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DRAFT
SUBSURFACE INVESTIGATION of PCBs
BUILDING 54 - GOULD ISLAND
JAMESTOWN, RHODE ISLAND

for

Naval Station Newport
Newport, Rhode Island

Engineering Field Activity Northeast
Naval Facilities Engineering Command

Contract Number N62472-90-D-1298
Contract Task Order 0282

September 2001

TETRA TECH NUS, INC.

W5201251D

DRAFT
SUBSURFACE INVESTIGATION of PCBs
BUILDING 54 - GOULD ISLAND
JAMESTOWN, RHODE ISLAND

for

NAVAL STATION NEWPORT
NEWPORT, RHODE ISLAND

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION - NAVY (CLEAN) CONTRACT

Submitted to:
Engineering Field Activity Northeast
Environmental Branch
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop # 82
Lester, Pennsylvania 19113-2090

Submitted by:
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Contract Number N62472-90-D-1298
"CLEAN" Contract Task Order 0282

SEPTEMBER 2001

783

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TABLE OF CONTENTS

SECTION		PAGE
1.0	INTRODUCTION	1
1.1	SITE-SPECIFIC INVESTIGATION OBJECTIVES	1
2.0	BACKGROUND INFORMATION	1
2.1	SITE DESCRIPTION	1
2.2	RECENT ACTIVITIES	1
3.0	FIELD SAMPLING	2
3 1	SOIL BORINGS AND SOIL SAMPLING	2
3.2	MONITORING WELL COMPLETION AND GROUNDWATER SAMPLING	2
3.3	NEARSHORE SEDIMENT SAMPLING	3
3.4	SAMPLE LOCATION SURVEY	3
4.0	INVESTIGATION FINDINGS	4
4 1	SUBSURFACE MATERIALS	4
4.2	GROUNDWATER OCCURRENCE AND FLOW	4
4 3	NATURE AND EXTENT OF PCB CONTAMINATION	5
5.0	SUMMARY AND CONCLUSIONS	6
6.0	RECOMMENDATIONS FOR REMEDIAL ACTION	6

TABLES

NUMBER

4-1 Arochlor PCB Analytical Results
4-2 PCB Cogener Analytical Results

FIGURES

NUMBER

2-1 Site Location
3-1 Sampling Locations
4-1 Total PCBs Detected

APPENDICES

A Soil Boring Logs/Well Construction Diagrams
B Data Validation Memoranda

LIST OF ACRONYMS

AAL	Rhode Island Ambient Air Limit
ACOE	U.S. Army Corps of Engineers
ARAR	Applicable or Relevant and Appropriate Requirement
AVS	Acid Volatile Sulfides
AWQC	Ambient Water Quality Criteria
B&RE	Brown & Root Environmental
CAD	Contained Aquatic Disposal
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	Contaminant of Concern
CT	Central Tendency
DAF	Dissolved Air Flotation
EPA	U.S Environmental Protection Agency
ERA	Marine Ecological Risk Assessment
ER-L	Effects Range-Low: NOAA Adverse Effects Benchmark Value for Sediment
ER-M	Effects Range-Median: NOAA Adverse Effects Benchmark Value for Sediment
FFA	Federal Facilities Interagency Agreement
FS	Feasibility Study
FWENC	Foster Wheeler Environmental Corporation
GRA	General Response Action
HHRA	Human Health Risk Assessment
HI	Hazard Index Ratio
IAS	Initial Assessment Study
IEUBK	Integrated Exposure and Uptake Biokinetic Model
IRP	Installation Restoration Program
IU/BK	Integrated Uptake/Biokinetic Model
MCL	Maximum Contaminant Level
mg/kg	milligram per kilogram
ug/kg	microgram per kilogram
mg/l	milligram per liter
ug/l	microgram per liter
MLW	Mean Low Water Level
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NIOSH	National Institute for Occupational Safety and Health
NOAA	National Oceanic and Atmospheric Administration

LIST OF ACRONYMS (Continued)

NORTHDIV	Northern Division
NPL	National Priorities List
NS	Nearshore
O&M	Operation and Maintenance
OS	Offshore
OSHA	Occupational Safety and Health Administration
PAH	Polynuclear Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PDI	Pre-Design Investigation
POTW	Publicly-Owned Treatment Works
PPE	Personnel Protective Equipment
PRG	Preliminary Remedial Goal
RAB	Restoration Advisory Board
RAO	Remedial Action Objective
RCRA	Resource Conservation and Recovery Act
RfD	Risk Reference Dose
RI	Remedial Investigation
RIDEM	Rhode Island Department of Environmental Management
RME	Reasonable Maximum Exposure
ROD	Record of Decision
SARA	Superfund Amendment and Reauthorization Act
SEM	Simultaneously Extracted Metals
SER	Shore Establishment Realignment Program
SVOC	Semivolatile Organic Compound
TAL	Target Analyte List
TBC	To Be Considered Guidance
TCL	Target Compound List
TCLP	Toxic Characteristic Leaching Procedure
TCR	Tissue Concentration Ratio
TEV-HQ	Threshold Effects Value - Hazard Quotient
TOC	Total Organic Carbon

LIST OF ACRONYMS (Continued)

TPH	Total Petroleum Hydrocarbons
TSCA	Toxic Substances Control Act
TSDF	Treatment, Storage, and Disposal Facility
TSS	Total Suspended Solids
TWA	Time-Weighted Average Concentration
μg/dl	microgram per deciliter
μg/kg	microgram per kilogram
μg/l	microgram per liter
VOC	Volatile Organic Compound

1.0 INTRODUCTION

Tetra Tech NUS, Inc. (TtNUS) prepared this report for the Navy's Engineering Field Activity Northeast (EFA Northeast), to document a subsurface investigation of PCBs at the former Building 54 ("the Site") on Gould Island in Jamestown, Rhode Island This Site is a part of the Naval Station Newport, based in Newport, Rhode Island. This investigation was performed in response to the Navy's Technical Direction Memorandum (TDM) dated June 18, 2001.

1.1 SITE-SPECIFIC INVESTIGATION OBJECTIVES

The objectives of this investigation are to 1) delineate the extent of soil containing PCBs based on a limited number of borings and surface water sediment samples; 2) evaluate whether PCB contamination has migrated to the shoreline; and 3) recommend possible approaches for clean-up of the PCB contamination

2.0 BACKGROUND INFORMATION

2.1 SITE DESCRIPTION

The Site is located on the northern end of Gould Island in Narragansett Bay (see Figure 2-1). Gould Island is located in the East Passage of Narragansett Bay in Rhode Island, approximately 1.5 miles from the NETC shoreline Gould Island is located between Aquidneck and Conanicut Islands, and occupies approximately 52 acres. The Former Building 54 is located on the northeast end of Gould Island. The building was used to house transformers. The footprint of former Building 54 was approximately 10 ft by 20 ft

2.2 RECENT ACTIVITIES

Foster Wheeler Environmental Corporation (FWENC) is currently completing a large Building Demolition project at Gould Island for the Navy On March 27, 2001 demolition of Building 54 began with removal of the slab. Free phase oil was found in a sump beneath the slab of Building 54. The bottom of the sump was about 5 feet below ground surface and was unlined (just soil with no concrete in the bottom). The oil and water found in the Building 54 basement area were sampled and absorbent pads were used to collect the oil. The absorbent pads were then removed and placed in a roll-off container with the contaminated concrete slab debris. Initial Transformer Vault demolition activities were halted on March 29, 2001. The analytical results indicated PCBs in the free-phase oil were approximately 400,000 parts per million. On May 15, 2001, the foundation and associated soils were removed to the approximate

depth of the foundation. Soil samples were collected from 17 locations within the excavation area and field screening analysis using the SDI Rapid Assay Field Test Kit for PCBs. Based on the results additional soils were removed on May 21, 2001 Soil samples were collected from 20 locations within the excavation and field screened for PCBs. Based on the field screening results a soil sample was collected from the bottom of the excavation at approximately 8 ft below ground surface (bgs) where the groundwater table was reached The sample was submitted to a laboratory for analysis of PCBs and results indicated the sample contained 13,200 ppm PCBs. Polyethylene sheeting had been laid into the excavation and partially backfilled with clean fill. The excavation is located about 25 to 30 feet from the shoreline. Foster Wheeler removed several roll-offs of contaminated soil and concrete when the decision was made to stop removals until the Navy had a better understanding of the extent of PCB contamination so that an estimate could be made of how much soil would need to be removed to comply with TSCA.

3.0 FIELD SAMPLING

This section summarizes the sampling program completed for this investigation.

3.1 SOIL BORINGS AND SOIL SAMPLING

Between June 20 and 22, 2001, a total of four soil borings were advanced at the Site (see Figure 3-1) by a drilling subcontractor (Guild Drilling, Providence, Rhode Island). The four borings (B01 to B04) were identified with the prefix GIB54 to indicate they are associated with Gould Island Building 54. Soil boring logs are provided in Appendix A. Each of the borings was located approximately 15 to 20 ft from the edge of the excavation and advanced using drive and wash drilling methods. Asteel split-spoon sampler (2-inch OD by 2-ft long) was advanced ahead of the lead 4-inch nominal steel drive casing. Soil samples were classified following the Uniform Soil Classification System and entered in the geologic log. Soil samples were collected for analysis of PCBs using a decontaminated split-spoon sampler and submitted to Mitkem Analytical (Warwick, Rhode Island) for analysis of TCL PCBs (Method 8082). In addition, one soil sample from B01 was submitted for analysis of PCB congeners (Method 8082). The sample depth and analytical results are presented in Section 4.1. The analytical results of soil, groundwater and sediment are provided in Appendix B with the data validation memorandum.

3.2 MONITORING WELL COMPLETION AND GROUNDWATER SAMPLING

The first monitoring well (GIB54-MW-01) was installed in boring GIB54-B01 which is located downgradient (east) and between the excavation and the shoreline. This well was installed to evaluate whether PCBs were migrating to the shoreline via the groundwater pathway The second monitoring well

(GIB54-MW02) was installed in borehole GIB54-B04 which is located upgradient (west) of the excavation. This well was installed for measurement of groundwater levels for evaluation of dewatering.

Both wells consisted of 2-inch ID, Schedule 40 PVC well casing and screen (0.10-inch slot openings). After completion, both wells were developed by surging and pumping until the water was free of sediment. Well construction diagrams are included in Appendix A.

A groundwater sample and duplicate was collected from MW01 for laboratory analysis of PCBs (Method 8082). The groundwater samples were collected after MW01 was dewatered. Because some sediment was present in the groundwater, the Navy requested Mitkem centrifuge the samples prior to analysis of PCBs

3.3 NEARSHORE SEDIMENT SAMPLING

At low tide two sediment samples were collected from two shoreline sediment locations a few feet east of the sheet pile and downgradient of the PCB excavation. Two samples were collected from each of the two locations using precleaned stainless steel tools/shovel and analyzed for PCBs (Method 8082) congener analysis. One sample was collected in the top few inches using a stainless steel tool/shovel. An attempt was made to collect a second sample by digging to a depth of 12 to 18 inches, but it was found to be impossible to collect a representative sample because the sediment was unstable and tended to slump into the hole. One duplicate was collected from location SED01.

Each sample was collected in a single sample container, labeled and preserved. Each sample will be placed on ice immediately after collection and kept in an ice chest. After all samples were collected, the ice chest was repacked with fresh ice and sample containers separated with bubble wrap or vermiculite to avoid potential damage during shipment. All samples were shipped on ice in a sealed container accompanied by a Chain of Custody form. The form listed each of the samples, sample matrix (soil, sediment, groundwater), date and time collected; analysis requested.

3.4 SAMPLE LOCATION SURVEY

All sample locations were flagged/measure with a field tape from known reference points and logged with a GPS unit so that the approximate sampling/boring locations can be found in the future. All sampling locations, sheet pile wall and corners of the Building 54 excavation are shown on Figure 3-1 were located with a GPS instrument.

4.0 INVESTIGATION FINDINGS

The findings of this investigation are described in the following subsections.

4.1 SUBSURFACE MATERIALS

According to the geologist's logs, stratigraphy at this site can be described as follows:

Fill – Predominately black, widely-graded sand and gravel with lesser amounts of silt and clay. Generally compact. Interpreted to be regraded glacial till and shale bedrock Thickness ranges from 0 to 9 ft. Base of till is in contact with glacial till.

Glacial Till – Predominately brown, widely graded sand and gravel with lesser amounts of silt and clay More compact than fill. Contains thin sand and silt lenses up to 0.1 ft thick. The top of glacial till ranged from 0 to 9 ft bgs. The contact between fill and glacial till is indistinct. Base of till is in contact with glaciomarine sand/silt or bedrock.

Glaciomarine Sand/Silt – Predominately fine to medium sand with lenses of silt and silt/clay Thickness ranges from 0 to 2 ft. Underlain by bedrock.

Bedrock – Consists of black fractured, carbon-rich shale. Top of bedrock is weathered and broken and approximately 8 to 10 ft bgs. Bedrock confirmed by advancing borehole to 12.3 ft bgs at borehole B01.

4.2 GROUNDWATER OCCURRENCE AND FLOW

Groundwater was observed between approximately 2 to 8 ft bgs. On June 20, 2001, during drilling borehole B01, groundwater was observed at 2 ft bgs. On June 22, 2001, after completion of both monitoring wells, the depth to groundwater ranged from 4.5 (MW01) to 8.1 ft (MW02) bgs. Groundwater levels on June 22nd were measured when the tide was in the lower half of the tidal range. It appears that groundwater levels at B01/MW01, located approximately 15 ft from the shoreline, are more strongly influenced by the rising tide relative to MW-02 which is located approximately 65 ft from the shoreline. Topographically MW01 is at a lower elevation then MW02. The direction of groundwater flow, inferred from the topography is from west to east toward the shoreline. Monitoring well MW01 is thought to be hydraulically downgradient from the excavation and MW02 upgradient.

4.3 NATURE AND EXTENT OF PCB CONTAMINATION

The PCB results are summarized on Table 4-1 (PCBs in soil, sediment and groundwater) and Table 4-2 (PCB congeners in soil and sediment). The sum of detectable PCBs in soil and sediment is posted beside the sampling locations on Figure 4-1. Mitkem Corporation analyzed the samples under Naval Facility Engineering Services Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. The analytical data and data validation memorandum are in Appendix B. A description of the PCB results follows:

- PCBs were detected in soil samples collected from boring B01 at depths of 0 to 1-ft bgs and 2 to 4 ft bgs Total PCBs, calculated from the sum of the individual PCBs detected, were 9.77 mg/kg at 0-1 ft, and 6.4 mg/kg at 2 to 4 ft, and not detected at 8 to 10 ft.

- PCBs were detected in the two-nearshore sediment samples collected to a depth of 0.2 ft. The sum of the PCB congeners was 3.187 mg/kg (SED01) and 0.349 mg/kg (SED02). A duplicate sample of SED01 resulted in 1.957 mg/kg indicating there is considerable variability in PCB concentrations within the sediment matrix.

- PCBs were not detected in soil samples collected from borings B02, B03 and B04.

- PCBs were not detected in a groundwater collected from a new monitoring well MW01 installed in boring B01. This well is located in the anticipated downgradient direction between the former Building 54 transformer excavation and the nearshore environment to the east. Based on a data validation memo (Appendix B), the groundwater sample and sample duplicate collected from MW01 exceeded the seven-day holding time by five days.

- The extent of PCB soil contamination in the vicinity of the excavation appears to be bounded to the north, south and west by soil borings B02, B03 and B04, respectively. The horizontal extent appears to be within 10 to 20 ft of the edge of the excavation which is the range in distance between the excavation and the borings surrounding the excavation on the north, south, west sides and sheet pile wall located along the shoreline to the east side. The vertical extent of PCB soil contamination to the east is less than 8-ft bgs based on the findings of samples collected from boring B01

5.0 SUMMARY AND CONCLUSIONS

A subsurface investigation of potential PCB contamination was performed in the vicinity of a former transformer at Building 54 on Gould Island The investigation consisted of advancement of four soil borings, installation of two monitoring wells, and collection of 14 soil samples, 2 sediment samples from the nearshore environment and 1 groundwater sample. All samples were submitted to the laboratory for analysis of Arochlor PCBs, with the exception of the surficial soil sample from boring B01, located between the excavation and the nearshore, and the two nearshore sediment samples. The analytical results of this investigation indicated PCB contamination was detected in two soil samples from boring B01, located between the excavation and the sheet pile wall. At this location, PCBs were detected at surface and at 4 to 6 ft bgs, but not detected at a depth of 8 ft bgs. PCBs were also detected in the two sediment samples collected in the nearshore environment. PCBs were not detected in groundwater collected from monitoring well (MW01), which was the only soil boring with PCBs detected in soil.

Overall, the extent of PCB contamination in the subsurface appears to be limited horizontally to within 10 to 20 ft from the north, south and west sides of the excavation, and to the sheet pile on the east side of the excavation. The vertical extent is limited to less than 8 ft below ground surface on the east side of the excavation at boring B01

PCBs were not detected in groundwater, therefore, source of PCBs in the nearshore sediments does not appear to be the groundwater migration pathway. Erosion of surficial soil containing PCBs and deposition past the decomposing sheet pile wall to the nearshore environment is the probable migration pathway for PCBs in the sediment.

6.0 RECOMMENDATIONS FOR REMEDIAL ACTIONS

The following recommendation is made based on the findings of this investigation

Continued excavation is the most practical and appropriate method to accomplish a partial cleanup sufficient to meet TSCA requirements The Site excavation can likely be reduced with additional borings and samples to further delineate soils in excess of the TSCA limit. The volume estimate of material would be not more than approximately 800 cubic yards. This estimate is an upper bound based on the volume of soil bounded by the three soil borings on the north, south and west sides of the excavation and the sheet pile wall on the east side and assuming an average depth of 8 ft.

Some dewatering may be necessary for excavation below the groundwater table. Furthermore, flooding of the excavation may occur at high tide depending on the tide level. Any groundwater pumped during

dewatering should be filtered to remove particulates. The particulates may contain elevated concentrations of PCBs sorbed to the particles. The groundwater should also be treated with carbon to remove potential low dissolved concentrations of PCBs. The waste should be characterized to evaluate treatment options.

TABLES

TABLE 4-1
AROCHLOR PCB ANALYTICAL RESULTS
BUILDING 54 SUBSURFACE INVESTIGATION
GOULD ISLAND
JAMESTOWN, RHODE ISLAND

SAMPLE LOCATION	DEPTH (FT-BGS)	SAMPLE ID	LAB ID	FIELD DUPLICATE OF	AROCHLOR-1016	AROCHLOR-1221	AROCHLOR-1232	AROCHLOR-1242	AROCHLOR-1248	AROCHLOR-1254	AROCHLOR-1260	CALCULATED TOTAL PCBS
SOIL ANALYTICAL RESULTS IN UG/KG												
B01	2-4	GIB54-B01004	81344006	N/A	370 U	370 U	370 U	370 U	370 U	370 U	6400	6400
B01	8-10	GIB54-B01010	81344007	N/A	37 U	37 U	37 U	37 U	37 U	37 U	37 U	--
B02	1-3	GIB54-B0203	81344008	N/A	36 U	36 U	36 U	36 U	36 U	36 U	36 U	--
B02	7-9	GIB54-B02	81363001	N/A	38 U	38 U	38 U	38 U	38 U	38 U	38 U	--
B02	13 5 - 14 5	GIB54-B0214 5	81344009	N/A	37 U	37 U	37 U	37 U	37 U	37 U	37 U	--
B03	0-1	GIB54-B0301	81344010	N/A	35 U	35 U	35 U	35 U	35 U	35 U	35 U	--
B03	6-8	GIB54-B0308	81344011	N/A	37 U	37 U	37 U	37 U	37 U	37 U	37 U	--
B03	13-15	GIB54-B0315	81344012	N/A	39 U	39 U	39 U	39 U	39 U	39 U	39 U	--
B03	13-15	GIB54-B030001	81344013	GIB54-B0315	38 U	38 U	38 U	38 U	38 U	38 U	38 U	--
B04	1-2	GIB54-B0402	81344014	N/A	38 U	38 U	38 U	38 U	38 U	38 U	38 U	--
B04	1-2	GIB54-B04	81344015	GIB54-B0402	36 U	36 U	36 U	36 U	36 U	36 U	36 U	--
B04	5-7	GIB54-B0407	81344016	N/A	36 U	36 U	36 U	36 U	36 U	36 U	36 U	--
B04	13-14	GIB04-B0414	81344017	N/A	37 U	37 U	37 U	37 U	37 U	37 U	37 U	--
GROUNDWATER ANALYTICAL RESULTS IN UG/L												
MW01	4.5 - 9 0	GIB54-MW01	81344001	N/A	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	--
MW01	4 5 - 9 0	GIB54-DUP01	81344002	GIB54-MW01	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	--

NOTES

BGS MEANS BELOW GROUND SURFACE (EXISTING GRADE)

U MEANS UNDETECTED AND THE PRECEDING NUMBER IS THE DETECTION LIMIT.

J MEANS ESTIMATED

GROUNDWATER SAMPLES CENTRIFUGED TO SEPARATE SEDIMENT FROM WATER PRIOR TO ANALYSIS OF THE LIQUID

SAMPLES COLLECTED FROM JUNE 20 TO 22, 2001

TABLE 4-2
PCB CONGENER ANALYTICAL RESULTS
BUILDING 54 SUBSURFACE INVESTIGATION
GOULD ISLAND
JAMESTOWN, RHODE ISLAND

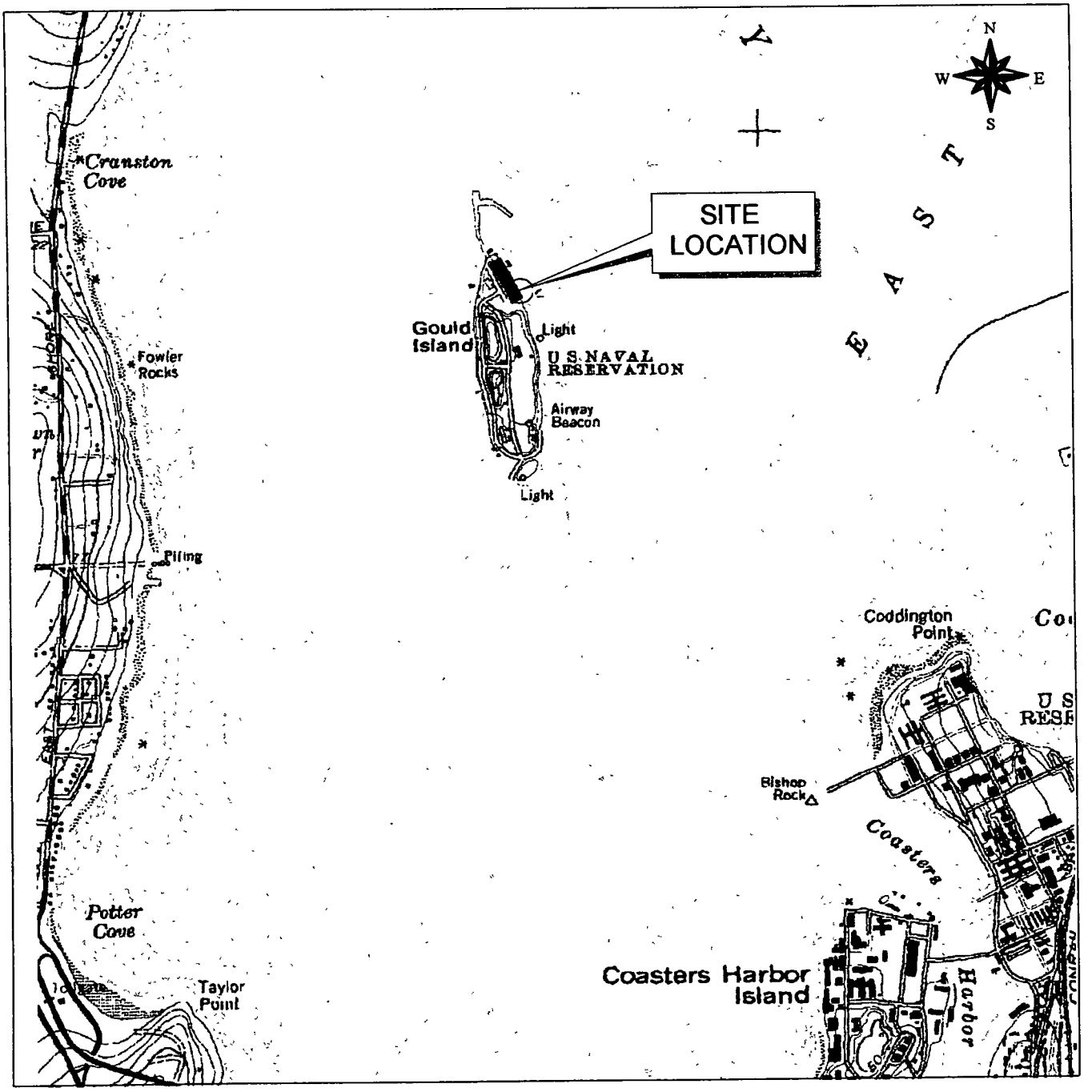
SAMPLE LOCATION	DEPTH (FT-BGS)	SAMPLE ID	LAB ID	FIELD DUPLICATE OF	2,2,5-triCB	2,2,3,5-tetraCB	2,2,5,5-tetraCB	2,3,4,4-tetraCB	2,2,4,5,5-pentaCB	2,2,3,4,4,5-hexaCB	2,2,4,4,5,5-hexaCB	2,2,3,3,4,4,5-heptaCB	2,2,3,4,4,5,5-heptaCB	2,2,3,4,5,5,6-heptaCB
B01	0-1	GIB54-B01001	81344005	N/A	5 U	5 U	21	5 U	400	2100	1800	1000	1900	760
SED01	0-0 2	GIB54-SED01	81344003	N/A	6 U	6 U	13 J	11 J	180	560	580 J	350 J	560	250 J
SED01	0-0 2	GIB54-DUP01S	81344004	SED01	6 U	6 U	9 J	9 J	110	380	350 J	190 J	340	140 J
SED02	0-0 2	GIB54-SED02	81343002	N/A	6 3 U	6 3 U	6 3 U	6 3 U	17	76	72	32	61	28

SAMPLE LOCATION	DEPTH (FT-BGS)		LAB ID		2,2,3,3,4,4,5,5,6-nonaCB	2-CB	2,3-diCB	2,4,5-triCB	2,2,3,3,4,6-pentaCB	2,2,3,4,5,5-hexaCB	2,2,3,5,5,6-hexaCB	2,2,3,4,4,5,6-heptaCB	2,2,3,4,5-pentaCB	Calculated Total Congeners
B01	0-1	GIB54-B01001	81344005	N/A	55	5 U	5 U	5 U	260	590	410	480	69 J	9776
SED01	0-0 2	GIB54-SED01	81344003	N/A	19	6 U	6 U	6 U	98	200 J	160 J	180 J	26 J	3187
SED01	0-0 2	GIB54-DUP01S	81344004	SED01	10 J	6 U	6 U	6 U	54 J	110 J	87 J	99 J	69 J	1957
SED02	0-0 2	GIB54-SED02	81343002	N/A	6 3 U	6 3 U	6 3 U	6 3 U	8 9	20	17	18	6 3 U	349 9

CONCENTRATIONS IN UG/KG (PPB)

NOTES
BGS MEANS BELOW GROUND SURFACE (EXISTING GRADE)
U MEANS UNDETECTED AND THE PRECEDING NUMBER IS THE DETECTION LIMIT
J MEANS ESTIMATED
CB MEANS CHLOROBIPHENYL
SAMPLES COLLECTED FROM JUNE 20 TO 22, 2001
CALCULATED TOTAL CONGENERS INCLUDES UNQUALIFIED AND ESTIMATED VALUES (UNDETECTED VALUES ARE EXCLUDED)

FIGURES



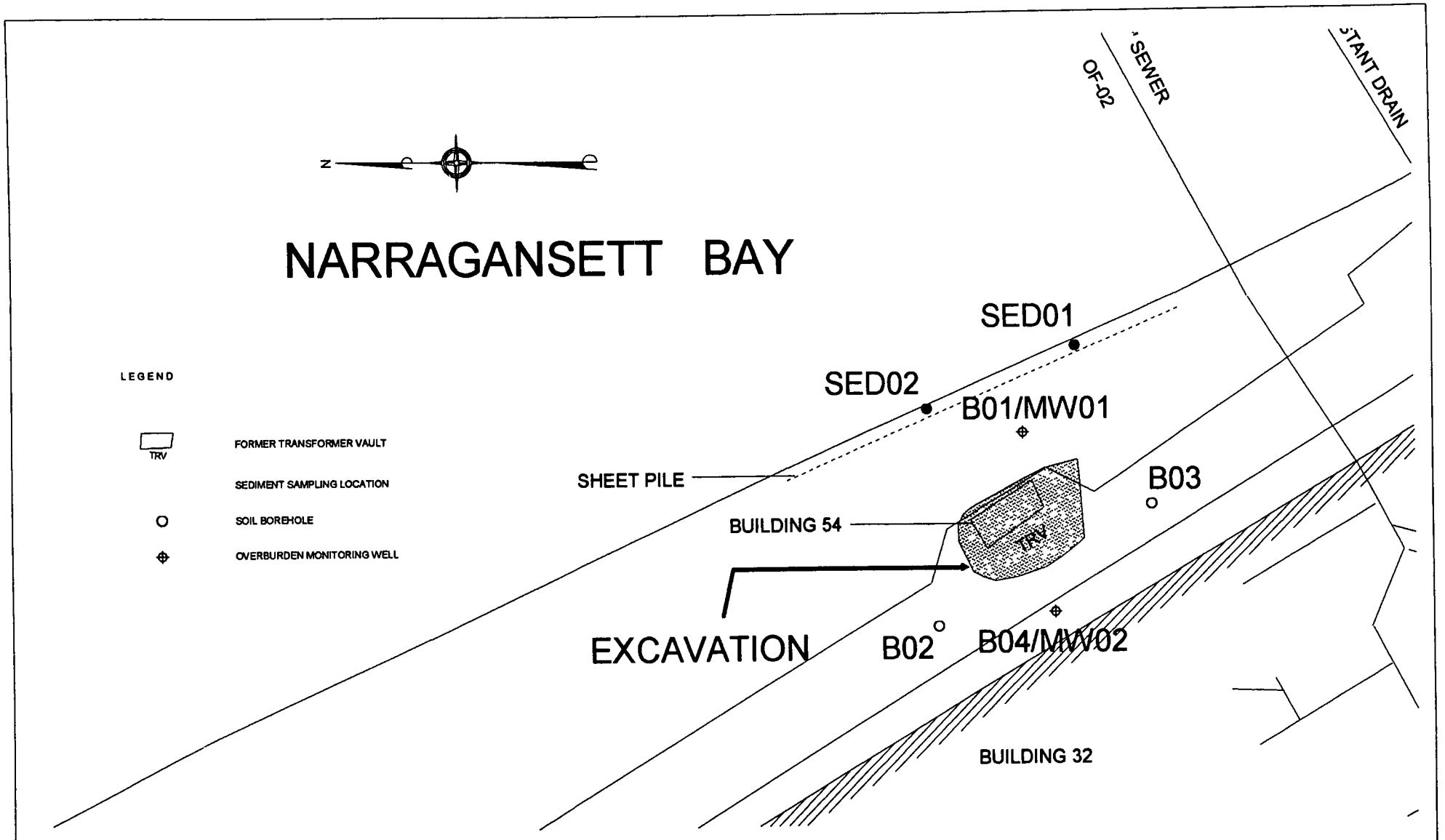
SITE LOCATION MAP
FROM U.S.G.S. TOPOGRAPHIC MAP
PRUDENCE ISLAND
PHOTO REVISED 1975

2000 0 2000 Feet

1 inch = 2000 feet

QUADRANGLE LOCATION

SITE LOCATION MAP			FIGURE 2-1
GOULD ISLAND BUILDING 54			TETRA TECH NUS, INC.
NEWPORT, RHODE ISLAND			55 JONSPIN ROAD WILMINGTON, MA 01887 (978)658-7899
DRAWN BY	J PICCUITO	REV 0	
CHECKED BY	C RACE	DATE AUGUST 2001	
SCALE	AS NOTED	ACAD NAME. D:\PROJECTS\NEWPORT\7538_GOULD\2400_SITE.APR D:\PROJECTS\PDF\GOULD_54\FIG2_1.PDF	



GRAPHIC SCALE

0' 40'

1 INCH = 40 FEET

NOTES

1 PLAN NOT TO BE USED FOR DESIGN.
2. ALL LOCATIONS TO BE CONSIDERED APPROXIMATE.
3. PHYSICAL FEATURES SHOWN MAY NOT DEPICT CURRENT CONDITIONS
4 ADAPTED FROM "MAP OF GOULD ISLAND U.S. NAVAL TORPEDO STATION NEWPORT R.I. SHOWING CONDITIONS ON JUNE 30, 1948.
5. AERIAL PHOTO PROVIDED BY UNITED STATES NAVY (1995)

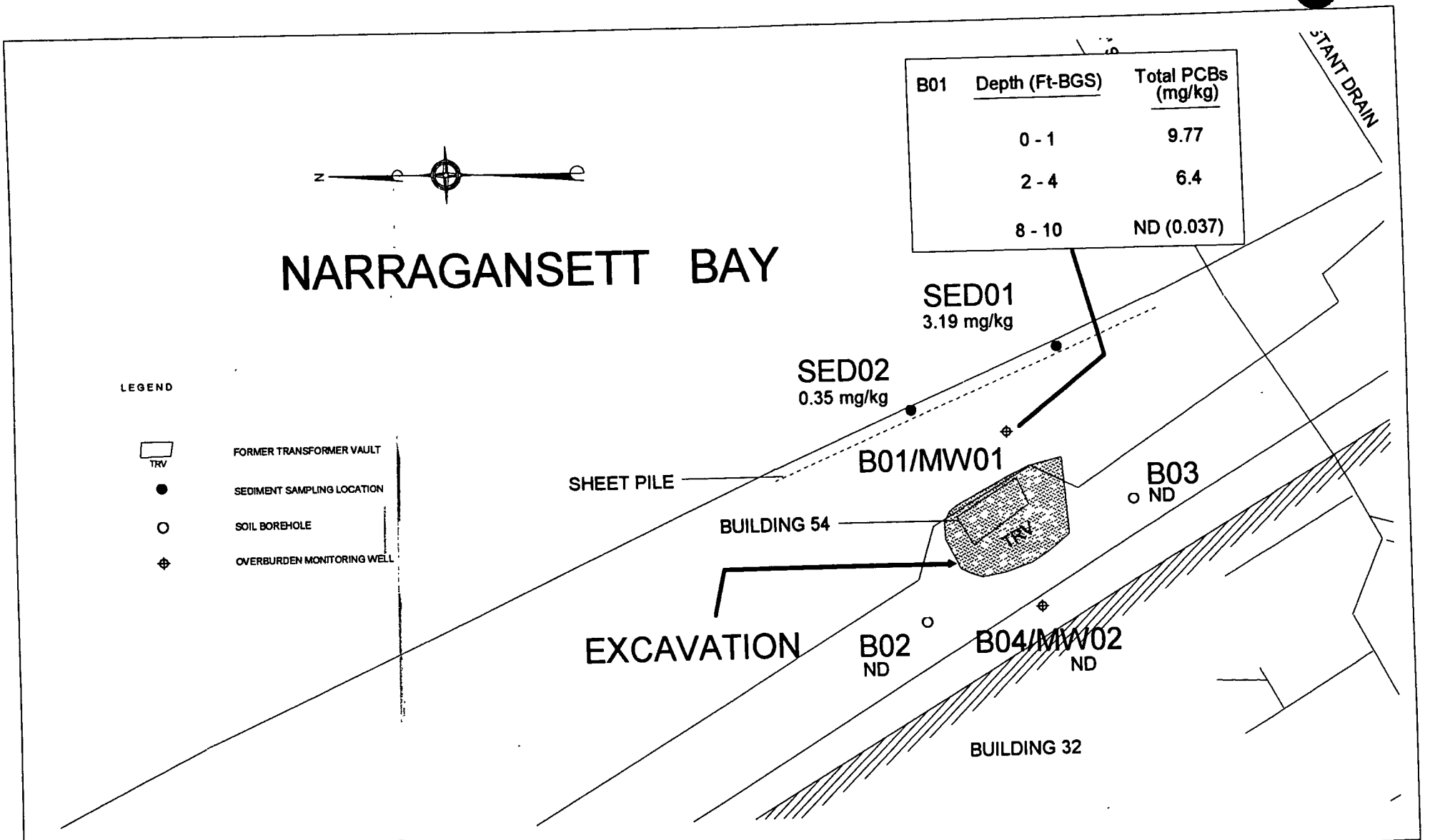
SAMPLING LOCATIONS - PCB SUBSURFACE INVESTIGATION			
GOULD ISLAND BUILDING 54			
NEWPORT, RHODE ISLAND			
DRAWN BY:	J PICCUITO	REV.	0
CHECKED BY	C RACE	DATE	AUGUST 08, 2001
SCALE	1" = 40'	FILE NO.:	D:\PROJECTS\NEWPORT\7538_GOULD\2400 APR D:\PROJECTS\PDF\GOULD54_FIG3_1.PDF

FIGURE 3-1

TETRA TECH NUS, INC.

55 Jonspin Road Wilmington, MA 01887

(978)658-7899



GRAPHIC SCALE

0' 40'

1 INCH = 40 FEET

NOTES

1. PLAN NOT TO BE USED FOR DESIGN
2. ALL LOCATIONS TO BE CONSIDERED APPROXIMATE.
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5. AERIAL PHOTO PROVIDED BY UNITED STATES NAVY (1995)

TOTAL PCBs DETECTED - PCB SUBSURFACE INVESTIGATION

GOULD ISLAND BUILDING 54

NEWPORT, RHODE ISLAND

DRAWN BY	J PICCUITO	REV	0
CHECKED BY	C RACE	DATE	AUGUST 08, 2001
SCALE	1" = 40'	FILE NO.	D:\PROJECTS\NEWPORT\7538_GOULD\2400 APR D:\PROJECTS\PDF\GOULD54_FIG4_1.PDF

FIGURE 4-1

TETRA TECH NUS, INC.

55 Jonspin Road Wilmington, MA 01887

(978)658-7899

APPENDIX A

SOIL BORING LOGS/WELL CONSTRUCTION DIAGRAMS

BORING LOG FOR:	Gould Island Bldg. 54			BORING NO.:	B01
PROJECT NO.:	N7538-2300			START DATE:	06/20/01
LOGGED BY:	G. Sturgeon	TRANSCRIBED BY:	MES	COMPLETION: DATE:	06/20/01
DRILLED BY (Company/Driller):	Guild/D. Serowik			MON. WELL NO.:	MW01
GRD. SURFACE ELEVATION:		ELEVATION FROM:		CHECKED BY:	CDR

DEPTH (FEET)	BLOWS PER 6"	SAMP REC / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG / WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition, odors, geological classification; rock weathering, etc)	FIELD SCREENING DATA *METHOD* = [FID, (PPM)]
			0830 GIB54-B01001						0-2 FT BGS, MOSTLY COBBLES	
2										
		6 / 24	0915 GIB54-B01004	FILL?		BLACK	SAND; 60% fine-coarse sand, 20% fine gravel, 15% silt, and 5% clay	SM	SATURATED	
4										
		6 / 24				BLACK	SAND/GRAVEL; 40% fine to coarse sand, 40% fine to coarse gravel, 10-15% silt, and 5-10% clay	SM		
6				TILL?						
		12 / 24				BLACK	SAND/GRAVEL; 50% fine to coarse sand, 30% fine to coarse gravel, 10-15% silt, and 5-10% clay	SM		
8										
		15 / 24	1100 GIB54-B01010			BLACK	SHALE/SAND/SILT; 50% shale rock fragments, 40$ sand and silt	ROCK BRKN	Weathered shale	
10										
				Bedrock		BLACK	SHALE; 40% clay, 10% sand and silt	ROCK BRKN	Carbon-rich shale	
12										
				EOB @ 12 3 FT						

TYPE OF DRILLING RIG:			Tetra Tech NUS, Inc.
METHOD OF ADVANCING BORING:	DRIVE AND WASH		
METHOD OF SOIL SAMPLING:	2 IN. SPLIT BARREL		
METHOD OF ROCK CORING:	N/A		
GROUNDWATER LEVELS:	LESS THAN 2 FT BGS		
OTHER OBSERVATIONS·	BORING CLOSE TO SHORELINE	BORING NO : B-01	PAGE. 1 OF 1

BORING LOG FOR:	Gould Island Bldg. 54		BORING NO.: B02
PROJECT NO.:	N7538-2300		START DATE: 06/20/01
LOGGED BY:	G. Sturgeon	TRANSCRIBED BY: MES	COMPLETION: DATE: 06/20/01
DRILLED BY (Company/Driller):	Guild/D. Serowik		MON. WELL NO.:
GRD. SURFACE ELEVATION:		ELEVATION FROM:	CHECKED BY: CDR

DEPTH (FEET)	BLOWS PER 6"	SAMP REC / SAMP LENG	SAMPLING TIME & SAMPLE NO (QA/QC STATUS)	DEPTH MAT'L CHG / WELL PROF'L	SOIL DENSITY/ CONSIS or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition, odors, geological classification, rock weathering, etc)	FIELD SCREENING DATA *METHOD* = [FID, (PPM)]
			1440			BLACK	SAND/GRAVEL, 30% sand, 20% silt, 20% clay	SM	0-1 FT = CONCRETE, BORING BEGAN AT 1 FT BGS	
	5	18	GIB54-B0203							
	13						30% fine gravel			
	21									
3	33	24					SAME AS 1-3 FT	SM		
	12	12								
	15			FILL						
	18									
5	26	24				BLACK	SAND/GRAVEL, 50% sand, 15% silt, 10% clay	SM		
	8	9								
	10						25% fine to coarse gravel			
	16		GIB54-B02						THIN LENS OF OLIVE GREEN SAND; WATER AT ~ 7 FT BGS	
7	31	24				BLACK	SAND/GRAVEL; 50% fine to medium sand, 15% silt,	SM		
	7	15								
	8						20% fine gravel			
	18									
9	48	24		TILL						
	37	12	0835						COBBLE TO 13 5'	
11	70	12				BLACK	SAND/SILT, fine to coarse sand with	SM		
							some silt and clay and sub-angular to			
				SAND/			Rounded fine gravel			
				SILT			One fine to medium sand lense ¾ in thick			
13										
			GIB54-B0214 5	EOB.						
	55	4		15'						
	65/3									
15	25/3*	15								

TYPE OF DRILLING RIG:		NOTES:	*Tetra Tech NUS, Inc.*
METHOD OF ADVANCING BORING:	DRIVE AND WASH	* DENOTES 300 LB HAMMER	
METHOD OF SOIL SAMPLING:	2 IN. SPLIT BARREL		
METHOD OF ROCK CORING:	N/A		
GROUNDWATER LEVELS:	APPROXIMATELY 7 FT. BGS		
OTHER OBSERVATIONS:		BORING NO · B-02	PAGE· 1 OF 1

BORING LOG FOR:	Gould Island Bldg. 54		BORING NO.: B03
PROJECT NO.:	N7538-2300		START DATE: 06/21/01
LOGGED BY:	M. Healey	TRANSCRIBED BY: MES	COMPLETION: DATE: 06/21/01
DRILLED BY (Company/Driller):	Guild / D. Holley		MON. WELL NO.:
GRD. SURFACE ELEVATION:		ELEVATION FROM:	CHECKED BY: CDR

DEPTH (FEET)	BLOWS PER 6"	SAMP REC / SAMP LENG.	SAMPLING TIME & SAMPLE NO (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition, odors, geological classification, rock weathering, etc)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
	5	24	GIB54-B0301							
	14		1015				SAND/SILT; fine to coarse sand with some			BKg
	23						silt and little, angular to subangular gravel.			
2	22	24	S-1					SM		
	27	20								
	19		1025	FILL		BLACK	Similar to S-1			BKg
	18									
4	19	24	S-2							
	11	18								
	22		1035							BKg
	22						SAND/SILT; medium to coarse sand		Glacial till	
6	46	24	S-3			BROWN	some silt	SM		
	7	22	GIB54-B0308							
	11		1110							BKg
	9									
8	7	24	S-4							
	50	16					SIMILAR TO S-3 (TILL)		WATER @ 6'-7' BGS	
	80		1130							
	27									
10	21	24	S-5							
	50/5	3		TILL			SIMILAR TO S-3 (TILL)		BOULDERS AND COBBLE @ 10 5' TO 13'	
			1240							
12		5	S-6							
	18	20	1250				SAND/SILT, FINE TO MEDIUM SAND WITH			
14	31	24	GIB54-B0315 S-7	SAND			LAYERS OF SILT AND SILTY CLAY 1/3-3/4 IN. THICK	SM		
	30		GIB54-B030001	SILT				ML		
	61							CL		
16				EOB @ 15'						

TYPE OF DRILLING RIG:		NOTES: DENOTE, 300 LB. HAMMER	Tetra Tech NUS, Inc.
METHOD OF ADVANCING BORING:	DRIVE AND WASH		
METHOD OF SOIL SAMPLING.	2 IN SPLIT BARREL		
METHOD OF ROCK CORING:	N/A		
GROUNDWATER LEVELS:	WATER AT ~ 6'-7' BGS.		
OTHER OBSERVATIONS:		BORING NO.: B-03	PAGE 1 OF 1

BORING LOG FOR:	Gould Island Bldg. 54	BORING NO.:	B04
PROJECT NO.:	N7538-2300	START DATE:	06/21/01
LOGGED BY:	M. Healey	COMPLETION: DATE:	06/22/01
DRILLED BY (Company/Driller):	Guild / D. Holley	MON. WELL NO.:	MW02
GRD. SURFACE ELEVATION:		CHECKED BY:	CDR

TRANSCRIBED BY: MES

ELEVATION FROM:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG / WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors, geological classification, rock weathering, etc)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
	7	14							BORING STARTED	
	13		1425				SAND/SILT; fine to coarse same with some	SM	BELOW CONCRETE	BKg
	9		GIB54-B0402				silt and fine gravel		FIRST SAMPLE @ 1 0'	
3	5	24	GIB54-B04 S-1				(stone in split barrel)			
	6	2								
	7		1435	FILL						
	9									
5	23	24	S-2							
	25	10							WATER ~ 6' BGS	
	29		1450				SIMILAR TO S-1 EXCEPT INCLUDES A SAND LENS	SM		
	13		GIB54-B0407							
7	17	24	S-3							
	65	4								
	29*		1505							
	27*	18								
9			S-4							
	63	20						SM		
	50/3		1525				SILTY GRAVELLY SAND; fine sand with some	GM		
	18*			TILL			silt and occasional silt layer ¼-1/2 in. thick			
11	50*	24	S-5				Fine sub-rounded to angular gravel			
				Boulders						
13										
	69	12	1605				SIMILAR TO S-5 EXCEPT SHALE IN NOSE OF SAMPLER			
	50*	12	GIB54-B0414 S-6							
				EOB @						
15				14'						

TYPE OF DRILLING RIG:	
METHOD OF ADVANCING BORING:	DRIVE AND WASH, 4 IN CASING
METHOD OF SOIL SAMPLING:	2 IN. SPLIT BARREL
METHOD OF ROCK CORING:	N/A
GROUNDWATER LEVELS.	
OTHER OBSERVATIONS	

NOTES:
* DENOTE, 300 LB. HAMMER

Tetra Tech NUS, Inc.

BORING NO · B-04

OVERBURDEN MONITORING WELL CONSTRUCTION LOG

TETRA TECH NUS, INC.

PROJECT NAME: Gould Island Building 54

PROJECT NO: 7538-2300

PROJECT LOCATION: Gould Island

WELL NO: MW01

CLIENT: Naval Facilities Engineering Command

BORING NO: B01

CONTRACTOR: Guild

DRILLER: D. Sevowik

BORING LOCATION:

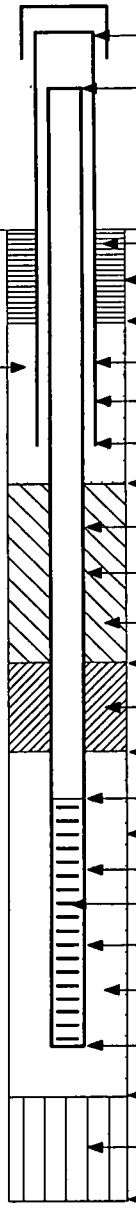
LOGGED BY: G. Sturgeon

DATE: 06/20/01

CHECKED BY: M. Healey

DATE:

PAGE: 1 OF 1



ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER

LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	N/A
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	3.46
TYPE OF SURFACE SEAL	Cement
DIA. SURFACE SEAL BGS (In.)	
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	1
I.D. OF PROTECTIVE CASING (In.)	N/A
TYPE OF PROTECTIVE CASING	N/A
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	N/A
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	N/A
RISER PIPE (In.) I.D. 2	O.D.:
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	N/A
DEPTH TOP OF SEAL (Ft.)	N/A
TYPE OF SEAL	N/A
DEPTH BOTTOM OF SEAL (Ft.)	N/A
DEPTH TOP OF PERVIOUS SECTION (Ft.)	2
DIAMETER OF BOREHOLE (In.)	2
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.01
PERVIOUS SECTION (In.) I.D.: 2	O.D.:
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	00 sand
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	9
DEPTH BOTTOM OF FILTER PACK (Ft.)	10
TYPE OF BACKFILL BELOW FILTER PACK	Bentonite
END OF BORING (Ft.)	12.3

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG

TETRA TECH NUS, INC.

PROJECT NAME: Gould Island Building 54

PROJECT NO: 7538-2300

PROJECT LOCATION: Gould Island

WELL NO: MW02

CLIENT: Naval Facilities Engineering Command

BORING NO: B04

CONTRACTOR: Guild

DRILLER: D. Holley

BORING LOCATION:

LOGGED BY: M. Healey

DATE: 06/22/01

CHECKED BY:

DATE:

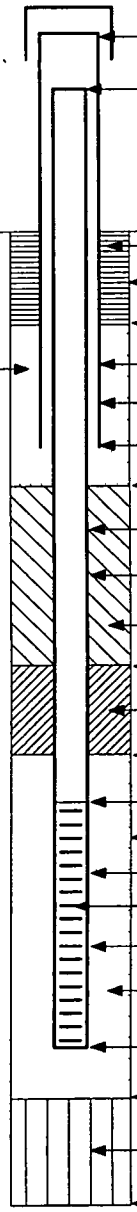
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.07
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	1.92
TYPE OF SURFACE SEAL	Cement
DIA. SURFACE SEAL BGS (In.)	8 - inch
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	1
I.D. OF PROTECTIVE CASING (In.)	3 - inch
TYPE OF PROTECTIVE CASING	Steel
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	1.93
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.0
RISER PIPE (In.) I.D. 2	O.D.: 2 3/8
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	N/A
DEPTH TOP OF SEAL (Ft.)	N/A
TYPE OF SEAL	N/A
DEPTH BOTTOM OF SEAL (Ft.)	N/A
DEPTH TOP OF PERVIOUS SECTION (Ft.)	3
DIAMETER OF BOREHOLE (In.)	4
TYPE OF PERVIOUS SECTION	Schedul 40 PVC
TYPE OF OPENINGS	
PERVIOUS SECTION (In.) I.D.: 2	O.D.: 2 3/8
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Sand
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	13
DEPTH BOTTOM OF FILTER PACK (Ft.)	14
TYPE OF BACKFILL BELOW FILTER PACK	NA
END OF BORING (Ft.)	14

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

APPENDIX B

DATA VALIDATION MEMORANDA

CTO 282 Gould Island - BLDG 54 File: 7538-3.4
PCB INVESTIGATION

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

RECEIVED JUL 27 2001

TO: **C. RACE** **DATE: JULY 26 , 2001**

FROM: **ANGELA SCHEETZ** **COPIES: DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION: / PCB / CTO 282, NETC NEWPORT SDG 81344 and 81363**

SAMPLES: SDG: 81363

1 / Soil

GIB54-B02

SDG: 81344

2 / Aqueous

GIB54-MW01 GIB54-DUP01

12 / Soils

GIB54-B01004	GIB54-B01010	GIB54-B0203
GIB54-B0214.5	GIB54-B030001	GIB54-B0301
GIB54-B0308	GIB54-B0315	GIB54-B04
GIB54-B0402	GIB54-B0407	GIB54-B0414

Overview

The sample set for CTO 282, NETC Newport; SDG 81363 consists of one (1) soil environmental sample; SDG 81344 consists of two (2) aqueous environmental samples and twelve (12) soil environmental samples. The 2 aqueous and 13 soil environmental samples were analyzed for polychlorinated biphenyl organic compounds (PCBs). Three field duplicate pairs were included in SDG 81344, GIB54-MW-01 / GIB54-DUP01, GIB54-B0315 / GIB54-B030001, GIB54-B0402 / GIB54-B04.

The samples were collected by TetraTech NUS on June 20 and 21, 2001 and were analyzed by Mitkem Corporation. Analyses were conducted using the Contract Laboratory Program (CLP) Statement of Work (SOW) OLC03.1, SW-846 8082 analytical and reporting protocols.

The data were evaluated based on the following parameters:

* • Data Completeness
• Holding Times
* • Initial and Continuing Calibration
* • Laboratory Method and/or Field Quality Control Blanks
• Surrogate Spike Recoveries

* • Blank Spike / Blank Spike Duplicate Recoveries
* • Internal Standards Performance
* • Instrument Performance
* • Compound Identification
* • Compound Quantitation
* • Detection Limits
* • Field Duplicate Results

The asterisk (*) indicates that all quality control criteria were met for this parameter. Qualified (if applicable) analytical results are summarized in Appendix A. Results as reported by the laboratory are presented in Appendix B. Appendix C contains Region I worksheets, and Appendix D contains the documentation to support the findings as discussed in this data validation report. The attached Table summarizes the validation qualifications which are based on the following information:

HOLDING TIME

The two aqueous samples, GIB54-MW01 and GIB54-DUP01 exceeded the 7-day holding time by 5 days. The nondetected results in these two samples were qualified as estimated, UJ.

SURROGATE RECOVERY

% Recovery of the pesticide surrogate decachlorobiphenyl exceeded the quality control limits in sample GIB54-B02 on both analytical columns. No qualifications were made on this basis since all the reported results were nondetected.

DILUTION FACTORS

The sample, GIB54-B01004 was analyzed at a 1X dilution factor, however the lab did not provide this data. This sample was diluted and reanalyzed at a 10X dilution factor due to Aroclor-1260 exceeding the linear range. The reporting limits for this sample are elevated because the 10X dilution results were used.

ADDITIONAL COMMENTS

The laboratory reported the lower of the 2 positive results in sample GIB54-B01004.

OVERALL ASSESSMENT

Lab ratory Performance: Surrogate recoveries exceeded the quality control limits in SDG 81363. Holding times were exceeded in the aqueous samples.

Oth r Factors Affecting Data Quality: Dilution factors were used in one sample.

The data for these analyses were reviewed with reference to the Region I EPA "Data Validation Functional Guidelines - Part II" (12/96).

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS

Angela Scheetz
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Regional Worksheets
4. Appendix D - Support Documentation

APPENDIX A

QUALIFIED LABORATORY RESULTS

CTO282-NETC NEWPORT
SOIL DATA
Mitkem Corporation
SDG: 81363

SAMPLE NUMBER:	GIB54-B02			
SAMPLE DATE:	06/20/01	/ /	/ /	/ /
LABORATORY ID:	81363001			
QC_TYPE:	NORMAL			
% SOLIDS:	88.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/KG			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
AROCLOR-1016	38	U										
AROCLOR-1221	38	U										
AROCLOR-1232	38	U										
AROCLOR-1242	38	U										
AROCLOR-1248	38	U										
AROCLOR-1254	38	U										
AROCLOR-1260	38	U										

CTO282-NETC NEWPORT
WATER DATA
Mitkem C rp rati n
SDG: 81344

SAMPLE NUMBER:	GIB54-DUP01			GIB54-MW01			/ /			/ /		
SAMPLE DATE:	06/21/01			06/21/01								
LABORATORY ID:	81344002			81344001								
QC_TYPE:	NORMAL			NORMAL								
% SOLIDS:	0.0 %			0.0 %			100.0 %			100.0 %		
UNITS:	UG/L			UG/L								
FIELD DUPLICATE OF:	GIB54-MW01											
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
AROCLOR-1016	1	UJ	H	1	UJ	H						
AROCLOR-1221	1	UJ	H	1	UJ	H						
AROCLOR-1232	1	UJ	H	1	UJ	H						
AROCLOR-1242	1	UJ	H	1	UJ	H						
AROCLOR-1248	1	UJ	H	1	UJ	H						
AROCLOR-1254	1	UJ	H	1	UJ	H						
AROCLOR-1260	1	UJ	H	1	UJ	H						

CTO282-NETC NEWPORT
SOIL DATA
Mitkem Corporation
SDG: 81344

SAMPLE NUMBER:	GIB54-B01004			GIB54-B01010			GIB54-B0203			GIB54-B0214.5		
SAMPLE DATE:	06/20/01			06/20/01			06/20/01			06/20/01		
LABORATORY ID:	81344006			81344007			81344008			81344009		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	89.0 %			89.0 %			91.0 %			89.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
AROCLOR-1016	370	U		37	U		36	U		37	U	
AROCLOR-1221	370	U		37	U		36	U		37	U	
AROCLOR-1232	370	U		37	U		36	U		37	U	
AROCLOR-1242	370	U		37	U		36	U		37	U	
AROCLOR-1248	370	U		37	U		36	U		37	U	
AROCLOR-1254	370	U		37	U		36	U		37	U	
AROCLOR-1260	6400			37	U		36	U		37	U	

CTO282-NETC NEWPORT
SOIL DATA
Mitkem Corporation
SDG: 81344

SAMPLE NUMBER:	GIB54-B030001	GIB54-B0301	GIB54-B0308	GIB54-B0315
SAMPLE DATE:	06/21/01	06/21/01	06/21/01	06/21/01
LABORATORY ID:	81344013	81344010	81344011	81344012
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	85.0 %	95.0 %	89.0 %	85.0 %
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG
FIELD DUPLICATE OF:	GIB54-B0315			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
AROCLOR-1016	38	U		35	U		37	U		39	U	
AROCLOR-1221	38	U		35	U		37	U		39	U	
AROCLOR-1232	38	U		35	U		37	U		39	U	
AROCLOR-1242	38	U		35	U		37	U		39	U	
AROCLOR-1248	38	U		35	U		37	U		39	U	
AROCLOR-1254	38	U		35	U		37	U		39	U	
AROCLOR-1260	38	U		35	U		37	U		39	U	

CTO282-NETC NEWPORT
SOIL DATA
Mitkem Corporati n
SDG: 81344

SAMPLE NUMBER:	GIB54-B04			GIB54-B0402			GIB54-B0407			GIB54-B0414		
SAMPLE DATE:	06/21/01			06/21/01			06/21/01			06/21/01		
LABORATORY ID:	81344015			81344014			81344016			81344017		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	91.0 %			84.0 %			91.0 %			89.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:	GIB54-B0402											
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
AROCLOR-1016	36	U		38	U		36	U		37	U	
AROCLOR-1221	36	U		38	U		36	U		37	U	
AROCLOR-1232	36	U		38	U		36	U		37	U	
AROCLOR-1242	36	U		38	U		36	U		37	U	
AROCLOR-1248	36	U		38	U		36	U		37	U	
AROCLOR-1254	36	U		38	U		36	U		37	U	
AROCLOR-1260	36	U		38	U		36	U		37	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GIB54-B02

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

Matrix: (soil/water) SOIL Lab Sample ID: 81363001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: E3D1004F

% Moisture: 12 decanted: (Y/N) N Date Received: 06/26/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/29/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 07/07/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	38	U
11104-28-2	Aroclor-1221	38	U
11141-16-5	Aroclor-1232	38	U
53469-21-9	Aroclor-1242	38	U
12672-29-6	Aroclor-1248	38	U
11097-69-1	Aroclor-1254	38	U
11096-82-5	Aroclor-1260	38	U

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

54-B01004

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix: (soil/water) SOIL Lab Sample ID: 81344006

Sample wt/vol: 30.0 (g/mL) G Lab File ID: E3D1174F

% Moisture: 11 decanted: (Y/N) N Date Received: 06/22/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted:07/02/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 07/11/01

Injection Volume: 1.0(uL) Dilution Factor: 10.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2------	Aroclor-1016	370	U
11104-28-2------	Aroclor-1221	370	U
11141-16-5------	Aroclor-1232	370	U
53469-21-9------	Aroclor-1242	370	U
12672-29-6------	Aroclor-1248	370	U
11097-69-1------	Aroclor-1254	370	U
11096-82-5------	Aroclor-1260	6400	

FORM I PCB

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

54-B01010

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix: (soil/water) SOIL Lab Sample ID: 81344007

Sample wt/vol: 30.2 (g/mL) G Lab File ID: E3D1011F

% Moisture: 11 decanted: (Y/N) N Date Received: 06/22/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/02/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 07/07/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	37	U
11104-28-2	Aroclor-1221	37	U
11141-16-5	Aroclor-1232	37	U
53469-21-9	Aroclor-1242	37	U
12672-29-6	Aroclor-1248	37	U
11097-69-1	Aroclor-1254	37	U
11096-82-5	Aroclor-1260	37	U

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

54-B0203

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix: (soil/water) SOIL Lab Sample ID: 81344008

Sample wt/vol: 30.8 (g/mL) G Lab File ID: E3D1115F

% Moisture: 9 decanted: (Y/N) N Date Received: 06/22/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted:07/02/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 07/10/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	36	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	36	U

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

54-B0214.5

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix: (soil/water) SOIL Lab Sample ID: 81344009

Sample wt/vol: 30.2 (g/mL) G Lab File ID: E3D1116F

% Moisture: 11 decanted: (Y/N) N Date Received: 06/22/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/02/01

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/10/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	37	U
11104-28-2	Aroclor-1221	37	U
11141-16-5	Aroclor-1232	37	U
53469-21-9	Aroclor-1242	37	U
12672-29-6	Aroclor-1248	37	U
11097-69-1	Aroclor-1254	37	U
11096-82-5	Aroclor-1260	37	U

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

54-B030001

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix: (soil/water) SOIL Lab Sample ID: 81344013

Sample wt/vol: 30.6 (g/mL) G Lab File ID: E3D1019F

% Moisture: 15 decanted: (Y/N) N Date Received: 06/22/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/02/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 07/07/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	38	U
11104-28-2	Aroclor-1221	38	U
11141-16-5	Aroclor-1232	38	U
53469-21-9	Aroclor-1242	38	U
12672-29-6	Aroclor-1248	38	U
11097-69-1	Aroclor-1254	38	U
11096-82-5	Aroclor-1260	38	U

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

54-B0301

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix: (soil/water) SOIL Lab Sample ID: 81344010

Sample wt/vol: 30.4 (g/mL) G Lab File ID: E3D1117F

% Moisture: 5 decanted: (Y/N) N Date Received: 06/22/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/02/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 07/10/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	35	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

54-B0308

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix: (soil/water) SOIL Lab Sample ID: 81344011

Sample wt/vol: 30.2 (g/mL) G Lab File ID: E3D1118F

% Moisture: 11 decanted: (Y/N) N Date Received: 06/22/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/02/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 07/10/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	37	U
11104-28-2	Aroclor-1221	37	U
11141-16-5	Aroclor-1232	37	U
53469-21-9	Aroclor-1242	37	U
12672-29-6	Aroclor-1248	37	U
11097-69-1	Aroclor-1254	37	U
11096-82-5	Aroclor-1260	37	U

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

54-B0315

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix: (soil/water) SOIL Lab Sample ID: 81344012

Sample wt/vol: 30.4 (g/mL) G Lab File ID: E3D1018F

% Moisture: 15 decanted: (Y/N) N Date Received: 06/22/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted:07/02/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 07/07/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	39	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	39	U
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	39	U
11096-82-5	Aroclor-1260	39	U

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

54-B04

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix: (soil/water) SOIL Lab Sample ID: 81344015

Sample wt/vol: 30.5 (g/mL) G Lab File ID: E3D1042F

% Moisture: 9 decanted: (Y/N) N Date Received: 06/22/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/02/01

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/08/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	36	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	36	U

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

54-B0402

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix: (soil/water) SOIL Lab Sample ID: 81344014

Sample wt/vol: 30.9 (g/mL) G Lab File ID: E3D1119F

% Moisture: 16 decanted: (Y/N) N Date Received: 06/22/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/02/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 07/10/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	38	U
11104-28-2	Aroclor-1221	38	U
11141-16-5	Aroclor-1232	38	U
53469-21-9	Aroclor-1242	38	U
12672-29-6	Aroclor-1248	38	U
11097-69-1	Aroclor-1254	38	U
11096-82-5	Aroclor-1260	38	U

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

54-B0407

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix: (soil/water) SOIL Lab Sample ID: 81344016

Sample wt/vol: 30.2 (g/mL) G Lab File ID: E3D1036F

% Moisture: 9 decanted: (Y/N) N Date Received: 06/22/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/02/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 07/08/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	36	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	36	U

FORM I PCB

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

54-B0414

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix: (soil/water) SOIL Lab Sample ID: 81344017

Sample wt/vol: 30.6 (g/mL) G Lab File ID: E3D1020F

% Moisture: 11 decanted: (Y/N) N Date Received: 06/22/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted:07/02/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 07/07/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	37	U
11104-28-2	Aroclor-1221	37	U
11141-16-5	Aroclor-1232	37	U
53469-21-9	Aroclor-1242	37	U
12672-29-6	Aroclor-1248	37	U
11097-69-1	Aroclor-1254	37	U
11096-82-5	Aroclor-1260	37	U

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

54-MW01

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix: (soil/water) WATER Lab Sample ID: 81344001

Sample wt/vol: 500.0 (g/ml) ML Lab File ID: E3D1352F

% Moisture: _____ decanted: (Y/N)___ Date Received: 06/22/01

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:07/03/01

Concentrated Extract Volume: 5000(uL) Date Analyzed: 07/17/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

54-DUP01

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix: (soil/water) WATER Lab Sample ID: 81344002

Sample wt/vol: 500.0 (g/ml) ML Lab File ID: E3D1353F

% Moisture: _____ decanted: (Y/N)___ Date Received: 06/22/01

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:07/03/01

Concentrated Extract Volume: 5000(uL) Date Analyzed: 07/17/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PCB

APPENDIX C

REGIONAL WORKSHEETS

REGION I, EPA-NE ORGANIC REGIONAL DATA ASSESSMENT (ORDA)*

CASE #: _____

LAB NAME: Mitkem Corporation

SDG #: 81363 & 81344

SOW #/CONTRACT #: _____

EPA-NE DV TIER LEVEL: _____

TPO/PO: **ACTION ____ FYI ____

SITE NAME: NETC Newport

OF SAMPLES/MATRIX: 13/Soil 2/Aq

VALIDATION CONTRACTOR: _____

VALIDATOR'S NAME: Angie Schectz

DATE DP REC'D BY EPA-NE: _____

DV COMPLETION DATE: 7/24/01

ANALYTICAL DATA QUALITY SUMMARY

	VOA	SV	Pest/PCB
1. Preservation and Contractual Holding Times			o
2. GC/MS / GC/ECD Instrument Performance Check			o
3. Initial Calibration			o
4. Continuing Calibration			o
5. Blanks			o
6. Surrogate Compounds			o
7. Internal Standards			o
8. Matrix Spike/Matrix Spike Duplicate			o
9. Sensitivity Check			o
10. PE Samples-Accuracy Check			o
11. Target Compound Identification			o
12. Compound Quantitation and Reported QLs			o
13. Tentatively Identified Compounds			o
14. Semivolatile Cleanup/Pesticide/PCB Cleanup			o
15. Data Completeness			o
16. Overall Evaluation of Data			o

o = Data had no problems or were qualified due to minor contractual problems.
m = Data were qualified due to major contractual problems.
z = Data were rejected as unusable due major contractual problems.

ACTION ITEMS: (z items) _____

AREAS OF CONCERN: (m items) _____

COMMENTS: _____

*This form assesses the analytical data quality in terms of contractual compliance only. It does not assess sampling errors and/or non-contractual analytical issues that affect data quality.

**Check "ACTION" only if contractual defects resulted in reduced payment/data rejection recommendations.

Validator: Angela Schectz

Date: 7/24/01

INSTRUCTIONS ON REVERSE SIDE

EPA-NE
Data Validation Worksheet Cover Page - Page 1

Site Name NETC Newport
Reference No. _____

REGION I ORGANIC DATA VALIDATION

The following data package has been validated:

Lab Name Mit Kem Corporation
Case/Project No. _____
SDG No. 81363 & 81344
No. of Samples/Matrix 13/Soil & 2/Aq

SOW/Method No. SW846 8082
Sampling Date(s) 6/20-21
Shipping Date(s) _____
Date Rec'd by lab 6/22 & 6/25

Traffic Report Sample Nos. See letter

Trip Blank No. –
Equipment Blank No. –
Bottle Blank No. –
Field Duplicate Nos. 54-Dup01 / 54MW01
PES Nos. –

The Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, revision _____ was used to evaluate the data and/or approved modifications to the EPA-NE Functional Guidelines were used to evaluate the data and are attached to this cover page: (attach modified criteria from EPA approved QAPjP or amendment to QAPjP).

A Tier II or Tier III evaluation was used to validate the data (circle one). If a Tier II validation with a partial Tier III was used, then identify samples, parameters, etc. that received partial Tier III validation

_____.

The data were evaluated based upon the following parameters:

- Overall Evaluation of Data
- Data Completeness (CSF Audit - Tier I)
- Preservation & Technical Holding Times
- GC/MS & GC/ECD Instrument Performance Check
- Initial & Continuing Calibrations
- Blanks
- Surrogate Compounds
- Internal Standards
- Matrix Spike/Matrix Spike Duplicate
- Field Duplicates
- Sensitivity Check
- PE Samples/Accuracy Check
- Target Compound Identification
- Compound Quantitation and Reported Quantitation Limits
- TICs
- Semivolatile and Pesticide/PCB Cleanup
- System Performance

Region I Definitions and Qualifiers:

A - Acceptable Data
J - Numerical value associated with compound is an estimated quantity.
R - The data are rejected as unusable. The R replaces the numerical value or sample quantitation limit.
U - Compound not detected at that numerical sample quantitation limit.
UJ - The sample quantitation limit is an estimated quantity.
TB, BB, EB - Compound detected in aqueous trip blank, aqueous bottle blank, or aqueous equipment blank associated with soil/sediment samples.

Validator's Name Angela Scheetz Company Name TtNUS Phone Number (412) 921-7271

Date Validation Started 7/24/01 Date Validation Completed 7/24/01

The data validator generates a Data Validation Report, applicable to Data Validation Tiers II and III, that consists of the following components in the order specified below: (Refer to Section 11 for a description of each of the Data Validation Report components).

1. Organic Regional Data Assessment/Inorganic Regional Data Assessment (ORDA/IRDA) Form
2. Data Validation Memorandum
   a. Narrative
   b. Table I-Qualifier Recommendation Summary Table
   c. Table II-Overall Evaluation of Data
   d. Table III-Tentatively Identified Compounds
   e. Data Summary Tables
3. Standard Data Validation Worksheets
   a. Manual
   b. Automated Data Review Reports (i.e., CADRE)
4. Support Documentation
   a. Copy of non-CLP analytical method, e.g., DAS methods, modified EPA methods
   b. Copies of PES Score Reports/Vendor PES QC Acceptance Limits
   c. Copies of Telephone Logs/Communication Forms for:
      - RSCC communications
      - Requests for laboratory data resubmissions/clarifications
      - Communications with samplers resolving sampling problems
      - Communications with TPO/Lead Chemist to report contractually-deficient data for rejection/reduced payment
      - Communications with EPA Site Manager concerning possible data rejection
      - EPA Site Manager authorization for alternate DV tier
   d. Copies of data supporting recommendations for reduced payment resulting from CSF Audit and/or PE sample result evaluation
   e. Original data to support recommendations for data rejection/non-payment identified from Tier II or Tier III data validation
   f. Copies of field sampling notes and/or field report supplied by field sampler
   g. Copies of EPA-approved amendments to QAPjP and/or SAP describing modified criteria to be used for validating site data
5. CSF Completeness Evidence Audit
6. DQO Summary Form

The data validator is responsible for implementing all corrective actions required by the contractor Lead Chemist in response to EPA-NE data validation oversight findings.

EPA-NE - Data Validation Worksheet
Overall Evaluation of Data - Data Validation Memorandum - Table II

VOLATILE ORGANICS					
DQO (list all DQOs)	Sampling and/or Analytical Method Appropriate Yes or No	Measurement Error		Sampling Variability**	Potential Usability Issues
		Analytical Error	Sampling Error*		
NA					

* The evaluation of "sampling error" cannot be completely assessed in data validation.

** Sampling variability is not assessed in data validation.

Validator: Angela Schuch

Date: 7/24/0

EPA-NE - Data Validation Worksheet
Overall Evaluation of Data - Data Validation Memorandum - Table II

NA

SEMIVOLATILE ORGANICS					
DQO (list all DQOs)	Sampling and/or Analytical Method Appropriate Yes or No	Measurement Error		Sampling Variability++	Potential Usability Issues
		Analytical Error	Sampling Error*		

* The evaluation of "sampling error" cannot be completely assessed in data validation.

** Sampling variability is not assessed in data validation.

Validator: Angela Schultz

Date: 7/24/01

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB

COMPLETE SDG FILE (CSF) AUDIT

Organic Fractions: NA

Missing Information	Date Lab Contacted	Date Received

Validator: Angela Schuetz

Date: 7/24/01

12/96

EPA-NE - Data Validation
VOA/SV - Pest/PCB-I

12/9

Sampler:_____ Company:_____ Contacted: Yes No Date:_____

I. PRESERVATION AND HOLDING TIMES - Circle sample numbers with exceeded technical holding times or omitted preservation.
List all required preservation codes and circle omitted preservation codes.
Circle all exceeded technical holding times.
Identify extraction technique after "# of Days"/(*Extraction Code).

Sample No. (IR No.)	Matrix	Pres. Code	Date Sampled	VOA			BNA					PEST/PCB				
				Date Analyzed	# of Days from Samp to Anal.	Action	Date Extracted	# of Days from Samp. to Extr./(*)	Date Analyzed	# of Days from Extr. to Anal.	Action	Date Extracted	# of Days from Samp to Extr./(*)	Date Analyzed	# of Days from Extr to Anal.	Action

Preservation Code:
1. Cool @ 4°C (± 2°)
2. Preserve with HCl to at least pH 2
3. Protect from light
4. Freeze
5. Room Temperature (Avoid excessive heat)

(*Extraction Code:)
L/L - Liquid/Liquid
SON - S nication
SEP - Separatory Funnel
SOX - Soxhlet
SPE - Solid Phase Extraction

Action Code:
J - Estimate (J) Detected Values
UJ - Estimate (UJ) Non-Detected Values
R - Reject (R) Non-Detected Values

Validator: Angela Schedy

Date: 7/24/01

EPA-NE - Data Validation Worksheet
VOA/SV-II

II. GC/MS INSTRUMENT PERFORMANCE CHECK (TUNING) NA

List all Instrument Performance Checks that are outside method QC tuning acceptance criteria.

Volatile Instrument Performance Check (Compound Name)	Analysis Date and Time	Instrument	Ion(s) Affected	Percent Relative Abundance	QC Limits	Samples Affected	Action

Comments:

Semivolatile Instrument Performance Check (Compound Name)	Analysis Date and Time	Instrument	Ion(s) Affected	Percent Relative Abundance	QC Limits	Samples Affected	Action

Comments:

If tuning compounds and criteria are different from those specified in CLP SOW OLM03.1, then the validator should include a copy of the method-specific tuning criteria with this worksheet.

Validator: Angela Schatz

Date: 7/4/01

EPA-NE - Data Validation Worksheet
VOA/SV-III

III. INITIAL CALIBRATION - List all analytes that are outside calibration criteria.

NA

Date of ICAL	Instrument	Parameter	Matrix	Compound	% RSD	RRF	Samples Affected	Action

Comments:

Validator: Angela Schwartz

Date: 7/24/01

EPA-NE - Data Validation Worksheet
VOA/SV-IV NA

IV. CONTINUING CALIBRATION - List all analytes that are outside calibration criteria.

Date of ICAL	Date of CCAL	Instrument	Parameter	Matrix	Compound	%D	RRF	Samples Affected	Action

Comments:

Validator: Angela Schetty

Date: 7[illegible]/01

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-V-A

V. BLANK ANALYSIS

List the blank contamination below.

Sampler: _____ Company: _____ Concentration Level: _____

Contacted: Yes No Date: _____

1. Laboratory: Method, Storage and Instrument Blanks

Date Extracted	Date Analyzed	Parameter/ Matrix	Sample No. (Blank Type)	Instrument/ Column	Compound	Conc. (units)
None						

2. Field: Equipment (Rinsate), Trip and Bottle Blanks

Date Extracted	Date Analyzed	Parameter/ Matrix	Sample No. (Blank Type)	Instrument/ Column	Compound	Conc. (units)

Validator: Angela Schuetz

Date: 7/24/07

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-V-B

3. Blank Actions - List the maximum concentrations of blank compounds.

Compound	Type of Blank	Date Blank Sampled/Originated	Max. Conc. (units)	Action Level (units)	Sample QL	Samples Affected	Action
None							

Comments: _____

Validator: Angela Schatz

Date: 7/24/01

VI. VOA SURROGATE SPIKE RECOVERIES - List all surrogate compound recoveries that are outside method QC acceptance criteria.

NA

Method	Volatile Method QC Acceptance Criteria				
	Toluene-d_8	BFB	DCE-d_4	Other:	
OLM03.2	Water 88-110 Soil 84-138	Water 86-115 Soil 59-113	Water 76-114 Soil 70-121		
OLC02.1	NA	80-120	NA		
Other:					
Sample Number/Matrix	% Recovery	% Recovery	% Recovery	% Recovery	Action

Validator: Angela Schultz

Date: 7/24/07

EPA-NE - Data Validation Worksheet
SV-VI

VI. SV SURROGATE SPIKE RECOVERIES - List all surrogate compound recoveries that are outside method QC acceptance criteria.

NA

Method	Base/Neutral Method QC Acceptance Criteria					
	NBZ-d_5	2-FBP	TPH-d_{14}	1,2-DCB-d_4*	Other:	
OLM03.2	Water Soil 35-114 23-120	Water Soil 43-116 30-115	Water Soil 33-141 18-137	Water Soil 16-110 20-130		
OLC02.1	40-110	30-110	20-140	NA		
Other:						
Sample Number/Matrix	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	Action

Method	Acid Method QC Acceptance Criteria					
	Phenol-d_5	2-FP	2,4,6-TBP	2-CP-d_4*	Other:	
OLM03.2	Water Soil 10-110 24-113	Water Soil 21-110 25-121	Water Soil 10-123 19-122	Water Soil 33-110 20-130		
OLC02.1	15-115	15-110	15-130	NA		
Other:						
Sample Number/Matrix	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	Action

* Advisory Surrogates - OLM03.2

Validator: Angela Schuetz

Date: 7/24/01

EPA-NE - Data Validation Worksheet
VOA/SV-VII

VII. INTERNAL STANDARD PERFORMANCE NA

List the internal standards that are outside the area count and retention time method QC acceptance criteria.
IS Area Count method QC acceptance criteria:_____
IS Retention Time method QC acceptance criteria:_____

Sample Number (TR#)	Date and Time Analyzed	Instrument	Parameter	IS Outside Area Count and/or RT Criteria	IS Area	RT Shift	Acceptable Range (IS area or RT shift)	Action

Validator: Angela Schott

Date: 7/24/07

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-VIII

VIII. MATRIX SPIKE/MATRIX SPIKE DUPLICATE - List all MS/MSD analytes that are outside method QC acceptance criteria.

Use a separate worksheet for each MS/MSD pair.

Sample # _____ Matrix _____ Concentration Level _____

Parameter	Compound	MS %Rec	MSD %Rec	RPD	Method QC Limits		Concentration			% RSD	Action
					% Rec	RPD	Unspiked Sample	MS	MSD		
OK											

Validator: Angela Schroth

Date: 7/24/01

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-IX

IX. **FIELD DUPLICATE PRECISION** - List all field duplicate analytes that are outside criteria.

Use a separate worksheet for each field duplicate pair.

Sample Number _____ Duplicate Sample Number _____ Matrix _____

Parameter	Compound	Sample Conc.	Sample QL		Duplicate Conc.	Duplicate QL		RPD	QC Acceptance Criteria RPD or NA*	Action
			SQL	2xSQL		SQL	2xSQL			
OK										

* For instances where one duplicate result is ND (or reported less than the sample QL).

Does the MS/MSD data indicate acceptable laboratory precision? Y N

Comments: _____

Sampler Name: _____ Contractor Name: _____ Date Contacted: _____

Reason for Contact and resolution obtained: _____

Validator: Angela Schutz Date: 7/24/01

X. SENSITIVITY CHECK (Method Detection Limit Study)

List all compounds, surrogates, and internal standards that are outside the MDL criteria.

- Has an appropriate MDL study been submitted with seven replicates for each compound and matrix of interest? Y N
- Date of Preparation/Analysis: _____ Within 1 year? Y N
- Instrument I.D.: _____ Same as samples? Y N
- Column I.D.: _____ Same as samples? Y N

Matrix	Compound	MDL > QL	Method QC Limits < 80% or > 120%	IS Outside Area Count and/or RT Criteria	RSD > 20%	Samples Affected	Action

If an MDL study has not been submitted, use only the LFB results to evaluate data.

(Laboratory Fortified Blank) - List all LFB compounds, surrogates and internal standards that are outside criteria.

- Has an appropriate and complete LFB been submitted at the proper frequency? Y N
- Does it contain all target compounds at the method-required QLs? Y N
- Was the LFB spiked with a standard from a source (vendor) independent of the calibration standard? Y N

Matrix	Compound	Method QC Limits < 60% or > 140% Other:	IS Outside Area Count and/or RT Criteria	Samples Affected	Action

Validator: Angela Schaty

Date: 7/24/01

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-XI

XI. ACCURACY CHECK (Performance Evaluation Results) - List all analytes that are outside criteria.

SDG No: _____ CASE: _____

Are more than one-half of the PES analytes within criteria for each parameter. Y N

PE Sample Number	Ampule Number	Parameter	Type of PES	Matrix	Analyte	Conc.	Region I EPA PES Scores*	Non-EPA PES Scores**	Samples Affected	Action
ok										

* For Region I PESs indicate the Region I PES Score Report Result: Action High; Action Low; TCL MISS; TCL CONTAMINANT; TIC HIT; TIC MISS; TIC CONTAMINANT

** For Non-EPA PESs indicate the Non-EPA PES Score: PES COMPOUND MISS; PES COMPOUND CONTAMINANT; PES COMPOUND HIT (% Recovery Limits)

Validator: Angela Schutz

Date: 7/24/01

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-XII

XII. TARGET COMPOUND IDENTIFICATION - List the analytes that are outside the acceptance criteria.

Sample Number	Compound	MS Ions	RRT	Action
OK				

Validator: Angela Schuty

Date: 7/24/01

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-XIII

XIII. SAMPLE QUANTITATION

Recalculate, from the raw data, the concentrations for one positive detect and one reported sample quantitation limit for a non-detect in a diluted sample or soil sample per fraction. (Note: Although Section XIII, C.1.a, requires that one calculation for each fraction in each sample be performed, the validator is only required to reproduce an example, for each fraction, of one positive detect and one sample quantitation limit calculation on this worksheet.)

Do all soil/sediment samples have % solids greater than 30%? Y N
If no, list sample numbers _____

Fraction		Calculation
VOA		~~See Supporting Doc.~~ Determined through Linear Regression
Sample No.:		
Reported Compound:		
Reported Value:		
Not Detected Compound:		
Reported Quantitation Limit:		
BNA		
Sample No.:		
Reported Compound:		
Reported Value:		
Not Detected Compound:		
Reported Quantitation Limit:		
Pesticide/PCB		
Sample No.:		
Reported Compound:		
Reported Value:		
Not Detected Compound:		
Reported Quantitation Limit:		

Validator: Angela Schultz

Date: 7/24/01

EPA-NE - Data Validation Worksheet
VOA/SV-XIV

XIV. TENTATIVELY IDENTIFIED COMPOUNDS (TICs) N/A

List the 5 TICs having the highest concentration for each sample parameter.

Sample Number	Parameter	Compound	RRT	Est. Conc.	Action

Validator: Angela Schott

Date: 7/2[illegible]

EPA-NE - Data Validation Worksheet
VOA/SV-XV

NA

XV. SEMIVOLATILE CLEANUP - List all analytes that are outside method cleanup QC criteria.

Cleanup Procedure	Instrument # or Lot #	Date/Time GPC Calibrated or Check Solution Analyzed	Compound	% Rec	QC Limits	Samples Affected	Action

Did the GPC column meet; resolution requirements? Y or N
peak shape requirements? Y or N
retention time shift requirements? Y or N

Was the GPC calibration, Silica Gel cleanup checked at the method required frequency with correct compounds and concentrations? Y or N

Were all compounds less than QL for the GPC/Silica Gel/Acid-Partition blank? Y or N

Did the blank surrogate recoveries and IS area counts and RTs (if added) meet method QC acceptance criteria? Y or N

Comments:

Validator: Angela Schetty

Date: 7/24/01

APPENDIX D

SUPPORT DOCUMENTATION

TETRA TECH NUS, INC.

ANALYTICAL SERVICE
Packing List/Chain-of-Cust dy

Case No.

Subcontract No 81363

Page 1 of 1

Project No.

Laboratory Name: Mitkeh

Sampler Signatures: Michael S. Healey

Date Shipped 6-25-01 Carrier CAB

Airbill No. No. of Coolers 1

Container Type	Container Type	Container Type	Container Type	Container Type
4oz glass	4oz glass			
Analysis	**Analysis**	**Analysis**	**Analysis**	**Analysis**
8082	8082 Congeners			
Preservative	**Preservative**	**Preservative**	**Preservative**	**Preservative**
ICE	ICE			

Sample Number	Matrix	Date/Time	Sample Location	Tag Number(s)	QC	Preservative	Preservative	Preservative	Preservative	Preservative
01 GIB54-B02	soil	6-20/1630	07-09			✓				
02 GIB54-SED02	soil	6-20/1300	00-02				✓ BFS per client 6/27/01			

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipment for Case Complete?	Remarks
Michael S. Healey	6-25-01		YES NO	6°C
Relinquished By: (Signature)	**Date/Time**	**Received for Laboratory By:**	**Date/Time**	
		Jane Healey	6/25/01 16:50	

Tt NUS Form 0022

TETRA TECH NUS, INC.

ANALYTICAL SERVICE
Packing List/Chain-of-Custody

Page 1 of 2

Subcontract No

Project No

Laboratory Name: Mitken

Sampler Signatures: Michael S. Healy

Date Shipped 6-22-01 Carrier LAB

~~Airbill No.~~ No. of Coolers 1

	Container Type	Container Type	Container Type	Container Type	Container Type
	Amber Glass	4oz Glass	4oz Glass		
	Analysis	Analysis	Analysis	Analysis	Analysis
	8082 Centrifuge	8082 Congeners	8082		

	Sample Number	Matrix	Date/Time	Sample Location	Tag Number(s)	QC	Preservative	Preservative	Preservative	Preservative	Preservative
							ICE	ICE	ICE		
01	GIB54-MW01	Water	6-21/1400				✓				
02	GIB54-Dup01	Water	6-21/1400				✓				
03	GIB54-SED01	Sed	6-20/1245	0-0.2				✓			
04	GIB54-DUP01	Sed	6-20/1245	0-0.2				✓			
05	GIB54-B01	Soil	6-20/0825	00-01				✓			
06	GIB54-B01	Soil	6-20/0915	02-04					✓		
	"	"	6-20/1000	~~04-06~~	m 8/1 6-22-01				✓		
07	"	"	6-20/	08-10					✓		
08	GIB54-B02	Soil	6-20/1440	01-03					✓		
09	GIB54-B02	Soil	6-21/0850	13.5-14.5					✓		
10	GIB54-B03	"	6-21/1015	0.0-0.01					✓		
11	"	"	6-21/1110	06-08					✓		

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipment for Case Complete?	Remarks
Michael S. Healy	6-22-01 1430		YES NO	
Relinquished By: (Signature)	Date/Time	Received for Laboratory By:	Date/Time	
		Jenny Healy	6/22/01 14:30	

Tt NUS Form 0022

81344

TETRA TECH NUS, INC.

ANALYTICAL SERVICE
Packing List/Chain-of-Cust dy

Subcontract No.

Project No.

Laboratory Name: Mi tken

Sampler Signatures: Michael S. Healy

Date Shipped 6-22-01 Carrier Cab

~~Airbill No.~~

No. of Coolers 1

Container Type	Container Type	Container Type	Container Type	Container Type
4oz glass				
Analysis	**Analysis**	**Analysis**	**Analysis**	**Analysis**
8082				
Preservative	**Preservative**	**Preservative**	**Preservative**	**Preservative**
ICE				

	Sample Number	Matrix	Date/Time	Sample Location	Tag Number(s)	QC	Preservative
12	GIB54-B03	Soil	6-21/1250	13-15			✓
13	GIB54-B03	Soil	6-21/1252	01			✓
14	GIB54-B04	Soil	6-21/1425	01-02			✓
15	GIB54-B04	"	6-21/1426	02			✓
16	" "	"	6-21/1450	05-07			✓
17	" "	"	6-21/1605	13-14			✓
	~~" "~~	~~"~~	~~6-21/1603~~	mill			

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipment for Case Complete?	Remarks
Michael S. Healy	6-22-01 1430		YES NO	
Relinquished By: (Signature)	**Date/Time**	**Received for Laboratory By:**	**Date/Time**	
		James Healy	6/22/01 14:22	

Tt NUS Form 0022

S1344

4°C

81344

HOLDING TIME
07/25/01

Units	Nsample	Lab Id	Qc Type	Sdg	Sort	Samp Date	Extr Date	Anal Date	SAMP_DATE TO EXTR_DATE	EXTR_DATE TO ANAL_DATE	SAMP_DATE TO ANAL_DATE
MG/KG	54-B01001	81344005DL	NORMAL	81344	PCB	06/20/01	07/02/01	07/16/01	12	14	26
UG/KG	54-B01004	81344006	NORMAL	81344	PCB	06/20/01	07/02/01	07/11/01	12	9	21
UG/KG	54-B01010	81344007	NORMAL	81344	PCB	06/20/01	07/02/01	07/07/01	12	5	17
UG/KG	54-B0203	81344008	NORMAL	81344	PCB	06/20/01	07/02/01	07/10/01	12	8	20
UG/KG	54-B0214.5	81344009	NORMAL	81344	PCB	06/20/01	07/02/01	07/10/01	12	8	20
UG/KG	54-B0301	81344010	NORMAL	81344	PCB	06/21/01	07/02/01	07/10/01	11	8	19
UG/KG	54-B0308	81344011	NORMAL	81344	PCB	06/21/01	07/02/01	07/10/01	11	8	19
UG/KG	54-B0315	81344012	NORMAL	81344	PCB	06/21/01	07/02/01	07/07/01	11	5	16
UG/KG	54-B04	81344015	NORMAL	81344	PCB	06/21/01	07/02/01	07/08/01	11	6	17
UG/KG	54-B0402	81344014	NORMAL	81344	PCB	06/21/01	07/02/01	07/10/01	11	8	19
UG/KG	54-B0407	81344016	NORMAL	81344	PCB	06/21/01	07/02/01	07/08/01	11	6	17
UG/KG	54-B0414	81344017	NORMAL	81344	PCB	06/21/01	07/02/01	07/07/01	11	5	16
UG/L	54-DUP01	81344002	NORMAL	81344	PCB	06/21/01	07/03/01	07/17/01	12	14	26
MG/KG	54-DUP01S	81344004	NORMAL	81344	PCB	06/21/01	07/02/01	07/14/01	11	12	23
UG/L	54-MW01	81344001	NORMAL	81344	PCB	06/21/01	07/03/01	07/17/01	12	14	26
MG/KG	54-SED01	81344003	NORMAL	81344	PCB	06/21/01	07/02/01	07/14/01	11	12	23
UG/KG	81344013	81344013	NORMAL	81344	PCB	06/21/01	07/02/01	07/07/01	11	5	16
MG/KG	B2SLCS	B0702-LS3	NORMAL	81344	PCB	07/14/01	07/02/01	07/14/01	-12	12	0
UG/L	B3HLCS	B0703-LW1	NORMAL	81344	PCB	07/13/01	07/03/01	07/13/01	-10	10	0
UG/KG	B3LLCS	B0702-LS1	NORMAL	81344	PCB	07/07/01	07/02/01	07/07/01	-5	5	0

81363

HOLDING TIME
07/25/01

Units	Nsample	Lab Id	Qc Type	Sdg	Sort	Samp Date	Extr Date	Anal Date	SAMP_DATE TO EXTR_DATE	EXTR_DATE TO ANAL_DATE	SAMP_DATE TO ANAL_DATE
MG/KG	B2SLCS	0	NORMAL	81363	PCB	07/14/01	07/02/01	07/14/01	-12	12	0
UG/KG	B3ILCS	0	NORMAL	81363	PCB	07/07/01	06/29/01	07/07/01	-8	8	0
UG/KG	GIB54-B02	81363001	NORMAL	81363	PCB	06/20/01	06/29/01	07/07/01	9	8	17
MG/KG	GIB54-SED02	81363002	NORMAL	81363	PCB	06/20/01	07/02/01	07/14/01	12	12	24

FORM 2
SOIL PCB SURROGATE RECOVERY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

GC Column(1): DB-5 ID: 0.53 (mm) GC Column(2): DB-608 ID: 0.53 (mm)

	CLIENT SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	BBLK3I	70	77	88	80			0
02	B3ILCS	80	83	103	95			0
03	GIB54-B02	111	129	178*	164*			2
04								
05								
06								
07								
08								
09								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

ADVISORY
QC LIMITS

S1 (TCX) = Tetrachloro-m-xylene (42-147)
S2 (DCB) = Decachlorobiphenyl (29-155)

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

FORM II PCB

FORM 3
SOIL PCB LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

Matrix Spike - Sample No.: B3ILCS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Aroclor-1016	330		310	94	62-155
Aroclor-1260	330		320	97	56-173

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

* Values outside of QC limits

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

COMMENTS:

FORM III PCB

FORM 4
PCB METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

BBLK3I

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

Lab Sample ID: B0629-BS1 Lab File ID: E3D0986F

Matrix (soil/water) SOIL Extraction:(SepF/Cont/Sonc) SONC

Sulfur Cleanup (Y/N) Y Date Extracted: 06/29/01

Date Analyzed (1): 07/07/01 Date Analyzed (2): 07/07/01

Time Analyzed (1): 0221 Time Analyzed (2): 0221

Instrument ID (1): E3 Instrument ID (2): E3

GC Column (1): DB-5 ID: 0.53(mm) GC Column (2): DB-608 ID: 0.53(mm)

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

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	B3ILCS	B0629-LS1	07/07/01	07/07/01
02	GIB54-B02	81363001	07/07/01	07/07/01
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

COMMENTS:

FORM IV PCB

FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

Instrument ID: E3 Calibration Date(s): 07/06/01 07/07/01

Column: DB-5 ID: 0.53 (mm) Calibration Time(s): 1317 0042

LAB FILE ID: RF0.1: E3D0979F RF0.5: E3D0980F RF1: E3D0981F
RF2.5: E3D0982F RF5: E3D0983F

COMPOUND	RF0.1	RF0.5	RF1	RF2.5	RF5
Aroclor-1016	12940.000	10738.000	9982.000	8885.600	7741.400
(2)	27580.000	23144.000	21823.000	19536.800	16956.800
(3)	15110.000	12512.000	11614.000	10515.600	9207.800
Aroclor-1221	6060.000	5264.000	4941.000	4290.000	3922.000
(2)	4480.000	3948.000	3642.000	3102.800	2785.000
(3)	14970.000	12102.000	11056.000	9314.400	8245.000
Aroclor-1232			8928.000		
(2)			9655.000		
(3)			5282.000		
Aroclor-1242	21190.000	17974.000	16331.000	14841.600	13176.200
(2)	11600.000	9832.000	8813.000	7940.400	7160.000
(3)	10040.000	8874.000	8021.000	7322.400	6718.200
Aroclor-1248	16460.000	13766.000	12698.000	11131.200	10201.600
(2)	17970.000	14862.000	13830.000	12229.600	11417.800
(3)	14270.000	12448.000	11936.000	11019.200	10450.600
Aroclor-1254	28340.000	23224.000	21957.000	18877.600	17342.600
(2)	22770.000	18276.000	17059.000	14732.000	13488.400
(3)	23840.000	19906.000	18753.000	16444.800	15082.200
Aroclor-1260	22860.000	17576.000	16161.000	14231.200	12477.000
(2)	30660.000	24826.000	23615.000	21209.200	18868.000
(3)	36930.000	31692.000	30763.000	28365.600	25289.000
Tetrachloro-m-xylene	1702000.0	1481200.0	1476650.0	1392940.0	1309680.0
Decachlorobiphenyl	2846500.0	2011900.0	2266300.0	1763140.0	1820050.0

FORM VI PCB

FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

Instrument ID: E3 Calibration Date(s): 07/06/01 07/07/01

Column: DB-5 ID: 0.53 (mm) Calibration Time(s): 1317 0042

COMPOUND	CURVE	COEFFICENTS A0	A1	%RSD OR R^2
Aroclor-1016	AVRG		10057.4000	19.6
(2)	AVRG		21808.1200	18.3
(3)	AVRG		11791.8800	18.9
Aroclor-1221	LINR	-0.1854648	2.604e-004	0.997
(2)	LINR	-0.2204323	3.677e-004	0.996
(3)	LINR	-0.2521914	1.247e-004	0.995
Aroclor-1232	AVRG		8928.00000	0.0
(2)	AVRG		9655.00000	0.0
(3)	AVRG		5282.00000	0.0
Aroclor-1242	AVRG		16702.5600	18.4
(2)	AVRG		9069.08000	19.1
(3)	AVRG		8195.12000	16.0
Aroclor-1248	AVRG		12851.3600	19.0
(2)	AVRG		14061.8800	18.2
(3)	AVRG		12024.7600	12.3
Aroclor-1254	LINR	-0.1895430	5.9e-005	0.997
(2)	LINR	-0.1954549	7.591e-005	0.997
(3)	LINR	-0.1774463	6.766e-005	0.998
Aroclor-1260	LINR	-0.2305792	8.189e-005	0.995
(2)	LINR	-0.1879316	5.384e-005	0.996
(3)	LINR	-0.1582093	3.994e-005	0.996
Tetrachloro-m-xylene	AVRG		1472494.00	9.9
Decachlorobiphenyl	LINR	-2.e-003	5.626e-007	0.997

FORM VI PCB

FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

Instrument ID: E3 Calibration Date(s): 07/06/01 07/07/01

Column: DB-608 ID: 0.53 (mm) Calibration Time(s): 1317 0042

LAB FILE ID: RF0.1: E3D0979R RF0.5: E3D0980R RF1: E3D0981R
RF2.5: E3D0982R RF5: E3D0983R

COMPOUND	RF0.1	RF0.5	RF1	RF2.5	RF5
Aroclor-1016	7710.000	6084.000	5527.000	4694.400	4038.600
(2)	10700.000	9038.000	8601.000	7720.800	6793.200
(3)	5360.000	4520.000	4230.000	3799.200	3371.000
Aroclor-1221	2370.000	2120.000	1958.000	1694.000	1537.400
(2)	1910.000	1664.000	1559.000	1316.400	1185.600
(3)	5960.000	4870.000	4413.000	3726.400	3309.000
Aroclor-1232			4022.000		
(2)			2839.000		
(3)			4198.000		
Aroclor-1242	6350.000	5092.000	4387.000	3816.800	3273.600
(2)	9070.000	7670.000	6878.000	6219.200	5528.400
(3)	4890.000	4274.000	3893.000	3511.200	3173.800
Aroclor-1248	6900.000	5876.000	5398.000	4718.000	4320.800
(2)	7460.000	6490.000	6004.000	5289.200	4915.200
(3)	6230.000	5588.000	5340.000	4921.200	4698.200
Aroclor-1254	12330.000	10504.000	9830.000	8529.600	7664.400
(2)	7830.000	6928.000	6593.000	5618.000	5212.200
(3)	8200.000	6910.000	6654.000	5846.400	5330.200
Aroclor-1260	10260.000	8206.000	7529.000	6518.400	5714.200
(2)	9470.000	7942.000	7492.000	6722.800	6056.000
(3)	12370.000	11052.000	10565.000	9943.200	8852.600
Tetrachloro-m-xylene	869000.00	720700.00	717600.00	665460.00	633930.00
Decachlorobiphenyl	1108500.0	800000.00	954000.00	772640.00	833870.00

FORM VI PCB

FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

Instrument ID: E3 Calibration Date(s): 07/06/01 07/07/01

Column: DB-608 ID: 0.53 (mm) Calibration Time(s): 1317 0042

COMPOUND	CURVE	COEFFICENTS A0	A1	%RSD OR R^2
Aroclor-1016	LINR	-0.2772821	2.541e-004	0.993
(2)	LINR	-0.1947622	1.493e-004	0.995
(3)	LINR	-0.1925204	3.015e-004	0.996
Aroclor-1221	LINR	-0.1978409	6.648e-004	0.997
(2)	LINR	-0.2191354	8.64e-004	0.996
(3)	LINR	-0.2495206	3.107e-004	0.995
Aroclor-1232	AVRG		4022.00000	0.0
(2)	AVRG		2839.00000	0.0
(3)	AVRG		4198.00000	0.0
Aroclor-1242	LINR	-0.2805180	3.137e-004	0.993
(2)	LINR	-0.2000841	1.843e-004	0.996
(3)	LINR	-0.1792210	3.207e-004	0.997
Aroclor-1248	AVRG		5442.56000	18.6
(2)	AVRG		6031.68000	16.7
(3)	AVRG		5355.48000	11.2
Aroclor-1254	AVRG		9771.60000	18.5
(2)	AVRG		6436.24000	16.2
(3)	AVRG		6588.12000	16.7
Aroclor-1260	LINR	-0.2404992	1.791e-004	0.995
(2)	LINR	-0.1775062	1.679e-004	0.997
(3)	LINR	-0.1481508	1.138e-004	0.996
Tetrachloro-m-xylene	AVRG		721338.000	12.5
Decachlorobiphenyl	AVRG		893802.000	15.5

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FORM VI PCB

FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

Instrument ID: E3 Calibration Date(s): 07/06/01 07/07/01

Column: DB-5 ID: 0.53 (mm) Calibration Time(s): 1317 0042

LAB FILE ID: RT1: E3D0979F RT2: E3D0980F RT3: E3D0981F
RT4: E3D0982F RT5: E3D0983F

COMPOUND	RT1	RT2	RT3	RT4	RT5
Aroclor-1016	6.440	6.430	6.430	6.430	6.430
(2)	7.120	7.120	7.120	7.120	7.120
(3)	7.380	7.380	7.380	7.380	7.380
Aroclor-1221	4.620	4.620	4.620	4.620	4.620
(2)	4.850	4.850	4.850	4.850	4.850
(3)	4.980	4.980	4.980	4.980	4.980
Aroclor-1232			4.990		
(2)			7.130		
(3)			7.380		
Aroclor-1242	7.130	7.130	7.130	7.130	7.120
(2)	7.390	7.390	7.390	7.390	7.380
(3)	9.750	9.750	9.750	9.750	9.740
Aroclor-1248	9.660	9.650	9.650	9.650	9.640
(2)	9.760	9.750	9.740	9.740	9.740
(3)	10.210	10.200	10.200	10.200	10.190
Aroclor-1254	11.400	11.400	11.400	11.400	11.400
(2)	12.110	12.110	12.120	12.120	12.120
(3)	13.510	13.500	13.510	13.510	13.510
Aroclor-1260	12.077	12.077	12.080	12.077	12.077
(2)	13.510	13.500	13.500	13.510	13.510
(3)	15.380	15.380	15.380	15.380	15.380
Tetrachloro-m-xylene	4.150	4.150	4.150	4.150	4.150
Decachlorobiphenyl	19.810	19.800	19.800	19.800	19.800

FORM VI PCB

FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

Instrument ID: E3 Calibration Date(s): 07/06/01 07/07/01

Column: DB-5 ID: 0.53 (mm) Calibration Time(s): 1317 0042

COMPOUND	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Aroclor-1016	6.432	6.363	6.503
(2)	7.120	7.050	7.190
(3)	7.380	7.307	7.447
Aroclor-1221	4.620	4.553	4.693
(2)	4.850	4.780	4.920
(3)	4.980	4.910	5.050
Aroclor-1232	4.990	4.917	5.057
(2)	7.130	7.057	7.197
(3)	7.380	7.313	7.453
Aroclor-1242	7.128	7.050	7.190
(2)	7.388	7.307	7.447
(3)	9.748	9.673	9.813
Aroclor-1248	9.650	9.573	9.713
(2)	9.746	9.673	9.813
(3)	10.200	10.123	10.263
Aroclor-1254	11.400	11.327	11.467
(2)	12.116	12.047	12.187
(3)	13.508	13.437	13.577
Aroclor-1260	12.078	12.007	12.147
(2)	13.506	13.433	13.573
(3)	15.380	15.307	15.447
Tetrachloro-m-xylene	4.150	4.097	4.197
Decachlorobiphenyl	19.802	19.703	19.903

FORM VI PCB

FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

Instrument ID: E3 Calibration Date(s): 07/06/01 07/07/01

Column: DB-608 ID: 0.53 (mm) Calibration Time(s): 1317 0042

LAB FILE ID: RT1: E3D0979R RT2: E3D0980R RT3: E3D0981R
RT4: E3D0982R RT5: E3D0983R

COMPOUND	RT1	RT2	RT3	RT4	RT5
Aroclor-1016	9.600	9.590	9.590	9.590	9.590
(2)	10.740	10.730	10.730	10.730	10.730
(3)	11.250	11.240	11.240	11.240	11.240
Aroclor-1221	7.600	7.600	7.590	7.590	7.590
(2)	8.070	8.070	8.070	8.070	8.070
(3)	8.280	8.270	8.270	8.270	8.270
Aroclor-1232			8.280		
(2)			9.600		
(3)			10.740		
Aroclor-1242	9.600	9.600	9.600	9.600	9.590
(2)	10.740	10.740	10.740	10.740	10.730
(3)	13.740	13.740	13.730	13.740	13.720
Aroclor-1248	13.540	13.530	13.530	13.530	13.530
(2)	13.730	13.730	13.720	13.720	13.720
(3)	14.590	14.590	14.580	14.580	14.580
Aroclor-1254	15.750	15.750	15.750	15.750	15.750
(2)	16.100	16.100	16.100	16.100	16.100
(3)	17.850	17.840	17.840	17.840	17.840
Aroclor-1260	16.540	16.530	16.530	16.530	16.530
(2)	17.850	17.840	17.840	17.840	17.840
(3)	19.500	19.490	19.490	19.490	19.490
Tetrachloro-m-xylene	6.220	6.220	6.220	6.210	6.210
Decachlorobiphenyl	27.973	27.973	27.970	27.973	27.973

FORM VI PCB

FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

Instrument ID: E3 Calibration Date(s): 07/06/01 07/07/01

Column: DB-608 ID: 0.53 (mm) Calibration Time(s): 1317 0042

COMPOUND	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Aroclor-1016	9.592	9.523	9.663
(2)	10.732	10.663	10.803
(3)	11.242	11.170	11.310
Aroclor-1221	7.594	7.530	7.670
(2)	8.070	8.003	8.143
(3)	8.272	8.207	8.347
Aroclor-1232	8.280	8.210	8.350
(2)	9.600	9.530	9.670
(3)	10.740	10.670	10.810
Aroclor-1242	9.598	9.533	9.673
(2)	10.738	10.670	10.810
(3)	13.734	13.667	13.807
Aroclor-1248	13.532	13.470	13.610
(2)	13.724	13.660	13.800
(3)	14.584	14.520	14.660
Aroclor-1254	15.750	15.683	15.823
(2)	16.100	16.033	16.173
(3)	17.842	17.777	17.917
Aroclor-1260	16.532	16.463	16.603
(2)	17.842	17.773	17.913
(3)	19.492	19.420	19.560
Tetrachloro-m-xylene	6.216	6.167	6.267
Decachlorobiphenyl	27.972	27.873	28.073

FORM VI PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

Instrument ID: E3 Calibration Date: 07/07/01 Time: 1003

Lab File ID: E3D1000F Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d	
Aroclor-1016	0.98	1.0	AVRG	2.0	15.0	
(2)	0.98	1.0	AVRG	2.0	15.0	
(3)	0.98	1.0	AVRG	2.0	15.0	
Aroclor-1260	1.0	1.0	LINR	0.0	15.0	
(2)	1.0	1.0	LINR	0.0	15.0	
(3)	1.0	1.0	LINR	0.0	15.0	
Tetrachloro-m-xylene	0.020	0.020	AVRG	0.0	15.0	
Decachlorobiphenyl	0.024	0.020	LINR	20.0	15.0	<-

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FORM VII PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

Instrument ID: E3 Calibration Date: 07/07/01 Time: 1003

Lab File ID: E3D1000R Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-608 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d
Aroclor-1016	1.0	1.0	LINR	0.0	15.0
(2)	1.0	1.0	LINR	0.0	15.0
(3)	1.0	1.0	LINR	0.0	15.0
Aroclor-1260	1.0	1.0	LINR	0.0	15.0
(2)	1.0	1.0	LINR	0.0	15.0
(3)	1.0	1.0	LINR	0.0	15.0
Tetrachloro-m-xylene	0.019	0.020	AVRG	5.0	15.0
Decachlorobiphenyl	0.022	0.020	AVRG	10.0	15.0

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FORM VII PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

Instrument ID: E3 Calibration Date: 07/07/01 Time: 1855

Lab File ID: E3D1016F Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d	
Aroclor-1016	0.99	1.0	AVRG	1.0	15.0	
(2)	0.99	1.0	AVRG	1.0	15.0	
(3)	0.99	1.0	AVRG	1.0	15.0	
Aroclor-1260	1.1	1.0	LINR	10.0	15.0	
(2)	1.1	1.0	LINR	10.0	15.0	
(3)	1.1	1.0	LINR	10.0	15.0	
Tetrachloro-m-xylene	0.020	0.020	AVRG	0.0	15.0	
Decachlorobiphenyl	0.024	0.020	LINR	20.0	15.0	<-

FORM VII PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

Instrument ID: E3 Calibration Date: 07/07/01 Time: 1855

Lab File ID: E3D1016R Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-608 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d
Aroclor-1016	1.0	1.0	LINR	0.0	15.0
(2)	1.0	1.0	LINR	0.0	15.0
(3)	1.0	1.0	LINR	0.0	15.0
Aroclor-1260	1.0	1.0	LINR	0.0	15.0
(2)	1.0	1.0	LINR	0.0	15.0
(3)	1.0	1.0	LINR	0.0	15.0
Tetrachloro-m-xylene	0.019	0.020	AVRG	5.0	15.0
Decachlorobiphenyl	0.022	0.020	AVRG	10.0	15.0

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FORM VII PCB

FORM 8
PCB ANALYTICAL SEQUENCE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

GC Column: DB-5 ID: 0.53 (mm) Init. Calib. Date(s): 07/06/01 07/07/01

Instrument ID: E3

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
TCX: 4.15 DCB: 19.80

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
01	AR1232L3	AR1232L3	07/06/01	1317	4.15	19.81
02	AR1242L1	AR1242L1	07/06/01	1350	4.16	19.81
03	AR1242L2	AR1242L2	07/06/01	1423	4.16	19.81
04	AR1242L3	AR1242L3	07/06/01	1456	4.16	19.82
05	AR1242L4	AR1242L4	07/06/01	1529	4.16	19.82
06	AR1242L5	AR1242L5	07/06/01	1603	4.15	19.80
07	AR1248L1	AR1248L1	07/06/01	1701	4.16	19.81
08	AR1248L2	AR1248L2	07/06/01	1734	4.15	19.80
09	AR1248L3	AR1248L3	07/06/01	1807	4.15	19.80
10	AR1248L4	AR1248L4	07/06/01	1840	4.15	19.80
11	AR1248L5	AR1248L5	07/06/01	1913	4.15	19.80
12	AR2154L1	AR2154L1	07/06/01	1945	4.15	19.80
13	AR2154L2	AR2154L2	07/06/01	2018	4.15	19.80
14	AR2154L3	AR2154L3	07/06/01	2051	4.15	19.80
15	AR2154L4	AR2154L4	07/06/01	2124	4.15	19.80
16	AR2154L5	AR2154L5	07/06/01	2157	4.15	19.80
17	AR1660L1	AR1660L1	07/06/01	2230	4.15	19.81
18	AR1660L2	AR1660L2	07/06/01	2303	4.15	19.80
19	AR1660L3	AR1660L3	07/06/01	2336	4.15	19.80
20	AR1660L4	AR1660L4	07/07/01	0009	4.15	19.80
21	AR1660L5	AR1660L5	07/07/01	0042	4.15	19.80
22	BBLK3I	B0629-BS1	07/07/01	0221	4.15	19.82
23	B3ILCS	B0629-LS1	07/07/01	0254	4.16	19.82
24	AR1660M1	AR1660M1	07/07/01	1003	4.15	19.81
25	GIB54-B02	81363001	07/07/01	1218	4.15	19.80
26	AR1660MA	AR1660MA	07/07/01	1855	4.15	19.80
27						
28						
29						
30						
31						
32						

QC LIMITS
TCX = Tetrachloro-m-xylene (+/- 0.05 MINUTES)
DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PCB

FORM 8
PCB ANALYTICAL SEQUENCE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

GC Column: DB-608 ID: 0.53 (mm) Init. Calib. Date(s): 07/06/01 07/07/01

Instrument ID: E3

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
TCX: 6.22 DCB: 27.97

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
01	AR1232L3	AR1232L3	07/06/01	1317	6.22	28.00
02	AR1242L1	AR1242L1	07/06/01	1350	6.22	28.00
03	AR1242L2	AR1242L2	07/06/01	1423	6.22	28.00
04	AR1242L3	AR1242L3	07/06/01	1456	6.22	28.00
05	AR1242L4	AR1242L4	07/06/01	1529	6.22	28.00
06	AR1242L5	AR1242L5	07/06/01	1603	6.21	27.97
07	AR1248L1	AR1248L1	07/06/01	1701	6.22	27.99
08	AR1248L2	AR1248L2	07/06/01	1734	6.22	27.98
09	AR1248L3	AR1248L3	07/06/01	1807	6.21	27.97
10	AR1248L4	AR1248L4	07/06/01	1840	6.21	27.97
11	AR1248L5	AR1248L5	07/06/01	1913	6.21	27.97
12	AR2154L1	AR2154L1	07/06/01	1945	6.22	27.97
13	AR2154L2	AR2154L2	07/06/01	2018	6.22	27.97
14	AR2154L3	AR2154L3	07/06/01	2051	6.21	27.97
15	AR2154L4	AR2154L4	07/06/01	2124	6.21	27.97
16	AR2154L5	AR2154L5	07/06/01	2157	6.21	27.98
17	AR1660L1	AR1660L1	07/06/01	2230	6.22	27.98
18	AR1660L2	AR1660L2	07/06/01	2303	6.22	27.97
19	AR1660L3	AR1660L3	07/06/01	2336	6.22	27.97
20	AR1660L4	AR1660L4	07/07/01	0009	6.21	27.98
21	AR1660L5	AR1660L5	07/07/01	0042	6.21	27.98
22	BBLK3I	B0629-BS1	07/07/01	0221	6.22	28.01
23	B3ILCS	B0629-LS1	07/07/01	0254	6.22	28.02
24	AR1660M1	AR1660M1	07/07/01	1003	6.21	27.99
25	GIB54-B02	81363001	07/07/01	1218	6.21	27.97
26	AR1660MA	AR1660MA	07/07/01	1855	6.22	27.98
27						
28						
29						
30						
31						
32						

QC LIMITS
TCX = Tetrachloro-m-xylene (+/- 0.05 MINUTES)
DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PCB

FORM 10
PCB IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

CLIENT SAMPLE NO.

B3ILCS

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

Lab Sample ID: B0629-LS1 Date(s) Analyzed: 07/07/01 07/07/01

Instrument ID (1): E3 Instrument ID (2): E3

GC Column(1): DB-5 ID: 0.53(mm) GC Column(2): DB-608 ID: 0.53(mm)

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1016 COLUMN 1	1	6.44	6.36	6.50	310		
	2	7.13	7.05	7.19	310		
	3	7.39	7.31	7.45	310		
	4						
	5					310	
Aroclor-1016 COLUMN 2	1	9.60	9.52	9.66	350		
	2	10.74	10.66	10.80	340		
	3	11.25	11.17	11.31	330		
	4						
	5					340	9.2
Aroclor-1260 COLUMN 1	1	12.09	12.01	12.15	330		
	2	13.52	13.43	13.57	330		
	3	15.39	15.31	15.45	320		
	4						
	5					330	
Aroclor-1260 COLUMN 2	1	16.55	16.46	16.60	330		
	2	17.86	17.77	17.91	320		
	3	19.51	19.42	19.56	320		
	4						
	5					320	3.1
_____ COLUMN 1	1						
	2						
	3						
	4						
	5						
_____ COLUMN 2	1						
	2						
	3						
	4						
	5						

At least 3 peaks are required for identification of multicomponent analytes.

PCB

√

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BBLK3I

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

Matrix: (soil/water) SOIL Lab Sample ID: B0629-BS1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: E3D0986F

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

Extraction: (SepF/Cont/Sonc) SONC Date Extracted:06/29/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 07/07/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

FORM I PCB

MITKEM CORPORATION ORGANIC PREP - SAMPLE PREPARATION : PEST/PCB

Date:	Analysis:	Method & SOP #	Matrix:	Project(s)
6-29-01	8082S PCB	Aq: 3510C (SepF) 3520C (Liq/Liq) Soil: 3550B (Sonic) 3540C (Soxhlet) Other:	Aqueous Soil Wipe Oil Other:	81307 81310, 81333, 81363

Blank ID	LCS ID	Analyst	Spiked By	Witness	Solvent Lot #	Time Started: / Time Ended:
B0629-BS1	B0629-LS1	TS	TS	TC	U13E18	

Sample ID	Client ID	Sample Wt (g) / Vol (ml)	Surrogate Spike Added	Matrix Spike Added	Emulsion	Esterification Date / Analyst		Final Concentration Date / Analyst		Final Concentration Volume	Acid / Copper Cleanup Date / Analyst		Date Extract Trans
B0629-BS1		30g	OPW010620A 2ml	—				7/3/01	BH/YZ	10 ml	7/4/01	YZ	7/4/01
-LS1				OPW010605A 1ml									
81307-01		30.3g		—									
-02		30.2g											
-03		30.6g											
-04		30.1g											
81310-01		30.1g											
81333-01		30.4g						7/3/01	BH/YZ	10 ml	7/4/01	YZ	7/4/01
-02		30.1g											
-03		30.6g											
-04		[illegible]											
-05		30.5g											
-06		30.5g											
-07		30.4g											
-08		30.4g											
-04 MS		30.2g		OPW010605A 1ml									
-04 MSD		30.2g											
81363-01	12	30.0g		—									

Comments:

Water Bath Temp. _____ S nicator Tuned? Yes/No

QAT00149 Log ID: 8P-08 Reviewed By: SBL 7/13/01 PAGE: 071

MITKEM CORP. % Moisture and % Solid Determination Logbook

Date In	Sample ID	Oven Temp. In	Tare Wt. (g)	Wet Wt. (g)	Wet Wt. Tared (g)	Date Out	Oven Temp. Out	Dry Wt. (g)	Dry Wt. Tared (g)	% Solids	Analyst	Calc. Checked
7/5/01	81353 014	103°	1.0	7.3	6.3	7/6/01	102°	7.0	6.0	95	MB	
	015			8.4	7.4			7.7	6.7	91		
	016			7.4	6.4			7.0	6.0	94		
	017			7.3	6.3			5.8	4.8	76		
	018			6.1	5.1			5.9	4.9	96		
	019			8.9	7.9			8.0	7.0	89		
	020			7.5	6.5			7.2	6.2	95		
	81360 001			7.0	6.0			6.2	5.2	87		
	002			8.1	7.1			7.2	6.2	87		
	003			7.1	6.1			6.0	5.0	82		
	004			6.3	5.3			5.6	4.6	87		
	005			8.8	7.8			7.7	6.7	86		
	006			7.9	6.9			7.0	6.0	87		
	007			7.7	6.7			7.0	6.0	90		
	008			9.5	8.5			8.3	7.3	86		
	009			9.2	8.2			8.2	7.2	88		
	010			8.9	7.9			8.1	7.1	90		
	011			7.6	6.6			6.8	5.8	88		
	011 D			6.5	5.5			5.8	4.8	87		
	012			6.0	5.0			5.4	4.4	88		
	~~013~~											
	81363 061			9.5	8.5			8.5	7.5	88	12	

% Solid = Dry Wt. Tared/Wet Wt. Tared x 100

% Moisture = 100 - % Solid

QAT00209

Log ID: 8SR-04

Reviewed By: SBL 7/13/01

MITKEM CORPORATION - PEST/PCB RUN LOGBOOK: INSTRUMENT E3

Date	Lab ID	Client	Method	Filename	Dilution	yes/n	Analyst	C mments
7/5/01	81307003		PCB	E3D0953		✓	~	Clean
	4			54		✓		Clean, Sum ↑
	81310001			55		✓		~~1242?~~ ratio not good
	PIBLK			56				
	1242 M1			57		↑↑		
	1248			58		↑↑		
	2154			59		↑↑		rerun curve
	1660			60		↑↑		+ samples
7/6/01	PRIME			61				
				62				
	1232 L3			63		ok		1-Cal off
	1242 L1			64				
	L2			65				
	L3			66				
	L4			67				
	L5			68				
	1248 L1			69				
	L2			70				
	L3			71				
	L4			72				
	L5			73				
	2154 L1			74				
	L2			75				

QAT00177
8PB-09

Revi wed By: ~ 7/7/01

MITKEM CORPORATION - PEST/PCB RUN LOGBOOK: INSTRUMENT E3

Date	Lab ID	Client	Method	Filename	Dilution	y s/no	Analyst	Comments
7/6/01	2154 L3		PCB	E3D076		OK	27	
	L4			77				
	L5			78				
	1660 L1			79				
	L2			80				
	L3			81				
	L4			82				
	L5			83				
	1660 2S			84				
	P/BLK			85				
	B0629-BS1	BBLK3I		86		✓		
	LS1	B3ILCS		87		✓		
	B0626-BK1	BBLK3K		88		✓		
	LW1	B3KLCS		[illegible]		✓		
	B1282001			90		✓		Clean
	2			91		✓		
	B0702-BS1	BBLK3L		92		✓		
	LS1	B3LLCS		93		✓		
	B0702-BS2	BBLK3M		94		✓		
	LS2	B3MLCS		95		✓✓		
	P/BLK			96				
	1242M1			97		✓✓		
	1248			98		✓✓		

QAT00177
8PB-09

Revi w d By: 27 7/6/01

Pag : 028

MITKEM CORPORATION - PEST/PCB RUN LOGBOOK: INSTRUMENT E3

Date	Lab ID	Cli nt	Method	Filename	Dilution	yes/n	Analyst	C mments
7/6/01	2154 M1		PCB	E3D 0999		✓✓	~	
↓	1660 ↓		↓	↓ 1000		✓✓	↓	
	PIBLK			01				
	B0628-1351			02		✓		
	↓ LS1			03		✓		
	81363001			04 ↓		✓		Clean, DCB ↑
	81414016			05		✓		1254
	↓ 17			06		✓		Clean
	↓ 18		↓	07		✓		↓
	81377001			08		✓		Clean
	↓ 2			09 ↓		✓		↓
	81398001			10 ↓		✓✓		Clean
	81344007			11 ↓		✓		↓
	PIBLK			12 ↓		✓		
	1242 MA			13		✓		
	1248			14		✓		
	1254			15		✓		
	1660 ↓			16		✓		
	PIBLK		↓	17			↓	
	81344012		PCB	18		✓	Gz	clean
	↓ 13			19		✓		↓
	↓ 17			20		✓		
↓	81333003		↓	↓ 21		✓	↓	

QAT00177
8PB-09

Reviewed By: ~ 7/10/01

FORM 2
WATER PCB SURROGATE RECOVERY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

GC Column(1): DB-5 ID: 0.53 (mm) GC Column(2): DB-608 ID: 0.53 (mm)

	CLIENT SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	BBLK3H	80	83	102	94			0
02	B3HLCS	92	84	95	87			0
03	54-MW01	59	62	46	44			0
04	54-DUP01	72	76	68	62			0
05								
06								
07								
08								
09								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

ADVISORY
QC LIMITS

S1 (TCX) = Tetrachloro-m-xylene (29-158)
S2 (DCB) = Decachlorobiphenyl (30-164)

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

FORM 2
SOIL PCB SURROGATE RECOVERY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

GC Column(1): DB-5 ID: 0.53 (mm) GC Column(2): DB-608 ID: 0.53 (mm)

	CLIENT SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	BBLK3L	74	78	96	87			0
02	B3LLCS	78	78	96	87			0
03	54-B01010	73	75	97	90			0
04	54-B0315	70	73	99	89			0
05	54-B030001	69	73	96	87			0
06	54-B0414	74	77	104	94			0
07	54-B0407	80	83	100	95			0
08	54-B04	74	76	93	95			0
09	54-B0203	66	68	95	88			0
10	54-B0214.5	68	69	92	83			0
11	54-B0301	70	71	88	84			0
12	54-B0308	68	69	98	92			0
13	54-B0402	68	71	92	89			0
14	54-B01004	78	82	100	98			0
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

ADVISORY
QC LIMITS

S1 (TCX) = Tetrachloro-m-xylene (42-147)
S2 (DCB) = Decachlorobiphenyl (29-155)

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

J

FORM 3
WATER PCB LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix Spike - Sample No.: B3HLCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Aroclor-1016	10		9.6	96	45-162
Aroclor-1260	10		8.8	88	54-159

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

* Values outside of QC limits

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

COMMENTS:

FORM III PCB

FORM 3
SOIL PCB LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix Spike - Sample No.: B3LLCS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Aroclor-1016	330		300	91	62-155
Aroclor-1260	330		300	91	56-173

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

* Values outside of QC limits

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

COMMENTS:

FORM 4
PCB METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

BBLK3H

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Lab Sample ID: B0703-BW1 Lab File ID: E3D1260F

Matrix (soil/water) WATER Extraction:(SepF/Cont/Sonc) SEPF

Sulfur Cleanup (Y/N) Y Date Extracted: 07/03/01

Date Analyzed (1): 07/13/01 Date Analyzed (2): 07/13/01

Time Analyzed (1): 2255 Time Analyzed (2): 2255

Instrument ID (1): E3 Instrument ID (2): E3

GC Column (1): DB-5 ID: 0.53(mm) GC Column (2): DB-608 ID: 0.53(mm)

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

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	B3HLCS	B0703-LW1	07/13/01	07/13/01
02	54-MW01	81344001	07/17/01	07/17/01
03	54-DUP01	81344002	07/17/01	07/17/01
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

COMMENTS:

FORM IV PCB

FORM 4
PCB METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

BBLK3L

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Lab Sample ID: B0702-BS1 Lab File ID: E3D0992F

Matrix (soil/water) SOIL Extraction: (SepF/Cont/Sonc) SONC

Sulfur Cleanup (Y/N) Y Date Extracted: 07/02/01

Date Analyzed (1): 07/07/01 Date Analyzed (2): 07/07/01

Time Analyzed (1): 0539 Time Analyzed (2): 0539

Instrument ID (1): E3 Instrument ID (2): E3

GC Column (1): DB-5 ID: 0.53 (mm) GC Column (2): DB-608 ID: 0.53 (mm)

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

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	B3LLCS	B0702-LS1	07/07/01	07/07/01
02	54-B01010	81344007	07/07/01	07/07/01
03	54-B0315	81344012	07/07/01	07/07/01
04	54-B030001	81344013	07/07/01	07/07/01
05	54-B0414	81344017	07/07/01	07/07/01
06	54-B0407	81344016	07/08/01	07/08/01
07	54-B04	81344015	07/08/01	07/08/01
08	54-B0203	81344008	07/10/01	07/10/01
09	54-B0214.5	81344009	07/10/01	07/10/01
10	54-B0301	81344010	07/10/01	07/10/01
11	54-B0308	81344011	07/10/01	07/10/01
12	54-B0402	81344014	07/10/01	07/10/01
13	54-B01004	81344006	07/11/01	07/11/01
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

COMMENTS:

FORM IV PCB

FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date(s): 07/06/01 07/07/01

Column: DB-5 ID: 0.53 (mm) Calibration Time(s): 1317 0042

LAB FILE ID: RF0.1: E3D0979F RF0.5: E3D0980F RF1: E3D0981F
RF2.5: E3D0982F RF5: E3D0983F

COMPOUND	RF0.1	RF0.5	RF1	RF2.5	RF5
Aroclor-1016	12940.000	10738.000	9982.000	8885.600	7741.400
(2)	27580.000	23144.000	21823.000	19536.800	16956.800
(3)	15110.000	12512.000	11614.000	10515.600	9207.800
Aroclor-1221	6060.000	5264.000	4941.000	4290.000	3922.000
(2)	4480.000	3948.000	3642.000	3102.800	2785.000
(3)	14970.000	12102.000	11056.000	9314.400	8245.000
Aroclor-1232			8928.000		
(2)			9655.000		
(3)			5282.000		
Aroclor-1242	21190.000	17974.000	16331.000	14841.600	13176.200
(2)	11600.000	9832.000	8813.000	7940.400	7160.000
(3)	10040.000	8874.000	8021.000	7322.400	6718.200
Aroclor-1248	16460.000	13766.000	12698.000	11131.200	10201.600
(2)	17970.000	14862.000	13830.000	12229.600	11417.800
(3)	14270.000	12448.000	11936.000	11019.200	10450.600
Aroclor-1254	28340.000	23224.000	21957.000	18877.600	17342.600
(2)	22770.000	18276.000	17059.000	14732.000	13488.400
(3)	23840.000	19906.000	18753.000	16444.800	15082.200
Aroclor-1260	22860.000	17576.000	16161.000	14231.200	12477.000
(2)	30660.000	24826.000	23615.000	21209.200	18868.000
(3)	36930.000	31692.000	30763.000	28365.600	25289.000
Tetrachloro-m-xylene	1702000.0	1481200.0	1476650.0	1392940.0	1309680.0
Decachlorobiphenyl	2846500.0	2011900.0	2266300.0	1763140.0	1820050.0

FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date(s): 07/06/01 07/07/01

Column: DB-5 ID: 0.53 (mm) Calibration Time(s): 1317 0042

COMPOUND	CURVE	COEFFICENTS A0	A1	%RSD OR R^2
Aroclor-1016	AVRG		10057.4000	19.6
(2)	AVRG		21808.1200	18.3
(3)	AVRG		11791.8800	18.9
Aroclor-1221	LINR	-0.1854648	2.604e-004	0.997
(2)	LINR	-0.2204323	3.677e-004	0.996
(3)	LINR	-0.2521914	1.247e-004	0.995
Aroclor-1232	AVRG		8928.00000	0.0
(2)	AVRG		9655.00000	0.0
(3)	AVRG		5282.00000	0.0
Aroclor-1242	AVRG		16702.5600	18.4
(2)	AVRG		9069.08000	19.1
(3)	AVRG		8195.12000	16.0
Aroclor-1248	AVRG		12851.3600	19.0
(2)	AVRG		14061.8800	18.2
(3)	AVRG		12024.7600	12.3
Aroclor-1254	LINR	-0.1895430	5.9e-005	0.997
(2)	LINR	-0.1954549	7.591e-005	0.997
(3)	LINR	-0.1774463	6.766e-005	0.998
Aroclor-1260	LINR	-0.2305792	8.189e-005	0.995
(2)	LINR	-0.1879316	5.384e-005	0.996
(3)	LINR	-0.1582093	3.994e-005	0.996
Tetrachloro-m-xylene	AVRG		1472494.00	9.9
Decachlorobiphenyl	LINR	-2.e-003	5.626e-007	0.997

FORM VI PCB

FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date(s): 07/06/01 07/07/01

Column: DB-608 ID: 0.53 (mm) Calibration Time(s): 1317 0042

LAB FILE ID: RF0.1: E3D0979R RF0.5: E3D0980R RF1: E3D0981R
RF2.5: E3D0982R RF5: E3D0983R

COMPOUND	RF0.1	RF0.5	RF1	RF2.5	RF5
Aroclor-1016	7710.000	6084.000	5527.000	4694.400	4038.600
(2)	10700.000	9038.000	8601.000	7720.800	6793.200
(3)	5360.000	4520.000	4230.000	3799.200	3371.000
Aroclor-1221	2370.000	2120.000	1958.000	1694.000	1537.400
(2)	1910.000	1664.000	1559.000	1316.400	1185.600
(3)	5960.000	4870.000	4413.000	3726.400	3309.000
Aroclor-1232			4022.000		
(2)			2839.000		
(3)			4198.000		
Aroclor-1242	6350.000	5092.000	4387.000	3816.800	3273.600
(2)	9070.000	7670.000	6878.000	6219.200	5528.400
(3)	4890.000	4274.000	3893.000	3511.200	3173.800
Aroclor-1248	6900.000	5876.000	5398.000	4718.000	4320.800
(2)	7460.000	6490.000	6004.000	5289.200	4915.200
(3)	6230.000	5588.000	5340.000	4921.200	4698.200
Aroclor-1254	12330.000	10504.000	9830.000	8529.600	7664.400
(2)	7830.000	6928.000	6593.000	5618.000	5212.200
(3)	8200.000	6910.000	6654.000	5846.400	5330.200
Aroclor-1260	10260.000	8206.000	7529.000	6518.400	5714.200
(2)	9470.000	7942.000	7492.000	6722.800	6056.000
(3)	12370.000	11052.000	10565.000	9943.200	8852.600
Tetrachloro-m-xylene	869000.00	720700.00	717600.00	665460.00	633930.00
Decachlorobiphenyl	1108500.0	800000.00	954000.00	772640.00	833870.00

FORM VI PCB

FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date(s): 07/06/01 07/07/01

Column: DB-608 ID: 0.53 (mm) Calibration Time(s): 1317 0042

LAB FILE ID: RF0.1: E3D0979R RF0.5: E3D0980R RF1: E3D0981R
RF2.5: E3D0982R RF5: E3D0983R

COMPOUND	RF0.1	RF0.5	RF1	RF2.5	RF5
Aroclor-1016	7710.000	6084.000	5527.000	4694.400	4038.600
(2)	10700.000	9038.000	8601.000	7720.800	6793.200
(3)	5360.000	4520.000	4230.000	3799.200	3371.000
Aroclor-1221	2370.000	2120.000	1958.000	1694.000	1537.400
(2)	1910.000	1664.000	1559.000	1316.400	1185.600
(3)	5960.000	4870.000	4413.000	3726.400	3309.000
Aroclor-1232			4022.000		
(2)			2839.000		
(3)			4198.000		
Aroclor-1242	6350.000	5092.000	4387.000	3816.800	3273.600
(2)	9070.000	7670.000	6878.000	6219.200	5528.400
(3)	4890.000	4274.000	3893.000	3511.200	3173.800
Aroclor-1248	6900.000	5876.000	5398.000	4718.000	4320.800
(2)	7460.000	6490.000	6004.000	5289.200	4915.200
(3)	6230.000	5588.000	5340.000	4921.200	4698.200
Aroclor-1254	12330.000	10504.000	9830.000	8529.600	7664.400
(2)	7830.000	6928.000	6593.000	5618.000	5212.200
(3)	8200.000	6910.000	6654.000	5846.400	5330.200
Aroclor-1260	10260.000	8206.000	7529.000	6518.400	5714.200
(2)	9470.000	7942.000	7492.000	6722.800	6056.000
(3)	12370.000	11052.000	10565.000	9943.200	8852.600
Tetrachloro-m-xylene	869000.00	720700.00	717600.00	665460.00	633930.00
Decachlorobiphenyl	1108500.0	800000.00	954000.00	772640.00	833870.00

FORM VI PCB

FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date(s): 07/06/01 07/07/01

Column: DB-608 ID: 0.53 (mm) Calibration Time(s): 1317 0042

COMPOUND	CURVE	COEFFICENTS A0	A1	%RSD OR R^2
Aroclor-1016	LINR	-0.2772821	2.541e-004	0.993
(2)	LINR	-0.1947622	1.493e-004	0.995
(3)	LINR	-0.1925204	3.015e-004	0.996
Aroclor-1221	LINR	-0.1978409	6.648e-004	0.997
(2)	LINR	-0.2191354	8.64e-004	0.996
(3)	LINR	-0.2495206	3.107e-004	0.995
Aroclor-1232	AVRG		4022.00000	0.0
(2)	AVRG		2839.00000	0.0
(3)	AVRG		4198.00000	0.0
Aroclor-1242	LINR	-0.2805180	3.137e-004	0.993
(2)	LINR	-0.2000841	1.843e-004	0.996
(3)	LINR	-0.1792210	3.207e-004	0.997
Aroclor-1248	AVRG		5442.56000	18.6
(2)	AVRG		6031.68000	16.7
(3)	AVRG		5355.48000	11.2
Aroclor-1254	AVRG		9771.60000	18.5
(2)	AVRG		6436.24000	16.2
(3)	AVRG		6588.12000	16.7
Aroclor-1260	LINR	-0.2404992	1.791e-004	0.995
(2)	LINR	-0.1775062	1.679e-004	0.997
(3)	LINR	-0.1481508	1.138e-004	0.996
Tetrachloro-m-xylene	AVRG		721338.000	12.5
Decachlorobiphenyl	AVRG		893802.000	15.5

FORM VI PCB

FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date(s): 07/06/01 07/07/01

Column: DB-5 ID: 0.53 (mm) Calibration Time(s): 1317 0042

LAB FILE ID: RT1: E3D0979F RT2: E3D0980F RT3: E3D0981F
RT4: E3D0982F RT5: E3D0983F

COMPOUND	RT1	RT2	RT3	RT4	RT5
Aroclor-1016	6.440	6.430	6.430	6.430	6.430
(2)	7.120	7.120	7.120	7.120	7.120
(3)	7.380	7.380	7.380	7.380	7.380
Aroclor-1221	4.620	4.620	4.620	4.620	4.620
(2)	4.850	4.850	4.850	4.850	4.850
(3)	4.980	4.980	4.980	4.980	4.980
Aroclor-1232			4.990		
(2)			7.130		
(3)			7.380		
Aroclor-1242	7.130	7.130	7.130	7.130	7.120
(2)	7.390	7.390	7.390	7.390	7.380
(3)	9.750	9.750	9.750	9.750	9.740
Aroclor-1248	9.660	9.650	9.650	9.650	9.640
(2)	9.760	9.750	9.740	9.740	9.740
(3)	10.210	10.200	10.200	10.200	10.190
Aroclor-1254	11.400	11.400	11.400	11.400	11.400
(2)	12.110	12.110	12.120	12.120	12.120
(3)	13.510	13.500	13.510	13.510	13.510
Aroclor-1260	12.077	12.077	12.080	12.077	12.077
(2)	13.510	13.500	13.500	13.510	13.510
(3)	15.380	15.380	15.380	15.380	15.380
Tetrachloro-m-xylene	4.150	4.150	4.150	4.150	4.150
Decachlorobiphenyl	19.810	19.800	19.800	19.800	19.800

FORM VI PCB

FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date(s): 07/06/01 07/07/01

Column: DB-5 ID: 0.53 (mm) Calibration Time(s): 1317 0042

COMPOUND	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Aroclor-1016	6.432	6.363	6.503
(2)	7.120	7.050	7.190
(3)	7.380	7.307	7.447
Aroclor-1221	4.620	4.553	4.693
(2)	4.850	4.780	4.920
(3)	4.980	4.910	5.050
Aroclor-1232	4.990	4.917	5.057
(2)	7.130	7.057	7.197
(3)	7.380	7.313	7.453
Aroclor-1242	7.128	7.050	7.190
(2)	7.388	7.307	7.447
(3)	9.748	9.673	9.813
Aroclor-1248	9.650	9.573	9.713
(2)	9.746	9.673	9.813
(3)	10.200	10.123	10.263
Aroclor-1254	11.400	11.327	11.467
(2)	12.116	12.047	12.187
(3)	13.508	13.437	13.577
Aroclor-1260	12.078	12.007	12.147
(2)	13.506	13.433	13.573
(3)	15.380	15.307	15.447
Tetrachloro-m-xylene	4.150	4.097	4.197
Decachlorobiphenyl	19.802	19.703	19.903

FORM VI PCB

FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date(s): 07/06/01 07/07/01

Column: DB-608 ID: 0.53 (mm) Calibration Time(s): 1317 0042

LAB FILE ID: RT1: E3D0979R RT2: E3D0980R RT3: E3D0981R
RT4: E3D0982R RT5: E3D0983R

COMPOUND	RT1	RT2	RT3	RT4	RT5
Aroclor-1016	9.600	9.590	9.590	9.590	9.590
(2)	10.740	10.730	10.730	10.730	10.730
(3)	11.250	11.240	11.240	11.240	11.240
Aroclor-1221	7.600	7.600	7.590	7.590	7.590
(2)	8.070	8.070	8.070	8.070	8.070
(3)	8.280	8.270	8.270	8.270	8.270
Aroclor-1232			8.280		
(2)			9.600		
(3)			10.740		
Aroclor-1242	9.600	9.600	9.600	9.600	9.590
(2)	10.740	10.740	10.740	10.740	10.730
(3)	13.740	13.740	13.730	13.740	13.720
Aroclor-1248	13.540	13.530	13.530	13.530	13.530
(2)	13.730	13.730	13.720	13.720	13.720
(3)	14.590	14.590	14.580	14.580	14.580
Aroclor-1254	15.750	15.750	15.750	15.750	15.750
(2)	16.100	16.100	16.100	16.100	16.100
(3)	17.850	17.840	17.840	17.840	17.840
Aroclor-1260	16.540	16.530	16.530	16.530	16.530
(2)	17.850	17.840	17.840	17.840	17.840
(3)	19.500	19.490	19.490	19.490	19.490
Tetrachloro-m-xylene	6.220	6.220	6.220	6.210	6.210
Decachlorobiphenyl	27.973	27.973	27.970	27.973	27.973

FORM VI PCB

FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date(s): 07/06/01 07/07/01

Column: DB-608 ID: 0.53 (mm) Calibration Time(s): 1317 0042

COMPOUND	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Aroclor-1016	9.592	9.523	9.663
(2)	10.732	10.663	10.803
(3)	11.242	11.170	11.310
Aroclor-1221	7.594	7.530	7.670
(2)	8.070	8.003	8.143
(3)	8.272	8.207	8.347
Aroclor-1232	8.280	8.210	8.350
(2)	9.600	9.530	9.670
(3)	10.740	10.670	10.810
Aroclor-1242	9.598	9.533	9.673
(2)	10.738	10.670	10.810
(3)	13.734	13.667	13.807
Aroclor-1248	13.532	13.470	13.610
(2)	13.724	13.660	13.800
(3)	14.584	14.520	14.660
Aroclor-1254	15.750	15.683	15.823
(2)	16.100	16.033	16.173
(3)	17.842	17.777	17.917
Aroclor-1260	16.532	16.463	16.603
(2)	17.842	17.773	17.913
(3)	19.492	19.420	19.560
Tetrachloro-m-xylene	6.216	6.167	6.267
Decachlorobiphenyl	27.972	27.873	28.073

FORM VI PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/07/01 Time: 1003

Lab File ID: E3D1000F Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d	
Aroclor-1016	0.98	1.0	AVRG	2.0	15.0	
(2)	0.98	1.0	AVRG	2.0	15.0	
(3)	0.98	1.0	AVRG	2.0	15.0	
Aroclor-1260	1.0	1.0	LINR	0.0	15.0	
(2)	1.0	1.0	LINR	0.0	15.0	
(3)	1.0	1.0	LINR	0.0	15.0	
Tetrachloro-m-xylene	0.020	0.020	AVRG	0.0	15.0	
Decachlorobiphenyl	0.024	0.020	LINR	20.0	15.0	<-

FORM VII PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/07/01 Time: 1003

Lab File ID: E3D1000R Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-608 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d
Aroclor-1016	1.0	1.0	LINR	0.0	15.0
(2)	1.0	1.0	LINR	0.0	15.0
(3)	1.0	1.0	LINR	0.0	15.0
Aroclor-1260	1.0	1.0	LINR	0.0	15.0
(2)	1.0	1.0	LINR	0.0	15.0
(3)	1.0	1.0	LINR	0.0	15.0
Tetrachloro-m-xylene	0.019	0.020	AVRG	5.0	15.0
Decachlorobiphenyl	0.022	0.020	AVRG	10.0	15.0

FORM VII PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/07/01 Time: 1855

Lab File ID: E3D1016F Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d	
Aroclor-1016	0.99	1.0	AVRG	1.0	15.0	
(2)	0.99	1.0	AVRG	1.0	15.0	
(3)	0.99	1.0	AVRG	1.0	15.0	
Aroclor-1260	1.1	1.0	LINR	10.0	15.0	
(2)	1.1	1.0	LINR	10.0	15.0	
(3)	1.1	1.0	LINR	10.0	15.0	
Tetrachloro-m-xylene	0.020	0.020	AVRG	0.0	15.0	
Decachlorobiphenyl	0.024	0.020	LINR	20.0	15.0	<-

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FORM VII PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/07/01 Time: 1855

Lab File ID: E3D1016R Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-608 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d
Aroclor-1016	1.0	1.0	LINR	0.0	15.0
(2)	1.0	1.0	LINR	0.0	15.0
(3)	1.0	1.0	LINR	0.0	15.0
Aroclor-1260	1.0	1.0	LINR	0.0	15.0
(2)	1.0	1.0	LINR	0.0	15.0
(3)	1.0	1.0	LINR	0.0	15.0
Tetrachloro-m-xylene	0.019	0.020	AVRG	5.0	15.0
Decachlorobiphenyl	0.022	0.020	AVRG	10.0	15.0

FORM VII PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/08/01 Time: 0343

Lab File ID: E3D1032F Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d	
Aroclor-1016	1.00	1.0	AVRG	0.0	15.0	
(2)	1.00	1.0	AVRG	0.0	15.0	
(3)	1.00	1.0	AVRG	0.0	15.0	
Aroclor-1260	1.1	1.0	LINR	10.0	15.0	
(2)	1.1	1.0	LINR	10.0	15.0	
(3)	1.1	1.0	LINR	10.0	15.0	
Tetrachloro-m-xylene	0.020	0.020	AVRG	0.0	15.0	
Decachlorobiphenyl	0.025	0.020	LINR	25.0	15.0	<-

FORM VII PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/08/01 Time: 0343

Lab File ID: E3D1032R Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-608 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d
Aroclor-1016	1.0	1.0	LINR	0.0	15.0
(2)	1.0	1.0	LINR	0.0	15.0
(3)	1.0	1.0	LINR	0.0	15.0
Aroclor-1260	1.0	1.0	LINR	0.0	15.0
(2)	1.0	1.0	LINR	0.0	15.0
(3)	1.0	1.0	LINR	0.0	15.0
Tetrachloro-m-xylene	0.019	0.020	AVRG	5.0	15.0
Decachlorobiphenyl	0.022	0.020	AVRG	10.0	15.0

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FORM VII PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/08/01 Time: 1337

Lab File ID: E3D1048F Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d	
Aroclor-1016	1.0	1.0	AVRG	0.0	15.0	
(2)	1.0	1.0	AVRG	0.0	15.0	
(3)	1.0	1.0	AVRG	0.0	15.0	
Aroclor-1260	1.1	1.0	LINR	10.0	15.0	
(2)	1.1	1.0	LINR	10.0	15.0	
(3)	1.1	1.0	LINR	10.0	15.0	
Tetrachloro-m-xylene	0.020	0.020	AVRG	0.0	15.0	
Decachlorobiphenyl	0.025	0.020	LINR	25.0	15.0	<-

FORM VII PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/08/01 Time: 1337

Lab File ID: E3D1048R Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-608 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d
Aroclor-1016	1.1	1.0	LINR	10.0	15.0
(2)	1.1	1.0	LINR	10.0	15.0
(3)	1.1	1.0	LINR	10.0	15.0
Aroclor-1260	1.0	1.0	LINR	0.0	15.0
(2)	1.0	1.0	LINR	0.0	15.0
(3)	1.0	1.0	LINR	0.0	15.0
Tetrachloro-m-xylene	0.019	0.020	AVRG	5.0	15.0
Decachlorobiphenyl	0.021	0.020	AVRG	5.0	15.0

FORM VII PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/10/01 Time: 1515

Lab File ID: E3D1112F Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d
Aroclor-1016	0.95	1.0	AVRG	5.0	15.0
(2)	0.95	1.0	AVRG	5.0	15.0
(3)	0.95	1.0	AVRG	5.0	15.0
Aroclor-1260	1.00	1.0	LINR	0.0	15.0
(2)	1.00	1.0	LINR	0.0	15.0
(3)	1.00	1.0	LINR	0.0	15.0
Tetrachloro-m-xylene	0.020	0.020	AVRG	0.0	15.0
Decachlorobiphenyl	0.023	0.020	LINR	15.0	15.0

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/10/01 Time: 1515

Lab File ID: E3D1112R Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-608 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d
Aroclor-1016	0.99	1.0	LINR	1.0	15.0
(2)	0.99	1.0	LINR	1.0	15.0
(3)	0.99	1.0	LINR	1.0	15.0
Aroclor-1260	0.98	1.0	LINR	2.0	15.0
(2)	0.98	1.0	LINR	2.0	15.0
(3)	0.98	1.0	LINR	2.0	15.0
Tetrachloro-m-xylene	0.018	0.020	AVRG	10.0	15.0
Decachlorobiphenyl	0.021	0.020	AVRG	5.0	15.0

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/11/01 Time: 0036

Lab File ID: E3D1127F Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d
Aroclor-1016	0.94	1.0	AVRG	6.0	15.0
(2)	0.94	1.0	AVRG	6.0	15.0
(3)	0.94	1.0	AVRG	6.0	15.0
Aroclor-1260	0.98	1.0	LINR	2.0	15.0
(2)	0.98	1.0	LINR	2.0	15.0
(3)	0.98	1.0	LINR	2.0	15.0
Tetrachloro-m-xylene	0.020	0.020	AVRG	0.0	15.0
Decachlorobiphenyl	0.023	0.020	LINR	15.0	15.0

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/11/01 Time: 0036

Lab File ID: E3D1127R Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-608 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d
Aroclor-1016	0.97	1.0	LINR	3.0	15.0
(2)	0.97	1.0	LINR	3.0	15.0
(3)	0.97	1.0	LINR	3.0	15.0
Aroclor-1260	0.97	1.0	LINR	3.0	15.0
(2)	0.97	1.0	LINR	3.0	15.0
(3)	0.97	1.0	LINR	3.0	15.0
Tetrachloro-m-xylene	0.018	0.020	AVRG	10.0	15.0
Decachlorobiphenyl	0.021	0.020	AVRG	5.0	15.0

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FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/11/01 Time: 1246

Lab File ID: E3D1165F Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d
Aroclor-1016	0.92	1.0	AVRG	8.0	15.0
(2)	0.92	1.0	AVRG	8.0	15.0
(3)	0.92	1.0	AVRG	8.0	15.0
Aroclor-1260	0.97	1.0	LINR	3.0	15.0
(2)	0.97	1.0	LINR	3.0	15.0
(3)	0.97	1.0	LINR	3.0	15.0
Tetrachloro-m-xylene	0.019	0.020	AVRG	5.0	15.0
Decachlorobiphenyl	0.021	0.020	LINR	5.0	15.0

FORM VII PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/11/01 Time: 1246

Lab File ID: E3D1165R Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-608 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d
Aroclor-1016	0.96	1.0	LINR	4.0	15.0
(2)	0.96	1.0	LINR	4.0	15.0
(3)	0.96	1.0	LINR	4.0	15.0
Aroclor-1260	0.92	1.0	LINR	8.0	15.0
(2)	0.92	1.0	LINR	8.0	15.0
(3)	0.92	1.0	LINR	8.0	15.0
Tetrachloro-m-xylene	0.018	0.020	AVRG	10.0	15.0
Decachlorobiphenyl	0.018	0.020	AVRG	10.0	15.0

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FORM VII PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/11/01 Time: 2209

Lab File ID: E3D1181F Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d	
Aroclor-1016	0.97	1.0	AVRG	3.0	15.0	
(2)	0.97	1.0	AVRG	3.0	15.0	
(3)	0.97	1.0	AVRG	3.0	15.0	
Aroclor-1260	1.1	1.0	LINR	10.0	15.0	
(2)	1.1	1.0	LINR	10.0	15.0	
(3)	1.1	1.0	LINR	10.0	15.0	
Tetrachloro-m-xylene	0.020	0.020	AVRG	0.0	15.0	
Decachlorobiphenyl	0.024	0.020	LINR	20.0	15.0	<-

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FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/11/01 Time: 2209

Lab File ID: E3D1181R Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-608 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d
Aroclor-1016	1.0	1.0	LINR	0.0	15.0
(2)	1.0	1.0	LINR	0.0	15.0
(3)	1.0	1.0	LINR	0.0	15.0
Aroclor-1260	1.0	1.0	LINR	0.0	15.0
(2)	1.0	1.0	LINR	0.0	15.0
(3)	1.0	1.0	LINR	0.0	15.0
Tetrachloro-m-xylene	0.018	0.020	AVRG	10.0	15.0
Decachlorobiphenyl	0.022	0.020	AVRG	10.0	15.0

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FORM VII PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/13/01 Time: 1925

Lab File ID: E3D1255F Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d	
Aroclor-1016	0.99	1.0	AVRG	1.0	15.0	
(2)	0.99	1.0	AVRG	1.0	15.0	
(3)	0.99	1.0	AVRG	1.0	15.0	
Aroclor-1260	1.1	1.0	LINR	10.0	15.0	
(2)	1.1	1.0	LINR	10.0	15.0	
(3)	1.1	1.0	LINR	10.0	15.0	
Tetrachloro-m-xylene	0.020	0.020	AVRG	0.0	15.0	
Decachlorobiphenyl	0.025	0.020	LINR	25.0	15.0	<-

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FORM VII PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/13/01 Time: 1925

Lab File ID: E3D1255R Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-608 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d
Aroclor-1016	1.0	1.0	LINR	0.0	15.0
(2)	1.0	1.0	LINR	0.0	15.0
(3)	1.0	1.0	LINR	0.0	15.0
Aroclor-1260	1.0	1.0	LINR	0.0	15.0
(2)	1.0	1.0	LINR	0.0	15.0
(3)	1.0	1.0	LINR	0.0	15.0
Tetrachloro-m-xylene	0.019	0.020	AVRG	5.0	15.0
Decachlorobiphenyl	0.023	0.020	AVRG	15.0	15.0

FORM VII PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/14/01 Time: 0445

Lab File ID: E3D1270F Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d	
Aroclor-1016	1.00	1.0	AVRG	0.0	15.0	
(2)	1.00	1.0	AVRG	0.0	15.0	
(3)	1.00	1.0	AVRG	0.0	15.0	
Aroclor-1260	1.1	1.0	LINR	10.0	15.0	
(2)	1.1	1.0	LINR	10.0	15.0	
(3)	1.1	1.0	LINR	10.0	15.0	
Tetrachloro-m-xylene	0.021	0.020	AVRG	5.0	15.0	
Decachlorobiphenyl	0.026	0.020	LINR	30.0	15.0	<-

FORM VII PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/14/01 Time: 0445

Lab File ID: E3D1270R Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-608 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d
Aroclor-1016	1.0	1.0	LINR	0.0	15.0
(2)	1.0	1.0	LINR	0.0	15.0
(3)	1.0	1.0	LINR	0.0	15.0
Aroclor-1260	1.0	1.0	LINR	0.0	15.0
(2)	1.0	1.0	LINR	0.0	15.0
(3)	1.0	1.0	LINR	0.0	15.0
Tetrachloro-m-xylene	0.019	0.020	AVRG	5.0	15.0
Decachlorobiphenyl	0.023	0.020	AVRG	15.0	15.0

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FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/17/01 Time: 0334

Lab File ID: E3D1350F Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d	
Aroclor-1016	0.94	1.0	AVRG	6.0	15.0	
(2)	0.94	1.0	AVRG	6.0	15.0	
(3)	0.94	1.0	AVRG	6.0	15.0	
Aroclor-1260	1.0	1.0	LINR	0.0	15.0	
(2)	1.0	1.0	LINR	0.0	15.0	
(3)	1.0	1.0	LINR	0.0	15.0	
Tetrachloro-m-xylene	0.020	0.020	AVRG	0.0	15.0	
Decachlorobiphenyl	0.024	0.020	LINR	20.0	15.0	<-

FORM VII PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/17/01 Time: 0334

Lab File ID: E3D1350R Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-608 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d
Aroclor-1016	1.0	1.0	LINR	0.0	15.0
(2)	1.0	1.0	LINR	0.0	15.0
(3)	1.0	1.0	LINR	0.0	15.0
Aroclor-1260	0.97	1.0	LINR	3.0	15.0
(2)	0.97	1.0	LINR	3.0	15.0
(3)	0.97	1.0	LINR	3.0	15.0
Tetrachloro-m-xylene	0.019	0.020	AVRG	5.0	15.0
Decachlorobiphenyl	0.022	0.020	AVRG	10.0	15.0

FORM VII PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/17/01 Time: 1323

Lab File ID: E3D1374F Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-5 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d	
Aroclor-1016	1.0	1.0	AVRG	0.0	15.0	
(2)	1.0	1.0	AVRG	0.0	15.0	
(3)	1.0	1.0	AVRG	0.0	15.0	
Aroclor-1260	1.1	1.0	LINR	10.0	15.0	
(2)	1.1	1.0	LINR	10.0	15.0	
(3)	1.1	1.0	LINR	10.0	15.0	
Tetrachloro-m-xylene	0.021	0.020	AVRG	5.0	15.0	
Decachlorobiphenyl	0.028	0.020	LINR	40.0	15.0	<-

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FORM VII PCB

FORM 7
PCB CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E3 Calibration Date: 07/17/01 Time: 1323

Lab File ID: E3D1374R Init. Calib. Date(s): 07/06/01 07/07/01

Init. Calib. Times: 2230 0042

GC Column: DB-608 ID: 0.53 (mm)

COMPOUND	SAMPLE AMOUNT	CAL1 AMOUNT	CURVE	%D	MAX %d	
Aroclor-1016	1.1	1.0	LINR	10.0	15.0	
(2)	1.1	1.0	LINR	10.0	15.0	
(3)	1.1	1.0	LINR	10.0	15.0	
Aroclor-1260	1.1	1.0	LINR	10.0	15.0	
(2)	1.1	1.0	LINR	10.0	15.0	
(3)	1.1	1.0	LINR	10.0	15.0	
Tetrachloro-m-xylene	0.020	0.020	AVRG	0.0	15.0	
Decachlorobiphenyl	0.026	0.020	AVRG	30.0	15.0	<-

FORM 8
PCB ANALYTICAL SEQUENCE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

GC Column: DB-5 ID: 0.53 (mm) Init. Calib. Date(s): 07/06/01 07/07/01

Instrument ID: E3

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
TCX: 4.15 DCB: 19.80

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
01	AR1232L3	AR1232L3	07/06/01	1317	4.15	19.81
02	AR1242L1	AR1242L1	07/06/01	1350	4.16	19.81
03	AR1242L2	AR1242L2	07/06/01	1423	4.16	19.81
04	AR1242L3	AR1242L3	07/06/01	1456	4.16	19.82
05	AR1242L4	AR1242L4	07/06/01	1529	4.16	19.82
06	AR1242L5	AR1242L5	07/06/01	1603	4.15	19.80
07	AR1248L1	AR1248L1	07/06/01	1701	4.16	19.81
08	AR1248L2	AR1248L2	07/06/01	1734	4.15	19.80
09	AR1248L3	AR1248L3	07/06/01	1807	4.15	19.80
10	AR1248L4	AR1248L4	07/06/01	1840	4.15	19.80
11	AR1248L5	AR1248L5	07/06/01	1913	4.15	19.80
12	AR2154L1	AR2154L1	07/06/01	1945	4.15	19.80
13	AR2154L2	AR2154L2	07/06/01	2018	4.15	19.80
14	AR2154L3	AR2154L3	07/06/01	2051	4.15	19.80
15	AR2154L4	AR2154L4	07/06/01	2124	4.15	19.80
16	AR2154L5	AR2154L5	07/06/01	2157	4.15	19.80
17	AR1660L1	AR1660L1	07/06/01	2230	4.15	19.81
18	AR1660L2	AR1660L2	07/06/01	2303	4.15	19.80
19	AR1660L3	AR1660L3	07/06/01	2336	4.15	19.80
20	AR1660L4	AR1660L4	07/07/01	0009	4.15	19.80
21	AR1660L5	AR1660L5	07/07/01	0042	4.15	19.80
22	BBLK3L	B0702-BS1	07/07/01	0539	4.16	19.83
23	B3LLCS	B0702-LS1	07/07/01	0612	4.16	19.82
24	AR1660M1	AR1660M1	07/07/01	1003	4.15	19.81
25	54-B01010	81344007	07/07/01	1610	4.15	19.80
26	AR1660MA	AR1660MA	07/07/01	1855	4.15	19.80
27	54-B0315	81344012	07/07/01	2001	4.15	19.80
28	54-B030001	81344013	07/07/01	2034	4.15	19.81
29	54-B0414	81344017	07/07/01	2107	4.15	19.81
30	AR1660MB	AR1660MB	07/08/01	0343	4.15	19.81
31	54-B0407	81344016	07/08/01	0555	4.15	19.80
32	54-B04	81344015	07/08/01	0913	4.15	19.80

QC LIMITS
TCX = Tetrachloro-m-xylene (+/- 0.05 MINUTES)
DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PCB

FORM 8
PCB ANALYTICAL SEQUENCE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

GC Column: DB-5 ID: 0.53 (mm) Init. Calib. Date(s): 07/06/01 07/07/01

Instrument ID: E3

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
TCX: 4.15 DCB: 19.80

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
01	AR1660MC	AR1660MC	07/08/01	1337	4.15	19.80
02	AR1660M5	AR1660M5	07/10/01	1515	4.15	19.81
03	54-B0203	81344008	07/10/01	1736	4.16	19.82
04	54-B0214.5	81344009	07/10/01	1811	4.15	19.82
05	54-B0301	81344010	07/10/01	1846	4.15	19.82
06	54-B0308	81344011	07/10/01	1921	4.16	19.82
07	54-B0402	81344014	07/10/01	1956	4.16	19.81
08	AR1660M6	AR1660M6	07/11/01	0036	4.16	19.82
09	AR1660M6	AR1660M6	07/11/01	1246	4.16	19.82
10	54-B01004	81344006	07/11/01	1804	4.16	19.82
11	AR1660MF	AR1660MF	07/11/01	2209	4.16	19.82
12	AR1660MI	AR1660MI	07/13/01	1925	4.16	19.82
13	BBLK3H	B0703-BW1	07/13/01	2255	4.16	19.82
14	B3HLCS	B0703-LW1	07/13/01	2330	4.16	19.82
15	AR1660MX	AR1660MX	07/14/01	0445	4.16	19.82
16	AR1660MM	AR1660MM	07/17/01	0334	4.16	19.81
17	54-MW01	81344001	07/17/01	0444	4.16	19.82
18	54-DUP01	81344002	07/17/01	0519	4.16	19.82
19	AR1660ML	AR1660ML	07/17/01	1323	4.17	19.80
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						

QC LIMITS
TCX = Tetrachloro-m-xylene (+/- 0.05 MINUTES)
DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PCB

FORM 8
PCB ANALYTICAL SEQUENCE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

GC Column: DB-608 ID: 0.53 (mm) Init. Calib. Date(s): 07/06/01 07/07/01

Instrument ID: E3

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
TCX: 6.22 DCB: 27.97

	CLIENT SAMPLE NO.	LAB SAMPLE ID.	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
01	AR1232L3	AR1232L3	07/06/01	1317	6.22	28.00
02	AR1242L1	AR1242L1	07/06/01	1350	6.22	28.00
03	AR1242L2	AR1242L2	07/06/01	1423	6.22	28.00
04	AR1242L3	AR1242L3	07/06/01	1456	6.22	28.00
05	AR1242L4	AR1242L4	07/06/01	1529	6.22	28.00
06	AR1242L5	AR1242L5	07/06/01	1603	6.21	27.97
07	AR1248L1	AR1248L1	07/06/01	1701	6.22	27.99
08	AR1248L2	AR1248L2	07/06/01	1734	6.22	27.98
09	AR1248L3	AR1248L3	07/06/01	1807	6.21	27.97
10	AR1248L4	AR1248L4	07/06/01	1840	6.21	27.97
11	AR1248L5	AR1248L5	07/06/01	1913	6.21	27.97
12	AR2154L1	AR2154L1	07/06/01	1945	6.22	27.97
13	AR2154L2	AR2154L2	07/06/01	2018	6.22	27.97
14	AR2154L3	AR2154L3	07/06/01	2051	6.21	27.97
15	AR2154L4	AR2154L4	07/06/01	2124	6.21	27.97
16	AR2154L5	AR2154L5	07/06/01	2157	6.21	27.98
17	AR1660L1	AR1660L1	07/06/01	2230	6.22	27.98
18	AR1660L2	AR1660L2	07/06/01	2303	6.22	27.97
19	AR1660L3	AR1660L3	07/06/01	2336	6.22	27.97
20	AR1660L4	AR1660L4	07/07/01	0009	6.21	27.98
21	AR1660L5	AR1660L5	07/07/01	0042	6.21	27.98
22	BBLK3L	B0702-BS1	07/07/01	0539	6.23	28.03
23	B3LLCS	B0702-LS1	07/07/01	0612	6.22	28.02
24	AR1660M1	AR1660M1	07/07/01	1003	6.21	27.99
25	54-B01010	81344007	07/07/01	1610	6.21	27.97
26	AR1660MA	AR1660MA	07/07/01	1855	6.22	27.98
27	54-B0315	81344012	07/07/01	2001	6.22	27.98
28	54-B030001	81344013	07/07/01	2034	6.21	27.98
29	54-B0414	81344017	07/07/01	2107	6.22	27.98
30	AR1660MB	AR1660MB	07/08/01	0343	6.22	27.98
31	54-B0407	81344016	07/08/01	0555	6.21	27.97
32	54-B04	81344015	07/08/01	0913	6.21	27.97

QC LIMITS
TCX = Tetrachloro-m-xylene (+/- 0.05 MINUTES)
DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PCB

FORM 8
PCB ANALYTICAL SEQUENCE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

GC Column: DB-608 ID: 0.53 (mm) Init. Calib. Date(s): 07/06/01 07/07/01

Instrument ID: E3

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
TCX: 6.22 DCB: 27.97

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
01	AR1660MC	AR1660MC	07/08/01	1337	6.21	27.97
02	AR1660M5	AR1660M5	07/10/01	1515	6.22	27.99
03	54-B0203	81344008	07/10/01	1736	6.22	27.99
04	54-B0214.5	81344009	07/10/01	1811	6.22	28.00
05	54-B0301	81344010	07/10/01	1846	6.22	28.00
06	54-B0308	81344011	07/10/01	1921	6.22	28.00
07	54-B0402	81344014	07/10/01	1956	6.22	28.00
08	AR1660M6	AR1660M6	07/11/01	0036	6.22	28.01
09	AR1660M6	AR1660M6	07/11/01	1246	6.22	28.01
10	54-B01004	81344006	07/11/01	1804	6.23	27.99
11	AR1660MF	AR1660MF	07/11/01	2209	6.23	28.01
12	AR1660MI	AR1660MI	07/13/01	1925	6.22	27.99
13	BBLK3H	B0703-BW1	07/13/01	2255	6.23	27.99
14	B3HLCS	B0703-LW1	07/13/01	2330	6.22	27.99
15	AR1660MX	AR1660MX	07/14/01	0445	6.23	27.99
16	AR1660MM	AR1660MM	07/17/01	0334	6.22	27.98
17	54-MW01	81344001	07/17/01	0444	6.22	27.98
18	54-DUP01	81344002	07/17/01	0519	6.22	27.99
19	AR1660ML	AR1660ML	07/17/01	1323	6.22	27.95
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						

QC LIMITS
TCX = Tetrachloro-m-xylene (+/- 0.05 MINUTES)
DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM 10
PCB IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

CLIENT SAMPLE NO.

54-B01004

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Lab Sample ID: 81344006 Date(s) Analyzed: 07/11/01 07/11/01

Instrument ID (1): E3 Instrument ID (2): E3

GC Column(1): DB-5 ID: 0.53(mm) GC Column(2): DB-608 ID: 0.53(mm)

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1260 COLUMN 1	1	12.09	12.01	12.15	5900		
	2	13.52	13.43	13.57	6900		
	3	15.39	15.31	15.45	6500		
	4						
	5					6400	
COLUMN 2	1	16.54	16.46	16.60	7400		
	2	17.85	17.77	17.91	7200		
	3	19.50	19.42	19.56	6600		
	4						
	5					7000	9.0
COLUMN 1	1						
	2						
	3						
	4						
	5						
COLUMN 2	1						
	2						
	3						
	4						
	5						
COLUMN 1	1						
	2						
	3						
	4						
	5						
COLUMN 2	1						
	2						
	3						
	4						
	5						

At least 3 peaks are required for identification of multicomponent analytes.

PCB

FORM 10
PCB IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

CLIENT SAMPLE NO.

B3HLCS

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Lab Sample ID: B0703-LW1 Date(s) Analyzed: 07/13/01 07/13/01

Instrument ID (1): E3 Instrument ID (2): E3

GC Column(1): DB-5 ID: 0.53(mm) GC Column(2): DB-608 ID: 0.53(mm)

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
	1	6.44	6.36	6.50	9.6		
Aroclor-1016	2	7.13	7.05	7.19	9.7		
	3	7.39	7.31	7.45	9.5		
COLUMN 1	4						
	5					9.6	
	1	9.60	9.52	9.66	10		
	2	10.74	10.66	10.80	9.9		
	3	11.25	11.17	11.31	10		
COLUMN 2	4						
	5					10	4.1
	1	12.09	12.01	12.15	9.9		
Aroclor-1260	2	13.52	13.43	13.57	9.4		
	3	15.39	15.31	15.45	8.7		
COLUMN 1	4						
	5					9.4	
	1	16.54	16.46	16.60	9.3		
	2	17.85	17.77	17.91	9.0		
	3	19.50	19.42	19.56	8.3		
COLUMN 2	4						
	5					8.8	6.6
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						

At least 3 peaks are required for identification of multicomponent analytes.

√

PCB

FORM 10
PCB IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

CLIENT SAMPLE NO.

B3LLCS

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Lab Sample ID: B0702-LS1 Date(s) Analyzed: 07/07/01 07/07/01

Instrument ID (1): E3 Instrument ID (2): E3

GC Column(1): DB-5 ID: 0.53(mm) GC Column(2): DB-608 ID: 0.53(mm)

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
	1	6.44	6.36	6.50	300		
Aroclor-1016	2	7.13	7.05	7.19	300		
	3	7.39	7.31	7.45	300		
COLUMN 1	4						
	5					300	
	1	9.61	9.52	9.66	320		
	2	10.75	10.66	10.80	310		
	3	11.26	11.17	11.31	310		
COLUMN 2	4						
	5					310	3.3
	1	12.09	12.01	12.15	310		
Aroclor-1260	2	13.52	13.43	13.57	310		
	3	15.39	15.31	15.45	310		
COLUMN 1	4						
	5					310	
	1	16.55	16.46	16.60	310		
	2	17.86	17.77	17.91	300		
	3	19.51	19.42	19.56	300		
COLUMN 2	4						
	5					300	3.3
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						

At least 3 peaks are required for identification of multicomponent analytes.

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BBLK3H

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix: (soil/water) WATER Lab Sample ID: B0703-BW1

Sample wt/vol: 1000 (g/ml) ML Lab File ID: E3D1260F

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

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:07/03/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 07/13/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PCB

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BBLK3L

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix: (soil/water) SOIL Lab Sample ID: B0702-BS1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: E3D0992F

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

Extraction: (SepF/Cont/Sonc) SONC Date Extracted:07/02/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 07/07/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	33	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

MITKEM CORPORATION ORGANIC PREP - SAMPLE PREPARATION : PEST/PCB

te: 7·2·01	Analysis: PCB	Method & SOP #	Aq: 3510C (SepF) 3520C (Liq/Liq) Soil: 3550B (Sonic) 3540C (Soxhlet) Other:	Matrix: Aqueous (Soil) Wipe Oil Other:		Project(s) 81344
ink ID 0702- BS1 BS2	LCS ID BS1 B0702 LS2	Analyst TS	Spiked By TS	Witness	Solvent Lot # V13E18	Time Started: Time Ended:

Sample ID	Client ID	Sample Wt (g) / Vol (ml)	Surrogate Spike Added	Matrix Spike Added	Emulsion	Esterification Date / Analyst		Final Concentration Date / Analyst		Final Concentration Volume	Acid / Copper Cleanup Date / Analyst		Date Extract Trans.
B0702 -BS1		30.0g	opw010620A 2ml	—				7/3/01	BH/YZ	10ml	7/4/01	YZ	7/4/01
BS2				opw010605A 1ml				7/5/01	BH	10ml	7.5.01	TS	7.5.01
LS1													TS
LS2													TS
~~81344-01~~													
~~-02~~													
81344 -03		30.1g		—				070801	TS	10mL	070901	SK	070901
-04		30.2g											
-05		30.1g											
-06	11	30.0g						7/3/01	BH/YZ	10ml	7/4/01	YZ	7/4/01
-07	11	30.2g						070801	TS	10mL	070901	SR	070901
-08	9	30.8g											
-09	11	30.2g											
-10	5	30.4g											
-11	11	30.2g						7/3/01	BH/YZ	10ml	7/4/01	YZ	7/4/01
-12	15	30.4g											
-13	15	30.6g						070801	TS	10mL	070901	SR	070901
-14	16	30.9g						7/3/01	BH/YZ	10ml	7/4/01	YZ	7/4/01
-15	9	30.5g											

Comments:

Sonicator Tuned? Yes/No

Water Bath Temp.

Reviewed By: KC 7/20/01

PAGE: 076

QAT00149

Log ID: 8P-0

MITKEM CORPORATION ORGANIC PREP - SAMPLE PREPARATION : PEST/PCB

Date:	Analysis:	Method & SOP #	Matrix:	Project(s)
7·2·01	PCB	Aq: 3510C (SepF) 3520C (Liq/Liq) Soil: 3550B (Sonic) 3540C (Soxhlet) Other:	Aqueous Soil Wipe Oil Other:	81377, 81401 81344, 81383, 81398
Blank ID BS1 B0702-BS2	**LCS ID** CS1 B0702-LS2	**Analyst** TS	**Spiked By** TS	**Witness** JC
Solvent Lot # V13E18				**Time Started:** **Time Ended:**

Sample ID	Client ID	Sample Wt (g) / Vol (ml)	Surrogate Spike Added	Matrix Spike Added	Emulsion	Esterification Date / Analyst		Final Concentration Date / Analyst		Final Concentration Volume	Acid / Copper Cleanup Date / Analyst		Date Extract Trans.
81344-16	9	30.2g	OPW010C20A 2ml	—				7/3/01	BH/YZ	10ml	7/4/01	YZ	7/4/01
-17	11	30.6g											
81383-05		30.7g											
-06		30.9g											
-07		30.5g											
-08		30.9g											
81398-01		30.5g											
-02		30.1g											
81377-01		30.5g						7/3/01	BH/YZ	10ml	7/4/01	YZ	7/4/01
-02		30.5g											
81401-01		[illegible]											
-02		30.3g											
-03		30.4g											
-04		30.6g											
81305-07		30.6											
-04		30.2											
-05		30.1											
-07		30.4											
-11		30.4											

Comments:

Cont. on Pg 79

Water Bath Temp. _____ **Sonicator Tuned? Yes/No**

MITKEM CORP. % Moisture and % Solid Determination Logbook

Date In	Sample ID	Oven Temp. In	Tare Wt. (g)	Wet Wt. (g)	Wet Wt. Tared (g)	Date Out	Oven Temp. Out	Dry Wt. (g)	Dry Wt. Tared (g)	% Solids	Analyst	Calc. Checked
6/27/01	81341 022	105°	1.0	6.4	5.4	6/28/01	105°	5.9	4.9	91	[illegible]	
	023			7.0	6.0			6.5	5.5	92		
	024			6.8	5.8			6.4	5.4	93		
	81344 003			6.4	5.4			5.5	4.5	83		
	003 D			9.4	8.4			8.0	7.0	83		
	004			8.2	7.2			7.1	6.1	85		
	005			8.4	7.4			7.7	6.7	91		
	006			6.4	5.4			5.8	4.8	89		
	007			7.4	6.4			6.7	5.7	89		
	008			8.8	7.8			8.1	7.1	91		
	009			6.4	5.4			5.8	4.8	89		
	010			8.4	7.4			8.0	7.0	95		
	011			10.0	9.0			9.0	8.0	89		
	012			6.5	5.5			5.7	4.7	85		
	013			7.0	6.0			6.1	5.1	85		
	014			6.6	5.6			5.7	4.7	84		
	015			8.5	7.5			7.8	6.8	91		
	016			6.7	5.7			6.2	5.2	91		
	017			9.2	8.2	6/28/01		8.3	7.3	89		
6/28/01	81348 001	105°	1.0	9.3	8.3			8.5	7.5	90	[illegible]	
	002			6.4	5.4			5.8	4.8	89		
	003			7.9	6.9			7.0	6.0	87		

% Solid = Dry Wt. Tared/Wet Wt. Tared x 100

% Moisture = 100 - % Solid

QA100209 Log ID: 8SR-04 R viewed By: KC 7/20/01 Page: 091

MITKEM CORPORATION - PEST/PCB RUN LOGBOOK: INSTRUMENT E3

Date	Lab ID	Client	Method	Fil name	Dilution	yes/n	Analyst	Comments
7/6/01	2154 M1		PCB	E3D 0999		✓✓	[illegible]	
↓	1660 ↓		↓	↓ 1000		✓✓	↓	
	PIBLK			01				
	B0628-BS1			02		✓		
	↓ LS1			03		✓		
	81363001			04		✓		Clean, DCB ↑
	81414016			05		✓		1254
	↓ 17			06		✓		Clean
	↓ 18		↓	↓ 07		✓		↓
	81377001			08		✓		Clean
	↓ 2			09		✓		↓
	81398001			10		✓✓		Clean
	[illegible]			[illegible]		[illegible]		
	PIBLK			12		✓		
	1242MA			13		✓		
	1248			14		✓		
	1254			15		✓		
	1660 ↓			16		✓		
	PIBLK		↓	↓ 17			↓	
	81344012		PCB	18		✓	GC	clean
	↓ 13			19		✓		↓
	↓ 17			20		✓		
↓	81333003		↓	↓ 21		✓	↓	

QAT00177
8PB-09

Reviewed By: [illegible] 7/10/01

MITKEM CORPORATION - PEST/PCB RUN LOGBOOK: INSTRUMENT E3

Date	Lab ID	Client	Meth d	Fil name	Dilutl n	ye /no	Analyst	Comments
7/7/01	81333007		PCB	E3D 1022		✓	GL	Clean
	08			23		✓		↓
	81307003			24		✓		Double spike
	04			25		✓		↓
	81383007			26		✓		Clean
	08			27		✓		↓
	PIBLK			28				
	AR1242MB			29		✓		
	1248			30		✓		
	1254			31		✓		
	1660			32		✓		
	PIBLK			33				
	81333004			34		✓		
	10			35		✓		
	81344016			36		✓		
	81383006			37		✓		
	05			38		✓		
	81333002			39		✓		Double S.
	05			40		✓		
	11			41		?		Double S.
	81344015			42		✓		
	81289005			43		✓		
	PIBLK			44				

QAT00177
8PB-09

Reviewed By: 7/10/01

MITKEM CORPORATION - PEST/PCB RUN LOGBOOK: INSTRUMENT E3

Date	Lab ID	Client	Method	Filename	Diluti n	yes/no	Analyst	Comments
	AR1242MC		PCB	E3D1045		✓	GL	
	1248			46		✓		
	1254			47		✓		
	1660			48		✓		
	P16Uc			49				
	81307001			50				straight ✓
	81333006			51				Need rerun due to claim cer.
	↓ 01			52				
	81289007			53				
	81364003			54				
	04			55				
	02			56				
	81370002			57				
	81284010			58				
	81364001		↓	59			↓	
7/9/01	AR1242M2		PCB	E3D1061		✓✓	GL	
	1248			62		✓		
	1254			63		✓✓		
	1660			64		✓✓		
	P16Uk			65		✓		
	81412001			66		✓		Clean
	81413001			67		✓		1254
	81421001		↓	68		✓	↓	↓

QAT00177
8PB-09

Reviewed By: 7/10/01

Pag : 03i

MITKEM CORPORATION - PEST/PCB RUN LOGBOOK: INSTRUMENT E3

Date	Lab ID	Client	Method	Filename	Dilution	yes/no	Analyst	Comments
7/9/01	81414006		PCB	E3D1091		✓	~	Clean
	1242 M4			92		✓		
	1242			93		✓		
	1248			94		✓		
	1254			95		✓		
	1660			96		✓		
	PIBLK			97				
	81414007			98		✓		Clean
	8			99		✓✓		1254
	9			E3D1100		✓✓		Clean
	10			01		✓✓		
	11			02		✓		Clean
	12			03		✓✓		
	13			04		✓✓		
	14			05		✓		
	15			06		✓✓		
	B0702-BS1	BBLK3D		07		✓		
	PIBLK			08				
	1242 M5			09		✓		
	1248			10		✓		
	1254			11		✓		
	1660			12		✓		
	PIBLK			0013				

QAT00177
8PB-09

Reviewed By: ~ 7/10/01

MITKEM CORPORATION - PEST/PCB RUN LOGBOOK: INSTRUMENT E3

Date	Lab ID	Client	Method	Filename	Dilution	y s/no	Analyst	C mments
7/9/01	B0702-LS1	B3DLCS	PCB	E3D1113		✓	my	
	81344006			~~14~~		—		1260 X10DL
	8			15		✓		Clean
	9			16		✓		
	10			17		✓		
	11			18		✓		
	14			19		✓		
	81431001			20		✓		
	2			21		✓		
	3			22		✓		
	P/BLK			23				
	1242 MB			24		✓		
	1248			25		✓		
	1254			26		?		
	1660			27		✓		
	P/BLK			28		✓		
	81307001			50		✓		Clean surr =0.1
	81333006			51		✓		
	1			52		✓		Clean
	81289007			53		✓		7/11/01
	81364003			54		✓		~~1248~~ Surr = 0.1 1242
	4			55		✓		1242
	2			56		✓		

QAT00177
8PB-09

Reviewed By: my 7/11/01

MITKEM CORPORATION PEST/PCB RUN LOGBOOK: INSTRUMENT E3

Dat	Lab ID	Client	Method	Filename	Dilutl n	yes/no	Analy t	Comments
7/9/01	81307002		PCB	E3D1157		✓	→	1254 Sur=0.1 begin C ba
	81289010			58		✓		Clean, PCB coelution
	81364001			59		✓		~~1242~~, sur ↑ 1248 → 7/
	P1BLK			30		✓		
	↓			31		✓		
	1242MB			60		✓✓		
7/11/01	P1BLK			0061				
	↓		PCB	E3D1161		✓		
	1242MB			62		✓		
	1248			63		✓		
	1254			64		✓		
	1660			65		✓		
	P1BLK			66				
	B1439001			67		✓✓		1254
	B0710-BS1	BBLK3A		68		✓		
	↓ LS1	B3ALCS		69		✓		
	81438001			70		✓		Clean
	B0710-BW1	BBLK3C		71		✓		
	↓ LW1	B3CLCS		72		✓		
	81398002			73		✓		Clean
	81344006			74	10	✓		1260
	B0615-BW1	BBLK3B		75		✓		
	↓ LW1	B3BLCS		76		✓		

QAT00177
8PB-09

Review d By: → 7/12/01

MITKEM CORPORATION - PEST/PCB RUN LOGBOOK: INSTRUMENT E3

Date	Lab ID	Client	Method	Filename	Dilution	yes/no	Analyst	Comments
7/13/01	1660 MJ		PCB	E3D1242		✓	27	
	81431019			43		✓ ✓		1242
	B0712-BS1	BBLK3F		44				
	1242 MT			45		✓		
	1660 MJ			46		✓		
	81431019			47		✓		1242
	B0712-BS1	BBLK3F		48		✓		
	↓ LS1	B3FLCS		49		✓		
	81431028	MS		50		✓ ✓		42/16/60 PCB↑
	↓ 29	MSD		51		✓		↓ ↓
	81449004 (R)			E3D0051		✓		1254 ~30DL needed
	PIBLK			↓ 50		✓		
	1242 MI			E3D1252		✓		
	1248			53		✓		
	1254			54		✓		
	1660 ↓			55		✓		
	PIBLK			0056				
	B0630-BW1	BBLK3G		56		✓		
	↓ LW1	B3GLCS		57		✓		
	81361001			58		✓		Clean DCB↓
	↓ 2			59		✓		↓ ↓
	B0703-BW1	BBLK3H		60		✓		
	↓ LW1	B3HLCS		61		✓		

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8PB-09

R vi wed By: 7/14/01

MITKEM CORPORATION - PEST/PCB RUN LOGBOOK: INSTRUMENT E3

Date	Lab ID	Client	M th d	Filename	Dilution	yes/no	Analyst	C mments
7/3/01	81364001		PCB	E3D1262		✓		42/48 ? surr bette
	2			63		✓		TCX ↑
	3			64		✓		TCX ↑
	4			65		✓		TCX ↑
	PIBLK			66		✓		
	1242MJ			67		✓		
	1248			68		✓		
	1254			69		✓		
	1660			70		✓		
	PIBLK			82		✓		
	81418003			84		✓		1260
	4			85		✓		
	81325002			86		✓		Clean
	4			87		✓		
	5			88		✓		
	7			89		✓		1248, DCB ↑
	11			90		✓		Clean
	15			91		✓		
	16			92		✓		
	PIBLK			93				
	1242mk			94		✓		
	1248			95		✓		
	1254			96		✓		

QAT00177
8PB-09

R viewed By: 7/14/01

MITKEM CORPORATION - PEST/PCB RUN LOGBOOK: INSTRUMENT E3

Date	Lab ID	Client	Method	Filename	Dilution	yes/no	Analyst	Comments
7/16/01	504E3L1		504E36	E3D1344				
	PRIME		PCB	45				
				46				
	1242 MM			47		✓		
	1248			48		✓		
	1254			49		✓		
	1660			50		✓		
	PIDLK			51				
	81344001			52		✓		Clean
	2			53		✓		
	B0714-BW1			54		✓		
	LW1			55		✓		
	81477 001			56		✓		? , PCB↑ 1254
	~~B0715-BS2~~	B0714-BS1	2y 7/17/01	57		✓		
	~~LS2~~	LS1		58		✓		1254, DCB ↑
	81489001			59		✓		2y 7/17/01
7/17/01	PRIME			70				07/17/01 SEQ
	PCB-MS			E3D0071		✓		OPW010717A OK
	1242 ML	AR 1242 ML		E3D1371		✓		PW010716A OK
	1248	1248		72		✓		
	1254	1254		73		✓		
	1660	1660		74		✓		
	PIDLK			75				

QAT00177
8PB-09

Reviewed By: 7/17/01

Page: 043

CTO 282. Gould Island BLD654 PCB INVESTIGATION KG 7538-3.4

Tetra Tech NUS

INTERNAL CORRESPONDENCE

TO: C. RACE

DATE: JULY 25, 2001

FROM: LINDA KARSONOVICH

COPIES: DV FILE

RECEIVED
JUL 27 2001
TETRA TECH NUS, INC
WILMINGTON MA 01887-1020

SUBJECT: ORGANIC DATA VALIDATION – PCB CONGENERS
CTO 282 – NETC NEWPORT
SDGs – 81344 and 81363

SAMPLES: 81344 1/Soil/2/Sediment

GIB54-B01001 GIB54-DUP01S GIB54-SED01

81363 1/Sediment/

GIB54-SED02

Overview

The sample set for the CTO 282 NETC Newport, SDGs 81344 and 81363 consisting of one (1) soil and three (3) sediment samples were included in this SDG. Samples were analyzed for PCB congeners. One field duplicate pair was included in this SDG: GIB54-DUP01S and GIB54-SED01.

The samples were collected by Tetra Tech NUS on June 20, 2001 and were analyzed by Mitkem Corporation under Naval Facility Engineering Services Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Analyses were conducted using SW-846 8082 analytical and reporting protocols.

The data were evaluated based on the following parameters:

- * Data Completeness
- * Holding Times
- * Calibration
- * Method Blank Results
- * Surrogate Standard Recoveries
- * Instrument Performance
- * Compound Identification
- Compound Quantitation
- * Blank Spike/Blank Spike Duplicate Results
- Field Duplicate Results
- * Detection Limits

The asterisk (*) indicates that all quality control criteria were met for this parameter. Qualified (if applicable) analytical results are summarized in Appendix A. Results as reported by the laboratory are presented in Appendix B. Appendix C contains the documentation to support the findings as discussed in this data validation report.

COMPOUND QUANTITATION

Sample GIB54-B01001 was re-analyzed at a 10X dilution factor due to the presence of target compounds above the linear range of the instrument. Results from the dilution were transposed over the undiluted sample results. No qualifiers were assigned on this basis for the following compounds:

22'344'5-HXCB	22'44'55'-HXCB	22'33'44'5-HPCB
22'3455'-HXCB	22'344'55'-HPCB	22'3455'6-HPCB

Percent difference between columns exceeded the 25% quality control limit for the following compounds. Positive results were qualified as estimated, J, on this basis.

Sample	Compound	%D
GIB54-B01001	22'345'-PTCB	104.5%
GIB54-DUP01S	22'55'-TTCB	41.4%
	23'44'-TTCB	155.8%
	22'44'55'-HXCB	29.3%
	22'345'-PTCB	111.1%
GIB54-SED01	22'55'-TTCB	32.2%
	23'44'-TTCB	166.4%
	22'44'55'-HXCB	36.6%
	22'345'-PTCB	109.6%

FIELD DUPLICATE RESULTS

Several results exceeded the 50% RPD criteria in the field duplicate pair. Results were qualified as estimated, J, for those compounds that exceeded the criteria.

OVERALL ASSESSMENT

Laboratory Performance: Several compounds were qualified due to percent differences between columns greater than 25%.

Other Factors Affecting Data Quality: Field duplicate results exceeded the 50% RPD criteria.

The data for these analyses were reviewed with reference to the Region I EPA "Volatile and Semivolatile Data Validation Functional Guidelines - Part II" (12/96). Quality requirements outlined in the NFESC interim guidance document "Navy IRCDQM" (Sept. 1999) were also referenced.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS

Linda Karsonovich
Chemist/Data Validator

Tetra Tech NUS

Joseph Samchuck
Data Validation Manager

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED LABORATORY RESULTS

CTO282-NETC NEWPORT
SOIL DATA
Mitkem Corporation
SDG: 81344

SAMPLE NUMBER:	GIB54-B01001			GIB54-DUP01S			GIB54-SED01					
SAMPLE DATE:	06/20/01			06/20/01			06/20/01			/ /		
LABORATORY ID:	81344005			81344004			81344003					
QC_TYPE:	NORMAL			NORMAL			NORMAL					
% SOLIDS:	91.0 %			85.0 %			83 0 %			100 0 %		
UNITS.	MG/KG			MG/KG			MG/KG					
FIELD DUPLICATE OF:				GIB54-SED01								
PESTICIDES/PCBs	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
2,2',3,3',4,4',5,5',6-NONACHLOROBIPHENYL	0 055			0.010	J	G	0 019	J	G			
2,2',3,3',4,4',5-HEPTACHLOROBIPHENYL	1.0			0.19	J	G	0 35	J	G			
2,2',3,4',5,5',6-HEPTACHLOROBIPHENYL	0.76			0.14	J	G	0 25	J	G			
2,2',3,4,4',5',6-HEPTACHLOROBIPHENYL	0.48			0 099	J	G	0.18	J	G			
2,2',3,4,4',5'-HEXACHLOROBIPHENYL	2 1			0 38			0 56					
2,2',3,4,4',5,5'-HEPTACHLOROBIPHENYL	1.9			0 34			0 56					
2,2',3,4,5'-PENTACHLOROBIPHENYL	0.069	J	U	0.014	J	GU	0 026	J	GU			
2,2',3,4,5,5'-HEXACHLOROBIPHENYL	0 59			0.11	J	G	0.20	J	G			
2,2',3,5'-TETRACHLOROBIPHENYL	0 005	U		0.006	U		0.006	U				
2,2',3,5,5',6-HEXACHLOROBIPHENYL	0.41			0 087	J	G	0.16	J	G			
2,2',4,4',5,5'-HEXACHLOROBIPHENYL	1.8			0.35	J	U	0 58	J	U			
2,2',4,5,5'-PENTACHLOROBIPHENYL	0.40			0.11			0.18					
2,2',5,5'-TETRACHLOROBIPHENYL	0.021			0.009	J	U	0.013	J	U			
2,2',5-TRICHLOROBIPHENYL	0.005	U		0.006	U		0.006	U				
2,3',4,4'-TETRACHLOROBIPHENYL	0.005	U		0.009	J	U	0.011	J	U			
2,3,3',4,6-PENTACHLOROBIPHENYL	0.26			0.054	J	G	0.098	J	G			
2,3-DICHLOROBIPHENYL	0.005	U		0.006	U		0.006	U				
2,4',5-TRICHLOROBIPHENYL	0.005	U		0.006	U		0.006	U				
2-CHLOROBIPHENYL	0.005	U		0.006	U		0.006	U				

CTO282-NETC NEWPORT
SOIL DATA
Mitkem Corporation
SDG: 81363

SAMPLE NUMBER	GIB54-SED02											
SAMPLE DATE:	06/20/01			/ /			/ /			/ /		
LABORATORY ID.	81363002											
QC_TYPE:	NORMAL											
% SOLIDS	78.0 %			100 0 %			100.0 %			100.0 %		
UNITS:	MG/KG											
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
2,2',3,3',4,4',5,5',6-NONACHLOROBIPHENYL	0.0063	U										
2,2',3,3',4,4',5-HEPTACHLOROBIPHENYL	0.032											
2,2',3,4',5,5',6-HEPTACHLOROBIPHENYL	0.028											
2,2',3,4,4',5',6-HEPTACHLOROBIPHENYL	0.018											
2,2',3,4,4',5'-HEXACHLOROBIPHENYL	0.076											
2,2',3,4,4',5,5'-HEPTACHLOROBIPHENYL	0.061											
2,2',3,4,5'-PENTACHLOROBIPHENYL	0.0063	U										
2,2',3,4,5,5'-HEXACHLOROBIPHENYL	0.02											
2,2',3,5'-TETRACHLOROBIPHENYL	0.0063	U										
2,2',3,5,5',6-HEXACHLOROBIPHENYL	0.017											
2,2',4,4',5,5'-HEXACHLOROBIPHENYL	0.072											
2,2',4,5,5'-PENTACHLOROBIPHENYL	0.017											
2,2',5,5'-TETRACHLOROBIPHENYL	0.0063	U										
2,2',5-TRICHLOROBIPHENYL	0.0063	U										
2,3',4,4'-TETRACHLOROBIPHENYL	0.0063	U										
2,3,3',4,6-PENTACHLOROBIPHENYL	0.0089											
2,3-DICHLOROBIPHENYL	0.0063	U										
2,4',5-TRICHLOROBIPHENYL	0.0063	U										
2-CHLOROBIPHENYL	0.0063	U										

APPENDIX B

UNQUALIFIED LABORATORY RESULTS

FORM 1
PCB CONG ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

54-B01001

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix: (soil/water) SOIL Lab Sample ID: 81344005

Sample wt/vol: 10.4 (g/mL) G Lab File ID: E2C6629F

% Moisture: 9 decanted: (Y/N) N Date Received: 06/22/01

Extraction: (SepF/Cont/Sonc) SOXHLET Date Extracted:07/02/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 07/14/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q
37680-65-2	2,2',5-triCB	0.0053	U
41464-39-5	2,2',3,5'-tetraCB	0.0053	U
35693-99-3	2,2',5,5'-tetraCB	0.021	
32598-10-0	2,3',4,4'-tetraCB	0.0053	U
37680-73-2	2,2',4,5,5'-pentaCB	0.40	
35065-28-2	2,2',3,4,4',5'-hexaCB	1.8	E
35065-27-1	2,2',4,4',5,5'-hexaCB	1.4	E
35065-30-6	2,2',3,3',4,4',5-heptaCB	0.95	E
35065-29-3	2,2',3,4,4',5,5'-heptaCB	1.6	E
52663-68-0	2,2',3,4',5,5',6-heptaCB	0.63	E
40186-72-9	2,2',3,3',4,4',5,5',6-nonaCB	0.055	
2051-60-7	2-CB	0.0053	U
16605-91-7	2,3-diCB	0.0053	U
16606-02-3	2,4',5-triCB	0.0053	U
38380-03-9	2,3,3',4',6-pentaCB	0.26	
52712-04-6	2,2',3,4,5,5'-hexaCB	0.60	E
52663-63-5	2,2',3,5,5',6-hexaCB	0.41	
52663-69-1	2,2',3,4,4',5',6-heptaCB	0.48	
38380-02-8	2,2',3,4,5'-pentaCB	0.069	P

FORM 1
PCE CONG ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

54-B01001DL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix: (soil/water) SOIL Lab Sample ID: 81344005DL

Sample wt/vol: 10.4 (g/mL) G Lab File ID: E2C6638F

% Moisture: 9 decanted: (Y/N) N Date Received: 06/22/01

Extraction: (SepF/Cont/Sonc) SOXHLET Date Extracted: 07/02/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 07/16/01

Injection Volume: 1.0(uL) Dilution Factor: 10.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q
37680-65-2	2,2',5-triCB	0.053	U
41464-39-5	2,2',3,5'-tetraCB	0.053	U
35693-99-3	2,2',5,5'-tetraCB	0.053	U
32598-10-0	2,3',4,4'-tetraCB	0.053	U
37680-73-2	2,2',4,5,5'-pentaCB	0.47	D
35065-28-2	2,2',3,4,4',5'-hexaCB	2.1	D
35065-27-1	2,2',4,4',5,5'-hexaCB	1.8	D
35065-30-6	2,2',3,3',4,4',5-heptaCB	1.0	D
35065-29-3	2,2',3,4,4',5,5'-heptaCB	1.9	D
52663-68-0	2,2',3,4',5,5',6-heptaCB	0.76	D
40186-72-9	2,2',3,3',4,4',5,5',6-nonaCB	0.055	D
2051-60-7	2-CB	0.053	U
16605-91-7	2,3-diCB	0.053	U
16606-02-3	2,4',5-triCB	0.053	U
38380-03-9	2,3,3',4',6-pentaCB	0.25	D
52712-04-6	2,2',3,4,5,5'-hexaCB	0.59	D
52663-63-5	2,2',3,5,5',6-hexaCB	0.46	D
52663-69-1	2,2',3,4,4',5',6-heptaCB	0.52	D
38380-02-8	2,2',3,4,5'-pentaCB	0.053	U

FORM I PCB CONG

FORM 1
PCB CONG ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

54-DUP01

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix: (soil/water) SOIL Lab Sample ID: 81344004

Sample wt/vol: 10.4 (g/mL) G Lab File ID: E2C6628F

% Moisture: 15 decanted: (Y/N) N Date Received: 06/22/01

Extraction: (SepF/Cont/Sonc) SOXHLET Date Extracted:07/02/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 07/14/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q
37680-65-2	2,2',5-triCB	0.0056	U
41464-39-5	2,2',3,5'-tetraCB	0.0056	U
35693-99-3	2,2',5,5'-tetraCB	0.0092	P
32598-10-0	2,3',4,4'-tetraCB	0.0087	P
37680-73-2	2,2',4,5,5'-pentaCB	0.11	
35065-28-2	2,2',3,4,4',5'-hexaCB	0.38	
35065-27-1	2,2',4,4',5,5'-hexaCB	0.35	
35065-30-6	2,2',3,3',4,4',5-heptaCB	0.19	
35065-29-3	2,2',3,4,4',5,5'-heptaCB	0.34	
52663-68-0	2,2',3,4',5,5',6-heptaCB	0.14	
40186-72-9	2,2',3,3',4,4',5,5',6-nonaCB	0.010	
2051-60-7	2-CB	0.0056	U
16605-91-7	2,3-diCB	0.0056	U
16606-02-3	2,4',5-triCB	0.0056	U
38380-03-9	2,3,3',4',6-pentaCB	0.054	
52712-04-6	2,2',3,4,5,5'-hexaCB	0.11	
52663-63-5	2,2',3,5,5',6-hexaCB	0.087	
52663-69-1	2,2',3,4,4',5',6-heptaCB	0.099	
38380-02-8	2,2',3,4,5'-pentaCB	0.014	P

FORM I
PCB CONG ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

54-SED01

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Matrix: (soil/water) SOIL Lab Sample ID: 81344003

Sample wt/vol: 10.1 (g/mL) G Lab File ID: E2C6627F

% Moisture: 17 decanted: (Y/N) N Date Received: 06/22/01

Extraction: (SepF/Cont/Sonc) SOXHLET Date Extracted:07/02/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 07/14/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q
37680-65-2	2,2',5-triCB	0.0060	U
41464-39-5	2,2',3,5'-tetraCB	0.0060	U
35693-99-3	2,2',5,5'-tetraCB	0.013	
32598-10-0	2,3',4,4'-tetraCB	0.011	P
37680-73-2	2,2',4,5,5'-pentaCB	0.18	
35065-28-2	2,2',3,4,4',5'-hexaCB	0.56	
35065-27-1	2,2',4,4',5,5'-hexaCB	0.58	
35065-30-6	2,2',3,3',4,4',5-heptaCB	0.35	
35065-29-3	2,2',3,4,4',5,5'-heptaCB	0.56	
52663-68-0	2,2',3,4',5,5',6-heptaCB	0.25	
40186-72-9	2,2',3,3',4,4',5,5',6-nonaCB	0.019	
2051-60-7	2-CB	0.0060	U
16605-91-7	2,3-diCB	0.0060	U
16606-02-3	2,4',5-triCB	0.0060	U
38380-03-9	2,3,3',4',6-pentaCB	0.098	
52712-04-6	2,2',3,4,5,5'-hexaCB	0.20	
52663-63-5	2,2',3,5,5',6-hexaCB	0.16	
52663-69-1	2,2',3,4,4',5';6-heptaCB	0.18	
38380-02-8	2,2',3,4,5'-pentaCB	0.026	P

FORM I PCB CONG

FORM 1
PCB CONG ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

54-SED02

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

Matrix: (soil/water) SOIL Lab Sample ID: 81363002

Sample wt/vol: 10.2 (g/mL) G Lab File ID: E2C6626F

% Moisture: 22 decanted: (Y/N) N Date Received: 06/26/01

Extraction: (SepF/Cont/Sonc) SOXHLET Date Extracted: 07/02/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 07/14/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q
37680-65-2	2,2',5-triCB	0.0063	U
41464-39-5	2,2',3,5'-tetraCB	0.0063	U
35693-99-3	2,2',5,5'-tetraCB	0.0063	U
32598-10-0	2,3',4,4'-tetraCB	0.0063	U
37680-73-2	2,2',4,5,5'-pentaCB	0.017	
35065-28-2	2,2',3,4,4',5'-hexaCB	0.076	
35065-27-1	2,2',4,4',5,5'-hexaCB	0.072	
35065-30-6	2,2',3,3',4,4',5-heptaCB	0.032	
35065-29-3	2,2',3,4,4',5,5'-heptaCB	0.061	
52663-68-0	2,2',3,4',5,5',6-heptaCB	0.028	
40186-72-9	2,2',3,3',4,4',5,5',6-nonaCB	0.0063	U
2051-60-7	2-CB	0.0063	U
16605-91-7	2,3-diCB	0.0063	U
16606-02-3	2,4',5-triCB	0.0063	U
38380-03-9	2,3,3',4',6-pentaCB	0.0089	
52712-04-6	2,2',3,4,5,5'-hexaCB	0.020	
52663-63-5	2,2',3,5,5',6-hexaCB	0.017	
52663-69-1	2,2',3,4,4',5',6-heptaCB	0.018	
38380-02-8	2,2',3,4,5'-pentaCB	0.0063	U

APPENDIX C

SUPPORT DOCUMENTATION

HOLDING TIME
07/25/01

Units	Nsample	Lab Id	Qc Type	Sdg	Sort	Samp Date	Extr Date	Anal Date	SAMP_DATE TO EXTR_DATE	EXTR_DATE TO ANAL_DATE	SAMP_DATE TO ANAL_DATE
MG/KG	54-B01001	81344005DL	NORMAL	81344	PCB	06/20/01	07/02/01	07/16/01	12	14	26
UG/KG	54-B01004	81344006	NORMAL	81344	PCB	06/20/01	07/02/01	07/11/01	12	9	21
UG/KG	54-B01010	81344007	NORMAL	81344	PCB	06/20/01	07/02/01	07/07/01	12	5	17
UG/KG	54-B0203	81344008	NORMAL	81344	PCB	06/20/01	07/02/01	07/10/01	12	8	20
UG/KG	54-B0214.5	81344009	NORMAL	81344	PCB	06/20/01	07/02/01	07/10/01	12	8	20
UG/KG	54-B0301	81344010	NORMAL	81344	PCB	06/21/01	07/02/01	07/10/01	11	8	19
UG/KG	54-B0308	81344011	NORMAL	81344	PCB	06/21/01	07/02/01	07/10/01	11	8	19
UG/KG	54-B0315	81344012	NORMAL	81344	PCB	06/21/01	07/02/01	07/07/01	11	5	16
UG/KG	54-B04	81344015	NORMAL	81344	PCB	06/21/01	07/02/01	07/08/01	11	6	17
UG/KG	54-B0402	81344014	NORMAL	81344	PCB	06/21/01	07/02/01	07/10/01	11	8	19
UG/KG	54-B0407	81344016	NORMAL	81344	PCB	06/21/01	07/02/01	07/08/01	11	6	17
UG/KG	54-B0414	81344017	NORMAL	81344	PCB	06/21/01	07/02/01	07/07/01	11	5	16
UG/L	54-DUP01	81344002	NORMAL	81344	PCB	06/21/01	07/03/01	07/17/01	12	14	26
MG/KG	54-DUP01S	81344004	NORMAL	81344	PCB	06/21/01	07/02/01	07/14/01	11	12	23
UG/L	54-MW01	81344001	NORMAL	81344	PCB	06/21/01	07/03/01-	07/17/01	12	14	26
MG/KG	54-SED01	81344003	NORMAL	81344	PCB	06/21/01	07/02/01	07/14/01	11	12	23
UG/KG	81344013	81344013	NORMAL	81344	PCB	06/21/01	07/02/01	07/07/01	11	5	16
MG/KG	B2SLCS	B0702-LS3	NORMAL	81344	PCB	07/14/01	07/02/01	07/14/01	-12	12	0
UG/L	B3HLCS	B0703-LW1	NORMAL	81344	PCB	07/13/01	07/03/01	07/13/01	-10	10	0
UG/KG	B3LLCS	B0702-LS1	NORMAL	81344	PCB	07/07/01	07/02/01	07/07/01	-5	5	0

HOLDING TIME
07/25/01

Units	Nsample	Lab Id	Qc Type	Sdg	Sort	Samp Date	Extr Date	Anal Date	SAMP_DATE TO EXTR_DATE	EXTR_DATE TO ANAL_DATE	SAMP_DATE TO ANAL_DATE
MG/KG	54-B01001	81344005DL	NORMAL	81344	PCB	06/20/01	07/02/01	07/16/01	12	14	26
UG/KG	54-B01004	81344006	NORMAL	81344	PCB	06/20/01	07/02/01	07/11/01	12	9	21
UG/KG	54-B01010	81344007	NORMAL	81344	PCB	06/20/01	07/02/01	07/07/01	12	5	17
UG/KG	54-B0203	81344008	NORMAL	81344	PCB	06/20/01	07/02/01	07/10/01	12	8	20
UG/KG	54-B0214.5	81344009	NORMAL	81344	PCB	06/20/01	07/02/01	07/10/01	12	8	20
UG/KG	54-B0301	81344010	NORMAL	81344	PCB	06/21/01	07/02/01	07/10/01	11	8	19
UG/KG	54-B0308	81344011	NORMAL	81344	PCB	06/21/01	07/02/01	07/10/01	11	8	19
UG/KG	54-B0315	81344012	NORMAL	81344	PCB	06/21/01	07/02/01	07/07/01	11	5	16
UG/KG	54-B04	81344015	NORMAL	81344	PCB	06/21/01	07/02/01	07/08/01	11	6	17
UG/KG	54-B0402	81344014	NORMAL	81344	PCB	06/21/01	07/02/01	07/10/01	11	8	19
UG/KG	54-B0407	81344016	NORMAL	81344	PCB	06/21/01	07/02/01	07/08/01	11	6	17
UG/KG	54-B0414	81344017	NORMAL	81344	PCB	06/21/01	07/02/01	07/07/01	11	5	16
MG/KG	54-DUP01S	81344004	NORMAL	81344	PCB	06/21/01	07/02/01	07/14/01	11	12	23
MG/KG	54-SED01	81344003	NORMAL	81344	PCB	06/21/01	07/02/01	07/14/01	11	12	23
UG/KG	81344013	81344013	NORMAL	81344	PCB	06/21/01	07/02/01	07/07/01	11	5	16
MG/KG	B2SLCS	B0702-LS3	NORMAL	81344	PCB	07/14/01	07/02/01	07/14/01	-12	12	0
UG/KG	B3LLCS	B0702-LS1	NORMAL	81344	PCB	07/07/01	07/02/01	07/07/01	-5	5	0

81363

HOLDING TIME
07/25/01

Units	Nsample	Lab Id	Qc Type	Sdg	Sort	Samp Date	Extr Date	Anal Date	SAMP_DATE TO EXTR_DATE	EXTR_DATE TO ANAL_DATE	SAMP_DATE TO ANAL_DATE
MG/KG	B2SLCS	0	NORMAL	81363	PCB	07/14/01	07/02/01	07/14/01	-12	12	0
UG/KG	B3ILCS	0	NORMAL	81363	PCB	07/07/01	06/29/01	07/07/01	-8	8	0
UG/KG	GIB54-B02	81363001	NORMAL	81363	PCB	06/20/01	06/29/01	07/07/01	9	8	17
MG/KG	GIB54-SED02	81363002	NORMAL	81363	PCB	06/20/01	07/02/01	07/14/01	12	12	24

TETRA TECH NUS, INC.

ANALYTICAL SERVICE
Packing List/Chain-of-Custody

Subcontract No 81363

Page 1 of 1

Project No.

Laboratory Name: Mitkeh

Sampler Signatures: Michael S. Healey

Date Shipped 6-25-01 Carrier CAB

Airbill No. No. of Coolers 1

Sample Number	Matrix	Date/Time	Sample Location	Tag Number(s)	QC	Container Type / Analysis / Preservative	Container Type / Analysis / Preservative	Container Type / Analysis / Preservative	Container Type / Analysis / Preservative	Container Type / Analysis / Preservative
GIB54-B02	Soil	6-20/1630	07-09			4oz glass	4oz glass			
GIB54-SED02	Soil	6-20/1300	00-02 ✓			8082	8082 Congeneres			
						ICE	ICE			
						✓	✓ BFN per client 6/27/01			

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipment for Case Complete?	Remarks
Michael S. Healey	6-25-01		YES NO	6°C
Relinquished By: (Signature)	Date/Time	Received for Laboratory By: Jane Healey	Date/Time 6/25/01 16:50	

TtNUS Form 0022

Project No

Sampler Signatures: Michael S. Healy

Packing List/Chain-of-Custody

Laboratory Name: Mitken

Date Shipped: 6-22-01

Carrier: UAB

~~Airbill No.~~

No. of Coolers: 1

Subcontract No

Page 1

Container Type	Container Type	Container Type	Container Type	Container Type
Amber glass	4/02 glass	4/02 glass		
Analysis	Analysis	Analysis	Analysis	Analysis
8082 Centrifuge	8082 Congeneral	8082		
Preservative	Preservative	Preservative	Preservative	Preservative
ICE	ICE	ICE		

Sample Number	Matrix	Date/Time	Sample Location	Tag Number(s)	QC	Preservative	Preservative	Preservative	Preservative	Preservative
GTB54-mud01	water	6-21/1400				✓				
GTB54-Dup01	water	6-21/1400				✓				
GTB54-SED01	sed	6-20/1245	0-0.2 ✓				✓			
GTB54-Dup01	sed	6-20/1245	0-0.2 ✓				✓			
GTB54-B01	soil	6-20/0825	00-01 ✓				✓			
GTB54-B01	soil	6-20/0915	02-04				✓			
"	"	6-20/1000	04-06	m sll 6-22-01				✓		
"	"	6-20/	08-10					✓		
GTB54-B02	soil	6-20/1440	01-03					✓		
GTB54-B02	soil	6-21/0850	13.5-14.5					✓		
GTB54-B03	"	6-21/1015	0.0-~~0.1~~ 01					✓		
"	"	6-21/1110	06-08					✓		

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipment for Case Complete?	Remarks
Michael S. Healy	6-22-01 1430		YES NO	
Relinquished By: (Signature)	Date/Time	Received for Laboratory By: Jimmy Healy	Date/Time 6/22/01 14:30	

TI NUS Form 0022

81344

MITKEM CORPORATION

"Environmental Testing For The New Millennium"

July 20, 2001

Tetra Tech NUS, Inc.
55 Jonspin Rd.
Wilmington, MA 01887
Attn: Mr. Steve Parker

RE: Client Project: CTO 143 and 220
Mitkem Lab Project # 81344 and 81363

Dear Mr. Parker:

Enclosed please find the data report of the required analysis for the samples associated with the above referenced projects.

If you have any questions regarding this report, please call me.

We appreciate your business

Sincerely,

Kin Chiu

Kin Chiu
Technical Director

cc Amy Thomson, Tetra Tech NUS, Pittsburgh

175 Metro Center Boulevard • Warwick, Rhode Island 02886-1755
(401) 732-3400 • Fax (401) 732-3499 • email: mitkem@mitkem.com

SDG Narrative

Mitkem Corporation submits the enclosed data package in response to Tetra Tech's project. Under this deliverable, analysis results are presented for two aqueous and fifteen soil samples that were received on June 22, 2001. Analyses were performed per specifications in the project's contract and the chain of custody forms.

The following samples are submitted in this data package:

Client ID	Truncated ID	Lab ID	Analysis
GIB54 MW01	54-MW01	81344001	P
GIB54 DUP01	54-DUP01	81344002	P
GIB54-SED01	54-SED01	81344003	C
GIB54-DUP01	54-SED01S	81344004	C
GIB54-B01(0-01)	54-B01001	81344005	C
GIB54-B01(02-04)	54-B01004	81344006	P
GIB54-B01(08-10)	54-B01010	81344007	P
GIB54-B02(01-03)	54-B0203	81344008	P
GIB54-B02(13.5-14.5)	54-B0214.5	81344009	P
GIB54-B03(0.0-01)	54-B0301	81344010	P
GIB54-B03(06-08)	54-B0308	81344011	P
GIB54-B03(13-15)	54-B0315	81344012	P
GIB54-B03 01	54-B030001	81344013	P
GIB54-B04(01-02)	54-B0402	81344014	P
GIB54-B04 02	54-B04	81344015	P
GIB54-B04(05-07)	54-B0407	81344016	P
GIB54-B04(13-14)	54-B0414	81344017	P

P = PCB arolcors by SW846 Method 8082
C = PCB congeners by SW846 Method 8082

The analyses were performed according to SW846 methods and presented in CLP-like format.

The following observation and/or deviations are observed for the following analyses:

1. Overall Observation:

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required.

The enclosed report includes the originals of all data with the exception of logbook pages and certain initial calibrations. Photocopies of logbook pages are included, with the originals maintained on file at the laboratory. The originals of initial calibrations that are shared among several cases are maintained on file at the laboratory, with photocopies included in the data package.

2. PCB Aroclor Analysis:

Per client's request, the two aqueous samples were centrifuged on 6/27/01 to remove particulates. The aqueous fractions were then extracted for PCB on 7/3/01.

Surrogate recovery: recoveries were within the QC limits

Lab control sample: spike recoveries were within the QC limits

Sample analysis: Sample 54-B01004 was analyzed at 10x dilution due to high concentration of Aroclor 1260. No other unusual observation was noted for the analyses.

3. PCB Congeners Analysis:

Surrogate recovery: recoveries were within the QC limits ✓

Lab control sample: spike recoveries were within the QC limits ✓

Sample analysis: sample 54-B01001 was re-analyzed at dilution to ensure that all of the target analytes were determined within the instrument calibration range. No other unusual observation was noted for the analyses. ✓

I certify that this data package is in compliance, both technically and for completeness, for other than the conditions detailed above. Release of the da[illegible] [illegible]ed in this hardcopy data package has been authorized by the la[illegible] [illegible]or his designee, as verified by the following signature.

Kin Chiu

Kin Chiu
Technical Director
7/20/01

SAMPLE LOG-IN SHEET

Lab Name: MT. KEM CORPORATION	Page 1 of 1
Received By (Print Name): JAMES J HEALEY	Log-in Date
Received By (Signature): James J Healey	
Case Number	Sample Delivery Group No. / SAS Number

Remarks: (1) Please see associated sample/extract transfer logbook pages submitted with this data package.

1. Custody Seal(s)	Present/Absent* Intact/Broken
2. Custody Seal Nos.	N/A
3. Chain of Custody Records	Present/Absent*
4. Traffic Reports or Packing Lists	Present/Absent*
5. Airbill	Airbill/Sticker Present/Absent*
6. Airbill No.	N/A
7. Sample Tags	Present/Absent*
8. Sample Tag Numbers	Listed/Not Listed on Chain-of-Custody
9. Sample Condition	Intact/Broken*/Leaking
10. Cooler Temperature	4°C
11. Does information on custody records, traffic reports, and sample tags agree?	Yes/No*
12. Date Received at Lab	6/22/01
13. Time Received	14:30

EPA Sample #	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
GIB54MW01	None	81344001	
GIB54Dup01		81344002	
GIB54SED01		81344003	
GIB54DUP01		81344004	
GIB54B01		81344005	
GIB54B01		81344006	
GIB54B01		81344007	
GIB54B02		81344008	
GIB54B02		81344009	
GIB54B03		81344010	
GIB54B03		81344011	
GIB54B03		81344012	
GIB54B03		81344013	
GIB54B04		81344014	
GIB54B04		81344015	
GIB54B04		81344016	
GIB54B04		81344017	

Sample Transfer

Section(1) BNA - Post/PCB	Fraction(1) VOA
Area # R1	Area # VOA Lab
	By
	On

Contact SMO and attach record of resolution

Reviewed By

Logbook No.

Logbook Page No. 08

FORM DC-1

OLM04.2

SDG Narrative

Mitkem Corporation submits the enclosed data package in response to Tetra Tech's project. Under this deliverable, analysis results are presented for twe soil samples that were received on June 26, 2001. Analyses were performed per specifications in the project's contract and the chain of custody forms.

The following samples are submitted in this data package:

Client ID	Lab ID	Analysis
GIB54-B02	81363001	P
GIB54-SED02*	81363002	C

* listed as 54-SED02 in the data package

P = PCB arolcors by SW846 Method 8082
C = PCB congeners by SW846 Method 8082

The analyses were performed according to SW846 methods and presented in CLP-like format.

The following observation and/or deviations are observed for the following analyses:

1. Overall Observation:

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required.

The enclosed report includes the originals of all data with the exception of logbook pages and certain initial calibrations. Photocopies of logbook pages are included, with the originals maintained on file at the laboratory. The originals of initial calibrations that are shared among several cases are maintained on file at the laboratory, with photocopies included in the data package.

2. PCB Aroclor Analysis:

Surrogate recovery: the DCB recoveries were high for the soil sample

Lab control sample: spike recoveries were within the QC limits

Sample analysis: No unusual observation was noted for the analyses.

3. PCB Congeners Analysis:

Surrogate recovery: recoveries were within the QC limits ✓

Lab control sample: spike recoveries were within the QC limits ✓

Sample analysis: No unusual observation was noted for the analyses. ✓

I certify that this data package is in compliance, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Kin Chiu

Kin Chiu
Technical Director
7/16/01

MITKEM CORPORATION
Sample Condition Form

eceived By: NN	Reviewed By: [illegible]	Date: 6-26-01	MITKEM Project #: 81363
lient Project: NEW POST		Client: TETRA TECH	Page ___ of ___

		Lab Sample ID	Preservation (pH) HNO_3	H_2SO_4	HCl	NaOH	VOA Matrix	Comments/Remarks/ Corrective Action*
ondition:		81363 01						
Custody Seal(s)	Present / Absent	[illegible] 02						
	Coolers / Bottles							
	Intact / Broken							
ustody Seal Number(s)	/							
ain-of-Custody	Present / Absent							
oler Temperature	6°C							
ant Condition	ICE							
ll(s)	/							
Number(s)	/							
e Bottles	Intact							
	Broken							
	Leaking							
eceived	6-26-01							
eceived	1650							

Key:

served Soil	M = MeOH
served Aqueous	E = Encore
OH & $NaHSO_4$	H = HCl
$)_4$	A = AIR

e Notification Form yes / no

FORM 2
SOIL PCB CONG SURROGATE RECOVERY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

GC Column(1): RTXCLPPEST1 ID: 0.53 (mm) GC Column(2): RTXCLPPEST2 ID: 0.53 (mm)

	CLIENT SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	S2 1 %REC #	S2 2 %REC #	S3 1 %REC #	S3 2 %REC #	TOT OUT
01	BBLK2S	89	88					0
02	54-SED01	93	91					0
03	54-DUP01	91	89					0
04	54-B01001	93	90					0
05	B2SLCS	97	95					0
06	54-B01001DL	93	92					0
07								
08								
09								
10								
11								
12								
13								
14								
15								
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ADVISORY
QC LIMITS

S1 (TCX) = Tetrachloro-m-xylene (40-140)

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

FORM II PCB CONG

FORM 2
SOIL PCB CONG SURROGATE RECOVERY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

GC Column(1): RTXCLPPEST1 ID: 0.53 (mm) GC Column(2): RTXCLPPEST2 ID: 0.53 (mm)

	CLIENT SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	S2 1 %REC #	S2 2 %REC #	S3 1 %REC #	S3 2 %REC #	TOT OUT
01	BBLK2S	89	88					0
02	54-SED02	89	87					0
03	B2SLCS	97	95					0
04								
05								
06								
07								
08								
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ADVISORY
QC LIMITS

S1 (TCX) = Tetrachloro-m-xylene (40-140)

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

FORM II PCB CONG

PCB CONG ANALYTICAL SEQUENCE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

GC Column: RTXCLPPEST1 ID: 0.53 (mm) Init. Calib. Date(s): 07/13/01 07/14/01

Instrument ID: E2

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
TCX: 11.09

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	RT #
01	COGDL1	COGDL1	07/13/01	1711	11.10	
02	COGDL2	COGDL2	07/13/01	1815	11.10	
03	COGDL3	COGDL3	07/13/01	1919	11.10	
04	COGDL4	COGDL4	07/13/01	2022	11.10	
05	COGDL5	COGDL5	07/13/01	2126	11.10	
06	TCXCL1	TCXCL1	07/13/01	2334	11.10	
07	COGCL1	COGCL1	07/14/01	0037	11.10	
08	COGCL2	COGCL2	07/14/01	0141	11.10	
09	COGCL3	COGCL3	07/14/01	0245	11.10	
10	COGCL4	COGCL4	07/14/01	0348	11.10	
11	COGCL5	COGCL5	07/14/01	0452	11.10	
12	TCXCL4	TCXCL4	07/14/01	0556	11.10	
13	TCXCL5	TCXCL5	07/14/01	0700	11.09	
SED02 → 14	BBLK2S	B0702-BS3	07/14/01	1011 1218	11.10	
15	54-SED01	81344003	07/14/01	1322	11.10	
16	54-DUP01	81344004	07/14/01	1426	11.10	
17	54-B01001	81344005	07/14/01	1530	11.10	
18	B2SLCS	B0702-LS3	07/14/01	1634	11.10	
19	COGDM01	COGDM01	07/14/01	1841 ✓	11.10	
20	COGM01	COGM01	07/14/01	1945 ✓	11.10	
21	COGDM02	COGDM02	07/16/01	1301 ✓	11.10	
22	COGM02	COGM02	07/16/01	1404 ✓	11.10	
23	54-B01001DL	81344005DL	07/16/01	1612	11.09	
24	COGDM03	COGDM03	07/16/01	1819 ✓	11.10	
25	COGM03	COGM03	07/16/01	1923 ✓	11.10	
26						
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TCX = Tetrachloro-m-xylene QC LIMITS (+/- 0.04 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PCB CONG

PCB CONG ANALYTICAL SEQUENCE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

GC Column: RTXCLPPEST1 ID: 0.53 (mm) Init. Calib. Date(s): 07/13/01 07/14/01

Instrument ID: E2

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
TCX: 11.09

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	RT #
01	COGDL1	COGDL1	07/13/01	1711	11.10	
02	COGDL2	COGDL2	07/13/01	1815	11.10	
03	COGDL3	COGDL3	07/13/01	1919	11.10	
04	COGDL4	COGDL4	07/13/01	2022	11.10	
05	COGDL5	COGDL5	07/13/01	2126	11.10	
06	TCXCL1	TCXCL1	07/13/01	2334	11.10	
07	COGCL1	COGCL1	07/14/01	0037	11.10	
08	COGCL2	COGCL2	07/14/01	0141	11.10	
09	COGCL3	COGCL3	07/14/01	0245	11.10	
10	COGCL4	COGCL4	07/14/01	0348	11.10	
11	COGCL5	COGCL5	07/14/01	0452	11.10	
12	TCXCL4	TCXCL4	07/14/01	0556	11.10	
13	TCXCL5	TCXCL5	07/14/01	0700	11.09	
14	BBLK2S	B0702-BS3	07/14/01	1011	11.10	
15	54-SED02	81363002	07/14/01	1218	11.10	
16	B2SLCS	B0702-LS3	07/14/01	1634	11.10	
17	COGDM01	COGDM01	07/14/01	1841	11.10	
18	COGM01	COGM01	07/14/01	1945	11.10	
19						
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TCX = Tetrachloro-m-xylene QC LIMITS (+/- 0.04 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PCB CONG

PCB CONG ANALYTICAL SEQUENCE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

GC Column: RTXCLPPEST2 ID: 0.53 (mm) Init. Calib. Date(s): 07/13/01 07/14/01

Instrument ID: E2

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
TCX: 14.01

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	RT #
01	COGDL1	COGDL1	07/13/01	1711	14.02	
02	COGDL2	COGDL2	07/13/01	1815	14.02	
03	COGDL3	COGDL3	07/13/01	1919	14.02	
04	COGDL4	COGDL4	07/13/01	2022	14.02	
05	COGDL5	COGDL5	07/13/01	2126	14.02	
06	TCXCL1	TCXCL1	07/13/01	2334	14.02	
07	COGCL1	COGCL1	07/14/01	0037	14.02	
08	COGCL2	COGCL2	07/14/01	0141	14.01	
09	COGCL3	COGCL3	07/14/01	0245	14.02	
10	COGCL4	COGCL4	07/14/01	0348	14.01	
11	COGCL5	COGCL5	07/14/01	0452	14.02	
12	TCXCL4	TCXCL4	07/14/01	0556	14.02	
13	TCXCL5	TCXCL5	07/14/01	0700	14.01	
14	BBLK2S	B0702-BS3	07/14/01	1011	14.02	
15	54-SED01	81344003	07/14/01	1322	14.02	
16	54-DUP01	81344004	07/14/01	1426	14.02	
17	54-B01001	81344005	07/14/01	1530	14.02	
18	B2SLCS	B0702-LS3	07/14/01	1634	14.02	
19	COGDM01	COGDM01	07/14/01	1841	14.02	
20	COGM01	COGM01	07/14/01	1945	14.01	
21	COGDM02	COGDM02	07/16/01	1301	14.02	
22	COGM02	COGM02	07/16/01	1404	14.02	
23	54-B01001DL	81344005DL	07/16/01	1612	14.01	
24	COGDM03	COGDM03	07/16/01	1819	14.02	
25	COGM03	COGM03	07/16/01	1923	14.02	
26						
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TCX = Tetrachloro-m-xylene QC LIMITS (+/- 0.05 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PCB CONG

PCB CONG ANALYTICAL SEQUENCE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

GC Column: RTXCLPPEST2 ID: 0.53 (mm) Init. Calib. Date(s): 07/13/01 07/14/01

Instrument ID: E2

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
TCX: 14.01

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	RT #
01	COGDL1	COGDL1	07/13/01	1711	14.02	
02	COGDL2	COGDL2	07/13/01	1815	14.02	
03	COGDL3	COGDL3	07/13/01	1919	14.02	
04	COGDL4	COGDL4	07/13/01	2022	14.02	
05	COGDL5	COGDL5	07/13/01	2126	14.02	
06	TCXCL1	TCXCL1	07/13/01	2334	14.02	
07	COGCL1	COGCL1	07/14/01	0037	14.02	
08	COGCL2	COGCL2	07/14/01	0141	14.01	
09	COGCL3	COGCL3	07/14/01	0245	14.02	
10	COGCL4	COGCL4	07/14/01	0348	14.01	
11	COGCL5	COGCL5	07/14/01	0452	14.02	
12	TCXCL4	TCXCL4	07/14/01	0556	14.02	
13	TCXCL5	TCXCL5	07/14/01	0700	14.01	
14	BBLK2S	B0702-BS3	07/14/01	1011	14.02	
15	54-SED02	81363002	07/14/01	1218	14.02	
16	B2SLCS	B0702-LS3	07/14/01	1634	14.02	
17	COGDM01	COGDM01	07/14/01	1841	14.02	
18	COGM01	COGM01	07/14/01	1945	14.01	
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TCX = Tetrachloro-m-xylene QC LIMITS (+/- 0.05 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PCB CONG

FORM 6

PCB CONG INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E2 Calibration Date(s): 07/13/01 07/14/01

Column: RTXCLPPEST1 ID: 0.53 (mm) Calibration Time(s): 1711 0700

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
2,2',5-triCB	AVRG	568010.400	15.0
2,2',3,5'-tetraCB	AVRG	1063797.20	12.9
2,2',5,5'-tetraCB	AVRG	841326.800	15.5
2,3',4,4'-tetraCB	AVRG	1232577.20	9.7
2,2',4,5,5'-pentaCB	AVRG	1165483.20	12.7
2,2',3,4,4',5'-hexaCB	AVRG	1630003.60	6.5
2,2',4,4',5,5'-hexaCB	AVRG	1406480.40	13.1
2,2',3,3',4,4',5-heptaCB	AVRG	2178363.20	3.0
2,2',3,4,4',5,5'-heptaCB	AVRG	2002960.00	5.2
2,2',3,4',5,5',6-heptaCB	AVRG	1606893.60	12.4
2,2',3,3',4,4',5,5',6-nonaCB	AVRG	2871235.20	9.6
2-CB	AVRG	69092.4000	18.5
2,3-diCB	AVRG	634582.400	5.6
2,4',5-triCB	AVRG	794329.600	8.0
2,3,3',4',6-pentaCB	AVRG	1311224.80	6.6
2,2',3,4,5,5'-hexaCB	AVRG	1696802.80	2.3
2,2',3,5,5',6-hexaCB	AVRG	1299340.40	12.9
2,2',3,4,4',5',6-heptaCB	AVRG	1678104.00	8.0
2,2',3,4,5'-pentaCB	AVRG	1462301.60	5.3
Tetrachloro-m-xylene	AVRG	1444558.80	5.6

FORM VI PCB CONG

PCB CONG INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E2 Calibration Date(s): 07/13/01 07/14/01

Column: RTXCLPPEST2 ID: 0.53 (mm) Calibration Time(s): 1711 0700

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
2,2',5-triCB	AVRG	727577.200	16.0
2,2',3,5'-tetraCB	AVRG	1321062.80	10.5
2,2',5,5'-tetraCB	AVRG	1076192.00	16.6
2,3',4,4'-tetraCB	AVRG	1533702.80	7.6
2,2',4,5,5'-pentaCB	AVRG	1474226.80	15.3
2,2',3,4,4',5'-hexaCB	AVRG	1999644.80	6.2
2,2',4,4',5,5'-hexaCB	AVRG	1716387.60	14.1
2,2',3,3',4,4',5-heptaCB	AVRG	2585563.60	2.8
2,2',3,4,4',5,5'-heptaCB	AVRG	2379941.60	5.0
2,2',3,4',5,5',6-heptaCB	AVRG	1934154.80	12.4
2,2',3,3',4,4',5,5',6-nonaCB	AVRG	3296806.80	10.4
2-CB	AVRG	85492.0000	11.2
2,3-diCB	AVRG	832682.000	6.9
2,4',5-triCB	AVRG	1035249.60	9.7
2,2',3,4,5'-pentaCB	AVRG	1820742.40	6.6
2,3,3',4',6-pentaCB	AVRG	1601564.00	6.5
2,2',3,4,5,5'-hexaCB	AVRG	2074158.00	3.5
2,2',3,5,5',6-hexaCB	AVRG	1578800.40	11.6
2,2',3,4,4',5',6-heptaCB	AVRG	2019851.20	8.9
Tetrachloro-m-xylene	AVRG	1942676.00	3.1

FORM VI PCB CONG

PCB CONG INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E2 Calibration Date(s): 07/13/01 07/14/01

Column: RTXCLPPEST1 ID: 0.53 (mm) Calibration Time(s): 1711 0700

COMPOUND	MEAN RT	RT WINDOW FROM	RT WINDOW TO
2,2',5-triCB	16.088	16.013	16.153
2,2',3,5'-tetraCB	22.450	22.375	22.515
2,2',5,5'-tetraCB	21.152	21.080	21.220
2,3',4,4'-tetraCB	25.188	25.113	25.253
2,2',4,5,5'-pentaCB	26.452	26.380	26.520
2,2',3,4,4',5'-hexaCB	33.178	33.103	33.243
2,2',4,4',5,5'-hexaCB	31.600	31.525	31.665
2,2',3,3',4,4',5-heptaCB	38.750	38.680	38.820
2,2',3,4,4',5,5'-heptaCB	37.180	37.108	37.248
2,2',3,4',5,5',6-heptaCB	33.924	33.852	33.992
2,2',3,3',4,4',5,5',6-nonaCB	44.116	44.043	44.183
2-CB	8.158	8.087	8.227
2,3-diCB	13.720	13.653	13.793
2,4',5-triCB	18.958	18.888	19.028
2,3,3',4',6-pentaCB	28.752	28.687	28.827
2,2',3,4,5,5'-hexaCB	32.302	32.235	32.375
2,2',3,5,5',6-hexaCB	29.070	29.003	29.143
2,2',3,4,4',5',6-heptaCB	34.188	34.120	34.260
2,2',3,4,5'-pentaCB	28.024	27.957	28.097
Tetrachloro-m-xylene	11.098	11.052	11.132

FORM VI PCB CONG

FORM 6

PCB CONG INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E2 Calibration Date(s): 07/13/01 07/14/01

Column: RTXCLPPEST2 ID: 0.53 (mm) Calibration Time(s): 1711 0700

COMPOUND	MEAN RT	RT WINDOW FROM	RT WINDOW TO
2,2',5-triCB	20.586	20.515	20.655
2,2',3,5'-tetraCB	27.430	27.357	27.497
2,2',5,5'-tetraCB	25.842	25.773	25.913
2,3',4,4'-tetraCB	30.060	29.990	30.130
2,2',4,5,5'-pentaCB	31.310	31.238	31.378
2,2',3,4,4',5'-hexaCB	38.600	38.528	38.668
2,2',4,4',5,5'-hexaCB	36.550	36.482	36.622
2,2',3,3',4,4',5-heptaCB	44.540	44.470	44.610
2,2',3,4,4',5,5'-heptaCB	42.450	42.377	42.517
2,2',3,4',5,5',6-heptaCB	39.190	39.122	39.262
2,2',3,3',4,4',5,5',6-nonaCB	48.176	48.103	48.243
2-CB	11.158	11.088	11.228
2,3-diCB	17.892	17.823	17.963
2,4',5-triCB	23.520	23.452	23.592
2,2',3,4,5'-pentaCB	33.310	33.240	33.380
2,3,3',4',6-pentaCB	34.000	33.932	34.072
2,2',3,4,5,5'-hexaCB	37.470	37.398	37.538
2,2',3,5,5',6-hexaCB	34.260	34.190	34.330
2,2',3,4,4',5',6-heptaCB	39.498	39.427	39.567
Tetrachloro-m-xylene	14.016	13.963	14.063

FORM VI PCB CONG

FORM 7

PCB CONG CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E2 Calibration Date: 07/14/01 Time: 1841

Lab File ID: E2C6632F Init. Calib. Date(s): 07/13/01 07/13/01

Init. Calib. Times: 1711 2126

GC Column: RTXCLPPEST1 ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF 0.05	MIN RRF	%D	MAX %D
2-CB	69092.400	71080.000	0.01	2.9	15.0
2,3-diCB	634582.40	657220.00	0.01	3.6	15.0
2,4',5-triCB	794329.60	816200.00	0.01	2.8	15.0
2,3,3',4',6-pentaCB	1311224.8	1334200.0	0.01	1.8	15.0
2,2',3,4,5,5'-hexaCB	1696802.8	1717380.0	0.01	1.2	15.0
2,2',3,5,5',6-hexaCB	1299340.4	1307340.0	0.01	0.6	15.0
2,2',3,4,4',5',6-heptaCB	1678104.0	1696980.0	0.01	1.1	15.0
2,2',3,4,4',6,6'-heptaCB	1475200.0	1501700.0	0.01	1.8	15.0
2,2',4,5'-tetraCB	943320.80	968480.00	0.01	2.7	15.0
2,2',3,4,5'-pentaCB	1462301.6	1489420.0	0.01	1.8	15.0
Tetrachloro-m-xylene	1444558.8	1517140.0	0.01	5.0	15.0

FORM VII PCB CONG

FORM 7

PCB CONG CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E2 Calibration Date: 07/14/01 Time: 1841

Lab File ID: E2C6632R Init. Calib. Date(s): 07/13/01 07/13/01

Init. Calib. Times: 1711 2126

GC Column: RTXCLPPEST2 ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF 0.05	MIN RRF	%D	MAX %D
2-CB	85492.000	89080.000	0.01	4.2	15.0
2,3-diCB	832682.00	853160.00	0.01	2.4	15.0
2,4',5-triCB	1035249.6	1054360.0	0.01	1.8	15.0
2,2',4,5'-tetraCB	1190019.6	1220940.0	0.01	2.6	15.0
2,2',3,4,5'-pentaCB	1820742.4	1833940.0	0.01	0.7	15.0
2,3,3',4',6-pentaCB	1601564.0	1635460.0	0.01	2.1	15.0
2,2',3,4,5,5'-hexaCB	2074158.0	2082840.0	0.01	0.4	15.0
2,2',3,5,5',6-hexaCB	1578800.4	1599660.0	0.01	1.3	15.0
2,2',3,4,4',5',6-heptaCB	2019851.2	2029900.0	0.01	0.5	15.0
2,2',3,4,4',6,6'-heptaCB	1787408.4	1820360.0	0.01	1.8	15.0
Tetrachloro-m-xylene	1942676.0	2053340.0	0.01	5.7	15.0

FORM VII PCB CONG

PCB CONG CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E2 Calibration Date: 07/14/01 Time: 1945

Lab File ID: E2C6633F Init. Calib. Date(s): 07/14/01 07/14/01

Init. Calib. Times: 0037 0452

GC Column: RTXCLPPEST1 ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF 0.05	MIN RRF	%D	MAX %D
2,4'-diCB	474686.00	479760.00	0.01	1.1	15.0
DecaCB	2646018.4	2627280.0	0.01	0.7	15.0
2,2',5-triCB	568010.40	572280.00	0.01	0.8	15.0
2,4,4'-triCB	984346.40	978800.00	0.01	0.6	15.0
2,2',3,5'-tetraCB	1063797.2	1058460.0	0.01	0.5	15.0
2,2',5,5'-tetraCB	841326.80	844360.00	0.01	0.4	15.0
2,3',4,4'-tetraCB	1232577.2	1205180.0	0.01	2.2	15.0
2,2',4,5,5'-pentaCB	1165483.2	1172060.0	0.01	0.6	15.0
2,3,3',4,4'-pentaCB	1607270.4	1576180.0	0.01	1.9	15.0
2,3',4,4',5-pentaCB	1337600.8	1334180.0	0.01	0.2	15.0
2,2',3,3',4,4'-hexaCB	1958642.8	1962140.0	0.01	0.2	15.0
2,2',3,4,4',5'-hexaCB	1630003.6	1627280.0	0.01	0.2	15.0
2,2',4,4',5,5'-hexaCB	1406480.4	1405660.0	0.01	0.0	15.0
2,2',3,3',4,4',5-heptaCB	2178363.2	2172060.0	0.01	0.3	15.0
2,2',3,4,4',5,5'-heptaCB	2002960.0	1984740.0	0.01	0.9	15.0
2,2',3,4',5,5',6-heptaCB	1606893.6	1601840.0	0.01	0.3	15.0
2,2',3,3',4,4',5,6-octaCB	2372330.8	2358860.0	0.01	0.6	15.0
2,2',3,3',4,4',5,5',6-nonaCB	2871235.2	2847560.0	0.01	0.8	15.0
Tetrachloro-m-xylene	1444558.8	1462960.0	0.01	1.3	15.0

FORM VII PCB CONG

PCB CONG CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E2 Calibration Date: 07/14/01 Time: 1945

Lab File ID: E2C6633R Init. Calib. Date(s): 07/14/01 07/14/01

Init. Calib. Times: 0037 0452

GC Column: RTXCLPPEST2 ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF 0.05	MIN RRF	%D	MAX %D
2,4'-diCB	618785.20	621940.00	0.01	0.5	15.0
DecaCB	3055088.0	3044020.0	0.01	0.4	15.0
2,2',5-triCB	727577.20	717000.00	0.01	1.4	15.0
2,4,4'-triCB	1297453.2	1268660.0	0.01	2.2	15.0
2,2',3,5'-tetraCB	1321062.8	1317260.0	0.01	0.3	15.0
2,2',5,5'-tetraCB	1076192.0	1060220.0	0.01	1.5	15.0
2,3',4,4'-tetraCB	1533702.8	1497900.0	0.01	2.3	15.0
2,2',4,5,5'-pentaCB	1474226.8	1455040.0	0.01	1.3	15.0
2,3,3',4,4'-pentaCB	2000357.6	2028880.0	0.01	1.4	15.0
2,3',4,4',5-pentaCB	1648855.2	1608640.0	0.01	2.4	15.0
2,2',3,3',4,4'-hexaCB	2373479.6	2375200.0	0.01	0.1	15.0
2,2',3,4,4',5'-hexaCB	1999644.8	1991960.0	0.01	0.4	15.0
2,2',4,4',5,5'-hexaCB	1716387.6	1688760.0	0.01	1.6	15.0
2,2',3,3',4,4',5-heptaCB	2585563.6	2581080.0	0.01	0.2	15.0
2,2',3,4,4',5,5'-heptaCB	2379941.6	2352480.0	0.01	1.2	15.0
2,2',3,4',5,5',6-heptaCB	1934154.8	1912700.0	0.01	1.1	15.0
2,2',3,3',4,4',5,6-octaCB	2772028.4	2792000.0	0.01	0.7	15.0
2,2',3,3',4,4',5,5',6-nonaCB	3296806.8	3299640.0	0.01	0.1	15.0
Tetrachloro-m-xylene	1942676.0	1976400.0	0.01	1.7	15.0

FORM VII PCB CONG

PCB CONG CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E2 Calibration Date: 07/16/01 Time: 1301

Lab File ID: E2C6635F Init. Calib. Date(s): 07/13/01 07/13/01

Init. Calib. Times: 1711 2126

GC Column: RTXCLPPEST1 ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF 0.05	MIN RRF	%D	MAX %D
2-CB	69092.400	71140.000	0.01	3.0	15.0
2,3-diCB	634582.40	658660.00	0.01	3.8	15.0
2,4',5-triCB	794329.60	814680.00	0.01	2.6	15.0
2,3,3',4',6-pentaCB	1311224.8	1329240.0	0.01	1.4	15.0
2,2',3,4,5,5'-hexaCB	1696802.8	1713580.0	0.01	1.0	15.0
2,2',3,5,5',6-hexaCB	1299340.4	1301940.0	0.01	0.2	15.0
2,2',3,4,4',5',6-heptaCB	1678104.0	1693980.0	0.01	0.9	15.0
2,2',3,4,4',6,6'-heptaCB	1475200.0	1499320.0	0.01	1.6	15.0
2,2',4,5'-tetraCB	943320.80	969560.00	0.01	2.8	15.0
2,2',3,4,5'-pentaCB	1462301.6	1490260.0	0.01	1.9	15.0
Tetrachloro-m-xylene	1444558.8	1517580.0	0.01	5.1	15.0

FORM VII PCB CONG

FORM 7
PCB CONG CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E2 Calibration Date: 07/16/01 Time: 1301

Lab File ID: E2C6635R Init. Calib. Date(s): 07/13/01 07/13/01

Init. Calib. Times: 1711 2126

GC Column: RTXCLPPEST2 ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF 0.05	MIN RRF	%D	MAX %D
2-CB	85492.000	89800.000	0.01	5.0	15.0
2,3-diCB	832682.00	866660.00	0.01	4.1	15.0
2,4',5-triCB	1035249.6	1083620.0	0.01	4.7	15.0
2,2',4,5'-tetraCB	1190019.6	1237320.0	0.01	4.0	15.0
2,2',3,4',5'-pentaCB	1820742.4	1876700.0	0.01	3.1	15.0
2,3,3',4',6-pentaCB	1601564.0	1664460.0	0.01	3.9	15.0
2,2',3,4,5,5'-hexaCB	2074158.0	2112640.0	0.01	1.8	15.0
2,2',3,5,5',6-hexaCB	1578800.4	1637960.0	0.01	3.7	15.0
2,2',3,4,4',5',6-heptaCB	2019851.2	2053920.0	0.01	1.7	15.0
2,2',3,4,4',6,6'-heptaCB	1787408.4	1811060.0	0.01	1.3	15.0
Tetrachloro-m-xylene	1942676.0	2055260.0	0.01	5.8	15.0

FORM VII PCB CONG

PCB CONG CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E2 Calibration Date: 07/16/01 Time: 1404

Lab File ID: E2C6636F Init. Calib. Date(s): 07/14/01 07/14/01

Init. Calib. Times: 0037 0452

GC Column: RTXCLPPEST1 ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF 0.05	MIN RRF	%D	MAX %D
2;4'-diCB	474686.00	475660.00	0.01	0.2	15.0
DecaCB	2646018.4	2579960.0	0.01	2.5	15.0
2,2',5-triCB	568010.40	566740.00	0.01	0.2	15.0
2,4,4'-triCB	984346.40	967140.00	0.01	1.7	15.0
2,2',3,5'-tetraCB	1063797.2	1039420.0	0.01	2.3	15.0
2,2',5,5'-tetraCB	841326.80	836520.00	0.01	0.6	15.0
2,3',4,4'-tetraCB	1232577.2	1184820.0	0.01	3.9	15.0
2,2',4,5,5'-pentaCB	1165483.2	1158060.0	0.01	0.6	15.0
2,3,3',4,4'-pentaCB	1607270.4	1551900.0	0.01	3.4	15.0
2,3',4,4',5-pentaCB	1337600.8	1315720.0	0.01	1.6	15.0
2,2',3,3',4,4'-hexaCB	1958642.8	1932700.0	0.01	1.3	15.0
2,2',3,4,4',5'-hexaCB	1630003.6	1612940.0	0.01	1.0	15.0
2,2',4,4',5,5'-hexaCB	1406480.4	1394520.0	0.01	0.8	15.0
2,2',3,3',4,4',5-heptaCB	2178363.2	2144080.0	0.01	1.6	15.0
2,2',3,4,4',5,5'-heptaCB	2002960.0	1959240.0	0.01	2.2	15.0
2,2',3,4',5,5',6-heptaCB	1606893.6	1585240.0	0.01	1.3	15.0
2,2',3,3',4,4',5,6-octaCB	2372330.8	2324780.0	0.01	2.0	15.0
2,2',3,3',4,4',5,5',6-nonaCB	2871235.2	2792740.0	0.01	2.7	15.0
Tetrachloro-m-xylene	1444558.8	1449680.0	0.01	0.4	15.0

FORM VII PCB CONG

FORM 7

PCB CONG CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E2 Calibration Date: 07/16/01 Time: 1404

Lab File ID: E2C6636R Init. Calib. Date(s): 07/14/01 07/14/01

Init. Calib. Times: 0037 0452

GC Column: RTXCLPPEST2 ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF 0.05	MIN RRF	%D	MAX %D
2,4'-diCB	618785.20	616940.00	0.01	0.3	15.0
DecaCB	3055088.0	2943180.0	0.01	3.7	15.0
2,2',5-triCB	727577.20	718280.00	0.01	1.3	15.0
2,4,4'-triCB	1297453.2	1273280.0	0.01	1.9	15.0
2,2',3,5'-tetraCB	1321062.8	1303860.0	0.01	1.3	15.0
2,2',5,5'-tetraCB	1076192.0	1061680.0	0.01	1.3	15.0
2,3',4,4'-tetraCB	1533702.8	1503460.0	0.01	2.0	15.0
2,2',4,5,5'-pentaCB	1474226.8	1446740.0	0.01	1.9	15.0
2,3,3',4,4'-pentaCB	2000357.6	1917500.0	0.01	4.1	15.0
2,3',4,4',5-pentaCB	1648855.2	1601580.0	0.01	2.9	15.0
2,2',3,3',4,4'-hexaCB	2373479.6	2346700.0	0.01	1.1	15.0
2,2',3,4,4',5'-hexaCB	1999644.8	1965900.0	0.01	1.7	15.0
2,2',4,4',5,5'-hexaCB	1716387.6	1676380.0	0.01	2.3	15.0
2,2',3,3',4,4',5-heptaCB	2585563.6	2560660.0	0.01	1.0	15.0
2,2',3,4,4',5,5'-heptaCB	2379941.6	2324920.0	0.01	2.3	15.0
2,2',3,4',5,5',6-heptaCB	1934154.8	1897120.0	0.01	1.9	15.0
2,2',3,3',4,4',5,6-octaCB	2772028.4	2750360.0	0.01	0.8	15.0
2,2',3,3',4,4',5,5',6-nonaCB	3296806.8	3206500.0	0.01	2.7	15.0
Tetrachloro-m-xylene	1942676.0	1949520.0	0.01	0.4	15.0

FORM 7
PCB CONG CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E2 Calibration Date: 07/16/01 Time: 1819

Lab File ID: E2C6640F Init. Calib. Date(s): 07/13/01 07/13/01

Init. Calib. Times: 1711 2126

GC Column: RTXCLPPEST1 ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF 0.05	MIN RRF	%D	MAX %D
2-CB	69092.400	74740.000	0.01	8.2	15.0
2,3-diCB	634582.40	672400.00	0.01	6.0	15.0
2,4',5-triCB	794329.60	843920.00	0.01	6.2	15.0
2,3,3',4',6-pentaCB	1311224.8	1371860.0	0.01	4.6	15.0
2,2',3,4,5,5'-hexaCB	1696802.8	1766500.0	0.01	4.1	15.0
2,2',3,5,5',6-hexaCB	1299340.4	1349620.0	0.01	3.9	15.0
2,2',3,4,4',5',6-heptaCB	1678104.0	1745460.0	0.01	4.0	15.0
2,2',3,4,4',6,6'-heptaCB	1475200.0	1543320.0	0.01	4.6	15.0
2,2',4,5'-tetraCB	943320.80	999480.00	0.01	6.0	15.0
2,2',3,4,5'-pentaCB	1462301.6	1533900.0	0.01	4.9	15.0
Tetrachloro-m-xylene	1444558.8	1566700.0	0.01	8.5	15.0

FORM VII PCB CONG

FORM 7

PCB CONG CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E2 Calibration Date: 07/16/01 Time: 1819

Lab File ID: E2C6640R Init. Calib. Date(s): 07/13/01 07/13/01

Init. Calib. Times: 1711 2126

GC Column: RTXCLPPEST2 ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF 0.05	MIN RRF	%D	MAX %D
2-CB	85492.000	91060.000	0.01	6.5	15.0
2,3-diCB	832682.00	883520.00	0.01	6.1	15.0
2,4',5-triCB	1035249.6	1107500.0	0.01	7.0	15.0
2,2',4,5'-tetraCB	1190019.6	1266600.0	0.01	6.4	15.0
2,2',3,4,5'-pentaCB	1820742.4	1931780.0	0.01	6.1	15.0
2,3,3',4',6-pentaCB	1601564.0	1708760.0	0.01	6.7	15.0
2,2',3,4,5,5'-hexaCB	2074158.0	2180360.0	0.01	5.1	15.0
2,2',3,5,5',6-hexaCB	1578800.4	1677720.0	0.01	6.3	15.0
2,2',3,4,4',5',6-heptaCB	2019851.2	2122940.0	0.01	5.1	15.0
2,2',3,4,4',6,6'-heptaCB	1787408.4	1870600.0	0.01	4.6	15.0
Tetrachloro-m-xylene	1942676.0	2086520.0	0.01	7.4	15.0

FORM 7
PCB CONG CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E2 Calibration Date: 07/16/01 Time: 1923

Lab File ID: E2C6641F Init. Calib. Date(s): 07/14/01 07/14/01

Init. Calib. Times: 0037 0452

GC Column: RTXCLPPEST1 ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF 0.05	MIN RRF	%D	MAX %D
2,4'-diCB	474686.00	481160.00	0.01	1.4	15.0
DecaCB	2646018.4	2597300.0	0.01	1.8	15.0
2,2',5-triCB	568010.40	574760.00	0.01	1.2	15.0
2,4,4'-triCB	984346.40	977740.00	0.01	0.7	15.0
2,2',3,5'-tetraCB	1063797.2	1054280.0	0.01	0.9	15.0
2,2',5,5'-tetraCB	841326.80	848420.00	0.01	0.8	15.0
2,3',4,4'-tetraCB	1232577.2	1192880.0	0.01	3.2	15.0
2,2',4,5,5'-pentaCB	1165483.2	1173840.0	0.01	0.7	15.0
2,3,3',4,4'-pentaCB	1607270.4	1564080.0	0.01	2.7	15.0
2,3',4,4',5-pentaCB	1337600.8	1330160.0	0.01	0.6	15.0
2,2',3,3',4,4'-hexaCB	1958642.8	1950360.0	0.01	0.4	15.0
2,2',3,4,4',5'-hexaCB	1630003.6	1624660.0	0.01	0.3	15.0
2,2',4,4',5,5'-hexaCB	1406480.4	1406380.0	0.01	0.0	15.0
2,2',3,3',4,4',5-heptaCB	2178363.2	2160440.0	0.01	0.8	15.0
2,2',3,4,4',5,5'-heptaCB	2002960.0	1977640.0	0.01	1.3	15.0
2,2',3,4',5,5',6-heptaCB	1606893.6	1602400.0	0.01	0.3	15.0
2,2',3,3',4,4',5,6-octaCB	2372330.8	2338860.0	0.01	1.4	15.0
2,2',3,3',4,4',5,5',6-nonaCB	2871235.2	2813860.0	0.01	2.0	15.0
Tetrachloro-m-xylene	1444558.8	1464240.0	0.01	1.4	15.0

FORM 7
PCB CONG CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Instrument ID: E2 Calibration Date: 07/16/01 Time: 1923

Lab File ID: E2C6641R Init. Calib. Date(s): 07/14/01 07/14/01

Init. Calib. Times: 0037 0452

GC Column: RTXCLPPEST2 ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF 0.05	MIN RRF	%D	MAX %D
2,4'-diCB	618785.20	619500.00	0.01	0.1	15.0
DecaCB	3055088.0	2990260.0	0.01	2.1	15.0
2,2',5-triCB	727577.20	714120.00	0.01	1.8	15.0
2,4,4'-triCB	1297453.2	1260540.0	0.01	2.8	15.0
2,2',3,5'-tetraCB	1321062.8	1311920.0	0.01	0.7	15.0
2,2',5,5'-tetraCB	1076192.0	1065980.0	0.01	0.9	15.0
2,3',4,4'-tetraCB	1533702.8	1496940.0	0.01	2.4	15.0
2,2',4,5,5'-pentaCB	1474226.8	1442560.0	0.01	2.1	15.0
2,3,3',4,4'-pentaCB	2000357.6	1926700.0	0.01	3.7	15.0
2,3',4,4',5-pentaCB	1648855.2	1605140.0	0.01	2.6	15.0
2,2',3,3',4,4'-hexaCB	2373479.6	2366240.0	0.01	0.3	15.0
2,2',3,4,4',5'-hexaCB	1999644.8	1984140.0	0.01	0.8	15.0
2,2',4,4',5,5'-hexaCB	1716387.6	1683660.0	0.01	1.9	15.0
2,2',3,3',4,4',5-heptaCB	2585563.6	2582380.0	0.01	0.1	15.0
2,2',3,4,4',5,5'-heptaCB	2379941.6	2339140.0	0.01	1.7	15.0
2,2',3,4',5,5',6-heptaCB	1934154.8	1911800.0	0.01	1.2	15.0
2,2',3,3',4,4',5,6-octaCB	2772028.4	2783400.0	0.01	0.4	15.0
2,2',3,3',4,4',5,5',6-nonaCB	3296806.8	3251520.0	0.01	1.4	15.0
Tetrachloro-m-xylene	1942676.0	1961440.0	0.01	1.0	15.0

PCB CONG IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES

CLIENT SAMPLE NO.: 54-B01001

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Lab Sample ID: 81344005 Date(s) Analyzed: 07/14/01 07/14/01

Instrument ID (1): E2 Instrument ID (2): E2

GC Column(1): RTXCLPPEST1 ID: 0.53(mm) GC Column(2): RTXCLPPEST2 ID: 0.53(mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%D
2,2',5,5'-tetraCB	1	21.16	21.08	21.22	0.022	
	2	25.85	25.77	25.91	0.021	4.6
2,2',4,5,5'-pentaCB	1	26.45	26.38	26.52	0.41	
	2	31.31	31.24	31.38	0.40	2.5
2,2',3,4,4',5'-hexaCB	1	33.17	33.10	33.24	1.8	
	2	38.60	38.53	38.67	1.8	0.0
2,2',4,4',5,5'-hexaCB	1	31.59	31.53	31.67	2.0	
	2	36.55	36.48	36.62	1.4	35.3
2,2',3,3',4,4',5-heptaCB	1	38.75	38.68	38.82	0.95	
	2	44.54	44.47	44.61	1.0	5.1
2,2',3,4,4',5,5'-heptaCB	1	37.18	37.11	37.25	1.6	
	2	42.45	42.38	42.52	1.7	6.1
2,2',3,4',5,5',6-heptaCB	1	33.92	33.85	33.99	0.63	
	2	39.19	39.12	39.26	0.70	10.5
2,2',3,3',4,4',5,5',6-non	1	44.12	44.04	44.18	0.055	
	2	48.18	48.10	48.24	0.056	1.8

use dilution

PCB CONG IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES

CLIENT SAMPLE NO.

54-B01001

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Lab Sample ID: 81344005

Date(s) Analyzed: 07/14/01 07/14/01

Instrument ID (1): E2

Instrument ID (2): E2

GC Column(1): RTXCLPPEST1 ID: 0.53(mm) GC Column(2): RTXCLPPEST2 ID: 0.53(mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%D
2,3,3',4',6-pentaCB	1	28.75	28.69	28.83	0.26	
	2	34.00	33.93	34.07	0.26	0.0
2,2',3,4,5,5'-hexaCB	1	32.30	32.23	32.38	0.60	
	2	37.47	37.40	37.54	0.61	1.6
2,2',3,5,5',6-hexaCB	1	29.07	29.00	29.14	0.41	
	2	34.26	34.19	34.33	0.42	2.4
2,2',3,4,4',5',6-heptaCB	1	34.19	34.12	34.26	0.48	
	2	39.50	39.43	39.57	0.49	2.1
2,2',3,4,5'-pentaCB	1	27.92	27.96	28.10	0.22	
	2	33.31	33.24	33.38	0.069	104.5
	1					
	2					
	1					
	2					
	1					
	2					

PCB CONG

PCB CONG IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES

CLIENT SAMPLE NO.

54-B01001DL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Lab Sample ID: 81344005DL Date(s) Analyzed: 07/16/01 07/16/01

Instrument ID (1): E2 Instrument ID (2): E2

GC Column(1): RTXCLPPEST1 ID: 0.53(mm) GC Column(2): RTXCLPPEST2 ID: 0.53(mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%D
2,2',4,5,5'-pentaCB	1	26.45	26.38	26.52	0.49	
	2	31.31	31.24	31.38	0.47	4.2
2,2',3,4,4',5'-hexaCB	1	33.17	33.10	33.24	2.1	
	2	38.60	38.53	38.67	2.1	0.0
2,2',4,4',5,5'-hexaCB	1	31.59	31.53	31.67	2.3	
	2	36.55	36.48	36.62	1.8	24.4
2,2',3,3',4,4',5-heptaCB	1	38.75	38.68	38.82	1.0	
	2	44.54	44.47	44.61	1.1	9.5
2,2',3,4,4',5,5'-heptaCB	1	37.18	37.11	37.25	1.9	
	2	42.45	42.38	42.52	1.9	0.0
2,2',3,4',5,5',6-heptaCB	1	33.92	33.85	33.99	0.76	
	2	39.19	39.12	39.26	0.81	6.4
2,2',3,3',4,4',5,5',6-non	1	44.11	44.04	44.18	0.055	
	2	48.17	48.10	48.24	0.056	1.8
2,3,3',4',6-pentaCB	1	28.75	28.69	28.83	0.26	
	2	34.00	33.93	34.07	0.25	3.9

FORM 10
PCB CONG IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES

CLIENT SAMPLE NO.

54-B01001DL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Lab Sample ID: 81344005DL Date(s) Analyzed: 07/16/01 07/16/01

Instrument ID (1): E2 Instrument ID (2): E2

GC Column(1): RTXCLPPEST1 ID: 0.53(mm) GC Column(2): RTXCLPPEST2 ID: 0.53(mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%D
2,2',3,4,5,5'-hexaCB	1	32.30	32.23	32.38	0.59	
	2	37.47	37.40	37.54	0.65	9.7
2,2',3,5,5',6-hexaCB	1	29.07	29.00	29.14	0.47	
	2	34.26	34.19	34.33	0.46	2.2
2,2',3,4,4',5',6-heptaCB	1	34.19	34.12	34.26	0.52	
	2	39.50	39.43	39.57	0.52	0.0
	1					
	2					
	1					
	2					
	1					
	2					
	1					
	2					
	1					
	2					

PCB CONG

FORM 10
PCB CONG IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES

CLIENT SAMPLE NO.

54-DUP01

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Lab Sample ID: 81344004 Date(s) Analyzed: 07/14/01 07/14/01

Instrument ID (1): E2 Instrument ID (2): E2

GC Column(1): RTXCLPPEST1 ID: 0.53(mm) GC Column(2): RTXCLPPEST2 ID: 0.53(mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%D
2,2',5,5'-tetraCB	1	21.16	21.08	21.22	0.014	
	2	25.85	25.77	25.91	0.0092	41.4
2,3',4,4'-tetraCB	1	25.11	25.11	25.25	0.0087	
	2	30.04	29.99	30.13	0.070	155.8
2,2',4,5,5'-pentaCB	1	26.45	26.38	26.52	0.11	
	2	31.31	31.24	31.38	0.11	0.0
2,2',3,4,4',5'-hexaCB	1	33.17	33.10	33.24	0.38	
	2	38.60	38.53	38.67	0.38	0.0
2,2',4,4',5,5'-hexaCB	1	31.60	31.53	31.67	0.47	
	2	36.55	36.48	36.62	0.35	29.3
2,2',3,3',4,4',5-heptaCB	1	38.75	38.68	38.82	0.19	
	2	44.54	44.47	44.61	0.20	5.1
2,2',3,4,4',5,5'-heptaCB	1	37.18	37.11	37.25	0.34	
	2	42.45	42.38	42.52	0.34	0.0
2,2',3,4',5,5',6-heptaCB	1	33.93	33.85	33.99	0.14	
	2	39.19	39.12	39.26	0.15	6.9

FORM 10

PCB CONG IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES

CLIENT SAMPLE NO.

54-DUP01

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Lab Sample ID: 81344004 Date(s) Analyzed: 07/14/01 07/14/01

Instrument ID (1): E2 Instrument ID (2): E2

GC Column(1): RTXCLPPEST1 ID: 0.53(mm) GC Column(2): RTXCLPPEST2 ID: 0.53(mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%D
2,2',3,3',4,4',5,5',6-non	1	44.12	44.04	44.18	0.010	
	2	48.18	48.10	48.24	0.010	0.0
2,3,3',4',6-pentaCB	1	28.75	28.69	28.83	0.055	
	2	34.00	33.93	34.07	0.054	1.8
2,2',3,4,5,5'-hexaCB	1	32.30	32.23	32.38	0.11	
	2	37.47	37.40	37.54	0.12	8.7
2,2',3,5,5',6-hexaCB	1	29.07	29.00	29.14	0.087	
	2	34.26	34.19	34.33	0.087	0.0
2,2',3,4,4',5',6-heptaCB	1	34.19	34.12	34.26	0.099	
	2	39.50	39.43	39.57	0.099	0.0
2,2',3,4,5'-pentaCB	1	27.92	27.96	28.10	0.049	
	2	33.32	33.24	33.38	0.014	111.1
	1					
	2					
	1					
	2					

PCB CONG

FORM 10

PCB CONG IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES

CLIENT SAMPLE NO.

54-SED01

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Lab Sample ID: 81344003 Date(s) Analyzed: 07/14/01 07/14/01

Instrument ID (1): E2 Instrument ID (2): E2

GC Column(1): RTXCLPPEST1 ID: 0.53(mm) GC Column(2): RTXCLPPEST2 ID: 0.53(mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%D
2,2',5,5'-tetraCB	1	21.16	21.08	21.22	0.018	
	2	25.85	25.77	25.91	0.013	32.2
2,3',4,4'-tetraCB	1	25.12	25.11	25.25	0.011	
	2	30.04	29.99	30.13	0.12	166.4
2,2',4,5,5'-pentaCB	1	26.45	26.38	26.52	0.19	
	2	31.31	31.24	31.38	0.18	5.4
2,2',3,4,4',5'-hexaCB	1	33.17	33.10	33.24	0.70	
	2	38.60	38.53	38.67	0.56	22.2
2,2',4,4',5,5'-hexaCB	1	31.59	31.53	31.67	0.84	
	2	36.55	36.48	36.62	0.58	36.6
2,2',3,3',4,4',5-heptaCB	1	38.75	38.68	38.82	0.35	
	2	44.54	44.47	44.61	0.38	8.2
2,2',3,4,4',5,5'-heptaCB	1	37.18	37.11	37.25	0.63	
	2	42.45	42.38	42.52	0.56	11.8
2,2',3,4',5,5',6-heptaCB	1	33.92	33.85	33.99	0.25	
	2	39.19	39.12	39.26	0.28	11.3

FORM 10
PCB CONG IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES

CLIENT SAMPLE NO.

54-SED01

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81344

Lab Sample ID: 81344003 Date(s) Analyzed: 07/14/01 07/14/01

Instrument ID (1): E2 Instrument ID (2): E2

GC Column(1): RTXCLPPEST1 ID: 0.53(mm) GC Column(2): RTXCLPPEST2 ID: 0.53(mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%D
2,2',3,3',4,4',5,5',6-non	1	44.12	44.04	44.18	0.020	
	2	48.18	48.10	48.24	0.019	5.1
2,3,3',4',6-pentaCB	1	28.75	28.69	28.83	0.098	
	2	34.00	33.93	34.07	0.099	1.0
2,2',3,4,5,5'-hexaCB	1	32.30	32.23	32.38	0.20	
	2	37.47	37.40	37.54	0.22	9.5
2,2',3,5,5',6-hexaCB	1	29.07	29.00	29.14	0.16	
	2	34.26	34.19	34.33	0.16	0.0
2,2',3,4,4',5',6-heptaCB	1	34.19	34.12	34.26	0.18	
	2	39.50	39.43	39.57	0.19	5.4
2,2',3,4,5'-pentaCB	1	27.92	27.96	28.10	0.089	
	2	33.31	33.24	33.38	0.026	109.6
	1					
	2					
	1					
	2					

PCB CONG

FORM 10
PCB CONG IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES

CLIENT SAMPLE NO.

54-SED02

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

Lab Sample ID: 81363002 Date(s) Analyzed: 07/14/01 07/14/01

Instrument ID (1): E2 Instrument ID (2): E2

GC Column(1): RTXCLPPEST1 ID: 0.53(mm) GC Column(2): RTXCLPPEST2 ID: 0.53(mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%D
2,2',4,5,5'-pentaCB	1	26.46	26.38	26.52	0.017	
	2	31.31	31.24	31.38	0.017	0.0
2,2',3,4,4',5'-hexaCB	1	33.17	33.10	33.24	0.077	
	2	38.60	38.53	38.67	0.076	1.3
2,2',4,4',5,5'-hexaCB	1	31.60	31.53	31.67	0.090	
	2	36.56	36.48	36.62	0.072	22.2
2,2',3,3',4,4',5-heptaCB	1	38.75	38.68	38.82	0.032	
	2	44.54	44.47	44.61	0.034	6.1
2,2',3,4,4',5,5'-heptaCB	1	37.18	37.11	37.25	0.062	
	2	42.45	42.38	42.52	0.061	1.6
2,2',3,4',5,5',6-heptaCB	1	33.93	33.85	33.99	0.028	
	2	39.19	39.12	39.26	0.030	6.9
2,3,3',4',6-pentaCB	1	28.76	28.69	28.83	0.0091	
	2	34.01	33.93	34.07	0.0089	2.2
2,2',3,4,5,5'-hexaCB	1	32.30	32.23	32.38	0.020	
	2	37.47	37.40	37.54	0.024	18.2

FORM 10
PCB CONG IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES

CLIENT SAMPLE NO.

54-SED02

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

Lab Sample ID: 81363002 Date(s) Analyzed: 07/14/01 07/14/01

Instrument ID (1): E2 Instrument ID (2): E2

GC Column(1): RTXCLPPEST1 ID: 0.53(mm) GC Column(2): RTXCLPPEST2 ID: 0.53(mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%D
2,2',3,5,5',6-hexaCB	1	29.07	29.00	29.14	0.017	
	2	34.26	34.19	34.33	0.018	5.7
2,2',3,4,4',5',6-heptaCB	1	34.19	34.12	34.26	0.018	
	2	39.50	39.43	39.57	0.018	0.0
	1					
	2					
	1					
	2					
	1					
	2					
	1					
	2					
	1					
	2					
	1					
	2					

PCB CONG

FORM 1
PCB CONG ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BBLK2S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: 81363

Matrix: (soil/water) SOIL Lab Sample ID: B0702-BS3

Sample wt/vol: 10.0 (g/mL) G Lab File ID: E2C6624F

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

Extraction: (SepF/Cont/Sonc) SOXHLET Date Extracted:07/02/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 07/14/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q
37680-65-2	2,2',5-triCB	0.0050	U
41464-39-5	2,2',3,5'-tetraCB	0.0050	U
35693-99-3	2,2',5,5'-tetraCB	0.0050	U
32598-10-0	2,3',4,4'-tetraCB	0.0050	U
37680-73-2	2,2',4,5,5'-pentaCB	0.0050	U
35065-28-2	2,2',3,4,4',5'-hexaCB	0.0050	U
35065-27-1	2,2',4,4',5,5'-hexaCB	0.0050	U
35065-30-6	2,2',3,3',4,4',5-heptaCB	0.0050	U
35065-29-3	2,2',3,4,4',5,5'-heptaCB	0.0050	U
52663-68-0	2,2',3,4',5,5',6-heptaCB	0.0050	U
40186-72-9	2,2',3,3',4,4',5,5',6-nonaCB	0.0050	U
2051-60-7	2-CB	0.0050	U
16605-91-7	2,3-diCB	0.0050	U
16606-02-3	2,4',5-triCB	0.0050	U
38380-03-9	2,3,3',4',6-pentaCB	0.0050	U
52712-04-6	2,2',3,4,5,5'-hexaCB	0.0050	U
52663-63-5	2,2',3,5,5',6-hexaCB	0.0050	U
52663-69-1	2,2',3,4,4',5',6-heptaCB	0.0050	U
38380-02-8	2,2',3,4,5'-pentaCB	0.0050	U

Date:	Analysis:	Method & SOP #	Matrix:	Project(s)
7/2/01	8OP2	Aq: 3510C (SepF) 3520C (Liq/Liq) Soil: 3550B (Sonic) 3540C (Soxhlet) Other:	Aqueous Soil Wipe Oil Other:	81363

Blank ID	LCS ID	Analyst	Spiked By	Witness	Solvent Lot #	Time Started / Time Ended
B0702-BS3	B0702-LS3	PB	PB			Time Started: 10:00 PM Time Ended: 4:00 PM

Sample ID	Client ID	Sample Wt (g) / Vol (ml)	Surrogate Spike Added	Matrix Spike Added	Emulsion	Esterification Date / Analyst		Final Concentration Date / Analyst		Final Concentration Volume	Acid / Copper Cleanup Date / Analyst		Date Extract Trans.
B0702-BS3		10.0 g	1 ml	—				071101	SR	10 mL	071101	SR	071101
-LS3		10.0 g	↓	1 ml				↓	↓	↓	↓	↓	↓
81363 -002		10.2 g	↓	—				↓	↓	↓	↓	↓	↓
81344 003		10.1 g	1 ml	~~1 ml~~ PB 7/2/01				071101	SR	10 mL	071101	SR	071101
↓ 004		10.4 g	↓	↓				↓	↓	↓	↓	↓	↓
↓ 005		10.4 g	↓	↓				↓	↓	↓	↓	↓	↓

PB 7/2/01 PB 7/2/01

PB 7/2/01

Comments:

Water Bath Temp. _____ S nicator Tuned? Yes/No

QAT00149 Log ID: 8P-08 Reviewed By: KC 7/17/01 PAGE: 081

	GIB54-DUP01S	GIB54-SED01	RPD
223344556-NNCB	0.01	0.019	-62
2233445-HPCB	0.19	0.35	-59
223445HXCB	0.38	0.56	-38
2234455-HPCB	0.34	0.56	-49
22345-PTCB	0.014	0.026	-60
2235-TTCB	0.006 U	0.006 U	NC
224455-HXCB	0.35	0.58	-49
22455-PTCB	0.11	0.18	-48
2255-TTCB	0.009	0.013	-36
225-TCB	0.006 U	0.006 U	NC
2234456-HPCB	0.099	0.18	-58
2234556-HPCB	0.14	0.25	-56
223455-HXCB	0.11	0.2	-58
223556-HXCB	0.087	0.16	-59
2344-TTCB	0.009	0.011	-20
23346-PTCB	0.054	0.098	-58
23-DCB	0.006 U	0.006 U	NC
245-TCB	0.006 U	0.006 U	NC
2-CB	0.006 U	0.006 U	NC

04-001001

Data File: E2C6638F.D
Report Date: 17-Jul-2001 10:47

10X

Mitkem Corporation

Sample #1 : \\AVOGADRO\USERDATA\Organic\svoa\E2.i\010716F.B\E2C6638F.D
Sample #2 : \\AVOGADRO\USERDATA\Organic\svoa\E2.i\010716R.B\E2C6638R.D
Inj Date : 16-JUL-2001 16:12
Sample Info: 81344005DL,54-B01001DL,B0702-BS3,,,10
Misc Info : 0,,,2,,,,10.4,,,02-JUL-01,22-JUN-01,81363
Cal Date : 17-JUL-2001 08:24
Operator : GML
Inst ID : E2.i
Dil Factor : 10.000000

Method #1 : \\AVOGADRO\USERDATA\Organic\svoa\E2.i\010716F.B\E2_PCB_C_F.m
Method #2 : \\AVOGADRO\USERDATA\Organic\svoa\E2.i\010716R.B\E2_PCB_C_R.m
Sub List #1 : TetraT_1.sub
Sub List #2 : TetraT_1.sub
Col #1 Phase : RtxCLPPest1
Col #2 Phase : RtxCLPPest2

Concentration Formula: Amt * DF * Uf * Vt/((Vi * Ws * (100 - M)/100)*1000)

Name	Value	Description
DF	10.000	Dilution Factor
Uf	1.000	Correction factor
Vt	10000.000	Volume of final extract (uL)(1000 low, 2
Vi	1.000	Volume injected (uL)
Ws	10.400	Weight of sample extracted (g)
M	9.000	% Moisture

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1 (mg/Kg)	Conc#2 (mg/Kg)	Target Range	Ratio
Tetrachloro-m-xylene	11.092	14.012	134134	179597	0.98	0.98		100.00
2,2',4,5,5'-pentaCB	26.450	31.310	54103	66254	0.49	0.47		100.00
2,3,3',4',6-pentaCB	28.752	34.002	32027	38290	0.26	0.25		100.00(M)
2,2',3,4,4',5'-hexaCB	33.170	38.598	325931	391814	2.1	2.1		100.00
2,2',3,4,5,5'-hexaCB	32.298	37.465	95117	127646	0.59	0.65		100.00(M)
2,2',3,5,5',6-hexaCB	29 070	34.260	57528	69227	0.47	0.46		100.00(M)
2,2',4,4',5,5'-hexaCB	31.592	36.552	305562	290651	2.3	1.8		100.00
2,2',3,3',4,4',5-heptaCB	38.748	44.540	214164	269551	1.0	1.1		100.00
2,2',3,4,4',5,5'-heptaCB	37.178	42.447	357700	430781	1.9	1.9		100.00
2,2',3,4,4',5',6-heptaCB	34.187	39.495	82897	98539	0.52	0.52		100.00(M)
2,2',3,4',5,5',6-heptaCB	33.923	39.187	115071	147567	0.76	0.81		100.00
2,2',3,3',4,4',5,5',6-nonaCB	44.113	48.173	15006	17470	0.055	0.056		100.00

GL
7/17/01

280

TETRA TECH NUS, INC. CALCULATION WORKSHEET PAGE ____ OF ____

CLIENT NETC Newport	JOB NUMBER 81344
SUBJECT PCB Congeners	
BASED ON SW-846 8082	DRAWING NUMBER
BY [signature] / CHECKED BY	APPROVED BY [signature] / DATE 7-26-01

G1B54-B01001 10X 22'344'55'-HPCB 1.9 mg/kg

$$\frac{357700}{2002960} = \frac{0.179}{1\,\mu l} \times \frac{10{,}000\,\mu l}{10.4\,g \times .91} \times 10 = 1887\ \mu g/kg$$

$$= 1.89\ mg/kg$$