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CERTIFICATION REPORT
FOR
SOILS PILE HANDLING
DICO INCORPORATED
DES MOINES, IOWA

Prepared for:

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Des Moines, Iowa

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August 1990

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1.0 INTRODUCTION

A work plan was prepared in response to a request by the USEPA to handle the soil piles located near the air stripping unit at the DICO Inc., Des Moines, Iowa, facility. The work plan was entitled "Soils Pile Handling Work Plan," dated January 1990.

Soils excavated during installation of the groundwater treatment system in 1987 were staged in two plastic-covered piles located as shown on Figure 1. The total soil volume was estimated to be 1,000 cubic yards. Based upon conditions encountered during excavation, the soil piles were believed to contain Randox, a pre-emergent herbicide manufactured by Monsanto.

Several sampling efforts were previously conducted on the soil piles and are described in the Work Plan. The sampling results indicated that the soil pile material was not a listed or characteristic hazardous waste.

The Work Plan was developed specifically to address Randox, Propachlor and Vegedex, which are biodegradable contaminants believed to be present within the soil piles. The plan, in general, consisted of biologically treating the soil to remove or significantly reduce the concentration of these constituents in the soil. The plan also included monitoring of other constituents (volatiles, base/neutrals, metals and pesticides) detected during the above-mentioned previous analysis, the results of which will be used in the ongoing Remedial Investigation/Risk Assessment/Feasibility Study for the Des Moines South Area Source Control Operable Unit.

The purpose of this certification report is to provide documentation of the operations conducted pursuant to the approved Work Plan. In general, the operations fall under the following categories:

- Site preparation
- Drum removal from storage trench
- Soil pile spreading and separation of debris
- Discing of soils
- Soil sampling
- Drum characterization and disposal

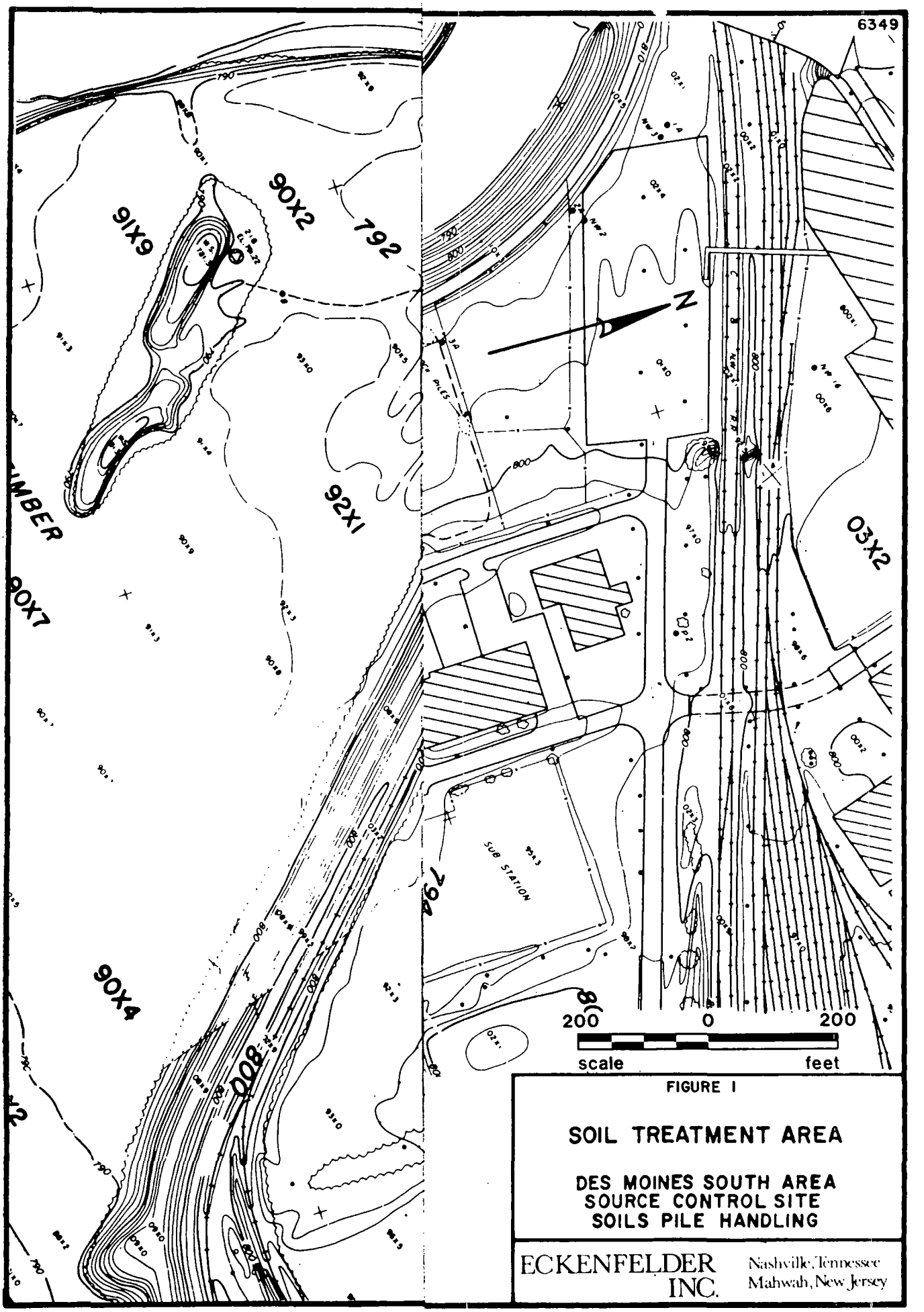


FIGURE 1

SOIL TREATMENT AREA

DES MOINES SOUTH AREA
SOURCE CONTROL SITE
SOILS PILE HANDLING

ECKENFELDER INC.
Nashville, Tennessee
Mahwah, New Jersey

This documentation illustrates that the work was completed in accordance with the procedures identified in the work plan.

Several parties were involved in the soil pile handling operations implemented during April and May of 1990. These parties are identified as follows:

- DICO Inc. - owner and site operator
- ECKENFELDER INC. - work plan preparation, construction observation and documentation
- U.S. Environmental Protection Agency (EPA) - regulatory agency providing project oversight
- McAninch Corporation (McAninch) - remedial contractor responsible for the initial site preparation, the soil piles spreading and discing of soils
- OHM Corporation (OHM) - hazardous material remedial contractor responsible for the drum removal from the storage trench, separation and decontamination of debris from the piles, and waste characterization and disposal.

2.0 SITE PREPARATION

The site preparation work was performed by McAninch on April 25, 1990. Site preparation consisted of the following tasks:

- Clearing, grading and fencing
- Placement of monitoring well protection
- Erosion and sediment control
- Construction of decontamination pad

2.1 CLEARING, GRADING AND FENCING

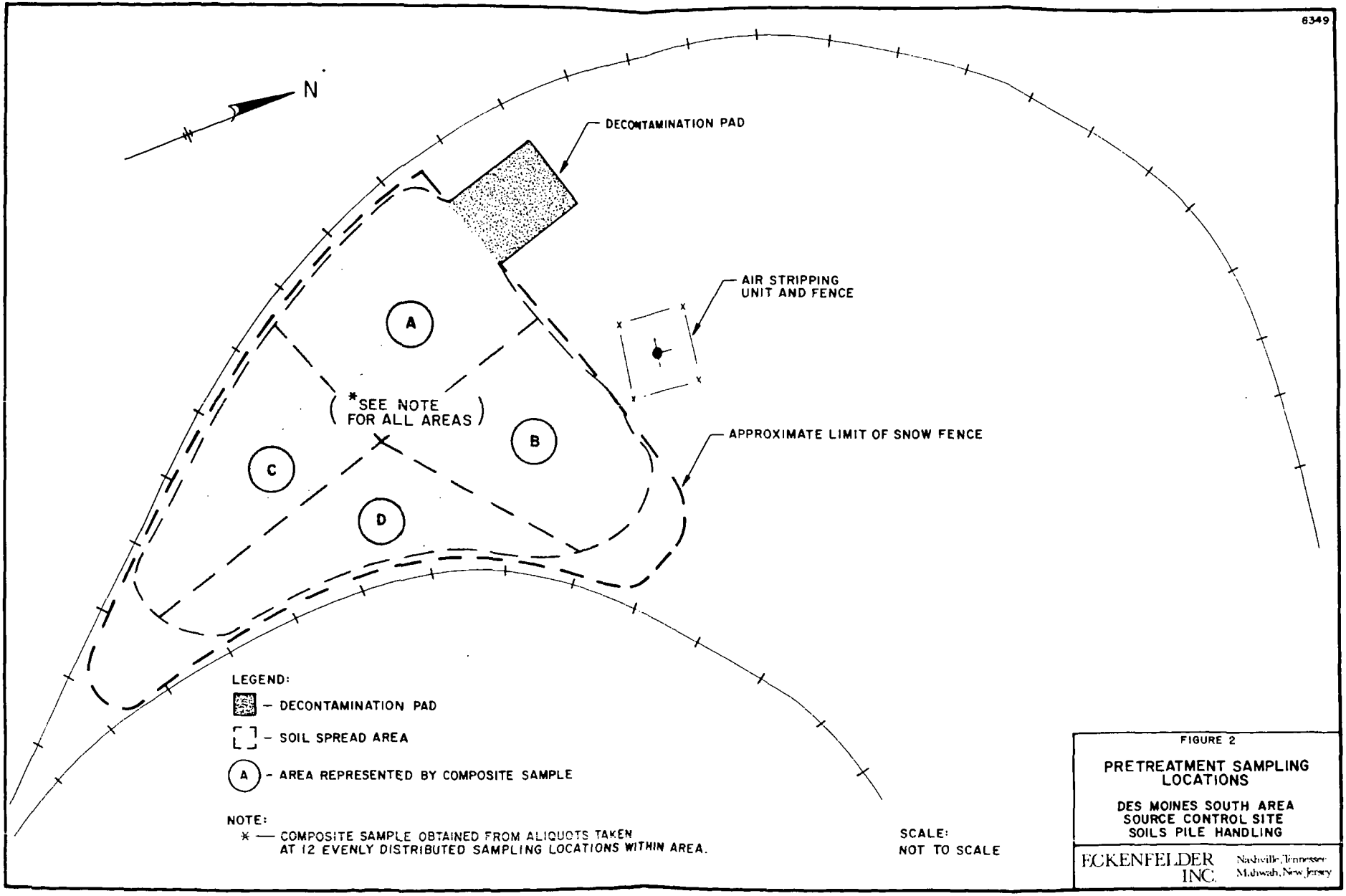
On April 25, 1990, scrub vegetation and surface boulders/concrete chunks within the spread area were cleared with a Caterpillar™ D-4 bulldozer. Thirty truck loads (approximately 240 cubic yards) of clean fill were then brought to the site and spread into the low areas to provide a uniform grade. Also on April 25, snow fencing was installed around three-fourths of the area. The northern portion of the fence (approximately one-fourth of the area to be enclosed) was left open to allow for truck access. Signs with the wording "No Trespassing" were posted every 75 feet along the installed fence.

The northern perimeter of the proposed spread area was modified slightly, as shown on Figure 2, to allow access to the air stripper fence gate and to alleviate obstruction of ERW-9. The location of the air stripper fence gate also prevented the ten-foot separation between the hay bales and snow fence, as called out in the Work Plan.

On April 26, 1990, the remaining portion of the fence was installed along with the remaining "No Trespassing" signs.

2.2 MONITORING WELL PROTECTION

On April 25, 1990, clean fill was placed around two monitoring wells (P-6 and NW-6), located in the spread area. These monitoring wells were then staked and flagged on that date. On April 26, 1990, clean fill was placed around the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N
DECONTAMINATION PAD
AIR STRIPPING
UNIT AND FENCE
A
*SEE NOTE
FOR ALL AREAS
B
C
D
APPROXIMATE LIMIT OF SNOW FENCE
LEGEND:
- DECONTAMINATION PAD
- SOIL SPREAD AREA
A - AREA REPRESENTED BY COMPOSITE SAMPLE
NOTE:
* — COMPOSITE SAMPLE OBTAINED FROM ALIQUOTS TAKEN AT 12 EVENLY DISTRIBUTED SAMPLING LOCATIONS WITHIN AREA.
SCALE:
NOT TO SCALE
FIGURE 2
PRETREATMENT SAMPLING LOCATIONS
DES MOINES SOUTH AREA
SOURCE CONTROL SITE
SOILS PILE HANDLING
ECKENFELDER INC.
Nashville, Tennessee
Mahwah, New Jersey

third well (NW-5) also located in the spread area. NW-5 was then staked and flagged. Monitoring well P-8 did not require protection, although it was within the fence, because it was located outside of the hay bales. Also on April 26, monitoring well P-5 was staked even though it was located outside of the spread area. Protection for this well against heavy equipment was provided due to its proximity to the decontamination pad entrance.

2.3 EROSION AND SEDIMENT CONTROL

Approximately three-fourths of the hay bales were placed around the area on April 25, 1990. Fill was placed at the toe on one-third of the hay bales. The remaining hay bales and fill were placed on April 26, 1990. The Work Plan originally called for the hay bales to be staked. However, based upon the relatively flat grades that exist on site, and the expectation that a concentrated run-off would not occur during the project, this additional task was deemed unnecessary.

2.4 DECONTAMINATION PAD

The sub-base for the decontamination pad was graded with the bulldozer on April 25, 1990, to provide a one percent slope toward the soil treatment area. On April 26, 1990, construction of the pad was completed in accordance with the bid package figures (provided in Appendix B). Two loads of 1-1/2 inch stone (31.35 tons) were brought to the site and spread over the sub-base with the bulldozer to a slope sufficient to provide runoff toward the soil treatment area.

3.0 DRUM REMOVAL FROM STORAGE TRENCH

A storage trench containing five drums was located adjacent to the soil piles. The trench was approximately 10 feet by 10 feet along the sides at grade and 4 feet by 4 feet along the sides at bottom. The bottom of the trench was approximately 2 to 3 feet below grade.

Based on discussions among DICO Inc., ECKENFELDER INC. and EPA, it was determined that the drums would be removed and characterized for disposal. OHM removed the drums from the storage trench and subsequently sampled them for waste characterization analyses. ECKENFELDER INC. conducted sampling of the storage trench soil. These tasks are discussed further in the following sections.

3.1 DRUM REMOVAL AND SAMPLING

Five drums were removed from the storage trench on May 9, 1990. The drums were damaged and were placed into recovery drums. Samples of the solid material and liquids within the drums were collected by OHM for waste characterization analyses. The results and planned disposal method are discussed in Section 7.0. Due to heavy rains the previous night, water was present in the bottom of the storage trench. This water was bucketed into two recovery drums and a composite sample was taken from the two drums for waste characterization analyses. The results and planned disposal method for these two drums are also discussed in Section 7.0. The seven drums were staged adjacent to the decontamination pad and wrapped in plastic pending results of the analyses and acceptance at an appropriate disposal facility.

Two plastic liners were present in the bottom of the storage trench, but they were torn and not continuous. These liners were removed and staged with the other debris (plastic liners, protective clothing, etc.) for characterization and disposal. A fresh plastic liner was placed over the trench and secured with tires and small chunks of concrete until the trench could be sampled and backfilled.

3.2 SAMPLING OF STORAGE TRENCH SOIL

One soil sample was collected from the bottom of the storage trench by ECKENFELDER INC. on May 10, 1990. The sample location was marked with a stake and its distance was measured to two reference points (monitoring well P-6 and a survey stake outside the hay bales). The sample was collected by augering approximately 12 inches into the soils beneath the plastic liner.

The auger, knife, and spoon used for sampling were decontaminated in accordance with the procedures described in the QAPP. This involved a scrub with detergent, distilled water rinse, hexane rinse, air drying, and a final distilled water rinse. The sample was placed in a cooler for shipment to the University of Iowa, Hygienic Laboratory (UHL) on May 11, 1990 (along with the pre-treatment samples discussed in Section 6.1). The sample was analyzed for Randox, Propachlor, Vegedex, plus volatiles, semi-volatiles, metals, cyanide and other pesticides. The results of the drum storage trench soil sample analysis are summarized in Table 1. These results indicate elevated levels of Randox. The lab reports received from UHL are provided in Appendix B. The remaining analysis will be evaluated as part of the ongoing Remedial Investigation/Risk Assessment/Feasibility Study for the Des Moines South Area Source Control Operable Unit in order to assure compatibility with this and other on-site work.

3.3 BACKFILLING OF STORAGE TRENCH

On May 11, 1990, the storage trench was backfilled with clean fill. Approximately five cubic yards of fill was placed in the storage trench. Soil from the piles was then spread over the area and subsequently disced, as discussed in Section 5.1.

TABLE 1

DRUM STORAGE TRENCH SOIL SAMPLING RESULTS

(May 1990)

PARAMETER	DT-1 (mg/kg)	FIELD BLANK (mg/l)	TRIP BLANK (mg/l)
Randox (CDAA)	60	<0.1	NA
Propachlor	1.4	0.28	NA
Vegedex	<1	<0.1	NA
Total of above three	61	0.28	NA
TCL VOLATILE ORGANICS:			
Acetone	0.008J	0.023	
Chloroform		0.003J	
Methylene Chloride	0.002J	0.014B	0.008B
Toluene	0.001J		
Xylene (Total)	0.003J		
Total non-target volatile organics	0.008J		0.007J
TCL SEMIVOLATILE ORGANICS:			
Bis(2-ethylhexyl)phthalate		0.007J	NA
Butyl benzyl phthalate		0.008BJ	NA
2,4-Dichlorophenol	21		NA
2,4,5-Trichlorophenol	63		NA
Tot. non-target semivolatile organics	410J/42BJ	0.021J/0.010BJ	NA
TAL METALS:			
Aluminum	9590	0.0319	NA
Arsenic	10.1		NA
Barium	141		NA
Beryllium	0.48J		NA
Cadmium	0.76	0.0057	NA
Calcium	9050	0.904J	NA
Chromium	11.8		NA
Cobalt	4.6J		NA
Copper	14.8		NA
Iron	13400	0.358	NA
Lead	15.2		NA
Magnesium	4910	0.103J	NA
Manganese	599	0.0073J	NA
Nickel	13.8		NA
Potassium	1120		NA
Selenium	0.80		NA
Sodium	22J	1.730J	NA
Thallium	0.66J		NA
Vanadium	19.4		NA
Zinc	54.7	0.0131J	NA
Cyanide	0.42J	0.0012J	NA

NOTES: TCL = Target Compound List

TAL = Target Analyte List

mg/kg = milligrams per kilogram dry weight

mg/L = milligrams per liter

J = Estimated value below quantitation limit

B = Compound detected in laboratory method blank

N/A = Not Applicable

Blank space = Not detected.

Samples were analyzed for TCL volatile organics, TCL semivolatile organics, TCL pesticides/PCBs, TAL metals, cyanide, Randox, Propachlor, and Vegedex. Only those constituents detected in at least one sample are included in this table.

4.0 SOIL PILE SPREADING AND SEPARATION OF DEBRIS

4.1 SOIL SPREADING OPERATIONS

The soil spreading was conducted on May 10-11, 1990. McAninch supplied equipment and operators for the soil spreading, while OHM personnel removed the drums and debris encountered during the spreading operations. A Caterpillar™ 973 track loader was used to spread the soils to a thickness ranging from 8 to 12 inches. Approximately three quarters of the soils were spread on May 10, 1990, and the remaining one quarter was spread on May 11, 1990.

Initially, the tires anchoring the plastic covers were removed from the top of the soil piles and placed in the area between the hay bales and the fence. The plastic covers were removed and staged with bags of disposable personal protective equipment for subsequent waste characterization sampling and disposal.

A pile of approximately 30 crushed drums was uncovered next to the larger soil pile. These drums apparently had been unearthed during installation of the groundwater treatment system and staged adjacent to the soil piles. These drums were left in place for waste characterization sampling and disposal. Other crushed drums and drum fragments removed during soil spreading were staged next to the existing drum pile, also for waste characterization and disposal. Concrete and steel scrap were removed from the soils during spreading and moved to the decontamination pad for washing.

4.2 DECONTAMINATION OF DEBRIS

OHM conducted the decontamination operations for the debris (e.g., concrete rubble, steel and other large objects excluding containers). This consisted of washing the concrete and steel scraps with high-pressure water on the decontamination pad. A Case 580E backhoe was used to move the scraps onto the pad and outside the fenced area, where the decontaminated materials were stockpiled.

4.3 STAGING AND SAMPLING OF DRUMS

A pile of approximately 30 crushed drums was uncovered adjacent to the larger soil pile. These drums were marked with identification numbers, logged, and sampled for waste characterization analyses by OHM. Test results and planned disposal methods are described in Section 7.0. The existing pile was left in place and not disturbed, except that a fresh plastic cover was placed over the pile.

Approximately 25 additional crushed drums and drum fragments were removed from the soils during spreading operations and staged next to the existing drum pile. Some of the drums were labeled Santoquin™, a Monsanto trademark for ethoxyquin, used as a feed preservative. These drums were also marked, logged, and sampled for waste characterization analyses by OHM. Results of the waste characterization sampling and planned disposal methods are described in Section 7.0.

5.0 DISCING OF SOILS

5.1 INITIAL DISCING

Initial discing of the soil treatment area was conducted on May 11, 1990, by McAninch. The spread soils were tilled with a 36-inch diameter, six-blade disc. After discing, the equipment was decontaminated as called for in the Work Plan. The decontamination procedure involved rinsing the equipment with high pressure water at the decontamination pad.

5.2 SUBSEQUENT DISCINGS

The Work Plan calls for discing to be conducted once per month for six months after the initial discing, at which time post-treatment soil samples will be collected. Discing of the soil treatment area was performed on two separate occasions since the initial discing, June 18, 1990 and July 15, 1990. On both occasions recent heavy rains prevented discing of the entire area due to two low, wet spots that remained at the time of the discing operation. The remaining discing events will be conducted during dry weather (to the extent practicable) so that these two areas can be disced.

6.0 SOIL SAMPLING

6.1 PRE-TREATMENT SAMPLING

Pre-treatment soil sampling was conducted on May 11, 1990 by ECKENFELDER INC. in accordance with the Work Plan and QAPP. The approximate sampling locations are shown on Figure 2. The samples were shipped to UHL for analysis for Randox, Propachlor, and Vegedex, plus volatile organics, semi-volatile organics, metals, cyanide, and other pesticides. The analytical results are summarized in Table 2 and indicate relatively low levels of Randox, Propachlor, and Vegedex, with Propachlor being most prevalent. The total concentrations of these three herbicides ranged from 38 to 361 mg/kg in the four composite samples. The treatment goal is 10 mg/kg as per the Work Plan. The UHL lab reports for these analyses are provided in Appendix B. The results of the remaining analyses will be evaluated as part of the ongoing Remedial Investigation/Risk Assessment/Feasibility Study for the Des Moines South Area Source Control Operable Unit in order to assure compatibility with this and other on-site work.

6.2 POST-TREATMENT SAMPLING

Post-treatment sampling will be conducted as noted in the Work Plan. At the completion of six months of treatment, excluding months during which freezing conditions prevail, the soil will be re-sampled. If the analysis indicates that biodegradation is not complete (i.e., total concentrations of Randox, Propachlor and Vegedex below 10 mg/kg), then discing operations will be continued and additional post-treatment sampling will be conducted, as necessary. The results of this final analysis will also be evaluated as part of the ongoing Remedial Investigation/Risk Assessment/Feasibility Study for the Des Moines South Area Source Control Operable Unit in order to assure compatibility with this and other on-site work. As a result of this evaluation, additional measures may be taken, if required, in accordance with the results of the Feasibility Study.

PRETREATMENT S[illegible]MPLING RESULTS
(MAY 1990)

PARAMETER	CS-A (mg/kg)	CS-B (mg/kg)	CS-C (mg/kg)	CS-D (mg/kg)	FIELD BLANK (mg/l)	TRIP BLANK (ug/l)
RANDOX (CDAA)	3.8	<1	2.4	5.9	<0.1	NA
PROPACHLOR	76.	38.	350.	120.	0.28	NA
VEGEDEX	1.4	<1.	8.4	<2.	<0.1	NA
Total of Above Three	81	38	361	126	0.28	NA
TCL PESTICIDES:						
Heptachlor	3.5	11.	1.1	0.73		NA
Aldrin	2.2	4.	1.3	1.		NA
alpha-Chordane			2.2J			NA
gamma-Chlordane			2.7J			NA
TCL VOLATILE ORGANICS:						
Acetone	0.032	0.011J	0.21	0.095	0.023	
2-Butanone (Methyl ethyl ketone)			0.005J	0.004J		
Chloroform					0.003J	
Ethylbenzene	0.002J		0.002J	0.002J		
Methylene chloride	0.002J	0.003J	0.007B	0.003J	0.014B	0.006B
Toluene	0.005J		0.003J	0.002J		
Trichloroethylene				0.002J		
Xylene (Total)	0.009	0.005J	0.008	0.010		
Total non-target volatile organics		0.037J		0.45J		0.007J
TCL SEMIVOLATILE ORGANICS:						
Acenaphthene	0.31J	0.21J	0.13J	0.41		NA
Acenaphthylene	0.043J	0.079J		0.075J		NA
Anthracene	0.6	0.55	0.29J	0.97		NA
Benzo(a)anthracene	1.8	1.3	0.9	3.9		NA
Benzo(b)fluoranthene	2.0	1.3	0.7	3.1		NA
Benzo(k)fluoranthene	1.0	0.79	1.1	2.1		NA
Benzo(a)pyrene	1.6	1.2	1.0	3.2		NA
Bis(2-ethylhexyl)phthalate					0.007J	
Butyl benzyl phthalate	0.54				0.008BJ	NA
Chrysene	2.1	1.5	1.1	3.3		NA
Dibenzo(a,h)anthracene	0.16J	0.15J		0.33J		NA
Dibenzofuran	0.13J	0.14J		0.19J		NA
Fluoranthene	3.5	2.6	1.6	4.9		NA
Fluorene	0.2J	0.22J		0.35J		NA
Indeno(1,2,3-cd)pyrene	1.1	0.8	0.63	1.8		NA
2-Methylnaphthalene	0.1J	0.1J	0.12J	0.089J		NA
Naphthalene	0.14J	0.16J		0.13J		NA
Phenanthrene	2.6	2.3	1.1	3.7		NA
Pyrene	2.9	2.1	1.9	5.3		NA
1,2,4-Trichlorobenzene		0.26J		0.16J		NA
2,4,5-Trichlorophenol	1.2J	0.47J	1.5J	0.51J		NA
Total non-target semivolatile organics	86J/32BJ	50.6J/33BJ	120J/32BJ	71.3J/31BJ	0.021J/0.010BJ	NA

PRETREATMENT SO[illegible]MPLING RESULTS
(MAY 1990)

PARAMETER	CS-A (mg/kg)	CS-B (mg/kg)	CS-C (mg/kg)	CS-D (mg/kg)	FIELD BLANK (mg/l)	TRIP BLANK (ug/l)
TAL METALS:						
Aluminum	7280	6980	8270	7440	0.0319	NA
Arsenic	4.9	0.75J	17.1	11.8		NA
Barium	131	156	116	127		NA
Beryllium	0.50J	0.64J	0.68J	0.59J		NA
Cadmium	1.1		0.54J	0.40J	0.0057	NA
Calcium	11900	16900	13800	12200	0.904J	NA
Chromium	21.5	16.5	14.7	18		NA
Cobalt	8.9	7.6	7.4J	7.9		NA
Copper	65.5	37.8	20.3	34		NA
Iron	31600	18700	17600	17500	0.358	NA
Lead	66.3	91.8	49.4	62.3		NA
Magnesium	4740	6040	7030	5550	0.103J	NA
Manganese	857	689	545	729	0.0073J	NA
Mercury	0.14	0.17	0.16			NA
Nickel	31.5	16.5	17.1	19.2		NA
Potassium	986	979	1020	989		NA
Selenium	0.50J	3.4	0.32J			NA
Sodium	74.1J	111J	67.3J	74J	1.730J	NA
Thallium	0.67J	0.40J	0.80J	0.46J		NA
Vanadium	8.9	14.5	16	15.6		NA
Zinc	737	168	120	138	0.0131J	NA
CYANIDE	0.34J	0.52J	0.37J	0.57J	0.0012J	NA

NOTES:

TCL = Target Compound List
TAL = Target Analyte List
mg/kg = milligrams per kilogram (dry weight)
mg/L = milligrams per liter
J = Estimated value below quantitation limit
B = Compound detected in laboratory method blank
N/A = Not Applicable
Blank space = Not detected

Samples were analyzed for Randox, Propachlor, Vegedex, TCL volatile organics, TCL semivolatile organics, TCL pesticides/PCBs, TAL metals and Cyanide. Only the detected constituents are included in this table.

7.0 DRUM CHARACTERIZATION AND DISPOSAL

OHM was responsible for characterization and disposal of the drums removed from the storage trench, the drums of water removed from the storage trench, the existing drum pile, and the drums removed during soil spreading. Sampling of the drums was described in Sections 3.0 and 4.0. These samples were collected by OHM and subsequently analyzed by Environmental Testing and Certification, Inc. (ETC) for waste characterization parameters. The results of the characterization and recommended disposal methods were presented in OHM's letter to EPA dated August 15, 1990.

OHM has recommended for the drummed solid waste to be disposed of at the Adams Center Landfill in Ft. Wayne, Indiana. The drummed liquids are currently being profiled by ENSCO and are anticipated to be incinerated at their facility in El Dorado, Arkansas.

APPENDIX A

UHL LABORATORY REPORTS
(DRUM STORAGE TRENCH AND
PRE-TREATMENT SOIL SAMPLES)

SAMPLE DATA SUMMARY PACKAGE

VOLATILE ORGANICS
SEMIVOLATILE ORGANICS
PESTICIDE ORGANICS

NARRATIVE

Eckenfelder-Dico

UHL sample numbers 9005224-9005230

Volatiles:

1) The calibration standards for each of the concentration levels for compounds cis-1,3-dichloropropene and trans-1,3-dichloropropene are prepared at the following actual concentration:

concentration level	actual concentration	
	cis-1,3-dcp	trans-1,3-dcp
20 ug/L	25.6 ug/L	14.4 ug/L
50 ug/L	64.0 ug/L	36.0 ug/L
100 ug/L	128. ug/L	72.0 ug/L
150 ug/L	192. ug/L	108. ug/L
200 ug/L	256. ug/L	144. ug/L

2) For all soil matrix samples the quantitation limits as well as the results are corrected for percent moisture content.

3) All water matrix samples (field blank, trip blank) corresponding with soil samples are reported on the CLP forms as soil matrix.

4) Dichlorobenzene and/or trichlorobenzene isomers were identified as TIC's in samples DT-1, CS-A, and CS-B. These are semivolatile target compounds and are not reported as volatile TIC's. The spectra is submitted with the narrative.

5) Spectra for the three closest library match compounds may not be provided in several instances in this case for tentatively identified compounds. This is a software limitation. The software on the Hewlett-Packard GC/MS system does not display library hits for TIC's where fits are extremely poor; thus spectra may only be available for less than three match compounds for these TIC's.

Semivolatiles:

1) The GCMS system clock was inadvertently set 12 hours ahead of real time on 6/8/90 (i.e. pm instead of am). This affected the hardware tune T3025 and the continuing calibration S3064 only, since the clock was correctly reset before analysis of sample DT-1. This was corrected before data reduction and is manually corrected on the quant reports.

2) For all soil matrix samples the quantitation limits as well as the results are corrected for percent moisture content.

3) All water matrix samples (field blank) corresponding with soil samples are reported on the CLP forms as soil matrix.

4) Pesticide target compounds were identified as TIC's in samples CS-A and CS-B which are not reported as semivolatile TIC's. The spectra is submitted with the narrative.

5) Spectra for the three closest library match compounds may not be provided in several instances in this case for tentatively identified compounds. This is a software limitation. The software on the Hewlett-Packard GC/MS system does not display library hits for TIC's where fits are extremely poor; thus spectra may only be available for less than three match compounds for these TIC's.

Pesticides:

1) An unknown compound that co-eluted with gamma-BHC lead to its retention time being outside of its RT window on Column 2 in samples CS-C MS and CS-C MSD as shown on Form X.

2) Form III Pest-2 for the low level spikes have numerous flagged values which require explanation.

Percent recovery for gamma-BHC in the matrix spike is low due to an interfering compound. Graphic reprocessing gave the best, though inadequate, possible results.

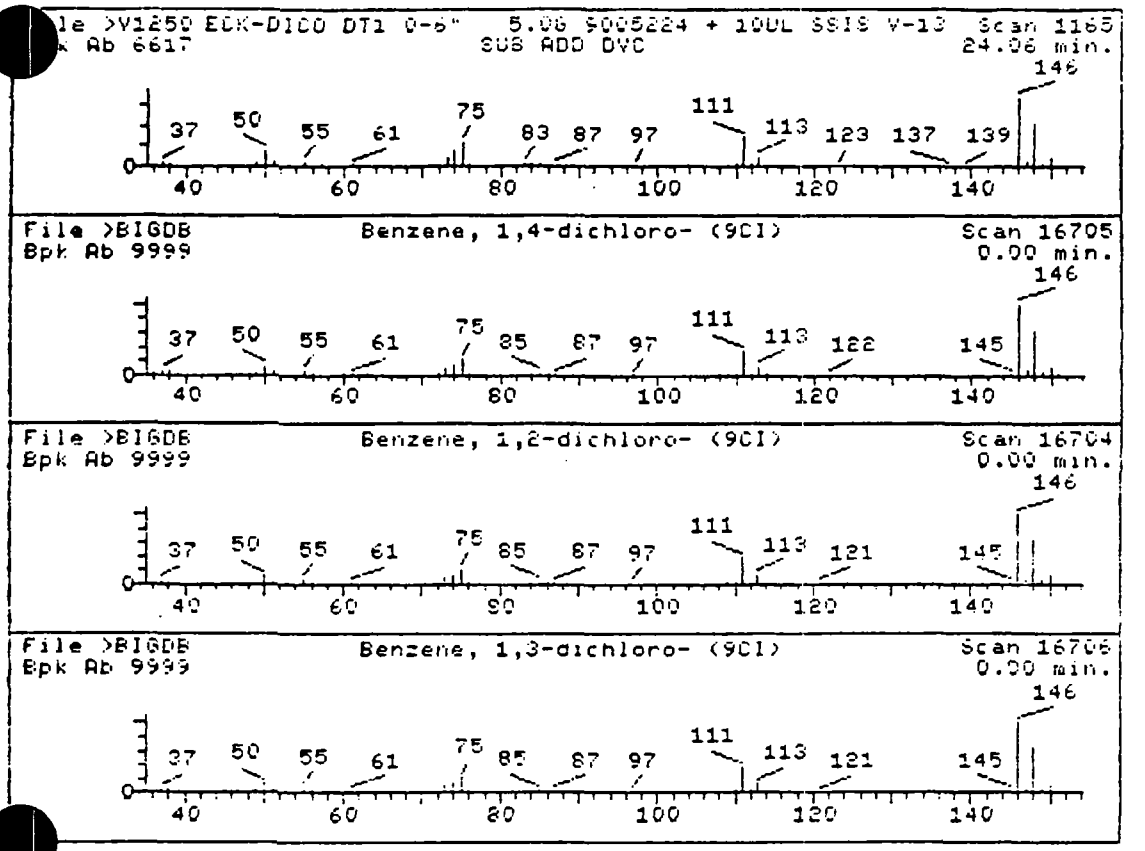
Conversely, percent recovery for DDT in the matrix spike is high due to yet another extraneous compound. Graphical analysis was not possible however; thus, the high % recovery.

We can only speculate as to the problems with the Heptachlor and Aldrin in the spike and duplicate. Satisfactory results for the remaining four analytes lead us to the following conclusions.

a) High concentrations of analytes, in this case Aldrin and Heptachlor, in the sample itself tend to contribute to inaccuracies in recovering spiked compounds.

b) When the final concentrations of desired recoveries are calculated, the values are very small (taking into account the concentrations in the sample, sample weights, high dilution factors, etc.). Consequently, when subtracting the large concentrations in the sample from the larger total concentrations observed, substantial error can be introduced when attempting to calculate the small desired answer.

c) It is possible that the pesticides present in the sample were not evenly dispersed when aliquots were withdrawn for extraction.

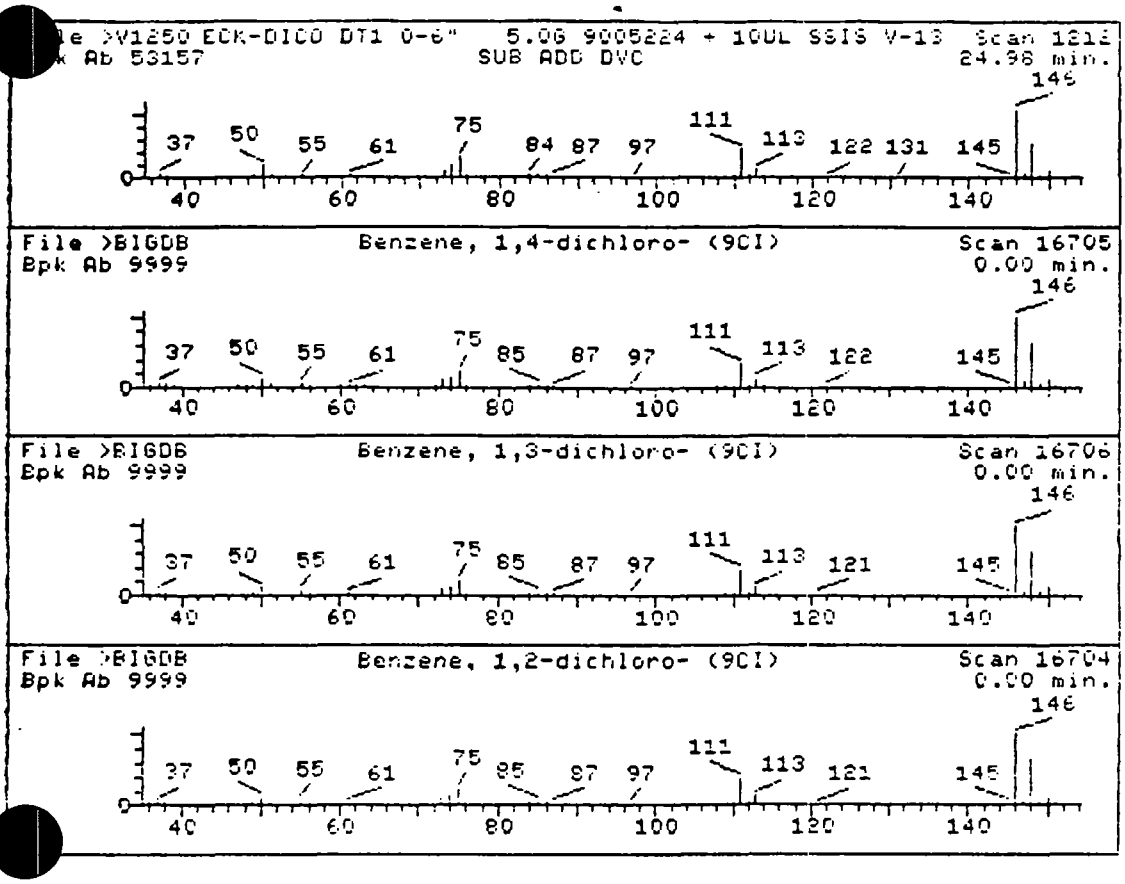


Unknown #,5
Date and Time of Analysis is 5/15/90 14:13
Area = 204714.0 Tentative Concentration is 20.00

1.	Benzene, 1,4-dichloro- (9CI)	146 C6H4Cl2
2.	Benzene, 1,2-dichloro- (9CI)	146 C6H4Cl2
3.	Benzene, 1,3-dichloro- (9CI)	146 C6H4Cl2
4.	Peroxide, bis(dichlorobenzoyl) (9CI)	378 C14H6Cl4O4

Sample file: >V1250 Spectrum #: 1165
Search speed: 2 Tilting option: S No. of ion ranges searched: 44

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	96*	106467	16705	"BIGDB	101	7	0	1	87	1	72	94
2.	96*	95501	16704	"BIGDB	88	23	0	0	86	10	68	96
3.	95*	541731	16706	"BIGDB	80	28	0	0	97	9	68	94
4.	76	28604902	16707	"BIGDB	86	61	2	0	171	9	45	24

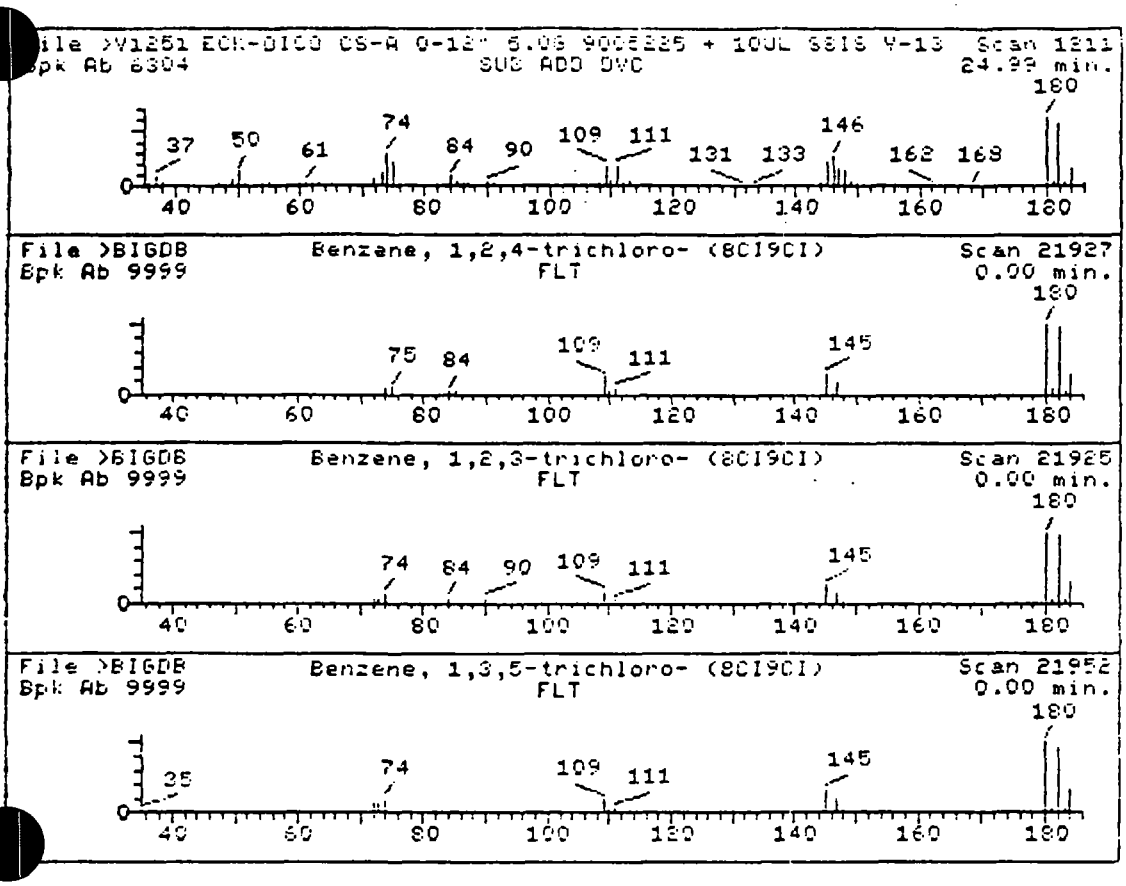


Unknown #,6
Date and Time of Analysis is 5/15/90 14:13
Area = 1367271. Tentative Concentration is 140.00

1.	Benzene, 1,4-dichloro- (9CI)	146 C6H4Cl2
2.	Benzene, 1,3-dichloro- (9CI)	146 C6H4Cl2
3.	Benzene, 1,2-dichloro- (9CI)	146 C6H4Cl2
4.	Peroxide, bis(dichlorobenzoyl) (9CI)	378 C14H6Cl4O4
5.	Naphthalene, 2-fluoro- (8CI9CI)	146 C10H7F
6.	Naphthalene, 1-fluoro- (8CI9CI)	146 C10H7F

Sample file: >V1250 Spectrum #: 1212
Search speed: 2 Tilting option: S No. of ion ranges searched: 44

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	95*	106467	16705	"BIGDB	97	11	0	1	72	1	72	93
2.	94*	541731	16706	"BIGDB	99	9	1	2	78	1	72	92
3.	94*	95501	16704	"BIGDB	80	31	0	0	77	12	64	94
4.	35	28604902	16707	"BIGDB	78	69	1	0	112	49	11	30
5.	11*	323091	16630	"BIGDB	26	62	2	0	100	64	2	14
6.	11*	321380	16629	"BIGDB	26	64	2	0	100	65	2	14

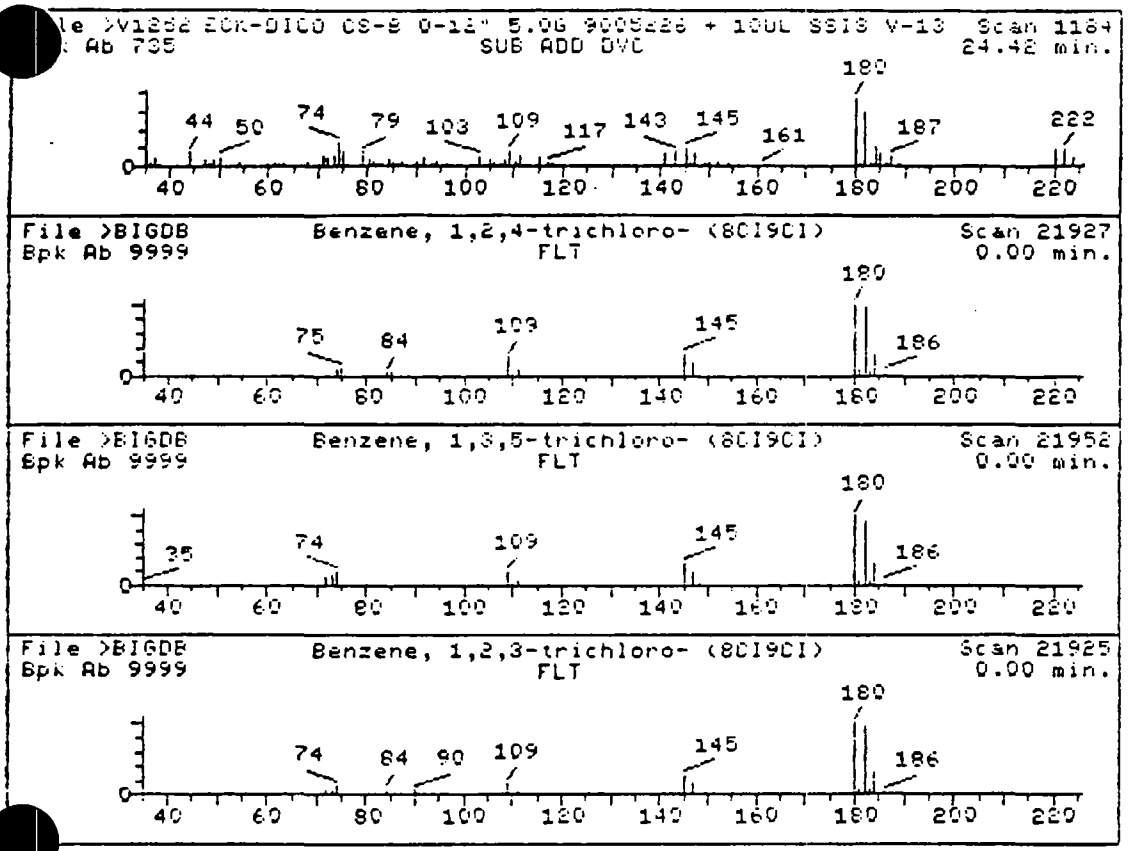


Unknown #,2
Date and Time of Analysis is 5/15/90 14:43
Area = 548059.0 Tentative Concentration is 69.00

1. Benzene, 1,2,4-trichloro- (8CI9CI) 180 C6H3Cl3
2. Benzene, 1,2,3-trichloro- (8CI9CI) 180 C6H3Cl3
3. Benzene, 1,3,5-trichloro- (8CI9CI) 180 C6H3Cl3

Sample file: >V1251 Spectrum #: 1211
Search speed: 2 Tilting option: S No. of ion ranges searched: 44

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	85*	120821	21927	"BIGDB	71	46	0	0	90	39	37	89
2.	79*	87616	21925	"BIGDB	68	46	0	0	88	37	37	83
3.	74*	108703	21952	"BIGDB	65	56	0	0	80	36	28	78

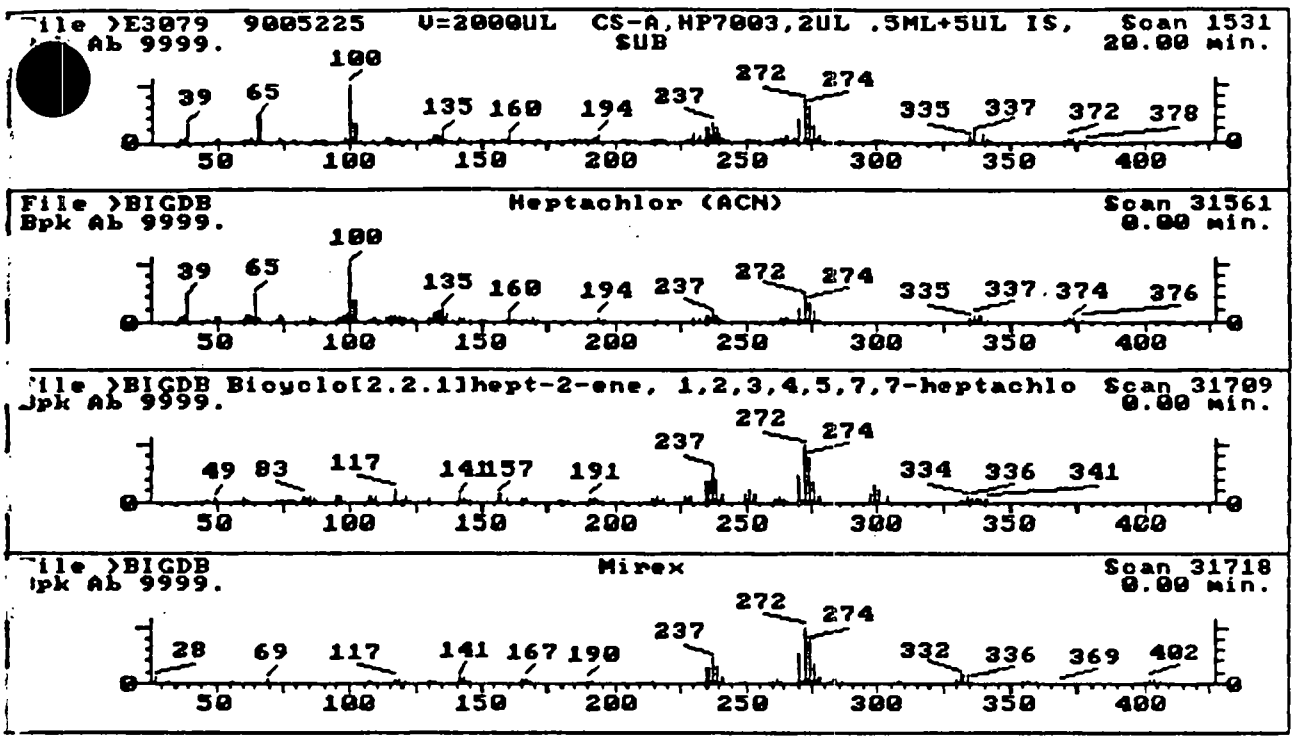


. Unknown #,2
Date and Time of Analysis is 5/15/90 15:50
Area = 91536.00 Tentative Concentration is 10.00

1.	Benzene, 1,2,4-trichloro- (8CI9CI)	180	C6H3Cl3
2.	Benzene, 1,3,5-trichloro- (8CI9CI)	180	C6H3Cl3
3.	Benzene, 1,2,3-trichloro- (8CI9CI)	180	C6H3Cl3
4.	Thiophene, tetrachloro- (8CI9CI)	220	C4Cl4S
5.	Methanimidamide, N'-(4-chlorophenyl)-N,N-dimethyl- (9CI)	182	C9H11ClN2
6.	Methanimidamide, N'-(2-chlorophenyl)-N,N-dimethyl- (9CI)	182	C9H11ClN2

Sample file: >V1252 Spectrum #: 1184
Search speed: 2 Tilting option: S No. of ion ranges searched: 44

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	91*	120821	21927	"BIGDB	85	32	0	0	80	33	50	95
2.	91*	108703	21952	"BIGDB	86	35	0	0	85	32	50	95
3.	78*	87616	21925	"BIGDB	67	47	0	0	73	33	40	80
4.	71*	6012971	27102	"BIGDB	105	44	1	2	28	41	24	78
5.	11*	2103460	21951	"BIGDB	33	92	3	0	81	62	2	13
6.	11*	2103493	21931	"BIGDB	726	114	3	0	93	62	2	13

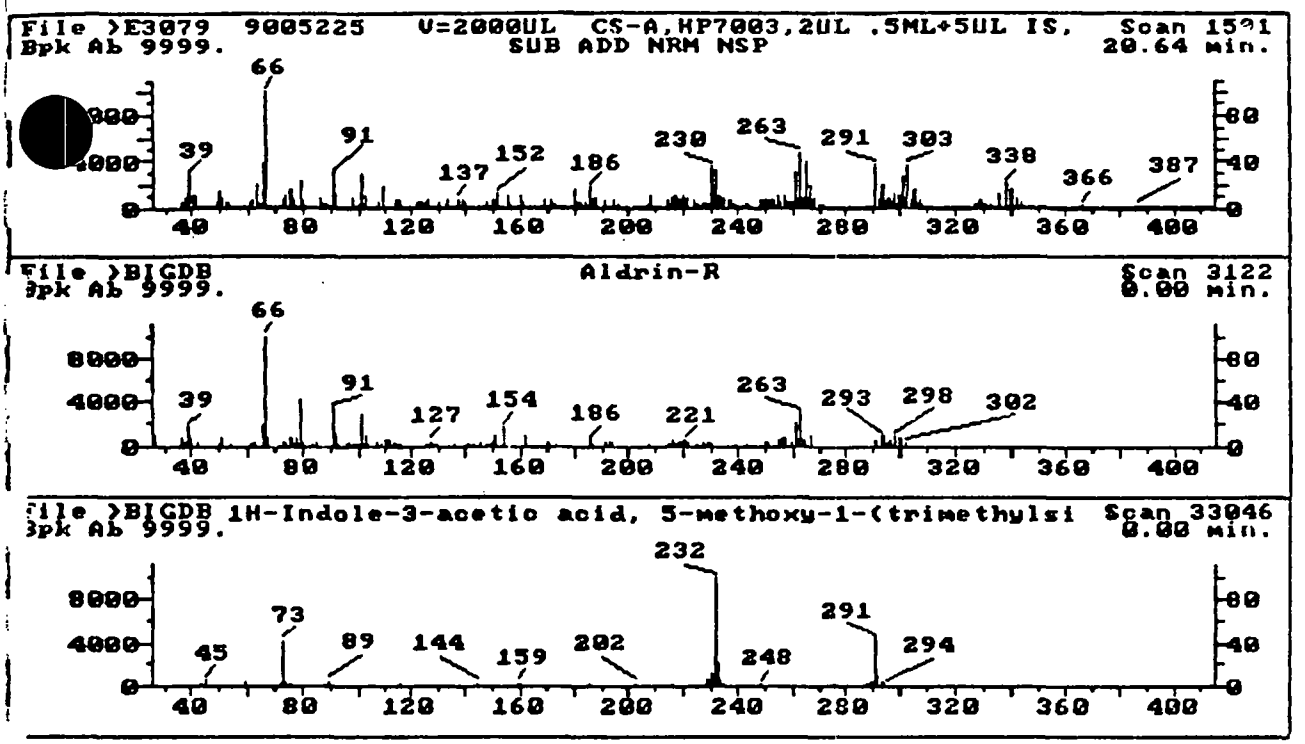


. UNKNOWN #,19 1500
ate and Time of Analysis is 5/30/90 14:33
AREA = 616346.0 TENTATIVE CONCENTRATION IS ~~30.00~~ SSY 6-4-90

1.	Heptachlor (ACN)	370	C10H5C17
2.	Bicyclo[2.2.1]hept-2-ene, 1,2,3,4,5,7,7-heptachloro- (9CI)	332	C7H3C17
3.	Mirex	540	C10C112
4.	[1,1'-Biphenyl]-4-ol, 3,4',5-trichloro- (9CI)	272	C12H7C130
5.	Chlornidine	321	C11H13C12N304

Sample file: >E3079 Spectrum #: 1531
Search speed: 2 Tilting option: S No. of ion ranges searched: 52

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	91*	76448	31561	"BIGDB	99	89	1	0	86	31	50	94
2.	32	5202368	31709	"BIGDB	85	111	2	0	56	44	12	23
3.	30	2385855	31718	"BIGDB	79	134	2	0	71	45	12	21
	15*	4400060	31691	"BIGDB	41	112	3	0	62	60	3	13
	12*	26389786	31526	"BIGDB	56	48	1	-1	19	63	2	27

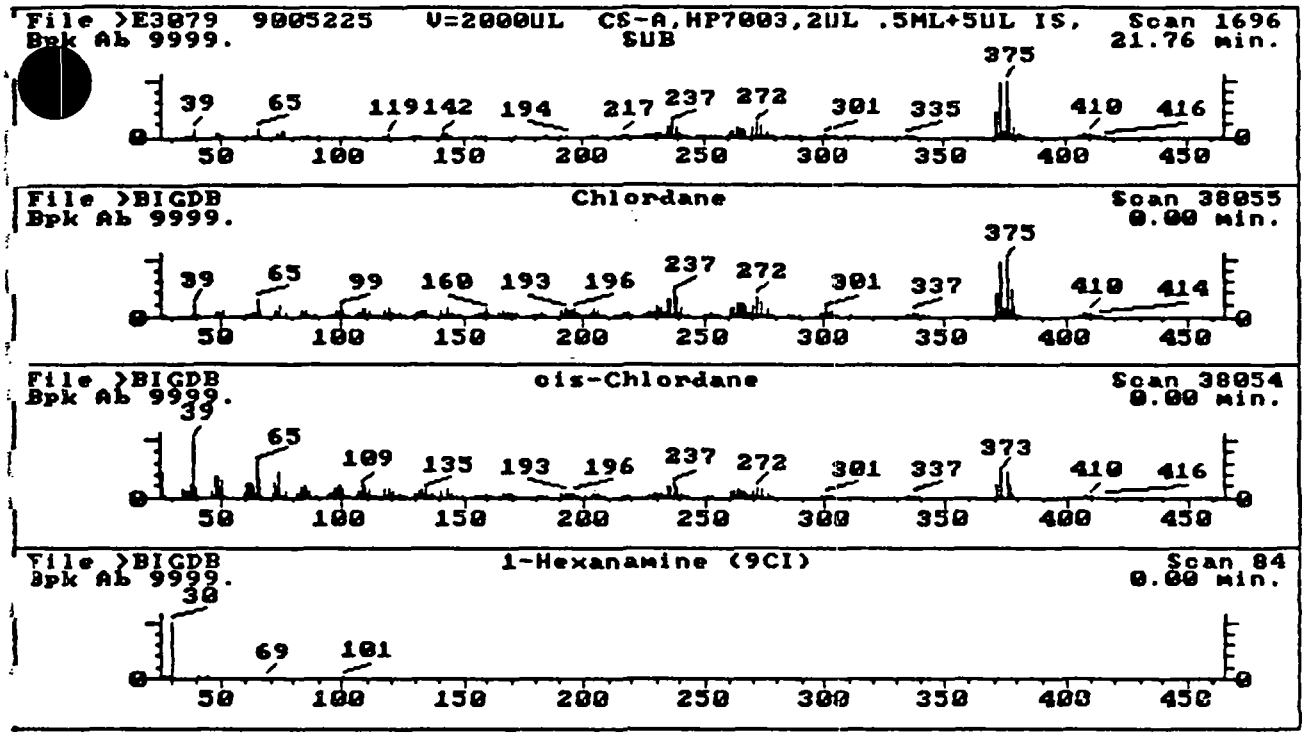


. UNKNOWN #,20 2400
ate and Time of Analysis is 5/30/90 14:33
AREA = 981278.0 TENTATIVE CONCENTRATION IS ~~60.00~~ SSY 6-4-90

1. Aldrin-R 362 C12H8Cl6
2. 1H-Indole-3-acetic acid, 5-methoxy-1-(trimethylsilyl)-, methyl ester (9CI) 291 C15H21NO3Si

Sample file: >E3079 Spectrum #: 1591
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	27	309002	3122	"BIGDB	82	95	2	-1	53	38	10	13
2.	13*	55591010	33046	"BIGDB	47	58	0	-1	13	62	3	35

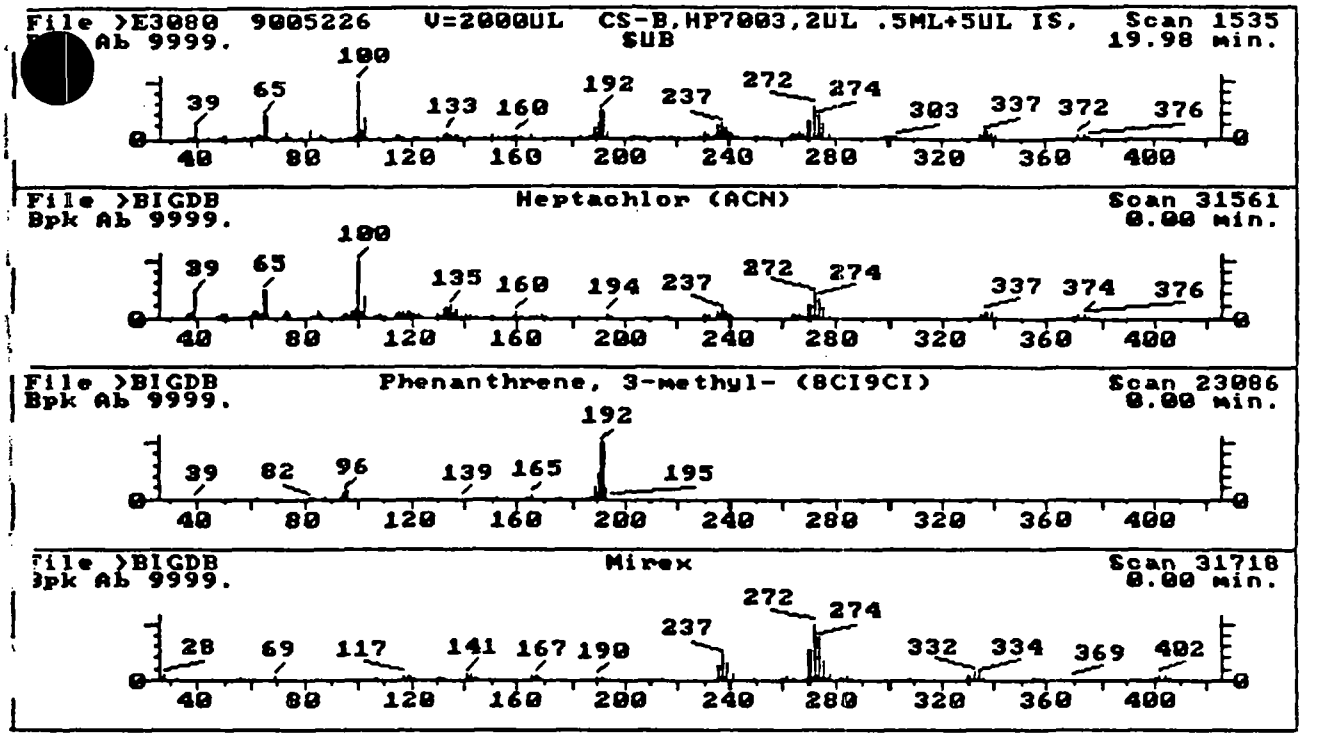


. UNKNOWN #,23 1400
ate and Time of Analysis is 5/30/90 14:33
AREA = 578865.0 TENTATIVE CONCENTRATION IS ~~36.00~~ SSY 6-4-90

1.	Chlordane	406 C10H6C18
2.	cis-Chlordane	406 C10H6C18
3.	1-Hexanamine (9CI)	101 C6H15N
4.	1-Octanamine (9CI)	129 C8H19N

Sample file: >E3079 Spectrum #: 1696
Search speed: 2 Tilting option: S No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	88*	57749	38055	"BIGDB	120	78	1	0	49	43	43	97
2.	42*	5103719	38054	"BIGDB	36	186	3	0	210	24	17	13
3.	30*	111262	84	"BIGDB	49	26	1	-1	142	42	12	21
4.	12*	111864	85	"BIGDB	49	28	1	-1	148	62	2	21

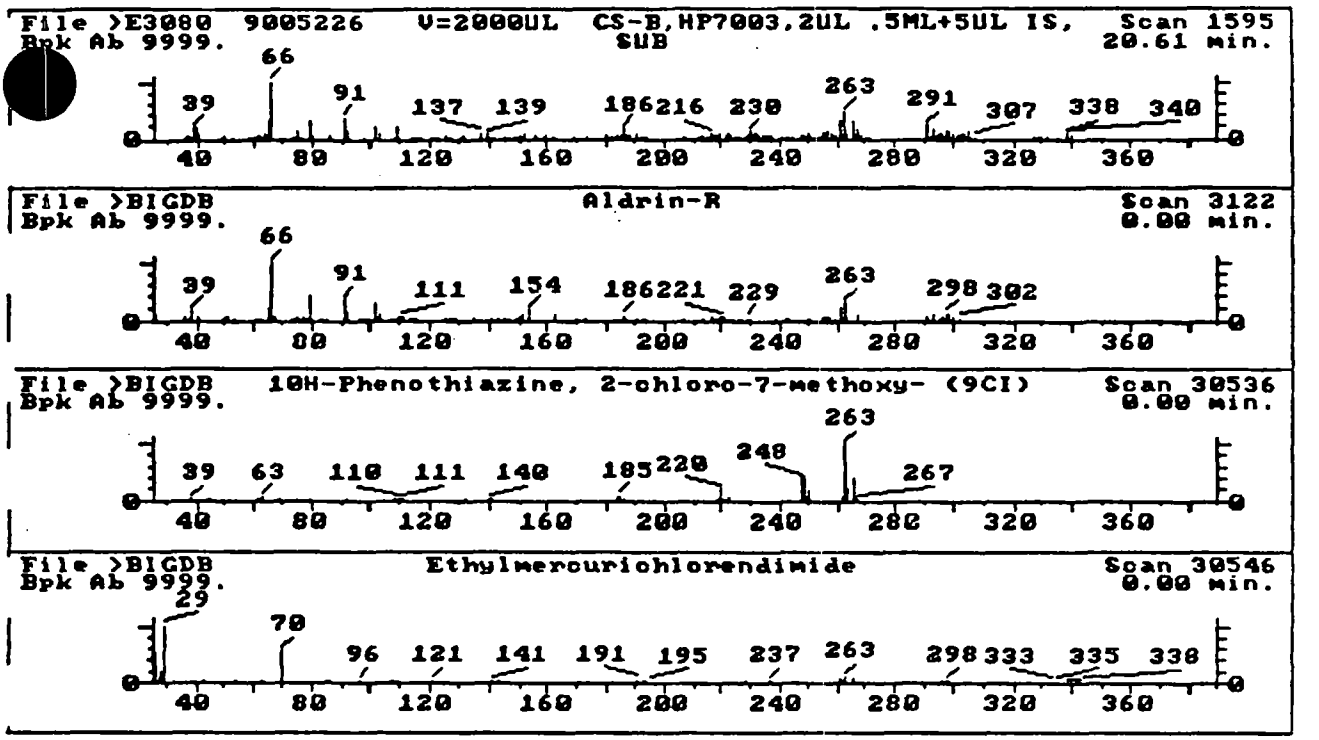


UNKNOWN #,22
Date and Time of Analysis is 5/30/90 15:19 760
AREA = 240890.0 TENTATIVE CONCENTRATION IS ~~19.00~~ SSY 6-4-90

1.	Heptachlor (ACN)	370	C10H5Cl7
2.	Phenanthrene, 3-methyl- (8CI9CI)	192	C15H12
3.	Mirex	540	C10Cl12
4.	Bicyclo[2.2.1]hept-2-ene, 1,2,3,4,5,7,7-heptachloro- (9CI)	332	C7H3Cl7
5.	1H-Pyrrolo[2,3-b]pyridine, 3-bromo-2-phenyl- (8CI)	272	C13H9BrN2

Sample file: >E3080 Spectrum #: 1535
Search speed: 2 Tilting option: S No. of ion ranges searched: 50

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	93*	76448	31561	"BIGDB	120	68	1	0	74	32	50	97
2.	25*	832713	23086	"BIGDB	47	30	1	-2	24	46	7	15
3.	18	2385855	31718	"BIGDB	79	134	2	0	50	60	4	21
	15	5202368	31709	"BIGDB	70	104	2	0	42	59	3	16
	11*	23616582	31672	"BIGDB	47	109	2	1	68	65	2	12



UNKNOWN #,23

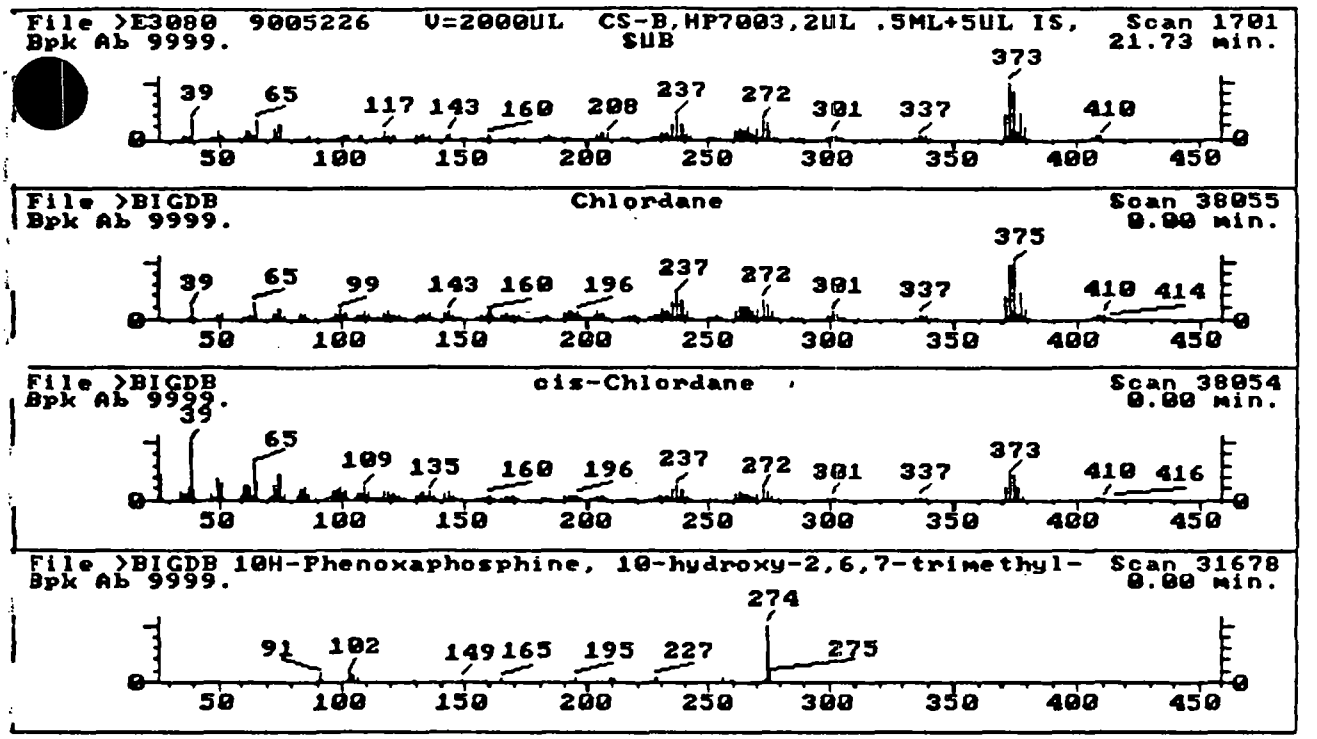
Date and Time of Analysis is 5/30/90 15:19 /200

AREA = 395838.0 TENTATIVE CONCENTRATION IS ~~31.00~~ JSY 6-4-90

1.	Aldrin-R	362	C12H8Cl6
2.	10H-Phenothiazine, 2-chloro-7-methoxy- (9CI)	263	C13H10ClNOS
3.	Ethylmercurichlorendimide	0	
4.	4,7-Methanoisobenzofuran-1,3-dione, 3a,4,7,7a-tetrahydro- (9CI)	164	C9H8O3
5.	1,3-Cyclopentadiene (8CI9CI)	66	C5H6
6.	1H-Pyrrole-2,5-dione, 3-ethenyl-4-methyl- (9CI)	137	C7H7NO2

Sample file: >E3080 Spectrum #: 1595
Search speed: 2 Tilting option: S No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	61	309002	3122	"BIGDB	118	59	2	-1	56	32	22	46
2.	29*	1730445	30536	"BIGDB	49	58	1	-1	20	38	10	15
	15	2597935	30546	"BIGDB	60	104	2	0	334	58	3	12
	12*	826620	2861	"BIGDB	40	49	1	0	74	62	2	23
5.	11*	542927	2767	"BIGDB	43	53	2	0	75	62	2	19
6.	11	21494575	2963	"BIGDB	36	56	1	0	103	62	2	12



UNKNOWN #,24

ate and Time of Analysis is 5/30/90 15:19 880

AREA = 280276.0 TENTATIVE CONCENTRATION IS ~~22.80~~ SSY 6-4-90

1.	Chlordane	406	C10H6C18
2.	cis-Chlordane	406	C10H6C18
3.	10H-Phenoxaphosphine, 10-hydroxy-2,6,7-trimethyl-, 10-oxide (9CI)	274	C15H15O3P
4.	1-Pentanamine (9CI)	87	C5H13N
5.	Phenothiazin-3-ol, 8-chloro-10-[3-(dimethylamino)propyl]-, acetate (ester) (8CI)	376	C19H21C1N2O2S

Sample file: >E3080 Spectrum #: 1701
Search speed: 2 Tilting option: S No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	96*	57749	38055	"BIGDB	142	79	1	0	58	30	57	99
2.	52*	5103719	38054	"BIGDB	71	151	3	0	149	35	20	36
3.	47*	37041068	31678	"BIGDB	58	38	0	-1	20	45	16	49
4.	35*	110587	108	"BIGDB	54	19	1	-1	183	50	11	31
5.	13*	14734771	38075	"BIGDB	60	74	2	2	41	65	3	31

HYGIENIC LABORATORY • The University of Iowa

University Hygienic Laboratory
Oakdale Campus
Iowa City, Iowa 52242

Henry A. Wallace Building
900 E. Grand Avenue
Des Moines, Iowa 50319

Sampling Information

Report to:

~~Mr. Mike Watkins~~ Mr. Bob Ash

Eckenfelder, Inc.

1200 MacArthur Blvd

Mahwah, New Jersey ~~07340~~ 07430

Telephone: (201) 529-0800

Bill to: P.O. No.

Mr. John Strouf

Dico Co., Inc.

200 SE 16th Street

Des Moines, Iowa 50320

Telephone: (515) 244-7826

Complete the following information. Attach photocopies of analyte lists, methods, detection limits, etc., required by QA/work plan, permit or other regulations. Use the back of form to supply diagrams, possible interferences, or additional information.

Type of sample: ☐-water ☒-soil ☐-

Project name: SASC - 6349

Reason for sampling: SOIL PILE ~~HANDLING~~

Sample location (or PWSID #): DT-1 0"-6"

Sampling date: 5/10/90

Time(s): 5:30 PM

MUST BE COMPLETED: (include list of analytes)

Analysis desired: Randox, Propachlor, CDEC ; Volatiles, Base Neutrals, Pesticides, Metals, CN

If specific method is required, list here: per CLP

Check here if RUSH analysis at extra cost is required: ☐ RUSH

Shipping date: 5/11/90

Via: Federal Express Priority 1

Collector's signature: Jeffrey R Caputi

Collector's name (print): Jeffrey R Caputi

FOR LABORATORY USE ONLY

Received by: DB

Via:

Date: MAY 14 1990 Time:

Log No: 9005224

Sample intact? ☒ Yes ☐ No

End log: 9005230

Comments: 4-1pt, 3-40ml vials.

HYGIENIC LABORATORY • The University of Iowa

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Sampling Information

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Telephone: (515) 244-7826

Complete the following information. Attach photocopies of analyte lists, methods, detection limits, etc., required by QA/work plan, permit or other regulations. Use the back of form to supply diagrams, possible interferences, or additional information.

Type of sample: ☐-water ☒-soil ☐-

Project name: SASC - 6349

Reason for sampling: SOIL PILE HANDLING

Sample location (or PWSID #): CS - A 0" - 12" (COMPOSITE OF 12 ALIQUOTS)

Sampling date: 5/11/90

Time(s): 5:00 PM

MUST BE COMPLETED: (include list of analytes)

Analysis desired: Randox, Atopachlor, CDEC; Volatiles, Base Neutrals, Pesticides, Metals, CN

If specific method is required, list here: per CLP

Check here if RUSH analysis at extra cost is required: ☐ RUSH

Shipping date: 5/11/90

Via: Federal Express Priority 1

Collector's signature: Jeffrey R Caputi

Collector's name (print): Jeffrey R Caputi

FOR LABORATORY USE ONLY

Received by: JD

Via:

Date: MAY 14 1990 Time:

Log No: 9005225

Sample intact? ☒ Yes ☐ No

End log: 9005230

Comments:

15

HYGIENIC LABORATORY • The University of Iowa

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Henry A. Wallace Building
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Sampling Information

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Bill to: P.O. No.

Mr. John Strouf

Dico Co., Inc.

200 SE 16th Street

Des Moines, Iowa 50320

Telephone: (515) 244-7826

Complete the following information. Attach photocopies of analyte lists, methods, detection limits, etc., required by QA/work plan, permit or other regulations. Use the back of form to supply diagrams, possible interferences, or additional information.

Type of sample: ☐-water ☒-soil ☐-

Project name: SASC -6349

Reason for sampling: SOIL PIPE HANDLING

Sample location (or PWSID #): CS-B 0"-12" (COMPOSITE OF 12 ALIQUOTS)

Sampling date: 5/11/90

Time(s): 5:20 PM

MUST BE COMPLETED: (include list of analytes)

Analysis desired: Redox, CDEC, Propachlor; Volatiles, Base Neutrals, Pesticides, Metals, CN

If specific method is required, list here: per CLP

Check here if RUSH analysis at extra cost is required: ☐ RUSH

Shipping date: 5/11/90

Via: Federal Express Priority 1

Collector's signature: Jeffrey R Caputi

Collector's name (print): Jeffrey R Caputi

FOR LABORATORY USE ONLY

Received by: DP

Via:

Date: MAY 14 1990 Time:

Log No:

Sample intact? ☑ Yes ☐ No

End log: 9005226
9005230

Comments:

HYGIENIC LABORATORY • The University of Iowa

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Sampling Information

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1200 MacArthur Blvd

Mahwah, New Jersey ~~07340~~ 07430

Telephone: (201) 529-0800

Bill to: P.O. No.

Mr. John Strouf

Dico Co., Inc.

200 SE 16th Street

Des Moines, Iowa 50320

Telephone: (515) 244-7826

Complete the following information. Attach photocopies of analyte lists, methods, detection limits, etc., required by QA/work plan, permit or other regulations. Use the back of form to supply diagrams, possible interferences, or additional information.

Type of sample: ☐-water ☒-soil ☐-

Project name: SASC - 6349

Reason for sampling: SOIL PILE HANDLING

Sample location (or PWSID #): CS-C 0"-12" (COMPOSITE OF 12 ALIQUOTS)

Sampling date: 5/11/90

Time(s): 5:40 PM

MUST BE COMPLETED: (include list of analytes)

Analysis desired: Redox, Propachlor, CDEC; Volatiles, Base Neutrals, Pesticides, Metals, CN

If specific method is required, list here: per CLP

Check here if RUSH analysis at extra cost is required: ☐ RUSH

Shipping date: 5/11/90

Via: Federal Express Priority 1

Collector's signature: Jeffrey R Caputi

Collector's name (print): Jeffrey R Caputi

FOR LABORATORY USE ONLY

Received by: DP

Via:

Date: MAY 14 1990 Time:

Log No: 9005227

Sample intact? ☒ Yes ☐ No

End log: 9005230

Comments:

HYGIENIC LABORATORY • The University of Iowa

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Henry A. Wallace Building
900 E. Grand Avenue
Des Moines, Iowa 50319

Sampling Information

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Eckenfelder, Inc.
1200 MacArthur Blvd
Mahwah, New Jersey ~~07340~~ 07430
Telephone: (201) 529-0800

Bill to: P.O. No.
Mr. John Strouf
Dico Co., Inc.
200 SE 16th Street
Des Moines, Iowa 50320
Telephone: (515) 244-7826

Complete the following information. Attach photocopies of analyte lists, methods, detection limits, etc., required by QA/work plan, permit or other regulations. Use the back of form to supply diagrams, possible interferences, or additional information.

Type of sample: ☐-water ☒-soil ☐-_____ Project name: SASC -6349

Reason for sampling: SOIL PILE HANDLING

Sample location (or PWSID #): CS-D 0"-12" (COMPOSITE OF 12 ALIQUOTS)

Sampling date: 5/11/90 Time(s): 6:00 PM

MUST BE COMPLETED: (include list of analytes)

Analysis desired: Redox, PropacNet, CDEC; Volatiles, BaseNeutrals, Pesticides, Metals, CN

If specific method is required, list here: per CLP

Check here if RUSH analysis at extra cost is required: ☐ RUSH

Shipping date: 5/11/90 Via: Federal Express Priority 1

Collector's signature: Jeffrey R Caputi

Collector's name (print): Jeffrey R Caputi

FOR LABORATORY USE ONLY

Received by: DB Via:

Date: MAY 14 1990 Time: Log No: 9005228

Sample intact? ☒ Yes ☐ No End log: 9005230

Comments:

HYGIENIC LABORATORY • The University of Iowa

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Des Moines, Iowa 50319

Sampling Information

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1200 MacArthur Blvd

Mahwah, New Jersey ~~07340~~ 07430

Telephone: (201) 529-0800

Bill to: P.O. No.

Mr. John Strouf

Dico Co., Inc.

200 SE 16th Street

Des Moines, Iowa 50320

Telephone: (515) 244-7826

Complete the following information. Attach photocopies of analyte lists, methods, detection limits, etc., required by QAlwork permit or other regulations. Use the back of form to supply diagrams, possible interferences, or additional information.

of sample: ☒-water ☐-soil ☐-_____ Project name: SASC - 6349

Reason for sampling: SOIL PILE HANDLING

ample location (or PWSID #): FIELD BLANK

Sampling date: 5/11/90 Time(s): 6:15 PM

MUST BE COMPLETED: (include list of analytes)

nalysis desired: Randox, Propachlor, CDEC; Volatiles, Base Neutrals, Pesticides, Metals, CN

If specific method is required, list here: per CLP

heck here if RUSH analysis at extra cost is required: ☐ RUSH

Shipping date: 5/11/90 Via: ~~Federal Express~~ Priority 1

ollector's signature: Jeffrey R Caputi

ollector's name (print): Jeffrey R Caputi

FOR LABORATORY USE ONLY

Received by: DB Via: _____

Date: MAY 14 1990 Time: _____ Log No: 9005229 9005230

Sample intact? ☒ Yes ☐ No End log: _____

Comments: 5-1L, 3-40ml

HYGIENIC LABORATORY • The University of Iowa

University Hygienic Laboratory
Oakdale Campus
Iowa City, Iowa 52242

Henry A. Wallace Building
900 E. Grand Avenue
Des Moines, Iowa 50319

Sampling Information

Report to:

~~Mr. Mike Watkins~~ Mr. Bob Ash
Eckenfelder, Inc.
1200 MacArthur Blvd
Mahwah, New Jersey ~~07340~~ 07430
Telephone: (201) 529-0800

Bill to: P.O. No.

Mr. John Strouf
Dico Co., Inc.
200 SE 16th Street
Des Moines, Iowa 50320
Telephone: (515) 244-7826

Complete the following information. Attach photocopies of analyte lists, methods, detection limits, etc., required by QA/work on, permit or other regulations. Use the back of form to supply diagrams, possible interferences, or additional information.

Type of sample: ☒-water ☐-soil ☐-_____ Project name: SASC - 6349

Reason for sampling: SOIL PILE HANDLING

Sample location (or PWSID #): TRIP BLANK

Sampling date: 5/11/90 Time(s): N/A

MUST BE COMPLETED: (include list of analytes)

Analysis desired: Volatiles

If specific method is required, list here: per CLP

Check here if RUSH analysis at extra cost is required: ☐ RUSH

Shipping date: 5/11/90 Via: Federal Express Priority 1

Collector's signature: Jeffrey R Caputi

Collector's name (print): Jeffrey R Caputi

FOR LABORATORY USE ONLY

Received by: DB Via:

Date: MAY 14 1990 Time: Log No: 9005230

Sample intact? ☒ Yes ☐ No End log: 9005230

Comments: 3-40ml

University Hygienic Laboratory

The University of Iowa
Oakdale Hall
Iowa City, IA 52242
319-335-4500 (FAX 335-4555)

H.A. Wallace Building
900 East Grand
Des Moines, IA 50319
515-281-5371 (FAX 243-1349)

CHAIN OF CUSTODY RECORD

Sampler: Jeffrey R Caputi
ECKENFELDER INC.

Project: SASC-6349
(DICO)

Address: 1200 Mac Arthur Blvd.
Mahwah, NJ 07430
(201) 529-0800

Comments: 1 of 1

Location	Sample ID	Date	Time	No./Type Container
DT-1	DT-1 0"-6"	5/10/90	5:30 PM	3-40ml glass, 4-pint glass
CS-A	CS-A 0"-12"	5/11/90	5:00 PM	
CS-B	CS-B 0"-12"		5:20 PM	
CS-C	CS-C 0"-12"		5:40 PM	
CS-D	CS-D 0"-12"	↓	6:00 PM	↓
FIELD BLANK	FIELD BLANK	5/11/90	6:15 PM	3-40ml glass, 4-quart glass, 1-Pint plastic w/HNO3, 1-Quart glass w/NaOH
TRIP BLANK	TRIP BLANK	5/11/90	N/A	3-40ml glass

Relinquished by (signature)	Date	Time	Received by (signature)
Jeffrey R Caputi	5/11/90		
Relinquished by (signature)	Date	Time	Received by (signature)
Relinquished by (signature)	Date	Time	Received by (signature)
Relinquished by (signature)	Date	Time	Received for Lab by:

Custody seals intact? ☐ Yes ☐ No

Sample containers intact? ☐ Yes ☐ No

Remarks:

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AIRBILL
PACKAGE TRACKING NUMBER **6585815493**

374 6585815493

[redacted] Date 5/11/90

RECIPIENT'S COPY

1 From (Your Name) Please Print: Michael L. Watkins	Your Phone Number (Very Important): (201) 529-0800
Company: ECKENFELDER INC	Department/Floor No.
Street Address: 1200 MACARTHUR BLVD	
City: MAHWAH State: NJ	ZIP Required: 07430

2 To (Recipient's Name) Please Print: Dr. Michael Wichman	Recipient's Phone Number (Very Important): (319) 335-4500
Company: Hygienic Laboratory The University of Iowa	Department/Floor No.
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes): Oakdale Campus	
City: Iowa City, State: IA	ZIP Required: 52242

YOUR INTERNAL BILLING REFERENCE INFORMATION (First 24 characters will appear on invoice.): 6595 \ 6344

IF HOLD FOR PICK-UP, Print FEDEX Address Here — Street Address / City / State / ZIP Required

3 PAYMENT 1 ☐ Bill Sender 2 ☐ Bill Recipient's FedEx Acct. No. 3 ☐ Bill 3rd Party FedEx Acct. No. 4 ☐ Bill Credit Card [redacted]

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†Delivery commitment may be later in some areas. *Declared Value Limit $100. **Call for delivery schedule.

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5. ☐ CONSTANT SURVEILLANCE SVC. (CSS) (Extra charge)
6. ☐ DRY ICE ______ Lbs.
7. ☒ OTHER SPECIAL SERVICE
8. ☐
9. ☐ SATURDAY PICK-UP (Extra charge)
10. ☐
11. ☐
12. ☐ HOLIDAY DELIVERY (if offered) (Extra charge)

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1	49		
Total 2	Total 85	Total	

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Emp. No. | Date
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☐ Third Party ☐ Chg. To Del. ☐ Chg. To Hold
Street Address
City State Zip

Received By: X Duke Sweetiney UHL
Date/Time Received 5/14/90 FedEx Employee Number 0800 HRS

5 Release Signature:

Federal Express Use	
Base Charges	
Declared Value Charge	
Other 1	
Other 2	
Total Charges	

REVISION DATE 11/89
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FORMAT #014
014
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The University Hygienic Laboratory

Sample Control Record

☐ Sample ☐ BN and A Extract ☐ Pesticide/PCB Extract ☒ VOA Vial

Laboratory Sample No.	Removed By	Date and Time Removed	Reason	Date and Time Returned
900522F-30	Tony Chin	5/14/90	GCMS Analysis	5/17/90 1200

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The University Hygienic Laboratory

Sample Control Record

☒ Sample ☐ BN and A Extract ☐ Pesticide/PCB Extract ☐ VOA Vial

Laboratory Sample No.	Removed By	Date and Time Removed	Reason	Date and Time Returned
9005229	[illegible]	5/17/90 9:00pm	EXT BA H2O EXTRACT	— Used up
9005224	R.J. Mollenhauer	5-25-90 9:15 am	pH and EXTSM (Soil EXTRACT)	5-25-90 3:45 pm
9005225				
9005226				
9005227				
9005228				

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The University Hygienic Laboratory

Sample Control Record

☑ Sample ☑ BN and A Extract ☐ Pesticide/PCB Extract ☐ VOA Vial

Laboratory Sample No.	Removed By	Date and Time Removed	Reason	Date and Time Returned
	K. Hardin	5-29-90 10:00	GC/MS Analysis	6-13-90 ~~6-11-90~~ SJY 6-8-90 12:00
9005229				
5224				
5225				
5226				
5227				
5228				

The University Hygienic Laboratory

Sample Control Record

☑ Sample ☐ BN and A Extract ☐ Pesticide/PCB Extract ☐ VOA Vial

Laboratory Sample No.	Removed By	Date and Time Removed	Reason	Date and Time Returned
9005229	MJK	5/16/90 2:00 PM	extraction	
9005229	TB	5/17/90 8:26 AM	extraction	
9005224	TB	5/17/90	"	4:30 pm
9005225	TB	5/17/90	"	"
9005226	TB	5/17/90	"	"
9005227	TB	5/17/90	"	"
9005228	TB	5/17/90	"	"

The University Hygienic Laboratory

Sample Control Record

☐ Sample ☐ BN and A Extract ☑ Pesticide/PCB Extract ☐ VOA Vial

Laboratory Sample No.	Removed By	Date and Time Removed	Reason	Date and Time Returned
EXTR. BLK.	L. Sullivan	5/18/90 10AM	GPC	9 AM 5/22/90
9005224	↓	↓	↓	↓
9005225				
9005226				
9005227				
9005227MS				
9005227MSD				
9005228				

The University Hygienic Laboratory

Sample Control Record

☐ Sample ☐ BN and A Extract ☑ Pesticide/PCB Extract ☐ VOA Vial

Laboratory Sample No.	Removed By	Date and Time Removed	Reason	Date and Time Returned
			N_2 Blowdown /	
PBLANK (MED)	MDH	5/25/90 8:30A	Alumina Clean-up	5/29/90 1:30P
9005225 (MED)	↓	↓	↓	↓
9005225MS (MED)				
9005225MSD (MED)				
9005226 (MED)				
9005227 (MED)				
9005228 (MED)				
PBLANK (WATER)				
9005229				
PBLANK (LOW)				
9005224				
9005227				
9005227MS				
9005227MSD	↓	↓	↓	↓

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The University Hygienic Laboratory

Sample Control Record

☐ Sample ☐ BN and A Extract ☑ Pesticide/PCB Extract ☐ VOA Vial

Laboratory Sample No.	Removed By	Date and Time Removed	Reason	Date and Time Returned
PBLK (WATER)	MDH	5/30/90 8:30A	SET UP QUEUE	5/30/90 2:30P
9005229	↓	↓	↓	↓
PBLK (MSD)				
9005225				
5225MS				
5225MSD				
5226				
5227				
5228				
PBLK (LOW)				
9005224				
5227				
5227MS				
5227MSD	↓	↓	↓	↓

№ 3

GC/MS Standard Record

Hygienic Laboratory
The University of Iowa

Fraction: VOA

Date Prepared	UHL ID	Analyst	Comments
2/06/90	~~90??~~ 9 FWG 2/6/90 V-13A	Frank W. Gardner	9000990 Dilution (1/1000)
			10 ul 9000990
			in 10 ml OFW
2/6/90	V-13B	Frank W. Gardner	9000991 Dilution (1/1000)
			10 ul 9000991
			in 10 ml OFW
2/06/90	V-13C	Frank W. Gardner	~~900097~~ FWG 2/6/90 9000711 Dilution (1/1000)
			10 ul 9000711
			in 10 ml OFW
2/06/90	V-13D	Walter J. Maley	BFB Stock Dilution
			~~10ul~~ WM 2/6/90 5ul EPA Std 4-Bromofluorobenzene
			in 1 mL MeOH b+j Lot #AV 542
~~2/07/90~~	~~V-13E~~	~~Othon Seli~~	~~K THF Dilution~~
			~~100ul T-240 E THF stock~~
			~~in 900ul MeOH b&j CC² lot # AV542~~
2/09/90	V-13F	Frank W. Gardner	Supelco Intermediate Dilution
			100ul Supelco Purgeable A #9215 Lot #LA 22610
			100ul Supelco Purgeable B Lot #LA22424
			100ul Supelco Purgeable C 4-8853 Lot #LA 22122
			10ul TCL Mix 4-8920 Lot #LA 22679
			in 690ul MeOH B+J AV542

Reviewed by: TL

Date: 5/15/90

GC/MS Standard Record

Hygienic Laboratory
The University of Iowa

Fraction: 10A

Date Prepared	UHL ID	Analyst	Comments
4/5/90	V-120A	Walter J Maloney	Supelco SS Dilution
			100 ul SS 4-8876 LA23285
			in 900 ul MeOH Dtj AX105
4/5/90	V-120B	Walter J Maloney	Supelco IS Dilution
			25 ul IS 4-8835 LA22958
			in 975 ul MeOH Dtj AX105
4/5/90	V-120C	Walter J Maloney	Supelco Intermediate Dilution
			100 ul Purgeable A LA22610
			100 ul Purgeable B 4-8852 LA23020
			100 ul Purgeable C 4-8853 LA22774
			10 ul TCL Mix 4-8920 LA23295
			in 690 ul MeOH Dtj AX105
4/6/90	V-120D	Frank W. Hudson	Dico PE Dilution
			200 ul OQ425-005
			in 100 ml DFW
4/6/90	V-120E	Walter J Maloney	Dico PE Dilution
			5 ul 9002970 OQ425-005
			in 100 mL DFW
4/9/90	V-120F	Frank W. Hudson	Supelco Intermediate Dilution
			100 ul Purgable A Lot #LA22610
			100 ul Purgable B 4-8852 Lot #LA23020
			100 ul Purgable C 4-8853 Lot #LA22774
			10 ul TCL Mix 4-8920 Lot #23293
			in 690 ul MeOH DTJ AX105

Reviewed by: TC Date: 5/15/90

GC/MS Standard Record

Hygienic Laboratory
The University of Iowa

Fraction: VOA

Date Prepared	UHL ID	Analyst	Comments
4/10/90	V-122A	Ekram Selim	½ Butanol std 100 ul V-1180, butanol stock 500 ul MeOH b9j AX105
4/11/90	V-122B	Ekram Selim	BFB Dilution 5 ul BFB stock, V-5344 in 1 ml MeOH b9j AX105
4/11/90	V-122C	Frank Hudson	9003344 Dilution (PE-Dico 00425-004) 5 ul 9003344 in 100 ml OFW
4/12/90	V-122D	Ekram Selim	Xac 9c54364 Dilution 10 ul 9054364 in 1 ml MeOH b9j AX105
4/12/90	V-122E	Ekram Selim	Xac V-122D Dilution 10 ml V-122D in 1 ml MeOH b9j AX105
4/13/90	V-122F	Frank Hudson	Supelco IS Dilution 25 ul IS 4-8835 Lot# LA22958 in 975 ul MeOH B&T Lot# AX105
4/13/90	V-122G	Frank Hudson	Supelco SS Dilution 1 ml SS (1000 ul SS) 4-8876 Lot# LA23285 in 9 ml MeOH B&T AX105
4/16/90	V-122H	Ekram Selim	Supelco SSIS Dilution 100 ul SS 4-8876 lot# LA23285 25 ul IS 4-8835 lot# LA22958 in 875 ul MeOH b9j AX105

Reviewed by: TC Date: 5/15/90

GC/MS Standard Record

Hygienic Laboratory
The University of Iowa

Fraction: VOA

Date Prepared	UHL ID	Analyst	Comments
5/15/90	V-131A	Walter J. Maloney	Supelco SSIS Dilution 100ul SS 4-8876 Lot # LA23285 25ul IS 4-8835 lot # LA23639 in 875ul MeOH b&j Lot # AX085
5/15/90	V-131B	Walter J. Maloney	Supelco Intermediate Dilution 100ul Purgeable A NU9215 # LA22610 100ul Purgeable B 4-8852 # LA22424 100ul Purgeable C 4-8853 # LA23451 100ul HSL C.S. 38-700 in 600ul MeOH b&j # AX085
5/15/90	V-131C	Elton Solis	Supelco SSIS Dilution 100ul SS 4-8876 lot # LA 23285 25 ml IS 4-8835 lot # LA 23639 in 875 ml MeOH b&j lot # Ax085
5/15/90	V-131D	James J. Yoder	2,2-dichloropropane stock solution 2,2-dichloropropane 33.0 mg Aldrich 02608AT in 10 ml MeOH b&j AX085
5/5/90	V-131E	Elton Solis	Supelco Voc standard 10ml Voc Mix-1 4-8775 lot # LA 22905 (2000 ug/ml) 10ml Voc Mix-2 4-8777 lot # LA 22533 (2000 ug/ml) 10ml Voc Mix-3 4-8779 lot # LA 22794 (2000 ug/ml) 10ml Voc Mix-5 4-8797 lot # LA 22797 (2000 ug/ml) 10ml Voc Mix-6 4-8794 lot # LA 22831 (2000 ug/ml) in 95% MeOH b&j AX085

Reviewed by: TC Date: 5/15/90

№ 5146

University Hygienic Laboratory

Sample Extraction Record

Dico CLP (protocol)

Sample No.	9005224	9005225	9005226	9005227	9005228
Received	5-14-90	→	→	→	→
Extracted	5-17-90	→	→	→	→
Matrix	Soil	→	→	→	→
ID	BOB ASL	→	→	→	→
	DT-1 0"-6"	CS-A 0"-12"	CS-B 0"-12"	CS-C 0"-12"	CS-D 0"-12"
Wt.	0.99g	0.98g	0.97g	0.98g	0.98g
& Sample Wt. (Wet)	14.04g	8.79g	7.88g	9.56g	8.04g
& Sample Wt. (Dry)	10.94g	7.36g	7.49g	8.07g	6.80g
Sample Wt. (Wet)	13.05g	7.81g	7.9g	8.56g	7.06g
Sample Wt. (Dry) 5-17-90	~~12.94~~ 9.95g	~~9.36~~ 6.38g	~~9.49~~ 6.52g	7.09 ~~8.07~~	~~6.80~~ 5.82g
Loss	3.1g	1.43g	1.38g	1.47g	1.24g
Moisture or Oil	24%	18%	17.5%	17.2%	18%
Dimension					
Sample Volume	30.50g	30.44g	30.71g	30.29g	30.47g
Sample pH					
Method	Sonifog Ace/DCM	→	→	→	→
Analytes	CLP Spike	→	→	→	→
					→
Solvent(s)	ACE / DCM	→	→	→	→
Lot #)	AW 668 / AW949	→	→	→	→

Comments Took a 5mL Screen from these Samples. MS, MSD (9005227) + Blank ml

Page # 5147

Extracted By: TB Transferred To: MD

Extract Location: E202 Transfer Date: 5/23/90

5pt Initial Calibration - 5mL Soil - Heated Purge № 221

GC/MS Injection Record

Hygienic Laboratory
The University of Iowa

Fraction: VOA

Instrument ID: 7001

Date Analyzed	UHL ID	Client/ Case/ID	Run No.	File Name	Analyst	Comments
6/6/90		EPACLP	299	>T1005	wjm	2ul V-13D + 5mL DFW
		VSTD050	300	>S1005		12.5 ul V-120C + 10ul SS V-120A
			~~300~~ um 416190			+ 10ul IS V-120B + 5mL DFW
		VSTD100	301	>S1006		50ul V-120C + 40 ul SS V-120A
						+ 10ul IS V-120B + 5mL DFW
			302	>S1007		37.5ul V-120C + 30ul SS V-120A
						+ 10ul IS V-120B + 5mL DFW
		VSTD150	303	>S1008		37.5 ~~35~~ ul V-120C + 30ul SS V-120A
						um 416190 + 10ul IS V-120B + 5mL DFW
		VSTD100	304	>S1009		25ul V-120C + 20ul SS V-120A +
				um 4/6/90		10ul IS V-120B + 5ml DFW
		VSTD020	305	~~>S10~~		5ul V-120C + 4 ul SS V-120A
				>S1010		+ 10ul IS V-120B + 5mL DFW
		VBLK06	306	>B1007 ~~>V1030~~		10ul SS V-120A + 10ul IS V-120A
				um 416190		+ 5ml DFW
	9002970	PE	307	>V1030		10ul SS V-120A + 10ul IS V-120A ✓
		OG 425 -005			↓	+ 5mL V-120E (9002970)

Reviewed by: TC

Date: 6/20/90

GC/MS Injection Record

Hygienic Laboratory
The University of Iowa

Fraction: VOA

Instrument ID: HP7001

Date Analyzed	UHL ID	Client/ Case/ID	Run No.	File Name	Analyst	Comments
5/15/90		DICO	626	>T1031	wpm	2ul V-122B + 5mL OFW
			627	>S1047		12.5 ul V-131B + 10ul SSIS V-131A + 5mL OFW
			628	>B1041		10ul SSIS V-131A + 5mL OFW
			629	~~>S1047~~ wpm 5/15/90		~~12.5ul SSIS V-131B~~ wpm 5/15/90
	9005224	DT-1 0-6"		>V1250		5.0g 9005224 + 10ul SSIS V-131A + 5mL OFW
	9005225	CS-A 1-12"	630	>V1251		5.0g 9005225 + 10ul SSIS V-131A + 5mL OFW
	9005226	CS-B 0-12"	631	>V1252		5.0g 9005226 + 10ul SSIS V-131A + 5mL OFW
	9005227	CS-C 1-12"	632	>V1253		5.0g 9005227 + 10ul SSIS V-131A + 5mL OFW
	9005228	CS-D 0-12"	633	>V1254		5.0g 9005228 + 10ul SSIS V-131A + 5mL OFW
	9005229	FB	634	>V1255		5mL 9005229 + 10ul SSIS V-131A
5/16/90			635	>T1032		2ul V-122B + 5mL OFW
			636	>S1048		12.5ul V-131B + 5mL OFW + 10ul SSIS V-131A
			637	>B1042		10ul SSIS V-131A + 5mL OFW
	9005230	TB	638	>V1256		5mL 9005230 + 10ul SSIS V-131A
	9005229	FB	639	>V1257		5mL 9005229 + 10ul SSIS V-131A
	9005227	CS-C 0-12"	640	>V1258		5.0g 9005227 + 10ul SSIS V-131A + 5mL OFW
	9005226	CS-B 0-12 MS	641	>V1259		5.0g 9005226 + 10ul SSIS V-131A + 10ul MS V-132B + 5mL OFW
	9005226	CS-B 0-12 MSD	642	>V1260		5.0g 9005226 + 10ul SSIS V-131A + 10ul MS V-132B + 5mL OFW

Reviewed by: TC

Date: 6/20/90

C

№ 4798

University Hygienic Laboratory

Sample Extraction Record

Client IONR FORG

Lab Sample No.	SVBLK #1	SVBLK #2	Matrix spike	9005247	9005248
Date Received	5/15/90		5/1	5/15/90	1
Date Extracted	5/17/90				1
Sample Matrix	OFN E220nm		1		
Client ID			~~EFFLUENT~~	INFLUENT	EFFLUENT
Source					
Tare Wt.					
Tare & Sample Wt. (Wet)					
Tare & Sample Wt. (Dry)					
Sample Wt. (Wet)					
Sample Wt. (Dry)					
Wt. Loss					
% Moisture or Oil					
Emulsion					
Sample Volume	1020ml	1030ml	1020ml	510ml	470ml
Sample pH					
Method	BNA H2O + 1.0ml SURR		+ 1.0ml Matrix Spike		1
Analytes	BNA Blank 1		Matrix Spike	BNA	1
Solvent(s)	B+N DCM				
(Lot #)	AN949				

Comments Split Sample containers in 1/2 ; 1/2 → Pest. 1/2 → BNA.
Surr. → 5107B #8 KH Matrix Spike S-1090 JJY #2
↳ 4-4-90 ↳ 4-24-90

Extracted By: GJ

Extract Location: E206 O.H

Transferred To:

Transfer Date:

№ 4799

University Hygienic Laboratory

Sample Extraction Record

Client Eckenfelder / Dico

Lab Sample No.	9005229				
Date Received	5/14/90				
Date Extracted	5/17/90				
Sample Matrix	H_2O				
Client ID	SASC-6349				
Source	Field Blank				
Tare Wt.					
Tare & Sample Wt. (Wet)					
Tare & Sample Wt. (Dry)					
Sample Wt. (Wet)					
Sample Wt. (Dry)					
Wt. Loss					
% Moisture or Oil					
Emulsion					
Sample Volume	790ml				
Sample pH	4 6-13-90 224				
Method	GCMS Mx +1.0ml sur. 4-4-90 KH				
Analytes	ExtBA				
Solvent(s)	B/N DCM				
(Lot #)	Lot# DW949				

Comments 2 Blanks + spike ON PG 4798 SUBK #308

Surrogate S-107B #8 4-4-90 KH

ONLY 1-1L Btl Available so M.S. + MSD NOT done ON Sample

MS done ON OFW. #PG-4798.

Extracted By: GJ

Transferred To: GC/MS KH

Extract Location: E206 OH

Transfer Date: 5-24-90

№ 5021

University Hygienic Laboratory

Sample Extraction Record

Client DICO

Lab Sample No.	SVBLKI	SVBLKII	9005224	9005225	9005226
Date Received	5-14-90				
Date Extracted	5-25-90				
Sample Matrix	FIRED SEA SAND		SOIL		
Client ID			DT-1	CS-A	CS-B
Source	RmH16		SASC 6379		
Tare Wt.					
Tare & Sample Wt. (Wet)					
Tare & Sample Wt. (Dry)					
Sample Wt. (Wet)					
Sample Wt. (Dry)					
Wt. Loss					
% Moisture or Oil					
Emulsion					
Sample Volume	30.25g	30.84g	30.40g	30.60g	30.33g
Sample pH	6.86		7.23	7.45	7.47
Method EXTSM	UP PROTOCOL GC/MS SOIL ½ml SURR.				
Analytes	TCL CLP PROTOCOL FOR SEMI VOLATILES				
Comments	LOW LEVEL SCREEN 5mL of 350mL		Low Level Screen 5mL of 350mL GC/MS SOXTEC		5-25-90 GC/MS LOW LEVEL SCREEN 5mL of 350mL
Comments					
Solvent(s)	DCM / ACE				
(Lot #)	AW328 / AW468				

Comments Surrogate = S-114D (1) ml Surr. Working Sol'n (JJY) 5-16-90

Extracted By: PJM & MS Transferred To: GC/MS. KH

Extract Location: RM H16 Transfer Date: 5.29.90

Fogged off PJM 5/25/90

№ 5022

University Hygienic Laboratory

Sample Extraction Record

Client DICC

Lab Sample No.	90005227	90005228	90005228MS	90005228MSD	
Date Received	5-14-90				
Date Extracted	5-25-90				
Sample Matrix	SOIL				
Client ID	SASC 6349				
Source	CS-C	CS-D			
Tare Wt.					
Tare & Sample Wt. (Wet)					
Tare & Sample Wt. (Dry)					
Sample Wt. (Wet)					
Sample Wt. (Dry)					
Wt. Loss					
% Moisture or Oil					
Emulsion					
Sample Volume	30.54g	30.46g	30.91g	30.37g	
Sample pH	7.40	7.50			
Method EXTSM	CLP Protocol GC/MS SOIL 1/2 ML Surr.		1.0ML MATRIX SPIKE	1.0ML MATRIX SPIKE	
Analytes	TCL CLP Protocol FOR SEMI VOLITILES				
Comment=	LOW LEVEL SCREEN 5 mL of 350 mL.				
Comments					
Solvent(s)	DCM / ACE				
(Lot #)	HW 28				

Comments SURROGATE = S-1140 @ 1/10 SURROGATE WORKING SOL'N (VJ) 5-16-90

MATRIX SPIKE = S-1090 @ 1/10 MS SOL'n. (VJ) 4-24-90

Extracted By: PJM And MS Transferred To: GC/MS 5-29-90 KH

Extract Location: Rm # H-16 Transfer Date:

Logged Off PJM 5/25/90

No. 5146

...sity Hygienic Laboratory

...ple Extraction Record

...Dico   CLP (Protocol)

...mple No.	9005224	9005225	9005226	9005227	9005228
...ceived	5-14-90	→			
...xtracted	5-17-90	→			
...Matrix	Soil	→			
...D	Bob Ash	→			
...	DT-1 0"-6"	CS-A 0-12"	CS-B 0-12"	CS-C 0-12"	CS-D 0-12"
...Wt.	0.99g	0.98g	0.97g	0.98g	0.98g
... & Sample Wt. (Wet)	14.04g	8.79g	9.88g	9.56g	8.04g
... & Sample Wt. (Dry)	10.94g	7.36g	7.49g	8.07g	6.80g
...ple Wt. (Wet)	13.05g	7.81g	7.9g	8.56g	7.06g
...ple Wt. (Dry) 5-18-90 TB	~~10.94g~~ 9.95g	~~7.36~~ 6.38g	~~7.49~~ 6.52g	7.09g ~~8.07~~	~~6.80~~ 5.82g
...oss	3.1g	1.43g	1.38g	1.47g	1.24g
...sture or Oil	24%	18%	17.5%	17.2%	18%
...sion					
...ple Volume	30.50g	30.44g	30.71g	30.29g	30.47g
...ple pH					
...hod	Sonify Ace/DCM	→			
...ytes	CLP Spike	→			
...ent(s)	ACE/DCM	→			
...#)	AW 448 / AW949	→			

...ments Took a 5mL screen from these samples. MS (9005227), MSD + Blank on page # 5147

...cted By: TB   Transferred To: MD(?)

...ct Location: E202   Transfer Date: 5/23/90

№ 5146

University Hygienic Laboratory

Sample Extraction Record

Client Dico CLP (Protocol)

Lab Sample No.	9005224	9005225	9005226	9005227	9005228
Date Received	5-14-90	→	→	→	→
Date Extracted	5-17-90	→	→	→	→
Sample Matrix	Soil	→	→	→	→
Client ID	BoB Ash	→	→	→	→
Source	DT-1 0"-6"	CS-A 0"-12"	CS-B 0"-12"	CS-C 0"-12"	CS-D 0"-12"
Tare Wt.	0.99g	0.98g	0.97g	0.98g	0.98g
Tare & Sample Wt. (Wet)	14.04g	7.79g	7.78g	9.56g	8.04g
Tare & Sample Wt. (Dry)	~~10.94~~ 10.97g	7.36g	7.49g	8.07g	6.80g
Sample Wt. (Wet)	13.05g	7.81g	7.79g	8.56g	7.06g
Sample Wt. (Dry) 5-17-90 16	~~9.95~~ 9.95g	~~7.36~~ 6.38g	~~7.49~~ 6.52g	~~7.09~~ ~~7.07~~	~~6.80~~ 5.82g
Wt. Loss	3.1g	1.43g	1.38g	1.47g	1.24g
% Moisture or Oil	24%	18%	17.5%	17.2%	18%
Emulsion					
Sample Volume	30.50g	30.44g	30.71g	30.29g	30.47g
Sample pH					
Method	Soni. Ext Acet/DCM	→	→	→	→
Analytes	CLP Spike	→	→	→	→
					→
Solvent(s)	ACE/DCM	→	→	→	→
(Lot #)	AW668/AW949	→	→	→	→

Comments Took a 5mL Screen From these Samples. (9005227) MS, MSD + Blank on Page # 5147

Extracted By: TB **Transferred To:** MTL

Extract Location: E202 **Transfer Date:** 5/21/90

№ 5147

University Hygienic Laboratory

Sample Extraction Record

Client: Dico

	x	x	x PBLKC ~~PBLKB~~ SF 5/15/90		
Lab Sample No.	9005227 MS	9005227 MSD	Blank		
Date Received	5/11/90	→			
Date Extracted	5-17/90	→	→		
Sample Matrix	Soil	Soil	Sea Sand		
Client ID	Bob Ash	→	→		
Source	CS-C 0-12	→			
Tare Wt.	0.98g	0.92g			
Tare & Sample Wt. (Wet)	9.56g	9.56g			
Tare & Sample Wt. (Dry)					
Sample Wt. (Wet)					
Sample Wt. (Dry)					
Wt. Loss					
% Moisture or Oil					
Emulsion					
Sample Volume	32.68g	30.76g	27.08g		
Sample pH					
Method	Sonify ACE/DCM	→	→		
Analytes	CLP Protocol	→	→		
Solvent(s)	ACE / DCM	→	→		
(Lot #)	AW668 AW449	→	→		

Comments: For Samples on Page #5146. MS + MSD CLP Spike was used 0.8m CLP Surrogate for all samples + Spikes

Extracted By: TB

Extract Location: E002

Transferred To: MDL

Transfer Date: 5/23/90

№ 5148

University Hygienic Laboratory

Sample Extraction Record

Client Dico

		PBLK A SF 051590			
Lab Sample No.	9005229	Blank			
Date Received	5-14-90				
Date Extracted	5-17-90 →	→			
Sample Matrix	H2O	DFW H2O			
Client ID	CoB Ash				
Source	Field Blank				
Tare Wt.					
Tare & Sample Wt. (Wet)					
Tare & Sample Wt. (Dry)					
Sample Wt. (Wet)					
Sample Wt. (Dry)					
Wt. Loss					
% Moisture or Oil					
Emulsion					
Sample Volume	900mL	1000mL			
Sample pH					
Method	100% DCM →	→			
Analytes	CLP Pobcal →	→			
Solvent(s)	DCM / →	→			
(Lot #)	HW949 / →	→			

Comments A 5mL Screen was taken from each Sample

Extracted By: TB **Transferred To:** MDL

Extract Location: F207 **Transfer Date:** 5/23/90

№ 5201

University Hygienic Laboratory

Sample Extraction Record

Med. Levels

Client Duco

pg 1 of 2

Lab Sample No.	9005225	9005225MS	9005225MSD	9005226	9005227
Date Received	5-14-90				
Date Extracted	5-21-90				
Sample Matrix	soil				
Client ID	CS-A			CS-B	CS-C
Source					
Tare Wt.					
Tare & Sample Wt. (Wet)					
Tare & Sample Wt. (Dry)					
Sample Wt. (Wet)					
Sample Wt. (Dry)					
Wt. Loss					
% Moisture or Oil					
Emulsion					
Sample Volume	1.02g	1.09g	1.07g	1.12g	1.05g
Sample pH					
Method	med level CLP Protocol				
Analytes	PAT CLP				
Solvent(s)	Hexane				
(Lot #)	AX091				

Comments 50 ul. of surrogate added (CLP surrogate DBC 20 PPM) 12/21/PT SF

MS-MSD - 1 mL of CLP Soil Dpk. 4/9/90 MDH

Extracted By: MJK

Transferred To: MDH

Extract Location: E202

Transfer Date: 5/21/90

№ 5202

University Hygienic Laboratory

Sample Extraction Record

mel Levels

Client Dios   pg 2 of 2

PBLK 8 ST 41590

Lab Sample No.	9005228	Blank			
Date Received	5-14-90				
Date Extracted	5-21-90				
Sample Matrix	soil	artificial soil			
Client ID	CS-D				
Source					
Tare Wt.					
Tare & Sample Wt. (Wet)					
Tare & Sample Wt. (Dry)					
Sample Wt. (Wet)					
Sample Wt. (Dry)					
Wt. Loss					
% Moisture or Oil					
Emulsion					
Sample Volume	1.10g	1.03g			
Sample pH					
Method	mel level CLP protocol				
Analytes	PXT CLP				
Solvent(s) (Lot #)	pg 5201				

Comments Blank for #9005225-5228

Extracted By: MJK   Transferred To: MDJ

Extract Location: E202   Transfer Date: ~~5/21/9~~ 5/21/90

B202A Matrix Spike Stock Soln

1-8-90 Kris Hauden / James J. Yoder

Acenaphthene	wt.	50.7 mg	Lot # CS-20-36A
Pyrene		50.0 mg	Eastman ASC
1,4-Dichlorobenzene		50.5 mg	CS 0-679
2,4-Dinitrotoluene		50.7 mg	Aldrich 22070K
1,2,4-Trichlorobenzene		54.6 mg	Aldrich 04319Km
N-Nitroso-di-n-propylamine		49.1 mg	CS 15-250
Phenol		100.7 mg	CS 9-39E
4-Chloro-3-methylphenol		101.4 mg	CS 0-888
4-Nitrophenol		98.9 mg	CS 15-62C
Pentachlorophenol		101.9 mg	CS 0-892
2-Chlorophenol		100.2 mg	CS 0-889

in 50 mL MeOH B&J Lot # AV516
= 2000 µg/mL acids, 1000 µg/mL BN's

B202B Surrogate Stock Soln. Kris Hauden
1-8-90 wt lot #

d 1.256	2-Fluorophenol (313.5µL)	400 mg	Aldrich 102297
	Phenol-d6	399.54 mg	MSD 231J & 441J
	2,4,6-Tribromophenol	400 mg	P&B T18325
d 1.25	Nitrobenzene-d5 (164µL)	200 mg	MSD 26 J
	2-Fluorobiphenyl	202.55 mg	P&B F02700
	p-Terphenyl-d14	202.67 mg	MSD 116 7-J

in 200 mL DCM B&J Lot # AV967
= 2000 µg/mL acids, 1000 µg/mL BN's

Reviewed By TC
Date 6/20/90

B203A SS 1-25-90 Surrogate Standard Stock Solution

1/23/90 James J. Yoder

2-Fluorophenol	399.8 mg	Aldrich 10,297
phenol-d6	404.3	MSD 3456-N
2,4,6-tribromophenol	405.6	P&B T 18325
nitrobenzene-d5	201.8	MSD 26J
2-Fluorobiphenyl	199.5	Aldrich BV02520 TK
p-terphenyl-d14	202.4	MSD 3491-N

in 200 ml DCM baj lot AV967

= 2000 ug/ml Acids, 1000 ug/ml B-N's

B 203B 1/10 Surrogate Working Solution James J. Yoder

1-25-90 20 ml B 203A SS stock Solution

in 200 ml MeOH baj GC² lot AR839

= 200 ug/ml Acids, 100 ug/ml BN's

B203C 1/10 Matrix Spike Working Solution James J. Yoder

1/25/90 5 ml ~~B-182~~ SS 1-24-90 B-202A MS stock Solution

in 50 ml MeOH baj GC² lot AR839

= 200 ug/ml Acids, 100 ug/ml BN's

B203D 1/40 DFTPP Working Sol'n James J. Yoder

1/25/90 25 ml EPA DFTPP 1010-02-01 QAMB 1000 mg/ml

975 ml DCM baj lot AV967

= DFTPP 50 mg/2ml

Reviewed By TC
Date 6/20/90

№ 107

GC/MS Standard Record

Hygienic Laboratory
The University of Iowa

Fraction: BNA

	UHL ID	Analyst	Comments
7-11-90	S-107A	Kris Hawkins	AMANA (Hexyl Cellosolve*) working STD 100ng/2uL
			975.3uL DCM B+J AV967
			14.7uL S-106D 3400ng/mL $\frac{50ng \times mL}{3400} = 14.7uL$
			10.0uL IS Supelco LA22563 2000ng/mL
			= Hexyl Cellosolve @ 100ng/2uL IS @ 40ng/2uL
			* other names: 2-(hexyloxy)-ethanol, ethylene glycol
			monohexyl ether
7-11-90	S-107B	Kris Hawkins	1/10 Surrogate working soln
			20mL B203A SS stock soln
			in #200mL MeOH B+J AV542
			= 200ng/mL Acids, 100ng/mL BN's
7-11-90	S-107C	Kris Hawkins	BTCLP working std. 100ng/2uL
			973.3uL DCM B+J AV967
			16.7uL S-106E 3000ng/2uL $\frac{30 ng/mL}{3000} = 16.7uL$
			10.0uL IS Supelco LA22563 2000ng/mL
			= BTCLP std @ 100ng/2uL IS @ 40ng/2uL
7-11-90	S-107D	James J. Yoder	SSIS Working Std
			25ml B SS's SUPELCO LA 21133 1000 mg/ml
			12.5 A SS's " " LA 20552 2000 mg/ml
			10 IS " " LA 22563 2000 mg/ml
			952.5 DCM · B+J AV967
			= SS's @ 50ng/2ml, IS's @ 40 ng/2ml
7-11-90	S-107E	James J. Yoder	BNI Working Std
			12.5 ml BNI Supelco LA22372 2000 mg/ml
			987.5 DCM B+J AV967
			= 50 ng/2ml

Reviewed by: JL Date: 6/20/90

GC/MS Standard Record

Hygienic Laboratory
The University of Iowa

Fraction: BNA

	UHL ID	Analyst	Comments
	S-109A	~~JJY/Auto~~ JJY 4-6-90	1/40 DFTPP Working Solution
		James J. Yoder	25 ml EPA DFTPP 1010-02-01 @AMB 1000 ng/ml
			975 ml DCM B+J GC² lot AV967
			= DFTPP 50 ng/2ml
4-6-90	S-109B	Kim Hadley	Dacthal working std 50ng/uL
			886.1 uL DCM B+J AV967
			10.0 uL IS Supelco LA 22563 2000ug/mL
			103.9 uL 481 ng/uL of 481 ppm Dacthal LJ #1720
			50ng/uL in 1000uL = 103.9uL Dacthal
			481ng/uL = Dacthal std 50ng/uL, IS @ 40ng/2uL
4-6-90	S-109C	James J. Yoder	Daily Working Std 50 ng/2ml
			125 ml TCL's S-101B 200 ng/ml
			12.5 ml ACID SS SUPELCO LA20552 2000 ng/ml
			25 ml BN SS SUPELCO LA21133 1000 ng/ml
			10 ml IS SUPELCO LA22563 2000 ng/ml
			827.5 ml DCM B+J AV967
			= TCL's @ 50 ng/2ml, IS's @ 40 ng/2ml
4-24-90	S-109D	James J. Yoder	1/10 Matrix Spike Working Solution
			5 ml B-202A MS Stock Soln 2000 ng/ml ACIDS 1000 ng/ml BN's
			in 50 ml MeOH b+j GC² lot AV542
			= 200 ng/ml Acids, 100 ng/ml BN's
4-24-90	S-109E	James J. Yoder	Daily Working Std 50ng/2ml
			125 ml TCL's S-110A 200 ng/ml
			12.5 ACID SS Supelco LA22915 2000 ng/ml
			25 BN SS Supelco LA22975 1000 ng/ml
			10 IS Supelco LA22563 2000 ng/ml
			827.5 DCM B+J AV967
			= TCL's @ 50ng/2ml, IS's @ 40 ng/2ml

Reviewed by: TC Date: 6/20/90

GC/MS Standard Record

Hygienic Laboratory
The University of Iowa

Fraction: BNA

Date	UHL ID	Analyst	Comments
4/25/90	S-110A	James J. Yoder	TCL Stock Solution (SUPELCO)
			BN1 300 ml LA22372 2000 mg/ml
			BN2 LA21674
			Phenols LA21961
			PAH's LA22729
			benzidines LA21977
			HS1 LA22540
			HS2 LA22546
			DCM 900 ml B&J AV967
			= TCL's @ 200 ng/ml
4/25/90	S-110B	James J. Yoder	20 ng STD
			50 ml TCL's S-110A 200 ng/ml
			5 ACID SS SUPELCO LA22915 2000 ng/ml
			10 BN SS SUPELCO LA22975 1000 ng/ml
			10 IS SUPELCO LA22563 2000 ng/ml
			925 DCM B&J AV967
			= TCL's @ 20 ng/2ml, IS's @ 40 ng/2ml
4/25/90	S-110C	James J. Yoder	50 ng STD
			125 ml TCL's S-110A 200 ng/ml
			12.5 ACID SS SUPELCO LA22915 2000
			25 BN SS SUPELCO LA22975 1000
			10 IS SUPELCO LA22563 2000
			827.5 DCM B&J AV967
			= TCL's @ 50 ng/2ml, IS's @ 40 ng/2ml

Reviewed by: TC Date: 6/20/90

GC/MS Standard Record

Hygienic Laboratory
The University of Iowa

Fraction: BNA

UHL ID	Analyst	Comments
S-111A	James J. Yorden	80 ng STD
		200 ml TCL's S110A 200 ng/ml
		20 ACID SS Supelco LA22915 2000 ng/ml
		40 BN SS Supelco LA22975 1000 ng/ml
		10 IS Supelco LA22563 2000 ng/ml
		730 DCM B&J AV967
		= TCL's @ 80 ng/2ml, IS's @ 40 ng/2ml
S-111B	James J. Yorden	120 ng STD
		300 ml TCL's S110A 200 ng/ml
		30 ACID SS Supelco LA22915 2000 ng/ml
		60 BN SS Supelco LA22975 1000 ng/ml
		10 IS Supelco LA22563 2000 ng/ml
		600 DCM B&J AV967
		= TCL's @ 120 ng/2ml, IS's @ 40 ng/2ml
S-111C	James J. Yorden	160 ng STD
		400 ml TCL's S110A 200 ng/ml
		40 ACID SS Supelco LA22915 2000 ng/ml
		80 BN SS Supelco LA22975 1000 ng/ml
		10 IS Supelco LA22563 2000 ng/ml
		470 DCM B&J AV967
		= TCL's @ 160 ng/2ml, IS's @ 40 ng/2ml
S-111D	James J. Yorden	Explosive Stock Std
		1.3.5-trinitrobenzene 50.6 mg CS 8535F
		2.4.6-trinitrotoluene (TNT) 50.4 mg CS 8515C
		in 10 ml MeOH b&j AV542 = 5000 ng/ml

Reviewed by: TC Date: 6/20/90

GC/MS Standard Record

Hygienic Laboratory
The University of Iowa

Fraction: BNA

Date Prepared	UHL ID	Analyst	Comments
5/15/90	S-114A	James J Yoder	CHECK STD STOCK SOLUTION
			phenol 53.7 mg CC 9 39C
			1,2-dichlorobenzene 55.2 22.6C
			1,3-dichlorobenzene 53.4 9.10a
			1,4 dichlorobenzene 53.3 0.679
			nitrobenzene 54.2 12.11
			1,2,4-trichlorobenzene 55.2 Acid Lab 04319KM
			naphthalene 51.4 9 31 J
			Fluorene 54.1 P-B FD 1500
			dibenz(a,h)anthracene 51.4 P.B DO 7510
			in 100/50 ml 1:1 DCM/MeOH
			DCM & AT339 MeOH boj AV542
			= 500 ng/ml
			DSY 5-15-90
5/15/90	S-114B	James J Yoder	Working Check Standard → DSY 5-15-90
			975 ml DCM boj AT339
			25 ml S-114A Check Std Stock Sol'n 1000 ng/ml
			10 ml IS Supelco LA22563 2000 ng/ml
			= analytes @ 50 ng/2 ml IS @ 40 ng/2 ml
			Work'g check std
5/15/90	S-114C	James J Yoder	940 ml DCM boj AT339
			50 ml S-114A check std stock sol'n 500 ng/ml
			10 ml IS Supelco LA22563 2000 ng/ml
			= analytes @ 50 ng/2 ml IS @ 40 ng/2 ml
5/16/90	S-114D	James J Yoder	1/10 Surrogate Working Solution
			20 ml B20JA SS Stock Sol'n
			in 200 ml MeOH boj AV542
			= 200 ng/ml Acids 100 ng/ml BN's

Reviewed by: TC Date: 6/20/90

GC/MS Injection Record

Hygienic Laboratory
The University of Iowa

Fraction: B/N

Instrument ID: HP7003

Date Analyzed	UHL ID	Client/ Case/ID	Run No.	File Name	Analyst	Comments
						INITIAL CALIBRATION
						5 POINT
4/30/90			0205	>T3010	JJY/Auto	2ml S109A, DFTPPTJWE.341
		SSTD020	0206	>S3024	|	2ml S110E, 20ng/2ml
		SSTD050	0207	>S3025	|	2ml S110C, 50ng/2ml
		SSTD090	0208	>S3026	|	2ml S111A, 80ng/2ml
		SSTD120	0209	>S3027	|	2ml S111B, 120ng/2ml
		SSTD160	0210	>S3028	↓	2ml S111C, 160ng/2ml

Reviewed by: TC

Date: 6/20/90

GC/MS Injection Record

Hygienic Laboratory
The University of Iowa

Fraction: B/N A

Instrument ID: HP7003

Date Analyzed	UHL ID	Client/ Case/ID	Run No.	File Name	Analyst	Comments
		DICO				
5/30/90			0308	>T3023	JJY/Auto	2ml S109A, DFTPP TUNE, 337
		SSTD050	0309	>S3062		2ml S109E, CONT CALI, 50ng/2ml
		SBLK25	0310	>B3013		2ml .5ml + 5ml IS, v=2000ml
		SBLK17	0311	>E3075		2ml .25ml + .25ml + 5ml IS, v=2000ml >> OUT
	9005229	FD	0312	>E3076		2ml .25ml + .25ml + 5ml IS, v=2000ml
		DFWMS17	0313	>E3077		2ml .25ml + .25ml + 5ml IS, v=2000ml
	DT-1	9005224	0314	>E3078		2ml .5ml + 5ml IS, v=2000ml, IS LOW
	CS-A	9005225	0315	>E3079		2ml .5ml + 5ml IS, v=2000ml
	CS-B	9005226	0316	>E3080		2ml .5ml + 5ml IS, v=2000ml
	CS-C	9005227	0317	>E3081		2ml .5ml + 5ml IS, v=2000ml, IS NOT FOUND
	CS-D	9005228	0318	>E3082		2ml .5ml + 5ml IS, v=2000ml
	CS-D MS	9005228MS	0319	>E3083		2ml .5ml + 5ml IS, v=2000ml
	CS-D MSD	9005228MSD	0320	>E3084	↓	2ml .5ml + 5ml IS, v=2000ml, IS LOW
5/31/90			0321	>T3024	JJY/Auto	2ml S109A, DFTPP TUNE, 338-348
↓		SSTD050	0322	>S3063	↓	2ml S109E, CONT CALI, 50ng/2ml
		SBLK17	0323	>B3014		2ml .25ml + .25ml + 5ml IS, v=2000ml
	9005228MSD	CS-D MSD	0324	>E3085		2ml .5ml + 5ml IS, v=2000ml
	9005227	CS-C	0325	>E3086		2ml .5ml + 5ml IS, v=2000ml
	9005229	DT-1	0326	>E3087		2ml .5ml + 5ml IS, v=2000ml
↓	9005224	DT-1	0327	>E3088	↓	(1/2) .2ml .5ml + .5ml DCM + 10ml IS, v 2000ml
6/18/90			0328	>T3025	JJY/Auto	2ml S109A, DFTPP TUNE, 330-332
↓		SSTD050	0329	>S3064	↓	2ml S109E, CONT CALI, 50ng/2ml
	9005224	DT-1	0330	>E3089		(1/10) .2ml + 1ml + .9ml DCM + 10ml IS, v=2000ml
↓	9005224	DT-1	0331	>E3090	↓	(1/5) .2ml + .1ml + .4ml DCM + 10ml IS, v=2000ml

Reviewed by: TC

Date: 6/20/90

The University of Iowa
Hygienic Laboratory
BNA Worksheet
Final Extract Volume Adjustment (µl)

Lab Code: IOWA _____
Case: DICO
SDG: _____

EPA Sample No.	Lab Sample No.	Date Extracted	Date Adjusted	Fraction	Volume 1	Volume 2	Volume 3	Subtotal	Amount Added	Total	Analyst
LRB	SBLK25(I)	5-25-90	5-30-90	BNA (SOIL)	1000	70	-	1070	930	2000	JJY
DT-1 0"-6"	9005224	↓	↓	↓	1000	60	-	1060	940	2000	JJY
CS-A 0"-12"	9005225	↓	↓	↓	1060	560	-	1500	500	2000	JJY
CS-B 0"-12"	9005226	↓	↓	↓	1000	30	-	1030	970	2000	JJY
CS-C 0"-12"	9005227	↓	↓	↓	1000	390	-	1370	610	2000	JJY
CS-D 0"-12"	9005228	↓	↓	↓	1000	820	-	1820	180	2000	JJY
CS-D MS	9005228MS	↓	↓	↓	1000	860	-	1860	140	2000	JJY
CS-D MSD	9005228MSD	↓	↓	↓	1000	390	-	1390	610	2000	JJY
FB	9005229	5-17-90	↓	BNA (H_2O)	850	780	-	850 780	150 220	2000	JJY
LRB	SBLK17(II)	5-17-90	↓	↓	850	840	-	850 840	150 160	2000	JJY

DATE	GPC #	UHL #	DICO	INIT
5/21/90	~~BLK EXT.~~ 4	BLK EXT.	CLP	IS
	5	9005224		
	6	9005225		
	7	9005226		
	8	9005227		
	9	9005227MS		
	10	9005227MSD		
	11	9005228		
	12	CAL. STD		
	13	BLK (OCM)		✓

Sample prep + instrument settings same as on pg 004 unless otherwise indicated.

Methylene chloride: Lot # AW 949

Dump: 21 4psi
Collect: 28
Wash: 15

CLP Sample Clean-up

№ 099

Case # DIOXJ Date 5/30/90

Solvent and Reagent Source and Lot Number:

Hexane	B.J.	AL133	
Acetone	B.J.	AL139	
Ether	B.J.	AX256	
Iso-propanol			
Water			
TBM			When checked?
Alumina	FISHER	880547A	3/30/90

EPA Sample #	UHL Number	Sulfur Removed Y/N
PBLKA	PBLKA	N
EBLK	9005229	
PBLKB	PBLKB	
CS-A	9005225	
CS-A MS	9005225M	
CS-A MSD	9005225D	
CS-B	9005226	
CS-C X	9005227	
CS-D	9005228	
PBLKC	PBLKC	
DT-1	9005224	
CS-C	9005227	
CS-C MS	9005227M	
CS-C MSD	9005227D	✓

Analyst [signature] Date 6/11/90

Verified by [signature] Date 6/11/90

CLP Injection Log Book

№ 078

Case# DICOT Inst# 22 Autosampler ✓Y N

Purpose Program run on DICOT on DB608

Date	Sample/Std	Description	Time	Init
5/31/90	INDAI6.28	IN-DA	4:38	MDH
	9005224.02	PT-1	5:13	
	9005227.12	CS-C	5:49	
	9005227M.02	CS-C MS	6:24	
	9005227D.02	CS-C MSD	6:59	
	IN2AI6.30	IN-DA	7:35	
	IN2BI6.24	IN-DB	8:21	

Analyst Mary D. Gauer Date 6/11/90

Verified by [illegible] Date 6/11/90

CLP Injection Log Book

No 077

Case# DICOT Inst# 22 Autosampler ✓Y N

Purpose Production run of DICOT on DB608

Date	Sample/Std	Description	Time	Init
5/30/90	IVALA6.09	IVALA	15:04	MDH
	IVALB6.06	IVALB	15:40	
	IVALC5.49	IVALC	16:15	
	IN005.26	INDA	16:51	
	IN005.25	INDB	17:26	
	IDXAPH5.25	IDXAPH	18:02	
	AR16606.30	AR166Q	19:37	
	AR2216.18	AR221	19:12	
	AR2326.18	AR232	19:48	
	AR2427.18	AR242	20:23	
	AR2487.21	AR248	20:59	
	AR2546.22	AR254	21:34	
	PBLKA.02	PBLKA	22:09	
	9005229.02	FBLK	22:45	
	PBLKA.02	PBLK3	23:20	
	9005225.02	CS-A	23:55	
5/31/90	9005225M.02	CS-A MS	00:31	
	IVALB16.06	IVALB	1:06	
	9005225D.02	CS-A MSD	1:41	
	9005226.02	CS-B	2:17	
	9005227.02	CS-C X	2:52	
	9005228.02	CS-D	3:28	
	PBLKC.02	PBLKC	4:03	

Analyst Mark D. Clem Date 6/1/90

Verified by [signature] Date 6/11/90

CLP Injection Log Book

No 075

Case# DICOT Inst# 21 Autosampler ✓Y N

Purpose Production run on DICOT of DS1701

Date	Sample/Std	Description	Time	Init
5/31/90	INDAI6.27	INDA	4:03	MDH
↓	9005224.01	DF=1	4:38	↓
	~~9005227.01~~ MDA	6/11/90		
5/31/90	9005227.11	CS-C	5:13	MDH
	9005227M.01	CS-C MS	5:49	
	9005227D.01	CS-C MSD	6:24	
	INDAI6.29	INDA	6:59	
	INDBI6.23	INDB	7:35	

Analyst Mark D. Hauck Date 6/11/90

Verified by [illegible] Date 6/11/90

CLP Injection Log Book

No 075

Case# DICOJ Inst# 21 Autosampler ✓Y N

Purpose PRODUCTION RUN OF DICOJ ON DB17021

Date	Sample/Std	Description	Time	Init
5/30/90	EVALA6.DB	EVALA	14:29	MDH
	EVALB6.05	EVALB	15:04	
	EVALC5.48	EVALC	15:40	
	INDA5.25	INDA	16:15	
	INDB5.24	INDB	16:51	
	IDXA2H5.24	IDXAPH	17:26	
	AR1660.24	AR1660	18:02	
	AR1221.17	AR1221	18:37	
	AR1232.17	AR1232	19:12	
	AR1242.17	AR1242	19:48	
	AR1248.20	AR1248	20:23	
	AR1254.21	AR1254	20:59	
	PBLKA.01	PBLKA	21:34	
	9005229.01	FBLK	22:09	
	PBLKB.01	PBLKB	22:45	
	9005225.01	CS-A	23:20	
	9005225M.01	CS-A MS	23:55	
5/31/90	EVALBIL.05	EVALB	00:31	
	9005225D.01	CS-A MSD	1:06	
	9005226.01	CS-B	1:41	
	9005227.01	CS-C X	2:17	
	9005228.01	CS-D	2:52	
	PBLKC	PBLKC	3:28	✓

Analyst Mal Jones Date 6/11/90

Verified by [signature] Date 6/11/90

2B

SOIL VOLATILE SURROGATE RECOVERY

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
1	VBLK15	96	103	100		0
2	DT-1	107	97	94		0
3	CS-A	104	94	104		0
4	CS-B	99	98	100		0
5	CS-D	113	87	102		0
6	VBLK16	97	100	96		0
7	TB	95	99	100		0
8	FB	87	103	105		0
9	CS-C	103	91	96		0
10	CS-B MS	99	92	103		0
11	CS-B MSD	103	96	104		0
12						
13						
14						
15						
16						
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21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

	QC LIMITS
S1 (TOL) = TOLUENE-D8	(81-117)
S2 (BFB) = BROMOFLUOROBENZENE	(74-121)
S3 (DCE) = 1,2-DICHLOROETHANE-D4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

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

COMPOUND	SPIKE ADDED (UG/KG)	SAMPLE CONCENTRATION (UG/KG)	MS CONCENTRATION (UG/KG)	MS % REC	#	QC LIMITS REC.
1,1-DICHLOROETHENE	61.	0.	66.	110		59-172
TRICHLOROETHENE	61.	0.	56.	92		62-137
BENZENE	61.	0.	63.	104		66-142
TOLUENE	61.	0.	57.	94		59-139
CHLOROBENZENE	61.	0.	61.	100		60-133

COMPOUND	SPIKE ADDED (UG/KG)	MSD CONCENTRATION (UG/KG)	MSD % REC	#	% RPD	#	QC LIMITS RPD	QC LIMITS REC.
1,1-DICHLOROETHENE	61.	78.	128		16		22	59-172
TRICHLOROETHENE	61.	61.	101		9		24	62-137
BENZENE	61.	70.	116		11		21	66-142
TOLUENE	61.	72.	119		24	*	21	59-139
CHLOROBENZENE	61.	71.	117		16		21	60-133

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

* Values outside of QC limits

RPD: 1 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS:

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Lab File ID: B1041 Lab Sample ID:

Date Analyzed: 5/15/90 Time Analyzed: 11:43

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

Instrument ID: 7001

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	DT-1	9005224	V1250	14:13
2	CS-A	9005225	V1251	14:43
3	CS-B	9005226	V1252	15:50
4	CS-D	9005228	V1254	16:58
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
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24				
25				
26				
27				
28				
29				
30				

COMMENTS:

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: University Hygienic Lab . Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Lab File ID: B1042 Lab Sample ID:

Date Analyzed: 5/16/90 Time Analyzed: 11:12

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

Instrument ID: 7001

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	TB	9005230	V1256	12:03
2	FB	9005229	V1257	12:36
3	CS-C	9005227	V1258	13:11
4	CS-B MS	9005226MS	V1259	14:07
5	CS-B MSD	9005226MSD	V1260	14:40
6				
7				
8				
9				
10				
11				
12				
13				
14				
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26				
27				
28				
29				
30				

COMMENTS:

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Lab File ID: T1005 BFB Injection Date: 4/ 6/90

Instrument ID.: 7001 BFB Injection Time: 8:34

Matrix:(soil/water) SOIL Level:(low/med): LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	23.7
75	30.0 - 60.0% of mass 95	53.1
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	.4 (.6)1
174	Greater than 50.0% of mass 95	64.0
175	5.0 - 9.0% of mass 174	5.1 (8.0)1
176	Greater than 95.0%, but less than 101.0% of mass 174	62.6 (97.8)1
177	5.0 - 9.0% of mass 176	5.1 (8.1)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD050		S1005	4/ 6/90	9:23
2	VSTD200		S1006	4/ 6/90	10:11
3	VSTD150		S1008	4/ 6/90	13:23
4	VSTD100		S1009	4/ 6/90	14:15
5	VSTD020		S1010	4/ 6/90	14:57
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Lab File ID: T1031 BFB Injection Date: 5/15/90

Instrument ID.: 7001 BFB Injection Time: 9:15

Matrix:(soil/water) SOIL Level:(low/med): LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	21.1
75	30.0 - 60.0% of mass 95	53.8
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.9
173	Less than 2.0% of mass 174	.5 (.8)1
174	Greater than 50.0% of mass 95	60.9
175	5.0 - 9.0% of mass 174	3.9 (6.4)1
176	Greater than 95.0%, but less than 101.0% of mass 174	59.8 (98.1)1
177	5.0 - 9.0% of mass 176	4.4 (7.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD050		S1047	5/15/90	11:13
2	VBLK15		B1041	5/15/90	11:43
3	DT-1	9005224	V1250	5/15/90	14:13
4	CS-A	9005225	V1251	5/15/90	14:43
5	CS-B	9005226	V1252	5/15/90	15:50
6	CS-D	9005228	V1254	5/15/90	16:58
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Lab File ID: T1032 BFB Injection Date: 5/16/90

Instrument ID.: 7001 BFB Injection Time: 8:57

Matrix:(soil/water) SOIL Level:(low/med): LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.8
75	30.0 - 60.0% of mass 95	53.3
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.1
173	Less than 2.0% of mass 174	.8 (1.3)1
174	Greater than 50.0% of mass 95	65.6
175	5.0 - 9.0% of mass 174	5.4 (8.2)1
176	Greater than 95.0%, but less than 101.0% of mass 174	63.0 (96.0)1
177	5.0 - 9.0% of mass 176	5.4 (8.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD050		S1048	5/16/90	9:41
2	VBLK16		B1042	5/16/90	11:12
3	TB	9005230	V1256	5/16/90	12:03
4	FB	9005229	V1257	5/16/90	12:36
5	CS-C	9005227	V1258	5/16/90	13:11
6	CS-B MS	9005226MS	V1259	5/16/90	14:07
7	CS-B MSD	9005226MSD	V1260	5/16/90	14:40
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DT-1

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005224

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V1250

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 24. Date Analyzed: 5/15/90

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	CHLOROMETHANE	13.	U
74-83-9	BROMOMETHANE	13.	U
75-01-4	VINYL CHLORIDE	13.	U
75-00-3	CHLOROETHANE	13.	U
75-09-2	METHYLENE CHLORIDE	2.	J
67-64-1	ACETONE	8.	J
75-15-0	CARBON DISULFIDE	7.	U
75-35-4	1,1-DICHLOROETHENE	7.	U
75-34-3	1,1-DICHLOROETHANE	7.	U
540-59-0	1,2-DICHLOROETHENE (TOTAL)	7.	U
67-66-3	CHLOROFORM	7.	U
107-06-2	1,2-DICHLOROETHANE	7.	U
78-93-3	2-BUTANONE	13.	U
71-55-6	1,1,1-TRICHLOROETHANE	7.	U
56-23-5	CARBON TETRACHLORIDE	7.	U
108-05-4	VINYL ACETATE	13.	U
75-27-4	BROMODICHLOROMETHANE	7.	U
78-87-5	1,2-DICHLOROPROPANE	7.	U
10061-01-5	CIS-1,3-DICHLOROPROPENE	7.	U
79-01-6	TRICHLOROETHENE	7.	U
124-48-1	DIBROMOCHLOROMETHANE	7.	U
79-00-5	1,1,2-TRICHLOROETHANE	7.	U
71-43-2	BENZENE	7.	U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	7.	U
75-25-2	BROMOFORM	7.	U
108-10-1	4-METHYL-2-PENTANONE	13.	U
591-78-6	2-HEXANONE	13.	U
127-18-4	TETRACHLOROETHENE	7.	U
79-34-5	1,1,2,2-TETRACHLOROETHANE	7.	U
108-88-3	TOLUENE	1.	J
108-90-7	CHLOROBENZENE	7.	U
100-41-4	ETHYLBENZENE	7.	U
100-42-5	STYRENE	7.	U
1330-20-7	XYLENE (TOTAL)	3.	J

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DT-1

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005224

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V1250

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 24. Date Analyzed: 5/15/90

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	C9H12 AROMATIC + UNKNOWN	22.37	8.	J
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CS-A

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005225

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V1251

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 18. Date Analyzed: 5/15/90

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	CHLOROMETHANE	12.	U
74-83-9	BROMOMETHANE	12.	U
75-01-4	VINYL CHLORIDE	12.	U
75-00-3	CHLOROETHANE	12.	U
75-09-2	METHYLENE CHLORIDE	2.	J
67-64-1	ACETONE	32.	
75-15-0	CARBON DISULFIDE	6.	U
75-35-4	1,1-DICHLOROETHENE	6.	U
75-34-3	1,1-DICHLOROETHANE	6.	U
540-59-0	1,2-DICHLOROETHENE (TOTAL)	6.	U
67-66-3	CHLOROFORM	6.	U
107-06-2	1,2-DICHLOROETHANE	6.	U
78-93-3	2-BUTANONE	12.	U
71-55-6	1,1,1-TRICHLOROETHANE	6.	U
56-23-5	CARBON TETRACHLORIDE	6.	U
108-05-4	VINYL ACETATE	12.	U
75-27-4	BROMODICHLOROMETHANE	6.	U
78-87-5	1,2-DICHLOROPROPANE	6.	U
10061-01-5	CIS-1,3-DICHLOROPROPENE	6.	U
79-01-6	TRICHLOROETHENE	6.	U
124-48-1	DIBROMOCHLOROMETHANE	6.	U
79-00-5	1,1,2-TRICHLOROETHANE	6.	U
71-43-2	BENZENE	6.	U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	6.	U
75-25-2	BROMOFORM	6.	U
108-10-1	4-METHYL-2-PENTANONE	12.	U
591-78-6	2-HEXANONE	12.	U
127-18-4	TETRACHLOROETHENE	6.	U
79-34-5	1,1,2,2-TETRACHLOROETHANE	6.	U
108-88-3	TOLUENE	5.	J
108-90-7	CHLOROBENZENE	6.	U
100-41-4	ETHYLBENZENE	2.	J
100-42-5	STYRENE	6.	U
1330-20-7	XYLENE (TOTAL)	9.	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CS-A

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005225

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V1251

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 18. Date Analyzed: 5/15/90

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CS-B

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005226

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V1252

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 18. Date Analyzed: 5/15/90

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	CHLOROMETHANE	12.	U
74-83-9	BROMOMETHANE	12.	U
75-01-4	VINYL CHLORIDE	12.	U
75-00-3	CHLOROETHANE	12.	U
75-09-2	METHYLENE CHLORIDE	3.	J
67-64-1	ACETONE	11.	J
75-15-0	CARBON DISULFIDE	6.	U
75-35-4	1,1-DICHLOROETHENE	6.	U
75-34-3	1,1-DICHLOROETHANE	6.	U
540-59-0	1,2-DICHLOROETHENE (TOTAL)	6.	U
67-66-3	CHLOROFORM	6.	U
107-06-2	1,2-DICHLOROETHANE	6.	U
78-93-3	2-BUTANONE	12.	U
71-55-6	1,1,1-TRICHLOROETHANE	6.	U
56-23-5	CARBON TETRACHLORIDE	6.	U
108-05-4	VINYL ACETATE	12.	U
75-27-4	BROMODICHLOROMETHANE	6.	U
78-87-5	1,2-DICHLOROPROPANE	6.	U
10061-01-5	CIS-1,3-DICHLOROPROPENE	6.	U
79-01-6	TRICHLOROETHENE	6.	U
124-48-1	DIBROMOCHLOROMETHANE	6.	U
79-00-5	1,1,2-TRICHLOROETHANE	6.	U
71-43-2	BENZENE	6.	U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	6.	U
75-25-2	BROMOFORM	6.	U
108-10-1	4-METHYL-2-PENTANONE	12.	U
591-78-6	2-HEXANONE	12.	U
127-18-4	TETRACHLOROETHENE	6.	U
79-34-5	1,1,2,2-TETRACHLOROETHANE	6.	U
108-88-3	TOLUENE	6.	U
108-90-7	CHLOROBENZENE	6.	U
100-41-4	ETHYLBENZENE	6.	U
100-42-5	STYRENE	6.	U
1330-20-7	XYLENE (TOTAL)	5.	J

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CS-B

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005226

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V1252

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 18. Date Analyzed: 5/15/90

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 2

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	DICHLOROTOLUENE ISOMER	17.15	30.	J
2.	- -	UNKNOWN	20.00	7.	J
3.					
4.					
5.					
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CS-C

Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005227

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V1258

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 17. Date Analyzed: 5/16/90

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	CHLOROMETHANE	12.	U
74-83-9	BROMOMETHANE	12.	U
75-01-4	VINYL CHLORIDE	12.	U
75-00-3	CHLOROETHANE	12.	U
75-09-2	METHYLENE CHLORIDE	7.	B
67-64-1	ACETONE	210.	
75-15-0	CARBON DISULFIDE	6.	U
75-35-4	1,1-DICHLOROETHENE	6.	U
75-34-3	1,1-DICHLOROETHANE	6.	U
540-59-0	1,2-DICHLOROETHENE (TOTAL)	6.	U
67-66-3	CHLOROFORM	6.	U
107-06-2	1,2-DICHLOROETHANE	6.	U
78-93-3	2-BUTANONE	5.	J
71-55-6	1,1,1-TRICHLOROETHANE	6.	U
56-23-5	CARBON TETRACHLORIDE	6.	U
108-05-4	VINYL ACETATE	12.	U
75-27-4	BROMODICHLOROMETHANE	6.	U
78-87-5	1,2-DICHLOROPROPANE	6.	U
10061-01-5	CIS-1,3-DICHLOROPROPENE	6.	U
79-01-6	TRICHLOROETHENE	6.	U
124-48-1	DIBROMOCHLOROMETHANE	6.	U
79-00-5	1,1,2-TRICHLOROETHANE	6.	U
71-43-2	BENZENE	6.	U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	6.	U
75-25-2	BROMOFORM	6.	U
108-10-1	4-METHYL-2-PENTANONE	12.	U
591-78-6	2-HEXANONE	12.	U
127-18-4	TETRACHLOROETHENE	6.	U
79-34-5	1,1,2,2-TETRACHLOROETHANE	6.	U
108-88-3	TOLUENE	3.	J
108-90-7	CHLOROBENZENE	6.	U
100-41-4	ETHYLBENZENE	2.	J
100-42-5	STYRENE	6.	U
1330-20-7	XYLENE (TOTAL)	8.	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CS-C

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005227

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V1258

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 17. Date Analyzed: 5/16/90

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
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7.					
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CS-D

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005228

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V1254

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 18. Date Analyzed: 5/15/90

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	CHLOROMETHANE	12.	U
74-83-9	BROMOMETHANE	12.	U
75-01-4	VINYL CHLORIDE	12.	U
75-00-3	CHLOROETHANE	12.	U
75-09-2	METHYLENE CHLORIDE	3.	J
67-64-1	ACETONE	95.	
75-15-0	CARBON DISULFIDE	6.	U
75-35-4	1,1-DICHLOROETHENE	6.	U
75-34-3	1,1-DICHLOROETHANE	6.	U
540-59-0	1,2-DICHLOROETHENE (TOTAL)	6.	U
67-66-3	CHLOROFORM	6.	U
107-06-2	1,2-DICHLOROETHANE	6.	U
78-93-3	2-BUTANONE	4.	J
71-55-6	1,1,1-TRICHLOROETHANE	6.	U
56-23-5	CARBON TETRACHLORIDE	6.	U
108-05-4	VINYL ACETATE	12.	U
75-27-4	BROMODICHLOROMETHANE	6.	U
78-87-5	1,2-DICHLOROPROPANE	6.	U
10061-01-5	CIS-1,3-DICHLOROPROPENE	6.	U
79-01-6	TRICHLOROETHENE	2.	J
124-48-1	DIBROMOCHLOROMETHANE	6.	U
79-00-5	1,1,2-TRICHLOROETHANE	6.	U
71-43-2	BENZENE	6.	U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	6.	U
75-25-2	BROMOFORM	6.	U
108-10-1	4-METHYL-2-PENTANONE	12.	U
591-78-6	2-HEXANONE	12.	U
127-18-4	TETRACHLOROETHENE	6.	U
79-34-5	1,1,2,2-TETRACHLOROETHANE	6.	U
108-88-3	TOLUENE	2.	J
108-90-7	CHLOROBENZENE	6.	U
100-41-4	ETHYLBENZENE	2.	J
100-42-5	STYRENE	6.	U
1330-20-7	XYLENE (TOTAL)	10.	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CS-D

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005228

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V1254

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 18. Date Analyzed: 5/15/90

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	815-24-7	3-Pentanone, 2,2,4,4-tetrame	23.03	30.	J
2.	- -	C7H5CL3 AROMATIC	23.32	90.	J
3.	- -	C7H5CL3 AROMATIC	24.66	300.	J
4.	- -	C7H5CL3 AROMATIC	25.16	30.	J
5.					
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FB

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005229

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V1257

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 0. Date Analyzed: 5/16/90

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	CHLOROMETHANE	10.	U
74-83-9	BROMOMETHANE	10.	U
75-01-4	VINYL CHLORIDE	10.	U
75-00-3	CHLOROETHANE	10.	U
75-09-2	METHYLENE CHLORIDE	14.	B
67-64-1	ACETONE	23.	
75-15-0	CARBON DISULFIDE	5.	U
75-35-4	1,1-DICHLOROETHENE	5.	U
75-34-3	1,1-DICHLOROETHANE	5.	U
540-59-0	1,2-DICHLOROETHENE (TOTAL)	5.	U
67-66-3	CHLOROFORM	3.	J
107-06-2	1,2-DICHLOROETHANE	5.	U
78-93-3	2-BUTANONE	10.	U
71-55-6	1,1,1-TRICHLOROETHANE	5.	U
56-23-5	CARBON TETRACHLORIDE	5.	U
108-05-4	VINYL ACETATE	10.	U
75-27-4	BROMODICHLOROMETHANE	5.	U
78-87-5	1,2-DICHLOROPROPANE	5.	U
10061-01-5	CIS-1,3-DICHLOROPROPENE	5.	U
79-01-6	TRICHLOROETHENE	5.	U
124-48-1	DIBROMOCHLOROMETHANE	5.	U
79-00-5	1,1,2-TRICHLOROETHANE	5.	U
71-43-2	BENZENE	5.	U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5.	U
75-25-2	BROMOFORM	5.	U
108-10-1	4-METHYL-2-PENTANONE	10.	U
591-78-6	2-HEXANONE	10.	U
127-18-4	TETRACHLOROETHENE	5.	U
79-34-5	1,1,2,2-TETRACHLOROETHANE	5.	U
108-88-3	TOLUENE	5.	U
108-90-7	CHLOROBENZENE	5.	U
100-41-4	ETHYLBENZENE	5.	U
100-42-5	STYRENE	5.	U
1330-20-7	XYLENE (TOTAL)	5.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FB

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005229

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V1257

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 0. Date Analyzed: 5/16/90

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005230

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V1256

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 0. Date Analyzed: 5/16/90

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	CHLOROMETHANE	10.	U
74-83-9	BROMOMETHANE	10.	U
75-01-4	VINYL CHLORIDE	10.	U
75-00-3	CHLOROETHANE	10.	U
75-09-2	METHYLENE CHLORIDE	8.	B
67-64-1	ACETONE	10.	U
75-15-0	CARBON DISULFIDE	5.	U
75-35-4	1,1-DICHLOROETHENE	5.	U
75-34-3	1,1-DICHLOROETHANE	5.	U
540-59-0	1,2-DICHLOROETHENE (TOTAL)	5.	U
67-66-3	CHLOROFORM	5.	U
107-06-2	1,2-DICHLOROETHANE	5.	U
78-93-3	2-BUTANONE	10.	U
71-55-6	1,1,1-TRICHLOROETHANE	5.	U
56-23-5	CARBON TETRACHLORIDE	5.	U
108-05-4	VINYL ACETATE	10.	U
75-27-4	BROMODICHLOROMETHANE	5.	U
78-87-5	1,2-DICHLOROPROPANE	5.	U
10061-01-5	CIS-1,3-DICHLOROPROPENE	5.	U
79-01-6	TRICHLOROETHENE	5.	U
124-48-1	DIBROMOCHLOROMETHANE	5.	U
79-00-5	1,1,2-TRICHLOROETHANE	5.	U
71-43-2	BENZENE	5.	U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5.	U
75-25-2	BROMOFORM	5.	U
108-10-1	4-METHYL-2-PENTANONE	10.	U
591-78-6	2-HEXANONE	10.	U
127-18-4	TETRACHLOROETHENE	5.	U
79-34-5	1,1,2,2-TETRACHLOROETHANE	5.	U
108-88-3	TOLUENE	5.	U
108-90-7	CHLOROBENZENE	5.	U
100-41-4	ETHYLBENZENE	5.	U
100-42-5	STYRENE	5.	U
1330-20-7	XYLENE (TOTAL)	5.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005230

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V1256

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 0. Date Analyzed: 5/16/90

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN	21.71	7.	J
2.					
3.					
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK15

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

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

Sample wt/vol: 5.0 (g/mL) G Lab File ID: B1041

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. Date Analyzed: 5/15/90

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	CHLOROMETHANE	10.	U
74-83-9	BROMOMETHANE	10.	U
75-01-4	VINYL CHLORIDE	10.	U
75-00-3	CHLOROETHANE	10.	U
75-09-2	METHYLENE CHLORIDE	5.	U
67-64-1	ACETONE	10.	U
75-15-0	CARBON DISULFIDE	5.	U
75-35-4	1,1-DICHLOROETHENE	5.	U
75-34-3	1,1-DICHLOROETHANE	5.	U
540-59-0	1,2-DICHLOROETHENE (TOTAL)	5.	U
67-66-3	CHLOROFORM	5.	U
107-06-2	1,2-DICHLOROETHANE	5.	U
78-93-3	2-BUTANONE	10.	U
71-55-6	1,1,1-TRICHLOROETHANE	5.	U
56-23-5	CARBON TETRACHLORIDE	5.	U
108-05-4	VINYL ACETATE	10.	U
75-27-4	BROMODICHLOROMETHANE	5.	U
78-87-5	1,2-DICHLOROPROPANE	5.	U
10061-01-5	CIS-1,3-DICHLOROPROPENE	5.	U
79-01-6	TRICHLOROETHENE	5.	U
124-48-1	DIBROMOCHLOROMETHANE	5.	U
79-00-5	1,1,2-TRICHLOROETHANE	5.	U
71-43-2	BENZENE	5.	U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5.	U
75-25-2	BROMOFORM	5.	U
108-10-1	4-METHYL-2-PENTANONE	10.	U
591-78-6	2-HEXANONE	10.	U
127-18-4	TETRACHLOROETHENE	5.	U
79-34-5	1,1,2,2-TETRACHLOROETHANE	5.	U
108-88-3	TOLUENE	5.	U
108-90-7	CHLOROBENZENE	5.	U
100-41-4	ETHYLBENZENE	5.	U
100-42-5	STYRENE	5.	U
1330-20-7	XYLENE (TOTAL)	5.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK15

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

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

Sample wt/vol: 5.0 (g/mL) G Lab File ID: B1041

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. Date Analyzed: 5/15/90

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
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6.					
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK16

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

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

Sample wt/vol: 5.0 (g/mL) G Lab File ID: B1042

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. Date Analyzed: 5/16/90

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG		Q
74-87-3	CHLOROMETHANE	10.		U
74-83-9	BROMOMETHANE	10.		U
75-01-4	VINYL CHLORIDE	10.		U
75-00-3	CHLOROETHANE	10.		U
75-09-2	METHYLENE CHLORIDE	8.		
67-64-1	ACETONE	10.		U
75-15-0	CARBON DISULFIDE	5.		U
75-35-4	1,1-DICHLOROETHENE	5.		U
75-34-3	1,1-DICHLOROETHANE	5.		U
540-59-0	1,2-DICHLOROETHENE (TOTAL)	5.		U
67-66-3	CHLOROFORM	5.		U
107-06-2	1,2-DICHLOROETHANE	5.		U
78-93-3	2-BUTANONE	10.		U
71-55-6	1,1,1-TRICHLOROETHANE	5.		U
56-23-5	CARBON TETRACHLORIDE	5.		U
108-05-4	VINYL ACETATE	10.		U
75-27-4	BROMODICHLOROMETHANE	5.		U
78-87-5	1,2-DICHLOROPROPANE	5.		U
10061-01-5	CIS-1,3-DICHLOROPROPENE	5.		U
79-01-6	TRICHLOROETHENE	5.		U
124-48-1	DIBROMOCHLOROMETHANE	5.		U
79-00-5	1,1,2-TRICHLOROETHANE	5.		U
71-43-2	BENZENE	5.		U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5.		U
75-25-2	BROMOFORM	5.		U
108-10-1	4-METHYL-2-PENTANONE	10.		U
591-78-6	2-HEXANONE	10.		U
127-18-4	TETRACHLOROETHENE	5.		U
79-34-5	1,1,2,2-TETRACHLOROETHANE	5.		U
108-88-3	TOLUENE	5.		U
108-90-7	CHLOROBENZENE	5.		U
100-41-4	ETHYLBENZENE	5.		U
100-42-5	STYRENE	5.		U
1330-20-7	XYLENE (TOTAL)	5.		U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK16

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

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

Sample wt/vol: 5.0 (g/mL) G Lab File ID: B1042

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. Date Analyzed: 5/16/90

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
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29.					

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CS-B MS

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005226MS

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V1259

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 18. Date Analyzed: 5/16/90

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	CHLOROMETHANE	12.	U
74-83-9	BROMOMETHANE	12.	U
75-01-4	VINYL CHLORIDE	12.	U
75-00-3	CHLOROETHANE	12.	U
75-09-2	METHYLENE CHLORIDE	17.	B
67-64-1	ACETONE	9.	J
75-15-0	CARBON DISULFIDE	6.	U
75-35-4	1,1-DICHLOROETHENE		
75-34-3	1,1-DICHLOROETHANE	6.	U
540-59-0	1,2-DICHLOROETHENE (TOTAL)	6.	U
67-66-3	CHLOROFORM	6.	U
107-06-2	1,2-DICHLOROETHANE	6.	U
78-93-3	2-BUTANONE	12.	U
71-55-6	1,1,1-TRICHLOROETHANE	6.	U
56-23-5	CARBON TETRACHLORIDE	6.	U
108-05-4	VINYL ACETATE	12.	U
75-27-4	BROMODICHLOROMETHANE	6.	U
78-87-5	1,2-DICHLOROPROPANE	6.	U
10061-01-5	CIS-1,3-DICHLOROPROPENE	6.	U
79-01-6	TRICHLOROETHENE		
124-48-1	DIBROMOCHLOROMETHANE	6.	U
79-00-5	1,1,2-TRICHLOROETHANE	6.	U
71-43-2	BENZENE		
10061-02-6	TRANS-1,3-DICHLOROPROPENE	6.	U
75-25-2	BROMOFORM	6.	U
108-10-1	4-METHYL-2-PENTANONE	12.	U
591-78-6	2-HEXANONE	12.	U
127-18-4	TETRACHLOROETHENE	6.	U
79-34-5	1,1,2,2-TETRACHLOROETHANE	6.	U
108-88-3	TOLUENE		
108-90-7	CHLOROBENZENE		
100-41-4	ETHYLBENZENE	6.	U
100-42-5	STYRENE	6.	U
1330-20-7	XYLENE (TOTAL)	2.	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CS-B MSD

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005226MSD

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V1260

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 18. Date Analyzed: 5/16/90

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	CHLOROMETHANE	12.	U
74-83-9	BROMOMETHANE	12.	U
75-01-4	VINYL CHLORIDE	12.	U
75-00-3	CHLOROETHANE	12.	U
75-09-2	METHYLENE CHLORIDE	21.	B
67-64-1	ACETONE	7.	J
75-15-0	CARBON DISULFIDE	6.	U
75-35-4	1,1-DICHLOROETHENE		
75-34-3	1,1-DICHLOROETHANE	6.	U
540-59-0	1,2-DICHLOROETHENE (TOTAL)	6.	U
67-66-3	CHLOROFORM	6.	U
107-06-2	1,2-DICHLOROETHANE	6.	U
78-93-3	2-BUTANONE	12.	U
71-55-6	1,1,1-TRICHLOROETHANE	6.	U
56-23-5	CARBON TETRACHLORIDE	6.	U
108-05-4	VINYL ACETATE	12.	U
75-27-4	BROMODICHLOROMETHANE	6.	U
78-87-5	1,2-DICHLOROPROPANE	6.	U
10061-01-5	CIS-1,3-DICHLOROPROPENE	6.	U
79-01-6	TRICHLOROETHENE		
124-48-1	DIBROMOCHLOROMETHANE	6.	U
79-00-5	1,1,2-TRICHLOROETHANE	6.	U
71-43-2	BENZENE		
10061-02-6	TRANS-1,3-DICHLOROPROPENE	6.	U
75-25-2	BROMOFORM	6.	U
108-10-1	4-METHYL-2-PENTANONE	12.	U
591-78-6	2-HEXANONE	12.	U
127-18-4	TETRACHLOROETHENE	6.	U
79-34-5	1,1,2,2-TETRACHLOROETHANE	6.	U
108-88-3	TOLUENE		
108-90-7	CHLOROBENZENE		
100-41-4	ETHYLBENZENE	6.	U
100-42-5	STYRENE	6.	U
1330-20-7	XYLENE (TOTAL)	2.	J

2D

SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
1	SBLK25	65	74	76	70	58	53		0
2	FB	42	51	76	41	51	58		0
3	CS-A	71	80	81	81	64	57		0
4	CS-B	65	76	78	73	59	54		0
5	CS-D	63	70	94	72	55	57		0
6	CS-D MS	67	76	86	70	61	61		0
7	SBLK17	64	62	82	35	47	78		0
8	CS-D MSD	72	72	86	67	67	59		0
9	CS-C	76	77	88	41	68	70		0
10	DT-1	52	66	92	102	82	79		0
11									
12									
13									
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28									
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	QC LIMITS
S1 (NBZ) = NITROBENZENE-D5	(23-120)
S2 (FBP) = 2-FLUOROBIPHENYL	(30-115)
S3 (TPH) = TERPHENYL-D14	(18-137)
S4 (PHL) = PHENOL-D6	(24-113)
S5 (2FP) = 2-FLUOROPHENOL	(25-121)
S6 (TBP) = 2,4,6-TRIBROMOPHENOL	(19-122)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

212

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

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

COMPOUND	SPIKE ADDED (UG/KG)	SAMPLE CONCENTRATION (UG/KG)	MS CONCENTRATION (UG/KG)	MS % REC	#	QC LIMITS REC.
PHENOL	7891.	0.	6891.	87		26- 90
2-CHLOROPHENOL	7891.	0.	5249.	67		25-102
1,4-DICHLOROBENZENE	3945.	0.	2425.	61		28-104
N-NITROSO-DI-n-PROP.(1)	3945.	0.	3650.	93		41-126
1,2,4-TRICHLOROBENZENE	3945.	156.	3422.	83		38-107
4-CHLORO-3-METHYLPHENOL	7891.	0.	4615.	58		26-103
ACENAPHTHENE	3945.	406.	3645.	82		31-137
4-NITROPHENOL	7891.	0.	8735.	111		11-114
2,4-DINITROTOLUENE	3945.	0.	2407.	61		28- 89
PENTACHLOROPHENOL	7891.	0.	4928.	62		17-109
PYRENE	3945.	5268.	6468.	30	*	35-142

COMPOUND	SPIKE ADDED (UG/KG)	MSD CONCENTRATION (UG/KG)	MSD % REC	#	% RPD	#	QC LIMITS RPD	QC LIMITS REC.
PHENOL	8031.	6960.	87		1		35	26- 90
2-CHLOROPHENOL	8031.	5452.	68		2		50	25-102
1,4-DICHLOROBENZENE	4016.	2626.	65		6		27	28-104
N-NITROSO-DI-n-PROP.(1)	4016.	4029.	100		8		38	41-126
1,2,4-TRICHLOROBENZENE	4016.	3370.	80		3		23	38-107
4-CHLORO-3-METHYLPHENOL	8031.	7134.	89		41	*	33	26-103
ACENAPHTHENE	4016.	3396.	74		10		19	31-137
4-NITROPHENOL	8031.	7343.	91		19		50	11-114
2,4-DINITROTOLUENE	4016.	2322.	58		5		47	28- 89
PENTACHLOROPHENOL	8031.	6780.	84		30		47	17-109
PYRENE	4016.	5664.	10	*	102	*	36	35-142

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

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

Values outside of QC limits

RPD: 2 out of 11 outside limits
Recovery: 2 out of 22 outside limits

COMMENTS:

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Lab File ID: B3013 Lab Sample ID:

Date Extracted: 5/25/90 Extraction:(SepF/Cont/Sonc) SONC

Date Analyzed: 5/30/90 Time Analyzed: 10:25

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

Instrument ID: 7003

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
1	CS-A	9005225	E3079	5/30/90
2	CS-B	9005226	E3080	5/30/90
3	CS-D	9005228	E3082	5/30/90
4	CS-D MS	9005228MS	E3083	5/30/90
5	CS-D MSD	9005228MSD	E3085	5/31/90
6	CS-C	9005227	E3086	5/31/90
7	DT-1	9005224	E3089	6/ 8/90
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COMMENTS:

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Lab File ID: B3014 Lab Sample ID:

Date Extracted: 5/17/90 Extraction:(SepF/Cont/Sonc) SEPF

Date Analyzed: 5/31/90 Time Analyzed: 11:45

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

Instrument ID: 7003

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
1	FB	9005229	E3076	5/30/90
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
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COMMENTS:

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Lab File ID: T3010 DFTPP Injection Date: 4/30/90

Instrument ID.: 7003 DFTPP Injection Time: 9:35

7003

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	47.5
68	Less than 2.0% of mass 69	.0 (.0)1
69	Mass 69 relative abundance	49.6
70	Less than 2.0% of mass 69	.0 (.0)1
127	40.0 - 60.0% of mass 198	44.0
197	Less than 1.0% of mass 198	.0
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	5.8
275	10.0 - 30.0% of mass 198	15.5
365	Greater than 1.00% of mass 198	3.1
441	Present, but less than mass 443	12.5
442	Greater than 40.0% of mass 198	87.5
443	17.0 - 23.0% of mass 442	17.2 (19.7)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	SSTD020		S3024	4/30/90	9:55
2	SSTD050		S3025	4/30/90	10:40
3	SSTD080		S3026	4/30/90	11:26
4	SSTD120		S3027	4/30/90	12:12
5	SSTD160		S3028	4/30/90	12:57
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22					

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Lab File ID: T3023 DFTPP Injection Date: 5/30/90

Instrument ID.: 7003 DFTPP Injection Time: 9:16

7003

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	43.2
68	Less than 2.0% of mass 69	.0 (.0)1
69	Mass 69 relative abundance	48.3
70	Less than 2.0% of mass 69	.0 (.0)1
127	40.0 - 60.0% of mass 198	46.2
197	Less than 1.0% of mass 198	.0
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.5
275	10.0 - 30.0% of mass 198	17.8
365	Greater than 1.00% of mass 198	2.6
441	Present, but less than mass 443	11.0
442	Greater than 40.0% of mass 198	88.4
443	17.0 - 23.0% of mass 442	17.6 (19.9)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	SSTD050		S3062	5/30/90	9:31
2	SBLK25		B3013	5/30/90	10:25
3	FB	9005229	E3076	5/30/90	12:02
4	CS-A	9005225	E3079	5/30/90	14:33
5	CS-B	9005226	E3080	5/30/90	15:19
6	CS-D	9005228	E3082	5/30/90	16:50
7	CS-D MS	9005228MS	E3083	5/30/90	17:36
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5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

7003

Lab File ID: T3025 DFTPP Injection Date: 6/ 8/90

Instrument ID.: 7003 DFTPP Injection Time: 9:20

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	46.8
68	Less than 2.0% of mass 69	.0 (.0)1
69	Mass 69 relative abundance	52.0
70	Less than 2.0% of mass 69	.0 (.0)1
127	40.0 - 60.0% of mass 198	47.0
197	Less than 1.0% of mass 198	.0
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	8.6
275	10.0 - 30.0% of mass 198	19.0
365	Greater than 1.00% of mass 198	1.5
441	Present, but less than mass 443	13.2
442	Greater than 40.0% of mass 198	96.9
443	17.0 - 23.0% of mass 442	16.9 (17.4)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	
1	SSTD050		S3064	6/ 8/90	9:42	*
2	DT-1	9005224	E3089	6/ 8/90	12:40	
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DT-1

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005224

Sample wt/vol: 30.4 (g/mL) G Lab File ID: E3089

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 24. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 6/ 8/90

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 10.00

7003

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	PHENOL	4300.	U
111-44-4	BIS(2-CHLOROETHYL)ETHER	4300.	U
95-57-8	2-CHLOROPHENOL	4300.	U
541-73-1	1,3-DICHLOROBENZENE	4300.	U
106-46-7	1,4-DICHLOROBENZENE	4300.	U
100-51-6	BENZYL ALCOHOL	4300.	U
95-50-1	1,2-DICHLOROBENZENE	4300.	U
95-48-7	2-METHYLPHENOL	4300.	U
108-60-1	BIS(2-CHLOROISOPROPYL)ETHER	4300.	U
106-44-5	4-METHYLPHENOL	4300.	U
621-64-7	N-NITROSO-DI-n-PROPYLAMINE	4300.	U
67-72-1	HEXACHLOROETHANE	4300.	U
98-95-3	NITROBENZENE	4300.	U
78-59-1	ISOPHORONE	4300.	U
88-75-5	2-NITROPHENOL	4300.	U
105-67-9	2,4-DIMETHYLPHENOL	4300.	U
65-85-0	BENZOIC ACID	22000.	U
111-91-1	BIS(2-CHLOROETHOXY)METHANE	4300.	U
120-83-2	2,4-DICHLOROPHENOL	21000.	
120-82-1	1,2,4-TRICHLOROBENZENE	4300.	U
91-20-3	NAPHTHALENE	4300.	U
106-47-8	4-CHLOROANILINE	4300.	U
87-68-3	HEXACHLOROBUTADIENE	4300.	U
59-50-7	4-CHLORO-3-METHYLPHENOL	4300.	U
91-57-6	2-METHYLNAPHTHALENE	4300.	U
77-47-4	HEXACHLOROCYCLOPENTADIENE	4300.	U
88-06-2	2,4,6-TRICHLOROPHENOL	4300.	U
95-95-4	2,4,5-TRICHLOROPHENOL	63000.	
91-58-7	2-CHLORONAPHTHALENE	4300.	U
88-74-4	2-NITROANILINE	22000.	U
131-11-3	DIMETHYLPHTHALATE	4300.	U
208-96-8	ACENAPHTHYLENE	4300.	U
606-20-2	2,6-DINITROTOLUENE	4300.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DT-1

7003

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005224

Sample wt/vol: 30.4 (g/mL) G Lab File ID: E3089

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 24. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 6/ 8/90

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 10.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-NITROANILINE	22000.	U
83-32-9	ACENAPHTHENE	4300.	U
51-28-5	2,4-DINITROPHENOL	22000.	U
100-02-7	4-NITROPHENOL	22000.	U
132-64-9	DIBENZOFURAN	4300.	U
121-14-2	2,4-DINITROTOLUENE	4300.	U
84-66-2	DIETHYLPHTHALATE	4300.	U
7005-72-3	4-CHLOROPHENYL-PHENYLETHER	4300.	U
86-73-7	FLUORENE	4300.	U
100-01-6	4-NITROANILINE	22000.	U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	22000.	U
86-30-6	N-NITROSODIPHENYLAMINE (1)	4300.	U
101-55-3	4-BROMOPHENYL-PHENYLETHER	4300.	U
118-74-1	HEXACHLOROBENZENE	4300.	U
87-86-5	PENTACHLOROPHENOL	22000.	U
85-01-8	PHENANTHRENE	4300.	U
120-12-7	ANTHRACENE	4300.	U
84-74-2	DI-n-BUTYLPHTHALATE	4300.	U
206-44-0	FLUORANTHENE	4300.	U
129-00-0	PYRENE	4300.	U
85-68-7	BUTYLBENZYLPHTHALATE	4300.	U
91-94-1	3,3'-DICHLOROBENZIDINE	8700.	U
56-55-3	BENZO(A)ANTHRACENE	4300.	U
218-01-9	CHRYSENE	4300.	U
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	4300.	U
117-84-0	DI-n-OCTYLPHTHALATE	4300.	U
205-99-2	BENZO(B)FLUORANTHENE	4300.	U
207-08-9	BENZO(K)FLUORANTHENE	4300.	U
50-32-8	BENZO(A)PYRENE	4300.	U
193-39-5	INDENO(1,2,3-CD)PYRENE	4300.	U
53-70-3	DIBENZ(A,H)ANTHRACENE	4300.	U
191-24-2	BENZO(G,H,I)PERYLENE	4300.	U

(1) - Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: DT-1

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005224

Sample wt/vol: 30.4 (g/mL) G Lab File ID: E3089

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 24. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 6/ 8/90

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 10.00

Number TICs found: 18 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
1.	- -	UNKNOWN	4.85	2000.	BJ	
2.	123-42-2	2-Pentanone, 4-hydroxy-4-met	5.44	40000.	BJ	A
3.	- -	UNKNOWN	10.64	4000.	J	
4.	93-71-0	Acetamide, 2-chloro-N,N-di-2	13.16	100000.	J	
5.	2460-49-3	Phenol, 4,5-dichloro-2-metho	14.92	2000.	J	
6.	- -	UNKNOWN	15.74	4000.	J	
7.	- -	UNKNOWN	16.65	7000.	J	
8.	1918-16-7	Acetamide, 2-chloro-N-(1-met	16.89	4000.	J	
9.	- -	UNKNOWN	17.80	2000.	J	
10.	- -	UNKNOWN	18.19	3000.	J	
11.	2976-74-1	Acetic acid, (2,3-dichloroph	18.41	30000.	J	
12.	5227-24-7	Acetic acid, (2,4-dichloroph	18.83	3000.	J	
13.	- -	Trichlorophenoxy acetic acid	19.72	40000.	J	
14.	- -	Trichlorophenoxy acetic acid	20.08	200000.	J	
15.	- -	UNKNOWN	20.34	3000.	J	
16.	- -	UNKNOWN	20.92	3000.	J	
17.	- -	UNKNOWN	20.99	3000.	J	
18.	- -	UNKNOWN	26.82	2000.	J	
19.						
20.						
21.						
22.						
23.						
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7003

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CS-A

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005225

Sample wt/vol: 30.6 (g/mL) G Lab File ID: E3079

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 18. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/30/90

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 1.00

7003

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	PHENOL	400.	U
111-44-4	BIS(2-CHLOROETHYL)ETHER	400.	U
95-57-8	2-CHLOROPHENOL	400.	U
541-73-1	1,3-DICHLOROBENZENE	400.	U
106-46-7	1,4-DICHLOROBENZENE	400.	U
100-51-6	BENZYL ALCOHOL	400.	U
95-50-1	1,2-DICHLOROBENZENE	400.	U
95-48-7	2-METHYLPHENOL	400.	U
108-60-1	BIS(2-CHLOROISOPROPYL)ETHER	400.	U
106-44-5	4-METHYLPHENOL	400.	U
621-64-7	N-NITROSO-DI-n-PROPYLAMINE	400.	U
67-72-1	HEXACHLOROETHANE	400.	U
98-95-3	NITROBENZENE	400.	U
78-59-1	ISOPHORONE	400.	U
88-75-5	2-NITROPHENOL	400.	U
105-67-9	2,4-DIMETHYLPHENOL	400.	U
65-85-0	BENZOIC ACID	2000.	U
111-91-1	BIS(2-CHLOROETHOXY)METHANE	400.	U
120-83-2	2,4-DICHLOROPHENOL	400.	U
120-82-1	1,2,4-TRICHLOROBENZENE	400.	U
91-20-3	NAPHTHALENE	140.	J
106-47-8	4-CHLOROANILINE	400.	U
87-68-3	HEXACHLOROBUTADIENE	400.	U
59-50-7	4-CHLORO-3-METHYLPHENOL	400.	U
91-57-6	2-METHYLNAPHTHALENE	100.	J
77-47-4	HEXACHLOROCYCLOPENTADIENE	400.	U
88-06-2	2,4,6-TRICHLOROPHENOL	400.	U
95-95-4	2,4,5-TRICHLOROPHENOL	1200.	J
91-58-7	2-CHLORONAPHTHALENE	400.	U
88-74-4	2-NITROANILINE	2000.	U
131-11-3	DIMETHYLPHTHALATE	400.	U
208-96-8	ACENAPHTHYLENE	43.	J
606-20-2	2,6-DINITROTOLUENE	400.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CS-A

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005225

Sample wt/vol: 30.6 (g/mL) G Lab File ID: E3079

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 18. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/30/90

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-NITROANILINE	2000.	U
83-32-9	ACENAPHTHENE	310.	J
51-28-5	2,4-DINITROPHENOL	2000.	U
100-02-7	4-NITROPHENOL	2000.	U
132-64-9	DIBENZOFURAN	130.	J
121-14-2	2,4-DINITROTOLUENE	400.	U
84-66-2	DIETHYLPHTHALATE	400.	U
7005-72-3	4-CHLOROPHENYL-PHENYLETHER	400.	U
86-73-7	FLUORENE	200.	J
100-01-6	4-NITROANILINE	2000.	U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	2000.	U
86-30-6	N-NITROSODIPHENYLAMINE (1)	400.	U
101-55-3	4-BROMOPHENYL-PHENYLETHER	400.	U
118-74-1	HEXACHLOROBENZENE	400.	U
87-86-5	PENTACHLOROPHENOL	2000.	U
85-01-8	PHENANTHRENE	2600.	
120-12-7	ANTHRACENE	600.	
84-74-2	DI-n-BUTYLPHTHALATE	400.	U
206-44-0	FLUORANTHENE	3500.	
129-00-0	PYRENE	2900.	
85-68-7	BUTYLBENZYLPHTHALATE	540.	
91-94-1	3,3'-DICHLOROBENZIDINE	800.	U
56-55-3	BENZO(A)ANTHRACENE	1800.	
218-01-9	CHRYSENE	2100.	
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	400.	U
117-84-0	DI-n-OCTYLPHTHALATE	400.	U
205-99-2	BENZO(B)FLUORANTHENE	2000.	
207-08-9	BENZO(K)FLUORANTHENE	1000.	
50-32-8	BENZO(A)PYRENE	1600.	
193-39-5	INDENO(1,2,3-CD)PYRENE	1100.	
53-70-3	DIBENZ(A,H)ANTHRACENE	160.	J
191-24-2	BENZO(G,H,I)PERYLENE	950.	

(1) - Cannot be separated from diphenylamine

7003

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CS-A

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005225

Sample wt/vol: 30.6 (g/mL) G Lab File ID: E3079

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 18. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/30/90

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 1.00

Number TICs found: 22

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN	5.03	2000.	BJ
2.	123-42-2	2-Pentanone, 4-hydroxy-4-met	5.70	30000.	BJ A
3.	768-52-5	Benzenamine, N-(1-methylethyl	11.38	1000.	J
4.	- -	UNKNOWN	13.11	3000.	J
5.	93-71-0	Acetamide, 2-chloro-N,N-di-2	13.21	2000.	J
6.	2077-46-5	Benzene, 1,2,4-trichloro-3-m	13.50	2000.	J
7.	- -	UNKNOWN	14.68	6000.	J
8.	- -	C.7.H.14. Aromatic	14.94	1000.	J
9.	- -	C.7.H.14. Aromatic	15.52	2000.	J
10.	- -	C.7.H.14. Aromatic	16.18	5000.	J
11.	- -	Chlorinated Aromatic	16.37	4000.	J
12.	- -	UNKNOWN	16.71	3000.	J
13.	- -	UNKNOWN	17.13	10000.	J
14.	101-21-3	Chlorpropham	17.41	2000.	J
15.	- -	UNKNOWN	17.69	1000.	J
16.	- -	C.7.H.3.Cl.5. Aromatic	17.85	4000.	J
17.	- -	UNKNOWN	17.96	2000.	J
18.	- -	UNKNOWN	19.63	3000.	J
19.	- -	UNKNOWN	21.16	2000.	J
20.	- -	UNKNOWN	21.65	1000.	J
21.	- -	UNKNOWN	28.22	2000.	J
22.	- -	UNKNOWN (MW=384)	30.39	30000.	J
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

7003

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CS-B

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005226

Sample wt/vol: 30.3 (g/mL) G Lab File ID: E3080

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 18. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/30/90

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	PHENOL	400.	U
111-44-4	BIS(2-CHLOROETHYL)ETHER	400.	U
95-57-8	2-CHLOROPHENOL	400.	U
541-73-1	1,3-DICHLOROBENZENE	400.	U
106-46-7	1,4-DICHLOROBENZENE	400.	U
100-51-6	BENZYL ALCOHOL	400.	U
95-50-1	1,2-DICHLOROBENZENE	400.	U
95-48-7	2-METHYLPHENOL	400.	U
108-60-1	BIS(2-CHLOROISOPROPYL)ETHER	400.	U
106-44-5	4-METHYLPHENOL	400.	U
621-64-7	N-NITROSO-DI-n-PROPYLAMINE	400.	U
67-72-1	HEXACHLOROETHANE	400.	U
98-95-3	NITROBENZENE	400.	U
78-59-1	ISOPHORONE	400.	U
88-75-5	2-NITROPHENOL	400.	U
105-67-9	2,4-DIMETHYLPHENOL	400.	U
65-85-0	BENZOIC ACID	2000.	U
111-91-1	BIS(2-CHLOROETHOXY)METHANE	400.	U
120-83-2	2,4-DICHLOROPHENOL	400.	U
120-82-1	1,2,4-TRICHLOROBENZENE	260.	J
91-20-3	NAPHTHALENE	160.	J
106-47-8	4-CHLOROANILINE	400.	U
87-68-3	HEXACHLOROBUTADIENE	400.	U
59-50-7	4-CHLORO-3-METHYLPHENOL	400.	U
91-57-6	2-METHYLNAPHTHALENE	100.	J
77-47-4	HEXACHLOROCYCLOPENTADIENE	400.	U
88-06-2	2,4,6-TRICHLOROPHENOL	400.	U
95-95-4	2,4,5-TRICHLOROPHENOL	470.	J
91-58-7	2-CHLORONAPHTHALENE	400.	U
88-74-4	2-NITROANILINE	2000.	U
131-11-3	DIMETHYLPHTHALATE	400.	U
208-96-8	ACENAPHTHYLENE	79.	J
606-20-2	2,6-DINITROTOLUENE	400.	U

7003

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CS-B

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005226

Sample wt/vol: 30.3 (g/mL) G Lab File ID: E3080

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 18. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/30/90

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.00

7003

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-NITROANILINE	2000.	U
83-32-9	ACENAPHTHENE	210.	J
51-28-5	2,4-DINITROPHENOL	2000.	U
100-02-7	4-NITROPHENOL	2000.	U
132-64-9	DIBENZOFURAN	140.	J
121-14-2	2,4-DINITROTOLUENE	400.	U
84-66-2	DIETHYLPHTHALATE	400.	U
7005-72-3	4-CHLOROPHENYL-PHENYLETHER	400.	U
86-73-7	FLUORENE	220.	J
100-01-6	4-NITROANILINE	2000.	U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	2000.	U
86-30-6	N-NITROSODIPHENYLAMINE (1)	400.	U
101-55-3	4-BROMOPHENYL-PHENYLETHER	400.	U
118-74-1	HEXACHLOROBENZENE	400.	U
87-86-5	PENTACHLOROPHENOL	2000.	U
85-01-8	PHENANTHRENE	2300.	
120-12-7	ANTHRACENE	550.	
84-74-2	DI-n-BUTYLPHTHALATE	400.	U
206-44-0	FLUORANTHENE	2600.	
129-00-0	PYRENE	2100.	
85-68-7	BUTYLBENZYLPHTHALATE	400.	U
91-94-1	3,3'-DICHLOROBENZIDINE	800.	U
56-55-3	BENZO(A)ANTHRACENE	1300.	
218-01-9	CHRYSENE	1500.	
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	400.	U
117-84-0	DI-n-OCTYLPHTHALATE	400.	U
205-99-2	BENZO(B)FLUORANTHENE	1300.	
207-08-9	BENZO(K)FLUORANTHENE	790.	
50-32-8	BENZO(A)PYRENE	1200.	
193-39-5	INDENO(1,2,3-CD)PYRENE	800.	
53-70-3	DIBENZ(A,H)ANTHRACENE	150.	J
191-24-2	BENZO(G,H,I)PERYLENE	790.	

(1) - Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CS-B

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005226

Sample wt/vol: 30.3 (g/mL) G Lab File ID: E3080

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 18. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/30/90

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.00

Number TICs found: 23

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN	5.04	2000.	BJ
2.	123-42-2	2-Pentanone, 4-hydroxy-4-met	5.73	30000.	BJ A
3.	- -	UNKNOWN	7.74	1000.	BJ
4.	768-52-5	Benzenamine, N-(1-methylethy	11.29	1000.	J
5.	- -	UNKNOWN	12.98	1000.	J
6.	- -	UNKNOWN	13.07	1000.	J
7.	2077-46-5	Benzene, 1,2,4-trichloro-3-m	13.49	1000.	J
8.	- -	UNKNOWN	14.66	3000.	J
9.	- -	C.7.H.4.Cl.4. Aromatic	14.93	1000.	J
10.	- -	C.7.H.4.Cl.4. Aromatic	15.52	900.	J
11.	- -	C.7.H.4.Cl.4. Aromatic	16.18	5000.	J
12.	- -	Chlorinated Aromatic	16.30	4000.	J
13.	- -	C.7.H.4.Cl.4. Aromatic	16.49	800.	J
14.	- -	C.7.H.3.Cl.5. Aromatic	16.69	4000.	J
15.	1918-16-7	Acetamide, 2-chloro-N-(1-met	17.13	10000.	J
16.	- -	C.7.H.3.Cl.5. Aromatic	17.21	1000.	J
17.	- -	UNKNOWN	17.65	1000.	J
18.	- -	C.7.H.3.Cl.5. Aromatic	17.82	2000.	J
19.	- -	UNKNOWN Chlorinated Compound	18.09	900.	J
20.	- -	UNKNOWN	19.28	1000.	J
21.	- -	UNKNOWN	19.61	1000.	J
22.	- -	UNKNOWN	25.83	1000.	J
23.	- -	UNKNOWN (MW=386)	30.21	10000.	J
24.					
25.					
26.					
27.					
28.					
29.					
30.					

7003

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CS-C

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005227

Sample wt/vol: 30.5 (g/mL) G Lab File ID: E3086

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 17. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/31/90

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 1.00

7003

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	PHENOL	400.	U
111-44-4	BIS(2-CHLOROETHYL)ETHER	400.	U
95-57-8	2-CHLOROPHENOL	400.	U
541-73-1	1,3-DICHLOROBENZENE	400.	U
106-46-7	1,4-DICHLOROBENZENE	400.	U
100-51-6	BENZYL ALCOHOL	400.	U
95-50-1	1,2-DICHLOROBENZENE	400.	U
95-48-7	2-METHYLPHENOL	400.	U
108-60-1	BIS(2-CHLOROISOPROPYL)ETHER	400.	U
106-44-5	4-METHYLPHENOL	400.	U
621-64-7	N-NITROSO-DI-n-PROPYLAMINE	400.	U
67-72-1	HEXACHLOROETHANE	400.	U
98-95-3	NITROBENZENE	400.	U
78-59-1	ISOPHORONE	400.	U
88-75-5	2-NITROPHENOL	400.	U
105-67-9	2,4-DIMETHYLPHENOL	400.	U
65-85-0	BENZOIC ACID	2000.	U
111-91-1	BIS(2-CHLOROETHOXY)METHANE	400.	U
120-83-2	2,4-DICHLOROPHENOL	400.	U
120-82-1	1,2,4-TRICHLOROBENZENE	400.	U
91-20-3	NAPHTHALENE	400.	U
106-47-8	4-CHLOROANILINE	400.	U
87-68-3	HEXACHLOROBUTADIENE	400.	U
59-50-7	4-CHLORO-3-METHYLPHENOL	400.	U
91-57-6	2-METHYLNAPHTHALENE	120.	J
77-47-4	HEXACHLOROCYCLOPENTADIENE	400.	U
88-06-2	2,4,6-TRICHLOROPHENOL	400.	U
95-95-4	2,4,5-TRICHLOROPHENOL	1500.	J
91-58-7	2-CHLORONAPHTHALENE	400.	U
88-74-4	2-NITROANILINE	2000.	U
131-11-3	DIMETHYLPHTHALATE	400.	U
208-96-8	ACENAPHTHYLENE	400.	U
606-20-2	2,6-DINITROTOLUENE	400.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CS-C

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

7003

Matrix: (soil/water) SOIL Lab Sample ID: 9005227

Sample wt/vol: 30.5 (g/mL) G Lab File ID: E3086

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 17. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/31/90

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-NITROANILINE	2000.	U
83-32-9	ACENAPHTHENE	130.	J
51-28-5	2,4-DINITROPHENOL	2000.	U
100-02-7	4-NITROPHENOL	2000.	U
132-64-9	DIBENZOFURAN	400.	U
121-14-2	2,4-DINITROTOLUENE	400.	U
84-66-2	DIETHYLPHTHALATE	400.	U
7005-72-3	4-CHLOROPHENYL-PHENYLETHER	400.	U
86-73-7	FLUORENE	400.	U
100-01-6	4-NITROANILINE	2000.	U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	2000.	U
86-30-6	N-NITROSODIPHENYLAMINE (1)	400.	U
101-55-3	4-BROMOPHENYL-PHENYLETHER	400.	U
118-74-1	HEXACHLOROBENZENE	400.	U
87-86-5	PENTACHLOROPHENOL	2000.	U
85-01-8	PHENANTHRENE	1100.	
120-12-7	ANTHRACENE	290.	J
84-74-2	DI-n-BUTYLPHTHALATE	400.	U
206-44-0	FLUORANTHENE	1800.	
129-00-0	PYRENE	1900.	
85-68-7	BUTYLBENZYLPHTHALATE	400.	U
91-94-1	3,3'-DICHLOROBENZIDINE	790.	U
56-55-3	BENZO(A)ANTHRACENE	900.	
218-01-9	CHRYSENE	1100.	
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	400.	U
117-84-0	DI-n-OCTYLPHTHALATE	400.	U
205-99-2	BENZO(B)FLUORANTHENE	700.	
207-08-9	BENZO(K)FLUORANTHENE	1100.	
50-32-8	BENZO(A)PYRENE	1000.	
193-39-5	INDENO(1,2,3-CD)PYRENE	630.	
53-70-3	DIBENZ(A,H)ANTHRACENE	400.	U
191-24-2	BENZO(G,H,I)PERYLENE	530.	

(1) - Cannot be separated from diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CS-C

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005227

Sample wt/vol: 30.5 (g/mL) G Lab File ID: E3086

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 17. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/31/90

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 1.00

Number TICs found: 24

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
1.	- -	UNKNOWN	5.03	2000.	BJ	
2.	123-42-2	2-Pentanone, 4-hydroxy-4-met	5.76	30000.	BJ	A
3.	94-68-8	Benzenamine, N-ethyl-2-methy	11.89	10000.	J	
4.	- -	UNKNOWN	13.12	2000.	J	
5.	93-71-0	Acetamide, 2-chloro-N,N-di-2	13.21	3000.	J	
6.	- -	UNKNOWN	13.26	2000.	J	
7.	2077-46-5	Benzene, 1,2,4-trichloro-3-m	13.51	2000.	J	
8.	- -	UNKNOWN	14.72	9000.	J	
9.	1187-03-7	Urea, tetraethyl- (8CI9CI)	15.23	4000.	J	
10.	- -	UNKNOWN	15.40	1000.	J	
11.	- -	C.7.H.4.Cl.4. Aromatic	15.54	1000.	J	
12.	- -	C.7.H.4.Cl.4. Aromatic	16.06	6000.	J	
13.	- -	C.7.H.4.Cl.4. Aromatic	16.22	7000.	J	
14.	- -	C.7.H.4.Cl.4. Aromatic	16.52	2000.	J	
15.	- -	C.7.H.3.Cl.5. Aromatic	16.73	3000.	J	
16.	- -	UNKNOWN	16.87	5000.	J	
17.	- -	C.7.H.4.Cl.4. Aromatic	16.93	2000.	J	
18.	- -	C.7.H.3.Cl.5. Aromatic	17.91	2000.	J	
19.	- -	UNKNOWN	18.05	3000.	J	
20.	- -	UNKNOWN	18.24	2000.	J	
21.	- -	UNKNOWN HYDROCARBON	19.63	1000.	J	
22.	- -	UNKNOWN	21.01	1000.	J	
23.	- -	UNKNOWN	23.28	2000.	J	
24.	- -	UNKNOWN (MW=384)	30.67	50000.	J	
25.						
26.						
27.						
28.						
29.						
30.						

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Lab File ID: T3024 DFTPP Injection Date: 5/31/90

Instrument ID.: 7003 DFTPP Injection Time: 10:22

7003

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	49.6
68	Less than 2.0% of mass 69	.0 (.0)1
69	Mass 69 relative abundance	55.6
70	Less than 2.0% of mass 69	.0 (.0)1
127	40.0 - 60.0% of mass 198	43.1
197	Less than 1.0% of mass 198	.0
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.4
275	10.0 - 30.0% of mass 198	23.6
365	Greater than 1.00% of mass 198	2.2
441	Present, but less than mass 443	12.2
442	Greater than 40.0% of mass 198	89.4
443	17.0 - 23.0% of mass 442	18.6 (20.8)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	
1	SSTD050		S3063	5/31/90	10:45	*
2	SBLK17		B3014	5/31/90	11:45	*
3	CS-D MSD	9005228MSD	E3085	5/31/90	12:39	*
4	CS-C	9005227	E3086	5/31/90	13:25	*
5						
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CS-D

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005228

Sample wt/vol: 30.5 (g/mL) G Lab File ID: E3082

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 18. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/30/90

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	PHENOL	400.	U
111-44-4	BIS(2-CHLOROETHYL)ETHER	400.	U
95-57-8	2-CHLOROPHENOL	400.	U
541-73-1	1,3-DICHLOROBENZENE	400.	U
106-46-7	1,4-DICHLOROBENZENE	400.	U
100-51-6	BENZYL ALCOHOL	400.	U
95-50-1	1,2-DICHLOROBENZENE	400.	U
95-48-7	2-METHYLPHENOL	400.	U
108-60-1	BIS(2-CHLOROISOPROPYL)ETHER	400.	U
106-44-5	4-METHYLPHENOL	400.	U
621-64-7	N-NITROSO-DI-n-PROPYLAMINE	400.	U
67-72-1	HEXACHLOROETHANE	400.	U
98-95-3	NITROBENZENE	400.	U
78-59-1	ISOPHORONE	400.	U
88-75-5	2-NITROPHENOL	400.	U
105-67-9	2,4-DIMETHYLPHENOL	400.	U
65-85-0	BENZOIC ACID	2000.	U
111-91-1	BIS(2-CHLOROETHOXY)METHANE	400.	U
120-83-2	2,4-DICHLOROPHENOL	400.	U
120-82-1	1,2,4-TRICHLOROBENZENE	160.	J
91-20-3	NAPHTHALENE	130.	J
106-47-8	4-CHLOROANILINE	400.	U
87-68-3	HEXACHLOROBUTADIENE	400.	U
59-50-7	4-CHLORO-3-METHYLPHENOL	400.	U
91-57-6	2-METHYLNAPHTHALENE	89.	J
77-47-4	HEXACHLOROCYCLOPENTADIENE	400.	U
88-06-2	2,4,6-TRICHLOROPHENOL	400.	U
95-95-4	2,4,5-TRICHLOROPHENOL	510.	J
91-58-7	2-CHLORONAPHTHALENE	400.	U
88-74-4	2-NITROANILINE	2000.	U
131-11-3	DIMETHYLPHTHALATE	400.	U
208-96-8	ACENAPHTHYLENE	75.	J
606-20-2	2,6-DINITROTOLUENE	400.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CS-D

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005228

Sample wt/vol: 30.5 (g/mL) G Lab File ID: E3082

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 18. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/30/90

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.00

7003

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-NITROANILINE	2000.	U
83-32-9	ACENAPHTHENE	410.	
51-28-5	2,4-DINITROPHENOL	2000.	U
100-02-7	4-NITROPHENOL	2000.	U
132-64-9	DIBENZOFURAN	190.	J
121-14-2	2,4-DINITROTOLUENE	400.	U
84-66-2	DIETHYLPHTHALATE	400.	U
7005-72-3	4-CHLOROPHENYL-PHENYLETHER	400.	U
86-73-7	FLUORENE	350.	J
100-01-6	4-NITROANILINE	2000.	U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	2000.	U
86-30-6	N-NITROSODIPHENYLAMINE (1)	400.	U
101-55-3	4-BROMOPHENYL-PHENYLETHER	400.	U
118-74-1	HEXACHLOROBENZENE	400.	U
87-86-5	PENTACHLOROPHENOL	2000.	U
85-01-8	PHENANTHRENE	3700.	
120-12-7	ANTHRACENE	970.	
84-74-2	DI-n-BUTYLPHTHALATE	400.	U
206-44-0	FLUORANTHENE	4900.	
129-00-0	PYRENE	5300.	
85-68-7	BUTYLBENZYLPHTHALATE	400.	U
91-94-1	3,3'-DICHLOROBENZIDINE	800.	U
56-55-3	BENZO(A)ANTHRACENE	3900.	
218-01-9	CHRYSENE	3300.	
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	400.	U
117-84-0	DI-n-OCTYLPHTHALATE	400.	U
205-99-2	BENZO(B)FLUORANTHENE	3100.	
207-08-9	BENZO(K)FLUORANTHENE	2100.	
50-32-8	BENZO(A)PYRENE	3200.	
193-39-5	INDENO(1,2,3-CD)PYRENE	1800.	
53-70-3	DIBENZ(A,H)ANTHRACENE	330.	J
191-24-2	BENZO(G,H,I)PERYLENE	1700.	

(1) - Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CS-D

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005228

Sample wt/vol: 30.5 (g/mL) G Lab File ID: E3082

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 18. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/30/90

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.00

Number TICs found: 25 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	5.74	30000.	BJ	A
2.	- -	UNKNOWN	7.75	1000.	BJ	
3.	- -	UNKNOWN	8.61	1000.	J	
4.	- -	UNKNOWN	9.65	2000.	J	
5.	768-52-5	Benzenamine, N-(1-methylethy	11.36	2000.	J	
6.	- -	Benzenamine, N-ethyl-3-methy	11.60	3000.	J	
7.	- -	UNKNOWN	13.09	3000.	J	
8.	2077-46-5	Benzene, 1,2,4-trichloro-3-m	13.50	2000.	J	
9.	- -	UNKNOWN	14.69	7000.	J	
10.	- -	C.7.H.4.Cl.4. Aromatic	14.94	900.	J	
11.	- -	C.7.H.4.Cl.4. Aromatic	15.52	1000.	J	
12.	- -	C.7.H.4.CL.4. Aromatic	16.18	3000.	J	
13.	- -	Chlorinated Aromatic	16.37	2000.	J	
14.	- -	C.7.H.4.Cl.4. Aromatic	16.51	800.	J	
15.	- -	C.7.H.3.Cl.5. Aromatic	16.69	3000.	J	
16.	- -	C.7.H.4.Cl.4. Aromatic	16.92	1000.	J	
17.	- -	UNKNOWN	17.12	6000.	J	
18.	- -	C.7.H.3.Cl.5. Aromatic	17.39	2000.	J	
19.	- -	UNKNOWN	17.71	6000.	J	
20.	- -	C.7.H.3.Cl.5. Aromatic	17.84	2000.	J	
21.	- -	UNKNOWN	17.96	1000.	J	
22.	- -	UNKNOWN Chlorinated Compound	18.11	900.	J	
23.	- -	UNKNOWN HYDROCARBON	19.63	700.	J	
24.	- -	UNKNOWN	20.18	1000.	J	
25.	- -	UNKNOWN (MW=384)	30.54	20000.	J	
26.						
27.						
28.						
29.						
30.						

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FB

Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005229

Sample wt/vol: 790.0 (g/mL) G Lab File ID: E3076

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 0. dec. 0. Date Extracted: 5/17/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 5/30/90

GPC Cleanup: (Y/N) N pH: 4.0 Dilution Factor: 1.00

7003

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	PHENOL	13.	U
111-44-4	BIS(2-CHLOROETHYL)ETHER	13.	U
95-57-8	2-CHLOROPHENOL	13.	U
541-73-1	1,3-DICHLOROBENZENE	13.	U
106-46-7	1,4-DICHLOROBENZENE	13.	U
100-51-6	BENZYL ALCOHOL	13.	U
95-50-1	1,2-DICHLOROBENZENE	13.	U
95-48-7	2-METHYLPHENOL	13.	U
108-60-1	BIS(2-CHLOROISOPROPYL)ETHER	13.	U
106-44-5	4-METHYLPHENOL	13.	U
621-64-7	N-NITROSO-DI-n-PROPYLAMINE	13.	U
67-72-1	HEXACHLOROETHANE	13.	U
98-95-3	NITROBENZENE	13.	U
78-59-1	ISOPHORONE	13.	U
88-75-5	2-NITROPHENOL	13.	U
105-67-9	2,4-DIMETHYLPHENOL	13.	U
65-85-0	BENZOIC ACID	63.	U
111-91-1	BIS(2-CHLOROETHOXY)METHANE	13.	U
120-83-2	2,4-DICHLOROPHENOL	13.	U
120-82-1	1,2,4-TRICHLOROBENZENE	13.	U
91-20-3	NAPHTHALENE	13.	U
106-47-8	4-CHLOROANILINE	13.	U
87-68-3	HEXACHLOROBUTADIENE	13.	U
59-50-7	4-CHLORO-3-METHYLPHENOL	13.	U
91-57-6	2-METHYLNAPHTHALENE	13.	U
77-47-4	HEXACHLOROCYCLOPENTADIENE	13.	U
88-06-2	2,4,6-TRICHLOROPHENOL	13.	U
95-95-4	2,4,5-TRICHLOROPHENOL	63.	U
91-58-7	2-CHLORONAPHTHALENE	13.	U
88-74-4	2-NITROANILINE	63.	U
131-11-3	DIMETHYLPHTHALATE	13.	U
208-96-8	ACENAPHTHYLENE	13.	U
606-20-2	2,6-DINITROTOLUENE	13.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FB

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005229

Sample wt/vol: 790.0 (g/mL) G Lab File ID: E3076

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 0. dec. 0. Date Extracted: 5/17/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 5/30/90

GPC Cleanup: (Y/N) N pH: 4.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-NITROANILINE	63.	U
83-32-9	ACENAPHTHENE	13.	U
51-28-5	2,4-DINITROPHENOL	63.	U
100-02-7	4-NITROPHENOL	63.	U
132-64-9	DIBENZOFURAN	13.	U
121-14-2	2,4-DINITROTOLUENE	13.	U
84-66-2	DIETHYLPHTHALATE	13.	U
7005-72-3	4-CHLOROPHENYL-PHENYLETHER	13.	U
86-73-7	FLUORENE	13.	U
100-01-6	4-NITROANILINE	63.	U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	63.	U
86-30-6	N-NITROSODIPHENYLAMINE (1)	13.	U
101-55-3	4-BROMOPHENYL-PHENYLETHER	13.	U
118-74-1	HEXACHLOROBENZENE	13.	U
87-86-5	PENTACHLOROPHENOL	63.	U
85-01-8	PHENANTHRENE	13.	U
120-12-7	ANTHRACENE	13.	U
84-74-2	DI-n-BUTYLPHTHALATE	13.	U
206-44-0	FLUORANTHENE	13.	U
129-00-0	PYRENE	13.	U
85-68-7	BUTYLBENZYLPHTHALATE	8.	BJ
91-94-1	3,3'-DICHLOROBENZIDINE	25.	U
56-55-3	BENZO(A)ANTHRACENE	13.	U
218-01-9	CHRYSENE	13.	U
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	7.	J
117-84-0	DI-n-OCTYLPHTHALATE	13.	U
205-99-2	BENZO(B)FLUORANTHENE	13.	U
207-08-9	BENZO(K)FLUORANTHENE	13.	U
50-32-8	BENZO(A)PYRENE	13.	U
193-39-5	INDENO(1,2,3-CD)PYRENE	13.	U
53-70-3	DIBENZ(A,H)ANTHRACENE	13.	U
191-24-2	BENZO(G,H,I)PERYLENE	13.	U

(1) - Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FB

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

7003

Matrix: (soil/water) SOIL Lab Sample ID: 9005229

Sample wt/vol: 790.0 (g/mL) G Lab File ID: E3076

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 0. dec. 0. Date Extracted: 5/17/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 5/30/90

GPC Cleanup: (Y/N) N pH: 4.0 Dilution Factor: 1.00

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	5.45	5.	J A
2.	- -	UNKNOWN PHTHALATE	26.80	10.	BJ
3.	- -	UNKNOWN	27.97	10.	J
4.	- -	UNKNOWN PHTHALATE	33.53	6.	J
5.					
6.					
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK17

Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

7003

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

Sample wt/vol: 1020.0 (g/mL) G Lab File ID: B3014

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. dec. 0. Date Extracted: 5/17/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 5/31/90

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	PHENOL	10.	U
111-44-4	BIS(2-CHLOROETHYL)ETHER	10.	U
95-57-8	2-CHLOROPHENOL	10.	U
541-73-1	1,3-DICHLOROBENZENE	10.	U
106-46-7	1,4-DICHLOROBENZENE	10.	U
100-51-6	BENZYL ALCOHOL	10.	U
95-50-1	1,2-DICHLOROBENZENE	10.	U
95-48-7	2-METHYLPHENOL	10.	U
108-60-1	BIS(2-CHLOROISOPROPYL)ETHER	10.	U
106-44-5	4-METHYLPHENOL	10.	U
621-64-7	N-NITROSO-DI-n-PROPYLAMINE	10.	U
67-72-1	HEXACHLOROETHANE	10.	U
98-95-3	NITROBENZENE	10.	U
78-59-1	ISOPHORONE	10.	U
88-75-5	2-NITROPHENOL	10.	U
105-67-9	2,4-DIMETHYLPHENOL	10.	U
65-85-0	BENZOIC ACID	49.	U
111-91-1	BIS(2-CHLOROETHOXY)METHANE	10.	U
120-83-2	2,4-DICHLOROPHENOL	10.	U
120-82-1	1,2,4-TRICHLOROBENZENE	10.	U
91-20-3	NAPHTHALENE	10.	U
106-47-8	4-CHLOROANILINE	10.	U
87-68-3	HEXACHLOROBUTADIENE	10.	U
59-50-7	4-CHLORO-3-METHYLPHENOL	10.	U
91-57-6	2-METHYLNAPHTHALENE	10.	U
77-47-4	HEXACHLOROCYCLOPENTADIENE	10.	U
88-06-2	2,4,6-TRICHLOROPHENOL	10.	U
95-95-4	2,4,5-TRICHLOROPHENOL	49.	U
91-58-7	2-CHLORONAPHTHALENE	10.	U
88-74-4	2-NITROANILINE	49.	U
131-11-3	DIMETHYLPHTHALATE	10.	U
208-96-8	ACENAPHTHYLENE	10.	U
606-20-2	2,6-DINITROTOLUENE	10.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK17

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

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

Sample wt/vol: 1020.0 (g/mL) G Lab File ID: B3014

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. dec. 0. Date Extracted: 5/17/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 5/31/90

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-NITROANILINE	49.	U
83-32-9	ACENAPHTHENE	10.	U
51-28-5	2,4-DINITROPHENOL	49.	U
100-02-7	4-NITROPHENOL	49.	U
132-64-9	DIBENZOFURAN	10.	U
121-14-2	2,4-DINITROTOLUENE	10.	U
84-66-2	DIETHYLPHTHALATE	10.	U
7005-72-3	4-CHLOROPHENYL-PHENYLETHER	10.	U
86-73-7	FLUORENE	10.	U
100-01-6	4-NITROANILINE	49.	U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	49.	U
86-30-6	N-NITROSODIPHENYLAMINE (1)	10.	U
101-55-3	4-BROMOPHENYL-PHENYLETHER	10.	U
118-74-1	HEXACHLOROBENZENE	10.	U
87-86-5	PENTACHLOROPHENOL	49.	U
85-01-8	PHENANTHRENE	10.	U
120-12-7	ANTHRACENE	10.	U
84-74-2	DI-n-BUTYLPHTHALATE	10.	U
206-44-0	FLUORANTHENE	10.	U
129-00-0	PYRENE	10.	U
85-68-7	BUTYLBENZYLPHTHALATE	3.	J
91-94-1	3,3'-DICHLOROBENZIDINE	20.	U
56-55-3	BENZO(A)ANTHRACENE	10.	U
218-01-9	CHRYSENE	10.	U
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	10.	U
117-84-0	DI-n-OCTYLPHTHALATE	10.	U
205-99-2	BENZO(B)FLUORANTHENE	10.	U
207-08-9	BENZO(K)FLUORANTHENE	10.	U
50-32-8	BENZO(A)PYRENE	10.	U
193-39-5	INDENO(1,2,3-CD)PYRENE	10.	U
53-70-3	DIBENZ(A,H)ANTHRACENE	10.	U
191-24-2	BENZO(G,H,I)PERYLENE	10.	U

(1) - Cannot be separated from diphenylamine

7003

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK17

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

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

Sample wt/vol: 1020.0 (g/mL) G Lab File ID: B3014

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. dec. 0. Date Extracted: 5/17/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 5/31/90

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.00

Number TICs found: 1

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN PHTHALATE	26.85	5.	J
2.					
3.					
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK25

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

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

Sample wt/vol: 30.3 (g/mL) G Lab File ID: B3013

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/30/90

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	PHENOL	330.	U
111-44-4	BIS(2-CHLOROETHYL)ETHER	330.	U
95-57-8	2-CHLOROPHENOL	330.	U
541-73-1	1,3-DICHLOROBENZENE	330.	U
106-46-7	1,4-DICHLOROBENZENE	330.	U
100-51-6	BENZYL ALCOHOL	330.	U
95-50-1	1,2-DICHLOROBENZENE	330.	U
95-48-7	2-METHYLPHENOL	330.	U
108-60-1	BIS(2-CHLOROISOPROPYL)ETHER	330.	U
106-44-5	4-METHYLPHENOL	330.	U
621-64-7	N-NITROSO-DI-n-PROPYLAMINE	330.	U
67-72-1	HEXACHLOROETHANE	330.	U
98-95-3	NITROBENZENE	330.	U
78-59-1	ISOPHORONE	330.	U
88-75-5	2-NITROPHENOL	330.	U
105-67-9	2,4-DIMETHYLPHENOL	330.	U
65-85-0	BENZOIC ACID	1700.	U
111-91-1	BIS(2-CHLOROETHOXY)METHANE	330.	U
120-83-2	2,4-DICHLOROPHENOL	330.	U
120-82-1	1,2,4-TRICHLOROBENZENE	330.	U
91-20-3	NAPHTHALENE	330.	U
106-47-8	4-CHLOROANILINE	330.	U
87-68-3	HEXACHLOROBUTADIENE	330.	U
59-50-7	4-CHLORO-3-METHYLPHENOL	330.	U
91-57-6	2-METHYLNAPHTHALENE	330.	U
77-47-4	HEXACHLOROCYCLOPENTADIENE	330.	U
88-06-2	2,4,6-TRICHLOROPHENOL	330.	U
95-95-4	2,4,5-TRICHLOROPHENOL	1700.	U
91-58-7	2-CHLORONAPHTHALENE	330.	U
88-74-4	2-NITROANILINE	1700.	U
131-11-3	DIMETHYLPHTHALATE	330.	U
208-96-8	ACENAPHTHYLENE	330.	U
606-20-2	2,6-DINITROTOLUENE	330.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK25

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

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

Sample wt/vol: 30.3 (g/mL) G Lab File ID: B3013

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/30/90

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-NITROANILINE	1700.	U
83-32-9	ACENAPHTHENE	330.	U
51-28-5	2,4-DINITROPHENOL	1700.	U
100-02-7	4-NITROPHENOL	1700.	U
132-64-9	DIBENZOFURAN	330.	U
121-14-2	2,4-DINITROTOLUENE	330.	U
84-66-2	DIETHYLPHTHALATE	330.	U
7005-72-3	4-CHLOROPHENYL-PHENYLETHER	330.	U
86-73-7	FLUORENE	330.	U
100-01-6	4-NITROANILINE	1700.	U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	1700.	U
86-30-6	N-NITROSODIPHENYLAMINE (1)	330.	U
101-55-3	4-BROMOPHENYL-PHENYLETHER	330.	U
118-74-1	HEXACHLOROBENZENE	330.	U
87-86-5	PENTACHLOROPHENOL	1700.	U
85-01-8	PHENANTHRENE	330.	U
120-12-7	ANTHRACENE	330.	U
84-74-2	DI-n-BUTYLPHTHALATE	330.	U
206-44-0	FLUORANTHENE	330.	U
129-00-0	PYRENE	330.	U
85-68-7	BUTYLBENZYLPHTHALATE	330.	U
91-94-1	3,3'-DICHLOROBENZIDINE	660.	U
56-55-3	BENZO(A)ANTHRACENE	330.	U
218-01-9	CHRYSENE	330.	U
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	330.	U
117-84-0	DI-n-OCTYLPHTHALATE	330.	U
205-99-2	BENZO(B)FLUORANTHENE	330.	U
207-08-9	BENZO(K)FLUORANTHENE	330.	U
50-32-8	BENZO(A)PYRENE	330.	U
193-39-5	INDENO(1,2,3-CD)PYRENE	330.	U
53-70-3	DIBENZ(A,H)ANTHRACENE	330.	U
191-24-2	BENZO(G,H,I)PERYLENE	330.	U

(1) - Cannot be separated from diphenylamine

7003

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: SBLK25

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

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

Sample wt/vol: 30.3 (g/mL) G Lab File ID: B3013

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/30/90

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 1.00

Number TICs found: 7 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

7003

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
1.	141-79-7	3-Penten-2-one, 4-methyl- (8	4.51	400.	J	
2.	- -	UNKNOWN	5.02	2000.	J	
3.	- -	UNKNOWN	5.21	200.	J	
4.	123-42-2	2-Pentanone, 4-Hydroxy-4-met	5.73	30000.	J	A
5.	- -	UNKNOWN	7.06	300.	J	
6.	- -	UNKNOWN	7.70	300.	J	
7.	- -	UNKNOWN	9.75	300.	J	
8.						
9.						
10.						
11.						
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CS-D MS

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005228MS

Sample wt/vol: 30.9 (g/mL) G Lab File ID: E3083

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 18. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/30/90

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.00

7003

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	PHENOL		
111-44-4	BIS(2-CHLOROETHYL)ETHER	390.	U
95-57-8	2-CHLOROPHENOL		
541-73-1	1,3-DICHLOROBENZENE	390.	U
106-46-7	1,4-DICHLOROBENZENE		
100-51-6	BENZYL ALCOHOL	390.	U
95-50-1	1,2-DICHLOROBENZENE	390.	U
95-48-7	2-METHYLPHENOL	390.	U
108-60-1	BIS(2-CHLOROISOPROPYL)ETHER	390.	U
106-44-5	4-METHYLPHENOL	390.	U
621-64-7	N-NITROSO-DI-n-PROPYLAMINE		
67-72-1	HEXACHLOROETHANE	390.	U
98-95-3	NITROBENZENE	390.	U
78-59-1	ISOPHORONE	390.	U
88-75-5	2-NITROPHENOL	390.	U
105-67-9	2,4-DIMETHYLPHENOL	390.	U
65-85-0	BENZOIC ACID	2000.	U
111-91-1	BIS(2-CHLOROETHOXY)METHANE	390.	U
120-83-2	2,4-DICHLOROPHENOL	390.	U
120-82-1	1,2,4-TRICHLOROBENZENE		
91-20-3	NAPHTHALENE	110.	J
106-47-8	4-CHLOROANILINE	390.	U
87-68-3	HEXACHLOROBUTADIENE	390.	U
59-50-7	4-CHLORO-3-METHYLPHENOL		
91-57-6	2-METHYLNAPHTHALENE	71.	J
77-47-4	HEXACHLOROCYCLOPENTADIENE	390.	U
88-06-2	2,4,6-TRICHLOROPHENOL	390.	U
95-95-4	2,4,5-TRICHLOROPHENOL	350.	J
91-58-7	2-CHLORONAPHTHALENE	390.	U
88-74-4	2-NITROANILINE	2000.	U
131-11-3	DIMETHYLPHTHALATE	390.	U
208-96-8	ACENAPHTHYLENE	77.	J
606-20-2	2,6-DINITROTOLUENE	390.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CS-D MS

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005228MS

Sample wt/vol: 30.9 (g/mL) G Lab File ID: E3083

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 18. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/30/90

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-NITROANILINE	2000.	U
83-32-9	ACENAPHTHENE		
51-28-5	2,4-DINITROPHENOL	2000.	U
100-02-7	4-NITROPHENOL		
132-64-9	DIBENZOFURAN	140.	J
121-14-2	2,4-DINITROTOLUENE		
84-66-2	DIETHYLPHTHALATE	390.	U
7005-72-3	4-CHLOROPHENYL-PHENYLETHER	390.	U
86-73-7	FLUORENE	270.	J
100-01-6	4-NITROANILINE	2000.	U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	2000.	U
86-30-6	N-NITROSODIPHENYLAMINE (1)	390.	U
101-55-3	4-BROMOPHENYL-PHENYLETHER	390.	U
118-74-1	HEXACHLOROBENZENE	390.	U
87-86-5	PENTACHLOROPHENOL		
85-01-8	PHENANTHRENE	3200.	
120-12-7	ANTHRACENE	740.	
84-74-2	DI-n-BUTYLPHTHALATE	390.	U
206-44-0	FLUORANTHENE	3800.	
129-00-0	PYRENE		
85-68-7	BUTYLBENZYLPHTHALATE	390.	U
91-94-1	3,3'-DICHLOROBENZIDINE	790.	U
56-55-3	BENZO(A)ANTHRACENE	2400.	
218-01-9	CHRYSENE	2500.	
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	390.	U
117-84-0	DI-n-OCTYLPHTHALATE	390.	U
205-99-2	BENZO(B)FLUORANTHENE	1900.	
207-08-9	BENZO(K)FLUORANTHENE	1700.	
50-32-8	BENZO(A)PYRENE	2000.	
193-39-5	INDENO(1,2,3-CD)PYRENE	1100.	
53-70-3	DIBENZ(A,H)ANTHRACENE	260.	J
191-24-2	BENZO(G,H,I)PERYLENE	1200.	

(1) - Cannot be separated from diphenylamine

7003

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CS-D MSD

Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005228MSD

Sample wt/vol: 30.4 (g/mL) G Lab File ID: E3085

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 18. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/31/90

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.00

7003

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	PHENOL		
111-44-4	BIS(2-CHLOROETHYL)ETHER	400.	U
95-57-8	2-CHLOROPHENOL		
541-73-1	1,3-DICHLOROBENZENE	400.	U
106-46-7	1,4-DICHLOROBENZENE		
100-51-6	BENZYL ALCOHOL	400.	U
95-50-1	1,2-DICHLOROBENZENE	400.	U
95-48-7	2-METHYLPHENOL	400.	U
108-60-1	BIS(2-CHLOROISOPROPYL)ETHER	400.	U
106-44-5	4-METHYLPHENOL	400.	U
621-64-7	N-NITROSO-DI-n-PROPYLAMINE		
67-72-1	HEXACHLOROETHANE	400.	U
98-95-3	NITROBENZENE	400.	U
78-59-1	ISOPHORONE	400.	U
88-75-5	2-NITROPHENOL	400.	U
105-67-9	2,4-DIMETHYLPHENOL	400.	U
65-85-0	BENZOIC ACID	2000.	U
111-91-1	BIS(2-CHLOROETHOXY)METHANE	400.	U
120-83-2	2,4-DICHLOROPHENOL	400.	U
120-82-1	1,2,4-TRICHLOROBENZENE		
91-20-3	NAPHTHALENE	100.	J
106-47-8	4-CHLOROANILINE	400.	U
87-68-3	HEXACHLOROBUTADIENE	400.	U
59-50-7	4-CHLORO-3-METHYLPHENOL		
91-57-6	2-METHYLNAPHTHALENE	64.	J
77-47-4	HEXACHLOROCYCLOPENTADIENE	400.	U
88-06-2	2,4,6-TRICHLOROPHENOL	400.	U
95-95-4	2,4,5-TRICHLOROPHENOL	430.	J
91-58-7	2-CHLORONAPHTHALENE	400.	U
88-74-4	2-NITROANILINE	2000.	U
131-11-3	DIMETHYLPHTHALATE	400.	U
208-96-8	ACENAPHTHYLENE	84.	J
606-20-2	2,6-DINITROTOLUENE	400.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CS-D MSD

7003

Lab Name: University Hygienic Lab Contract:

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9005228MSD

Sample wt/vol: 30.4 (g/mL) G Lab File ID: E3085

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 18. dec. 0. Date Extracted: 5/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/31/90

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-NITROANILINE	2000.	U
83-32-9	ACENAPHTHENE		
51-28-5	2,4-DINITROPHENOL	2000.	U
100-02-7	4-NITROPHENOL		
132-64-9	DIBENZOFURAN	120.	J
121-14-2	2,4-DINITROTOLUENE		
84-66-2	DIETHYLPHTHALATE	400.	U
7005-72-3	4-CHLOROPHENYL-PHENYLETHER	400.	U
86-73-7	FLUORENE	200.	J
100-01-6	4-NITROANILINE	2000.	U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	2000.	U
86-30-6	N-NITROSODIPHENYLAMINE (1)	400.	U
101-55-3	4-BROMOPHENYL-PHENYLETHER	400.	U
118-74-1	HEXACHLOROBENZENE	400.	U
87-86-5	PENTACHLOROPHENOL		
85-01-8	PHENANTHRENE	2600.	
120-12-7	ANTHRACENE	640.	
84-74-2	DI-n-BUTYLPHTHALATE	400.	U
206-44-0	FLUORANTHENE	3500.	
129-00-0	PYRENE		
85-68-7	BUTYLBENZYLPHTHALATE	400.	U
91-94-1	3,3'-DICHLOROBENZIDINE	800.	U
56-55-3	BENZO(A)ANTHRACENE	1700.	
218-01-9	CHRYSENE	2300.	
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	400.	U
117-84-0	DI-n-OCTYLPHTHALATE	400.	U
205-99-2	BENZO(B)FLUORANTHENE	1200.	
207-08-9	BENZO(K)FLUORANTHENE	2700.	
50-32-8	BENZO(A)PYRENE	3700.	
193-39-5	INDENO(1,2,3-CD)PYRENE	1200.	
53-70-3	DIBENZ(A,H)ANTHRACENE	270.	J
191-24-2	BENZO(G,H,I)PERYLENE	1100.	

(1) - Cannot be separated from diphenylamine

OC

WATER PESTICIDE SURROGATE RECOVERY

Lab Name: IOWA Contract: 68-W8-0011

Lab Code: IOWA Case No.: SAS No.: SDG No.:

	EPA SAMPLE NO.	S1 (DBC)#	OTHER
1	PBLKA	74	
2	FBLK	68	
3			
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ADVISORY QC LIMITS

S1 (DBC) = Dibutyl Chlorendate (20-150)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

SF

SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: IOWA Contract: 68-W8-0011

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (DBC)#	OTHER
1	PBLKC	70	
2	DT-1	85	
3	CS-C	141	
4	CS-C MS	116	
5	CS-C MSD	69	
6			
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ADVISORY QC LIMITS

S1 (DBC) = Dibutyl Chlorendate (24-154)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: IOWA Contract: 68-W8-0011

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Level:(low/med) MED

	EPA SAMPLE NO.	S1 (DBC)#	OTHER
1	PBLKB	45	
2	CS-A	39	
3	CS-A MS	35	
4	CS-A MSD	45	
5	CS-B	41	
6	CS-BX	47	
7	CC-D	39	
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ADVISORY QC LIMITS

S1 (DBC) = Dibutyl Chlorendate___ (24-154)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

3F

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: IOWA Contract: 68-W8-0011

Lab Code: IOWA Case No.: SAS No.: SDG No.:

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

COMPOUND	SPIKE ADDED (UG/KG)	SAMPLE CONCENTRATION (UG/KG)	MS CONCENTRATION (UG/KG)	MS % REC #	QC LIMITS REC.
gamma-BHC	59.13	.00	17.37	29 *	46-127
Heptachlor	59.13	490.11	493.83	6 *	35-130
Aldrin	59.13	857.57	839.78	0 *	34-132
Dieldrin	147.82	147.63	212.26	44	31-134
Endrin	147.82	.00	116.05	79	42-139
4,4'-DDT	147.82	.00	217.28	147 *	23-134

COMPOUND	SPIKE ADDED (UG/KG)	MSD CONCENTRATION (UG/KG)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC	62.62	40.10	64	74 *	50	46-127
Heptachlor	62.62	1127.22	1017 *	198 *	31	35-130
Aldrin	62.62	1427.47	910 *	214 *	43	34-132
Dieldrin	156.54	317.71	109	85 *	38	31-134
Endrin	156.54	119.08	76	3	45	42-139
4,4'-DDT	156.54	204.38	131	12	50	23-134

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

* Values outside of QC limits

RPD: 4 out of 6 outside limits
Spike Recovery: 6 out of 12 outside limits

COMMENTS:

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: IOWA Contract: 68-W8-0011

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Matrix Spike - EPA Sample No.: SS-A Level (low/med) MED

COMPOUND	SPIKE ADDED (UG/KG)	SAMPLE CONCENTRATION (UG/KG)	MS CONCENTRATION (UG/KG)	MS % REC #	QC LIMITS REC.
gamma-BHC	2237.64	.00	1722.73	77	46-127
Heptachlor	2237.64	3493.46	5034.18	69	35-130
Aldrin	2237.64	2206.41	3079.57	39	34-132
Dieldrin	5594.09	.00	4597.25	82	31-134
Endrin	5594.09	.00	5157.06	92	42-139
4,4'-DDT	5594.09	.00	3511.72	63	23-134

COMPOUND	SPIKE ADDED (UG/KG)	MSD CONCENTRATION (UG/KG)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC	2279.46	1825.37	80	4	50	46-127
Heptachlor	2279.46	4002.18	22 *	102 *	31	35-130
Aldrin	2279.46	3126.46	40	3	43	34-132
Dieldrin	5698.65	4781.83	84	2	38	31-134
Endrin	5698.65	5241.12	92	0	45	42-139
4,4'-DDT	5698.65	3761.83	66	5	50	23-134

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

* Values outside of QC limits

RPD: 1 out of 6 outside limits
Spike Recovery: 1 out of 12 outside limits

COMMENTS:

PESTICIDE METHOD BLANK SUMMARY

Lab Name: IOWA Contract: 68-W8-0011

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Lab Sample ID: Lab File ID: PBLKA02

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

Date Extracted: 5/17/90 Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed (1): 5/30/90 Date Analyzed (2): 5/30/90

Time Analyzed (1): 22:09 Time Analyzed (2): 21:34

Instrument ID (1): 5890#3 Instrument ID (2): 5890#3

GC Column ID (1): DB-608 GC Column ID (2): DB-1701

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
1	FBLK		5/30/90	5/30/90
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Comments:

IC

PESTICIDE METHOD BLANK SUMMARY

Lab Name: IOWA Contract: 68-W8-0011

Lab Code: IOWA Case No.: SAS No.: SDG No.:

Lab Sample ID: Lab File ID: PBLKC02

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

Date Extracted. 5/17/90 Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed (1): 5/31/90 Date Analyzed (2): 5/31/90

Time Analyzed (1): 4:03 Time Analyzed (2): 3:28

Instrument ID (1): 5890#3 Instrument ID (2): 5890#3

GC Column ID (1): DB-608 GC Column ID (2): DB-1701

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
1	DT-1		5/31/90	5/31/90
2	CS-C		5/31/90	5/31/90
3	CS-C MS		5/31/90	5/31/90
4	CS-C MSD		5/31/90	5/31/90
5				
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Comments:

PESTICIDE METHOD BLANK SUMMARY

Lab Name: IONA Contract: 68-W8-0011

Lab Code: IONA Case No.: SAS No.: SDG No.:

Lab Sample ID: Lab File ID: PBLKB02

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

Date Extracted: 5/21/90 Extraction: (SepF/Cont/Sonc) SON

Date Analyzed (1): 5/30/90 Date Analyzed (2): 5/30/90

Time Analyzed (1): 23:20 Time Analyzed (2): 22:45

Instrument ID (1): 5890#3 Instrument ID (2): 5890#3

GC Column ID (1): DB-608 GC Column ID (2): DB-1701

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
1	CS-A		5/30/90	5/30/90
2	CS-A MS		5/31/90	5/30/90
3	CS-A MSD		5/31/90	5/31/90
4	CS-B		5/31/90	5/31/90
5	CS-CX		5/31/90	5/31/90
6	CS-D		5/31/90	5/31/90
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Comments:

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DT-1

Lab Name: IOWA Contract: 68-W8-0011

Lab Code: IOWA Case No.: SAS No.: SDG No.:

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

Sample wt/vol: 31. (g/mL) G Lab File ID: 522402

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 24. dec. 0. Date Extracted: 5/17/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/31/90

GPC Cleanup: (Y/N) Y pH: 7.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	21.	U
319-85-7	beta-BHC	21.	U
319-86-8	delta-BHC	21.	U
58-89-9	gamma-BHC	21.	U
76-44-8	Heptachlor	21	U
309-00-2	Aldrin	21.	U
1024-57-3	Heptachlor epoxide	21	U
959-98-8	Endosulfan I	21.	U
60-57-1	Dieldrin	41.	U
72-55-9	4,4'-DDE	41.	U
72-20-8	Endrin	41.	U
33213-65-9	Endosulfan II	41.	U
72-54-8	4,4'-DDD	41	U
1031-07-8	Endosulfan sulfate	41	U
50-29-3	4,4'-DDT	41.	U
72-43-5	Methoxychlor	210.	U
53494-70-5	Endrin ketone	41.	U
5103-71-9	alpha-Chlordane	210.	U
5103-74-2	gamma-Chlordane	210.	U
8001-35-2	Toxaphene	410.	U
12674-11-2	Aroclor-1016	210	U
11104-28-2	Aroclor-1221	210.	U
11141-16-5	Aroclor-1232	210.	U
53469-21-9	Aroclor-1242	210.	U
12672-29-6	Aroclor-1248	210.	U
11097-69-1	Aroclor-1254	410.	U
11096-82-5	Aroclor-1260	410.	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CC-A

Lab Name: IOWA Contract: 68-W8-0011

Lab Code: IOWA Case No.: SAS No.: SDG No.:

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

Sample wt/vol: 1. (g/mL) G Lab File ID: S22502

Level: (low/med) MED Date Received: 5/14/90

% Moisture: not dec. 18. dec. 0. Date Extracted: 5/21/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/30/90

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 10.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1400.	U
319-85-7	beta-BHC	1400.	U
319-86-8	delta-BHC	1400.	U
58-89-9	gamma-BHC	1400.	U
76-44-8	Heptachlor	3500.	
309-00-2	Aldrin	2200.	
1024-57-3	Heptachlor epoxide	1400.	U
959-98-8	Endosulfan I	1400.	U
60-57-1	Dieldrin	2900.	U
72-55-9	4,4'-DDE	2900.	U
72-20-8	Endrin	2900.	U
33213-65-9	Endosulfan II	2900.	U
72-54-8	4,4'-DDD	2900.	U
1031-07-8	Endosulfan sulfate	2900.	U
50-29-3	4,4'-DDT	2900.	U
72-43-5	Methoxychlor	14000.	U
53494-70-5	Endrin ketone	2900.	U
5103-71-9	alpha-Chlordane	14000.	U
5103-74-2	gamma-Chlordane	14000.	U
8001-35-2	Toxaphene	29000.	U
12674-11-2	Aroclor-1016	14000.	U
11104-28-2	Aroclor-1221	14000.	U
11141-16-5	Aroclor-1232	14000.	U
53469-21-9	Aroclor-1242	14000.	U
12672-29-6	Aroclor-1248	14000.	U
11097-69-1	Aroclor-1254	29000.	U
11096-82-5	Aroclor-1260	29000.	U

1F

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DD-3

Lab Name: IOWA Contract: 68-W8-0011

Lab Code: IOWA Case No.: SAS No.: SDG No.:

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

Sample wt/vol: 1. (g/mL) G Lab File ID: DDDIDD

Level: (low/med) MED Date Received: 5/14/90

% Moisture: not dec. 10. dec. 0. Date Extracted: 5/21/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/31/90

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 10.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1900.	U
319-85-7	beta-BHC	1900.	U
319-86-8	delta-BHC	1900.	U
58-89-9	gamma-BHC	1900.	U
76-44-8	Heptachlor	11000.	
309-00-2	Aldrin	4000.	
1024-57-3	Heptachlor epoxide	1900.	U
959-98-8	Endosulfan I	1900.	U
60-57-1	Dieldrin	3900.	U
72-55-9	4,4'-DDE	3900.	U
72-20-8	Endrin	3900.	U
33213-65-9	Endosulfan II	3900.	U
72-54-8	4,4'-DDD	3900.	U
1031-07-8	Endosulfan sulfate	3900.	U
50-29-3	4,4'-DDT	3900.	U
72-43-5	Methoxychlor	19000.	U
53494-70-5	Endrin ketone	3900	U
5103-71-9	alpha-Chlordane	19000.	U
5103-74-2	gamma-Chlordane	19000.	U
8001-35-2	Toxaphene	39000.	U
12674-11-2	Aroclor-1016	19000.	U
11104-28-2	Aroclor-1221	19000.	U
11141-16-5	Aroclor-1232	19000.	U
53469-21-9	Aroclor-1242	19000.	U
12672-29-6	Aroclor-1248	19000.	U
11097-69-1	Aroclor-1254	39000.	U
11096-82-5	Aroclor-1260	39000.	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CS-CX

Lab Name: IOWA Contract: 68-W8-0011

Lab Code: IOWA Case No.: SAS No.: SDG No.:

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

Sample wt/vol: 1. (g/mL) G Lab File ID: 522702

Level: (low/med) MED Date Received: 5/14/90

% Moisture: not dec. 17. dec. 0. Date Extracted: 5/21/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/31/90

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 4.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	550.	U
319-85-7	beta-BHC	550.	U
319-86-8	delta-BHC	550.	U
58-89-9	gamma-BHC	550.	U
76-44-8	Heptachlor	1100.	
309-00-2	Aldrin	1300.	
1024-57-3	Heptachlor epoxide	550.	U
959-98-8	Endosulfan I	550.	U
60-57-1	Dieldrin	1100.	U
72-55-9	4,4'-DDE	1100.	U
72-20-8	Endrin	1100.	U
33213-65-9	Endosulfan II	1100.	U
72-54-8	4,4'-DDD	1100.	U
1031-07-8	Endosulfan sulfate	1100.	U
50-29-3	4,4'-DDT	1100.	U
72-43-5	Methoxychlor	5500.	U
53494-70-5	Endrin ketone	1100.	U
5103-71-9	alpha-Chlordane	2200.	J
5103-74-2	gamma-Chlordane	2700.	J
8001-35-2	Toxaphene	11000.	U
12674-11-2	Aroclor-1016	5500.	U
11104-28-2	Aroclor-1221	5500.	U
11141-16-5	Aroclor-1232	5500.	U
53469-21-9	Aroclor-1242	5500.	U
12672-29-6	Aroclor-1248	5500.	U
11097-69-1	Aroclor-1254	11000.	U
11096-82-5	Aroclor-1260	11000.	U

PESTICIDE ORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

DG-D

Lab Name: IOWA Contract: 68-W8-0011

Lab Code: IOWA Case No.: SAS No.: SDG No.:

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

Sample wt/vol: 1. (g/mL) G Lab File ID: [illegible]

Level: (low/med) MED Date Received: 5/14/90

% Moisture: not dec. 18. dec. 0. Date Extracted: 5/21/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/21/90

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	670.	U
319-85-7	beta-BHC	670.	U
319-86-8	delta-BHC	670.	U
58-89-9	gamma-BHC	670.	U
76-44-8	Heptachlor	700.	
309-00-2	Aldrin	1000.	
1024-57-3	Heptachlor epoxide	670.	U
959-98-8	Endosulfan I	670.	U
60-57-1	Dieldrin	1300.	U
72-55-9	4,4'-DDE	1300.	U
72-20-8	Endrin	1300.	U
33213-65-9	Endosulfan II	1300.	U
72-54-8	4,4'-DDD	1300.	U
1031-07-8	Endosulfan sulfate	1300.	U
50-29-3	4,4'-DDT	1300.	U
72-43-5	Methoxychlor	6700.	U
53494-70-5	Endrin ketone	1300.	U
5103-71-9	alpha-Chlordane	6700.	U
5103-74-2	gamma-Chlordane	6700.	U
8001-35-2	Toxaphene	13000.	U
12674-11-2	Aroclor-1016	6700.	U
11104-28-2	Aroclor-1221	6700.	U
11141-16-5	Aroclor-1232	6700.	U
53469-21-9	Aroclor-1242	6700.	U
12672-29-6	Aroclor-1248	6700.	U
11097-69-1	Aroclor-1254	13000.	U
11096-82-5	Aroclor-1260	13000.	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FSLK

Lab Name: IOWA Contract: 68-W8-0011

Lab Code: IOWA Case No.: SAS No.: SDG No.:

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

Sample wt/vol: 800. (g/mL)ML Lab File ID: S2C902

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec.100. dec. 0 Date Extracted: 5/17/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 5/30/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	.062	U
319-85-7	beta-BHC	.062	U
319-86-8	delta-BHC	.062	U
58-89-9	gamma-BHC	.062	U
76-44-8	Heptachlor	.062	U
309-00-2	Aldrin	.062	U
1024-57-3	Heptachlor epoxide	.062	U
959-98-8	Endosulfan I	.062	U
60-57-1	Dieldrin	.12	U
72-55-9	4,4'-DDE	.12	U
72-20-8	Endrin	.12	U
33213-65-9	Endosulfan II	.12	U
72-54-8	4,4'-DDD	.12	U
1031-07-8	Endosulfan sulfate	.12	U
50-29-3	4,4'-DDT	.12	U
72-43-5	Methoxychlor	.62	U
53494-70-5	Endrin ketone	.12	U
5103-71-9	alpha-Chlordane	.62	U
5103-74-2	gamma-Chlordane	.62	U
8001-35-2	Toxaphene	1.2	U
12674-11-2	Aroclor-1016	.62	U
11104-28-2	Aroclor-1221	.62	U
11141-16-5	Aroclor-1232	.62	U
53469-21-9	Aroclor-1242	.62	U
12672-29-6	Aroclor-1248	.62	U
11097-69-1	Aroclor-1254	1.2	U
11096-82-5	Aroclor-1260	1.2	U

1C

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PDLNA

Lab Name: ICWA Contract: 68-W8-0011

Lab Code: ICWA Case No.: SAS No.: SDG No.:

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

Sample wt/vol: 1000. (g/mL)ML Lab File ID: PDLKA02

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec.100. dec. 0. Date Extracted: 5/17/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 5/30/90

GPC Cleanup: (Y/N) N pH: .0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	.050	U
319-85-7	beta-BHC	.050	U
319-86-8	delta-BHC	.050	U
58-89-9	gamma-BHC	.050	U
76-44-8	Heptachlor	.050	U
309-00-2	Aldrin	.050	U
1024-57-3	Heptachlor epoxide	.050	U
959-98-8	Endosulfan I	.050	U
60-57-1	Dieldrin	.100	U
72-55-9	4,4'-DDE	.100	U
72-20-8	Endrin	.100	U
33213-65-9	Endosulfan II	.100	U
72-54-8	4,4'-DDD	.100	U
1031-07-8	Endosulfan sulfate	.100	U
50-29-3	4,4'-DDT	.100	U
72-43-5	Methoxychlor	.50	U
53494-70-5	Endrin ketone	.100	U
5103-71-9	alpha-Chlordane	.50	U
5103-74-2	gamma-Chlordane	.50	U
8001-35-2	Toxaphene	1.00	U
12674-11-2	Aroclor-1016	.50	U
11104-28-2	Aroclor-1221	.50	U
11141-16-5	Aroclor-1232	.50	U
53469-21-9	Aroclor-1242	.50	U
12672-29-6	Aroclor-1248	.50	U
11097-69-1	Aroclor-1254	1.00	U
11096-82-5	Aroclor-1260	1.00	U

1E

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FSL13

Lab Name. IOWA Contract. 68-W8-0011

Lab Code: IOWA Case No.: SAS No.. SDG No.:

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

Sample wt/vol: 1. (g/mL) G Lab File ID: F9L013

Level: (low/med) MED Date Received: 0/ 0/ 0

% Moisture: not dec. 0. dec. 0. Date Extracted: 5/21/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/30/91

GPC Cleanup. (Y/N) N pH. 0 Dilution Factor. 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS. (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	120.	U
319-85-7	beta-BHC	120.	U
319-86-8	delta-BHC	120.	U
58-89-9	gamma-BHC	120.	U
76-44-8	Heptachlor	120.	U
309-00-2	Aldrin	120.	U
1024-57-3	Heptachlor epoxide	120.	U
959-98-8	Endosulfan I	120.	U
60-57-1	Dieldrin	230.	U
72-55-9	4,4'-DDE	230.	U
72-20-8	Endrin	230.	U
33213-65-9	Endosulfan II	230.	U
72-54-8	4,4'-DDD	230.	U
1031-07-8	Endosulfan sulfate	230.	U
50-29-3	4,4'-DDT	230.	U
72-43-5	Methoxychlor	1200.	U
53494-70-5	Endrin ketone	230.	U
5103-71-9	alpha-Chlordane	1200.	U
5103-74-2	gamma-Chlordane	1200.	U
8001-35-2	Toxaphene	2300.	U
12674-11-2	Aroclor-1016	1200.	U
11104-28-2	Aroclor-1221	1200.	U
11141-16-5	Aroclor-1232	1200.	U
53469-21-9	Aroclor-1242	1200.	U
12672-29-6	Aroclor-1248	1200.	U
11097-69-1	Aroclor-1254	2300.	U
11096-82-5	Aroclor-1260	2300.	U

PBLKC

Lab Name: TDW Contract: 68-WS-0011

Lab Code: TDW Case No.: SAS No.: SDG No.:

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

Sample wt/vol: 27. (g/mL) G Lab File ID: P3LK03

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. dec. 0 Date Extracted: 5/17/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/31/90

GPC Cleanup: (Y/N) Y pH .0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	18.	U
319-85-7	beta-BHC	18.	U
319-86-8	delta-BHC	18.	U
58-89-9	gamma-BHC	18.	U
76-44-8	Heptachlor	18.	U
309-00-2	Aldrin	18.	U
1024-57-3	Heptachlor epoxide	18.	U
959-98-8	Endosulfan I	18.	U
60-57-1	Dieldrin	35.	U
72-55-9	4,4'-DDE	35.	U
72-20-8	Endrin	35.	U
33213-65-9	Endosulfan II	35.	U
72-54-8	4,4'-DDD	35.	U
1031-07-8	Endosulfan sulfate	35.	U
50-29-3	4,4'-DDT	35.	U
72-43-5	Methoxychlor	180.	U
53494-70-5	Endrin ketone	35.	U
5103-71-9	alpha-Chlordane	180.	U
5103-74-2	gamma-Chlordane	180.	U
8001-35-2	Toxaphene	350.	U
12674-11-2	Aroclor-1016	180.	U
11104-28-2	Aroclor-1221	180.	U
11141-16-5	Aroclor-1232	180.	U
53469-21-9	Aroclor-1242	180.	U
12672-29-6	Aroclor-1248	180.	U
11097-69-1	Aroclor-1254	350.	U
11096-82-5	Aroclor-1260	350.	U

1C

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SS-3 MS

Lab Name: IOWA Contract: 68-WC-0011

Lab Code: IOWA Case No.: SAS No.: SDG No.:

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 5227M0C

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 17. dec. 0. Date Extracted: 5/17/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/31/90

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 10.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	100.	U
319-85-7	beta-BHC	100.	U
319-86-8	delta-BHC	100.	U
58-89-9	gamma-BHC		
76-44-8	Heptachlor		
309-00-2	Aldrin		
1024-57-3	Heptachlor epoxide	100.	U
959-98-8	Endosulfan I	100.	U
60-57-1	Dieldrin		
72-55-9	4,4'-DDE	350.	U
72-20-8	Endrin		
33213-65-9	Endosulfan II	350.	U
72-54-8	4,4'-DDD	350.	U
1031-07-8	Endosulfan sulfate	350.	U
50-29-3	4,4'-DDT		
72-43-5	Methoxychlor	1800.	U
53494-70-5	Endrin ketone	350.	U
5103-71-9	alpha-Chlordane	1100.	J
5103-74-2	gamma-Chlordane	1400.	J
8001-35-2	Toxaphene	3500.	U
12674-11-2	Aroclor-1016	1800.	U
11104-28-2	Aroclor-1221	1800.	U
11141-16-5	Aroclor-1232	1800.	U
53469-21-9	Aroclor-1242	1800.	U
12672-29-6	Aroclor-1248	1800.	U
11097-69-1	Aroclor-1254	3500.	U
11096-82-5	Aroclor-1260	3500.	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DS-A WE

Lab Name: IOWA   Contract: 68-W8-0011

Lab Code: IOWA   Case No.:   SAS No.:   SDG No.:

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

Sample wt/vol: 1. (g/mL) G   Lab File ID: 3025M02

Level: (low/med) MED   Date Received: 5/14/90

% Moisture: not dec. 18.   dec. 0.   Date Extracted: 5/21/90

Extraction: (SepF/Cont/Sonc) SONC   Date Analyzed: 5/31/90

GPC Cleanup: (Y/N) N   pH: 7.4   Dilution Factor: 10.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1300.	U
319-85-7	beta-BHC	1300.	U
319-86-8	delta-BHC	1300.	U
58-89-9	gamma-BHC		
76-44-8	Heptachlor		
309-00-2	Aldrin		
1024-57-3	Heptachlor epoxide	1300.	U
959-98-8	Endosulfan I	1300.	U
60-57-1	Dieldrin		
72-55-9	4,4'-DDE	2700.	U
72-20-8	Endrin		
33213-65-9	Endosulfan II	2700.	U
72-54-8	4,4'-DDD	2700.	U
1031-07-8	Endosulfan sulfate	2700.	U
50-29-3	4,4'-DDT		
72-43-5	Methoxychlor	13000.	U
53494-70-5	Endrin ketone	2700.	U
5103-71-9	alpha-Chlordane	13000	U
5103-74-2	gamma-Chlordane	13000.	U
8001-35-2	Toxaphene	27000	U
12674-11-2	Aroclor-1016	13000.	U
11104-28-2	Aroclor-1221	13000.	U
11141-16-5	Aroclor-1232	13000	U
53469-21-9	Aroclor-1242	13000.	U
12672-29-6	Aroclor-1248	13000.	U
11097-69-1	Aroclor-1254	27000.	U
11096-82-5	Aroclor-1260	27000.	U

1F

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CS-C MSD

Lab Name: IOWA Contract: 68-W8-0011

Lab Code: IOWA Case No.: SAS No.: SDG No.:

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

Sample wt/vol: 31. (g/mL) G Lab File ID: S227D02

Level: (low/med) LOW Date Received: 5/14/90

% Moisture: not dec. 17. dec. 0. Date Extracted: 5/17/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 5/31/90

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 10.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	190.	U
319-85-7	beta-BHC	190.	U
319-86-8	delta-BHC	190.	U
58-89-9	gamma-BHC		
76-44-8	Heptachlor		
309-00-2	Aldrin		
1024-57-3	Heptachlor epoxide	190.	U
959-98-8	Endosulfan I	190.	U
60-57-1	Dieldrin		
72-55-9	4,4'-DDE	380.	U
72-20-8	Endrin		
33213-65-9	Endosulfan II	380.	U
72-54-8	4,4'-DDD	380.	U
1031-07-8	Endosulfan sulfate	380.	U
50-29-3	4,4'-DDT		
72-43-5	Methoxychlor	1900.	U
53494-70-5	Endrin ketone	380.	U
5103-71-9	alpha-Chlordane	2200.	
5103-74-2	gamma-Chlordane	2800.	
8001-35-2	Toxaphene	3800.	U
12674-11-2	Aroclor-1016	1900.	U
11104-28-2	Aroclor-1221	1900.	U
11141-16-5	Aroclor-1232	1900.	U
53469-21-9	Aroclor-1242	1900.	U
12672-29-6	Aroclor-1248	1900.	U
11097-69-1	Aroclor-1254	3300.	U
11096-82-5	Aroclor-1260	3800.	U

SUPPLEMENTAL PESTICIDES DATA PACKAGE

CDAA
PROPACHLOR
VEGEDEX

Hygienic Laboratory

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FAX: (319) 335-4555

H.A. Wallace Building
900 East Grand, Des Moines, IA 50319
Telephone: (515) 281-5371
FAX: (515) 243-1349

Report Results To	Sample Identification: 9005224
ECKENFELDER-DICO	Submitter Reference: SASC-6349
200 SE 16TH ST	Location: DT-1 O"-6"
DES MOINES, IA 50320	Sample Type: SOIL
	Date Collected: 05/10/90
Date Received: 05/14/90	Collected by: CAPUTI JEFFERY R
Date Reported: 07/09/90	

--- In-Progress Results of Analyses ---

Description: INORGANIC CHEMISTRY

Analyte	Concentration	Method	Analyst/ Verifier	Date Analyzed
MERCURY	< 0.2 MG/KG	EPA 245.5	SMM	05/17/90

Description: CONTRACT LABORATORY FOR PESTICIDES AND PCBS

ANALYZED : LOW
COMPLETED : 06/13/90

Date Analyzed: 06/13/90
Method: CLP

Analyst: MDH
Verified: LJ

Description: ANALYSIS FOR MISCELLANEOUS SOIL SAMPLES

Analyte	Concentration MG/KG	Quantitation Limit
ACDAA	60	1
PROPACHLOR	1.4	1
VEGEDEX	<1	1

Date Analyzed: 05/24/90
Method: EPA8141

Analyst: RR
Verified: LJ

Coordinator of analytical services - Lynn Hudachek @ (319) 335-4500

PPM - Parts/Million — MG/L - Milligrams/Liter — MG/KG - Milligrams/Kilogram
PPB - Parts/Billion — uG/L - Micrograms/Liter — uG/KG - Micrograms/Kilogram
< - Less than — > - Greater than — pCi/L - Pico Curies/Liter
Quantitation Limit - Lowest concentration reliably measured

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Telephone: (515) 281-5371
FAX: (515) 243-1349

Report Results To	Sample Identification: 9005225
ECKENFELDER-DICO	Submitter Reference: SASC-6349
200 SE 16TH ST	Location: CS-A 0"-6"
DES MOINES, IA 50320	Sample Type: SOIL
	Date Collected: 05/10/90 00:00:05
Date Received: 05/14/90	Collected by: CAPUTI JEFFERY R
Date Reported: 07/09/90	

--- In-Progress Results of Analyses ---

Description: INORGANIC CHEMISTRY

Analyte	Concentration	Method	Analyst/ Verifier	Date Analyzed
MERCURY	< 0.2 MG/KG	EPA 245.1	SMM	05/17/90

Description: CONTRACT LABORATORY FOR PESTICIDES AND PCBS
ANALYZED : LOW
COMPLETED : 06/13/90

Date Analyzed: 06/13/90
Method: CLP

Analyst: MDH
Verified: LJ

Description: ANALYSIS FOR MISCELLANEOUS SOIL SAMPLES

Analyte	Concentration MG/KG	Quantitation Limit
ALDAA	3.8	1
PROPACHLOR	76	1
SEGEDEX	1.4	1

Date Analyzed: 05/23/90
Method: EPA8141

Analyst: RR
Verified: LJ

Coordinator of analytical services - Lynn Hudachek @ (319) 335-4500

PPM - Parts/Million | MG/L - Milligrams/Liter | MG/KG - Milligrams/Kilogram
PPB - Parts/Billion | uG/L - Micrograms/Liter | uG/KG - Micrograms/Kilogram
< - Less than | > - Greater than | pCi/L - Pico Curies/Liter
QL - Quantitation Limit - Lowest concentration reliably measured

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FAX: (515) 243-1349

Report Results To	Sample Identification: 9005226
ECKENFELDER-DICO	Submitter Reference: SASC-6349
200 SE 16TH ST	Location: CS-B 0"-6"
DES MOINES, IA 50320	Sample Type: SOIL
	Date Collected: 05/11/90
Date Received: 05/14/90	Collected by: CAPUTI JEFFERY R
Date Reported: 07/09/90	

--- In-Progress Results of Analyses ---

Description: INORGANIC CHEMISTRY

Analyte	Concentration	Method	Analyst/ Verifier	Date Analyzed
MERCURY	< 0.2 MG/KG	EPA 245.5	SMM	05/17/90

Description: CONTRACT LABORATORY FOR PESTICIDES AND PCBS
L ANALYZED : LOW
DATE COMPLETED : 06/13/90

Date Analyzed: 06/13/90
Method: CLP

Analyst: MDH
Verified: LJ

Description: ANALYSIS FOR MISCELLANEOUS SOIL SAMPLES

Analyte	Concentration MG/KG	Quantitation Limit
CDAA	<1	1
ROPACHLOR	38	1
EGEDEX	<1	1

Date Analyzed: 05/24/90
Method: EPA8141

Analyst: RR
Verified: LJ

Coordinator of analytical services - Lynn Hudachek @ (319) 335-4500

PPM - Parts/Million
PPB - Parts/Billion
< - Less than
Quantitation Limit - Lowest concentration reliably measured

MG/L - Milligrams/Liter
uG/L - Micrograms/Liter
> - Greater than

MG/KG - Milligrams/Kilogram
uG/KG - Micrograms/Kilogram
pCi/L - Pico Curies/Liter

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Telephone: (515) 281-5371
FAX: (515) 243-1349

Report Results To	Sample Identification: 9005227
ECKENFELDER-DICO	Submitter Reference: SASC-6349
200 SE 16TH ST	Location: CS-C 0"-6"
DES MOINES, IA 50320	Sample Type: SOIL
	Date Collected: 05/11/90
Received: 05/14/90	Collected by: CAPUTI JEFFERY R
Reported: 07/09/90	

--- In-Progress Results of Analyses ---

Description: INORGANIC CHEMISTRY

Analyte	Concentration	Method	Analyst/ Verifier	Date Analyzed
MERCURY	< 0.2 MG/KG	EPA 245.5	SMM	05/22/90

Description: CONTRACT LABORATORY FOR PESTICIDES AND PCBS
ANALYZED : LOW
COMPLETED : 06/13/90

Date Analyzed: 06/13/90
Method: CLP

Analyst: MDH
Verified: LJ

Description: ANALYSIS FOR MISCELLANEOUS SOIL SAMPLES

Analyte	Concentration MG/KG	Quantitation Limit
ACDAA	2.4	1
PROPACHLOR	350	1
ALEGEDEX	8.4	1

Date Analyzed: 05/24/90
Method: EPA8141

Analyst: RR
Verified: LJ

Coordinator of analytical services - Lynn Hudachek @ (319) 335-4500

PPM - Parts/Million
PPB - Parts/Billion
< - Less than
Quantitation Limit - Lowest concentration reliably measured

MG/L - Milligrams/Liter
uG/L - Micrograms/Liter
> - Greater than

MG/KG - Milligrams/Kilogram
uG/KG - Micrograms/Kilogram
pCi/L - Pico Curies/Liter

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FAX: (515) 243-1349

Report Results To	Sample Identification: 9005228
ECKENFELDER-DICO	Submitter Reference: SASC-6349
200 SE 16TH ST	Location: CS-D 0"12"
DES MOINES, IA 50320	Sample Type: SOIL
	Date Collected: 05/11/90
Date Received: 05/14/90	Collected by: CAPUTI JEFFERY R
Date Reported: 07/09/90	

--- In-Progress Results of Analyses ---

Description: INORGANIC CHEMISTRY

Analyte	Concentration	Method	Analyst/ Verifier	Date Analyzed
ERCURY	< 0.2 MG/KG	EPA 245.5	SMM	05/17/90

Description: CONTRACT LABORATORY FOR PESTICIDES AND PCBS
ANALYZED : LOW
COMPLETED : 06/13/90

Date Analyzed: 06/13/90
Method: CLP

Analyst: MDH
Verified: LJ

Description: ANALYSIS FOR MISCELLANEOUS SOIL SAMPLES

Analyte	Concentration MG/KG	Quantitation Limit
CDAA	5.9	1
ROPACHLOR	120	1
EGEDEX	<2	2

Date Analyzed: 05/24/90
Method: EPA8141

Analyst: RR
Verified: LJ

Coordinator of analytical services - Lynn Hudachek @ (319) 335-4500

ts/Million — MG/L - Milligrams/Liter — MG/KG - Milligrams/Kilogram
- Parts/Billion — uG/L - Micrograms/Liter — uG/KG - Micrograms/Kilogram
< - Less than — > - Greater than — pCi/L - Pico Curies/Liter
mitation Limit - Lowest concentration reliably measured

Hygienic Laboratory

The University of Iowa

Oakdale Hall
Iowa City, IA 52242
Telephone: (319) 335-4500
FAX: (319) 335-4555

H.A. Wallace Building
900 East Grand, Des Moines, IA 50319
Telephone: (515) 281-5371
FAX: (515) 243-1349

Report Results To	Sample Identification: 9005229
:CKENFELDER-DICO	Submitter Reference: SASC-6349
200 SE 16TH ST	Location: FIELD BLANK
)ES MOINES, IA 50320	Sample Type: WATER
	Date Collected: 05/11/90
Date Received: 05/14/90	Collected by: CAPUTI JEFFERY R
Date Reported: 07/09/90	

--- In-Progress Results of Analyses ---

Description: INORGANIC CHEMISTRY

Analyte	Concentration	Method	Analyst/ Verifier	Date Analyzed
OTAL CYANIDE	<10 uG/L	EPA 335.2	ESA	05/23/90
OTAL MERCURY	< 0.2 uG/L	EPA 245.1	SMM	05/17/90

tion: CONTRACT LABORATORY FOR PESTICIDES AND PCBS
EL ANALYZED : LOW
DATE COMPLETED : 06/13/90

Date Analyzed: 06/13/90
Method: CLP

Analyst: MDH
Verified: LJ

Description: ANALYSIS FOR MISCELLANEOUS WATER SAMPLES

Analyte	Concentration MG/L	Quantitation Limit
)AA	<0.1	0.1
:OPACHLOR	0.28	0.1
VEGEDEX	<0.1	0.1

Date Analyzed: 05/23/90
Method: EPA8141

Analyst: RR
Verified: LJ

Coordinator of analytical services - Lynn Hudachek @ (319) 335-4500

rts/Million	MG/L - Milligrams/Liter	MG/KG - Milligrams/Kilogram
- Parts/Billion	uG/L - Micrograms/Liter	uG/KG - Micrograms/Kilogram
< - Less than	> - Greater than	pCi/L - Pico Curies/Liter
ntitation Limit - Lowest concentration reliably measured		

METALS DATA PACKAGE

The University of Iowa
Iowa City, Iowa 52242

Hygienic Laboratory

319/335-4500
Telefax: 319/335-4555
Telex: 4909945095 PHN UI

1847

July 20 1990

Mr. Michael Watkins
Eckenfelder, Inc.
1200 MacArthur Blvd
Mahwah, New Jersey 07430

Dear Mike;

Enclosed with this letter are copies of CLP Form I associated with several samples submitted by Eckenfelder from the DICO site for inorganic TAL analyses. The complete data packages for these sample sets will follow. With this data, there should be data (at least Form I's) associated with all samples submitted. If there are any discrepancies, please let me know.

If you have any questions concerning these methods, or we can be of further assistance, please call.

Sincerely yours,

M. D. Wichman

Michael D. Wichman, Ph.D.
Assistant Chief, Organic Analysis

Enclosures

cc: Dr. George Breuer

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: UHL_____ Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: ECKENB

SOW No.: _____

EPA Sample No.	Lab Sample ID
CS-A_0-12	9005225
CS-B_0-12	9005226
CS-B_0-12	9005226D
CS-B_0-12	9005226S
CS-C_0-12	9005227
CS-D_0-12	9005228
F_BLANK	9005229
DT-1_0-6	9005224

Were ICP interelement corrections applied ? Yes/No NO_

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

Comments:

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

Signature: _____ Name: _____

Date: _____ Title: _____

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

A 0-12

Lab Name: UHL_____ Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: ECKENB

Matrix (soil/water): SOIL_ Lab Sample ID: 9005225____

Level (low/med): _____ Date Received: 05/15/90

% Solids: _82.3

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7280			P
7440-36-0	Antimony	1.4	U	N	P
7440-38-2	Arsenic	4.9		*	F
7440-39-3	Barium	131		E	P
7440-41-7	Beryllium	0.50	B		P
7440-43-9	Cadmium	1.1			P
7440-70-2	Calcium	11900			P
7440-47-3	Chromium	21.5		*	P
7440-48-4	Cobalt	8.9			P
7440-50-8	Copper	65.5			P
7439-89-6	Iron	31600		E	P
7439-92-1	Lead	66.3		N*	P
7439-95-4	Magnesium	4740			P
7439-96-5	Manganese	857		E	P
7439-97-6	Mercury	0.14			CV
7440-02-0	Nickel	31.5			P
7440-09-7	Potassium	986			P
7782-49-2	Selenium	0.50	B	N*	F
7440-22-4	Silver	0.92	U	N	P
7440-23-5	Sodium	74.1	B		P
7440-28-0	Thallium	0.67	B	N	F
7440-62-2	Vanadium	8.9			P
7440-66-6	Zinc	737			P
	Cyanide	0.34	B		C

Color Before: BROWN____ Clarity Before: _____ Texture: FINE___

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B 0-12

Lab Name: UHL_____ Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: ECKENB

Matrix (soil/water): SOIL_ Lab Sample ID: 9005226___

Level (low/med): _____ Date Received: 05/15/90

% Solids: _82.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6980			P
7440-36-0	Antimony	1.3	U	N	P
7440-38-2	Arsenic	0.75	B	+*	F
7440-39-3	Barium	156		E	P
7440-41-7	Beryllium	0.64	B		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	16900			P
7440-47-3	Chromium	16.5		*	P
7440-48-4	Cobalt	7.6			P
7440-50-8	Copper	37.8			P
7439-89-6	Iron	18700		E	P
7439-92-1	Lead	91.8		N*	P
7439-95-4	Magnesium	6040			P
7439-96-5	Manganese	689		E	P
7439-97-6	Mercury	0.17			CV
7440-02-0	Nickel	16.5			P
7440-09-7	Potassium	979			P
7782-49-2	Selenium	3.4		N*	F
7440-22-4	Silver	0.90	U	N	P
7440-23-5	Sodium	111	B		P
7440-28-0	Thallium	0.40	B	N	F
7440-62-2	Vanadium	14.5			P
7440-66-6	Zinc	168			P
	Cyanide	0.52	B		C

Color Before: BROWN_____ Clarity Before: _____ Texture: FINE___

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

C 0-12

Lab Name: UHL_____ Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: ECKENB

Matrix (soil/water): SOIL_ Lab Sample ID: 9005227___

Level (low/med): _____ Date Received: 05/15/90

% Solids: _82.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8270			P
7440-36-0	Antimony	1.3	U	N	P
7440-38-2	Arsenic	17.1		+*	F
7440-39-3	Barium	116		E	P
7440-41-7	Beryllium	0.68	B		P
7440-43-9	Cadmium	0.54	B		P
7440-70-2	Calcium	13800			P
7440-47-3	Chromium	14.7		*	P
7440-48-4	Cobalt	7.4	B		P
7440-50-8	Copper	20.3			P
7439-89-6	Iron	17600		E	P
7439-92-1	Lead	49.4		N*	P
7439-95-4	Magnesium	7030			P
7439-96-5	Manganese	545		E	P
7439-97-6	Mercury	0.16			CV
7440-02-0	Nickel	17.1			P
7440-09-7	Potassium	1020			P
7782-49-2	Selenium	0.32	B	N*	F
7440-22-4	Silver	0.89	U	N	P
7440-23-5	Sodium	67.3	B		P
7440-28-0	Thallium	0.80	B	N	F
7440-62-2	Vanadium	16.0			P
7440-66-6	Zinc	120			P
	Cyanide	0.37	B		C

Color Before: BLACK____ Clarity Before: _____ Texture: FINE__

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

D 0-12

Lab Name: UHL_____ Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: ECKENB

Matrix (soil/water): SOIL_ Lab Sample ID: 9005228___

Level (low/med): _____ Date Received: 05/15/90

% Solids: _81.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7440			P
7440-36-0	Antimony	1.4	U	N	P
7440-38-2	Arsenic	11.8		+*	F
7440-39-3	Barium	127		E	P
7440-41-7	Beryllium	0.59	B		P
7440-43-9	Cadmium	0.40	B		P
7440-70-2	Calcium	12200			P
7440-47-3	Chromium	18.0		*	P
7440-48-4	Cobalt	7.9			P
7440-50-8	Copper	34.0			P
7439-89-6	Iron	17500		E	P
7439-92-1	Lead	62.3		N*	P
7439-95-4	Magnesium	5550			P
7439-96-5	Manganese	729		E	P
7439-97-6	Mercury	0.14	U		CV
7440-02-0	Nickel	19.2			P
7440-09-7	Potassium	989			P
7782-49-2	Selenium	0.30	U	+N*	F
7440-22-4	Silver	0.91	U	N	P
7440-23-5	Sodium	74.0	B		P
7440-28-0	Thallium	0.46	B	N	F
7440-62-2	Vanadium	15.6			P
7440-66-6	Zinc	136			P
	Cyanide	0.57	B		C

Color Before: BLACK____ Clarity Before: _____ Texture: FINE__

Color After: YELLOW___ Clarity After: _____ Artifacts: YES___

Comments:

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

F BLANK

Lab Name: UHL_____ Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: ECKENB

Matrix (soil/water): WATER Lab Sample ID: 9005229___

Level (low/med): LOW__ Date Received: 05/15/90

% Solids: ____0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	31.9	B		P_
7440-36-0	Antimony_	9.0	U	N	P_
7440-38-2	Arsenic__	2.0	U	++	F_
7440-39-3	Barium___	5.0	U	E	P_
7440-41-7	Beryllium	1.0	U		P_
7440-43-9	Cadmium__	5.7	_		P_
7440-70-2	Calcium__	904	B		P_
7440-47-3	Chromium_	4.0	U	*	P_
7440-48-4	Cobalt___	5.0	U		P_
7440-50-8	Copper___	5.0	U		P_
7439-89-6	Iron_____	358	_	E	P_
7439-92-1	Lead_____	14.0	U	N*	P_
7439-95-4	Magnesium	103	B		P_
7439-96-5	Manganese	7.3	B	E	P_
7439-97-6	Mercury__	0.20	U		CV
7440-02-0	Nickel___	5.0	U		P_
7440-09-7	Potassium	143	U		P_
7782-49-2	Selenium_	2.0	U	+N*	F_
7440-22-4	Silver___	6.0	U	N	P_
7440-23-5	Sodium___	1730	B		P_
7440-28-0	Thallium_	2.0	U	N	F_
7440-62-2	Vanadium_	4.0	U		P_
7440-66-6	Zinc_____	13.1	B		P_
_____	Cyanide__	1.2	B		C_

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

1 0-6

Lab Name: UHL_____ Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: ECKENR

Matrix (soil/water): SOIL_ Lab Sample ID: 9005224___

Level (low/med): _____ Date Received: 05/15/90

% Solids: _73.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9590			P
7440-36-0	Antimony	1.3	U	N	P
7440-38-2	Arsenic	10.1		S*	F
7440-39-3	Barium	141		E	P
7440-41-7	Beryllium	0.48	B		P
7440-43-9	Cadmium	0.76			P
7440-70-2	Calcium	9050			P
7440-47-3	Chromium	11.8		*	P
7440-48-4	Cobalt	4.6	B		P
7440-50-8	Copper	14.8			P
7439-89-6	Iron	13400		E	P
7439-92-1	Lead	15.2		N*	P
7439-95-4	Magnesium	4910			P
7439-96-5	Manganese	599		E	P
7439-97-6	Mercury	0.18	U		CV
7440-02-0	Nickel	13.8			P
7440-09-7	Potassium	1120			P
7782-49-2	Selenium	0.80		N*	F
7440-22-4	Silver	0.88	U	N	P
7440-23-5	Sodium	22.0	B		P
7440-28-0	Thallium	0.66	B	N	F
7440-62-2	Vanadium	19.4			P
7440-66-6	Zinc	54.7			P
	Cyanide	0.42	B		C

Color Before: BLACK_____ Clarity Before: _____ Texture: FINE___

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

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U.S. EPA - CLP

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

F BLANK

Lab Name: UHL_____ Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: ECKENB

Matrix (soil/water): WATER Lab Sample ID: 9005229__

Level (low/med): LOW__ Date Received: 05/15/90

% Solids: ____0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	31.9	B		P
7440-36-0	Antimony	9.0	U	N	P
7440-38-2	Arsenic	2.0	U	*	F
7440-39-3	Barium	5.0	U	E	P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.7			P
7440-70-2	Calcium	904	B		P
7440-47-3	Chromium	4.0	U	*	F
7440-48-4	Cobalt	5.0	U		P
7440-50-8	Copper	5.0	U		P
7439-89-6	Iron	358		E	P
7439-92-1	Lead	14.0	U	N*	P
7439-95-4	Magnesium	103	B		P
7439-96-5	Manganese	7.3	B	E	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	5.0	U		P
7440-09-7	Potassium	143	U		P
7782-49-2	Selenium	2.0	U	N*	F
7440-22-4	Silver	6.0	U	N	P
7440-23-5	Sodium	1730	B		P
7440-28-0	Thallium	2.0	U	N	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	13.1	B		P
	Cyanide	4.0	U		C

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

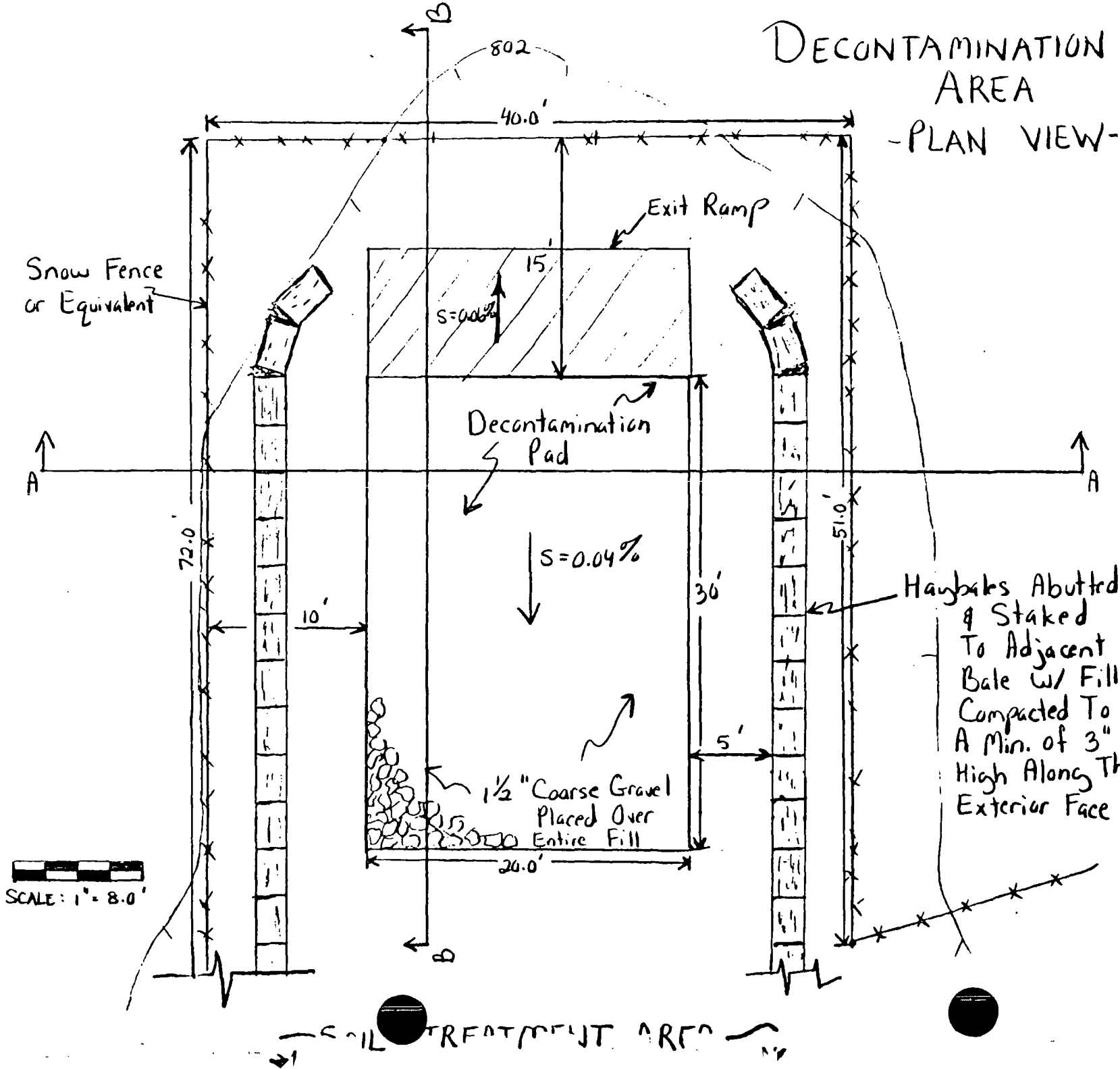
APPENDIX B

BID REQUEST FIGURES

ECKENFELDER INC.

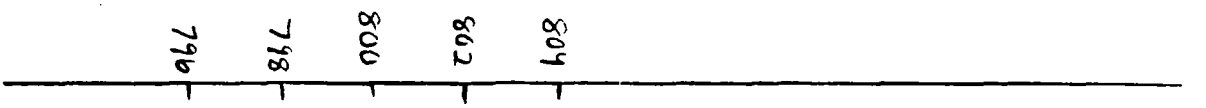
PROJECT: Dico - Decontamination Area PREP BY: TAT DATE: 3/22/90
JOB NO.: 6349 CHKD BY: DATE:

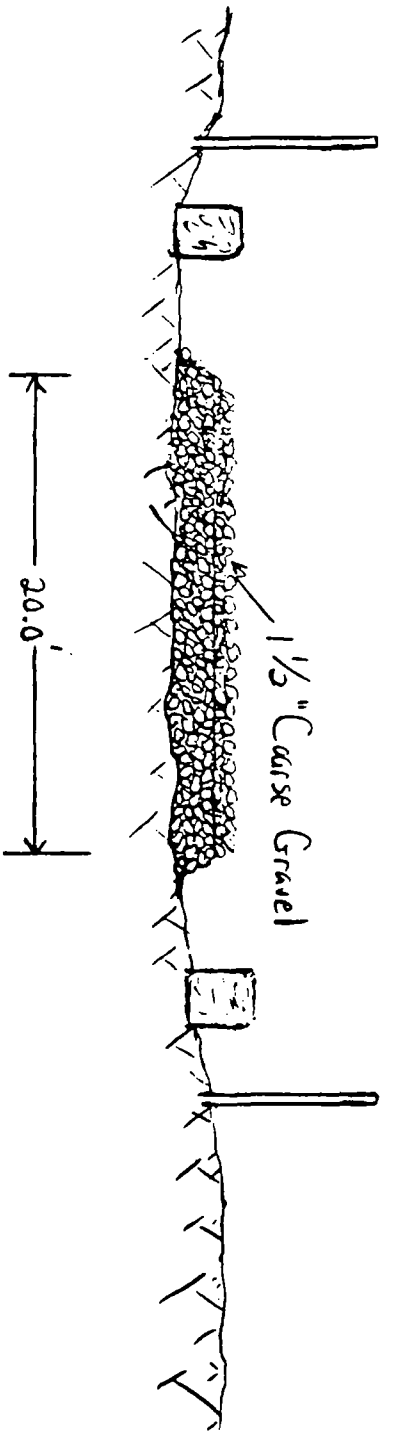
DECONTAMINATION AREA -PLAN VIEW-



ECKENFELDER INC.

PROJECT: Dico - Decontamination Area PREP. BY: TAT DATE: 3/22/90
JOB NO.: 6349 CHKD. BY: DATE:





CROSS-SECTION
A-A

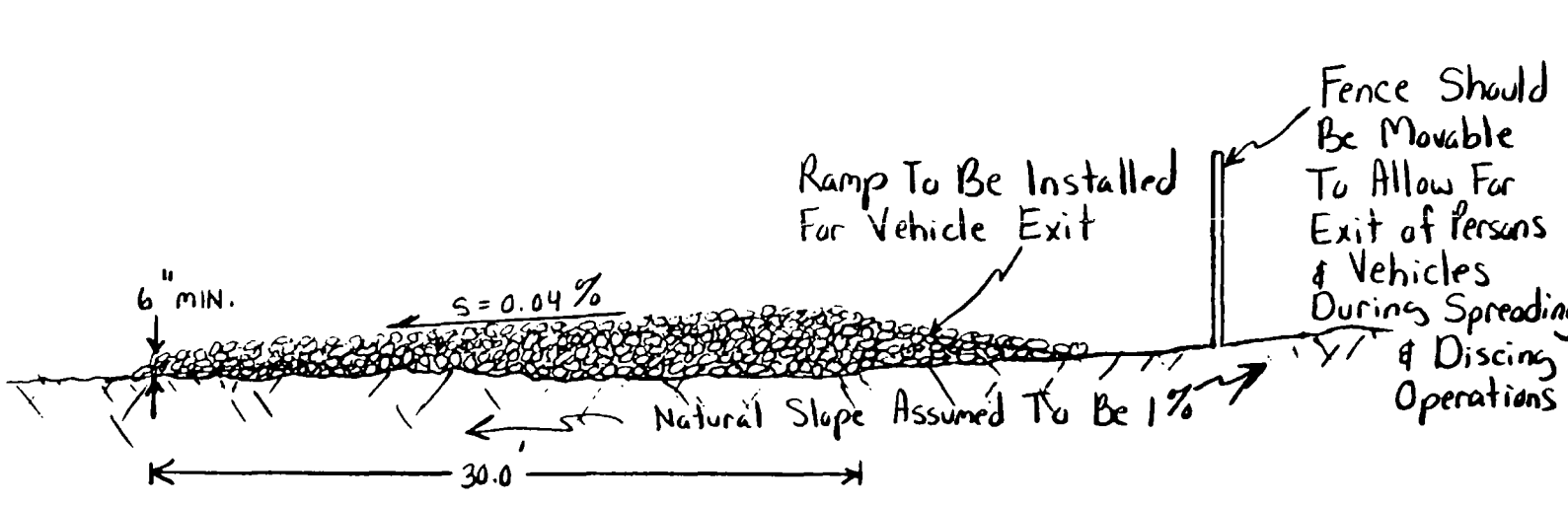
SCALE: HORIZ.-1" = 8.0'
VERT.-1" = 4.0'

ECKENFELDER INC.

PROJECT: Dico - Decontamination Area PREP. BY: TAT DATE: 3/22/90

JOB NO: 6349 CHKD. BY: DATE:

Note: If natural slope is < 1% towards the soil treatment area, then placement of clean fill mat'l. to provide for a 1% slope is req'd.



CROSS-SECTION B-B

SCALE: HORIZ. - 1" = 8.0'
VERT. - 1' = 4.0'