: 02/19/08 23:10

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3  
NA

CAS Number	Analyte	RL	Result
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo (b) fluoranthene	20	1,500
207-08-9	Benzo (k) fluoranthene	20	1,200
50-32-8	Benzo (a) pyrene	20	1,200
193-39-5	Indeno (1,2,3-cd) pyrene	20	380
53-70-3	Dibenz (a,h) anthracene	20	150
191-24-2	Benzo (g,h,i) perylene	20	320
90-12-0	1-Methylnaphthalene	20	41

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	41.6%	2-Fluorobiphenyl	42.8%
d14-p-Terphenyl	51.2%	d4-1,2-Dichlorobenzene	39.4%
d5-Phenol	42.1%	2-Fluorophenol	29.6%
2,4,6-Tribromophenol	44.0%	d4-2-Chlorophenol	41.1%



**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS

Page 1 of 2

Sample ID: HC08-B14-0-1.5'

DILUTION

Lab Sample ID: MI20G

LIMS ID: 08-2468

Matrix: Soil

Data Release Authorized: **VTS**

Reported: 02/22/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

NA

Date Sampled: 01/25/08

Date Received: 01/25/08

Date Extracted: 02/12/08

Date Analyzed: 02/21/08 16:10

Instrument/Analyst: NT6/LJR

GPC Cleanup: Yes

Sample Amount: 25.5 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 3.00

Percent Moisture: 35.7%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	59	< 59 U
541-73-1	1,3-Dichlorobenzene	59	< 59 U
106-46-7	1,4-Dichlorobenzene	59	< 59 U
100-51-6	Benzyl Alcohol	59	< 59 U
95-50-1	1,2-Dichlorobenzene	59	< 59 U
95-48-7	2-Methylphenol	59	< 59 U
106-44-5	4-Methylphenol	59	< 59 U
67-72-1	Hexachloroethane	59	< 59 U
105-67-9	2,4-Dimethylphenol	59	< 59 U
65-85-0	Benzoic Acid	590	< 590 U
120-82-1	1,2,4-Trichlorobenzene	59	< 59 U
91-20-3	<b>Naphthalene</b>	59	160
87-68-3	Hexachlorobutadiene	59	< 59 U
91-57-6	2-Methylnaphthalene	59	< 59 U
131-11-3	Dimethylphthalate	59	< 59 U
208-96-8	Acenaphthylene	59	< 59 U
83-32-9	<b>Acenaphthene</b>	59	230
132-64-9	<b>Dibenzofuran</b>	59	190
84-66-2	Diethylphthalate	59	< 59 U
86-73-7	<b>Fluorene</b>	59	240
86-30-6	N-Nitrosodiphenylamine	59	< 59 U
118-74-1	Hexachlorobenzene	59	< 59 U
87-86-5	Pentachlorophenol	290	< 290 U
85-01-8	<b>Phenanthrene</b>	59	2,200
120-12-7	<b>Anthracene</b>	59	340
84-74-2	Di-n-Butylphthalate	59	< 59 U
206-44-0	<b>Fluoranthene</b>	59	3,400
129-00-0	<b>Pyrene</b>	59	2,400
85-68-7	Butylbenzylphthalate	59	< 59 U
56-55-3	<b>Benzo (a) anthracene</b>	59	890
117-81-7	<b>bis (2-Ethylhexyl) phthalate</b>	59	110
218-01-9	<b>Chrysene</b>	59	1,200

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
Page 2 of 2

Sample ID: HC08-B14-0-1.5'  
DILUTION

Lab Sample ID: MI20G  
LIMS ID: 08-2468  
Matrix: Soil  
Date Analyzed: 02/21/08 16:10

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3  
NA

CAS Number	Analyte	RL	Result
117-84-0	Di-n-Octyl phthalate	59	< 59 U
205-99-2	Benzo (b) fluoranthene	59	1,200
207-08-9	Benzo (k) fluoranthene	59	1,200
50-32-8	Benzo (a) pyrene	59	1,300
193-39-5	Indeno (1,2,3-cd) pyrene	59	760
53-70-3	Dibenz (a,h) anthracene	59	260
191-24-2	Benzo (g,h,i) perylene	59	800
90-12-0	1-Methylnaphthalene	59	< 59 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	45.0%	2-Fluorobiphenyl	48.7%
d14-p-Terphenyl	44.3%	d4-1,2-Dichlorobenzene	43.1%
d5-Phenol	45.8%	2-Fluorophenol	39.0%
2,4,6-Tribromophenol	49.5%	d4-2-Chlorophenol	48.1%

Sample ID: HC08-B14-6.5-7.5'  
SAMPLE

Lab Sample ID: MI20H  
LIMS ID: 08-2469  
Matrix: Soil  
Data Release Authorized: **VTS**  
Reported: 02/22/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3  
NA  
Date Sampled: 01/25/08  
Date Received: 01/25/08

Date Extracted: 02/12/08  
Date Analyzed: 02/19/08 23:45  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: Yes

Sample Amount: 25.5 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 21.5%

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	< 20 U
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
91-20-3	Naphthalene	20	< 20 U
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	2-Methylnaphthalene	20	< 20 U
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	Acenaphthylene	20	< 20 U
83-32-9	Acenaphthene	20	< 20 U
132-64-9	Dibenzofuran	20	< 20 U
84-66-2	Diethylphthalate	20	< 20 U
86-73-7	Fluorene	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	98	< 98 U
<b>85-01-8</b>	<b>Phenanthrene</b>	<b>20</b>	<b>42</b>
120-12-7	Anthracene	20	< 20 U
84-74-2	Di-n-Butylphthalate	20	< 20 U
<b>206-44-0</b>	<b>Fluoranthene</b>	<b>20</b>	<b>68</b>
<b>129-00-0</b>	<b>Pyrene</b>	<b>20</b>	<b>77</b>
85-68-7	Butylbenzylphthalate	20	< 20 U
<b>56-55-3</b>	<b>Benzo (a) anthracene</b>	<b>20</b>	<b>22</b>
117-81-7	bis(2-Ethylhexyl)phthalate	20	< 20 U
<b>218-01-9</b>	<b>Chrysene</b>	<b>20</b>	<b>28</b>

**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS

Page 2 of 2

Sample ID: HC08-B14-6.5-7.5'

SAMPLE

Lab Sample ID: MI20H

LIMS ID: 08-2469

Matrix: Soil

Date Analyzed: 02/19/08 23:45

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

NA

CAS Number	Analyte	RL	Result
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo (b) fluoranthene	20	36
207-08-9	Benzo (k) fluoranthene	20	21
50-32-8	Benzo (a) pyrene	20	31
193-39-5	Indeno (1,2,3-cd) pyrene	20	< 20 U
53-70-3	Dibenz (a,h) anthracene	20	< 20 U
191-24-2	Benzo (g,h,i) perylene	20	< 20 U
90-12-0	1-Methylnaphthalene	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	48.4%	2-Fluorobiphenyl	50.8%
d14-p-Terphenyl	62.0%	d4-1,2-Dichlorobenzene	48.0%
d5-Phenol	50.7%	2-Fluorophenol	39.2%
2,4,6-Tribromophenol	52.3%	d4-2-Chlorophenol	49.6%

**SW8270 SEMIVOLATILES SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY**

Matrix: Soil

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3

Client ID	NBZ	FBP	TPH	DCB	PHL	2FP	TBP	2CP	TOT	OUT
MB-021208	56.0%	57.2%	69.2%	55.6%	58.9%	37.3%	50.9%	57.1%	0	
LCS-021208	54.4%	56.4%	64.8%	53.6%	57.6%	37.1%	52.3%	54.4%	0	
HC08-B4-0-1'	51.2%	51.6%	59.2%	48.4%	52.8%	33.6%	50.7%	50.1%	0	
HC08-B4-5-6'	52.0%	54.8%	60.4%	51.2%	53.6%	37.3%	49.9%	52.8%	0	
HC08-B5-0-1'	39.4%	41.2%	41.2%	36.8%	40.5%	27.2%	41.3%	39.2%	0	
HC08-B5-5-6'	41.6%	42.8%	48.0%	38.0%	41.9%	31.2%	45.6%	40.8%	0	
HC08-B13-0-1'	39.2%	40.8%	49.2%	37.9%	40.5%	31.2%	42.4%	39.2%	0	
HC08-B13-6-7'	42.0%	43.2%	52.0%	39.6%	42.9%	29.3%	45.1%	41.6%	0	
HC08-B14-0-1.5'	41.6%	42.8%	51.2%	39.4%	42.1%	29.6%	44.0%	41.1%	0	
HC08-B14-0-1.5' DL	45.0%	48.7%	44.3%	43.1%	45.8%	39.0%	49.5%	48.1%	0	
HC08-B14-6.5-7.5'	48.4%	50.8%	62.0%	48.0%	50.7%	39.2%	52.3%	49.6%	0	

	LCS/MB LIMITS	QC LIMITS
(NBZ) = d5-Nitrobenzene	(37-85)	(29-87)
(FBP) = 2-Fluorobiphenyl	(39-82)	(32-88)
(TPH) = d14-p-Terphenyl	(38-105)	(21-97)
(DCB) = d4-1,2-Dichlorobenzene	(33-79)	(25-82)
(PHL) = d5-Phenol	(40-85)	(29-85)
(2FP) = 2-Fluorophenol	(20-93)	(10-114)
(TBP) = 2,4,6-Tribromophenol	(40-96)	(25-103)
(2CP) = d4-2-Chlorophenol	(41-81)	(30-84)

Prep Method: SW3550B  
Log Number Range: 08-2462 to 08-2469

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
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Sample ID: LCS-021208  
LAB CONTROL

Lab Sample ID: LCS-021208  
LIMS ID: 08-2462  
Matrix: Soil  
Data Release Authorized: **VTS**  
Reported: 02/22/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3

Date Sampled: 01/17/08  
Date Received: 01/17/08

Date Extracted: 02/12/08  
Date Analyzed: 02/19/08 15:00  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: YES

Sample Amount: 25.0 g  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: NA

Analyte	Lab Control	Spike Added	Recovery
Phenol	303	500	60.6%
1,3-Dichlorobenzene	251	500	50.2%
1,4-Dichlorobenzene	250	500	50.0%
Benzyl Alcohol	217	1000	21.7%
1,2-Dichlorobenzene	257	500	51.4%
2-Methylphenol	264	500	52.8%
4-Methylphenol	547	1000	54.7%
Hexachloroethane	230	500	46.0%
2,4-Dimethylphenol	219	500	43.8%
Benzoic Acid	869	1500	57.9%
1,2,4-Trichlorobenzene	264	500	52.8%
Naphthalene	267	500	53.4%
Hexachlorobutadiene	251	500	50.2%
2-Methylnaphthalene	286	500	57.2%
Dimethylphthalate	327	500	65.4%
Acenaphthylene	305	500	61.0%
Acenaphthene	286	500	57.2%
Dibenzofuran	303	500	60.6%
Diethylphthalate	332	500	66.4%
Fluorene	313	500	62.6%
N-Nitrosodiphenylamine	395	500	79.0%
Hexachlorobenzene	282	500	56.4%
Pentachlorophenol	251	500	50.2%
Phenanthrene	302	500	60.4%
Anthracene	295	500	59.0%
Di-n-Butylphthalate	351	500	70.2%
Fluoranthene	333	500	66.6%
Pyrene	346	500	69.2%
Butylbenzylphthalate	353	500	70.6%
Benzo(a)anthracene	324	500	64.8%

ORGANICS ANALYSIS DATA SHEET  
 PSDDA Semivolatiles by SW8270D GC/MS  
 Page 2 of 2

Sample ID: LCS-021208  
 LAB CONTROL

Lab Sample ID: LCS-021208  
 LIMS ID: 08-2462  
 Matrix: Soil  
 Date Analyzed: 02/19/08 15:00

QC Report No: MI20-Hart Crowser, Inc.  
 Project: East Blair 3

Analyte	Lab Control	Spike Added	Recovery
bis(2-Ethylhexyl)phthalate	343	500	68.6%
Chrysene	320	500	64.0%
Di-n-Octyl phthalate	313	500	62.6%
Benzo(b)fluoranthene	397	500	79.4%
Benzo(k)fluoranthene	298	500	59.6%
Benzo(a)pyrene	340	500	68.0%
Indeno(1,2,3-cd)pyrene	316	500	63.2%
Dibenz(a,h)anthracene	327	500	65.4%
Benzo(g,h,i)perylene	280	500	56.0%
1-Methylnaphthalene	295	500	59.0%

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	54.4%
2-Fluorobiphenyl	56.4%
d14-p-Terphenyl	64.8%
d4-1,2-Dichlorobenzene	53.6%
d5-Phenol	57.6%
2-Fluorophenol	37.1%
2,4,6-Tribromophenol	52.3%
d4-2-Chlorophenol	54.4%

Results reported in  $\mu\text{g}/\text{kg}$

4B  
SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

MI20MBS1
----------

Lab Name: ANALYTICAL RESOURCES, INC

Client: HART CROWSER, INC.

ARI Job No: MI20

Project: EAST BLAIR 3

Lab File ID: MI20MB

Date Extracted: 02/12/08

Instrument ID: NT6

Date Analyzed: 02/19/08

Matrix: SOLID

Time Analyzed: 1350

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	=====	=====	=====	=====
01	MI20LCSDS1	MI20LCSDS1	MI20SBD	02/19/08
02	HC08-B4-0-1'	MI20A	MI20A	02/19/08
03	HC08-B4-5-6'	MI20B	MI20B	02/19/08
04	HC08-B5-0-1'	MI20C	MI20C	02/19/08
05	HC08-B5-5-6'	MI20D	MI20D	02/19/08
06	HC08-B13-0-1'	MI20E	MI20E	02/19/08
07	HC08-B13-6-7'	MI20F	MI20F	02/19/08
08	HC08-B14-0-1.5'	MI20G	MI20G	02/19/08
09	HC08-B14-6.5-7.5	MI20H	MI20H	02/19/08
10	HC08-B14-0-1.5'	MI20G	MI20GDL	02/21/08
11				
12				
13				
14				
15				
16				
17				
18				
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COMMENTS:

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**ORGANICS ANALYSIS DATA SHEET**

PSDDA Semivolatiles by SW8270D GC/MS

Page 1 of 2

Sample ID: MB-021208

METHOD BLANK

Lab Sample ID: MB-021208

LIMS ID: 08-2462

Matrix: Soil

Data Release Authorized: **VTS**

Reported: 02/22/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

NA

Date Sampled: NA

Date Received: NA

Date Extracted: 02/12/08

Date Analyzed: 02/19/08 13:50

Instrument/Analyst: NT6/LJR

GPC Cleanup: Yes

Sample Amount: 25.0 g

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: NA

CAS Number	Analyte	RL	Result
108-95-2	Phenol	20	< 20 U
541-73-1	1,3-Dichlorobenzene	20	< 20 U
106-46-7	1,4-Dichlorobenzene	20	< 20 U
100-51-6	Benzyl Alcohol	20	< 20 U
95-50-1	1,2-Dichlorobenzene	20	< 20 U
95-48-7	2-Methylphenol	20	< 20 U
106-44-5	4-Methylphenol	20	< 20 U
67-72-1	Hexachloroethane	20	< 20 U
105-67-9	2,4-Dimethylphenol	20	< 20 U
65-85-0	Benzoic Acid	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	20	< 20 U
91-20-3	Naphthalene	20	< 20 U
87-68-3	Hexachlorobutadiene	20	< 20 U
91-57-6	2-Methylnaphthalene	20	< 20 U
131-11-3	Dimethylphthalate	20	< 20 U
208-96-8	Acenaphthylene	20	< 20 U
83-32-9	Acenaphthene	20	< 20 U
132-64-9	Dibenzofuran	20	< 20 U
84-66-2	Diethylphthalate	20	< 20 U
86-73-7	Fluorene	20	< 20 U
86-30-6	N-Nitrosodiphenylamine	20	< 20 U
118-74-1	Hexachlorobenzene	20	< 20 U
87-86-5	Pentachlorophenol	100	< 100 U
85-01-8	Phenanthrene	20	< 20 U
120-12-7	Anthracene	20	< 20 U
84-74-2	Di-n-Butylphthalate	20	< 20 U
206-44-0	Fluoranthene	20	< 20 U
129-00-0	Pyrene	20	< 20 U
85-68-7	Butylbenzylphthalate	20	< 20 U
56-55-3	Benzo (a) anthracene	20	< 20 U
117-81-7	bis (2-Ethylhexyl) phthalate	20	< 20 U
218-01-9	Chrysene	20	< 20 U

ORGANICS ANALYSIS DATA SHEET  
PSDDA Semivolatiles by SW8270D GC/MS  
Page 2 of 2

Sample ID: MB-021208  
METHOD BLANK

Lab Sample ID: MB-021208  
LIMS ID: 08-2462  
Matrix: Soil  
Date Analyzed: 02/19/08 13:50

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3  
NA

CAS Number	Analyte	RL	Result
117-84-0	Di-n-Octyl phthalate	20	< 20 U
205-99-2	Benzo(b) fluoranthene	20	< 20 U
207-08-9	Benzo(k) fluoranthene	20	< 20 U
50-32-8	Benzo(a) pyrene	20	< 20 U
193-39-5	Indeno(1,2,3-cd) pyrene	20	< 20 U
53-70-3	Dibenz(a,h) anthracene	20	< 20 U
191-24-2	Benzo(g,h,i) perylene	20	< 20 U
90-12-0	1-Methylnaphthalene	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Semivolatile Surrogate Recovery**

d5-Nitrobenzene	56.0%	2-Fluorobiphenyl	57.2%
d14-p-Terphenyl	69.2%	d4-1,2-Dichlorobenzene	55.6%
d5-Phenol	58.9%	2-Fluorophenol	37.3%
2,4,6-Tribromophenol	50.9%	d4-2-Chlorophenol	57.1%

**SIM PNA**

**ORGANICS ANALYSIS DATA SHEET**

PNAs by SW8270D-SIM GC/MS

Page 1 of 1

Sample ID: HC08-B4-0-1'

SAMPLE

Lab Sample ID: MI20A

LIMS ID: 08-2462

Matrix: Soil

Data Release Authorized: 

Reported: 02/20/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Event: NA

Date Sampled: 01/17/08

Date Received: 01/17/08

Date Extracted: 02/12/08

Date Analyzed: 02/20/08 10:01

Instrument/Analyst: NT1/VTS

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 10.1 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 36.7%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	5.0	29
91-57-6	2-Methylnaphthalene	5.0	21
90-12-0	1-Methylnaphthalene	5.0	14
208-96-8	Acenaphthylene	5.0	16
83-32-9	Acenaphthene	5.0	24
86-73-7	Fluorene	5.0	32
85-01-8	Phenanthrene	5.0	140
120-12-7	Anthracene	5.0	87
206-44-0	Fluoranthene	5.0	250
129-00-0	Pyrene	5.0	360
56-55-3	Benzo (a) anthracene	5.0	180
218-01-9	Chrysene	5.0	330
205-99-2	Benzo (b) fluoranthene	5.0	410
207-08-9	Benzo (k) fluoranthene	5.0	180
50-32-8	Benzo (a) pyrene	5.0	270
193-39-5	Indeno (1,2,3-cd) pyrene	5.0	110
53-70-3	Dibenz (a, h) anthracene	5.0	35
191-24-2	Benzo (g, h, i) perylene	5.0	110
132-64-9	Dibenzofuran	5.0	25

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 51.0%  
d14-Dibenzo (a, h) anthracen 46.7%

**ORGANICS ANALYSIS DATA SHEET**

PNAs by SW8270D-SIM GC/MS

Page 1 of 1

Sample ID: HC08-B4-5-6'

SAMPLE

Lab Sample ID: MI20B

LIMS ID: 08-2463

Matrix: Soil

Data Release Authorized:

Reported: 02/20/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Event: NA

Date Sampled: 01/17/08

Date Received: 01/17/08

Date Extracted: 02/12/08

Date Analyzed: 02/20/08 10:26

Instrument/Analyst: NT1/VTS

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 10.1 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 25.6%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	5.0	< 5.0 U
90-12-0	1-Methylnaphthalene	5.0	< 5.0 U
208-96-8	Acenaphthylene	5.0	< 5.0 U
83-32-9	Acenaphthene	5.0	< 5.0 U
86-73-7	Fluorene	5.0	< 5.0 U
85-01-8	Phenanthrene	5.0	< 5.0 U
120-12-7	Anthracene	5.0	< 5.0 U
206-44-0	Fluoranthene	5.0	< 5.0 U
129-00-0	Pyrene	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	5.0	< 5.0 U
218-01-9	Chrysene	5.0	< 5.0 U
205-99-2	Benzo(b)fluoranthene	5.0	< 5.0 U
207-08-9	Benzo(k)fluoranthene	5.0	< 5.0 U
50-32-8	Benzo(a)pyrene	5.0	< 5.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	< 5.0 U
53-70-3	Dibenz(a,h)anthracene	5.0	< 5.0 U
191-24-2	Benzo(g,h,i)perylene	5.0	< 5.0 U
132-64-9	Dibenzofuran	5.0	< 5.0 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 53.0%

d14-Dibenzo(a,h)anthracen 61.7%

**ORGANICS ANALYSIS DATA SHEET**

PNAs by SW8270D-SIM GC/MS

Page 1 of 1

Sample ID: HC08-B5-0-1'

SAMPLE

Lab Sample ID: MI20C

LIMS ID: 08-2464

Matrix: Soil

Data Release Authorized:

Reported: 02/20/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Event: NA

Date Sampled: 01/18/08

Date Received: 01/18/08

Date Extracted: 02/12/08

Date Analyzed: 02/20/08 10:52

Instrument/Analyst: NT1/VTS

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 10.0 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 41.0%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	5.0	29
91-57-6	2-Methylnaphthalene	5.0	20
90-12-0	1-Methylnaphthalene	5.0	14
208-96-8	Acenaphthylene	5.0	20
83-32-9	Acenaphthene	5.0	22
86-73-7	Fluorene	5.0	39
85-01-8	Phenanthrene	5.0	210
120-12-7	Anthracene	5.0	130
206-44-0	Fluoranthene	5.0	320
129-00-0	Pyrene	5.0	750 E
56-55-3	Benzo (a) anthracene	5.0	290
218-01-9	Chrysene	5.0	550 E
205-99-2	Benzo (b) fluoranthene	5.0	720 E
207-08-9	Benzo (k) fluoranthene	5.0	260
50-32-8	Benzo (a) pyrene	5.0	410
193-39-5	Indeno (1,2,3-cd) pyrene	5.0	140
53-70-3	Dibenz (a,h) anthracene	5.0	51
191-24-2	Benzo (g,h,i) perylene	5.0	130
132-64-9	Dibenzofuran	5.0	27

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 58.0%

d14-Dibenzo (a,h) anthracen 46.3%

ORGANICS ANALYSIS DATA SHEET  
PNAs by SW8270D-SIM GC/MS  
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Sample ID: HC08-B5-0-1'  
DILUTION

Lab Sample ID: MI20C  
LIMS ID: 08-2464  
Matrix: Soil  
Data Release Authorized:  
Reported: 02/20/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3  
Event: NA  
Date Sampled: 01/18/08  
Date Received: 01/18/08

Date Extracted: 02/12/08  
Date Analyzed: 02/20/08 13:54  
Instrument/Analyst: NT1/VTS  
GPC Cleanup: No  
Silica Gel Cleanup: Yes  
Alumina Cleanup: No

Sample Amount: 10.0 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 3.00  
Percent Moisture: 41.0%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	15	26
91-57-6	2-Methylnaphthalene	15	20
90-12-0	1-Methylnaphthalene	15	< 15 U
208-96-8	Acenaphthylene	15	32
83-32-9	Acenaphthene	15	24
86-73-7	Fluorene	15	40
85-01-8	Phenanthrene	15	200
120-12-7	Anthracene	15	140
206-44-0	Fluoranthene	15	370
129-00-0	Pyrene	15	690
56-55-3	Benzo (a) anthracene	15	280
218-01-9	Chrysene	15	510
205-99-2	Benzo (b) fluoranthene	15	720
207-08-9	Benzo (k) fluoranthene	15	250
50-32-8	Benzo (a) pyrene	15	410
193-39-5	Indeno (1,2,3-cd) pyrene	15	130
53-70-3	Dibenz (a,h) anthracene	15	44
191-24-2	Benzo (g,h,i) perylene	15	120
132-64-9	Dibenzofuran	15	26

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 55.0%  
d14-Dibenzo (a,h) anthracen 44.0%

ORGANICS ANALYSIS DATA SHEET  
PNAs by SW8270D-SIM GC/MS  
Page 1 of 1

Sample ID: HC08-B5-5-6'  
SAMPLE

Lab Sample ID: MI20D  
LIMS ID: 08-2465  
Matrix: Soil  
Data Release Authorized: *B*  
Reported: 02/20/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3  
Event: NA  
Date Sampled: 01/18/08  
Date Received: 01/18/08

Date Extracted: 02/12/08  
Date Analyzed: 02/20/08 11:17  
Instrument/Analyst: NT1/VTS  
GPC Cleanup: No  
Silica Gel Cleanup: Yes  
Alumina Cleanup: No

Sample Amount: 10.2 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: 37.9%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.9	18
91-57-6	2-Methylnaphthalene	4.9	12
90-12-0	1-Methylnaphthalene	4.9	8.8
208-96-8	Acenaphthylene	4.9	8.8
83-32-9	Acenaphthene	4.9	11
86-73-7	Fluorene	4.9	15
85-01-8	Phenanthrene	4.9	84
120-12-7	Anthracene	4.9	47
206-44-0	Fluoranthene	4.9	160
129-00-0	Pyrene	4.9	240
56-55-3	Benzo (a) anthracene	4.9	100
218-01-9	Chrysene	4.9	200
205-99-2	Benzo (b) fluoranthene	4.9	250
207-08-9	Benzo (k) fluoranthene	4.9	110
50-32-8	Benzo (a) pyrene	4.9	150
193-39-5	Indeno (1,2,3-cd) pyrene	4.9	59
53-70-3	Dibenz (a,h) anthracene	4.9	18
191-24-2	Benzo (g,h,i) perylene	4.9	56
132-64-9	Dibenzofuran	4.9	12

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 55.3%  
d14-Dibenzo (a,h) anthracen 46.3%



**ORGANICS ANALYSIS DATA SHEET**

PNAs by SW8270D-SIM GC/MS

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Sample ID: HC08-B13-0-1'

SAMPLE

Lab Sample ID: MI20E

LIMS ID: 08-2466

Matrix: Soil

Data Release Authorized:

Reported: 02/20/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Event: NA

Date Sampled: 01/21/08

Date Received: 01/22/08

Date Extracted: 02/12/08

Date Analyzed: 02/20/08 11:42

Instrument/Analyst: NT1/VTS

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 10.3 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 35.9%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.8	48
91-57-6	2-Methylnaphthalene	4.8	25
90-12-0	1-Methylnaphthalene	4.8	16
208-96-8	Acenaphthylene	4.8	22
83-32-9	Acenaphthene	4.8	25
86-73-7	Fluorene	4.8	36
85-01-8	Phenanthrene	4.8	180
120-12-7	Anthracene	4.8	100
206-44-0	Fluoranthene	4.8	310
129-00-0	Pyrene	4.8	930 E
56-55-3	Benzo(a)anthracene	4.8	260
218-01-9	Chrysene	4.8	440
205-99-2	Benzo(b)fluoranthene	4.8	930 E
207-08-9	Benzo(k)fluoranthene	4.8	400
50-32-8	Benzo(a)pyrene	4.8	600 E
193-39-5	Indeno(1,2,3-cd)pyrene	4.8	190
53-70-3	Dibenz(a,h)anthracene	4.8	66
191-24-2	Benzo(g,h,i)perylene	4.8	190
132-64-9	Dibenzofuran	4.8	27

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 60.3%

d14-Dibenzo(a,h)anthracen 40.7%

ORGANICS ANALYSIS DATA SHEET  
PNAs by SW8270D-SIM GC/MS  
Page 1 of 1

Sample ID: HC08-B13-0-1'  
DILUTION

Lab Sample ID: MI20E  
LIMS ID: 08-2466  
Matrix: Soil  
Data Release Authorized:  
Reported: 02/20/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3  
Event: NA  
Date Sampled: 01/21/08  
Date Received: 01/22/08

Date Extracted: 02/12/08  
Date Analyzed: 02/20/08 14:23  
Instrument/Analyst: NT1/VTS  
GPC Cleanup: No  
Silica Gel Cleanup: Yes  
Alumina Cleanup: No

Sample Amount: 10.3 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 3.00  
Percent Moisture: 35.9%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	15	45
91-57-6	2-Methylnaphthalene	15	23
90-12-0	1-Methylnaphthalene	15	15
208-96-8	Acenaphthylene	15	26
83-32-9	Acenaphthene	15	26
86-73-7	Fluorene	15	34
85-01-8	Phenanthrene	15	180
120-12-7	Anthracene	15	100
206-44-0	Fluoranthene	15	350
129-00-0	Pyrene	15	860
56-55-3	Benzo (a) anthracene	15	260
218-01-9	Chrysene	15	430
205-99-2	Benzo (b) fluoranthene	15	960
207-08-9	Benzo (k) fluoranthene	15	380
50-32-8	Benzo (a) pyrene	15	570
193-39-5	Indeno (1,2,3-cd) pyrene	15	200
53-70-3	Dibenz (a, h) anthracene	15	68
191-24-2	Benzo (g, h, i) perylene	15	210
132-64-9	Dibenzofuran	15	28

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 55.0%  
d14-Dibenzo (a, h) anthracen 42.0%

**ORGANICS ANALYSIS DATA SHEET**

PNAs by SW8270D-SIM GC/MS

Page 1 of 1


Sample ID: HC08-B13-6-7'

**SAMPLE**

Lab Sample ID: MI20F

LIMS ID: 08-2467

Matrix: Soil

Data Release Authorized: 

Reported: 02/20/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Event: NA

Date Sampled: 01/21/08

Date Received: 01/22/08

Date Extracted: 02/12/08

Date Analyzed: 02/20/08 12:14

Instrument/Analyst: NT1/VTS

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 10.4 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 31.1%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.8	24
91-57-6	2-Methylnaphthalene	4.8	14
90-12-0	1-Methylnaphthalene	4.8	11
208-96-8	Acenaphthylene	4.8	11
83-32-9	Acenaphthene	4.8	17
86-73-7	Fluorene	4.8	20
85-01-8	Phenanthrene	4.8	160
120-12-7	Anthracene	4.8	54
206-44-0	Fluoranthene	4.8	260
129-00-0	Pyrene	4.8	330
56-55-3	Benzo (a) anthracene	4.8	130
218-01-9	Chrysene	4.8	200
205-99-2	Benzo (b) fluoranthene	4.8	350
207-08-9	Benzo (k) fluoranthene	4.8	120
50-32-8	Benzo (a) pyrene	4.8	220
193-39-5	Indeno (1,2,3-cd) pyrene	4.8	84
53-70-3	Dibenz (a,h) anthracene	4.8	26
191-24-2	Benzo (g,h,i) perylene	4.8	84
132-64-9	Dibenzofuran	4.8	16

Reported in  $\mu\text{g}/\text{kg}$  (ppb)


**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 51.0%

d14-Dibenzo (a,h) anthracen 40.0%

ORGANICS ANALYSIS DATA SHEET  
PNAs by SW8270D-SIM GC/MS  
Page 1 of 1

Sample ID: HC08-B14-0-1.5'  
SAMPLE

Lab Sample ID: MI20G  
LIMS ID: 08-2468  
Matrix: Soil  
Data Release Authorized:   
Reported: 02/20/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3  
Event: NA  
Date Sampled: 01/25/08  
Date Received: 01/25/08

Date Extracted: 02/12/08  
Date Analyzed: 02/20/08 13:29  
Instrument/Analyst: NT1/VTS  
GPC Cleanup: No  
Silica Gel Cleanup: Yes  
Alumina Cleanup: No

Sample Amount: 10.3 g-dry-wt  
Final Extract Volume: 0.5 mL  
Dilution Factor: 10.0  
Percent Moisture: 35.7%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	48	2,200
91-57-6	2-Methylnaphthalene	48	910
90-12-0	1-Methylnaphthalene	48	700
208-96-8	Acenaphthylene	48	190
83-32-9	Acenaphthene	48	5,200 E
86-73-7	Fluorene	48	4,900 E
85-01-8	Phenanthrene	48	32,000 E
120-12-7	Anthracene	48	6,100 E
206-44-0	Fluoranthene	48	34,000 E
129-00-0	Pyrene	48	30,000 E
56-55-3	Benzo (a) anthracene	48	15,000 E
218-01-9	Chrysene	48	17,000 E
205-99-2	Benzo (b) fluoranthene	48	20,000 E
207-08-9	Benzo (k) fluoranthene	48	8,600 E
50-32-8	Benzo (a) pyrene	48	15,000 E
193-39-5	Indeno (1,2,3-cd) pyrene	48	6,200 E
53-70-3	Dibenz (a,h) anthracene	48	1,700
191-24-2	Benzo (g,h,i) perylene	48	6,300 E
132-64-9	Dibenzofuran	48	3,700

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 53.3%  
d14-Dibenzo (a,h) anthracen 53.3%

**ORGANICS ANALYSIS DATA SHEET**

PNAs by SW8270D-SIM GC/MS

Page 1 of 1


Sample ID: HC08-B14-0-1.5'

DILUTION

Lab Sample ID: MI20G

LIMS ID: 08-2468

Matrix: Soil

Data Release Authorized: 

Reported: 02/20/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Event: NA

Date Sampled: 01/25/08

Date Received: 01/25/08

Date Extracted: 02/12/08

Date Analyzed: 02/20/08 14:49

Instrument/Analyst: NT1/VTS

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 10.3 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 200

Percent Moisture: 35.7%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	970	2,300
91-57-6	2-Methylnaphthalene	970	970
90-12-0	1-Methylnaphthalene	970	< 970 U
208-96-8	Acenaphthylene	970	< 970 U
83-32-9	Acenaphthene	970	5,400
86-73-7	Fluorene	970	4,800
85-01-8	Phenanthrene	970	49,000
120-12-7	Anthracene	970	6,000
206-44-0	Fluoranthene	970	56,000
129-00-0	Pyrene	970	44,000
56-55-3	Benzo (a) anthracene	970	16,000
218-01-9	Chrysene	970	18,000
205-99-2	Benzo (b) fluoranthene	970	22,000
207-08-9	Benzo (k) fluoranthene	970	10,000
50-32-8	Benzo (a) pyrene	970	16,000
193-39-5	Indeno (1,2,3-cd) pyrene	970	6,600
53-70-3	Dibenz (a,h) anthracene	970	1,500
191-24-2	Benzo (g,h,i) perylene	970	6,700
132-64-9	Dibenzofuran	970	3,800

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene D

d14-Dibenzo (a,h) anthracen D

**ORGANICS ANALYSIS DATA SHEET**

PNA's by SW8270D-SIM GC/MS

Page 1 of 1

Sample ID: HC08-B14-6.5-7.5'

SAMPLE

Lab Sample ID: MI20H

LIMS ID: 08-2469

Matrix: Soil

Data Release Authorized:

Reported: 02/20/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Event: NA

Date Sampled: 01/25/08

Date Received: 01/25/08

Date Extracted: 02/12/08

Date Analyzed: 02/20/08 12:39

Instrument/Analyst: NT1/VTS

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 10.3 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: 21.5%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.8	12
91-57-6	2-Methylnaphthalene	4.8	15
90-12-0	1-Methylnaphthalene	4.8	11
208-96-8	Acenaphthylene	4.8	< 4.8 U
83-32-9	Acenaphthene	4.8	8.7
86-73-7	Fluorene	4.8	11
85-01-8	Phenanthrene	4.8	44
120-12-7	Anthracene	4.8	7.8
206-44-0	Fluoranthene	4.8	41
129-00-0	Pyrene	4.8	44
56-55-3	Benzo (a) anthracene	4.8	14
218-01-9	Chrysene	4.8	18
205-99-2	Benzo (b) fluoranthene	4.8	22
207-08-9	Benzo (k) fluoranthene	4.8	9.2
50-32-8	Benzo (a) pyrene	4.8	16
193-39-5	Indeno (1,2,3-cd) pyrene	4.8	5.8
53-70-3	Dibenz (a,h) anthracene	4.8	< 4.8 U
191-24-2	Benzo (g,h,i) perylene	4.8	6.3
132-64-9	Dibenzofuran	4.8	9.2

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 61.3%

d14-Dibenzo (a,h) anthracen 55.0%

**SIM SW8270 SURROGATE RECOVERY SUMMARY**

Matrix: Soil

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3

<u>Client ID</u>	<u>MNP</u>	<u>DBA</u>	<u>TOT OUT</u>
MB-021208	56.3%	62.3%	0
LCS-021208	59.0%	63.0%	0
LCS-021208	58.3%	64.3%	0
HC08-B4-0-1'	51.0%	46.7%	0
HC08-B4-5-6'	53.0%	61.7%	0
HC08-B5-0-1'	58.0%	46.3%	0
HC08-B5-0-1' DL	55.0%	44.0%	0
HC08-B5-5-6'	55.3%	46.3%	0
HC08-B13-0-1'	60.3%	40.7%	0
HC08-B13-0-1' DL	55.0%	42.0%	0
HC08-B13-6-7'	51.0%	40.0%	0
HC08-B14-0-1.5'	53.3%	53.3%	0
HC08-B14-0-1.5' DL	D	D	0
HC08-B14-6.5-7.5'	61.3%	55.0%	0

	<u>LCS/MB LIMITS</u>	<u>QC LIMITS</u>
(MNP) = d10-2-Methylnaphthalene	(44-100)	(37-106)
(DBA) = d14-Dibenzo(a,h)anthracene	(46-121)	(16-118)

Prep Method: SW3550B  
Log Number Range: 08-2462 to 08-2469

Sample ID: LCS-021208  
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-021208  
 LIMS ID: 08-2462  
 Matrix: Soil  
 Data Release Authorized:  
 Reported: 02/20/08

QC Report No: MI20-Hart Crowser, Inc.  
 Project: East Blair 3  
 Event: NA  
 Date Sampled: NA  
 Date Received: NA

Date Extracted: 02/12/08

Sample Amount LCS: 10.0 g-dry-wt

Date Analyzed LCS: 02/20/08 08:46

LCSD: 10.0 g-dry-wt

LCSD: 02/20/08 09:11

Final Extract Volume LCS: 0.50 mL

LCSD: 0.50 mL

Instrument/Analyst LCS: NT1/VTS

Dilution Factor LCS: 1.00

LCSD: NT1/VTS

LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	85.5	150	57.0%	85.5	150	57.0%	0.0%
2-Methylnaphthalene	82.5	150	55.0%	86.0	150	57.3%	4.2%
1-Methylnaphthalene	82.5	150	55.0%	85.0	150	56.7%	3.0%
Acenaphthylene	90.0	150	60.0%	88.0	150	58.7%	2.2%
Acenaphthene	94.5	150	63.0%	90.0	150	60.0%	4.9%
Fluorene	94.5	150	63.0%	89.0	150	59.3%	6.0%
Phenanthrene	96.0	150	64.0%	96.5	150	64.3%	0.5%
Anthracene	102	150	68.0%	97.5	150	65.0%	4.5%
Fluoranthene	98.5	150	65.7%	95.5	150	63.7%	3.1%
Pyrene	100	150	66.7%	97.5	150	65.0%	2.5%
Benzo(a)anthracene	97.0	150	64.7%	95.0	150	63.3%	2.1%
Chrysene	98.0	150	65.3%	99.5	150	66.3%	1.5%
Benzo(b)fluoranthene	100	150	66.7%	97.0	150	64.7%	3.0%
Benzo(k)fluoranthene	101	150	67.3%	99.5	150	66.3%	1.5%
Benzo(a)pyrene	102	150	68.0%	95.5	150	63.7%	6.6%
Indeno(1,2,3-cd)pyrene	83.5	150	55.7%	87.0	150	58.0%	4.1%
Dibenz(a,h)anthracene	86.5	150	57.7%	90.0	150	60.0%	4.0%
Benzo(g,h,i)perylene	79.0	150	52.7%	78.5	150	52.3%	0.6%
Dibenzofuran	89.0	150	59.3%	85.5	150	57.0%	4.0%

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

RPD calculated using sample concentrations per SW846.

**SIM Semivolatile Surrogate Recovery**

	LCS	LCSD
d10-2-Methylnaphthalene	59.0%	58.3%
d14-Dibenzo(a,h)anthracen	63.0%	64.3%



4B  
SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

MI20MBS1

Lab Name: ANALYTICAL RESOURCES, INC  
ARI Job No: MI20  
Lab File ID: MI20MB  
Instrument ID: NT1  
Matrix: SOLID

Client: HART CROWSER, INC.  
Project: EAST BLAIR 3  
Date Extracted: 02/12/08  
Date Analyzed: 02/20/08  
Time Analyzed: 0820

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	=====	=====	=====	=====
01	MI20LCSS1	MI20LCSS1	MI20SB	02/20/08
02	MI20LCSDS1	MI20LCSDS1	MI20SBD	02/20/08
03	HC08-B4-0-1'	MI20A	MI20A	02/20/08
04	HC08-B4-5-6'	MI20B	MI20B	02/20/08
05	HC08-B5-0-1'	MI20C	MI20C	02/20/08
06	HC08-B5-5-6'	MI20D	MI20D	02/20/08
07	HC08-B13-0-1'	MI20E	MI20E	02/20/08
08	HC08-B13-6-7'	MI20F	MI20F	02/20/08
09	HC08-B14-6.5-7.5	MI20H	MI20H	02/20/08
10	HC08-B14-0-1.5'	MI20G	MI20G	02/20/08
11	HC08-B5-0-1'	MI20C	MI20CDL	02/20/08
12	HC08-B13-0-1'	MI20E	MI20EDL	02/20/08
13	HC08-B14-0-1.5'	MI20G	MI20GDL	02/20/08
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COMMENTS:

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ORGANICS ANALYSIS DATA SHEET

PNA's by SW8270D-SIM GC/MS

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Sample ID: MB-021208

METHOD BLANK

Lab Sample ID: MB-021208

LIMS ID: 08-2462

Matrix: Soil

Data Release Authorized: *RB*

Reported: 02/20/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Event: NA

Date Sampled: NA

Date Received: NA

Date Extracted: 02/12/08

Date Analyzed: 02/20/08 08:20

Instrument/Analyst: NT1/VTS

GPC Cleanup: No

Silica Gel Cleanup: Yes

Alumina Cleanup: No

Sample Amount: 10.0 g-dry-wt

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	5.0	< 5.0 U
90-12-0	1-Methylnaphthalene	5.0	< 5.0 U
208-96-8	Acenaphthylene	5.0	< 5.0 U
83-32-9	Acenaphthene	5.0	< 5.0 U
86-73-7	Fluorene	5.0	< 5.0 U
85-01-8	Phenanthrene	5.0	< 5.0 U
120-12-7	Anthracene	5.0	< 5.0 U
206-44-0	Fluoranthene	5.0	< 5.0 U
129-00-0	Pyrene	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	5.0	< 5.0 U
218-01-9	Chrysene	5.0	< 5.0 U
205-99-2	Benzo(b)fluoranthene	5.0	< 5.0 U
207-08-9	Benzo(k)fluoranthene	5.0	< 5.0 U
50-32-8	Benzo(a)pyrene	5.0	< 5.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	< 5.0 U
53-70-3	Dibenz(a,h)anthracene	5.0	< 5.0 U
191-24-2	Benzo(g,h,i)perylene	5.0	< 5.0 U
132-64-9	Dibenzofuran	5.0	< 5.0 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)


**SIM Semivolatile Surrogate Recovery**

d10-2-Methylnaphthalene 56.3%  
 d14-Dibenzo(a,h)anthracen 62.3%

## **PESTICIDES**

ORGANICS ANALYSIS DATA SHEET  
PSDDA Pesticides/PCB by GC/ECD  
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Sample ID: HC08-B4-0-1'  
SAMPLE

Lab Sample ID: MI20A  
LIMS ID: 08-2462  
Matrix: Soil  
Data Release Authorized:   
Reported: 02/19/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3

Date Sampled: 01/17/08  
Date Received: 01/17/08

Date Extracted: 02/12/08  
Date Analyzed: 02/14/08 14:24  
Instrument/Analyst: ECD4/YZ  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Florisil Cleanup: No  
Acid Cleanup: No

Sample Amount: 12.7 g-dry-wt  
Final Extract Volume: 2.5 mL  
Dilution Factor: 2.00  
Silica Gel: Yes  
Percent Moisture: 36.7%

CAS Number	Analyte	RL	Result
58-89-9	gamma-BHC (Lindane)	2.0	< 2.0 U
76-44-8	Heptachlor	2.0	< 2.0 U
309-00-2	Aldrin	2.0	< 2.0 U
60-57-1	Dieldrin	4.0	< 4.0 U
72-55-9	4,4'-DDE	4.0	< 4.0 U
72-54-8	4,4'-DDD	4.0	< 4.0 U
50-29-3	4,4'-DDT	4.0	< 4.0 U
5103-74-2	gamma Chlordane	2.0	< 2.0 U
5103-71-9	alpha Chlordane	2.0	< 2.0 U
118-74-1	Hexachlorobenzene	2.0	< 2.0 U
87-68-3	Hexachlorobutadiene	2.0	< 2.0 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Pest/PCB Surrogate Recovery**

Decachlorobiphenyl	94.0%
Tetrachlorometaxylene	57.0%

ORGANICS ANALYSIS DATA SHEET  
PSDDA Pesticides/PCB by GC/ECD  
Page 1 of 1



Sample ID: HC08-B4-5-6'  
SAMPLE

Lab Sample ID: MI20B  
LIMS ID: 08-2463  
Matrix: Soil  
Data Release Authorized:  
Reported: 02/19/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3

Date Sampled: 01/17/08  
Date Received: 01/17/08

Date Extracted: 02/12/08  
Date Analyzed: 02/14/08 14:43  
Instrument/Analyst: ECD4/YZ  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Florisil Cleanup: No  
Acid Cleanup: No

Sample Amount: 12.7 g-dry-wt  
Final Extract Volume: 2.5 mL  
Dilution Factor: 1.00  
Silica Gel: Yes

Percent Moisture: 25.6%

CAS Number	Analyte	RL	Result
58-89-9	gamma-BHC (Lindane)	0.99	< 0.99 U
76-44-8	Heptachlor	0.99	< 0.99 U
309-00-2	Aldrin	0.99	< 0.99 U
60-57-1	Dieldrin	2.0	< 2.0 U
72-55-9	4,4'-DDE	2.0	< 2.0 U
72-54-8	4,4'-DDD	2.0	< 2.0 U
50-29-3	4,4'-DDT	2.0	< 2.0 U
5103-74-2	gamma Chlordane	0.99	< 0.99 U
5103-71-9	alpha Chlordane	0.99	< 0.99 U
118-74-1	Hexachlorobenzene	0.99	< 0.99 U
87-68-3	Hexachlorobutadiene	0.99	< 0.99 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Pest/PCB Surrogate Recovery**

Decachlorobiphenyl	61.0%
Tetrachlorometaxylene	55.5%

ORGANICS ANALYSIS DATA SHEET  
PSDDA Pesticides/PCB by GC/ECD  
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Sample ID: HC08-B5-0-1'  
SAMPLE

Lab Sample ID: MI20C  
LIMS ID: 08-2464  
Matrix: Soil  
Data Release Authorized: *[Signature]*  
Reported: 02/19/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3

Date Sampled: 01/18/08  
Date Received: 01/18/08

Date Extracted: 02/12/08  
Date Analyzed: 02/14/08 15:03  
Instrument/Analyst: ECD4/YZ  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Florisil Cleanup: No  
Acid Cleanup: No

Sample Amount: 13.0 g-dry-wt  
Final Extract Volume: 2.5 mL  
Dilution Factor: 2.00  
Silica Gel: Yes  
Percent Moisture: 41.0%

CAS Number	Analyte	RL	Result
58-89-9	gamma-BHC (Lindane)	1.9	< 1.9 U
76-44-8	Heptachlor	1.9	< 1.9 U
309-00-2	Aldrin	1.9	< 1.9 U
60-57-1	Dieldrin	3.8	< 3.8 U
72-55-9	4,4'-DDE	3.8	< 3.8 U
72-54-8	4,4'-DDD	3.8	< 3.8 U
50-29-3	4,4'-DDT	3.8	< 3.8 U
5103-74-2	gamma Chlordane	1.9	< 1.9 U
5103-71-9	alpha Chlordane	1.9	< 1.9 U
118-74-1	Hexachlorobenzene	1.9	< 1.9 U
87-68-3	Hexachlorobutadiene	1.9	< 1.9 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Pest/PCB Surrogate Recovery**

Decachlorobiphenyl	85.0%
Tetrachlorometaxylene	39.3%

Sample ID: HC08-B5-5-6'  
SAMPLE

Lab Sample ID: MI20D  
LIMS ID: 08-2465  
Matrix: Soil  
Data Release Authorized:  
Reported: 02/19/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3

Date Sampled: 01/18/08  
Date Received: 01/18/08

Date Extracted: 02/12/08  
Date Analyzed: 02/14/08 15:23  
Instrument/Analyst: ECD4/YZ  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Florisil Cleanup: No  
Acid Cleanup: No

Sample Amount: 13.1 g-dry-wt  
Final Extract Volume: 2.5 mL  
Dilution Factor: 2.00  
Silica Gel: Yes  
Percent Moisture: 37.9%

CAS Number	Analyte	RL	Result
58-89-9	gamma-BHC (Lindane)	1.9	< 1.9 U
76-44-8	Heptachlor	1.9	< 1.9 U
309-00-2	Aldrin	1.9	< 1.9 U
60-57-1	Dieldrin	3.8	< 3.8 U
72-55-9	4,4'-DDE	3.8	< 3.8 U
72-54-8	4,4'-DDD	4.4	< 4.4 Y
50-29-3	4,4'-DDT	8.5	< 8.5 Y
5103-74-2	gamma Chlordane	1.9	< 1.9 U
5103-71-9	alpha Chlordane	1.9	< 1.9 U
118-74-1	Hexachlorobenzene	1.9	< 1.9 U
87-68-3	Hexachlorobutadiene	1.9	< 1.9 U


Reported in  $\mu\text{g}/\text{kg}$  (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	106%
Tetrachlorometaxylene	41.2%

ORGANICS ANALYSIS DATA SHEET  
PSDDA Pesticides/PCB by GC/ECD  
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Sample ID: HC08-B13-0-1'  
SAMPLE

Lab Sample ID: MI20E  
LIMS ID: 08-2466  
Matrix: Soil  
Data Release Authorized:   
Reported: 02/19/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3

Date Sampled: 01/21/08  
Date Received: 01/22/08

Date Extracted: 02/12/08  
Date Analyzed: 02/14/08 15:42  
Instrument/Analyst: ECD4/YZ  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Florisil Cleanup: No  
Acid Cleanup: No

Sample Amount: 12.8 g-dry-wt  
Final Extract Volume: 2.5 mL  
Dilution Factor: 2.00  
Silica Gel: Yes  
Percent Moisture: 35.9%

CAS Number	Analyte	RL	Result
58-89-9	gamma-BHC (Lindane)	2.0	< 2.0 U
76-44-8	Heptachlor	2.0	< 2.0 U
309-00-2	Aldrin	2.0	< 2.0 U
60-57-1	Dieldrin	3.9	< 3.9 U
72-55-9	4,4'-DDE	3.9	< 3.9 U
72-54-8	4,4'-DDD	3.9	< 3.9 U
50-29-3	4,4'-DDT	3.9	< 3.9 U
5103-74-2	gamma Chlordane	2.0	< 2.0 U
5103-71-9	alpha Chlordane	2.0	< 2.0 U
118-74-1	Hexachlorobenzene	2.0	< 2.0 U
87-68-3	Hexachlorobutadiene	2.0	< 2.0 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)


**Pest/PCB Surrogate Recovery**

Decachlorobiphenyl	107%
Tetrachlorometaxylene	68.5%



**ORGANICS ANALYSIS DATA SHEET**  
**PSDDA Pesticides/PCB by GC/ECD**  
 Page 1 of 1

Sample ID: HC08-B13-6-7'  
**SAMPLE**

Lab Sample ID: MI20F  
 LIMS ID: 08-2467  
 Matrix: Soil  
 Data Release Authorized:  
 Reported: 02/19/08 

QC Report No: MI20-Hart Crowser, Inc.  
 Project: East Blair 3  
 Date Sampled: 01/21/08  
 Date Received: 01/22/08

Date Extracted: 02/12/08  
 Date Analyzed: 02/18/08 15:56  
 Instrument/Analyst: ECD4/YZ  
 GPC Cleanup: No  
 Sulfur Cleanup: Yes  
 Florisil Cleanup: No  
 Acid Cleanup: No

Sample Amount: 13.1 g-dry-wt  
 Final Extract Volume: 2.5 mL  
 Dilution Factor: 2.00  
 Silica Gel: Yes  
 Percent Moisture: 31.1%

CAS Number	Analyte	RL	Result
58-89-9	gamma-BHC (Lindane)	1.9	< 1.9 U
76-44-8	Heptachlor	1.9	< 1.9 U
309-00-2	Aldrin	1.9	< 1.9 U
60-57-1	Dieldrin	3.8	< 3.8 U
72-55-9	4,4'-DDE	3.8	< 3.8 U
72-54-8	4,4'-DDD	3.8	< 3.8 Y
50-29-3	4,4'-DDT	3.8	< 3.8 U
5103-74-2	gamma Chlordane	1.9	< 1.9 U
5103-71-9	alpha Chlordane	1.9	< 1.9 U
<b>118-74-1</b>	<b>Hexachlorobenzene</b>	<b>1.9</b>	<b>2.9</b>
87-68-3	Hexachlorobutadiene	4.6	< 4.6 Y


Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Pest/PCB Surrogate Recovery**

Decachlorobiphenyl	99.0%
Tetrachlorometaxylene	81.0%

**ORGANICS ANALYSIS DATA SHEET**  
**PSDDA Pesticides/PCB by GC/ECD**  
 Page 1 of 1

Sample ID: HC08-B14-0-1.5'  
**SAMPLE**

Lab Sample ID: MI20G  
 LIMS ID: 08-2468  
 Matrix: Soil  
 Data Release Authorized:   
 Reported: 02/19/08

QC Report No: MI20-Hart Crowser, Inc.  
 Project: East Blair 3  
 Date Sampled: 01/25/08  
 Date Received: 01/25/08

Date Extracted: 02/12/08  
 Date Analyzed: 02/14/08 16:21  
 Instrument/Analyst: ECD4/YZ  
 GPC Cleanup: No  
 Sulfur Cleanup: Yes  
 Florisil Cleanup: No  
 Acid Cleanup: No

Sample Amount: 12.9 g-dry-wt  
 Final Extract Volume: 2.5 mL  
 Dilution Factor: 2.00  
 Silica Gel: Yes  
 Percent Moisture: 35.7%

CAS Number	Analyte	RL	Result
58-89-9	gamma-BHC (Lindane)	1.9	< 1.9 U
76-44-8	Heptachlor	1.9	< 1.9 U
309-00-2	Aldrin	1.9	< 1.9 U
60-57-1	Dieldrin	3.9	< 3.9 U
72-55-9	4,4'-DDE	3.9	< 3.9 U
72-54-8	4,4'-DDD	3.9	< 3.9 U
50-29-3	4,4'-DDT	3.9	< 3.9 U
5103-74-2	gamma Chlordane	1.9	< 1.9 U
5103-71-9	alpha Chlordane	1.9	< 1.9 U
118-74-1	Hexachlorobenzene	1.9	< 1.9 U
87-68-3	Hexachlorobutadiene	1.9	< 1.9 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Pest/PCB Surrogate Recovery**

Decachlorobiphenyl	136%
Tetrachlorometaxylene	49.2%

Sample ID: HC08-B14-6.5-7.5'  
SAMPLE

Lab Sample ID: MI20H  
LIMS ID: 08-2469  
Matrix: Soil  
Data Release Authorized:  
Reported: 02/19/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3

Date Sampled: 01/25/08  
Date Received: 01/25/08

Date Extracted: 02/12/08  
Date Analyzed: 02/14/08 16:41  
Instrument/Analyst: ECD4/YZ  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Florisil Cleanup: No  
Acid Cleanup: No

Sample Amount: 12.6 g-dry-wt  
Final Extract Volume: 2.5 mL  
Dilution Factor: 1.00  
Silica Gel: Yes

Percent Moisture: 21.5%

CAS Number	Analyte	RL	Result
58-89-9	gamma-BHC (Lindane)	0.99	< 0.99 U
76-44-8	Heptachlor	0.99	< 0.99 U
309-00-2	Aldrin	0.99	< 0.99 U
60-57-1	Dieldrin	2.0	< 2.0 U
72-55-9	4,4'-DDE	2.0	< 2.0 U
72-54-8	4,4'-DDD	2.0	< 2.0 U
50-29-3	4,4'-DDT	2.0	< 2.0 U
5103-74-2	gamma Chlordane	0.99	< 0.99 U
5103-71-9	alpha Chlordane	0.99	< 0.99 U
118-74-1	Hexachlorobenzene	0.99	< 0.99 U
87-68-3	Hexachlorobutadiene	0.99	< 0.99 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	63.2%
Tetrachlorometaxylene	57.2%

**SW8081 PESTICIDE SOLID SURROGATE RECOVERY SUMMARY**

Matrix: Soil

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3

<u>Client ID</u>	<u>DCBP</u>	<u>TCMX</u>	<u>TOT OUT</u>
MB-021208	73.2%	61.2%	0
LCS-021208	69.0%	63.5%	0
LCSD-021208	60.0%*	52.8%*	2
HC08-B4-0-1'	94.0%	57.0%	0
HC08-B4-5-6'	61.0%	55.5%	0
HC08-B5-0-1'	85.0%	39.3%*	1
HC08-B5-5-6'	106%	41.2%*	1
HC08-B13-0-1'	107%	68.5%	0
HC08-B13-6-7'	99.0%	81.0%	0
HC08-B14-0-1.5'	136%	49.2%	0
HC08-B14-6.5-7.5'	63.2%	57.2%	0

**LCS/MB LIMITS      QC LIMITS**

(DCBP) = Decachlorobiphenyl      (65-125)      (52-143)  
(TCMX) = Tetrachlorometaxylene      (53-112)      (43-128)

Prep Method: SW3550B  
Log Number Range: 08-2462 to 08-2469

ORGANICS ANALYSIS DATA SHEET  
PSDDA Pesticides/PCB by GC/ECD  
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Sample ID: LCS-021208  
LCS/LCSD

Lab Sample ID: LCS-021208  
LIMS ID: 08-2462  
Matrix: Soil  
Data Release Authorized:  
Reported: 02/19/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3

Date Sampled: 01/17/08  
Date Received: 01/17/08

Date Extracted LCS/LCSD: 02/12/08

Sample Amount LCS: 12.5 g-dry-wt  
LCSD: 12.5 g-dry-wt

Date Analyzed LCS: 02/14/08 13:45  
LCSD: 02/14/08 14:05

Final Extract Volume LCS: 2.5 mL  
LCSD: 2.5 mL

Instrument/Analyst LCS: ECD4/YZ  
LCSD: ECD4/YZ

Dilution Factor LCS: 1.00  
LCSD: 1.00

GPC Cleanup: No  
Sulfur Cleanup: Yes  
Florisil Cleanup: No

Silica Gel: Yes

Percent Moisture: NA

Analyte	Spike		LCS		Spike		LCSD	
	LCS	Added-LCS	Recovery	LCSD	Added-LCSD	Recovery	RPD	
gamma-BHC (Lindane)	2.68	4.00	67.0%	2.44	4.00	61.0%	9.4%	
Heptachlor	2.76	4.00	69.0%	2.48	4.00	62.0%	10.7%	
Aldrin	3.20	4.00	80.0%	3.04	4.00	76.0%	5.1%	
Dieldrin	5.72	8.00	71.5%	5.58	8.00	69.8%	2.5%	
4,4'-DDE	6.32	8.00	79.0%	5.86	8.00	73.2%	7.6%	
4,4'-DDD	5.76	8.00	72.0%	5.76	8.00	72.0%	0.0%	
4,4'-DDT	5.54	8.00	69.2%	5.42	8.00	67.8%	2.2%	
gamma Chlordane	2.88	4.00	72.0%	2.84	4.00	71.0%	1.4%	
alpha Chlordane	3.06	4.00	76.5%	2.84	4.00	71.0%	7.5%	
Hexachlorobenzene	2.62	4.00	65.5%	3.32	4.00	83.0%	23.6%	
Hexachlorobutadiene	2.06	4.00	51.5%	2.10	4.00	52.5%	1.9%	

**Pest/PCB Surrogate Recovery**

	LCS	LCSD
Decachlorobiphenyl	69.0%	60.0%
Tetrachlorometaxylene	63.5%	52.8%

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

RPD calculated using sample concentrations per SW846.

FORM 4  
PESTICIDE METHOD BLANK SUMMARY

SAMPLE NO.

MI20MBS1

Lab Name: ANALYTICAL RESOURCES, INC

Client: HART CROWSER

ARI Job No.: MI20

Project: EAST BLAIR 3

Lab Sample ID: MI20MBS1

Lab File ID: SIG10008

Matrix (soil/water) SOLID

Extraction: (SepF/Cont/Sonc) SW3550B

Sulfur Cleanup (Y/N) Y

Date Extracted: 02/12/08

Date Analyzed (1): 02/14/08

Date Analyzed (2): 02/14/08

Time Analyzed (1): 1325

Time Analyzed (2): 1325

Instrument ID (1): ECD4

Instrument ID (2): ECD4

GC Column (1): STX-CLP1 ID: 0.53(mm)

GC Column (2): STX-CLP2 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	MI20LCSS1	MI20LCSS1	02/14/08	02/14/08
02	MI20LCSDS1	MI20LCSDS1	02/14/08	02/14/08
03	HC08-B4-0-1'	MI20A	02/14/08	02/14/08
04	HC08-B4-5-6'	MI20B	02/14/08	02/14/08
05	HC08-B5-0-1'	MI20C	02/14/08	02/14/08
06	HC08-B5-5-6'	MI20D	02/14/08	02/14/08
07	HC08-B13-0-1	MI20E	02/14/08	02/14/08
08	HC08-B13-6-7	MI20F	02/18/08	02/18/08
09	HC08-B14-0-1	MI20G	02/14/08	02/14/08
10	HC08-B14-6.5	MI20H	02/14/08	02/14/08

ORGANICS ANALYSIS DATA SHEET  
PSDDA Pesticides/PCB by GC/ECD  
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Sample ID: MB-021208  
METHOD BLANK

Lab Sample ID: MB-021208  
LIMS ID: 08-2462  
Matrix: Soil  
Data Release Authorized:  
Reported: 02/19/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3

Date Sampled: NA  
Date Received: NA

Date Extracted: 02/12/08  
Date Analyzed: 02/14/08 13:25  
Instrument/Analyst: ECD4/YZ  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Florisil Cleanup: No  
Acid Cleanup: No

Sample Amount: 12.5 g-dry-wt  
Final Extract Volume: 2.5 mL  
Dilution Factor: 1.00  
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	RL	Result
58-89-9	gamma-BHC (Lindane)	1.0	< 1.0 U
76-44-8	Heptachlor	1.0	< 1.0 U
309-00-2	Aldrin	1.0	< 1.0 U
60-57-1	Dieldrin	2.0	< 2.0 U
72-55-9	4,4'-DDE	2.0	< 2.0 U
72-54-8	4,4'-DDD	2.0	< 2.0 U
50-29-3	4,4'-DDT	2.0	< 2.0 U
5103-74-2	gamma Chlordane	1.0	< 1.0 U
5103-71-9	alpha Chlordane	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

**Pest/PCB Surrogate Recovery**

Decachlorobiphenyl	73.2%
Tetrachlorometaxylene	61.2%

**PCBS**



ORGANICS ANALYSIS DATA SHEET

PSDDA PCB by GC/ECD

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Sample ID: HC08-B4-0-1'

Previously MF53A

SAMPLE

Lab Sample ID: MI20A

LIMS ID: 08-2462

Matrix: Soil

Data Release Authorized:

Reported: 02/27/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Date Sampled: 01/17/08

Date Received: 01/17/08

Date Extracted: 02/12/08

Date Analyzed: 02/14/08 10:49

Instrument/Analyst: ECD5/PK

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 5.09 g-dry-wt

Final Extract Volume: 1.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: 36.7%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	34
11096-82-5	Aroclor 1260	20	24
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	30	< 30 Y

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	92.5%
Tetrachlorometaxylene	59.2%

ORGANICS ANALYSIS DATA SHEET

PSDDA PCB by GC/ECD

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Sample ID: HC08-B4-5-6'

Previously MF53B

SAMPLE

Lab Sample ID: MI20B

LIMS ID: 08-2463

Matrix: Soil

Data Release Authorized:

Reported: 02/27/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Date Sampled: 01/17/08

Date Received: 01/17/08

Date Extracted: 02/12/08

Date Analyzed: 02/14/08 11:06

Instrument/Analyst: ECD5/PK

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 5.24 g-dry-wt

Final Extract Volume: 1.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: 25.6%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	19	< 19 U
53469-21-9	Aroclor 1242	19	< 19 U
12672-29-6	Aroclor 1248	19	< 19 U
11097-69-1	Aroclor 1254	19	< 19 U
11096-82-5	Aroclor 1260	19	< 19 U
11104-28-2	Aroclor 1221	19	< 19 U
11141-16-5	Aroclor 1232	19	< 19 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	94.8%
Tetrachlorometaxylene	63.8%

ORGANICS ANALYSIS DATA SHEET

PSDDA PCB by GC/ECD

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Sample ID: HC08-B5-0-1'

Previously MF69A

SAMPLE

Lab Sample ID: MI20C

LIMS ID: 08-2464

Matrix: Soil

Data Release Authorized: *AA*

Reported: 02/27/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Date Sampled: 01/18/08

Date Received: 01/18/08

Date Extracted: 02/12/08

Date Analyzed: 02/14/08 11:23

Instrument/Analyst: ECD5/PK

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 5.04 g-dry-wt

Final Extract Volume: 1.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: 41.0%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	32
11096-82-5	Aroclor 1260	20	38
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	91.0%
Tetrachlorometaxylene	60.8%

ORGANICS ANALYSIS DATA SHEET

PSDDA PCB by GC/ECD

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Sample ID: HC08-B5-5-6'

Previously MF69B

SAMPLE

Lab Sample ID: MI20D

LIMS ID: 08-2465

Matrix: Soil

Data Release Authorized:

Reported: 02/27/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Date Sampled: 01/18/08

Date Received: 01/18/08

Date Extracted: 02/12/08

Date Analyzed: 02/14/08 11:40

Instrument/Analyst: ECD5/PK

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 5.29 g-dry-wt

Final Extract Volume: 1.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: 37.9%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	19	< 19 U
53469-21-9	Aroclor 1242	19	< 19 U
12672-29-6	Aroclor 1248	19	51
11097-69-1	Aroclor 1254	19	130
11096-82-5	Aroclor 1260	19	110 P
11104-28-2	Aroclor 1221	19	< 19 U
11141-16-5	Aroclor 1232	19	< 19 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	116%
Tetrachlorometaxylene	55.5%

Sample ID: HC08-B13-0-1'  
Previously MF94A  
SAMPLE

Lab Sample ID: MI20E  
LIMS ID: 08-2466  
Matrix: Soil  
Data Release Authorized: *AB*  
Reported: 02/27/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3  
Date Sampled: 01/21/08  
Date Received: 01/22/08

Date Extracted: 02/12/08  
Date Analyzed: 02/14/08 11:58  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 5.13 g-dry-wt  
Final Extract Volume: 1.0 mL  
Dilution Factor: 1.00  
Silica Gel: No  
Percent Moisture: 35.9%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	25
11096-82-5	Aroclor 1260	20	20
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U

Reported in  $\mu\text{g}/\text{kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	101%
Tetrachlorometaxylene	62.0%

ORGANICS ANALYSIS DATA SHEET

PSDDA PCB by GC/ECD

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Sample ID: HC08-B13-6-7'

Previously MF94B

SAMPLE

Lab Sample ID: MI20F

LIMS ID: 08-2467

Matrix: Soil

Data Release Authorized: *AB*

Reported: 02/27/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Date Sampled: 01/21/08

Date Received: 01/22/08

Date Extracted: 02/12/08

Date Analyzed: 02/14/08 12:15

Instrument/Analyst: ECD5/PK

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 5.18 g-dry-wt

Final Extract Volume: 1.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: 31.1%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	19	< 19 U
53469-21-9	Aroclor 1242	19	< 19 U
12672-29-6	<b>Aroclor 1248</b>	<b>19</b>	<b>34</b>
11097-69-1	Aroclor 1254	19	59
11096-82-5	Aroclor 1260	19	52
11104-28-2	Aroclor 1221	19	< 19 U
11141-16-5	Aroclor 1232	19	< 19 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	NR
Tetrachlorometaxylene	83.2%

ORGANICS ANALYSIS DATA SHEET

PSDDA PCB by GC/ECD

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Sample ID: HC08-B14-0-1.5'  
 Previously MG43A  
 SAMPLE

Lab Sample ID: MI20G

LIMS ID: 08-2468

Matrix: Soil

Data Release Authorized: *[Signature]*

Reported: 02/27/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Date Sampled: 01/25/08

Date Received: 01/25/08

Date Extracted: 02/12/08

Date Analyzed: 02/14/08 12:32

Instrument/Analyst: ECD5/PK

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 5.16 g-dry-wt

Final Extract Volume: 1.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: 35.7%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	19	< 19 U
53469-21-9	Aroclor 1242	19	< 19 U
12672-29-6	Aroclor 1248	19	< 19 U
11097-69-1	Aroclor 1254	19	23
11096-82-5	Aroclor 1260	19	39
11104-28-2	Aroclor 1221	19	< 19 U
11141-16-5	Aroclor 1232	19	< 19 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	88.2%
Tetrachlorometaxylene	56.5%

ORGANICS ANALYSIS DATA SHEET

PSDDA PCB by GC/ECD

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Sample ID: HC08-B14-6.5-7.5'

Previously MG43B

SAMPLE

Lab Sample ID: MI20H

LIMS ID: 08-2469

Matrix: Soil

Data Release Authorized: *[Signature]*

Reported: 02/27/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Date Sampled: 01/25/08

Date Received: 01/25/08

Date Extracted: 02/12/08

Date Analyzed: 02/14/08 12:49

Instrument/Analyst: ECD5/PK

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 5.13 g-dry-wt

Final Extract Volume: 1.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: 21.5%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	80.2%
Tetrachlorometaxylene	65.8%



SW8082/PCB SOLIDS SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3

<u>Client ID</u>	<u>DCBP % REC</u>	<u>DCBP LCL-UCL</u>	<u>TCMX % REC</u>	<u>TCMX LCL-UCL</u>	<u>TOT OUT</u>
MB-011208	85.8%	36-130	71.2%	30-119	0
LCS-011208	80.8%	36-130	63.0%	30-119	0
LCSD-011208	72.8%	36-130	65.0%	30-119	0
HC08-B4-0-1'	92.5%	33-149	59.2%	32-121	0
HC08-B4-5-6'	94.8%	33-149	63.8%	32-121	0
HC08-B5-0-1'	91.0%	33-149	60.8%	32-121	0
HC08-B5-5-6'	116%	33-149	55.5%	32-121	0
HC08-B13-0-1'	101%	33-149	62.0%	32-121	0
HC08-B13-6-7'	NR	33-149	83.2%	32-121	0
HC08-B14-0-1.5'	88.2%	33-149	56.5%	32-121	0
HC08-B14-6.5-7.5'	80.2%	33-149	65.8%	32-121	0

Prep Method: SW3550B  
Log Number Range: 08-2462 to 08-2469

**ORGANICS ANALYSIS DATA SHEET**

PSDDA PCB by GC/ECD  
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Sample ID: LCS-021208  
LCS/LCSD

Lab Sample ID: LCS-021208  
LIMS ID: 08-2462  
Matrix: Soil  
Data Release Authorized: *AB*  
Reported: 02/27/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3  
Date Sampled: NA  
Date Received: NA

Date Extracted LCS/LCSD: 02/12/08

Sample Amount LCS: 5.00 g-dry-wt  
LCSD: 5.00 g-dry-wt

Date Analyzed LCS: 02/14/08 10:14  
LCSD: 02/14/08 10:31

Final Extract Volume LCS: 1.0 mL  
LCSD: 1.0 mL

Instrument/Analyst LCS: ECD5/PK  
LCSD: ECD5/PK

Dilution Factor LCS: 1.00  
LCSD: 1.00

GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Silica Gel: No

Percent Moisture: NA

Analyte	Spike		LCS		Spike		LCSD	
	LCS	Added-LCS	Recovery	LCS	LCS	Added-LCSD	Recovery	RPD
Aroclor 1016	57.5	100	57.5%	62.5	100	62.5%	8.3%	
Aroclor 1260	79.6	100	79.6%	78.4	100	78.4%	1.5%	

**PCB Surrogate Recovery**

	LCS	LCSD
Decachlorobiphenyl	80.8%	72.8%
Tetrachlorometaxylene	63.0%	65.0%

Results reported in µg/kg (ppb)  
RPD calculated using sample concentrations per SW846.

4  
PCB METHOD BLANK SUMMARY

BLANK NO.

MI20MBS1
----------

Lab Name: ANALYTICAL RESOURCES, INC	Client: HART CROWSER, INC.
ARI Job No.: MI20	Project: EAST BLAIR 3
Lab Sample ID: MI20MBS1	Lab File ID: 0214B003
Date Extracted: 02/12/08	Matrix: SOLID
Date Analyzed: 02/14/08	Instrument ID: ECD5
Time Analyzed: 0957	GC Columns: ZB5/ZB35

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
=====			
01	MI20LCSS1	MI20LCSS1	02/14/08
02	MI20LCSDS1	MI20LCSDS1	02/14/08
03	HC08-B4-0-1'	MI20A	02/14/08
04	HC08-B4-5-6'	MI20B	02/14/08
05	HC08-B5-0-1'	MI20C	02/14/08
06	HC08-B5-5-6'	MI20D	02/14/08
07	HC08-B13-0-1'	MI20E	02/14/08
08	HC08-B13-6-7'	MI20F	02/14/08
09	HC08-B14-0-1.5'	MI20G	02/14/08
10	HC08-B14-6.5-7.5'	MI20H	02/14/08

ALL RUNS ARE DUAL COLUMN

**ORGANICS ANALYSIS DATA SHEET**

PSDDA PCB by GC/ECD

Page 1 of 1


Sample ID: MB-021208

METHOD BLANK

Lab Sample ID: MB-021208

LIMS ID: 08-2462

Matrix: Soil

Data Release Authorized: 

Reported: 02/27/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Date Sampled: NA

Date Received: NA

Date Extracted: 02/12/08

Date Analyzed: 02/14/08 09:57

Instrument/Analyst: ECD5/PK

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 5.00 g

Final Extract Volume: 1.0 mL

Dilution Factor: 1.00

Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U

Reported in µg/kg (ppb)

**PCB Surrogate Recovery**

Decachlorobiphenyl	85.8%
Tetrachlorometaxylene	71.2%

## **METALS**

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**

Page 1 of 1


Sample ID: HC08-B4-0-1'

Previously MF53A

Lab Sample ID: MI20A

LIMS ID: 08-2462

Matrix: Soil

Data Release Authorized: 

Reported: 02/19/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Date Sampled: 01/17/08

Date Received: 01/17/08

Percent Total Solids: 60.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	02/13/08	6010B	02/18/08	7440-36-0	Antimony	8	8	U
3050B	02/13/08	6010B	02/18/08	<b>7440-38-2</b>	<b>Arsenic</b>	8	10	
3050B	02/13/08	6010B	02/18/08	7440-43-9	Cadmium	0.3	0.3	U
3050B	02/13/08	6010B	02/18/08	<b>7440-47-3</b>	<b>Chromium</b>	0.8	20.4	
3050B	02/13/08	6010B	02/18/08	<b>7440-50-8</b>	<b>Copper</b>	0.3	80.3	
3050B	02/13/08	6010B	02/18/08	<b>7439-92-1</b>	<b>Lead</b>	3	43	
CLP	02/13/08	7471A	02/15/08	<b>7439-97-6</b>	<b>Mercury</b>	0.08	0.24	
3050B	02/13/08	6010B	02/18/08	<b>7440-02-0</b>	<b>Nickel</b>	2	15	
3050B	02/13/08	6010B	02/18/08	7440-22-4	Silver	0.5	0.5	U
3050B	02/13/08	6010B	02/18/08	<b>7440-66-6</b>	<b>Zinc</b>	2	82	

U-Analyte undetected at given RL

RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**

Page 1 of 1

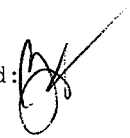
Sample ID: HC08-B4-0-1'

Previously MF53A

Lab Sample ID: MI20A

LIMS ID: 08-2462

Matrix: Soil

Data Release Authorized: 

Reported: 02/19/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Date Sampled: 01/17/08

Date Received: 01/17/08

**MATRIX DUPLICATE QUALITY CONTROL REPORT**

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Antimony	6010B	8 U	8 U	0.0%	+/- 8	L
Arsenic	6010B	10	10	0.0%	+/- 8	L
Cadmium	6010B	0.3 U	0.3	0.0%	+/- 0.3	L
Chromium	6010B	20.4	21.4	4.8%	+/- 20%	
Copper	6010B	80.3	84.9	5.6%	+/- 20%	
Lead	6010B	43	44	2.3%	+/- 20%	
Mercury	7471A	0.24	0.35	37.3%	+/- 0.08	L*
Nickel	6010B	15	16	6.5%	+/- 20%	
Silver	6010B	0.5 U	0.5 U	0.0%	+/- 0.5	L
Zinc	6010B	82	102	21.7%	+/- 20%	*

Reported in mg/kg-dry


\*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**  
Page 1 of 1

Sample ID: HC08-B4-0-1'  
Previously MF53A

Lab Sample ID: MI20A  
LIMS ID: 08-2462  
Matrix: Soil  
Data Release Authorized   
Reported: 02/19/08

QC Report No: MI20-Hart Crowser, Inc.  
Project: East Blair 3

Date Sampled: 01/17/08  
Date Received: 01/17/08

**MATRIX SPIKE QUALITY CONTROL REPORT**

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Antimony	6010B	8 U	47	313	15.0%	N
Arsenic	6010B	10	313	313	96.8%	
Cadmium	6010B	0.3 U	72.8	78.2	93.1%	
Chromium	6010B	20.4	89.7	78.2	88.6%	
Copper	6010B	80.3	152	78.2	91.7%	
Lead	6010B	43	325	313	90.1%	
Mercury	7471A	0.24	1.19	0.814	117%	
Nickel	6010B	15	86	78.2	90.8%	
Silver	6010B	0.5 U	75.2	78.2	96.2%	
Zinc	6010B	82	156	78.2	94.6%	

Reported in mg/kg-dry

N-Control Limit Not Met  
H-% Recovery Not Applicable, Sample Concentration Too High  
NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%



**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**

Page 1 of 1


Sample ID: HC08-B4-5-6'

Previously MF53B

Lab Sample ID: MI20B

LIMS ID: 08-2463

Matrix: Soil

Data Release Authorized 

Reported: 02/19/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Date Sampled: 01/17/08

Date Received: 01/17/08

Percent Total Solids: 76.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	02/13/08	6010B	02/18/08	7440-36-0	Antimony	6	6	U
3050B	02/13/08	6010B	02/18/08	7440-38-2	Arsenic	6	6	U
3050B	02/13/08	6010B	02/18/08	7440-43-9	Cadmium	0.2	0.2	U
3050B	02/13/08	6010B	02/18/08	<b>7440-47-3</b>	<b>Chromium</b>	0.6	<b>12.0</b>	
3050B	02/13/08	6010B	02/18/08	<b>7440-50-8</b>	<b>Copper</b>	0.2	<b>12.1</b>	
3050B	02/13/08	6010B	02/18/08	7439-92-1	Lead	2	2	U
CLP	02/13/08	7471A	02/15/08	7439-97-6	Mercury	0.06	0.06	U
3050B	02/13/08	6010B	02/18/08	<b>7440-02-0</b>	<b>Nickel</b>	1	7	
3050B	02/13/08	6010B	02/18/08	7440-22-4	Silver	0.4	0.4	U
3050B	02/13/08	6010B	02/18/08	<b>7440-66-6</b>	<b>Zinc</b>	1	22	

U-Analyte undetected at given RL

RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**

Page 1 of 1

Sample ID: HC08-B5-0-1'

Previously MF69A

Lab Sample ID: MI20C

LIMS ID: 08-2464

Matrix: Soil

Data Release Authorized

Reported: 02/19/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Date Sampled: 01/18/08

Date Received: 01/18/08

Percent Total Solids: 57.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	02/13/08	6010B	02/18/08	7440-36-0	Antimony	8	8	U
3050B	02/13/08	6010B	02/18/08	7440-38-2	Arsenic	8	8	U
3050B	02/13/08	6010B	02/18/08	7440-43-9	Cadmium	0.3	0.3	U
3050B	02/13/08	6010B	02/18/08	<b>7440-47-3</b>	<b>Chromium</b>	0.8	<b>23.3</b>	
3050B	02/13/08	6010B	02/18/08	<b>7440-50-8</b>	<b>Copper</b>	0.3	<b>81.5</b>	
3050B	02/13/08	6010B	02/18/08	<b>7439-92-1</b>	<b>Lead</b>	3	<b>33</b>	
CLP	02/13/08	7471A	02/15/08	<b>7439-97-6</b>	<b>Mercury</b>	0.07	<b>1.27</b>	
3050B	02/13/08	6010B	02/18/08	<b>7440-02-0</b>	<b>Nickel</b>	2	<b>17</b>	
3050B	02/13/08	6010B	02/18/08	7440-22-4	Silver	0.5	0.5	U
3050B	02/13/08	6010B	02/18/08	<b>7440-66-6</b>	<b>Zinc</b>	2	<b>97</b>	

U-Analyte undetected at given RL

RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**  
Page 1 of 1

Sample ID: HC08-B5-5-6'  
Previously MF69B


Lab Sample ID: MI20D

QC Report No: MI20-Hart Crowser, Inc.

LIMS ID: 08-2465

Project: East Blair 3

Matrix: Soil

Data Release Authorized: 

Date Sampled: 01/18/08

Reported: 02/19/08

Date Received: 01/18/08

Percent Total Solids: 62.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	02/13/08	6010B	02/18/08	7440-36-0	Antimony	7	7	U
3050B	02/13/08	6010B	02/18/08	7440-38-2	Arsenic	7	14	
3050B	02/13/08	6010B	02/18/08	7440-43-9	Cadmium	0.3	0.6	
3050B	02/13/08	6010B	02/18/08	7440-47-3	Chromium	0.7	22.7	
3050B	02/13/08	6010B	02/18/08	7440-50-8	Copper	0.3	81.0	
3050B	02/13/08	6010B	02/18/08	7439-92-1	Lead	3	70	
CLP	02/13/08	7471A	02/15/08	7439-97-6	Mercury	0.07	0.63	
3050B	02/13/08	6010B	02/18/08	7440-02-0	Nickel	1	16	
3050B	02/13/08	6010B	02/18/08	7440-22-4	Silver	0.4	0.5	
3050B	02/13/08	6010B	02/18/08	7440-66-6	Zinc	1	144	

U-Analyte undetected at given RL  
RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**

Page 1 of 1


Sample ID: HC08-B13-0-1'

Previously MF94A

Lab Sample ID: MI20E

LIMS ID: 08-2466

Matrix: Soil

Data Release Authorized: 

Reported: 02/19/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Date Sampled: 01/21/08

Date Received: 01/22/08

Percent Total Solids: 61.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	02/13/08	6010B	02/18/08	7440-36-0	Antimony	8	8	U
3050B	02/13/08	6010B	02/18/08	7440-38-2	Arsenic	8	8	U
3050B	02/13/08	6010B	02/18/08	7440-43-9	Cadmium	0.3	0.3	U
3050B	02/13/08	6010B	02/18/08	<b>7440-47-3</b>	<b>Chromium</b>	0.8	<b>20.8</b>	
3050B	02/13/08	6010B	02/18/08	<b>7440-50-8</b>	<b>Copper</b>	0.3	<b>60.7</b>	
3050B	02/13/08	6010B	02/18/08	<b>7439-92-1</b>	<b>Lead</b>	3	<b>27</b>	
CLP	02/13/08	7471A	02/15/08	<b>7439-97-6</b>	<b>Mercury</b>	0.05	<b>0.19</b>	
3050B	02/13/08	6010B	02/18/08	<b>7440-02-0</b>	<b>Nickel</b>	2	<b>15</b>	
3050B	02/13/08	6010B	02/18/08	7440-22-4	Silver	0.5	0.5	U
3050B	02/13/08	6010B	02/18/08	<b>7440-66-6</b>	<b>Zinc</b>	2	<b>75</b>	

U-Analyte undetected at given RL

RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**

Page 1 of 1

Sample ID: HC08-B13-6-7'

Previously MF94B

Lab Sample ID: MI20F

LIMS ID: 08-2467

Matrix: Soil

Data Release Authorized: *[Signature]*

Reported: 02/19/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Date Sampled: 01/21/08

Date Received: 01/22/08

Percent Total Solids: 72.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	02/13/08	6010B	02/18/08	7440-36-0	Antimony	7	7	U
3050B	02/13/08	6010B	02/18/08	7440-38-2	Arsenic	7	7	
3050B	02/13/08	6010B	02/18/08	7440-43-9	Cadmium	0.3	0.3	U
3050B	02/13/08	6010B	02/18/08	7440-47-3	Chromium	0.7	17.5	
3050B	02/13/08	6010B	02/18/08	7440-50-8	Copper	0.3	43.7	
3050B	02/13/08	6010B	02/18/08	7439-92-1	Lead	3	23	
CLP	02/13/08	7471A	02/15/08	7439-97-6	Mercury	0.06	0.29	
3050B	02/13/08	6010B	02/18/08	7440-02-0	Nickel	1	12	
3050B	02/13/08	6010B	02/18/08	7440-22-4	Silver	0.4	0.4	U
3050B	02/13/08	6010B	02/18/08	7440-66-6	Zinc	1	51	

U-Analyte undetected at given RL  
RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**

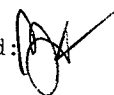
Page 1 of 1

Sample ID: HC08-B14-0-1.5'  
Previously MG43A

Lab Sample ID: MI20G

LIMS ID: 08-2468

Matrix: Soil

Data Release Authorized: 

Reported: 02/19/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Date Sampled: 01/25/08

Date Received: 01/25/08

Percent Total Solids: 59.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	02/13/08	6010B	02/18/08	7440-36-0	Antimony	8	8	U
3050B	02/13/08	6010B	02/18/08	<b>7440-38-2</b>	<b>Arsenic</b>	8	14	
3050B	02/13/08	6010B	02/18/08	7440-43-9	Cadmium	0.3	0.3	U
3050B	02/13/08	6010B	02/18/08	<b>7440-47-3</b>	<b>Chromium</b>	0.8	24.7	
3050B	02/13/08	6010B	02/18/08	<b>7440-50-8</b>	<b>Copper</b>	0.3	71.5	
3050B	02/13/08	6010B	02/18/08	<b>7439-92-1</b>	<b>Lead</b>	3	45	
CLP	02/13/08	7471A	02/15/08	<b>7439-97-6</b>	<b>Mercury</b>	0.07	0.26	
3050B	02/13/08	6010B	02/18/08	<b>7440-02-0</b>	<b>Nickel</b>	2	15	
3050B	02/13/08	6010B	02/18/08	7440-22-4	Silver	0.5	0.5	U
3050B	02/13/08	6010B	02/18/08	<b>7440-66-6</b>	<b>Zinc</b>	2	138	

U-Analyte undetected at given RL  
RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**

Page 1 of 1


Sample ID: HC08-B14-6.5-7.5'

Previously MG43B

Lab Sample ID: MI20H

LIMS ID: 08-2469

Matrix: Soil

Data Release Authorized: 

Reported: 02/19/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Date Sampled: 01/25/08

Date Received: 01/25/08

Percent Total Solids: 77.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	02/13/08	6010B	02/18/08	7440-36-0	Antimony	6	6	U
3050B	02/13/08	6010B	02/18/08	7440-38-2	Arsenic	6	6	U
3050B	02/13/08	6010B	02/18/08	7440-43-9	Cadmium	0.2	0.2	U
3050B	02/13/08	6010B	02/18/08	<b>7440-47-3</b>	<b>Chromium</b>	0.6	<b>12.7</b>	
3050B	02/13/08	6010B	02/18/08	<b>7440-50-8</b>	<b>Copper</b>	0.2	<b>11.4</b>	
3050B	02/13/08	6010B	02/18/08	7439-92-1	Lead	2	2	U
CLP	02/13/08	7471A	02/15/08	7439-97-6	Mercury	0.05	0.05	U
3050B	02/13/08	6010B	02/18/08	<b>7440-02-0</b>	<b>Nickel</b>	1	<b>8</b>	
3050B	02/13/08	6010B	02/18/08	7440-22-4	Silver	0.4	0.4	U
3050B	02/13/08	6010B	02/18/08	<b>7440-66-6</b>	<b>Zinc</b>	1	<b>37</b>	

U-Analyte undetected at given RL  
RL-Reporting Limit

**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**

Sample ID: METHOD BLANK

Page 1 of 1


Lab Sample ID: MI20MB

QC Report No: MI20-Hart Crowser, Inc.

LIMS ID: 08-2463

Project: East Blair 3

Matrix: Soil

Data Release Authorized 

Date Sampled: NA

Reported: 02/19/08

Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	02/13/08	6010B	02/18/08	7440-36-0	Antimony	5	5	U
3050B	02/13/08	6010B	02/18/08	7440-38-2	Arsenic	5	5	U
3050B	02/13/08	6010B	02/18/08	7440-43-9	Cadmium	0.2	0.2	U
3050B	02/13/08	6010B	02/18/08	7440-47-3	Chromium	0.5	0.5	U
3050B	02/13/08	6010B	02/18/08	7440-50-8	Copper	0.2	0.2	U
3050B	02/13/08	6010B	02/18/08	7439-92-1	Lead	2	2	U
CLP	02/13/08	7471A	02/15/08	7439-97-6	Mercury	0.05	0.05	U
3050B	02/13/08	6010B	02/18/08	7440-02-0	Nickel	1	1	U
3050B	02/13/08	6010B	02/18/08	7440-22-4	Silver	0.3	0.3	U
3050B	02/13/08	6010B	02/18/08	7440-66-6	Zinc	1	1	U

U-Analyte undetected at given RL

RL-Reporting Limit



**INORGANICS ANALYSIS DATA SHEET**

**TOTAL METALS**

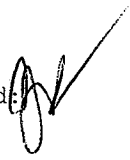
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: MI20LCS

LIMS ID: 08-2463

Matrix: Soil

Data Release Authorized: 

Reported: 02/19/08

QC Report No: MI20-Hart Crowser, Inc.

Project: East Blair 3

Date Sampled: NA

Date Received: NA

**BLANK SPIKE QUALITY CONTROL REPORT**

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Antimony	6010B	207	200	104%	
Arsenic	6010B	199	200	99.5%	
Cadmium	6010B	48.7	50.0	97.4%	
Chromium	6010B	47.5	50.0	95.0%	
Copper	6010B	49.0	50.0	98.0%	
Lead	6010B	200	200	100%	
Mercury	7471A	1.10	1.00	110%	
Nickel	6010B	48	50	96.0%	
Silver	6010B	49.6	50.0	99.2%	
Zinc	6010B	48	50	96.0%	

Reported in mg/kg-dry

N-Control limit not met

Control Limits: 80-120%

# **GENERAL CHEMISTRY**

SAMPLE RESULTS-CONVENTIONALS  
MI20-Hart Crowser, Inc.



Matrix: Soil  
Data Release Authorized  
Reported: 02/25/08

Project: East Blair 3  
Event: NA  
Date Sampled: 01/17/08  
Date Received: 01/17/08

Client ID: HC08-B4-0-1'  
ARI ID: 08-2462 MI20A

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/11/08 021108#1	EPA 160.3	Percent	0.01	61.20
Sulfide	02/11/08 021108#1	EPA 376.2	mg/kg	15.6	173
Total Organic Carbon	02/12/08 021208#1	Plumb, 1981	Percent	0.020	3.38

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
MI20-Hart Crowser, Inc.



Matrix: Soil  
Data Release Authorized  
Reported: 02/25/08

Project: East Blair 3  
Event: NA  
Date Sampled: 01/17/08  
Date Received: 01/17/08

Client ID: HC08-B4-5-6'  
ARI ID: 08-2463 MI20B

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/11/08 021108#1	EPA 160.3	Percent	0.01	76.10
Sulfide	02/11/08 021108#1	EPA 376.2	mg/kg	1.26	5.88
Total Organic Carbon	02/12/08 021208#1	Plumb, 1981	Percent	0.020	0.715

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
MI20-Hart Crowser, Inc.



Matrix: Soil  
Data Release Authorized: *[Signature]*  
Reported: 02/25/08

Project: East Blair 3  
Event: NA  
Date Sampled: 01/18/08  
Date Received: 01/18/08

Client ID: HC08-B5-0-1'  
ARI ID: 08-2464 MI20C

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/11/08 021108#1	EPA 160.3	Percent	0.01	57.60
Sulfide	02/11/08 021108#1	EPA 376.2	mg/kg	85.4	1,140
Total Organic Carbon	02/12/08 021208#1	Plumb, 1981	Percent	0.020	1.70

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
MI20-Hart Crowser, Inc.



Matrix: Soil  
Data Release Authorized: *MD*  
Reported: 02/25/08

Project: East Blair 3  
Event: NA  
Date Sampled: 01/18/08  
Date Received: 01/18/08

Client ID: HC08-B5-5-6'  
ARI ID: 08-2465 MI20D

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/11/08 021108#1	EPA 160.3	Percent	0.01	60.20
Sulfide	02/11/08 021108#1	EPA 376.2	mg/kg	33.2	531
Total Organic Carbon	02/12/08 021208#1	Plumb, 1981	Percent	0.020	2.01

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
MI20-Hart Crowser, Inc.



Matrix: Soil  
Data Release Authorized: *[Signature]*  
Reported: 02/25/08

Project: East Blair 3  
Event: NA  
Date Sampled: 01/21/08  
Date Received: 01/22/08

Client ID: HC08-B13-0-1'  
ARI ID: 08-2466 MI20E

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/11/08 021108#1	EPA 160.3	Percent	0.01	63.10
Sulfide	02/11/08 021108#1	EPA 376.2	mg/kg	15.4	238
Total Organic Carbon	02/12/08 021208#1	Plumb, 1981	Percent	0.020	1.12

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
MI20-Hart Crowser, Inc.



Matrix: Soil  
Data Release Authorized: *[Signature]*  
Reported: 02/25/08

Project: East Blair 3  
Event: NA  
Date Sampled: 01/21/08  
Date Received: 01/22/08

Client ID: HC08-B13-6-7'  
ARI ID: 08-2467 MI20F


Analyte	Date	Method	Units	RL	Sample
Total Solids	02/11/08 021108#1	EPA 160.3	Percent	0.01	72.80
Sulfide	02/11/08 021108#1	EPA 376.2	mg/kg	13.4	74.5
Total Organic Carbon	02/12/08 021208#1	Plumb, 1981	Percent	0.020	1.69

RL Analytical reporting limit  
U Undetected at reported detection limit



SAMPLE RESULTS-CONVENTIONALS  
MI20-Hart Crowser, Inc.



Matrix: Soil  
Data Release Authorized:   
Reported: 02/25/08

Project: East Blair 3  
Event: NA  
Date Sampled: 01/25/08  
Date Received: 01/25/08


Client ID: HC08-B14-0-1.5'  
ARI ID: 08-2468 MI20G

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/11/08 021108#1	EPA 160.3	Percent	0.01	60.70
Sulfide	02/11/08 021108#1	EPA 376.2	mg/kg	32.9	350
Total Organic Carbon	02/12/08 021208#1	Plumb, 1981	Percent	0.020	1.65

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
MI20-Hart Crowser, Inc.



Matrix: Soil  
Data Release Authorized:   
Reported: 02/25/08

Project: East Blair 3  
Event: NA  
Date Sampled: 01/25/08  
Date Received: 01/25/08


Client ID: HC08-B14-6.5-7.5'  
ARI ID: 08-2469 MI20H

Analyte	Date	Method	Units	RL	Sample
Total Solids	02/11/08 021108#1	EPA 160.3	Percent	0.01	78.30
Sulfide	02/11/08 021108#1	EPA 376.2	mg/kg	12.4	55.5
Total Organic Carbon	02/12/08 021208#1	Plumb, 1981	Percent	0.020	0.268

RL Analytical reporting limit  
U Undetected at reported detection limit

METHOD BLANK RESULTS-CONVENTIONALS  
MI20-Hart Crowser, Inc.



Matrix: Soil  
Data Release Authorized:   
Reported: 02/25/08

Project: East Blair 3  
Event: NA  
Date Sampled: NA  
Date Received: NA

Analyte	Date	Units	Blank
Total Solids	02/11/08	Percent	< 0.01 U
Sulfide	02/11/08	mg/kg	< 1.00 U
Total Organic Carbon	02/12/08	Percent	< 0.020 U

LAB CONTROL RESULTS-CONVENTIONALS  
MI20-Hart Crowser, Inc.



Matrix: Soil  
Data Release Authorized *[Signature]*  
Reported: 02/25/08

Project: East Blair 3  
Event: NA  
Date Sampled: NA  
Date Received: NA

Analyte	Date	Units	LCS	Spike Added	Recovery
Sulfide	02/11/08	mg/kg	111	130	85.3%
Total Organic Carbon	02/12/08	Percent	0.483	0.500	96.6%

STANDARD REFERENCE RESULTS-CONVENTIONALS  
MI20-Hart Crowser, Inc.




Matrix: Soil  
Data Release Authorized: *[Signature]*  
Reported: 02/25/08

Project: East Blair 3  
Event: NA  
Date Sampled: NA  
Date Received: NA

Analyte/SRM ID	Date	Units	SRM	True Value	Recovery
Total Organic Carbon NIST #8704	02/12/08	Percent	3.56	3.35	106.3%

REPLICATE RESULTS-CONVENTIONALS  
MI20-Hart Crowser, Inc.



Matrix: Soil  
Data Release Authorized:   
Reported: 02/25/08

Project: East Blair 3  
Event: NA  
Date Sampled: 01/17/08  
Date Received: 01/17/08

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: MI20A Client ID: HC08-B4-0-1'					
Total Solids	02/11/08	Percent	61.20	61.00 61.20	0.2%
Total Organic Carbon	02/12/08	Percent	3.38	3.12 3.51	6.0%

MS/MSD RESULTS--CONVENTIONALS  
MI20-Hart Crowser, Inc.



Matrix: Soil  
Data Release Authorized:  
Reported: 02/25/08

A handwritten signature in black ink, appearing to be 'AL' or similar, written over the 'Data Release Authorized' line.

Project: East Blair 3  
Event: NA  
Date Sampled: 01/17/08  
Date Received: 01/17/08

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: MI20A Client ID: HC08-B4-0-1'						
Total Organic Carbon	02/12/08	Percent	3.38	7.48	3.78	108.5%

**GRAINSIZE**



Hart Crowser, Inc.  
East Blair 3

Apparent Grain Size Distribution Summary  
Percent Finer Than Indicated Size

Sample No.	Gravel			Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt					Clay				
	-3	-2	-1						0	1	2	3	4	5	6	7	8	9
Phi Size																		
Sieve Size (microns)	3/8"	#4	#10 (2000)	#18 (1000)	#35 (500)	#60 (250)	#120 (125)	#230 (62)										
WB-C(1-3)	100.0	100.0	99.8	99.3	98.2	96.1	92.8	85.7										
WB-C(1-3)	100.0	100.0	99.9	99.6	98.5	96.3	93.0	86.2										
WB-C(1-3)	100.0	100.0	99.9	99.6	98.6	96.8	93.7	86.8										
HC08-B4-0-1'	100.0	93.9	93.4	92.7	91.5	89.9	87.6	80.4										
HC08-B4-5-6'	100.0	100.0	99.7	99.3	96.8	63.0	24.4	12.3										
HC08-B5-0-1'	100.0	100.0	100.0	99.5	98.9	98.2	97.3	93.7										
HC08-B5-5-6'	100.0	100.0	99.6	98.9	97.5	83.0	68.6	63.1										
HC08-B13-0-1'	100.0	100.0	99.8	99.5	98.6	96.2	91.0	83.7										
HC08-B13-6-7'	100.0	100.0	99.7	98.9	97.1	92.6	85.3	76.7										
HC08-B14-0-1.5'	100.0	100.0	99.9	99.3	97.9	93.0	87.8	82.6										
HC08-B14-6.5-7.5'	100.0	100.0	99.7	99.2	94.6	64.9	25.5	14.7										

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

MI20

Hart Crowser, Inc.  
East Blair 3

Apparent Grain Size Distribution Summary  
Percent Retained in Each Size Fraction

Sample No.	Gravel > #10 (2000)	Very Coarse Sand -1 to 0 (2000-1000)	Coarse Sand 0 to 1 18-35 (1000-500)	Medium Sand 1 to 2 35-60 (500-250)	Fine Sand 2 to 3 60-120 (250-125)	Very Fine Sand 3 to 4 120-230 (125-62)	Coarse Silt 4 to 5 62.5-31.0	Medium Silt 5 to 6 31.0-15.6	Fine Silt 6 to 7 15.6-7.8	Very Fine Silt 7 to 8 7.8-3.9	Clay			Total Fines <4 <230 (-62)
											8 to 9 3.9-2.0	9 to 10 2.0-1.0	< 10 <1.0	
WB-C(1-3)	0.2	0.4	1.2	2.1	3.3	7.0	10.0	15.8	12.8	9.1	6.6	7.0	24.4	85.7
WB-C(1-3)	0.1	0.3	1.2	2.1	3.3	6.8	9.8	16.2	13.4	8.7	6.9	7.0	24.4	86.2
WB-C(1-3)	0.1	0.3	1.0	1.8	3.1	6.9	10.1	16.4	13.1	8.7	7.0	6.8	24.7	86.8
HC08-B4-0-1'	6.6	0.7	1.2	1.5	2.3	7.2	14.3	17.0	14.8	9.8	6.7	5.0	12.9	80.4
HC08-B4-5-6'	0.3	0.3	2.5	33.8	38.6	12.0	4.5	2.0	1.6	1.1	0.7	0.5	1.9	12.3
HC08-B5-0-1'	0.0	0.5	0.6	0.7	1.0	3.6	11.4	19.7	18.7	13.7	8.4	6.3	15.5	93.7
HC08-B5-5-6'	0.4	0.6	1.4	14.5	14.5	5.5	9.7	7.6	18.6	8.1	5.3	4.1	9.7	63.1
HC08-B13-0-1'	0.2	0.4	0.8	2.4	5.2	7.3	14.0	18.7	15.1	10.9	6.9	5.1	13.0	83.7
HC08-B13-6-7'	0.3	0.7	1.9	4.4	7.4	8.5	13.4	15.8	13.8	10.1	6.2	5.0	12.4	76.7
HC08-B14-0-1.5'	0.1	0.5	1.4	4.9	5.2	5.2	12.4	18.4	15.6	10.9	7.4	5.0	12.9	82.6
HC08-B14-6.5-7.5'	0.3	0.5	4.6	29.6	39.4	10.8	4.1	2.8	2.2	1.7	1.0	0.8	2.3	14.7

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

QA SUMMARY

PROJECT:	Hart Crowser, Inc.	Project No.:	East Blair 3
ARI Triplicate Sample ID:	M158 D	Batch No.:	M120 -1
Client Triplicate Sample ID:	WB-C(1-3)	Page:	1 of 1

Sample ID	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
WB-C(1-3)	100.0	100.0	99.8	99.3	98.2	96.1	92.8	85.7	75.7	59.9	47.1	38.1	31.5	24.4
WB-C(1-3)	100.0	100.0	99.9	99.6	96.5	96.3	93.0	86.2	76.5	60.3	46.9	38.2	31.3	24.4
WB-C(1-3)	100.0	100.0	99.9	99.6	96.6	96.8	93.7	86.8	76.7	60.3	47.2	38.5	31.5	24.7
AVE	NA	100.00	99.85	99.51	98.41	96.40	93.16	86.27	76.29	60.19	47.09	38.26	31.43	24.50
STDEV	NA	0.00	0.09	0.15	0.20	0.37	0.49	0.53	0.53	0.22	0.17	0.22	0.08	0.16
%RSD	NA	0.00	0.09	0.15	0.21	0.38	0.52	0.61	0.69	0.36	0.36	0.58	0.27	0.66

The Triplicate Applies To The Following Samples

Client ID	Date Sampled	Date Extracted	Date Complete	QA Ratio (95-105)	Data Qualifiers	Pipette Portion (5.0-25.0g)
WB-C(1-3)	2/9/2008	2/13/2008	2/16/2008	98.4		15.6
WB-C(1-3)	2/9/2008	2/13/2008	2/16/2008	98.3		15.8
WB-C(1-3)	2/9/2008	2/13/2008	2/16/2008	97.5		15.6
HC08-B4-0-1'	1/17/2008	2/14/2008	2/16/2008	98.3		17.9
HC08-B4-5-6'	1/17/2008	2/13/2008	2/16/2008	100.8		12.0
HC08-B5-0-1'	1/18/2008	2/14/2008	2/16/2008	99.7		21.7
HC08-B5-5-6'	1/18/2008	2/13/2008	2/16/2008	98.9		19.4
HC08-B13-0-1'	1/21/2008	2/13/2008	2/16/2008	99.8		22.3
HC08-B13-6-7'	1/21/2008	2/13/2008	2/16/2008	99.4		19.7
HC08-B14-0-1.5'	1/25/2008	2/13/2008	2/16/2008	99.1		23.0
HC08-B14-6.5-7.5'	1/25/2008	2/13/2008	2/16/2008	100.4		14.3

\* ARI Internal QA limits = 95-105%

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

M120