Final Report
Phase I RCRA Facility Investigation for Appendix I Sites

VOLUME III-F

SWMU-24/32, Industrial Wastewater Treatment Plant/
Sanitary Wastewater Treatment Plant

Department of the Air Force
Oklahoma City Air Logistics Center
Tinker Air Force Base, Oklahoma

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Industrial Waste Treatment Plant/
Sanitary Waste Treatment Plant

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Submitted to

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ACRONYMS AND ABBREVIATIONS

AFB	Air Force Base
AFLC	Air Force Logistics Command
AFMC	Air Force Materiel Command
AFSC	Air Force Systems Command
AMC	Air Materiel Command
AOC	Area of concern
API	American Petroleum Institute
AQUIS	Air Quality Utility Information System
ASTM	American Society for Testing and Materials
AWAC	Airborne Warning and Control
BF	Bioconcentration factor
bgs	Below ground surface
BNA	Base/neutral/acid - extractable
BTEX	Benzene, toluene, ethylbenzene, xylenes
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
cfm	Cubic feet per minute
CFR	Code of Federal Regulations
cm/sec	Centimeters per second
CME	Central Mine Equipment Company
CMS	Corrective measures study
COD	Chemical oxygen demand
COE	US Army Corps of Engineers or USACE
CWA	Clean Water Act
DCA	Dichloroethane
DCE	Dichloroethene

DCQAP	Data Collection Quality Assurance Plan
DNPH	Dinitrophenylhydrazine
DOD	US Department of Defense
DQO	Data quality objective
EM	Environmental Management
EPA	Environmental Protection Agency
ES	Engineering-Science, Inc.
ESC	East Soldier Creek
FAA	Federal Aviation Administration
FID	Flame ionization detector
GC	Gas chromatograph
gpd	Gallons per day
gpm	Gallons per minute
H_2S	Hydrogen sulfide
ICP	Inductively coupled plasma atomic emission spectroscopy
ID	Identification
IRP	Installation Restoration Program
IRPIMS	Installation Restoration Program information management systems
IWTP	Industrial wastewater treatment plant
K_H	Henry's Law constant
K_{oc}	Organic carbon partition coefficient
L/min	Liters per minute
LDR	Land disposal restrictions
LEL	Lower explosive limit
m^3	Cubic meter
MDL	Method detection limit
MEK	2-Butanone (methyl ethyl ketone)
mg/kg	Milligrams per kilogram
mg/L	Milligrams per liter
mgd	Million gallons per day
min	Minute
mL	Milliliter

mL/min	Milliliters per minute
mph	Miles per hour
MQA	Method quantitation limit
MS/MSD	Matrix spike/matrix spike duplicate
NAAQS	National Ambient Air Quality Standards
NAD	North American Datum
ng/m^3	Nanograms per cubic meter
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
OC-ALC	Oklahoma City Air Logistics Center
OCAMA	Oklahoma City Air Materiel Area
OSDH	Oklahoma State Department of Health
OSPC	Oklahoma State Planar Coordinates
OVA	Organic vapor analyzer
PAH	Polynuclear aromatic hydrocarbons
PCB	Polychlorinated biphenyl
PCE	Tetrachloroethene
PID	Photoionization detector
POTW	Publicly owned treatment works
ppb	Parts per billion
ppm	Parts per million
ppmv	Parts per million, volume per volume
PQL	Practical quantitation limit
PSI	Professional Service Industries, Inc.
PUF	Polyurethane foam filter
PVC	Polyvinyl chloride
QA	Quality assurance
QA/QC	Quality assurance/quality control
RAS	Return activated sludge
RCP	Recirculation pit
RCRA	Resource Conservation and Recovery Act

RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial investigation
RI/FS	Remedial investigation/feasibility study
SCC	Solids contact clarifier
SCFH	Standard cubic feet per hour
SGB	Bioenvironmental Engineering Office
SVOC	Semivolatile organic compound
SWD	Sidewall depth
SWMU	Solid waste management unit
SWMU 24.1	Lift Station No. 2
SWMU 24.10	Softener Basins
SWMU 24.11	Activated Sludge Unit
SWMU 24.12	Secondary Clarifiers
SWMU 24.19	Industrial Sludge Drying Beds
SWMU 24.2	Tanks D-1 and D-2
SWMU 24.3	Oil Separator
SWMU 24.4	Valve Vault
SWMU 24.5	Equalization Basins
SWMU 24.6	Main Flow Valve
SWMU 24.7	Mixing Basins 1, 2, 3
SWMU 24.8	Solids Contact Clarifier
SWMU 24.9	Wet Well Lift Station
SWMU 32.1	Parshall Flume
SWMU 32.2	Flocculation Chambers
SWMU 32.3	Primary Clarifiers
SWMU 32.4	Trickling Filters
SWMU 32.5	Final Clarifiers
SWMU 32.6	Former Chlorine Contact Chamber
SWMU 32.8	Drying Beds
SWTP	Sanitary wastewater treatment plant
TAC	Tactical Air Command

TCA	Trichloroethane
TCE	Trichloroethene
TCLP	Toxicity characterization leaching procedure
TPH	Total petroleum hydrocarbons
TSCA	Toxic Substances Control Act
TSP	Total suspended particles
USAF	United States Air Force
USGS	United States Geological Survey
VLF	Very low frequency
VOA	Volatile organic analysis
VOC	Volatile organic compound
WWTF	Wastewater treatment facility
µg/kg	Micrograms per kilogram
µg/L	Micrograms per liter
°C	Degrees Celsius
°F	Degrees Fahrenheit
(')	Feet below ground surface

Appendix M

Air Data QA/QC Report

QUALITY ASSURANCE SUMMARY

TINKER AIR FORCE BASE, AIR SAMPLES

INTRODUCTION

As part of the Air Force Installation Restoration Program (IRP), Engineering-Science (ES) conducted environmental sampling at Tinker Air Force Base (AFB) in Oklahoma County, Oklahoma. All work was performed in accordance with a work plan prepared by ES and approved by the USEPA. A data collection quality assurance plan (DCQAP) was also prepared and approved for use to ensure generation of legally defensible data.

A total of approximately 400 air samples were collected in support of the investigation. A summary of samples and analytical parameters is presented in Attachment 1. The samples were shipped to the laboratory for analysis in twenty-two sample delivery groups (SDGs) between September and November 1993. A summary of the total number of samples, analytical parameters required, and the sampling dates for the SDGs is presented in Table 1. The samples were analyzed for volatile organics (VOCs), semivolatile organics (SVOCs), phenol, formaldehyde, and hydrogen sulfide. All analyses were performed by Coast-to-Coast Analytical Services (CCAS) of Camarillo, California, using the USEPA-approved analytical methods specified in the DCQAP.

This quality assurance (QA) summary report presents a summary and assessment of the results reported for laboratory and field quality control (QC) samples generated during the investigation. The QC data have been evaluated using the quality assurance objectives described in Section 4 of the DCQAP for precision, accuracy, completeness, comparability, and representativeness. A brief description of the parameter used to evaluate each of these data quality indicators is presented below.

Accuracy is a measure of the difference between a measured value and the "true" or accepted reference value. The accuracy of laboratory and field QC data has been evaluated using the percent recovery of spiked samples, including surrogate and laboratory control spikes. The target analytes selected for spiking are specific to the analytical method.

Precision is an expression of the agreement between multiple measurements of the same parameter on the same sample under similar conditions. Precision has been evaluated using the relative percent difference (RPD) between the results from laboratory control spike duplicate samples. Matrix spike/matrix spike

Table 1
Summary of Sample Delivery Groups

SDG(1)	Total Number Of Samples	Parameter	Sampling Date
4412	14	Volatiles	09/23/93
4429	24	Volatiles	09/24/93
4895	5	Volatiles	10/15/93
4904	24	Volatiles	10/16/93
5194	5	Volatiles	11/01/93
5256	29	Volatiles	11/02/93
4415	21	Semivolatiles	09/23/93
4445	23	Semivolatiles	09/24/93
4896	5	Semivolatiles	10/15/93
4905	24	Semivolatiles	10/16/93
5257	5	Semivolatiles	11/01/93
5269	24	Semivolatiles	11/02/93
4414	19	Phenols	09/23/93
4425	25	Phenols	09/24/93
4897	5	Phenols	10/15/93
4906	24	Phenols	10/16/93
5258	5	Phenols	11/01/93
5271	29	Phenols	11/02/93
4413	44	Formaldehyde	09/22-24/93
4427	11	Formaldehyde	09/24-25/93
4428	14	Formaldehyde	09/24/93
5190	15	Hydrogen sulfide	11/01/93

1. **SDG= Sample Delivery Group**

tinair1.wq1

duplicates are not required for analysis of the air samples. The RPD is defined as the absolute difference between the two results divided by the average of the two results times 100.

Completeness is a measure of the amount of valid data obtained from the measurement system relative to the amount anticipated under ideal conditions. For purposes of evaluating completeness, valid data is defined as all data (qualified or unqualified) deemed to be usable following validation.

Comparability expresses the confidence with which one data set can be compared to another. Comparability has been evaluated by comparing adherence to the approved samples collection and analytical procedures.

Representativeness is a measure of the consistency of the procedures used to collect and analyze the samples. Items evaluated to determine representativeness include collection of samples from locations representative of site conditions; use of approved sampling equipment and procedures; use of approved analytical equipment and procedures; consistent detection limits; and analysis of samples within the designated holding time.

All data packages submitted by CCAS have been reviewed for completeness and transcription errors using the procedures described in the DCQAP. The data packages submitted were equivalent to EPA Level III data packages. Each data package included a summary of results for environmental and QC samples. The data packages also included the supporting raw data for some sample results. Approximately fifty percent of all supporting raw data submitted have been validated. All decisions made during the validation process have been based solely on the data submitted. The fundamentals of the USEPA functional guidelines for evaluating organic and inorganic data have been used to evaluate the usability of the laboratory data. This QA summary report discusses non-conformance to the QA objectives described in the DCQAP and any limitations on the usability of the data due to the non-conformances. Non-conforming data have been qualified using the data validation qualifiers (see Attachment 2) specified in Appendix B of the DCQAP. The outline for this report is presented in the following paragraph.

QC problems leading to qualifying of data are summarized in the summary section of this report. Deviations from the DCQAP or the analytical methods and the general usability of the data are also discussed in this section. Details concerning qualifying of data as well as the samples and target analytes affected are presented in the minor problems section of this report. QC problems not requiring qualifying of data are presented in the other issues section of this report. Laboratory data summary pages, including data validation qualifiers, are presented in Attachment 3. Only those data pages requiring data validation qualifiers are included in Attachment 3.

Summary

This section of the report discusses deviations from the DCQAP, laboratory problems, QC problems leading to qualifying of data, and the overall usability of the

data. There were no significant deviations from the DCQAP. The laboratory reported a few problems associated with the analysis of the air samples.

- The laboratory reported no data for sample A12 ES-11810 for semivolatile analysis. The laboratory reported that the sample was lost at the laboratory.
- The laboratory accidently spiked the semivolatile aliquot of sample A12 ES-11203. The laboratory did not report data for the matrix spike compounds in the sample. The results indicated in the supporting raw data have been added to the results pages and qualified as estimated.

Except as indicated in this report, all samples were collected, prepared, and analyzed using the procedures specified by the DCQAP and the analytical methods. The only QA/QC problem leading to qualifying of data was contamination in some field and laboratory blanks associated with the samples. Parameters affected are volatiles, semivolatiles, and phenol. Details concerning the blank contamination, the target analytes affected, and the samples affected are presented in the minor problems section of this report. Sample results associated with the contaminated blanks have been qualified as estimated and should be considered biased high.

Except for the QA/QC problems noted above, the data as submitted by the laboratory and qualified during data validation are usable for the purposes of this project. Including the deviations noted above, the overall completeness for the data generated is greater than 99 percent, which exceeds the QA objective of 90 percent. Except as indicated in this report, all QA objectives were met for the samples.

MINOR PROBLEMS

This section of the QA summary report discusses QA/QC problems leading to qualifying of data as estimated. The "J1" qualifier has been used to indicate results qualified as estimated due to blank contamination. The flag indicates that the analyte was positively identified but the associated value may be imprecise due to a QA/QC problem. Subscripts J1 and J4 have been added to indicate the nature of the QA/QC problem. A glossary of data validation qualifiers and the subscripts is presented as Attachment 2.

QA/QC problems leading to qualifying of data as estimated included laboratory and field blank contamination, and the spiking problem noted in the summary section. Details concerning these problems, the affected samples, and target analytes are presented below.

Volatiles

SDG 4412

- The laboratory blank associated with the samples contained acetone (0.13 μg). The result reported for acetone for sample S2-2-F ES-10157 has been qualified as estimated due to the blank contamination.

SDG 4429

- The instrument blanks associated with the volatile samples in this SDG contained methylene chloride (1.6 μg) and acetone (0.6 μg). Reported

results for these analytes in all samples in this SDG except for samples P9 ES-10296 and P7 ES-10297 have been qualified as estimated and should be considered biased high.

SDG 5194

- The field blank associated with this SDG contained several target analytes: toluene (1.5 μg), acetone (7.5 μg), and methylene chloride (1.5 μg). Reported detections of these analytes in the four samples associated with the field blank have been qualified as estimated and should be considered biased high.

SDG 5256

- One of the two field blanks associated with this SDG, Blank ES-11841, contained several target analytes: toluene (1.1 μg), 1,1,2-trichloroethane (3.2 μg), acetone (4.6 μg), and methylene chloride (2.3 μg). Reported detections of the affected target analytes in all samples in this SDG have been qualified as estimated and should be considered biased high.

Semivolatiles

SDG 4445

- Bis(2-ethylhexyl)phthalate (BEHP), a common laboratory contaminant, was detected in the method blanks associated with this SDG. The laboratory reported that the glass wool used during extraction of the samples could be the source of the contamination. All reported detections of BEHP in the samples in this SDG have been qualified as estimated and should be considered biased high.

SDG 4905

- Sample A12 ES-11203 was accidently spiked with the matrix spike compounds prior to extraction. The results (found in the supporting raw data) have been qualified as estimated and should be considered biased high.
- The field blank associated with this SDG contained BEHP (6 μg) and di-n-butyl phthalate (47 μg). All reported detections of these compounds in the samples in this SDG have been qualified as estimated and should be considered biased high.

SDG 5269

- The field blank, Blank ES-11798, associated with this SDG contained BEHP (6 μg), di-n-butyl phthalate (69 μg), diethylphthalate (7 μg), and N-nitroso-diphenylamine (5 μg). Reported detections of these analytes in the samples in this SDG have been qualified as estimated and should be considered biased high.

Phenol

SDG 5271

- The two field blanks associated with this SDG contained phenol. Reported detections of phenol in the samples in this SDG have been qualified as estimated and should be considered biased high.

OTHER ISSUES

This section of the report summarizes those QA/QC issues not leading to qualifying of sample results. These problems, while still violations of QA objectives, did not merit qualifying of associated sample results for the reasons detailed below.

- Target analytes detected in laboratory or field blanks but not detected in the associated samples have not led to qualifying of data.
- Sample results significantly higher (greater than ten times) than the level of blank contamination have not been qualified due to contamination in the associated blank.
- QA/QC outliers (e.g., surrogate, accuracy, or precision outliers) exceeding the QA objectives did not result in qualifying of target analytes that were not detected in the associate samples. These outliers result in a high bias which has no effect on non-detects.
- The laboratory did not report results between the analyte specific method detection limit and the reporting limit.

ATTACHMENT 1

SUMMARY OF SAMPLES AND ANALYTICAL PARAMETERS

Table A1-1
Summary of Air Samples and Analytical Parameters

Sample ID	SDG	Parameter
S2-2-P ES-10156	4412	Volatiles
S2-2-F ES-10157	4412	Volatiles
S3-P ES10158	4412	Volatiles
S2-1-P ES-10159	4412	Volatiles
S2-1-F ES-10160	4412	Volatiles
S3-F ES-10161	4412	Volatiles
S5-1-P ES-10162	4412	Volatiles
S5-1-F ES-10163	4412	Volatiles
S5-2 ES-10164	4412	Volatiles
S22 ES-10165	4412	Volatiles
S23 ES-10166	4412	Volatiles
S8 ES-10167	4412	Volatiles
S-21 ES-10168	4412	Volatiles
S-11 ES-10169	4412	Volatiles
A10 ES-10254	4429	Volatiles
A13 ES-10262	4429	Volatiles
A8 ES-10263	4429	Volatiles
A11 ES-10264	4429	Volatiles
A1 ES10265	4429	Volatiles
A2 ES-10266	4429	Volatiles
A3 ES-10267	4429	Volatiles
A6 ES-10268	4429	Volatiles
A5 ES-10269	4429	Volatiles
A4 ES-10270	4429	Volatiles
A9 ES-10271	4429	Volatiles
A12 ES-10272	4429	Volatiles
A7 ES-10273	4429	Volatiles
S16 ES-10274	4429	Volatiles
S17 ES-10275	4429	Volatiles
S13 ES-10276	4429	Volatiles
S15 ES-10277	4429	Volatiles
P6 ES-10278	4429	Volatiles
P10 ES-10279	4429	Volatiles
P3 ES-10280	4429	Volatiles

Table A1-1
Summary of Air Samples and Analytical Parameters

Sample ID	SDG	Parameter
P7 ES-10294	4429	Volatiles
P5 ES-10295	4429	Volatiles
P9 ES-10296	4429	Volatiles
P7 ES-10297	4429	Volatiles
S2-2 ES-11159	4895	Volatiles
S5-2 ES-11161	4895	Volatiles
S3 ES-11160	4895	Volatiles
S9 ES-11162	4895	Volatiles
BLANK ES-11163	4895	Volatiles
A1 ES-11169	4904	Volatiles
A2 ES-11170	4904	Volatiles
A3 ES-11171	4904	Volatiles
A4 ES-11172	4904	Volatiles
A5 ES-11173	4904	Volatiles
A6 ES-11174	4904	Volatiles
A7 ES-11175	4904	Volatiles
A8 ES-11176	4904	Volatiles
A9 ES-11177	4904	Volatiles
A10 ES-11178	4904	Volatiles
A11 ES-11179	4904	Volatiles
A12 ES-11180	4904	Volatiles
A1 ES-11168 BLANK	4904	Volatiles
A13 ES-11181	4904	Volatiles
P1 ES-11182	4904	Volatiles
P2 ES-11183	4904	Volatiles
P3 ES-11184	4904	Volatiles
P4 ES-11185	4904	Volatiles
P5 ES-11186	4904	Volatiles
P6 ES-11187	4904	Volatiles
P7 ES-11188	4904	Volatiles
P8 ES-11189	4904	Volatiles
P9 ES-11190	4904	Volatiles
P10 ES-11191	4904	Volatiles
S2-2 ES-11719	5194	Volatiles

Table A1-1
Summary of Air Samples and Analytical Parameters

Sample ID	SDG	Parameter
S3 ES-11720	5194	Volatiles
S5-2 ES-11721	5194	Volatiles
S9 ES-11722	5194	Volatiles
S5-2 BLANK ES-11723	5194	Volatiles
BLANK ES-11773	5256	Volatiles
A1 ES-11774	5256	Volatiles
A2 ES-11775	5256	Volatiles
A3 ES-11776	5256	Volatiles
A4 ES-11777	5256	Volatiles
A5 ES-11778	5256	Volatiles
A6 ES-11779	5256	Volatiles
A7 ES-11780	5256	Volatiles
A8 ES-11781	5256	Volatiles
A9 ES-11782	5256	Volatiles
A10 ES-11783	5256	Volatiles
A11 ES-11784	5256	Volatiles
A12 ES-11785	5256	Volatiles
A13 ES-11786	5256	Volatiles
P1 ES-11787	5256	Volatiles
P2 ES-11788	5256	Volatiles
P3 ES-11789	5256	Volatiles
P4 ES-11790	5256	Volatiles
P5 ES-11791	5256	Volatiles
P6 ES-11792	5256	Volatiles
P7 ES-11793	5256	Volatiles
P8 ES-11794	5256	Volatiles
P9 ES-11795	5256	Volatiles
P10 ES-11796	5256	Volatiles
S2-1 ES-11837	5256	Volatiles
S5-2 ES-11838	5256	Volatiles
S3 ES-11839	5256	Volatiles
S9 ES-11840	5256	Volatiles
BLANK ES-11841	5256	Volatiles

Table A1-1
Summary of Air Samples and Analytical Parameters

Sample ID	SDG	Parameter
S8-X-P ES-10145	4415	Semivolatiles
S9-X-F ES-10146	4415	Semivolatiles
S9-X-P ES-10147	4415	Semivolatiles
S12-X-F ES-10148	4415	Semivolatiles
S12-X-P ES-10149	4415	Semivolatiles
S11-X-P ES-10150	4415	Semivolatiles
S19-X-P ES-10151	4415	Semivolatiles
S20-X-P ES-10152	4415	Semivolatiles
S21-X-P ES-10153	4415	Semivolatiles
S22-X-P ES-10154	4415	Semivolatiles
S23-X-P ES-10155	4415	Semivolatiles
S3-X-F ES-10190	4415	Semivolatiles
S5-2-X-F ES-10191	4415	Semivolatiles
S2-1-X-P ES-10192	4415	Semivolatiles
S2-2-X-F ES-10193	4415	Semivolatiles
S2-1-X-F ES-10194	4415	Semivolatiles
S5-2-X-P ES-10195	4415	Semivolatiles
S5-1-X-P ES-10196	4415	Semivolatiles
S5-1-X-F ES-10197	4415	Semivolatiles
S2-2-X-P ES-10198	4415	Semivolatiles
S3-X-P ES-10199	4415	Semivolatiles
A4-P ES-10230	4445	Semivolatiles
A1-P ES-10231	4445	Semivolatiles
A5-P ES-10232	4445	Semivolatiles
A2-P ES-10233	4445	Semivolatiles
A11-P ES-10234	4445	Semivolatiles
A3-P ES-10235	4445	Semivolatiles
A6-P ES-10236	4445	Semivolatiles
A7-P ES-10237	4445	Semivolatiles
A8-P ES-10238	4445	Semivolatiles
A9-P ES-10239	4445	Semivolatiles
A10-P ES-10240	4445	Semivolatiles
A13-P ES-10242	4445	Semivolatiles
A12-P ES-10241	4445	Semivolatiles

Table A1-1
Summary of Air Samples and Analytical Parameters

Sample ID	SDG	Parameter
P1-P ES-10286	4445	Semivolatiles
P2-P ES-10298	4445	Semivolatiles
P3-P ES-10299	4445	Semivolatiles
P4-P ES-10300	4445	Semivolatiles
P5-P ES-10301	4445	Semivolatiles
P7-P ES-10324	4445	Semivolatiles
P8-P ES-10325	4445	Semivolatiles
P9-P ES-10326	4445	Semivolatiles
P6-P ES-10323	4445	Semivolatiles
P10-P ES-10327	4445	Semivolatiles
S2-2 ES-11155	4896	Semivolatiles
S5-2 ES-11157	4896	Semivolatiles
S3 ES-11156	4896	Semivolatiles
S9 ES-11158	4896	Semivolatiles
BLANK ES-11164	4896	Semivolatiles
A12 ES-11203	4905	Semivolatiles
A13 ES-11204	4905	Semivolatiles
P1 ES-11205	4905	Semivolatiles
P2 ES-11206	4905	Semivolatiles
P3 ES-11207	4905	Semivolatiles
P4 ES-11208	4905	Semivolatiles
P5 ES-11209	4905	Semivolatiles
P6 ES-11210	4905	Semivolatiles
P7 ES-11211	4905	Semivolatiles
P8 ES-11212	4905	Semivolatiles
P9 ES-11213	4905	Semivolatiles
P10 ES-11214	4905	Semivolatiles
BLANK ES-11166	4905	Semivolatiles
A1 ES-11192	4905	Semivolatiles
A2 ES-11193	4905	Semivolatiles
A3 ES-11194	4905	Semivolatiles
A4 ES-11195	4905	Semivolatiles
A5 ES-11196	4905	Semivolatiles
A6 ES-11197	4905	Semivolatiles

Table A1-1
Summary of Air Samples and Analytical Parameters

Sample ID	SDG	Parameter
A7 ES-11198	4905	Semivolatiles
A8 ES-11199	4905	Semivolatiles
A9 ES-11200	4905	Semivolatiles
A10 ES-11201	4905	Semivolatiles
A11 ES-11202	4905	Semivolatiles
S2-2 ES-11724	5257	Semivolatiles
S3 ES-11725	5257	Semivolatiles
S5-2 ES-11726	5257	Semivolatiles
S-9 ES-11727	5257	Semivolatiles
BLANK ES-11728	5257	Semivolatiles
BLANK ES-11798	5269	Semivolatiles
A1 ES-11799	5269	Semivolatiles
A2 ES-11800	5269	Semivolatiles
A3 ES-11801	5269	Semivolatiles
A4 ES-11802	5269	Semivolatiles
A5 ES-11803	5269	Semivolatiles
A6 ES-11804	5269	Semivolatiles
A7 ES-11805	5269	Semivolatiles
A8 ES-11806	5269	Semivolatiles
A9 ES-11807	5269	Semivolatiles
A10 ES-11808	5269	Semivolatiles
A11 ES-11809	5269	Semivolatiles
A12 ES-11810	5269	Semivolatiles
A13 ES-11811	5269	Semivolatiles
P1 ES-11812	5269	Semivolatiles
P2 ES-11813	5269	Semivolatiles
P3 ES-11814	5269	Semivolatiles
P4 ES-11815	5269	Semivolatiles
P5 ES-11816	5269	Semivolatiles
P6 ES-11817	5269	Semivolatiles
P7 ES-11818	5269	Semivolatiles
P8 ES-11819	5269	Semivolatiles
P9 ES-11820	5269	Semivolatiles
P10 ES-11821	5269	Semivolatiles

Table A1-1
Summary of Air Samples and Analytical Parameters

Sample ID	SDG	Parameter
P4-L ES-10125	4414	Phenol
P5-L ES-10126	4414	Phenol
P8-L ES-10127	4414	Phenol
P10-L ES-10128	4414	Phenol
S8-L ES-10129	4414	Phenol
S11-L ES-10130	4414	Phenol
S21-L ES-10131	4414	Phenol
S22-L ES-10132	4414	Phenol
S23-L ES-10133	4414	Phenol
S3-L-P ES-10170	4414	Phenol
S2-2-L-P ES-10171	4414	Phenol
S2-2-L-F ES-10172	4414	Phenol
S5-1-L-F ES-10173	4414	Phenol
S5-1-L-P ES-10174	4414	Phenol
S5-2-L-F ES-10175	4414	Phenol
S3-L-F ES-10176	4414	Phenol
S2-1-L-P ES-10177	4414	Phenol
S2-1-L-F ES-10178	4414	Phenol
S5-2-L-P ES-10179	4414	Phenol
A1-L ES-10243	4425	Phenol
A2-L ES-10244	4425	Phenol
A3-L ES-10245	4425	Phenol
A4-L ES-10246	4425	Phenol
A5-L ES-10247	4425	Phenol
A6-L ES-10248	4425	Phenol
A10-L ES-10249	4425	Phenol
A11-L ES-10250	4425	Phenol
A7-L ES-10259	4425	Phenol
A8-L ES-10260	4425	Phenol
A9-L ES-10261	4425	Phenol
A13-L ES-10282	4425	Phenol
A12-L ES-10281	4425	Phenol
P1-L ES-10283	4425	Phenol

Table A1-1
Summary of Air Samples and Analytical Parameters

Sample ID	SDG	Parameter
S13-L-P ES-10284	4425	Phenol
S16-L-P ES-10285	4425	Phenol
P10-L ES-10314	4425	Phenol
P2-L ES-10315	4425	Phenol
P3-L ES-10316	4425	Phenol
P4-L ES-10317	4425	Phenol
P5-L ES-10318	4425	Phenol
P6-L ES-10319	4425	Phenol
P7-L ES-10320	4425	Phenol
P8-L ES-10321	4425	Phenol
P9 ES-10322	4425	Phenol
S2-2 ES-11511	4897	Phenol
S5-2 ES-11153	4897	Phenol
S3 ES-11152	4897	Phenol
S9 ES-11154	4897	Phenol
REAGENT BLANK ES-11165	4897	Phenol
A1 ES-11215	4906	Phenol
A2 ES-11216	4906	Phenol
A3 ES-11217	4906	Phenol
A4 ES-11218	4906	Phenol
A5 ES-11219	4906	Phenol
A6 ES-11220	4906	Phenol
A7 ES-11221	4906	Phenol
A8 ES-11222	4906	Phenol
A9 ES-11223	4906	Phenol
A10 ES-11224	4906	Phenol
A11 ES-11225	4906	Phenol
BLANK ES-11167	4906	Phenol
A12 ES-11226	4906	Phenol
A13 ES-11227	4906	Phenol
P-1 ES-11228	4906	Phenol
P2 ES-11229	4906	Phenol
P-3 ES-11230	4906	Phenol
P-4 ES-11231	4906	Phenol

Table A1-1
Summary of Air Samples and Analytical Parameters

Sample ID	SDG	Parameter
P-5 ES-11232	4906	Phenol
P-6 ES-11233	4906	Phenol
P-7 ES-11234	4906	Phenol
P-8 ES-11235	4906	Phenol
P-9 ES-11236	4906	Phenol
P-10 ES-11237	4906	Phenol
S2-2 ES-11729	5258	Phenol
S3 ES-11730	5258	Phenol
S5-2 ES-11731	5258	Phenol
S9 ES-11732	5258	Phenol
BLANK ES-11733	5258	Phenol
A1 ES-11749	5271	Phenol
A2 ES-11750	5271	Phenol
A3 ES-11751	5271	Phenol
BLANK ES-11752	5271	Phenol
A4 ES-11753	5271	Phenol
A5 ES-11754	5271	Phenol
A6 ES-11755	5271	Phenol
A7 ES-11756	5271	Phenol
A8 ES-11757	5271	Phenol
A9 ES-11758	5271	Phenol
A10 ES-11759	5271	Phenol
A11 ES-11760	5271	Phenol
A12 ES-11761	5271	Phenol
A13 ES-11762	5271	Phenol
P1 ES-11763	5271	Phenol
P2 ES-11764	5271	Phenol
P3 ES-11765	5271	Phenol
P4 ES-11766	5271	Phenol
P5 ES-11767	5271	Phenol
P6 ES-11768	5271	Phenol
P7 ES-11769	5271	Phenol
P8 ES-11770	5271	Phenol

Table A1-1
Summary of Air Samples and Analytical Parameters

Sample ID	SDG	Parameter
P9 ES-11771	5271	Phenol
P10 ES-11772	5271	Phenol
S2-1 ES-11847	5271	Phenol
S5-2 ES-11848	5271	Phenol
S3 ES-11849	5271	Phenol
S9 ES-11850	5271	Phenol
BLANK ES-11851	5271	Phenol
A1-F ES-10102	4413	Formaldehyde
A2-F ES-10103	4413	Formaldehyde
A3-F ES-10104	4413	Formaldehyde
A4-F ES-10105	4413	Formaldehyde
A5-F ES-10106	4413	Formaldehyde
A6-F ES-10107	4413	Formaldehyde
A7-F ES-10108	4413	Formaldehyde
A8-F ES-10109	4413	Formaldehyde
A9-F ES-10110	4413	Formaldehyde
A10-F ES-10111	4413	Formaldehyde
A11-F ES-10112	4413	Formaldehyde
A12-F ES-10113	4413	Formaldehyde
A13-F ES-10114	4413	Formaldehyde
P1-F ES-10115	4413	Formaldehyde
P2-F ES-10116	4413	Formaldehyde
P3-F ES-10117	4413	Formaldehyde
P4-F ES-10118	4413	Formaldehyde
P5-F ES-10119	4413	Formaldehyde
P6-F ES-10120	4413	Formaldehyde
P7-F ES-10121	4413	Formaldehyde
P8-F ES-10122	4413	Formaldehyde
P9-F ES-10123	4413	Formaldehyde
P10-F ES-10124	4413	Formaldehyde
S8-F-P ES-10134	4413	Formaldehyde
S9-F-P ES-10135	4413	Formaldehyde
S9-F-F ES-10136	4413	Formaldehyde

Table A1-1
Summary of Air Samples and Analytical Parameters

Sample ID	SDG	Parameter
S12-F-P ES-10138	4413	Formaldehyde
S12-F-F ES-10144	4413	Formaldehyde
S11-F-P ES-10137	4413	Formaldehyde
S19-F-P ES-10139	4413	Formaldehyde
S20-F-P ES-10140	4413	Formaldehyde
S21-F-P ES-10141	4413	Formaldehyde
S22-F-P ES-10142	4413	Formaldehyde
S23-F-P ES-10143	4413	Formaldehyde
S3-F-F ES-10183	4413	Formaldehyde
S5-1-F ES-10180	4413	Formaldehyde
S5-1-P ES-10181	4413	Formaldehyde
S3-P ES-10182	4413	Formaldehyde
S2-2-P ES-10184	4413	Formaldehyde
S2-2-F ES-10185	4413	Formaldehyde
S2-1-F ES-10188	4413	Formaldehyde
S2-1-P ES-10186	4413	Formaldehyde
S5-2-F ES-10187	4413	Formaldehyde
S5-2-P ES-10189	4413	Formaldehyde
S16-F ES-10302	4427	Formaldehyde
S13-1 ES-10303	4427	Formaldehyde
P2-F ES-10304	4427	Formaldehyde
P3-F ES-10305	4427	Formaldehyde
P4-F ES-10306	4427	Formaldehyde
P5-F ES-10307	4427	Formaldehyde
P6-F ES-10308	4427	Formaldehyde
P7-F ES-10309	4427	Formaldehyde
P8-F ES-10310	4427	Formaldehyde
P9-F ES-10311	4427	Formaldehyde
P10-F ES-10312	4427	Formaldehyde
A1-F ES-10251	4428	Formaldehyde
A2-F ES-10252	4428	Formaldehyde
A3-F ES-10253	4428	Formaldehyde

Table A1-1
Summary of Air Samples and Analytical Parameters

Sample ID	SDG	Parameter
A4-F ES-10255	4428	Formaldehyde
A5-F ES-10256	4428	Formaldehyde
A6-F ES-10257	4428	Formaldehyde
A11-F ES-10258	4428	Formaldehyde
A7-F ES-10287	4428	Formaldehyde
A8-F ES-10288	4428	Formaldehyde
A9-F ES-10289	4428	Formaldehyde
A10-F ES-10290	4428	Formaldehyde
A12-F ES-10291	4428	Formaldehyde
A13-F ES-10292	4428	Formaldehyde
P1-F ES-10293	4428	Formaldehyde
BLANK ES-11734	5190	Hydrogen sulfide
A1-A ES-11735	5190	Hydrogen sulfide
A2-A ES-11736	5190	Hydrogen sulfide
A3-A ES-11737	5190	Hydrogen sulfide
A7-A ES-11738	5190	Hydrogen sulfide
A11-A ES-11739	5190	Hydrogen sulfide
A12-A ES-11740	5190	Hydrogen sulfide
A13-A ES-11741	5190	Hydrogen sulfide
A1-B ES-11742	5190	Hydrogen sulfide
A2-B ES-11743	5190	Hydrogen sulfide
A3-B ES-11744	5190	Hydrogen sulfide
A7-B ES-11745	5190	Hydrogen sulfide
A11-B ES-11746	5190	Hydrogen sulfide
A12-B ES-11747	5190	Hydrogen sulfide
A13-B ES-11748	5190	Hydrogen sulfide

ATTACHMENT 2

GLOSSARY OF DATA VALIDATION QUALIFIERS

GLOSSARY OF DATA VALIDATION QUALIFIERS

U The analyte was analyzed for and is not present at or above the analyte specific reporting limit. The associated numerical value is the reporting limit.

J1 The analyte was detected in the laboratory or field blank associated with the samples. Indicates possible high bias and or false positive.

J4 Other QA/QC criteria violated (e.g., precision or accuracy outliers).

ATTACHMENT 3

DATA SUMMARY PAGES WITH DATA VALIDATION QUALIFIERS

COAST-TO-COAST ANALYTICAL SERVICES

Air, Water & Hazardous Waste Sampling, Analysis & Consultation
Certified Hazardous Waste, Chemistry, Bacteriology & Bioassay Laboratories

San Luis Obispo, CA • Benicia, CA • Camarillo, CA • San Jose, CA • Goleta, CA
Anaheim, CA • Tempe, AZ • Valparaiso, IN • Westbrook, ME • Indianapolis, IN

SoCal Division (Camarillo Laboratory)
4765 Calle Quetzal, Camarillo, California 93012

(805) 389-1353
FAX (805) 389-1438

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-4412-2
Project : Tinker AFB

Analyzed : 09/28/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S2-2-F ES-10157, CAN #601	Air	Jon Bolstad	09/24/93	09/25/93

CONSTITUENT	*PQL ppmv	RESULT ppmv	RESULT mg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	0.2	0.3	0.8 J1	
Benzene	0.02	0.03	0.1	
Bromodichloromethane	0.02	ND	ND	
Bromomethane (Methyl Bromide)	0.05	ND	ND	
Bromoform	0.02	ND	ND	
1,3-Butadiene	0.1	ND	ND	
2-Butanone (MEK)	0.05	0.4	1.2	
Carbon Disulfide	0.2	ND	ND	
Carbon Tetrachloride	0.02	ND	ND	
Chlorobenzene	0.02	ND	ND	
Chloroethane (Ethyl Chloride)	0.05	ND	ND	
2-Chloroethyl Vinyl Ether	0.2	ND	ND	
Chloroform	0.1	ND	ND	
Chloromethane (Methyl Chloride)	0.05	ND	ND	
Dibromochloromethane	0.02	ND	ND	
1,2-Dibromoethane (EDB)	0.05	ND	ND	
1,2-Dichlorobenzene	0.02	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -7.5 in. Hg and pressurized to 17.3 psig with He.

09/30/93
MS1/1S73J
GD/ge
MS1*A

DMB
2-5-94

COAST-TO-COAST ANALYTICAL SERVICES

Air, Water & Hazardous Waste Sampling, Analysis & Consultation
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Anaheim, CA • Tempe, AZ • Valparaiso, IN • Westbrook, ME • Indianapolis, IN

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-4429-1
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A10 ES-10254 Can #556	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	15.	36. J1	
Benzene	0.2	1.	3.3	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	3.	6.1	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -4.5 in. Hg and pressurized to 13.5 psig with He.

09/29/93
MS1/1S30J
GD/ge
MS1*A

DMB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-4429-1
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A10 ES-10254 Can #556	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	40.	140.	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	1.	4.4	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	0.3	1.9	
Toluene	0.2	21.	79.	
1,1,1-Trichloroethane (TCA)	0.2	6.4	35.	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

09/29/93
MS1/1S30J
GD/ge
MS1*A

DMB
3-5-94

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Lab Number : CJ-4429-2
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 09/27/93
Analyzed by: GD
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A13 ES-10262 Can #202	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	2.	27.	63. J1	
Benzene	0.2	0.5	1.6	
Bromodichloromethane	0.2	ND	ND	
Bromomethane (Methyl Bromide)	0.5	ND	ND	
Bromoform	0.2	ND	ND	
1,3-Butadiene	1.	ND	ND	
2-Butanone (MEK)	0.5	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.2	ND	ND	
Chloroethane (Ethyl Chloride)	0.5	ND	ND	
2-Chloroethyl Vinyl Ether	2.	ND	ND	
Chloroform	1.	ND	ND	
Chloromethane (Methyl Chloride)	0.5	ND	ND	
Dibromochloromethane	0.2	ND	ND	
1,2-Dibromoethane (EDB)	0.5	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -22.0 in. Hg and pressurized to 14.3 psig with He.

09/29/93
MS1/1S22J
GD/ge
MS1*A

DMB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-4429-2
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: GD
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A13 ES-10262 Can #202	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.2	ND	ND	
1,2-Dichloroethane (EDC)	0.5	ND	ND	
1,1-Dichloroethene	0.5	ND	ND	
cis-1,2-Dichloroethene	0.5	ND	ND	
trans-1,2-Dichloroethene	0.5	ND	ND	
Dichloromethane	2.	9.	30.	J1
1,2-Dichloropropane	0.2	ND	ND	
cis-1,3-Dichloropropene	0.2	ND	ND	
trans-1,3-Dichloropropene	0.2	ND	ND	
Ethylbenzene	0.5	ND	ND	
2-Hexanone	0.2	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.2	ND	ND	
Styrene	0.5	ND	ND	
1,1,2,2-Tetrachloroethane	0.2	ND	ND	
Tetrachloroethene (PCE)	0.2	1.3	8.7	
Toluene	0.5	1.3	4.8	
1,1,1-Trichloroethane (TCA)	0.5	ND	ND	
1,1,2-Trichloroethane	0.5	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

09/29/93
MS1/1S22J
GD/ge
MS1*A

DYB
2-5-94

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Lab Number : CJ-4429-3
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 09/27/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A8 ES-10263 Can #558	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	11.	25. J1	
Benzene	0.2	0.3	1.	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -15 in. Hg and pressurized to 14.5 psig with He.

09/29/93
MS1/1S31J
GD/ge
MS1*A

DJB
2-5-94

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Lab Number : CJ-4429-3
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A8 ES-10263 Can #558	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	9.	30.	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	3.9	16.	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	ND	ND	
Toluene	0.2	0.7	2.7	
1,1,1-Trichloroethane (TCA)	0.2	ND	ND	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

09/29/93
MS1/1S31J
GD/ge
MS1*A

DMB
2-5-94

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Lab Number : CJ-4429-4
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 09/27/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A11 ES-10264 Can #201	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	2.	11.	26. J1	
Benzene	0.2	0.5	1.5	
Bromodichloromethane	0.2	ND	ND	
Bromomethane (Methyl Bromide)	0.5	ND	ND	
Bromoform	0.2	ND	ND	
1,3-Butadiene	1.	ND	ND	
2-Butanone (MEK)	0.5	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.2	ND	ND	
Chloroethane (Ethyl Chloride)	0.5	ND	ND	
2-Chloroethyl Vinyl Ether	2.	ND	ND	
Chloroform	1.	ND	ND	
Chloromethane (Methyl Chloride)	0.5	ND	ND	
Dibromochloromethane	0.2	ND	ND	
1,2-Dibromoethane (EDB)	0.5	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -16 in. Hg and pressurized to 17.0 psig with He.

09/29/93
MS1/1S32J
GD/ge
MS1*A

DMB 2-5-94

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CLIENT: Jon Bolstad
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Lab Number : CJ-4429-4
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A11 ES-10264 Can #201	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.2	ND	ND	
1,2-Dichloroethane (EDC)	0.5	ND	ND	
1,1-Dichloroethene	0.5	ND	ND	
cis-1,2-Dichloroethene	0.5	ND	ND	
trans-1,2-Dichloroethene	0.5	ND	ND	
Dichloromethane	2.	29.	100.	J1
1,2-Dichloropropane	0.2	ND	ND	
cis-1,3-Dichloropropene	0.2	ND	ND	
trans-1,3-Dichloropropene	0.2	ND	ND	
Ethylbenzene	0.5	ND	ND	
2-Hexanone	0.2	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.2	ND	ND	
Styrene	0.5	ND	ND	
1,1,2,2-Tetrachloroethane	0.2	ND	ND	
Tetrachloroethene (PCE)	0.2	ND	ND	
Toluene	0.5	2.6	9.7	
1,1,1-Trichloroethane (TCA)	0.5	ND	ND	
1,1,2-Trichloroethane	0.5	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

09/29/93
MS1/1S32J
GD/ge
MS1*A

DMB
2-5-94

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Lab Number : CJ-4429-5
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 09/27/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A1 ES-10265 Can #423	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	7.2	17. J1	
Benzene	0.2	0.4	1.3	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -17.5 in. Hg and pressurized to 12.5 psig with He.

09/29/93
MS1/1S29J
GD/ge
MS1*A

DMB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-4429-5
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A1 ES-10265 Can #423	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	13.	44.	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	ND	ND	
Toluene	0.2	0.8	3.2	
1,1,1-Trichloroethane (TCA)	0.2	0.3	1.6	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

09/29/93
MS1/1S29J
GD/ge
MS1*A

DMB
2-5-94

COAST-TO-COAST ANALYTICAL SERVICES

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SoCal Division (Camarillo Laboratory) (805) 389-1353
4765 Calle Quetzal, Camarillo, California 93012 FAX (805) 389-1438

Lab Number : CJ-4429-6
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 09/27/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A2 ES-10266 Can #554	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	24.	58. J1	
Benzene	0.2	6.3	20.	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	2.	5.6	
Carbon Tetrachloride	0.2	0.2	1.3	
Chlorobenzene	0.1	5.6	26.	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	15.	31.	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -22.0 in. Hg and pressurized to 14.3 psig with He.

09/29/93
MS1/1S25J
GD/ge
MS1*A

DMB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-4429-6
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A2 ES-10266 Can #554	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	23.	81.	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	2.	8.5	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	2.1	8.4	
Styrene	0.2	4.9	21.	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	4.3	29.	
Toluene	0.2	120.	450.	
1,1,1-Trichloroethane (TCA)	0.2	160.	880.	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

09/29/93
MS1/1S25J
GD/ge
MS1*A

DMB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-4429-7
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A3 ES-10267 Can #216	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	20.	48. J1	
Benzene	0.2	0.5	1.6	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	4.1	12.	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -17.8 in. Hg and pressurized to 12 psig with He.

09/29/93
MS1/1S28J
GD/ge
MS1*A

DYB
2-5-94

COAST-TO-COAST ANALYTICAL SERVICES

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CLIENT: Jon Bolstad
Engineering Science, Inc.
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Fairfax, VA 22030

Lab Number : CJ-4429-7
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A3 ES-10267 Can #216	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	2.	7.4	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	ND	ND	
Toluene	0.2	1.	3.9	
1,1,1-Trichloroethane (TCA)	0.2	ND	ND	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

09/29/93
MS1/1S28J
GD/ge
MS1*A

DMB
3-5-94

COAST-TO-COAST ANALYTICAL SERVICES

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-4429-8
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A6 ES-10268 Can #214	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	2.	17.	40. J1	
Benzene	0.2	0.4	1.4	
Bromodichloromethane	0.2	ND	ND	
Bromomethane (Methyl Bromide)	0.5	ND	ND	
Bromoform	0.2	ND	ND	
1,3-Butadiene	1.	ND	ND	
2-Butanone (MEK)	0.5	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.2	ND	ND	
Chloroethane (Ethyl Chloride)	0.5	ND	ND	
2-Chloroethyl Vinyl Ether	2.	ND	ND	
Chloroform	1.	ND	ND	
Chloromethane (Methyl Chloride)	0.5	ND	ND	
Dibromochloromethane	0.2	ND	ND	
1,2-Dibromoethane (EDB)	0.5	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -18 in. Hg and pressurized to 13.5 psig with He.

09/29/93
MS1/1S27J
GD/ge
MS1*A

DYB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
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Fairfax, VA 22030

Lab Number : CJ-4429-8
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A6 ES-10268 Can #214	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.2	ND	ND	
1,2-Dichloroethane (EDC)	0.5	ND	ND	
1,1-Dichloroethene	0.5	ND	ND	
cis-1,2-Dichloroethene	0.5	ND	ND	
trans-1,2-Dichloroethene	0.5	ND	ND	
Dichloromethane	2.	5.	19.	J1
1,2-Dichloropropane	0.2	ND	ND	
cis-1,3-Dichloropropene	0.2	ND	ND	
trans-1,3-Dichloropropene	0.2	ND	ND	
Ethylbenzene	0.5	ND	ND	
2-Hexanone	0.2	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.2	ND	ND	
Styrene	0.5	ND	ND	
1,1,2,2-Tetrachloroethane	0.2	ND	ND	
Tetrachloroethene (PCE)	0.2	ND	ND	
Toluene	0.5	1.2	4.4	
1,1,1-Trichloroethane (TCA)	0.5	ND	ND	
1,1,2-Trichloroethane	0.5	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

09/29/93
MS1/1S27J
GD/ge
MS1*A

DMB
2-5-94

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Lab Number : CJ-4429-9
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 09/27/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A5 ES-10269 Can #433	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	9.3	22. J1	
Benzene	0.2	0.5	1.6	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -17.5 in. Hg and pressurized to 15.5 psig with He.

09/29/93
MS1/1S34J
GD/ge
MS1*A

DMB
2-5-94

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Engineering Science, Inc.
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Fairfax, VA 22030

Lab Number : CJ-4429-9
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A5 ES-10269 Can #433	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	2.	7.	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	ND	ND	
Toluene	0.2	0.8	3.1	
1,1,1-Trichloroethane (TCA)	0.2	ND	ND	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

09/29/93
MS1/1S34J
GD/ge
MS1*A

DMB
2-5-94

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Lab Number : CJ-4429-10
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 09/27/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A4 ES-10270 Can #436	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	7.	17. J1	
Benzene	0.2	0.9	2.8	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -15.5 in. Hg and pressurized to 13.5 psig with He.

09/29/93
MS1/1S36J
GD/ge
MS1*A

DMB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-4429-10
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A4 ES-10270 Can #436	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	2.	5.5	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	ND	ND	
Toluene	0.2	1.1	4.3	
1,1,1-Trichloroethane (TCA)	0.2	ND	ND	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

09/29/93
MS1/1S36J
GD/ge
MS1*A

DMB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-4429-11
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A9 ES-10271 Can #208	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	2.	13.	30. J1	
Benzene	0.2	0.8	2.4	
Bromodichloromethane	0.2	ND	ND	
Bromomethane (Methyl Bromide)	0.5	ND	ND	
Bromoform	0.2	ND	ND	
1,3-Butadiene	1.	ND	ND	
2-Butanone (MEK)	0.5	1.5	4.5	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.2	ND	ND	
Chloroethane (Ethyl Chloride)	0.5	ND	ND	
2-Chloroethyl Vinyl Ether	2.	ND	ND	
Chloroform	1.	ND	ND	
Chloromethane (Methyl Chloride)	0.5	ND	ND	
Dibromochloromethane	0.2	ND	ND	
1,2-Dibromoethane (EDB)	0.5	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -18 in. Hg and pressurized to 17.0 psig with He.

09/29/93
MS1/1S33J
GD/ge
MS1*A

DYB
2-5-94

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CLIENT: Jon Bolstad
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Lab Number : CJ-4429-11
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A9 ES-10271 Can #208	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.2	ND	ND	
1,2-Dichloroethane (EDC)	0.5	ND	ND	
1,1-Dichloroethene	0.5	ND	ND	
cis-1,2-Dichloroethene	0.5	ND	ND	
trans-1,2-Dichloroethene	0.5	ND	ND	
Dichloromethane	2.	8.	27.	J1
1,2-Dichloropropane	0.2	ND	ND	
cis-1,3-Dichloropropene	0.2	ND	ND	
trans-1,3-Dichloropropene	0.2	ND	ND	
Ethylbenzene	0.5	ND	ND	
2-Hexanone	0.2	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.2	ND	ND	
Styrene	0.5	ND	ND	
1,1,2,2-Tetrachloroethane	0.2	ND	ND	
Tetrachloroethene (PCE)	0.2	ND	ND	
Toluene	0.5	0.6	2.3	
1,1,1-Trichloroethane (TCA)	0.5	ND	ND	
1,1,2-Trichloroethane	0.5	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

09/29/93
MS1/1S33J
GD/ge
MS1*A

DMB
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SoCal Division (Camarillo Laboratory) (805) 389-1353
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Lab Number : CJ-4429-12
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 09/27/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A12 ES-10272 Can #217	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	2.	19.	46. J1	
Benzene	0.2	0.4	1.2	
Bromodichloromethane	0.2	ND	ND	
Bromomethane (Methyl Bromide)	0.5	ND	ND	
Bromoform	0.2	ND	ND	
1,3-Butadiene	1.	ND	ND	
2-Butanone (MEK)	0.5	3.7	11.	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.2	ND	ND	
Chloroethane (Ethyl Chloride)	0.5	ND	ND	
2-Chloroethyl Vinyl Ether	2.	ND	ND	
Chloroform	1.	ND	ND	
Chloromethane (Methyl Chloride)	0.5	ND	ND	
Dibromochloromethane	0.2	ND	ND	
1,2-Dibromoethane (EDB)	0.5	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -19.0 in. Hg and pressurized to 13.0 psig with He.

09/29/93
MS1/1S23J
GD/ge
MS1*A

DMB
2-5-94

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Lab Number : CJ-4429-12
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A12 ES-10272 Can #217	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.2	ND	ND	
1,2-Dichloroethane (EDC)	0.5	ND	ND	
1,1-Dichloroethene	0.5	ND	ND	
cis-1,2-Dichloroethene	0.5	ND	ND	
trans-1,2-Dichloroethene	0.5	ND	ND	
Dichloromethane	2.	6.	21.	J1
1,2-Dichloropropane	0.2	ND	ND	
cis-1,3-Dichloropropene	0.2	ND	ND	
trans-1,3-Dichloropropene	0.2	ND	ND	
Ethylbenzene	0.5	ND	ND	
2-Hexanone	0.2	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.2	ND	ND	
Styrene	0.5	ND	ND	
1,1,2,2-Tetrachloroethane	0.2	ND	ND	
Tetrachloroethene (PCE)	0.2	0.6	4.0	
Toluene	0.5	1.2	4.6	
1,1,1-Trichloroethane (TCA)	0.5	ND	ND	
1,1,2-Trichloroethane	0.5	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

09/29/93
MS1/1S23J
GD/ge
MS1*A

DMB
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Lab Number : CJ-4429-13
Project : Tinker AFB

CLIENT: Jon Bolstad
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10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 09/27/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A7 ES-10273 Can #227	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	14.	33. J1	
Benzene	0.2	ND	ND	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -13.8 in. Hg and pressurized to 14.5 psig with He.

09/29/93
MS1/1S37J
GD/ge
MS1*A

DMB
2-5-94

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Fairfax, VA 22030

Lab Number : CJ-4429-13
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A7 ES-10273 Can #227	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	7.	23.	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	ND	ND	
Toluene	0.2	0.6	2.2	
1,1,1-Trichloroethane (TCA)	0.2	ND	ND	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

09/29/93
MS1/1S37J
GD/ge
MS1*A

DYB
2-5-94

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Lab Number : CJ-4429-14
Project : Tinker AFB

CLIENT: Jon Bolstad
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10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 09/27/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S16 ES-10274 Can #539	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	2.	5.6 J1	
Benzene	0.2	0.3	0.8	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -2.0 in. Hg and pressurized to 13.5 psig with He.

09/29/93
MS1/1S48J
GD/ge
MS1*A

DMB
2-5-94

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Lab Number : CJ-4429-14
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S16 ES-10274 Can #539	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	35.	120.	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	ND	ND	
Toluene	0.2	0.7	2.5	
1,1,1-Trichloroethane (TCA)	0.2	0.6	3.2	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

09/29/93
MS1/1S48J
GD/ge
MS1*A

DMB
2-5-94

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Lab Number : CJ-4429-15
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 09/27/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S17 ES-10275 Can #618	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	55.	130. J1	
Benzene	0.2	ND	ND	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	9.2	27.	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -13 in. Hg and pressurized to 16.5 psig with He.

09/29/93
MS1/1S47J
GD/ge
MS1*A

MB
2-5-94

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Lab Number : CJ-4429-15
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S17 ES-10275 Can #618	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	95.	330.	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	5.9	40.	
Toluene	0.2	1.3	4.8	
1,1,1-Trichloroethane (TCA)	0.2	2.4	13.	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

09/29/93
MS1/1S47J
GD/ge
MS1*A

DMB
2-5-94

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Lab Number : CJ-4429-16
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 09/27/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S13 ES-10276 Can #616	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	84.	200. J1	
Benzene	0.2	ND	ND	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	9.8	29.	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -14.0 in. Hg and pressurized to 15.5 psig with He.

09/29/93
MS1/1S49J
GD/ge
MS1*A

DMB
2-5-94

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Lab Number : CJ-4429-16
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S13 ES-10276 Can #616	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	260.	890.	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	52.	350.	
Toluene	0.2	20.	76.	
1,1,1-Trichloroethane (TCA)	0.2	7.7	42.	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

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CLIENT: Jon Bolstad
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Lab Number : CJ-4429-17
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S15 ES-10277 Can #615	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	13.	30. J1	
Benzene	0.2	2.	6.5	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	1.2	3.4	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -11.0 in. Hg and pressurized to 15.5 psig with He.

09/29/93
MS1/1S44J
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CLIENT: Jon Bolstad
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Lab Number : CJ-4429-18
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P6 ES-10278 Can #223	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				
Acetone	5.	72.	170. JL	1,2
Benzene	0.5	ND	ND	
Bromodichloromethane	0.5	ND	ND	
Bromomethane (Methyl Bromide)	1.	ND	ND	
Bromoform	0.2	ND	ND	
1,3-Butadiene	1.	ND	ND	
2-Butanone (MEK)	1.	7.	21.	
Carbon Disulfide	5.	ND	ND	
Carbon Tetrachloride	0.5	ND	ND	
Chlorobenzene	0.5	ND	ND	
Chloroethane (Ethyl Chloride)	1.	ND	ND	
2-Chloroethyl Vinyl Ether	5.	ND	ND	
Chloroform	2.	ND	ND	
Chloromethane (Methyl Chloride)	1.	ND	ND	
Dibromochloromethane	0.5	ND	ND	
1,2-Dibromoethane (EDB)	1.	ND	ND	
1,2-Dichlorobenzene	0.5	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -24.5 in. Hg and pressurized to 14.5 psig with He.

09/29/93
MS1/1S42J
GD/ge
MS1*A

DMB
2-5-94

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Lab Number : CJ-4429-18
Project : Tinker AFB

CLIENT: Jon Bolstad
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Fairfax, VA 22030

Analyzed : 09/27/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P6 ES-10278 Can #223	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.5	ND	ND	
1,4-Dichlorobenzene	0.5	ND	ND	
1,1-Dichloroethane	0.5	ND	ND	
1,2-Dichloroethane (EDC)	0.5	ND	ND	
1,1-Dichloroethene	1.	ND	ND	
cis-1,2-Dichloroethene	1.	ND	ND	
trans-1,2-Dichloroethene	1.	ND	ND	
Dichloromethane	5.	17.	60.	J1
1,2-Dichloropropane	0.5	ND	ND	
cis-1,3-Dichloropropene	0.5	ND	ND	
trans-1,3-Dichloropropene	0.5	ND	ND	
Ethylbenzene	0.5	ND	ND	
2-Hexanone	0.5	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.5	ND	ND	
Styrene	0.5	ND	ND	
1,1,2,2-Tetrachloroethane	0.5	ND	ND	
Tetrachloroethene (PCE)	0.5	ND	ND	
Toluene	1.	0.9	3.3	
1,1,1-Trichloroethane (TCA)	0.5	ND	ND	
1,1,2-Trichloroethane	0.5	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

09/29/93
MS1/1S42J
GD/ge
MS1*A

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CLIENT: Jon Bolstad
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Lab Number : CJ-4429-19
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P10 ES-10279 Can #215	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				
Acetone	2.	19.	45. J1	1,2
Benzene	0.2	0.8	2.6	
Bromodichloromethane	0.2	ND	ND	
Bromomethane (Methyl Bromide)	0.5	ND	ND	
Bromoform	0.2	ND	ND	
1,3-Butadiene	1.	ND	ND	
2-Butanone (MEK)	0.5	6.1	18.	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.2	ND	ND	
Chloroethane (Ethyl Chloride)	0.5	ND	ND	
2-Chloroethyl Vinyl Ether	2.	ND	ND	
Chloroform	1.	ND	ND	
Chloromethane (Methyl Chloride)	0.5	ND	ND	
Dibromochloromethane	0.2	ND	ND	
1,2-Dibromoethane (EDB)	0.5	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -18.5 in. Hg and pressurized to 16.5 psig with He.

09/29/93
MS1/1S43J
GD/ge
MS1*A

DMB
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Lab Number : CJ-4429-19
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 09/27/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P10 ES-10279 Can #215	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.2	ND	ND	
1,2-Dichloroethane (EDC)	0.5	ND	ND	
1,1-Dichloroethene	0.5	ND	ND	
cis-1,2-Dichloroethene	0.5	ND	ND	
trans-1,2-Dichloroethene	0.5	ND	ND	
Dichloromethane	2.	250.	880.	J1
1,2-Dichloropropane	0.2	ND	ND	
cis-1,3-Dichloropropene	0.2	ND	ND	
trans-1,3-Dichloropropene	0.2	ND	ND	
Ethylbenzene	0.5	ND	ND	
2-Hexanone	0.2	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.2	ND	ND	
Styrene	0.5	ND	ND	
1,1,2,2-Tetrachloroethane	0.2	ND	ND	
Tetrachloroethene (PCE)	0.2	5.5	37.	
Toluene	0.5	5.6	21.	
1,1,1-Trichloroethane (TCA)	0.5	5.3	29.	
1,1,2-Trichloroethane	0.5	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

09/29/93
MS1/1S43J
GD/ge
MS1*A

DMB
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CLIENT: Jon Bolstad
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Fairfax, VA 22030

Lab Number : CJ-4429-20
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P3 ES-10280 Can #205	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	2.	15.	36. J1	
Benzene	0.2	ND	ND	
Bromodichloromethane	0.2	ND	ND	
Bromomethane (Methyl Bromide)	0.5	ND	ND	
Bromoform	0.2	ND	ND	
1,3-Butadiene	1.	ND	ND	
2-Butanone (MEK)	0.5	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.2	ND	ND	
Chloroethane (Ethyl Chloride)	0.5	ND	ND	
2-Chloroethyl Vinyl Ether	2.	ND	ND	
Chloroform	1.	ND	ND	
Chloromethane (Methyl Chloride)	0.5	ND	ND	
Dibromochloromethane	0.2	ND	ND	
1,2-Dibromoethane (EDB)	0.5	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -15.5 in. Hg and pressurized to 16.5 psig with He.

09/29/93
MS1/1S38J
GD/ge
MS1*A

DMB
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CLIENT: Jon Bolstad
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Fairfax, VA 22030

Lab Number : CJ-4429-20
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P3 ES-10280 Can #205	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.2	ND	ND	
1,2-Dichloroethane (EDC)	0.5	ND	ND	
1,1-Dichloroethene	0.5	ND	ND	
cis-1,2-Dichloroethene	0.5	ND	ND	
trans-1,2-Dichloroethene	0.5	ND	ND	
Dichloromethane	2.	5.	16.	J1
1,2-Dichloropropane	0.2	ND	ND	
cis-1,3-Dichloropropene	0.2	ND	ND	
trans-1,3-Dichloropropene	0.2	ND	ND	
Ethylbenzene	0.5	ND	ND	
2-Hexanone	0.2	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.2	ND	ND	
Styrene	0.5	ND	ND	
1,1,2,2-Tetrachloroethane	0.2	ND	ND	
Tetrachloroethene (PCE)	0.2	ND	ND	
Toluene	0.5	0.6	2.1	
1,1,1-Trichloroethane (TCA)	0.5	ND	ND	
1,1,2-Trichloroethane	0.5	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

09/29/93
MS1/1S38J
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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-4429-21
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P7 ES-10294 Can #551	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				
Acetone	1.	8.	20. J1	1,2
Benzene	0.2	0.7	2.3	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -2.00 in. Hg and pressurized to 15.5 psig with He.

09/29/93
MS1/1S41J
GD/ge
MS1*A

DMB
2-5-94

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CLIENT: Jon Bolstad
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10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-4429-21
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P7 ES-10294 Can #551	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	19.	67.	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	0.3	1.9	
Toluene	0.2	3.7	14.	
1,1,1-Trichloroethane (TCA)	0.2	1.1	6.0	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

09/29/93
MS1/1S41J
GD/ge
MS1*A

DMB
2-5-94

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CLIENT: Jon Bolstad
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Fairfax, VA 22030

Lab Number : CJ-4429-22
Project : Tinker AFB

Analyzed : 09/27/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P5 ES-10295 Can #295	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				
Acetone	2.	10.	24. J1	1,2
Benzene	0.2	ND	ND	
Bromodichloromethane	0.2	ND	ND	
Bromomethane (Methyl Bromide)	0.5	ND	ND	
Bromoform	0.2	ND	ND	
1,3-Butadiene	1.	ND	ND	
2-Butanone (MEK)	0.5	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.2	ND	ND	
Chloroethane (Ethyl Chloride)	0.5	ND	ND	
2-Chloroethyl Vinyl Ether	2.	ND	ND	
Chloroform	1.	ND	ND	
Chloromethane (Methyl Chloride)	0.5	ND	ND	
Dibromochloromethane	0.2	ND	ND	
1,2-Dibromoethane (EDB)	0.5	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -19.0 in. Hg and pressurized to 14.5 psig with He.

09/29/93
MS1/1S40J
GD/ge
MS1*A

DMB
2-5-94

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Lab Number : CJ-4429-22
Project : Tinker AFB

CLIENT: Jon Bolstad
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10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 09/27/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P5 ES-10295 Can #295	Air	Jon Bolstad	09/24/93	09/27/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.2	ND	ND	
1,2-Dichloroethane (EDC)	0.5	ND	ND	
1,1-Dichloroethene	0.5	ND	ND	
cis-1,2-Dichloroethene	0.5	ND	ND	
trans-1,2-Dichloroethene	0.5	ND	ND	
Dichloromethane	2.	8.	27.	J1
1,2-Dichloropropane	0.2	ND	ND	
cis-1,3-Dichloropropene	0.2	ND	ND	
trans-1,3-Dichloropropene	0.2	ND	ND	
Ethylbenzene	0.5	ND	ND	
2-Hexanone	0.2	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.2	ND	ND	
Styrene	0.5	ND	ND	
1,1,2,2-Tetrachloroethane	0.2	ND	ND	
Tetrachloroethene (PCE)	0.2	ND	ND	
Toluene	0.5	0.6	2.4	
1,1,1-Trichloroethane (TCA)	0.5	ND	ND	
1,1,2-Trichloroethane	0.5	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

09/29/93
MS1/1S40J
GD/ge
MS1*A

DMB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-5194-1
Project : Tinker AFB

Analyzed : 11/02/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S2-2 ES 11719, CAN #478	Air	Rollie Rusario	11/01/93	11/02/93

CONSTITUENT	*PQL ppmv	RESULT ppmv	RESULT mg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				
Acetone	0.1	0.1	0.3 J1	1,2
Benzene	0.01	ND	ND	
Bromodichloromethane	0.005	ND	ND	
Bromomethane (Methyl Bromide)	0.01	ND	ND	
Bromoform	0.005	ND	ND	
1,3-Butadiene	0.02	ND	ND	
2-Butanone (MEK)	0.02	0.07	0.2	
Carbon Disulfide	0.1	ND	ND	
Carbon Tetrachloride	0.01	ND	ND	
Chlorobenzene	0.005	ND	ND	
Chloroethane (Ethyl Chloride)	0.01	ND	ND	
2-Chloroethyl Vinyl Ether	0.05	ND	ND	
Chloroform	0.05	ND	ND	
Chloromethane (Methyl Chloride)	0.01	ND	ND	
Dibromochloromethane	0.005	ND	ND	
1,2-Dibromoethane (EDB)	0.01	ND	ND	
1,2-Dichlorobenzene	0.01	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.
(2) Canister was received under vacuum at -24 in. Hg and pressurized to 21.5 psig with He.

11/03/93
MS1/1E98H
GD/ge
MS1*A

DYB
2-4-94

COAST-TO-COAST ANALYTICAL SERVICES

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Lab Number : CJ-5194-1
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 11/02/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S2-2 ES 11719, CAN #478	Air	Rollie Rusario	11/01/93	11/02/93

CONSTITUENT	*PQL ppmv	RESULT ppmv	RESULT mg/cu M	NOTE
1,3-Dichlorobenzene	0.01	ND	ND	
1,4-Dichlorobenzene	0.01	0.01	0.09	
1,1-Dichloroethane	0.005	ND	ND	
1,2-Dichloroethane (EDC)	0.01	ND	ND	
1,1-Dichloroethene	0.01	ND	ND	
cis-1,2-Dichloroethene	0.01	ND	ND	
trans-1,2-Dichloroethene	0.01	ND	ND	
Dichloromethane	0.1	37.	130.	J1
1,2-Dichloropropane	0.005	ND	ND	
cis-1,3-Dichloropropene	0.005	ND	ND	
trans-1,3-Dichloropropene	0.005	ND	ND	
Ethylbenzene	0.01	0.05	0.2	
2-Hexanone	0.005	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.005	ND	ND	
Styrene	0.01	ND	ND	
1,1,2,2-Tetrachloroethane	0.005	ND	ND	
Tetrachloroethene (PCE)	0.005	1.8	12.	
Toluene	0.01	2.	7.5	J1
1,1,1-Trichloroethane (TCA)	0.01	16.	89.	
1,1,2-Trichloroethane	0.01	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/03/93
MS1/1E98K
GD/ge
MS1-A

DMB 2-4-94

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CLIENT: Jon Bolstad
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Fairfax, VA 22030

Lab Number : CJ-5194-2
Project : Tinker AFB

Analyzed : 11/02/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S3 ES 11720, CAN #453	Air	Rollie Rusario	11/01/93	11/02/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				
Acetone	20.	50.	130. J1	1,2
Benzene	2.	ND	ND	
Bromodichloromethane	2.	ND	ND	
Bromomethane (Methyl Bromide)	5.	ND	ND	
Bromoform	2.	ND	ND	
1,3-Butadiene	10.	ND	ND	
2-Butanone (MEK)	5.	ND	ND	
Carbon Disulfide	20.	ND	ND	
Carbon Tetrachloride	2.	ND	ND	
Chlorobenzene	2.	ND	ND	
Chloroethane (Ethyl Chloride)	5.	ND	ND	
2-Chloroethyl Vinyl Ether	20.	ND	ND	
Chloroform	10.	ND	ND	
Chloromethane (Methyl Chloride)	5.	ND	ND	
Dibromochloromethane	2.	ND	ND	
1,2-Dibromoethane (EDB)	5.	ND	ND	
1,2-Dichlorobenzene	2.	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -19 in. Hg and pressurized to 21.5 psig with He.

11/03/93
MS1/1E99K
GD/ge
MS1*A

DJB 2-4-94

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Lab Number : CJ-5194-2
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 11/02/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S3 ES 11720, CAN #453	Air	Rollie Rusario	11/01/93	11/02/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	2.	ND	ND	
1,4-Dichlorobenzene	2.	ND	ND	
1,1-Dichloroethane	2.	ND	ND	
1,2-Dichloroethane (EDC)	5.	ND	ND	
1,1-Dichloroethene	5.	ND	ND	
cis-1,2-Dichloroethene	5.	ND	ND	
trans-1,2-Dichloroethene	5.	ND	ND	
Dichloromethane	20.	9500.	33000.	J1
1,2-Dichloropropane	2.	ND	ND	
cis-1,3-Dichloropropene	2.	ND	ND	
trans-1,3-Dichloropropene	2.	ND	ND	
Ethylbenzene	5.	67.	290.	
2-Hexanone	2.	ND	ND	
4-Methyl-2-Pentanone (MIBK)	2.	ND	ND	
Styrene	5.	ND	ND	
1,1,2,2-Tetrachloroethane	2.	ND	ND	
Tetrachloroethene (PCE)	2.	3400.	23000.	
Toluene	5.	180.	680.	
1,1,1-Trichloroethane (TCA)	5.	1300.	7200.	J1
1,1,2-Trichloroethane	5.	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/03/93
MS1/1E99K
GD/ge
MS1*A

DMB
2-4-94

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CLIENT: Jon Bolstad
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Lab Number : CJ-5194-3
Project : Tinker AFB

Analyzed : 11/02/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S5-2 ES 11721, CAN #658	Air	Rollie Rusario	11/01/93	11/02/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	20.	70.	170. J1	
Benzene	2.	ND	ND	
Bromodichloromethane	2.	ND	ND	
Bromomethane (Methyl Bromide)	5.	ND	ND	
Bromoform	2.	ND	ND	
1,3-Butadiene	10.	ND	ND	
2-Butanone (MEK)	5.	ND	ND	
Carbon Disulfide	20.	ND	ND	
Carbon Tetrachloride	2.	ND	ND	
Chlorobenzene	2.	ND	ND	
Chloroethane (Ethyl Chloride)	5.	ND	ND	
2-Chloroethyl Vinyl Ether	20.	ND	ND	
Chloroform	10.	ND	ND	
Chloromethane (Methyl Chloride)	5.	ND	ND	
Dibromochloromethane	2.	ND	ND	
1,2-Dibromoethane (EDB)	5.	ND	ND	
1,2-Dichlorobenzene	2.	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -13 in. Hg and pressurized to 21.0 psig with He.

11/03/93
MS1/1F01K
GD/ge
MS1*A

DYB
2-4-94

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Lab Number : CJ-5194-3
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 11/02/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S5-2 ES 11721, CAN #658	Air	Rollie Rusario	11/01/93	11/02/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	2.	ND	ND	
1,4-Dichlorobenzene	2.	ND	ND	
1,1-Dichloroethane	2.	ND	ND	
1,2-Dichloroethane (EDC)	5.	ND	ND	
1,1-Dichloroethene	5.	ND	ND	
cis-1,2-Dichloroethene	5.	ND	ND	
trans-1,2-Dichloroethene	5.	ND	ND	
Dichloromethane	20.	5800.	20000.	J1
1,2-Dichloropropane	2.	ND	ND	
cis-1,3-Dichloropropene	2.	ND	ND	
trans-1,3-Dichloropropene	2.	ND	ND	
Ethylbenzene	5.	6.	28.	
2-Hexanone	2.	ND	ND	
4-Methyl-2-Pentanone (MIBK)	2.	ND	ND	
Styrene	5.	ND	ND	
1,1,2,2-Tetrachloroethane	2.	ND	ND	
Tetrachloroethene (PCE)	2.	1200.	8100.	
Toluene	5.	50.	190.	J1
1,1,1-Trichloroethane (TCA)	5.	440.	2400.	
1,1,2-Trichloroethane	5.	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/03/93
MS1/1F01K
GD/ge
MS1*A

DMB
2-4-94

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(805) 389-1353
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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-5194-4
Project : Tinker AFB

Analyzed : 11/02/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S9 ES 11722, CAN #451	Air	Rollie Rusario	11/01/93	11/02/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				
Acetone	2.	59.	140. J1	1,2
Benzene	0.2	0.6	2.0	
Bromodichloromethane	0.2	ND	ND	
Bromomethane (Methyl Bromide)	0.5	ND	ND	
Bromoform	0.2	ND	ND	
1,3-Butadiene	1.	ND	ND	
2-Butanone (MEK)	0.5	20.	60.	
Carbon Disulfide	2.	5.	15.	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.2	2.	9.3	
Chloroethane (Ethyl Chloride)	0.5	ND	ND	
2-Chloroethyl Vinyl Ether	2.	ND	ND	
Chloroform	1.	ND	ND	
Chloromethane (Methyl Chloride)	0.5	ND	ND	
Dibromochloromethane	0.2	ND	ND	
1,2-Dibromoethane (EDB)	0.5	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -18 in. Hg and pressurized to 19.5 psig with He.

11/03/93
MS1/1E97K
ED/ge
MS1*A

DMB
2-4-94

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Lab Number : CJ-5194-4
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 11/02/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S9 ES 11722, CAN #451	Air	Rollie Rusario	11/01/93	11/02/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	2.3	14.	
1,1-Dichloroethane	0.2	1.7	7.0	
1,2-Dichloroethane (EDC)	0.5	ND	ND	
1,1-Dichloroethene	0.5	ND	ND	
cis-1,2-Dichloroethene	0.5	14.	56.	
trans-1,2-Dichloroethene	0.5	ND	ND	
Dichloromethane	2.	1100.	3700.	J1
1,2-Dichloropropane	0.2	ND	ND	
cis-1,3-Dichloropropene	0.2	ND	ND	
trans-1,3-Dichloropropene	0.2	ND	ND	
Ethylbenzene	0.5	2.1	9.3	
2-Hexanone	0.2	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.2	ND	ND	
Styrene	0.5	ND	ND	
1,1,2,2-Tetrachloroethane	0.2	ND	ND	
Tetrachloroethene (PCE)	0.2	500.	3400.	
Toluene	0.5	18.	68.	J1
1,1,1-Trichloroethane (TCA)	0.5	110.	590.	
1,1,2-Trichloroethane	0.5	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; AZLA #0136-01; L.A.Co.CSD #10187
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/03/93
MS1/1E97K
GD/ge
MS1*A

DMB
2-4-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
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Fairfax, VA 22030

Lab Number : CJ-5256-2
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: GD
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A1 ES 11774 CAN #679	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				
Acetone	1.	29.	69. J1	1,2
Benzene	0.2	ND	ND	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -15.5 in. Hg and pressurized to 15.8 psig with He.

11/04/93
MS1/1F33K
GD/ge
MS1*A

DMB
2-4-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-5256-2
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: GD
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A1 ES 11774 CAN #679	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	40.	140.	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	1.4	9.4	
Toluene	0.2	0.4	1.5	J1
1,1,1-Trichloroethane (TCA)	0.2	1.	5.5	J1
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/04/93
MS1/1F33K
GD/ge
MS1*A

DMB
2-4-94

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CLIENT: Jon Bolstad
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Lab Number : CJ-5256-3
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: GD
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A2 ES 11775 CAN #678	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	40.	96. J1	
Benzene	0.2	ND	ND	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -19 in. Hg and pressurized to 14.5 psig with He.

11/04/93
MS1/1F32K
GD/ge
MS1*A

DYB
2-4-94

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Lab Number : CJ-5256-3
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 11/03/93
Analyzed by: GD
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A2 ES 11775 CAN #678	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	3.	9.9	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	ND	ND	
Toluene	0.2	ND	ND	
1,1,1-Trichloroethane (TCA)	0.2	ND	ND	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/04/93
MS1/1F32K
GD/ge
MS1*A

DYB
2-4-94

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Lab Number : CJ-5256-4
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A3 ES 11776 CAN #439	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	2.	5.	11. J1	
Benzene	0.2	ND	ND	
Bromodichloromethane	0.2	ND	ND	
Bromomethane (Methyl Bromide)	0.5	ND	ND	
Bromoform	0.2	ND	ND	
1,3-Butadiene	1.	ND	ND	
2-Butanone (MEK)	0.5	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.2	ND	ND	
Chloroethane (Ethyl Chloride)	0.5	ND	ND	
2-Chloroethyl Vinyl Ether	2.	ND	ND	
Chloroform	1.	ND	ND	
Chloromethane (Methyl Chloride)	0.5	ND	ND	
Dibromochloromethane	0.2	ND	ND	
1,2-Dibromoethane (EDB)	0.5	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -20 in. Hg and pressurized to 18.5 psig with He.

11/04/93
MS1/1F42K
GD/ge
MS1*A

DMB
2-4-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-5256-5
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: GD
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A4 ES 11777 CAN #554	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	7.2	17. J1	
Benzene	0.2	ND	ND	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -17.5 in. Hg and pressurized to 15.2 psig with He.

11/04/93
MS1/1F34K
GD/ge
MS1*A

DMB
2-4-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
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Fairfax, VA 22030

Lab Number : CJ-5256-6
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A5 ES 11778 CAN #001	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	7.2	17. J1	
Benzene	0.2	ND	ND	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -15 in. Hg and pressurized to 19.5 psig with He.

11/04/93
MS1/1F52K
GD/ge
MS1*A

DMB
2-4-94

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Lab Number : CJ-5256-6
Project : Tinker AFB

CLIENT: Jon Bolstad
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10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 11/03/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A5 ES 11778 CAN #001	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	1.	5.2	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	ND	ND	
Toluene	0.2	0.4	1.5	J1
1,1,1-Trichloroethane (TCA)	0.2	ND	ND	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/04/93
MS1/1F52K
GD/ge
MS1*A

DYB
2-4-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-5256-7
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A6 ES 11779 CAN #622	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				
Acetone	2.	6.	14. J1	1,2
Benzene	0.2	ND	ND	
Bromodichloromethane	0.2	ND	ND	
Bromomethane (Methyl Bromide)	0.5	ND	ND	
Bromoform	0.2	ND	ND	
1,3-Butadiene	1.	ND	ND	
2-Butanone (MEK)	0.5	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.2	ND	ND	
Chloroethane (Ethyl Chloride)	0.5	ND	ND	
2-Chloroethyl Vinyl Ether	2.	ND	ND	
Chloroform	1.	ND	ND	
Chloromethane (Methyl Chloride)	0.5	ND	ND	
Dibromochloromethane	0.2	ND	ND	
1,2-Dibromoethane (EDB)	0.5	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -19 in. Hg and pressurized to 18.0 psig with He.

11/04/93
MS1/1F43K
GD/ge
MS1*A

DYB
2-4-94

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SoCal Division (Camarillo Laboratory) (805) 389-1353
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Lab Number : CJ-5256-8
Project : Tinker AFB

CLIENT: Jon Bolstad
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10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 11/03/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A7 ES 11780 CAN #595	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	2.	19.	46. J1	
Benzene	0.2	ND	ND	
Bromodichloromethane	0.2	ND	ND	
Bromomethane (Methyl Bromide)	0.5	ND	ND	
Bromoform	0.2	ND	ND	
1,3-Butadiene	1.	ND	ND	
2-Butanone (MEK)	0.5	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.2	ND	ND	
Chloroethane (Ethyl Chloride)	0.5	ND	ND	
2-Chloroethyl Vinyl Ether	2.	ND	ND	
Chloroform	1.	ND	ND	
Chloromethane (Methyl Chloride)	0.5	ND	ND	
Dibromochloromethane	0.2	ND	ND	
1,2-Dibromoethane (EDB)	0.5	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -14 in. Hg and pressurized to 48.0 psig with He.

11/04/93
MS1/1F48K
GD/ge
MS1*A

DYB
2-4-94

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CLIENT: Jon Bolstad
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Lab Number : CJ-5256-8
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A7 ES 11780 CAN #595	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.2	ND	ND	
1,2-Dichloroethane (EDC)	0.5	ND	ND	
1,1-Dichloroethene	0.5	ND	ND	
cis-1,2-Dichloroethene	0.5	ND	ND	
trans-1,2-Dichloroethene	0.5	ND	ND	
Dichloromethane	2.	3.	12.	J1
1,2-Dichloropropane	0.2	ND	ND	
cis-1,3-Dichloropropene	0.2	ND	ND	
trans-1,3-Dichloropropene	0.2	ND	ND	
Ethylbenzene	0.5	ND	ND	
2-Hexanone	0.2	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.2	ND	ND	
Styrene	0.5	ND	ND	
1,1,2,2-Tetrachloroethane	0.2	ND	ND	
Tetrachloroethene (PCE)	0.2	ND	ND	
Toluene	0.5	ND	ND	
1,1,1-Trichloroethane (TCA)	0.5	ND	ND	
1,1,2-Trichloroethane	0.5	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/04/93
MS1/1F48K
GD/ge
MS1*A

DMB
2-4-94

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Lab Number : CJ-5256-9
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 11/03/93
Analyzed by: GD
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A8 ES 11781 CAN #217	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	7.6	18. J1	
Benzene	0.2	ND	ND	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -15.0 in. Hg and pressurized to 15.5 psig with He.

11/04/93
MS1/1F36K
GD/ge
MS1*A

DMB
2-4-94

COAST-TO-COAST ANALYTICAL SERVICES

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Lab Number : CJ-5256-9
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: GD
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A8 ES 11781 CAN #217	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	2.	7.	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	ND	ND	
Toluene	0.2	ND	ND	
1,1,1-Trichloroethane (TCA)	0.2	ND	ND	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/04/93
MS1/1F36K
GD/ge
MS1*A

DYB
2-4-94

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SoCal Division (Camarillo Laboratory) (805) 389-1353
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Lab Number : CJ-5256-10
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 11/03/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A9 ES 11782 CAN #213	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	7.	16. J1	
Benzene	0.2	ND	ND	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -5. in. Hg and pressurized to 15.0 psig with He.

11/04/93
MS1/1F31K
GD/ge
MS1*A

DYB
2-4-94

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CLIENT: Jon Bolstad
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Lab Number : CJ-5256-10
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A9 ES 11782 CAN #213	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	2.	8.6	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	ND	ND	
Toluene	0.2	ND	ND	
1,1,1-Trichloroethane (TCA)	0.2	ND	ND	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/04/93
MS1/1F31K
GD/ge
MS1*A

DMB
2-4-94

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Lab Number : CJ-5256-11
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 11/03/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A10 ES 11783 CAN #680	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	2.	59.	140. J1	
Benzene	0.2	ND	ND	
Bromodichloromethane	0.2	ND	ND	
Bromomethane (Methyl Bromide)	0.5	ND	ND	
Bromoform	0.2	ND	ND	
1,3-Butadiene	1.	ND	ND	
2-Butanone (MEK)	0.5	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.2	ND	ND	
Chloroethane (Ethyl Chloride)	0.5	ND	ND	
2-Chloroethyl Vinyl Ether	2.	ND	ND	
Chloroform	1.	ND	ND	
Chloromethane (Methyl Chloride)	0.5	ND	ND	
Dibromochloromethane	0.2	ND	ND	
1,2-Dibromoethane (EDB)	0.5	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -22 in. Hg and pressurized to 15.0 psig with He.

11/04/93
MS1/1F30K
GD/ge
MS1*A

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CLIENT: Jon Bolstad
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Lab Number : CJ-5256-12
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A11 ES 11784 CAN #677	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				
Acetone	1.	19.	44. J1	1,2
Benzene	0.2	ND	ND	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	3.7	11.	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -15 in. Hg and pressurized to 16.0 psig with He.

11/04/93
MS1/1F29K
GD/ge
MS1*A

DYB
2-5-94

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Lab Number : CJ-5256-12
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A11 ES 11784 CAN #677	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	12.	43.	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	0.8	5.5	
Toluene	0.2	ND	ND	
1,1,1-Trichloroethane (TCA)	0.2	ND	ND	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/04/93
MS1/1F29K
GD/ge
MS1*A

DYB
7-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-5256-13
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A12 ES 11785 CAN #681	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	21.	51. J1	
Benzene	0.2	ND	ND	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -15 in. Hg and pressurized to 18.5 psig with He.

11/04/93
MS1/1F46K
GD/ge
MS1*A

DMB
2-5-94

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Lab Number : CJ-5256-13
Project : Tinker AFB

CLIENT: Jon Bolstad
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Fairfax, VA 22030

Analyzed : 11/03/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A12 ES 11785 CAN #681	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	15.	51.	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	0.2	1.1	
Toluene	0.2	ND	ND	
1,1,1-Trichloroethane (TCA)	0.2	ND	ND	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/04/93
MS1/1F46K
GD/ge
MS1*A

DMB
2-5-94

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Lab Number : CJ-5256-14
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A13 ES 11786 CAN #682	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				
Acetone	1.	24.	56. J1	1,2
Benzene	0.2	ND	ND	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	3.7	11.	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -17 in. Hg and pressurized to 17.5 psig with He.

11/04/93
MS1/1F47K
GD/ge
MS1*A

DMB
2-5-94

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Lab Number : CJ-5256-14
Project : Tinker AFB

CLIENT: Jon Bolstad
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Fairfax, VA 22030

Analyzed : 11/03/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A13 ES 11786 CAN #682	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	9.	32.	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	ND	ND	
Toluene	0.2	ND	ND	
1,1,1-Trichloroethane (TCA)	0.2	ND	ND	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/04/93
MS1/1F47K
GD/ge
MS1*A

DMB
2-5-94

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Lab Number : CJ-5256-15
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P1 ES 11787 CAN #201	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				
Acetone	2.	7.	16. J1	1,2
Benzene	0.2	ND	ND	
Bromodichloromethane	0.2	ND	ND	
Bromomethane (Methyl Bromide)	0.5	ND	ND	
Bromoform	0.2	ND	ND	
1,3-Butadiene	1.	ND	ND	
2-Butanone (MEK)	0.5	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.2	ND	ND	
Chloroethane (Ethyl Chloride)	0.5	ND	ND	
2-Chloroethyl Vinyl Ether	2.	ND	ND	
Chloroform	1.	ND	ND	
Chloromethane (Methyl Chloride)	0.5	ND	ND	
Dibromochloromethane	0.2	ND	ND	
1,2-Dibromoethane (EDB)	0.5	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -18 in. Hg and pressurized to 16.5 psig with He.

11/04/93
MS1/1F28K
GD/ge
MS1*A

DMB
2-5-94

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Lab Number : CJ-5256-15
Project : Tinker AFB

CLIENT: Jon Bolstad
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10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 11/03/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P1 ES 11787 CAN #201	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.2	ND	ND	
1,2-Dichloroethane (EDC)	0.5	ND	ND	
1,1-Dichloroethene	0.5	ND	ND	
cis-1,2-Dichloroethene	0.5	ND	ND	
trans-1,2-Dichloroethene	0.5	ND	ND	
Dichloromethane	2.	58.	200.	J1
1,2-Dichloropropane	0.2	ND	ND	
cis-1,3-Dichloropropene	0.2	ND	ND	
trans-1,3-Dichloropropene	0.2	ND	ND	
Ethylbenzene	0.5	ND	ND	
2-Hexanone	0.2	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.2	ND	ND	
Styrene	0.5	ND	ND	
1,1,2,2-Tetrachloroethane	0.2	ND	ND	
Tetrachloroethene (PCE)	0.2	6.9	47.	
Toluene	0.5	0.8	3.1	J1
1,1,1-Trichloroethane (TCA)	0.5	1.4	7.4	J1
1,1,2-Trichloroethane	0.5	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/04/93
MS1/1F28K
GD/ge
MS1*A

DMB
2-5-94

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Lab Number : CJ-5256-16
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: GD
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P2 ES 11788 CAN #212	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	5.	12. J1	
Benzene	0.2	0.3	1.	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister received at 0 psig and pressurized to 15.5 psig with He.

11/04/93
MS1/1F37K
GD/ge
MS1*A

DMB
2-5-94

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Lab Number : CJ-5256-16
Project : Tinker AFB

CLIENT: Jon Bolstad
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Fairfax, VA 22030

Analyzed : 11/03/93
Analyzed by: GD
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P2 ES 11788 CAN #212	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	8.	27.	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	1.5	9.9	
Toluene	0.2	0.5	1.8	J1
1,1,1-Trichloroethane (TCA)	0.2	0.4	2.4	J1
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/04/93
MS1/1F37K
GD/ge
MS1*A

DYB
2-5-94

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CLIENT: Jon Bolstad
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Lab Number : CJ-5256-18
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P4 ES 11790 CAN #220	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	2.	6.	14. J1	
Benzene	0.2	ND	ND	
Bromodichloromethane	0.2	ND	ND	
Bromomethane (Methyl Bromide)	0.5	ND	ND	
Bromoform	0.2	ND	ND	
1,3-Butadiene	1.	ND	ND	
2-Butanone (MEK)	0.5	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.2	ND	ND	
Chloroethane (Ethyl Chloride)	0.5	ND	ND	
2-Chloroethyl Vinyl Ether	2.	ND	ND	
Chloroform	1.	ND	ND	
Chloromethane (Methyl Chloride)	0.5	ND	ND	
Dibromochloromethane	0.2	ND	ND	
1,2-Dibromoethane (EDB)	0.5	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -22 in. Hg and pressurized to 11.5 psig with He.

11/04/93
MS1/1F38K
GD/ge
MS1*A

DMB
2-5-94

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CLIENT: Jon Bolstad
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10521 Rosehaven St.
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Lab Number : CJ-5256-19
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P5 ES 11791 CAN #558	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	6.7	16. J1	
Benzene	0.2	ND	ND	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -18.5 in. Hg and pressurized to 16 psig with He.

11/04/93
MS1/1F50K
GD/ge
MS1*A

DMB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-5256-19
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P5 ES 11791 CAN #558	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	2.	6.6	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	ND	ND	
Toluene	0.2	ND	ND	
1,1,1-Trichloroethane (TCA)	0.2	ND	ND	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/04/93
MS1/1F50K
GD/ge
MS1*A

DMB
2-5-94

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SoCal Division (Camarillo Laboratory) (805) 389-1353
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Lab Number : CJ-5256-20
Project : Tinker AFB

CLIENT: Jon Bolstad
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10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 11/03/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	DATE RECEIVED
P6 ES 11792 CAN #207	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	5.	11. J1	
Benzene	0.2	0.3	1.1	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -4.00 in. Hg and pressurized to 16 psig with He.

11/04/93
MS1/1F57K
GD/ge
MS1*A

DYB
2-5-94

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Lab Number : CJ-5256-20
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P6 ES 11792 CAN #207	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	ND	ND	
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	ND	ND	
Toluene	0.2	0.5	1.8	J1
1,1,1-Trichloroethane (TCA)	0.2	ND	ND	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/04/93
MS1/1F57K
GD/ge
MS1*A

MYB
2-5-94

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Lab Number : CJ-5256-21
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 11/03/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P7 ES 11793 CAN #428	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	4.	9.9 J1	
Benzene	0.2	ND	ND	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -14 in. Hg and pressurized to 16.2 psig with He.

11/04/93
MS1/1F40K
GD/ge
MS1*A

DMB
2-5-94

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Lab Number : CJ-5256-21
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P7 ES 11793 CAN #428	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	2.	7.5	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	ND	ND	
Toluene	0.2	ND	ND	
1,1,1-Trichloroethane (TCA)	0.2	ND	ND	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/04/93
MS1/1F40K
GD/ge
MS1*A

MJB
2-5-94

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Lab Number : CJ-5256-22
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P8 ES 11794 CAN #592	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	8.9	21. J1	
Benzene	0.2	ND	ND	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -19 in. Hg and pressurized to 15.2 psig with He.

11/04/93
MS1/1F39K
GD/ge
MS1*A

DMB
2-5-94

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Lab Number : CJ-5256-22
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P8 ES 11794 CAN #592	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	9.	31.	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	ND	ND	
Toluene	0.2	ND	ND	
1,1,1-Trichloroethane (TCA)	0.2	ND	ND	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/04/93
MS1/1F39K
GD/ge
MS1*A

DMB
2-5-94

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CLIENT: Jon Bolstad
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Lab Number : CJ-5256-23
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P9 ES 11795 CAN #205	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	8.9	21. J1	
Benzene	0.2	ND	ND	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -20 in. Hg and pressurized to 12.0 psig with He.

11/04/93
MS1/1F53K
GD/ge
MS1*A

DMB
2-5-94

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Fairfax, VA 22030

Lab Number : CJ-5256-23
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P9 ES 11795 CAN #205	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	29.	100.	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	3.7	25.	
Toluene	0.2	ND	ND	
1,1,1-Trichloroethane (TCA)	0.2	ND	ND	
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/04/93
MS1/1F53K
GD/ge
MS1*A

DMB
2-5-94

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SoCal Division (Camarillo Laboratory) (805) 389-1353
4765 Calle Quetzal, Camarillo, California 93012 FAX (805) 389-1438

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-5256-24
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P10 ES 11796 CAN #221	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	1.	11.	27. J1	
Benzene	0.2	0.4	1.4	
Bromodichloromethane	0.1	ND	ND	
Bromomethane (Methyl Bromide)	0.2	ND	ND	
Bromoform	0.1	ND	ND	
1,3-Butadiene	0.5	ND	ND	
2-Butanone (MEK)	0.2	ND	ND	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.1	ND	ND	
Chloroethane (Ethyl Chloride)	0.2	ND	ND	
2-Chloroethyl Vinyl Ether	1.	ND	ND	
Chloroform	0.5	ND	ND	
Chloromethane (Methyl Chloride)	0.2	ND	ND	
Dibromochloromethane	0.1	ND	ND	
1,2-Dibromoethane (EDB)	0.2	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -14 in. Hg and pressurized to 48.0 psig with He.

11/04/93
MS1/1F51K
GD/ge
MS1*A

DJB
2-5-94

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Lab Number : CJ-5256-24
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P10 ES 11796 CAN #221	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.1	ND	ND	
1,2-Dichloroethane (EDC)	0.2	ND	ND	
1,1-Dichloroethene	0.2	ND	ND	
cis-1,2-Dichloroethene	0.2	ND	ND	
trans-1,2-Dichloroethene	0.2	ND	ND	
Dichloromethane	1.	210.	730.	J1
1,2-Dichloropropane	0.1	ND	ND	
cis-1,3-Dichloropropene	0.1	ND	ND	
trans-1,3-Dichloropropene	0.1	ND	ND	
Ethylbenzene	0.2	ND	ND	
2-Hexanone	0.1	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.1	ND	ND	
Styrene	0.2	ND	ND	
1,1,2,2-Tetrachloroethane	0.1	ND	ND	
Tetrachloroethene (PCE)	0.1	21.	140.	
Toluene	0.2	2.	7.5	J1
1,1,1-Trichloroethane (TCA)	0.2	6.	33.	J1
1,1,2-Trichloroethane	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/04/93
MS1/1F51K
GD/ge
MS1*A

DYB
2-5-94

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CLIENT: Jon Bolstad
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Fairfax, VA 22030

Lab Number : CJ-5256-25
Project : Tinker AFB

Analyzed : 11/04/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S2-1 ES 11837 CAN #503	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	100.	90.	210. J1	
Benzene	10.	ND	ND	
Bromodichloromethane	5.	ND	ND	
Bromomethane (Methyl Bromide)	10.	ND	ND	
Bromoform	5.	ND	ND	
1,3-Butadiene	20.	ND	ND	
2-Butanone (MEK)	20.	ND	ND	
Carbon Disulfide	100.	ND	ND	
Carbon Tetrachloride	10.	ND	ND	
Chlorobenzene	5.	ND	ND	
Chloroethane (Ethyl Chloride)	10.	ND	ND	
2-Chloroethyl Vinyl Ether	50.	ND	ND	
Chloroform	50.	ND	ND	
Chloromethane (Methyl Chloride)	10.	ND	ND	
Dibromochloromethane	5.	ND	ND	
1,2-Dibromoethane (EDB)	10.	ND	ND	
1,2-Dichlorobenzene	10.	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -23 in. Hg and pressurized to 16.5 psig with He.

11/04/93
MS1/1F79K
GD/ge
MS1*A

DMB
2-5-94

COAST-TO-COAST ANALYTICAL SERVICES

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CLIENT: Jon Bolstad
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Fairfax, VA 22030

Lab Number : CJ-5256-26
Project : Tinker AFB

Analyzed : 11/04/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S5-2 ES 11838 CAN #606	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				
Acetone	20.	100.	230. J1	1,2
Benzene	2.	ND	ND	
Bromodichloromethane	2.	ND	ND	
Bromomethane (Methyl Bromide)	5.	ND	ND	
Bromoform	2.	ND	ND	
1,3-Butadiene	10.	ND	ND	
2-Butanone (MEK)	5.	ND	ND	
Carbon Disulfide	20.	ND	ND	
Carbon Tetrachloride	2.	ND	ND	
Chlorobenzene	2.	ND	ND	
Chloroethane (Ethyl Chloride)	5.	ND	ND	
2-Chloroethyl Vinyl Ether	20.	ND	ND	
Chloroform	10.	ND	ND	
Chloromethane (Methyl Chloride)	5.	ND	ND	
Dibromochloromethane	2.	ND	ND	
1,2-Dibromoethane (EDB)	5.	ND	ND	
1,2-Dichlorobenzene	2.	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -14.5 in. Hg and pressurized to 17 psig with He.

11/04/93
MS1/1F80K
GD/ge
MS1*A

DYB
2-5-94

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Lab Number : CJ-5256-26
Project : Tinker AFB

Analyzed : 11/04/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S5-2 ES 11838 CAN #606	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	2.	ND	ND	
1,4-Dichlorobenzene	2.	ND	ND	
1,1-Dichloroethane	2.	ND	ND	
1,2-Dichloroethane (EDC)	5.	ND	ND	
1,1-Dichloroethene	5.	ND	ND	
cis-1,2-Dichloroethene	5.	73.	290.	
trans-1,2-Dichloroethene	5.	ND	ND	
Dichloromethane	20.	6600.	23000.	J1
1,2-Dichloropropane	2.	ND	ND	
cis-1,3-Dichloropropene	2.	ND	ND	
trans-1,3-Dichloropropene	2.	ND	ND	
Ethylbenzene	5.	ND	ND	
2-Hexanone	2.	ND	ND	
4-Methyl-2-Pentanone (MIBK)	2.	ND	ND	
Styrene	5.	ND	ND	
1,1,2,2-Tetrachloroethane	2.	ND	ND	
Tetrachloroethene (PCE)	2.	2100.	14000.	
Toluene	5.	240.	920.	J1
1,1,1-Trichloroethane (TCA)	5.	460.	2500.	J1
1,1,2-Trichloroethane	5.	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/04/93
MS1/1F80K
GD/ge
MS1*A

AMB
2-5-94

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Lab Number : CJ-5256-27
Project : Tinker AFB

Analyzed : 11/04/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S3 ES 11839 CAN #492	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				
Acetone	20.	140.	340. J1	1,2
Benzene	2.	ND	ND	
Bromodichloromethane	2.	ND	ND	
Bromomethane (Methyl Bromide)	5.	ND	ND	
Bromoform	2.	ND	ND	
1,3-Butadiene	10.	ND	ND	
2-Butanone (MEK)	5.	ND	ND	
Carbon Disulfide	20.	ND	ND	
Carbon Tetrachloride	2.	ND	ND	
Chlorobenzene	2.	ND	ND	
Chloroethane (Ethyl Chloride)	5.	ND	ND	
2-Chloroethyl Vinyl Ether	20.	ND	ND	
Chloroform	10.	ND	ND	
Chloromethane (Methyl Chloride)	5.	ND	ND	
Dibromochloromethane	2.	ND	ND	
1,2-Dibromoethane (EDB)	5.	ND	ND	
1,2-Dichlorobenzene	2.	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -19 in. Hg and pressurized to 17.5 psig with He.

11/04/93
MS1/1F81K
GD/ge
MS1*A

DYB
2-5-94

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Lab Number : CJ-5256-27
Project : Tinker AFB

Analyzed : 11/04/93
Analyzed by: YL
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S3 ES 11839 CAN #492	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	2.	ND	ND	
1,4-Dichlorobenzene	2.	ND	ND	
1,1-Dichloroethane	2.	ND	ND	
1,2-Dichloroethane (EDC)	5.	ND	ND	
1,1-Dichloroethene	5.	ND	ND	
cis-1,2-Dichloroethene	5.	98.	390.	
trans-1,2-Dichloroethene	5.	ND	ND	
Dichloromethane	20.	7800.	27000.	J1
1,2-Dichloropropane	2.	ND	ND	
cis-1,3-Dichloropropene	2.	ND	ND	
trans-1,3-Dichloropropene	2.	ND	ND	
Ethylbenzene	5.	ND	ND	
2-Hexanone	2.	ND	ND	
4-Methyl-2-Pentanone (MIBK)	2.	ND	ND	
Styrene	5.	ND	ND	
1,1,2,2-Tetrachloroethane	2.	ND	ND	
Tetrachloroethene (PCE)	2.	3100.	21000.	
Toluene	5.	370.	1400.	J1
1,1,1-Trichloroethane (TCA)	5.	460.	2500.	J1
1,1,2-Trichloroethane	5.	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/04/93
MS1/1F81K
GD/ge
MS1*A

DYB
2-5-94

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CLIENT: Jon Bolstad
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Lab Number : CJ-4905-19
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A6 ES-11197	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	37.	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 10/18/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

11/24/93
MSD8/111220A
MH/edt/clr
CJ490511291B

DYB
2.5.94

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CLIENT: Jon Bolstad
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Lab Number : CJ-4905-18
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A5 ES-11196	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	55.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/24/93
MSD8/111219A
MH/edt/clr
CJ490511291B

DYB
2.5-94

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CLIENT: Jon Bolstad
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Fairfax, VA 22030

Lab Number : CJ-4905-20
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A7 ES-11198	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	19.	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 10/18/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

11/24/93
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MH/edt/clr
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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-4905-19
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A6 ES-11197	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	25.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	16.	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

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MSD8/111220A
MH/edt/clr
CJ490511291B

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CLIENT: Jon Bolstad
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Fairfax, VA 22030

Lab Number : CJ-4905-21
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A8 ES-11199	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	38. J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 10/18/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

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MSD8/111222A
MH/edt/clr/mah
CJ490511291B

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CLIENT: Jon Bolstad
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Fairfax, VA 22030

Lab Number : CJ-4905-20
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A7 ES-11198	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	23.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	7.2	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/24/93
MSD8/111221A
MH/edt/clr
CJ490511291B

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Lab Number : CJ-4905-22
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A9 ES-11200	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	33.	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 10/18/93 by LP using EPA 3540
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

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Lab Number : CJ-4905-22
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A9 ES-11200	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	28.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	14.	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

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Fairfax, VA 22030

Lab Number : CJ-4905-23
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A10 ES-11201	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				
Acenaphthylene				1,2
Acenaphthene	(208968)	5.	ND	
Anthracene	(83329)	5.	ND	
Benzidine	(120127)	5.	ND	
Benzo(a)anthracene	(92875)	5.	ND	
Benzo(b)fluoranthene	(56553)	5.	ND	
Benzo(k)fluoranthene	(205992)	5.	ND	
Benzo(a)pyrene	(207089)	5.	ND	
Benzo(ghi)perylene	(50328)	5.	ND	
Bis(2-chloroethoxy)methane	(191242)	5.	ND	
Bis(2-chloroethyl)ether	(111911)	5.	ND	
Bis(2-chloroisopropyl)ether	(111444)	5.	ND	
Bis(2-ethylhexyl)phthalate	(39638329)	5.	ND	
4-Bromophenylphenylether	(117817)	5.	16. J1	
Butylbenzylphthalate	(101553)	5.	ND	
2-Chloronaphthalene	(85687)	5.	ND	
4-Chlorophenylphenylether	(91587)	5.	ND	
	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 10/18/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

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Lab Number : CJ-4905-23
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A10 ES-11201	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	27.	JL
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

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CLIENT: Jon Bolstad
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Fairfax, VA 22030

Lab Number : CJ-4905-24
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A11 ES-11202	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				
Acenaphthylene	(208968)	5.	ND	1,2
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	5.2	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 10/18/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

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Lab Number : CJ-4905-24
Project : Tinker AFB

CLIENT: Jon Bolstad
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Fairfax, VA 22030

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A11 ES-11202	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	32.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

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SoCal Division (Camarillo Laboratory)
4765 Calle Quetzal, Camarillo, California 93012

(805) 389-1353
FAX (805) 389-1438

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-5269-2
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A1 ES 11799	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				
Acenaphthylene				1,2
Acenaphthene	(208968)	5.	ND	
Anthracene	(83329)	5.	ND	
Benzidine	(120127)	5.	ND	
Benzo(a)anthracene	(92875)	5.	ND	
Benzo(b)fluoranthene	(56553)	5.	ND	
Benzo(k)fluoranthene	(205992)	5.	ND	
Benzo(a)pyrene	(207089)	5.	ND	
Benzo(ghi)perylene	(50328)	5.	ND	
Bis(2-chloroethoxy)methane	(191242)	5.	ND	
Bis(2-chloroethyl)ether	(111911)	5.	ND	
Bis(2-chloroisopropyl)ether	(111444)	5.	ND	
Bis(2-ethylhexyl)phthalate	(39638329)	5.	ND	
4-Bromophenylphenylether	(117817)	5.	8. J1	
Butylbenzylphthalate	(101553)	5.	ND	
2-Chloronaphthalene	(85687)	5.	ND	
4-Chlorophenylphenylether	(91587)	5.	ND	
	(7005723)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 11/03/93 by LP using EPA 3540
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

12/10/93
MSD8/120118A/120619A
MH/edt/mah
CJ526921307B

DMB
2-5-94

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Lab Number : CJ-5269-2
Project : Tinker AFB

CLIENT: Jon Bolstad
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10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 12/02/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A1 ES 11799	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	75.	J1
1,2-Dichlorobenzene	(95501)	5.	12.	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

12/10/93
MSD8/120118A/120619A
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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-5269-3
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A2 ES 11800	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				
Acenaphthylene				1,2
Acenaphthene	(208968)	5.	ND	
Anthracene	(83329)	5.	ND	
Benzidine	(120127)	5.	ND	
Benzo(a)anthracene	(92875)	5.	ND	
Benzo(b)fluoranthene	(56553)	5.	ND	
Benzo(k)fluoranthene	(205992)	5.	ND	
Benzo(a)pyrene	(207089)	5.	ND	
Benzo(ghi)perylene	(50328)	5.	ND	
Bis(2-chloroethoxy)methane	(191242)	5.	ND	
Bis(2-chloroethyl)ether	(111911)	5.	ND	
Bis(2-chloroisopropyl)ether	(111444)	5.	ND	
Bis(2-ethylhexyl)phthalate	(39638329)	5.	ND	
4-Bromophenylphenylether	(117817)	5.	7. J1	
Butylbenzylphthalate	(101553)	5.	ND	
2-Chloronaphthalene	(85687)	5.	ND	
4-Chlorophenylphenylether	(91587)	5.	ND	
	(7005723)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 11/03/93 by LP using EPA 3540
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

12/10/93
MSD8/120119A
MH/edt/mah
CJ526901307B

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CLIENT: Jon Bolstad
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10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-5269-2
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A1 ES 11799	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Naphthalene	(91203)	5.	61.	
Nitrobenzene	(98953)	5.	ND	
N-Nitrosodimethylamine	(62759)	5.	ND	
N-Nitrosodiphenylamine	(86306)	5.	5.	J1
N-Nitroso di-n-propylamine	(621647)	5.	ND	
Phenanthrene	(85018)	5.	ND	
Pyrene	(129000)	5.	ND	
1,2,4-Trichlorobenzene	(108703)	5.	ND	
Aldrin	(309002)	5.	ND	
alpha BHC	(319846)	5.	ND	
beta BHC	(319857)	5.	ND	
delta-BHC	(319868)	5.	ND	
gamma BHC (Lindane)	(58899)	5.	ND	
p,p'-DDD	(72548)	5.	ND	
p,p'-DDE	(72559)	5.	ND	
p,p'-DDT	(50293)	5.	ND	
Dieldrin	(60571)	5.	ND	
Endosulfan I	(959988)	5.	ND	
Endosulfan II	(33213659)	5.	ND	
Endosulfan Sulfate	(1031078)	5.	ND	

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12/10/93
MSD8/120118A/120619A
MH/edt/mah
CJ526921307B

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2-5-94

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CLIENT: Jon Bolstad
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Lab Number : CJ-5269-4
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A3 ES 11801	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				
Acenaphthylene	(208968)	5.	ND	1,2
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	9. J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 11/03/93 by LP using EPA 3540
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

12/10/93
MSD8/120120A
MH/edt/mah
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Fairfax, VA 22030

Lab Number : CJ-5269-3
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A2 ES 11800	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	49.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	8.	J1
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

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12/10/93
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Lab Number : CJ-5269-5
Project : Tinker AFB

Analyzed : 12/06/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A4 ES 11802	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	9.	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 11/03/93 by LP using EPA 3540
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

12/10/93
MSD8/120620A
MH/edt/mah
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Lab Number : CJ-5269-4
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A3 ES 11801	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	98.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

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MSD8/120120A
MH/edt/mah
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CLIENT: Jon Bolstad
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Fairfax, VA 22030

Lab Number : CJ-5269-6
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A5 ES 11803	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	6. J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 11/03/93 by LP using EPA 3540
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

12/10/93
MSD8/120122A
MH/edt/mah
CJ526901307B

DYB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
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Fairfax, VA 22030

Lab Number : CJ-5269-5
Project : Tinker AFB

Analyzed : 12/06/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A4 ES 11802	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	83.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	6.	J1
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

12/10/93
MSD8/120620A
MH/edt/mah
CJ526921307B

DMB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-5269-7
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A6 ES 11804	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				
Acenaphthylene	(208968)	5.	ND	1,2
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	7. J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 11/03/93 by LP using EPA 3540
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

12/10/93
MSD8/120123A
MH/edt/mah
CJ526901307B

DMB
2-5-94

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CLIENT: Jon Bolstad
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Lab Number : CJ-5269-6
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A5 ES 11803	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	52.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	6.	J1
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

12/10/93
MSD8/120122A
MH/edt/mah
CJ526901307B

MB
2-5-94

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Lab Number : CJ-5269-8
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A7 ES 11805	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				
Acenaphthylene	(208968)	5.	ND	1,2
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	11. J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 11/03/93 by LP using EPA 3540
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

12/10/93
MSD8/120124A
MH/edt/mah
CJ526901307B

DMB
2-5-94

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Lab Number : CJ-5269-7
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A6 ES 11804	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	71.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	7.	J1
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

12/10/93
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Lab Number : CJ-5269-8
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A7 ES 11805	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Naphthalene	(91203)	5.	9.	
Nitrobenzene	(98953)	5.	ND	
N-Nitrosodimethylamine	(62759)	5.	ND	
N-Nitrosodiphenylamine	(86306)	5.	6.	J1
N-Nitroso di-n-propylamine	(621647)	5.	ND	
Phenanthrene	(85018)	5.	ND	
Pyrene	(129000)	5.	ND	
1,2,4-Trichlorobenzene	(108703)	5.	ND	
Aldrin	(309002)	5.	ND	
alpha BHC	(319846)	5.	ND	
beta BHC	(319857)	5.	ND	
delta-BHC	(319868)	5.	ND	
gamma BHC (Lindane)	(58899)	5.	ND	
p,p'-DDD	(72548)	5.	ND	
p,p'-DDE	(72559)	5.	ND	
p,p'-DDT	(50293)	5.	ND	
Dieldrin	(60571)	5.	ND	
Endosulfan I	(959988)	5.	ND	
Endosulfan II	(33213659)	5.	ND	
Endosulfan Sulfate	(1031078)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

12/10/93
MSD8/120124A
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Lab Number : CJ-5269-8
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A7 ES 11805	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	>120	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	9.	J1
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

12/10/93
MSD8/120124A
MH/edt/mah
CJ526901307B

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CLIENT: Jon Bolstad
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Lab Number : CJ-5269-9
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A8 ES 11806	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				
Acenaphthylene	(208968)	5.	ND	1,2
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	7. J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 11/03/93 by LP using EPA 3540
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

12/10/93
MSD8/120204A
MH/edt/dsp/mah
CJ526901307B

DMB
2-5-94

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Lab Number : CJ-5269-9
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A8 ES 11806	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	76.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	7.	J1
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

12/10/93
MSD8/120204A
MH/edt/dsp/mah
CJ526901307B

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Lab Number : CJ-5269-10
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A9 ES 11807	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				
Acenaphthylene	(208968)	5.	ND	1,2
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	7. J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

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Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 11/03/93 by LP using EPA 3540
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

12/10/93
MSD8/120205A
MH/edt/dsp/mah
CJ526901307B

DMB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-5269-10
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A9 ES 11807	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	72.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	7.	J1
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

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MH/edt/dsp/mah
CJ526901307B

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CLIENT: Jon Bolstad
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Fairfax, VA 22030

Lab Number : CJ-5269-11
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A10 ES 11808	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				
Acenaphthylene				1,2
Acenaphthene	(208968)	5.	ND	
Anthracene	(83329)	5.	ND	
Benzidine	(120127)	5.	ND	
Benzo(a)anthracene	(92875)	5.	ND	
Benzo(b)fluoranthene	(56553)	5.	ND	
Benzo(k)fluoranthene	(205992)	5.	ND	
Benzo(a)pyrene	(207089)	5.	ND	
Benzo(ghi)perylene	(50328)	5.	ND	
Bis(2-chloroethoxy)methane	(191242)	5.	ND	
Bis(2-chloroethyl)ether	(111911)	5.	ND	
Bis(2-chloroisopropyl)ether	(111444)	5.	ND	
Bis(2-ethylhexyl)phthalate	(39638329)	5.	ND	
4-Bromophenylphenylether	(117817)	5.	10. J1	
Butylbenzylphthalate	(101553)	5.	ND	
2-Chloronaphthalene	(85687)	5.	ND	
4-Chlorophenylphenylether	(91587)	5.	ND	
	(7005723)	5.	ND	

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Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 11/03/93 by LP using EPA 3540
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

12/10/93
MSD8/120206A
MH/edt/dsp/mah
CJ526911307B

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2-5-94

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CLIENT: Jon Bolstad
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Lab Number : CJ-5269-11
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A10 ES 11808	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	77.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

12/10/93
MSD8/120206A
MH/edt/dsp/mah
CJ526911307B

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Lab Number : CJ-5269-12
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A11 ES 11809	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				
Acenaphthylene	(208968)	5.	ND	1,2
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	9. J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 11/03/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

12/10/93
MSD8/120207A/120709A
MH/edt/dsp/mah
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Lab Number : CJ-5269-12
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A11 ES 11809	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	46.	J1
1,2-Dichlorobenzene	(95501)	5.	7.	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

12/10/93
MSD8/120207A/120709A
MH/edt/dsp/mah
CJ526911307B

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Fairfax, VA 22030

Lab Number : CJ-5269-14
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A13 ES 11811	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				
Acenaphthylene	(208968)	5.	ND	1,2,3
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	9. J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 11/03/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

(3) The > symbol prior to a result indicates that the response is greater than the highest calibration standard.

12/10/93
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CLIENT: Jon Bolstad
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Lab Number : CJ-5269-14
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A13 ES 11811	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	76.	J1
1,2-Dichlorobenzene	(95501)	5.	6.	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

12/10/93
MSD8/120208A
MH/edt/dsp/mah
CJ526911307B

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Lab Number : CJ-5269-14
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A13 ES 11811	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	
Naphthalene	(91203)	5.	32.	
Nitrobenzene	(98953)	5.	ND	
N-Nitrosodimethylamine	(62759)	5.	ND	
N-Nitrosodiphenylamine	(86306)	5.	5.	J1
N-Nitroso di-n-propylamine	(621647)	5.	ND	
Phenanthrene	(85018)	5.	ND	
Pyrene	(129000)	5.	ND	
1,2,4-Trichlorobenzene	(108703)	5.	ND	
Aldrin	(309002)	5.	ND	
alpha BHC	(319846)	5.	ND	
beta BHC	(319857)	5.	ND	
delta-BHC	(319868)	5.	ND	
gamma BHC (Lindane)	(58899)	5.	ND	
p,p'-DDD	(72548)	5.	ND	
p,p'-DDE	(72559)	5.	ND	
p,p'-DDT	(50293)	5.	ND	
Dieldrin	(60571)	5.	ND	
Endosulfan I	(959988)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

12/10/93
MSD8/120208A
MH/edt/dsp/mah
CJ526911307B

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Lab Number : CJ-5269-15
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P1 ES 11812	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	12.	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 11/03/93 by LP using EPA TO-13
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

12/10/93
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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-5269-15
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P1 ES 11812	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Naphthalene	(91203)	100.	240.	
Nitrobenzene	(98953)	5.	ND	
N-Nitrosodimethylamine	(62759)	5.	ND	
N-Nitrosodiphenylamine	(86306)	5.	8.	J
N-Nitroso di-n-propylamine	(621647)	5.	ND	
Phenanthrene	(85018)	5.	ND	
Pyrene	(129000)	5.	ND	
1,2,4-Trichlorobenzene	(108703)	5.	ND	
Aldrin	(309002)	5.	ND	
alpha BHC	(319846)	5.	ND	
beta BHC	(319857)	5.	ND	
delta-BHC	(319868)	5.	ND	
gamma BHC (Lindane)	(58899)	5.	ND	
p,p'-DDD	(72548)	5.	ND	
p,p'-DDE	(72559)	5.	ND	
p,p'-DDT	(50293)	5.	ND	
Dieldrin	(60571)	5.	ND	
Endosulfan I	(959988)	5.	ND	
Endosulfan II	(33213659)	5.	ND	
Endosulfan Sulfate	(1031078)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
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Lab Number : CJ-5269-15
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P1 ES 11812	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	97.	J1
1,2-Dichlorobenzene	(95501)	5.	21.	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

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CLIENT: Jon Bolstad
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Lab Number : CJ-5269-16
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P2 ES 11813	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				
Acenaphthylene	(208968)	5.	ND	1,2,3
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	9. J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 11/03/93 by LP using EPA 3540
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.
(3) The > symbol prior to a result indicates that the response is greater than the highest calibration standard.

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Lab Number : CJ-5269-16
Project : Tinker AFB

Analyzed : 12/02/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P2 ES 11813	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	83.	J1
1,2-Dichlorobenzene	(95501)	5.	7.	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	5.	J1
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

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Lab Number : CJ-5269-17
Project : Tinker AFB

Analyzed : 12/03/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P3 ES 11814	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	7. J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 11/03/93 by LP using EPA TO-13
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

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Lab Number : CJ-5269-16
Project : Tinker AFB

CLIENT: Jon Bolstad
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10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 12/02/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P2 ES 11813	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	
Naphthalene	(91203)	5.	41.	
Nitrobenzene	(98953)	5.	ND	
N-Nitrosodimethylamine	(62759)	5.	ND	
N-Nitrosodiphenylamine	(86306)	5.	5.	J1
N-Nitroso di-n-propylamine	(621647)	5.	ND	
Phenanthrene	(85018)	5.	ND	
Pyrene	(129000)	5.	ND	
1,2,4-Trichlorobenzene	(108703)	5.	ND	
Aldrin	(309002)	5.	ND	
alpha BHC	(319846)	5.	ND	
beta BHC	(319857)	5.	ND	
delta-BHC	(319868)	5.	ND	
gamma BHC (Lindane)	(58899)	5.	ND	
p,p'-DDD	(72548)	5.	ND	
p,p'-DDE	(72559)	5.	ND	
p,p'-DDT	(50293)	5.	ND	
Dieldrin	(60571)	5.	ND	
Endosulfan I	(959988)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

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Lab Number : CJ-5269-18
Project : Tinker AFB

Analyzed : 12/03/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P4 ES 11815	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	7.	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 11/03/93 by LP using EPA 3540
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

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Lab Number : CJ-5269-17
Project : Tinker AFB

Analyzed : 12/03/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P3 ES 11814	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	54.	J1
1,2-Dichlorobenzene	(95501)	5.	9.	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

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Lab Number : CJ-5269-19
Project : Tinker AFB

Analyzed : 12/03/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P5 ES 11816	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	5. J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 11/03/93 by LP using EPA 3540
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

12/10/93
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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-5269-18
Project : Tinker AFB

Analyzed : 12/03/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P4 ES 11815	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	56.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

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CLIENT: Jon Bolstad
Engineering Science, Inc.
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Lab Number : CJ-5269-19
Project : Tinker AFB

Analyzed : 12/03/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P5 ES 11816	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	40.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

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Lab Number : CJ-5269-20
Project : Tinker AFB

CLIENT: Jon Bolstad
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10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 12/03/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P6 ES 11817	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	6. J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 11/03/93 by LP using EPA 3540
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

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Lab Number : CJ-5269-20
Project : Tinker AFB

Analyzed : 12/03/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P6 ES 11817	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	49.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

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Lab Number : CJ-5269-21
Project : Tinker AFB

CLIENT: Jon Bolstad
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Analyzed : 12/03/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P7 ES 11818	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	7. J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 11/03/93 by LP using EPA 3540
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

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CLIENT: Jon Bolstad
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Lab Number : CJ-5269-21
Project : Tinker AFB

Analyzed : 12/03/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P7 ES 11818	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	49.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

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CLIENT: Jon Bolstad
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Fairfax, VA 22030

Lab Number : CJ-5269-22
Project : Tinker AFB

Analyzed : 12/03/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P8 ES 11819	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	11. J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 11/03/93 by LP using EPA TO-13
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

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Lab Number : CJ-5269-22
Project : Tinker AFB

Analyzed : 12/03/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P8 ES 11819	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	91.	J1
1,2-Dichlorobenzene	(95501)	5.	13.	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

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Lab Number : CJ-5269-22
Project : Tinker AFB

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Analyzed : 12/03/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P8 ES 11819	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Naphthalene	(91203)	5.	18.	
Nitrobenzene	(98953)	5.	ND	
N-Nitrosodimethylamine	(62759)	5.	ND	
N-Nitrosodiphenylamine	(86306)	5.	7.	J1
N-Nitroso di-n-propylamine	(621647)	5.	ND	
Phenanthrene	(85018)	5.	ND	
Pyrene	(129000)	5.	ND	
1,2,4-Trichlorobenzene	(108703)	5.	ND	
Aldrin	(309002)	5.	ND	
alpha BHC	(319846)	5.	ND	
beta BHC	(319857)	5.	ND	
delta-BHC	(319868)	5.	ND	
gamma BHC (Lindane)	(58899)	5.	ND	
p,p'-DDD	(72548)	5.	ND	
p,p'-DDE	(72559)	5.	ND	
p,p'-DDT	(50293)	5.	ND	
Dieldrin	(60571)	5.	ND	
Endosulfan I	(959988)	5.	ND	
Endosulfan II	(33213659)	5.	ND	
Endosulfan Sulfate	(1031078)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

12/10/93
MSD8/120223A/120706A
MH/edt/dsp
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Lab Number : CJ-5269-23
Project : Tinker AFB

Analyzed : 12/07/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P9 ES 11820	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				
Acenaphthylene	(208968)	5.	ND	1,2
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	9. J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 11/03/93 by LP using EPA TO-13
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

12/10/93
MSD8/120621A/120707A
MH/edt/dsp
CJ526921307B

DJB
2-5-94

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4765 Calle Quetzal, Camarillo, California 93012 FAX (805) 389-1438

Lab Number : CJ-5269-23
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 12/07/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P9 ES 11820	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	92.	J1
1,2-Dichlorobenzene	(95501)	5.	14.	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

12/10/93
MSD8/120621A/120707A
MH/edt/dsp
CJ526921307B

DMB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-5269-23
Project : Tinker AFB

Analyzed : 12/07/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P9 ES 11820	Filter	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Naphthalene	(91203)	5.	55.	
Nitrobenzene	(98953)	5.	ND	
N-Nitrosodimethylamine	(62759)	5.	ND	
N-Nitrosodiphenylamine	(86306)	5.	7.	J1
N-Nitroso di-n-propylamine	(621647)	5.	ND	
Phenanthrene	(85018)	5.	ND	
Pyrene	(129000)	5.	ND	
1,2,4-Trichlorobenzene	(108703)	5.	ND	
Aldrin	(309002)	5.	ND	
alpha BHC	(319846)	5.	ND	
beta BHC	(319857)	5.	ND	
delta-BHC	(319868)	5.	ND	
gamma BHC (Lindane)	(58899)	5.	ND	
p,p'-DDD	(72548)	5.	ND	
p,p'-DDE	(72559)	5.	ND	
p,p'-DDT	(50293)	5.	ND	
Dieldrin	(60571)	5.	ND	
Endosulfan I	(959988)	5.	ND	
Endosulfan II	(33213659)	5.	ND	
Endosulfan Sulfate	(1031078)	5.	ND	

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*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

12/10/93
MSD8/120621A/120707A
MH/edt/dsp
CJ526921307B

DMB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
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Fairfax, VA 22030

Lab Number : CJ-5271-25
Project : Tinker AFB

Analyzed : 11/18/93
Analyzed by: LC
Method : EPA TO-8

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S2-1 ES 11847	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Phenol	(108952)	10.	400	J1

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit,

DMB
2-4-94

11/19/93
HPLC9/GLC32248
MH/gps/lc
CJ53107321X

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Mary Havlicek, Ph.D.
President

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-5271-26
Project : Tinker AFB

Analyzed : 11/18/93
Analyzed by: LC
Method : EPA TO-8

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S5-2 ES 11848	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Phenol	(108952)	10.	18	J1

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

DJB
2-4-94

11/19/93
HPLC9/GLC32249
MH/gps/lc
CJ53107321X

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Mary Havlicek, Ph.D.
President

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Lab Number : CJ-5271-27
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 11/18/93
Analyzed by: LC
Method : EPA TO-8

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S3 ES 11849	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Phenol	(108952)	10.	23	J1

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

DJB
2-4-94

11/19/93
HPLC9/GLC32250
MH/gps/lc
CJ53107321X

Respectfully submitted,
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Mary Havlicek, Ph.D.
President

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-5271-28
Project : Tinker AFB

Analyzed : 11/18/93
Analyzed by: LC
Method : EPA TO-8

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S9 ES 11850	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Phenol	(108952)	10.	22	J1

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

DMB
2-4-94

11/19/93
HPLC9/GLC32251
MH/gps/lc
CJ53107321X

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Mary Havlicek, Ph.D.
President

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CLIENT: Jon Bolstad
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Lab Number : CJ-5256-28
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S9 ES 11840 CAN #608	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
1,3-Dichlorobenzene	0.2	ND	ND	
1,4-Dichlorobenzene	0.2	ND	ND	
1,1-Dichloroethane	0.2	1.	4.0	
1,2-Dichloroethane (EDC)	0.5	ND	ND	
1,1-Dichloroethene	0.5	ND	ND	
cis-1,2-Dichloroethene	0.5	7.8	31.	
trans-1,2-Dichloroethene	0.5	ND	ND	
Dichloromethane	2.	830.	2900.	J1
1,2-Dichloropropane	0.2	ND	ND	
cis-1,3-Dichloropropene	0.2	ND	ND	
trans-1,3-Dichloropropene	0.2	ND	ND	
Ethylbenzene	0.5	1.4	6.2	
2-Hexanone	0.2	ND	ND	
4-Methyl-2-Pentanone (MIBK)	0.2	ND	ND	
Styrene	0.5	ND	ND	
1,1,2,2-Tetrachloroethane	0.2	ND	ND	
Tetrachloroethene (PCE)	0.2	370.	2500.	
Toluene	0.5	8.8	33.	J1
1,1,1-Trichloroethane (TCA)	0.5	38.	210.	J1
1,1,2-Trichloroethane	0.5	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/04/93
MS1/1F60K
GD/ge
MS1*A

MB
2-5-94

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CLIENT: Jon Bolstad
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10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-5256-28
Project : Tinker AFB

Analyzed : 11/03/93
Analyzed by: EJ
Method : EPA TO-14

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S9 ES 11840 CAN #608	Air	Rollie Rosario	11/02/93	11/03/93

CONSTITUENT	*PQL ppbv	RESULT ppbv	RESULT µg/cu M	NOTE
VOLATILE ORGANICS BY EPA TO-14				1,2
Acetone	2.	80.	190. J1	
Benzene	0.2	ND	ND	
Bromodichloromethane	0.2	ND	ND	
Bromomethane (Methyl Bromide)	0.5	ND	ND	
Bromoform	0.2	ND	ND	
1,3-Butadiene	1.	ND	ND	
2-Butanone (MEK)	0.5	9.5	28.	
Carbon Disulfide	2.	ND	ND	
Carbon Tetrachloride	0.2	ND	ND	
Chlorobenzene	0.2	ND	ND	
Chloroethane (Ethyl Chloride)	0.5	ND	ND	
2-Chloroethyl Vinyl Ether	2.	ND	ND	
Chloroform	1.	ND	ND	
Chloromethane (Methyl Chloride)	0.5	ND	ND	
Dibromochloromethane	0.2	ND	ND	
1,2-Dibromoethane (EDB)	0.5	ND	ND	
1,2-Dichlorobenzene	0.2	ND	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg. K.

(2) Canister was received under vacuum at -18.5 in. Hg and pressurized to 19 psig with He.

11/04/93
MS1/1F60K
GD/ge
MS1*A

DMB
2-5-94

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CLIENT: Jon Bolstad
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Fairfax, VA 22030

Lab Number : CJ-4445-3
Project : Tinker AFB

Analyzed : 10/02/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A5-P ES-10232	Filter	Jon Bolstad	09/24/93	09/28/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	6.9	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 09/29/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

10/07/93
MSD5/100210D
MH/edt/clr
CJ44451272B

DMB
2.5.94

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Lab Number : CJ-4445-1
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 10/02/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A4-P ES-10230	Filter	Jon Bolstad	09/24/93	09/28/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	13. JL	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 09/29/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

10/07/93
MSD5/100208D
MH/edt/clr
CJ44451272B

DMB
2.5-94

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FAX (805) 389-1438

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-4445-7
Project : Tinker AFB

Analyzed : 10/04/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A6-P ES-10236	Filter	Jon Bolstad	09/24/93	09/28/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	7.4 J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 09/29/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

10/14/93
MSD5/100407D
MH/edt/clr
CJ444501272B

DYB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-4445-6
Project : Tinker AFB

Analyzed : 10/04/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A3-P ES-10235	Filter	Jon Bolstad	09/24/93	09/28/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	13.	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 09/29/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

10/14/93
MSD5/100406D
MH/edt/clr
CJ444501272B

DYB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-4445-9
Project : Tinker AFB

Analyzed : 10/04/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A8-P ES-10238	Filter	Jon Bolstad	09/24/93	09/28/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	10. J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 09/29/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

10/14/93
MSD5/100409D
MH/edt/clr
CJ444501272B

DYB
2-5-94

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Lab Number : CJ-4445-8
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 10/04/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A7-P ES-10237	Filter	Jon Bolstad	09/24/93	09/28/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	5.4 J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 09/29/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

10/14/93
MSD5/100408D
MH/edt/clr
CJ4445012728

DMB
2-5-94

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CLIENT: Jon Bolstad
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Lab Number : CJ-4445-12
Project : Tinker AFB

Analyzed : 10/04/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A13-P ES-10242	Filter	Jon Bolstad	09/24/93	09/28/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				
Acenaphthylene	(208968)	5.	ND	1,2
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	5.6	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 09/29/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

10/14/93
MSD5/100412D
MH/edt/clr
CJ444501272B

DYB
2.5.94

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CLIENT: Jon Bolstad
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Lab Number : CJ-4445-11
Project : Tinker AFB

Analyzed : 10/04/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A10-P ES-10240	Filter	Jon Bolstad	09/24/93	09/28/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	9.4	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 09/29/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

10/14/93
MSD5/100411D
MH/edt/clr
CJ444511272B

DYB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-4445-14
Project : Tinker AFB

Analyzed : 10/06/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P1-P ES-10286	Filter	Jon Bolstad	09/24/93	09/28/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	6.3	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 09/29/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

10/08/93
MSD5/100512D
MH/edt/clr
CJ444501272B

DYB
2.5-94

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Lab Number : CJ-4445-13
Project : Tinker AFB

CLIENT: Jon Bolstad
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10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 10/06/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A12-P ES-10241	Filter	Jon Bolstad	09/24/93	09/28/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	11.	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 09/29/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

10/08/93
MSD5/100511D
MH/edt/clr
CJ444501272B

DYB
2-5-94

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CLIENT: Jon Bolstad
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Fairfax, VA 22030

Lab Number : CJ-4445-17
Project : Tinker AFB

Analyzed : 10/07/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P4-P ES-10300	Filter	Jon Bolstad	09/24/93	09/28/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				
Acenaphthylene	(208968)	5.	ND	1,2
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	11.	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 09/29/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

10/14/93
MSD5/100707D
MH/edt/clr
CJ4445012728

DYB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
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Fairfax, VA 22030

Lab Number : CJ-4445-16
Project : Tinker AFB

Analyzed : 10/06/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P3-P ES-10299	Filter	Jon Bolstad	09/24/93	09/28/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	5.7	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 09/29/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

10/08/93
MSD5/100514D
MH/edt/clr
CJ444501272B

DYB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-4445-20
Project : Tinker AFB

Analyzed : 10/08/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P8-P ES-10325	Filter	Jon Bolstad	09/24/93	09/28/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				
Acenaphthylene	(208968)	5.	ND	1,2
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	5.7 J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 09/29/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

10/14/93
MSD5/100805D/100818D
MH/edt/mah
CJ444511272B

DYB
2-5-94

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Lab Number : CJ-4445-19
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 10/08/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P7-P ES-10324	Filter	Jon Bolstad	09/24/93	09/28/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	6.4	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 09/29/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

10/14/93
MSD5/100804D/100817D
MH/edt/mah
CJ444511272B

DYB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
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Fairfax, VA 22030

Lab Number : CJ-4445-22
Project : Tinker AFB

Analyzed : 10/08/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P6-P ES-10323	Filter	Jon Bolstad	09/24/93	09/28/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	9.2	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 09/29/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

10/18/93
MSD5/100807D/100820D
MH/edt/mah
CJ444521272B

DYB
2-5-94

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CLIENT: Jon Bolstad
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Lab Number : CJ-4445-21
Project : Tinker AFB

Analyzed : 10/08/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P9-P ES-10326	Filter	Jon Bolstad	09/24/93	09/28/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5	5.0	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 09/29/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

10/14/93
MSD5/100806D/100819D
MH/edt/clr/mah
CJ444521272B

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2-5-94

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CLIENT: Jon Bolstad
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Lab Number : CJ-4905-1
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A12 ES-11203	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	
Naphthalene	(91203)	5.	19.	
Nitrobenzene	(98953)	5.	ND	
N-Nitrosodimethylamine	(62759)	5.	ND	
N-Nitrosodiphenylamine	(86306)	5.	ND	
N-Nitroso di-n-propylamine	(621647)	5.	Not Appl.	43 J4
Phenanthrene	(85018)	5.	ND	
Pyrene	(129000)	5.	Not Appl.	36 J4
1,2,4-Trichlorobenzene	(108703)	5.	Not Appl.	40 J4
Aldrin	(309002)	5.	ND	
alpha BHC	(319846)	5.	ND	
beta BHC	(319857)	5.	ND	
delta-BHC	(319868)	5.	ND	
gamma BHC (Lindane)	(58899)	5.	ND	
p,p'-DDD	(72548)	5.	ND	
p,p'-DDE	(72559)	5.	ND	
p,p'-DDT	(50293)	5.	ND	
Dieldrin	(60571)	5.	ND	
Endosulfan I	(959988)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/24/93
MSD5/111235D
MH/edt/clr
CJ490501291B

DYB
2-14-94

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Lab Number : CJ-4905-1
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 11/13/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A12 ES-11203	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2,3
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	Not Appl. 39 J4	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	ND	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 10/18/93 by LP using EPA 3540
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.
(3) This sample was accidently spiked with the matrix spiking solution. The spiked analytes were reported as "NA" for this sample.

11/24/93
MSD5/111235D
MH/edt/clr
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CLIENT: Jon Bolstad
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Lab Number : CJ-4905-1
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A12 ES-11203	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
2,4-Dinitrophenol	(51285)	5.	ND	
2-Methyl-4,6-dinitrophenol	(534521)	5.	ND	
2-Nitrophenol	(88755)	5.	ND	
4-Nitrophenol	(100027)	5.	Not Appl. 44	J4
Pentachlorophenol	(87865)	5.	Not Appl. 48	J4
Phenol	(108952)	5.	Not Appl. 89	J4
2,4,6-Trichlorophenol	(88062)	5.	ND	
Cresols		5.	ND	
Methylnaphthalenes		5.	45.	
Nitrobenzene-d5 (Surrogate Percent Recovery)			30.	
2-Fluorobiphenyl (Surrogate Standard % Recovery)			36.	
4-Terphenyl-d14 (Surrogate Standard % Recovery)			31.	
Phenol-d5 (Surrogate Standard % Recovery)			25.	
2-Fluorophenol (Surrogate Standard % Recovery)			27.	
2,4,6,-Tribromophenol (Surrogate Standard % Recovery)			32.	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

DMB
2/14/94

11/24/93
MSD5/111235D
MH/edt/clr
CJ490501291B

Respectfully submitted,
COAST-TO-COAST ANALYTICAL SERVICES, INC.

Mary Havlicek, Ph.D.
President

COAST-TO-COAST ANALYTICAL SERVICES

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Lab Number : CJ-4905-1
Project : Tinker AFB

CLIENT: Jon Bolstad
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10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 11/13/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A12 ES-11203	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Endosulfan II	(33213659)	5.	ND	
Endosulfan Sulfate	(1031078)	5.	ND	
Endrin	(72208)	5.	ND	
Endrin Aldehyde	(7421934)	5.	ND	
Heptachlor	(76448)	5.	ND	
Heptachlor Epoxide	(1024573)	5.	ND	
Chlordane	(57749)	50.	ND	
Methoxychlor	(72435)	5.	ND	
Toxaphene	(8001352)	50.	ND	
PCB 1016	(12674112)	50.	ND	
PCB 1221	(11104282)	50.	ND	
PCB 1232	(11141165)	50.	ND	
PCB 1242	(53469219)	50.	ND	
PCB 1248	(12672825)	50.	ND	
PCB 1254	(11097691)	50.	ND	
PCB 1260	(11096825)	50.	ND	
4-Chloro-3-methylphenol	(59507)	5.	Not Appl. 68	J4
2-Chlorophenol	(95578)	5.	Not Appl. 59	J4
2,4-Dichlorophenol	(120832)	5.	ND	
2,4-Dimethylphenol	(105679)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

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CJ490501291B

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CLIENT: Jon Bolstad
Engineering Science, Inc.
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Fairfax, VA 22030

Lab Number : CJ-4905-2
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A13 ES-11204	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	28.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

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MSD5/111236D
MH/edt/clr
CJ490501291B

DMB
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4765 Calle Quetzal, Camarillo, California 93012 FAX (805) 389-1438

Lab Number : CJ-4905-1
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 11/13/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A12 ES-11203	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	53.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	Not Appl. 54	J4
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	Not Appl. 35	J4
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/24/93
MSD5/111235D
MH/edt/clr
CJ490501291B

DAB
2-5-94

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CLIENT: Jon Bolstad
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Fairfax, VA 22030

Lab Number : CJ-4905-4
Project : Tinker AFB

Analyzed : 11/16/93
Analyzed by: MH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P2 ES-11206	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	90.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/24/93
MSD5/111708D
MH/edt/wh
CJ490501291B

DYB
2-5-94

COAST-TO-COAST ANALYTICAL SERVICES

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-4905-3
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P1 ES-11205	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	71.	J1
1,2-Dichlorobenzene	(95501)	5.	8.5	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/24/93
MSD5/111237D/111707D
MH/edt/wh
CJ490501291B

DMB
2-5-94

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CLIENT: Jon Bolstad
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Fairfax, VA 22030

Lab Number : CJ-4905-5
Project : Tinker AFB

Analyzed : 11/16/93
Analyzed by: WH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P3 ES-11207	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	47.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/24/93
MSD8/111525A
MH/edt/clr
CJ490501291B

DYB
2-5-94

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Lab Number : CJ-4905-5
Project : Tinker AFB

Analyzed : 11/16/93
Analyzed by: WH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P3 ES-11207	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	5.1 J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 10/18/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

11/24/93
MSD8/111525A
MH/edt/clr
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Lab Number : CJ-4905-6
Project : Tinker AFB

Analyzed : 11/18/93
Analyzed by: WH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P4 ES-11208	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	54.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/24/93
MSD8/111808A
MH/edt/mah
CJ490501291B

DYB
2-5-94

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CLIENT: Jon Bolstad
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Lab Number : CJ-4905-6
Project : Tinker AFB

Analyzed : 11/18/93
Analyzed by: WH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P4 ES-11208	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	6. J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 10/18/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

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CLIENT: Jon Bolstad
Engineering Science, Inc.
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Fairfax, VA 22030

Lab Number : CJ-4905-8
Project : Tinker AFB

Analyzed : 11/12/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P6 ES-11210	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	5.7	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 10/18/93 by LP using EPA TO-13

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

11/24/93
MSD8/111205A
MH/edt/clr
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Lab Number : CJ-4905-7
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 11/18/93
Analyzed by: WH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P5 ES-11209	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	40.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/24/93
MSD8/111809A
MH/edt/mah
CJ490501291B

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CLIENT: Jon Bolstad
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Fairfax, VA 22030

Lab Number : CJ-4905-9
Project : Tinker AFB

Analyzed : 11/12/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P7 ES-11211	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				
Acenaphthylene	(208968)	5.	ND	1,2
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	25. J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 10/18/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

11/24/93
MSD8/111206A
MH/edt/clr
CJ490501291B

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2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-4905-8
Project : Tinker AFB

Analyzed : 11/12/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P6 ES-11210	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	51.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/24/93
MSD8/111205A
MH/edt/clr
CJ490501291B

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2-5-94

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CLIENT: Jon Bolstad
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Lab Number : CJ-4905-10
Project : Tinker AFB

Analyzed : 11/12/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P8 ES-11212	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	33.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/24/93
MSD8/111207A
MH/edt/clr
CJ490501291B

DYB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
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Fairfax, VA 22030

Lab Number : CJ-4905-9
Project : Tinker AFB

Analyzed : 11/12/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P7 ES-11211	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	38.	JL
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/24/93
MSD8/111206A
MH/edt/clr
CJ490501291B

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CLIENT: Jon Bolstad
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Lab Number : CJ-4905-11
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P9 ES-11213	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	81.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	6.	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/24/93
MSD8/111208A/111610A
MH/edt/clr/mah
CJ490511291B

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Lab Number : CJ-4905-11
Project : Tinker AFB

CLIENT: Jon Bolstad
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Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P9 ES-11213	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	15.	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 10/18/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

11/24/93
MSD8/111208A/111610A
MH/edt/clr/mah
CJ490511291B

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Fairfax, VA 22030

Lab Number : CJ-4905-14
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A1 ES-11192	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg		NOTE
SVOA PRIORITY POLLUTANTS by TO-13					1,2
Acenaphthylene	(208968)	5.	ND		
Acenaphthene	(83329)	5.	ND		
Anthracene	(120127)	5.	ND		
Benzidine	(92875)	5.	ND		
Benzo(a)anthracene	(56553)	5.	ND		
Benzo(b)fluoranthene	(205992)	5.	ND		
Benzo(k)fluoranthene	(207089)	5.	ND		
Benzo(a)pyrene	(50328)	5.	ND		
Benzo(ghi)perylene	(191242)	5.	ND		
Bis(2-chloroethoxy)methane	(111911)	5.	ND		
Bis(2-chloroethyl)ether	(111444)	5.	ND		
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND		
Bis(2-ethylhexyl)phthalate	(117817)	5.	5.3	J1	
4-Bromophenylphenylether	(101553)	5.	ND		
Butylbenzylphthalate	(85687)	5.	ND		
2-Chloronaphthalene	(91587)	5.	ND		
4-Chlorophenylphenylether	(7005723)	5.	ND		

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 10/18/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

11/24/93
MSD8/111211A
MH/edt/clr
CJ4905112913

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Lab Number : CJ-4905-12
Project : Tinker AFB

CLIENT: Jon Bolstad
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10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 11/18/93
Analyzed by: WH
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
P10 ES-11214	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	50.	ND	
Dibenzo(a,h)anthracene	(53703)	50.	ND	
Di-n-butylphthalate	(84742)	50.	60.	J1
1,2-Dichlorobenzene	(95501)	50.	ND	
1,3-Dichlorobenzene	(541731)	50.	ND	
1,4-Dichlorobenzene	(106467)	50.	ND	
3,3-Dichlorobenzidine	(91941)	50.	ND	
Diethylphthalate	(84662)	50.	ND	
Dimethylphthalate	(131113)	50.	ND	
2,4-Dinitrotoluene	(121142)	50.	ND	
2,6-Dinitrotoluene	(606202)	50.	ND	
Di-n-octylphthalate	(117840)	50.	ND	
Fluoranthene	(206440)	50.	ND	
Fluorene	(86737)	50.	ND	
Hexachlorobenzene	(118741)	50.	ND	
Hexachlorobutadiene	(87683)	50.	ND	
Hexachlorocyclopentadiene	(77474)	50.	ND	
Hexachloroethane	(67721)	50.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	50.	ND	
Isophorone	(78591)	50.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/24/93
MSD8/111811A
MH/edt/clr/mah
CJ490511291B

DYB
2-5-94

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CLIENT: Jon Bolstad
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Lab Number : CJ-4905-15
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A2 ES-11193	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	19. J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 10/18/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

11/24/93
MSD8/111212A
MH/edt/clr
CJ4905112913

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Lab Number : CJ-4905-14
Project : Tinker AFB

CLIENT: Jon Bolstad
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Fairfax, VA 22030

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A1 ES-11192	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	42.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	6.8	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/24/93
MSD8/111211A
MH/edt/clr
CJ4905112913

DMB
2-5-94

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CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Lab Number : CJ-4905-16
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A3 ES-11194	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	12.	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 10/18/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

11/24/93
MSD8/111217A
MH/edt/clr
CJ490511291B

DYB
2-5-94

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Lab Number : CJ-4905-15
Project : Tinker AFB

CLIENT: Jon Bolstad
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10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A2 ES-11193	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	20.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	7.6	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/24/93
MSD8/111212A
MH/edt/clr
CJ490511291B

DMB
2-5-94

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Fairfax, VA 22030

Lab Number : CJ-4905-17
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A4 ES-11195	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	21. J1	
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 10/18/93 by LP using EPA 3540
(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

11/24/93
MSD8/111218A
MH/edt/clr
CJ490511291B

DYB
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Fairfax, VA 22030

Lab Number : CJ-4905-16
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A3 ES-11194	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	20.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	ND	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	ND	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/24/93
MSD8/111217A
MH/edt/clr
CJ490511291B

DYB
2-5-94

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CLIENT: Jon Bolstad
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Lab Number : CJ-4905-18
Project : Tinker AFB

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A5 ES-11196	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
SVOA PRIORITY POLLUTANTS by TO-13				1,2
Acenaphthylene	(208968)	5.	ND	
Acenaphthene	(83329)	5.	ND	
Anthracene	(120127)	5.	ND	
Benzidine	(92875)	5.	ND	
Benzo(a)anthracene	(56553)	5.	ND	
Benzo(b)fluoranthene	(205992)	5.	ND	
Benzo(k)fluoranthene	(207089)	5.	ND	
Benzo(a)pyrene	(50328)	5.	ND	
Benzo(ghi)perylene	(191242)	5.	ND	
Bis(2-chloroethoxy)methane	(111911)	5.	ND	
Bis(2-chloroethyl)ether	(111444)	5.	ND	
Bis(2-chloroisopropyl)ether	(39638329)	5.	ND	
Bis(2-ethylhexyl)phthalate	(117817)	5.	6.8	J1
4-Bromophenylphenylether	(101553)	5.	ND	
Butylbenzylphthalate	(85687)	5.	ND	
2-Chloronaphthalene	(91587)	5.	ND	
4-Chlorophenylphenylether	(7005723)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187

*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

(1) Sample Preparation on 10/18/93 by LP using EPA 3540

(2) Acid surrogates are spiked at 200 ug; base/neutral surrogates are spiked at 100 ug.

11/24/93
MSD8/111219A
MH/edt/clr
CJ4905112913

DYB
2.5.94

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Lab Number : CJ-4905-17
Project : Tinker AFB

CLIENT: Jon Bolstad
Engineering Science, Inc.
10521 Rosehaven St.
Fairfax, VA 22030

Analyzed : 11/13/93
Analyzed by: DP
Method : EPA TO-13

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
A4 ES-11195	Filter	D. A. Hurley	10/16/93	10/18/93

CONSTITUENT	(CAS RN)	*PQL Total µg	RESULT Total µg	NOTE
Chrysene	(218019)	5.	ND	
Dibenzo(a,h)anthracene	(53703)	5.	ND	
Di-n-butylphthalate	(84742)	5.	20.	J1
1,2-Dichlorobenzene	(95501)	5.	ND	
1,3-Dichlorobenzene	(541731)	5.	ND	
1,4-Dichlorobenzene	(106467)	5.	ND	
3,3-Dichlorobenzidine	(91941)	5.	ND	
Diethylphthalate	(84662)	5.	5.3	
Dimethylphthalate	(131113)	5.	ND	
2,4-Dinitrotoluene	(121142)	5.	ND	
2,6-Dinitrotoluene	(606202)	5.	ND	
Di-n-octylphthalate	(117840)	5.	8.3	
Fluoranthene	(206440)	5.	ND	
Fluorene	(86737)	5.	ND	
Hexachlorobenzene	(118741)	5.	ND	
Hexachlorobutadiene	(87683)	5.	ND	
Hexachlorocyclopentadiene	(77474)	5.	ND	
Hexachloroethane	(67721)	5.	ND	
Indeno(1,2,3-cd)pyrene	(193395)	5.	ND	
Isophorone	(78591)	5.	ND	

Lab Certifications: CAELAP #1598 & #1783; UTELAP #E-142; AZELAP #AZ0162; A2LA #0136-01; L.A.Co.CSD #10187
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

11/24/93
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CJ490511291B

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2-5-94

Table N.1
VOC Concentrations
Flux and Probe Source Locations
Phase A, First Sample
Tinker AFB, Oklahoma

SAMPLE DATE	Station Location													
	09/22/93 S2-1		09/22/93 S2-2		09/22/93 S3		09/22/93 S5-1		09/22/93 S5-2		09/23/93 S9		09/23/93 S12	
ANALYTE ($\mu g/m^3$)	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe
1,1,1-Trichloroethane (TCA)	200000	110.0	390000	100.0	14000.0	34.0	3300.0	63.0	1500.0	61.0	8200.0	28.0	1200.0	15.0
1,1-Dichloroethane	1800	0.5 *	1000	1.0 *	410.0	0.5 *	67.0	5.0 *	35.0	1.0 *	25.0 *	1.0 *	38.0	1.0 *
1,1-Dichloroethene	1000 *	1.0 *	500 *	2.0 *	160.0	1.0 *	5.0 *	10.0 *	10.0 *	2.0 *	50.0 *	2.0 *	1.0 *	2.0 *
1,3-Dichlorobenzene	9800	1.0 *	10000	2.0 *	34.0	1.0 *	83.0	10.0 *	10.0 *	2.0 *	230.0	2.0 *	1.0 *	2.0 *
1,4-Dichlorobenzene	17000	32.0	11000	4.6	110.0	1.0 *	260.0	10.0 *	23.0	2.0 *	430.0	23.0	20.0	2.0 *
2-Butanone (MEK)	2200	34.0	500 *	26.0	10.0 *	9.8	340.0	10.0 *	400.0	2.0 *	50.0 *	2.0 *	1.0 *	2.0 *
2-Hexanone	500 *	0.5 *	300 *	1.0 *	5.0 *	0.5 *	99.0	5.0 *	5.0 *	1.0 *	25.0 *	1.0 *	0.5 *	1.0 *
4-Methyl-2-Pentanone (MIBK)	500 *	0.5 *	300 *	1.0 *	5.0 *	0.5 *	2.5 *	5.0 *	5.0 *	1.0 *	25.0 *	1.0 *	0.5 *	1.0 *
Acetone	3000	3.0 *	2300	27.0	840.0	14.0	450.0	59.0	330.0	65.0	420.0	38.0	31.0	33.0
Benzene	500 *	1.6	300	1.8	380.0	0.5 *	72.0	5.0 *	43.0	1.7	25.0 *	1.0 *	0.5 *	1.0 *
Carbon Disulfide	5000 *	5.0 *	3000 *	10.0 *	50.0 *	5.0 *	25.0 *	50.0 *	50.0 *	10.0 *	250.0 *	10.0 *	5.0 *	10.0 *
Chlorobenzene	500 *	0.5 *	300 *	1.0 *	170.0	0.5 *	57.0	5.0 *	32.0	1.0 *	25.0 *	1.0 *	0.5 *	1.0 *
Chloroform	3000 *	3.0 *	2000 *	6.0 *	480.0	3.0 *	53.0	30.0 *	30.0 *	6.0 *	150.0 *	6.0 *	33.0	6.0 *
Chloromethane (Methyl Chloride)	500 *	7.4	300 *	1.0 *	260.0	0.5 *	2.5 *	5.0 *	5.0 *	1.0 *	25.0 *	1.0 *	0.5 *	1.0 *
Dichloromethane	880000	1800.0	760000	1300.0	9100.0	750.0	7000.0	1600.0	11000.0	1300.0	35000.0	600.0	1300.0	66.0
Ethylbenzene	1000 *	1.0 *	2600	2.0 *	1700.0	1.1	98.0	10.0 *	47.0	2.0 *	50.0 *	2.0 *	1.0 *	2.0 *
Styrene	1000 *	1.0 *	500 *	2.0 *	10.0 *	1.0 *	5.0 *	10.0 *	10.0 *	2.0 *	50.0 *	2.0 *	1.0 *	2.0 *
Tetrachloroethene (PCE)	240000	94.0	350000	47.0	10000.0	24.0	3300.0	45.0	1700.0	48.0	5900.0	180.0	1600.0	27.0
Toluene	41000	35.0	110000	32.0	6000.0	17.0	1400.0	26.0	800.0	28.0	1700.0	23.0	44.0	2.0
Trichloroethene (TCE)	3400	1.0	3200	1.0 *	2700.0	0.5 *	780.0	11.0	390.0	12.0	100.0	1.0 *	110.0	1.0 *
Trichlorofluoromethane (F-11)	1000 *	1.0 *	500 *	2.0 *	10.0 *	1.5	5.0 *	10.0 *	10.0 *	2.0 *	50.0 *	2.0 *	1.0 *	2.0 *
Trichlorotrifluoroethane (F-113)	5600	4.4	7500	4.0 *	2500.0	2.0 *	360.0	20.0 *	55.0	4.0 *	100.0	4.0 *	58.0	4.0 *
Vinyl Chloride	500 *	0.5 *	300 *	1.0 *	98.0	0.5 *	16.0	5.0 *	5.0 *	1.0 *	25.0 *	1.0 *	0.5 *	1.0 *
Xylenes	4900	5.4	33000	6.8	9300.0	11.0	1000.0	10.0 *	580.0	13.0	430.0	2.0 *	1.0 *	2.0 *
cis-1,2-Dichloroethene	1000 *	1.0 *	500 *	2.0 *	2200.0	1.0 *	410.0	10.0 *	260.0	7.6	50.0 *	2.0 *	6.6	2.0 *

450RB/123r34/nu401/afv_1.wk3

* - Not detected; reported value is PQL.

Table N.1 (continued)
VOC Concentrations
Flux and Probe Source Locations
Phase A, Second Sample
Tinker AFB, Oklahoma

SAMPLE DATE	Station Location													
	09/24/93 S2-1		09/24/93 S2-2		09/24/93 S3		09/24/93 S5-1		09/24/93 S5-2†		09/27/93 S9		09/27/93 S12	
ANALYTE ($\mu g/m^3$)	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe
1,1,1-Trichloroethane (TCA)	100000	52.0	78000	140.0	4600.0	32.0	1100.0	160.0	6100.0		5600.0	100.0	1600.0	65.0
1,1-Dichloroethane	600	0.5 *	100 *	1.0 *	48.0	0.5 *	8.7	1.0 *	25.0 *		12.0	1.0 *	41.0	1.0 *
1,1-Dichloroethene	500 *	1.0 *	200 *	2.0 *	10.0 *	1.0 *	2.0 *	2.0 *	50.0 *		5.0 *	2.0 *	2.0 *	2.0 *
1,3-Dichlorobenzene	900	6.8	700	16.0	10.0 *	1.0 *	35.0	2.0 *	190.0		5.0 *	65.0	6.2	2.0 *
1,4-Dichlorobenzene	19000	20.0	3100	26.0	1300.0	23.0	90.0	2.0 *	420.0		72.0	200.0	43.0	2.0 *
2-Butanone (MEK)	500 *	45.0	1200	42.0	550.0	45.0	89.0	85.0	500.0		89.0	19.0	2.0 *	2.0 *
2-Hexanone	300 *	0.5 *	100 *	1.0 *	5.0 *	0.5 *	1.0 *	1.0 *	25.0 *		3.0 *	1.0 *	1.0 *	1.0 *
4-Methyl-2-Pentanone (MIBK)	300 *	0.5 *	100 *	1.0 *	5.0 *	0.5 *	1.0 *	1.0 *	25.0 *		3.0 *	1.0 *	1.0 *	1.0 *
Acetone	2000 *	170.0	800	110.0	680.0	170.0	190.0	280.0	590.0		150.0	36.0	150.0	52.0
Benzene	300 *	1.8	100	1.7	12.0	2.3	5.0	1.0 *	27.0		3.9	1.0 *	1.0 *	1.0 *
Carbon Disulfide	3000 *	5.0 *	1000 *	10.0 *	50.0 *	5.0 *	10.0 *	10.0 *	250.0 *		30.0 *	10.0 *	10.0 *	10.0 *
Chlorobenzene	300 *	0.5 *	100 *	1.0 *	90.0	0.5 *	12.0	1.0 *	25.0 *		21.0	1.0 *	1.0 *	1.0 *
Chloroform	2000 *	3.0 *	600 *	6.0 *	30.0 *	3.0 *	6.0 *	6.0 *	150.0 *		20.0 *	6.0 *	6.0 *	6.0 *
Chloromethane (Methyl Chloride)	300 *	0.5 *	100 *	1.0 *	5.0 *	0.5 *	27.0	1.0 *	25.0 *		3.0 *	1.0 *	1.0 *	1.0 *
Dichloromethane	540000	1300.0	290000	2400.0	15000.0	590.0	3600.0	2400.0	41000.0		8800.0	1300.0	1900.0	430.0
Ethylbenzene	500 *	1.0 *	200 *	2.0 *	110.0	1.0 *	9.4	2.0 *	50.0 *		50.0	2.0 *	2.0 *	5.0
Styrene	500 *	1.0 *	200 *	2.0 *	10.0 *	1.0 *	2.0 *	2.0 *	50.0 *		5.0 *	2.0 *	2.0 *	2.0 *
Tetrachloroethene (PCE)	110000	51.0	8900	70.0	7200.0	76.0	930.0	120.0	5700.0		3300.0	180.0	1400.0	120.0
Toluene	19000	18.0	28000	67.0	3400.0	30.0	530.0	98.0	2000.0		3600.0	140.0	34.0	22.0
Trichloroethene (TCE)	1000	0.5 *	100 *	1.0 *	220.0	1.2	87.0	12.0	380.0		66.0	1.0 *	57.0	1.0 *
Trichlorofluoromethane (F-11)	500 *	1.0 *	200 *	2.0 *	10.0 *	1.0 *	2.0 *	2.0 *	50.0 *		5.0 *	2.0 *	2.0 *	2.0 *
Trichlorotrifluoroethane (F-113)	3400	2.0 *	400 *	4.0 *	210.0	2.0 *	50.0	4.0 *	730.0		37.0	4.0 *	50.0	4.0
Vinyl Chloride	300 *	0.5 *	100 *	1.0 *	5.0 *	0.5 *	1.0 *	1.0 *	25.0 *		3.0 *	1.0 *	1.0 *	1.0 *
Xylenes	500 *	1.0 *	500	2.0 *	1400.0	16.0	130.0	20.0	640.0		680.0	20.0	2.0 *	69.0
cis-1,2-Dichloroethene	500 *	1.0 *	200 *	2.0 *	510.0	2.2	69.0	12.0	210.0		52.0	2.0 *	7.4	2.0 *

450RB/123r34/w401/tfv_2.wk3

* – Not detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.1 (continued)
VOC Concentrations
Flux and Probe Source Locations
Phase A, Third Sample
Tinker AFB, Oklahoma

SAMPLE DATE	Station Location													
	09/27/93 S2-1†		09/27/93 S2-2†		09/27/93 S3†		09/27/93 S5-1†		09/27/93 S5-2†		09/29/93 S9†		09/29/93 S12†	
ANALYTE ($\mu g/m^3$)	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe
1,1,1-Trichloroethane (TCA)	2.5		160000		4300.0		23.0		1600.0		1200.0		1900.0	
1,1-Dichloroethane	0.5 *		100 *		37.0		0.5 *		34.0		12.0		48.0	
1,1-Dichloroethene	1.0 *		200 *		20.0 *		1.0 *		2.0 *		1.0 *		2.0 *	
1,3-Dichlorobenzene	1.0 *		7400		20.0 *		1.0 *		18.0		1.0 *		2.0 *	
1,4-Dichlorobenzene	1.0 *		29000		20.0 *		1.0 *		19.0		63.0		2.0 *	
2-Butanone (MEK)	1.0 *		200 *		20.0 *		1.0 *		190.0		170.0		2.0 *	
2-Hexanone	0.5 *		100 *		10.0 *		0.5 *		1.0 *		0.5 *		1.0 *	
4-Methyl-2-Pentanone (MIBK)	0.5 *		100 *		10.0 *		5.3		68.0		28.0		1.0 *	
Acetone	180.0		600 *		460.0		250.0		130.0		200.0		30.0	
Benzene	1.6		100 *		60.0		2.7		25.0		4.1		1.0 *	
Carbon Disulfide	5.0 *		1000 *		100.0 *		5.0 *		10.0 *		10.0		10.0 *	
Chlorobenzene	0.5 *		100 *		54.0		2.6		26.0		8.0		1.0 *	
Chloroform	3.0 *		600 *		60.0 *		3.0 *		6.0 *		3.0 *		6.0 *	
Chloromethane (Methyl Chloride)	0.5 *		100 *		10.0 *		23.0		1.0 *		0.5 *		1.0 *	
Dichloromethane	13.0		330000		27000.0		420.0		6400.0		3100.0		2200.0	
Ethylbenzene	1.0 *		500		690.0		3.2		93.0		19.0		2.0 *	
Styrene	1.0 *		200 *		20.0 *		3.6		2.0 *		1.0 *		2.0 *	
Tetrachloroethene (PCE)	1.0 *		56000		5000.0		19.0		900.0		640.0		1100.0	
Toluene	48.0		77000		2600.0		230.0		870.0		720.0		28.0	
Trichloroethene (TCE)	0.5 *		400		150.0		0.7		85.0		26.0		24.0	
Trichlorofluoromethane (F-11)	4.3		200 *		20.0 *		5.8		2.0 *		1.0 *		2.0 *	
Trichlorotrifluoroethane (F-113)	5.7		2700		100.0		16.0		22.0		9.3		41.0	
Vinyl Chloride	0.5 *		100 *		10.0 *		0.5 *		1.0 *		0.5 *		1.0 *	
Xylenes	10.0		5900		6500.0		31.0		960.0		230.0		2.0 *	
cis-1,2-Dichloroethene	1.0 *		200 *		220.0		1.2		200.0		72.0		2.0 *	

450RB/123r34/au401/tfv_3.wk3

* – Not detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.2
VOC Concentrations
Probe Source Locations
Phase A, First Sample
Tinker AFB, Oklahoma

Sample Date	09/22/93	09/23/93	09/23/93	09/25/93	09/25/93	09/25/93	09/25/93	09/23/93	09/23/93	09/23/93	09/23/93	09/23/93
ANALYTE ($\mu g/m^3$)	S6-1	S8	S11	S13	S15	S16	S17	S19	S20-2	S21	S22	S23
1,1,1-Trichloroethane (TCA)	210.0	76.0	1.0 *	42.0	1.0 *	3.2	13.0	18.0	2.5	1.0 *	19.0	1.0 *
1,1-Dichloroethane	1.0 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	0.5 *
1,1-Dichloroethene	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *
1,3-Dichlorobenzene	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *
1,4-Dichlorobenzene	180.0	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	4.8	1.0 *
2-Butanone (MEK)	15.0	21.0	32.0	29.0	3.4	1.0 *	27.0	1.0 *	2.0 *	1.0 *	39.0	31.0
2-Hexanone	1.0 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	0.5 *
4-Methyl-2-Pentanone (MIBK)	28.0	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	0.5 *
Acetone	83.0	33.0	140.0	200.0	30.0	5.6	130.0	100.0	32.0	29.0	310.0	110.0
Benzene	1.0 *	2.6	0.5 *	0.5 *	6.5	0.8	0.5 *	0.5 *	1.0 *	1.6	2.7	1.4
Carbon Disulfide	10.0 *	5.9	5.0 *	5.0 *	5.0 *	5.0 *	5.0 *	5.0 *	10.0 *	5.0 *	5.0 *	5.0 *
Chlorobenzene	1.0 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	0.5 *
Chloroform	6.0 *	3.0 *	3.0 *	3.0 *	3.0 *	3.0 *	3.0 *	3.0 *	6.0 *	3.0 *	3.0 *	3.0 *
Chloromethane (Methyl Chloride)	1.0 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	0.5 *
Dichloromethane	2400.0	1300.0	17.0	890.0	5.0 *	120.0	330.0	240.0	83.0	29.0	100.0	17.0
Ethylbenzene	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	9.7	1.0 *
Styrene	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *
Tetrachloroethene (PCE)	540.0	50.0	6.4	350.0	1.0 *	1.0 *	40.0	13.0	11.0	1.0 *	120.0	1.0 *
Toluene	82.0	34.0	3.6	76.0	4.4	2.5	4.8	31.0	3.3	3.4	65.0	2.8
Trichloroethene (TCE)	7.6	5.7	0.5 *	4.6	0.5 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	6.4	0.5 *
Trichlorofluoromethane (F-11)	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.1	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *
Trichlorotrifluoroethane (F-113)	5.5	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	7.0	4.0 *	2.0 *	2.0 *	2.0 *
Vinyl Chloride	1.0 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	0.5 *
Xylenes	9.7	11.0	1.0 *	35.0	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	120.0	1.0 *
cis-1,2-Dichloroethene	2.0 *	4.5	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *

450RB/123r34/au401/spv_1.wk3

* – Not detected; reported value is PQL.

Table N.2 (continued)
VOC Concentrations
Probe Source Locations
Phase A, Second Sample
Tinker AFB, Oklahoma

Sample Date	09/27/93	09/27/93	09/27/93	09/27/93	09/30/93	09/28/93	09/30/93	09/28/93	09/29/93	09/28/93	09/28/93	09/28/93
ANALYTE ($\mu g/m^3$)	S6-1	S8	S11	S13	S15	S16	S17	S19	S20-2	S21	S22	S23
1,1,1-Trichloroethane (TCA)	88.0	120.0	2.5	18.0	3.0 *	99.0	8.2	5.0	21.0	7.4	24.0	13.0
1,1-Dichloroethane	1.0 *	1.7	0.5 *	1.0 *	2.0 *	1.0 *	0.5 *	1.0 *	0.5 *	1.0 *	1.0 *	1.0 *
1,1-Dichloroethene	2.0 *	2.0 *	1.0 *	2.0 *	3.0 *	2.0 *	1.0 *	2.0 *	1.0 *	2.0 *	2.0 *	2.0 *
1,3-Dichlorobenzene	2.0 *	2.0 *	1.0 *	25.0	3.0 *	2.0 *	1.0 *	2.0 *	1.0 *	2.0 *	2.0 *	2.0 *
1,4-Dichlorobenzene	10.0	5.0	1.0 *	41.0	3.0 *	110.0	1.0 *	2.0 *	2.3	14.0	2.0 *	9.4
2-Butanone (MEK)	2.0 *	2.0 *	1.0 *	2.0 *	3.0 *	2.0 *	1.0 *	2.0 *	1.0 *	2.0 *	2.0 *	2.0 *
2-Hexanone	1.0 *	1.0 *	0.5 *	1.0 *	2.0 *	1.0 *	0.5 *	1.0 *	0.5 *	1.0 *	1.0 *	1.0 *
4-Methyl-2-Pentanone (MIBK)	1.0 *	1.0 *	0.5 *	1.0 *	2.0 *	1.0 *	0.5 *	1.0 *	0.5 *	1.0 *	1.0 *	1.0 *
Acetone	54.0	31.0	17.0	17.0	34.0	12.0	74.0	18.0	33.0	6.9	26.0	11.0
Benzene	1.0 *	2.5	0.5 *	1.0 *	2.0 *	2.6	1.6	1.0 *	0.5 *	3.7	1.0 *	2.5
Carbon Disulfide	10.0 *	10.0 *	5.0 *	10.0 *	20.0 *	10.0 *	5.0 *	10.0 *	5.0 *	10.0 *	10.0 *	10.0 *
Chlorobenzene	1.0 *	1.0 *	0.5 *	1.0 *	2.0 *	1.0 *	0.5 *	1.0 *	0.5 *	1.0 *	1.0 *	1.0 *
Chloroform	6.0 *	6.0 *	3.0 *	6.0 *	9.0 *	6.0 *	3.0 *	6.0 *	3.0 *	6.0 *	6.0 *	6.0 *
Chloromethane (Methyl Chloride)	1.0 *	1.0 *	0.5 *	1.0 *	2.0 *	1.0 *	0.5 *	1.0 *	0.5 *	1.0 *	1.0 *	1.0 *
Dichloromethane	1000.0	1700.0	59.0	290.0	20.0	970.0	88.0	120.0	290.0	110.0	430.0	78.0
Ethylbenzene	3.2	5.4	1.0 *	2.0 *	3.0 *	2.0 *	1.0 *	2.0 *	1.0 *	2.0 *	2.0 *	2.0 *
Styrene	2.0 *	2.0 *	1.0 *	2.0 *	3.0 *	2.0 *	1.0 *	2.0 *	1.0 *	2.0 *	2.0 *	2.0 *
Tetrachloroethene (PCE)	420.0	69.0	3.1	84.0	25.0	370.0	37.0	8.1	65.0	33.0	41.0	57.0
Toluene	110.0	78.0	4.2	46.0	3.3	100.0	8.1	11.0	18.0	14.0	37.0	16.0
Trichloroethene (TCE)	4.2	4.2	0.5 *	1.0 *	2.0 *	3.2	0.5 *	1.0 *	0.5 *	1.0 *	1.0 *	1.0 *
Trichlorofluoromethane (F-11)	2.0 *	2.0 *	1.0 *	2.0 *	3.0 *	2.0 *	1.0 *	2.0 *	1.0 *	2.0 *	2.0 *	2.0 *
Trichlorotrifluoroethane (F-113)	4.9	4.0 *	2.0 *	4.0 *	6.0 *	5.1	2.0 *	4.0 *	11.0	4.0 *	4.0 *	4.0 *
Vinyl Chloride	1.0 *	1.0 *	0.5 *	1.0 *	2.0 *	1.0 *	0.5 *	1.0 *	0.5 *	1.0 *	1.0 *	1.0 *
Xylenes	54.0	61.0	1.0	6.8	3.0 *	29.0	1.0 *	5.0	1.0 *	7.8	3.5	7.5
cis-1,2-Dichloroethene	2.0 *	10.0	1.0 *	2.0 *	3.0 *	2.0 *	1.0 *	2.0 *	1.0 *	2.0 *	2.0 *	2.0 *

* - Not detected; reported value is PQL.

450RB/123r34/u401/spv_2wk3

Table N.2 (continued)
VOC Concentrations
Probe Source Locations
Phase A, Third Sample
Tinker AFB, Oklahoma

Sample Date	09/30/93	09/29/93	09/29/93	09/29/93	09/30/93	09/29/93	09/30/93	09/29/93	09/30/93	09/29/93	09/29/93	09/29/93
ANALYTE ($\mu g/m^3$)	S6-1	S8	S11	S13	S15	S16	S17	S19	S20-2	S21	S22	S23
1,1,1-Trichloroethane (TCA)	7.7	82.0	48.0	1.0 *	3.4	83.0	2.3	1.0 *	15.0	1.0 *	2.0 *	1.0 *
1,1-Dichloroethane	3.0 *	2.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	2.5 *	0.5 *	1.0 *	0.5 *
1,1-Dichloroethene	5.0 *	5.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	5.0 *	1.0 *	2.0 *	1.0 *
1,3-Dichlorobenzene	5.0 *	5.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	5.0 *	1.0 *	2.0 *	1.0 *
1,4-Dichlorobenzene	5.0 *	5.0 *	1.0 *	2.4	1.0 *	14.0	1.0 *	1.0 *	5.0 *	1.0 *	2.0 *	2.0
2-Butanone (MEK)	18.0	5.0 *	1.0 *	1.0 *	12.0	1.0 *	78.0	1.0 *	5.0 *	1.0 *	2.0 *	1.0 *
2-Hexanone	3.0 *	2.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	2.5 *	0.5 *	1.0 *	0.5 *
4-Methyl-2-Pentanone (MIBK)	3.0 *	2.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	2.5 *	0.5 *	1.0 *	0.5 *
Acetone	210.0	110.0	29.0	9.5	72.0	7.4	73.0	33.0	80.0	11.0	32.0	10.0
Benzene	3.0 *	2.5 *	3.1	0.5 *	0.5 *	0.5 *	1.3	0.5 *	2.5 *	0.5 *	1.0 *	0.5 *
Carbon Disulfide	30.0 *	25.0 *	5.0 *	5.0 *	5.0 *	5.0 *	5.0 *	5.0 *	25.0 *	5.0 *	10.0 *	5.0 *
Chlorobenzene	3.0 *	2.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	2.5 *	0.5 *	1.0 *	0.5 *
Chloroform	20.0 *	15.0 *	3.0 *	3.0 *	3.0 *	3.0 *	3.0 *	3.0 *	15.0 *	3.0 *	6.0 *	3.0 *
Chloromethane (Methyl Chloride)	3.0 *	2.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	2.5 *	0.5 *	1.0 *	0.5 *
Dichloromethane	370.0	2100.0	58.0	43.0	20.0	770.0	25.0	13.0	260.0	41.0	39.0	23.0
Ethylbenzene	5.0 *	5.0 *	6.6	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	5.0 *	1.0 *	2.0 *	1.0 *
Styrene	5.0 *	5.0 *	4.4	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	5.0 *	1.0 *	2.0 *	1.0 *
Tetrachloroethene (PCE)	5.0 *	54.0	1.0 *	27.0	35.0	270.0	17.0	1.0 *	110.0	13.0	2.0 *	14.0
Toluene	5.0	40.0	58.0	8.5	5.4	56.0	4.9	3.6	19.0	4.0	3.8	4.0
Trichloroethene (TCE)	3.0 *	2.5 *	0.5 *	0.5 *	0.5 *	2.1	0.5 *	0.5 *	2.5 *	0.5 *	1.0 *	0.5 *
Trichlorofluoromethane (F-11)	5.0 *	5.0 *	5.5	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	5.0 *	1.0 *	2.0 *	1.0 *
Trichlorotrifluoroethane (F-113)	10.0 *	10.0 *	230.0	2.0 *	2.0 *	2.9	2.0 *	22.0	10.0 *	2.0 *	4.0 *	8.2
Vinyl Chloride	3.0 *	2.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	2.5 *	0.5 *	1.0 *	0.5 *
Xylenes	5.0 *	24.0	51.0	1.0 *	1.1	13.0	1.0 *	1.0 *	5.0 *	1.0 *	2.0 *	1.0 *
cis-1,2-Dichloroethene	5.0 *	5.1	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	5.0 *	1.0 *	2.0 *	1.0 *

* - Not detected; reported value is PQL.

450RB/123r34/u401/spv_3.wk3

Table N.3
VOC Concentrations
Flux Source Locations
Phase B, 10/01/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2-1 †	S2-2	S3	S5-2	S9
1,1,1-Trichloroethane (TCA)		53000.0	10,000.0	7,400.0	920.0
1,1-Dichloroethane		300.0	51.0	30.0 *	25.0 *
1,1-Dichloroethene		100.0	50.0 *	50.0 *	50.0 *
1,3-Dichlorobenzene		100.0 *	50.0 *	50.0 *	50.0 *
1,4-Dichlorobenzene		100.0 *	50.0 *	2,500.0	50.0 *
2-Butanone (MEK)		700.0	50.0 *	50.0 *	50.0 *
2-Hexanone		25.0 *	25.0 *	30.0 *	25.0 *
4-Methyl-2-Pentanone (MIBK)		25.0 *	25.0 *	30.0 *	25.0 *
Acetone		300.0	380.0	360.0	450.0
Benzene		25.0 *	25.0 *	30.0 *	25.0 *
Carbon Disulfide		300.0 *	250.0 *	300.0 *	250.0 *
Chlorobenzene		25.0 *	25.0 *	30.0 *	25.0 *
Chloroform		200.0 *	150.0 *	200.0 *	150.0 *
Chloromethane (Methyl Chloride)		25.0 *	25.0 *	30.0 *	25.0 *
Dichloromethane		130000.0	61,000.0	54,000.0	19,000.0
Ethylbenzene		100.0 *	130.0	50.0 *	50.0 *
Styrene		100.0 *	50.0 *	50.0 *	50.0 *
Tetrachloroethene (PCE)		10000.0	4,800.0	3,800.0	640.0
Toluene		18000.0	1,700.0	1,500.0	450.0
Trichloroethene (TCE)		200.0	130.0	52.0	25.0 *
Trichlorofluoromethane (F-11)		100.0 *	50.0 *	50.0 *	50.0 *
Trichlorotrifluoroethane (F-113)		400.0	190.0	160.0	100.0 *
Vinyl Chloride		25.0 *	25.0 *	30.0 *	25.0 *
Xylenes		900.0	1,700.0	1,300.0	280.0
cis-1,2-Dichloroethene		100.0	1,000.0	220.0	58.0

450RB/123r34/au401/sv_1001.wk3

* – Not detected; reprted value is PQL.
† – No data indicates sample not collected or invalid.

Table N.3 (continued)
VOC Concentrations
Flux Source Locations
Phase B, 10/04/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2-1 †	S2-2	S3	S5-2	S9
1,1,1-Trichloroethane (TCA)		74,000.0	2,000.0	1,500.0	260.0
1,1-Dichloroethane		230.0	25.0 *	25.0 *	25.0 *
1,1-Dichloroethene		220.0	50.0 *	50.0 *	50.0 *
1,3-Dichlorobenzene		50.0 *	50.0 *	50.0 *	50.0 *
1,4-Dichlorobenzene		50.0 *	50.0 *	510.0	530.0
2-Butanone (MEK)		50.0 *	50.0 *	50.0 *	50.0 *
2-Hexanone		25.0 *	25.0 *	25.0 *	25.0 *
4-Methyl-2-Pentanone (MIBK)		25.0 *	25.0 *	25.0 *	25.0 *
Acetone		220.0	150.0	150.0	150.0
Benzene		25.0 *	25.0 *	25.0 *	25.0 *
Carbon Disulfide		250.0 *	250.0 *	250.0 *	250.0 *
Chlorobenzene		25.0 *	25.0 *	25.0 *	25.0 *
Chloroform		150.0 *	150.0 *	150.0 *	150.0 *
Chloromethane (Methyl Chloride)		25.0 *	25.0 *	25.0 *	25.0 *
Dichloromethane		94,000.0	27,000.0	21,000.0	7,300.0
Ethylbenzene		170.0	50.0 *	50.0 *	50.0 *
Styrene		50.0 *	50.0 *	50.0 *	50.0 *
Tetrachloroethene (PCE)		34,000.0	1,200.0	870.0	350.0
Toluene		23,000.0	680.0	460.0	200.0
Trichloroethene (TCE)		400.0	73.0	25.0 *	25.0 *
Trichlorofluoromethane (F-11)		50.0 *	50.0 *	50.0 *	50.0 *
Trichlorotrifluoroethane (F-113)		3,400.0	100.0 *	100.0 *	100.0 *
Vinyl Chloride		25.0 *	25.0 *	25.0 *	25.0 *
Xylenes		2,800.0	450.0	200.0	50.0 *
cis-1,2-Dichloroethene		50.0 *	130.0	72.0	50.0 *

450RB/123r3/au401/sv_1004.wk3

* – No data detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.3 (continued)
VOC Concentrations
Flux Source Locations
Phase B, 10/06/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2−1	S2−2	S3	S5−2	S9
1,1,1−Trichloroethane (TCA)		43,000.0	10,000.0	10,000.0	310.0
1,1−Dichloroethane		180.0	25.0	32.0	10.0 *
1,1−Dichloroethene		180.0	20.0 *	20.0 *	20.0 *
1,3−Dichlorobenzene		20.0 *	20.0 *	20.0 *	20.0 *
1,4−Dichlorobenzene		170.0	20.0 *	20.0 *	20.0 *
2−Butanone (MEK)		680.0	20.0 *	20.0 *	20.0 *
2−Hexanone		10.0 *	10.0 *	10.0 *	10.0 *
4−Methyl−2−Pentanone (MIBK)		10.0 *	10.0 *	10.0 *	10.0 *
Acetone		310.0	190.0	240.0	180.0
Benzene		10.0 *	10.0 *	10.0 *	10.0 *
Carbon Disulfide		100.0 *	100.0 *	100.0 *	100.0 *
Chlorobenzene		61.0	10.0 *	10.0 *	10.0 *
Chloroform		60.0 *	60.0 *	60.0 *	60.0 *
Chloromethane (Methyl Chloride)		10.0 *	10.0 *	10.0 *	10.0 *
Dichloromethane		59,000.0	36,000.0	28,000.0	6,500.0
Ethylbenzene		170.0	46.0	43.0	20.0 *
Styrene		20.0 *	20.0 *	20.0 *	20.0 *
Tetrachloroethene (PCE)		23,000.0	2,400.0	4,700.0	28.0
Toluene		16,000.0	730.0	670.0	38.0
Trichloroethene (TCE)		300.0	56.0	57.0	10.0 *
Trichlorofluoromethane (F−11)		20.0 *	20.0 *	20.0 *	20.0 *
Trichlorotrifluoroethane (F−113)		1,800.0	40.0 *	120.0	40.0 *
Vinyl Chloride		10.0 *	10.0 *	10.0 *	10.0 *
Xylenes		2,500.0	710.0	650.0	20.0 *
cis−1,2−Dichloroethene		63.0	89.0	120.0	20.0 *

450RB/123r34/au401/sv_1006.wk3

* − Not detected; reported value is PQL.
† − No data indicates sample not collected or invalid.

Table N.3 (continued)
VOC Concentrations
Flux Source Locations
Phase B, 10/08/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2-1 †	S2-2	S3	S5-2	S9
1,1,1-Trichloroethane (TCA)		41,000.0	9,800.0	8,200.0	930.0
1,1-Dichloroethane		94.0	10.0 *	10.0 *	10.0 *
1,1-Dichloroethene		62.0	20.0 *	20.0 *	20.0 *
1,3-Dichlorobenzene		20.0 *	20.0 *	20.0 *	20.0 *
1,4-Dichlorobenzene		260.0	20.0 *	20.0 *	20.0 *
2-Butanone (MEK)		630.0	20.0 *	160.0	20.0 *
2-Hexanone		10.0 *	10.0 *	10.0 *	10.0 *
4-Methyl-2-Pentanone (MIBK)		10.0 *	10.0 *	10.0 *	10.0 *
Acetone		390.0	120.0	330.0	410.0
Benzene		10.0 *	10.0 *	10.0 *	10.0 *
Carbon Disulfide		100.0 *	100.0 *	100.0 *	100.0 *
Chlorobenzene		10.0 *	10.0 *	10.0 *	10.0 *
Chloroform		60.0 *	60.0 *	60.0 *	60.0 *
Chloromethane (Methyl Chloride)		10.0 *	10.0 *	10.0 *	10.0 *
Dichloromethane		73,000.0	60,000.0	48,000.0	22,000.0
Ethylbenzene		130.0	20.0 *	20.0 *	20.0 *
Styrene		20.0 *	20.0 *	20.0 *	20.0 *
Tetrachloroethene (PCE)		15,000.0	2,400.0	3,800.0	270.0
Toluene		12,000.0	640.0	620.0	100.0
Trichloroethene (TCE)		130.0	98.0	78.0	10.0 *
Trichlorofluoromethane (F-11)		20.0 *	20.0 *	20.0 *	20.0 *
Trichlorotrifluoroethane (F-113)		840.0	130.0	110.0	40.0 *
Vinyl Chloride		10.0 *	10.0 *	10.0 *	10.0 *
Xylenes		2,100.0	1,100.0	630.0	290.0
cis-1,2-Dichloroethene		20.0 *	20.0 *	20.0 *	20.0 *

450RB/123r34/au401/v_1008.wk3

* – Not detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.3 (continued)
VOC Concentrations
Flux Source Locations
Phase B, 10/11/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2-1 †	S2-2	S3	S5-2	S9
1,1,1-Trichloroethane (TCA)		110,000.0	7,500.0	2,800.0	450.0
1,1-Dichloroethane		300.0	50.0 *	10.0 *	10.0 *
1,1-Dichloroethene		300.0	100.0 *	20.0 *	20.0 *
1,3-Dichlorobenzene		100.0 *	100.0 *	20.0 *	20.0 *
1,4-Dichlorobenzene		1,500.0	100.0 *	20.0 *	20.0 *
2-Butanone (MEK)		1,400.0	100.0 *	20.0 *	20.0 *
2-Hexanone		100.0 *	50.0 *	10.0 *	10.0 *
4-Methyl-2-Pentanone (MIBK)		100.0 *	50.0 *	10.0 *	10.0 *
Acetone		800.0	470.0	140.0	420.0
Benzene		100.0 *	50.0 *	10.0 *	10.0 *
Carbon Disulfide		500.0 *	500.0 *	100.0 *	100.0 *
Chlorobenzene		100.0 *	50.0 *	10.0 *	10.0 *
Chloroform		300.0 *	300.0 *	60.0 *	60.0 *
Chloromethane (Methyl Chloride)		100.0 *	50.0 *	10.0 *	10.0 *
Dichloromethane		140,000.0	57,000.0	16,000.0	7,300.0
Ethylbenzene		100.0	100.0 *	20.0 *	20.0 *
Styrene		100.0 *	100.0 *	20.0 *	20.0 *
Tetrachloroethene (PCE)		32,000.0	570.0	280.0	20.0 *
Toluene		25,000.0	690.0	200.0	52.0
Trichloroethene (TCE)		400.0	50.0 *	10.0 *	10.0 *
Trichlorofluoromethane (F-11)		100.0 *	100.0 *	20.0 *	20.0 *
Trichlorotrifluoroethane (F-113)		5,100.0	200.0 *	40.0 *	40.0 *
Vinyl Chloride		100.0 *	50.0 *	10.0 *	10.0 *
Xylenes		2,300.0	490.0	20.0 *	20.0 *
cis-1,2-Dichloroethene		100.0 *	100.0 *	20.0 *	20.0 *

450RB/123r34/u401/nv_1011.wk3

* – Not detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.3 (continued)
VOC Concentrations
Flux Source Locations
Phase B, 10/13/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2-1 †	S2-2	S3	S5-2	S9
1,1,1-Trichloroethane (TCA)		32.0	4,500.0	1,300.0	250.0
1,1-Dichloroethane		0.1 *	32.0	10.0 *	4.9
1,1-Dichloroethene		0.1 *	5.0 *	20.0 *	1.0 *
1,3-Dichlorobenzene		0.1 *	5.0 *	20.0 *	1.0 *
1,4-Dichlorobenzene		1.7	5.0 *	20.0 *	1.0 *
2-Butanone (MEK)		0.1 *	150.0	20.0 *	55.0
2-Hexanone		0.1 *	3.0 *	10.0 *	0.5 *
4-Methyl-2-Pentanone (MIBK)		0.1 *	3.0 *	10.0 *	0.5 *
Acetone		0.6	330.0	110.0	680.0
Benzene		0.1 *	8.0	10.0 *	0.5 *
Carbon Disulfide		0.5 *	30.0 *	100.0 *	65.0
Chlorobenzene		0.1 *	96.0	10.0 *	0.5 *
Chloroform		0.3 *	430.0	60.0 *	50.0
Chloromethane (Methyl Chloride)		0.1 *	3.0 *	10.0 *	0.5 *
Dichloromethane		160.0	11,000.0	12,000.0	1,700.0
Ethylbenzene		0.1 *	26.0	20.0 *	2.9
Styrene		0.1 *	5.0 *	20.0 *	1.0 *
Tetrachloroethene (PCE)		9.7	2,500.0	220.0	63.0
Toluene		6.4	460.0	100.0	40.0
Trichloroethene (TCE)		0.1 *	31.0	10.0 *	1.9
Trichlorofluoromethane (F-11)		0.4	5.0 *	20.0 *	1.0 *
Trichlorotrifluoroethane (F-113)		0.2 *	36.0	40.0 *	2.0 *
Vinyl Chloride		0.1 *	3.0 *	10.0 *	0.5 *
Xylenes		0.9	360.0	39.0	35.0
cis-1,2-Dichloroethene		0.1 *	270.0	20.0 *	15.0

450RB/123r34/au401/sv_1013.wk3

* – Not detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.3 (continued)
VOC Concentrations
Flux Source Locations
Phase B, 10/15/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2-1	S2-2	S3	S5-2	S9
1,1,1-Trichloroethane (TCA)		25,000.0	5,900.0	1,600.0	1,100.0
1,1-Dichloroethane		210.0	20.0	25.0	21.0
1,1-Dichloroethene		160.0	20.0 *	4.8	2.0 *
1,3-Dichlorobenzene		20.0 *	20.0 *	1.0 *	2.0 *
1,4-Dichlorobenzene		20.0 *	20.0 *	1.0 *	2.0 *
2-Butanone (MEK)		20.0 *	20.0 *	1.0 *	32.0
2-Hexanone		10.0 *	10.0 *	0.5 *	1.0 *
4-Methyl-2-Pentanone (MIBK)		10.0 *	10.0 *	0.5 *	1.0 *
Acetone		160.0	240.0	220.0	210.0
Benzene		10.0 *	10.0 *	8.1	4.1
Carbon Disulfide		100.0 *	100.0 *	5.0 *	10.0 *
Chlorobenzene		51.0	10.0 *	23.0	12.0
Chloroform		60.0 *	60.0 *	3.0 *	6.0 *
Chloromethane (Methyl Chloride)		10.0 *	10.0 *	0.5 *	1.0 *
Dichloromethane		510.0	20,000.0	1,100.0	3,400.0
Ethylbenzene		230.0	230.0	57.0	13.0
Styrene		20.0 *	20.0 *	1.0 *	2.0 *
Tetrachloroethene (PCE)		17,000.0	2,600.0	1,100.0	250.0
Toluene		11,000.0	900.0	270.0	96.0
Trichloroethene (TCE)		280.0	25.0	27.0	8.3
Trichlorofluoromethane (F-11)		20.0 *	20.0 *	1.0 *	2.0 *
Trichlorotrifluoroethane (F-113)		1,900.0	300.0	280.0	6.6
Vinyl Chloride		10.0 *	10.0 *	0.5 *	1.0 *
Xylenes		2,600.0	2,000.0	470.0	130.0
cis-1,2-Dichloroethene		98.0	20.0 *	94.0	74.0

450RB/123r34/au401/sv_1015.wk3

* – Not detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.3 (continued)
VOC Concentrations
Flux Source Locations
Phase B, 10/18/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2-1 †	S2-2	S3	S5-2	S9
1,1,1-Trichloroethane (TCA)		62,000.0	3,000.0	5,100.0	190.0
1,1-Dichloroethane		86.0	10.0 *	10.0 *	2.9
1,1-Dichloroethene		50.0 *	20.0 *	20.0 *	1.0 *
1,3-Dichlorobenzene		50.0 *	20.0 *	20.0 *	1.0 *
1,4-Dichlorobenzene		1,300.0	20.0 *	20.0 *	4.2
2-Butanone (MEK)		50.0 *	20.0 *	20.0 *	86.0
2-Hexanone		30.0 *	10.0 *	10.0 *	0.5 *
4-Methyl-2-Pentanone (MIBK)		30.0 *	10.0 *	10.0 *	0.5 *
Acetone		240.0	110.0	320.0	130.0
Benzene		30.0 *	10.0 *	10.0 *	0.5 *
Carbon Disulfide		300.0 *	100.0 *	100.0 *	5.0 *
Chlorobenzene		30.0 *	10.0 *	10.0 *	0.5 *
Chloroform		200.0 *	60.0 *	60.0 *	3.0 *
Chloromethane (Methyl Chloride)		30.0 *	10.0 *	10.0 *	0.5 *
Dichloromethane		75,000.0	28,000.0	25,000.0	1,700.0
Ethylbenzene		96.0	20.0 *	20.0 *	1.0 *
Styrene		50.0 *	20.0 *	20.0 *	1.0 *
Tetrachloroethene (PCE)		16,000.0	980.0	830.0	46.0
Toluene		11,000.0	360.0	480.0	28.0
Trichloroethene (TCE)		100.0	10.0 *	10.0 *	3.9
Trichlorofluoromethane (F-11)		50.0 *	20.0 *	20.0 *	1.0 *
Trichlorotrifluoroethane (F-113)		1,900.0	40.0 *	200.0	2.0 *
Vinyl Chloride		30.0 *	10.0 *	10.0 *	0.5 *
Xylenes		1,600.0	550.0	310.0	39.0
cis-1,2-Dichloroethene		50.0 *	99.0	20.0 *	5.4

450RB/123r34/nu401/sv_1018.wk3

* – Not detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.3 (continued)
VOC Concentrations
Flux Source Locations
Phase B, 10/20/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2-1 †	S2-2	S3	S5-2	S9
1,1,1-Trichloroethane (TCA)		52,000.0	10,000.0	4,500.0	260.0
1,1-Dichloroethane		60.0	25.0 *	10.0 *	4.4
1,1-Dichloroethene		50.0 *	50.0 *	20.0 *	1.0 *
1,3-Dichlorobenzene		50.0 *	50.0 *	20.0 *	1.0 *
1,4-Dichlorobenzene		62.0	50.0 *	20.0 *	1.8
2-Butanone (MEK)		690.0	50.0 *	370.0	470.0
2-Hexanone		25.0 *	25.0 *	10.0 *	0.5 *
4-Methyl-2-Pentanone (MIBK)		25.0 *	25.0 *	10.0 *	0.5 *
Acetone		250.0	380.0	170.0	200.0
Benzene		25.0 *	25.0 *	10.0 *	1.1
Carbon Disulfide		250.0 *	250.0 *	100.0 *	5.8
Chlorobenzene		25.0 *	25.0 *	10.0 *	4.3
Chloroform		150.0 *	150.0 *	60.0 *	3.0
Chloromethane (Methyl Chloride)		25.0 *	25.0 *	10.0 *	0.5 *
Dichloromethane		72,000.0	44,000.0	26,000.0	2,100.0
Ethylbenzene		50.0 *	50.0 *	20.0 *	4.8
Styrene		50.0 *	50.0 *	20.0 *	1.0 *
Tetrachloroethene (PCE)		6,900.0	1,600.0	1,800.0	68.0
Toluene		7,600.0	1,200.0	540.0	50.0
Trichloroethene (TCE)		56.0	34.0	60.0	2.5
Trichlorofluoromethane (F-11)		50.0 *	50.0 *	20.0 *	1.0 *
Trichlorotrifluoroethane (F-113)		670.0	100.0 *	150.0	2.0 *
Vinyl Chloride		25.0 *	25.0 *	10.0 *	0.5 *
Xylenes		870.0	390.0	310.0	51.0
cis-1,2-Dichloroethene		50.0 *	50.0 *	20.0 *	19.0

450RB/123r34/au401/sv_1020.wk3

* – Not detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.3 (continued)
VOC Concentrations
Flux Source Locations
Phase B, 10/25/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2-1 †	S2-2	S3	S5-2	S9
1,1,1-Trichloroethane (TCA)		15,000.0	4,900.0	890.0	440.0
1,1-Dichloroethane		61.0	25.0	10.0 *	6.3
1,1-Dichloroethene		75.0	10.0 *	20.0 *	2.0 *
1,3-Dichlorobenzene		5.0 *	10.0 *	20.0 *	2.0 *
1,4-Dichlorobenzene		23.0	14.0	20.0 *	2.0 *
2-Butanone (MEK)		1,400.0	10.0 *	20.0 *	130.0
2-Hexanone		3.0 *	5.0 *	10.0 *	1.0 *
4-Methyl-2-Pentanone (MIBK)		3.0 *	5.0 *	10.0 *	1.0 *
Acetone		800.0	380.0	160.0	220.0
Benzene		3.0 *	5.0 *	10.0 *	1.0 *
Carbon Disulfide		30.0 *	50.0 *	100.0 *	10.0 *
Chlorobenzene		6.7	36.0	10.0 *	1.0 *
Chloroform		240.0	30.0 *	60.0 *	6.0 *
Chloromethane (Methyl Chloride)		3.0 *	5.0 *	10.0 *	1.0 *
Dichloromethane		5,300.0	11,000.0	9,000.0	4,600.0
Ethylbenzene		100.0	150.0	20.0 *	9.0
Styrene		5.0 *	10.0 *	20.0 *	2.0 *
Tetrachloroethene (PCE)		4,500.0	1,900.0	560.0	150.0
Toluene		4,200.0	650.0	76.0	75.0
Trichloroethene (TCE)		81.0	94.0	20.0	7.7
Trichlorofluoromethane (F-11)		5.0 *	10.0 *	20.0 *	2.0 *
Trichlorotrifluoroethane (F-113)		10.0 *	60.0	40.0 *	4.0 *
Vinyl Chloride		3.0 *	5.0 *	10.0 *	1.0 *
Xylenes		1,700.0	1,500.0	75.0	93.0
cis-1,2-Dichloroethene		48.0	190.0	69.0	26.0

450RB/123r34/au401/sv_1025.wk3

* – Not detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.3 (continued)
VOC Concentrations
Flux Source Locations
Phase B, 10/27/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2-1 †	S2-2	S3	S5-2	S9
1,1,1-Trichloroethane (TCA)		36,000.0	8,500.0	1,600.0	190.0
1,1-Dichloroethane		42.0	49.0	10.0 *	4.0
1,1-Dichloroethene		57.0	20.0 *	20.0 *	1.0 *
1,3-Dichlorobenzene		20.0 *	20.0 *	20.0 *	1.0 *
1,4-Dichlorobenzene		20.0 *	20.0 *	20.0 *	1.0 *
2-Butanone (MEK)		20.0 *	20.0 *	20.0 *	89.0
2-Hexanone		10.0 *	10.0 *	10.0 *	0.5 *
4-Methyl-2-Pentanone (MIBK)		10.0 *	10.0 *	10.0 *	0.5 *
Acetone		120.0	320.0	210.0	230.0
Benzene		10.0 *	10.0 *	10.0 *	0.5 *
Carbon Disulfide		100.0 *	100.0 *	100.0 *	5.0 *
Chlorobenzene		10.0 *	85.0	10.0 *	0.5 *
Chloroform		60.0 *	60.0 *	60.0 *	3.0 *
Chloromethane (Methyl Chloride)		10.0 *	10.0 *	10.0 *	0.5 *
Dichloromethane		44,000.0	26,000.0	15,000.0	2,100.0
Ethylbenzene		53.0	190.0	20.0 *	3.7
Styrene		20.0 *	20.0 *	20.0 *	1.0 *
Tetrachloroethene (PCE)		3,700.0	3,300.0	940.0	84.0
Toluene		5,000.0	1,000.0	180.0	30.0
Trichloroethene (TCE)		80.0	72.0	23.0	4.4
Trichlorofluoromethane (F-11)		20.0 *	20.0 *	20.0 *	1.0 *
Trichlorotrifluoroethane (F-113)		650.0	110.0	74.0	2.0 *
Vinyl Chloride		10.0 *	10.0 *	10.0 *	0.5 *
Xylenes		1,000.0	2,100.0	270.0	48.0
cis-1,2-Dichloroethene		1,700.0	520.0	110.0	16.0

450RB/123r34/au401/sv_1027wk3

* – Not detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.3 (continued)
VOC Concentrations
Flux Source Locations
Phase B, 10/29/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2−1 †	S2−2	S3	S5−2	S9
1,1,1−Trichloroethane (TCA)		140,000.0	23,000.0	3,800.0	440.0
1,1−Dichloroethane		200.0	53.0	8.1	7.8
1,1−Dichloroethene		79.3	19.8	19.8	0.8
1,3−Dichlorobenzene		120.3	12.0	12.0	1.2
1,4−Dichlorobenzene		700.0	220.0	250.0	42.0
2−Butanone (MEK)		59.0	14.8	14.8	110.0
2−Hexanone		41.0	8.2	8.2	0.4
4−Methyl−2−Pentanone (MIBK)		41.0	8.2	8.2	0.4
Acetone		1,000.0	120.0	270.0	310.0
Benzene		63.9	350.0	6.4	1.4
Carbon Disulfide		622.8	62.3	62.3	6.2
Chlorobenzene		46.0	9.2	9.2	6.8
Chloroform		244.2	48.8	48.8	2.4
Chloromethane (Methyl Chloride)		41.3	10.3	10.3	0.4
Dichloromethane		130,000.0	41,000.0	25,000.0	2,800.0
Ethylbenzene		500.0	670.0	29.0	4.0
Styrene		85.2	21.3	21.3	0.9
Tetrachloroethene (PCE)		15,000.0	4,600.0	1,400.0	120.0
Toluene		15,000.0	3,900.0	780.0	120.0
Trichloroethene (TCE)		300.0	250.0	45.0	5.8
Trichlorofluoromethane (F−11)		112.4	28.1	28.1	1.1
Trichlorotrifluoroethane (F−113)		1,400.0	1,200.0	310.0	1.5
Vinyl Chloride		51.1	12.8	12.8	0.5
Xylenes		5,700.0	4,800.0	560.0	81.0
cis−1,2−Dichloroethene		200.0	130.0	100.0	27.0

450RB/123r34/au401/sv_1029.wk3

* − Not detected; reported value is PQL.
† − No data indicates sample not collected or invalid.

Table N.3 (continued)
VOC Concentrations
Flux Source Locations
Phase B, 11/01/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2-1 †	S2-2	S3	S5-2	S9
1,1,1-Trichloroethane (TCA)		89,000.0	7,200.0	2,400.0	590.0
1,1-Dichloroethane		30.0 *	10.0 *	10.0 *	7.0
1,1-Dichloroethene		100.0 *	20.0 *	20.0 *	2.0 *
1,3-Dichlorobenzene		100.0 *	20.0 *	20.0 *	2.0 *
1,4-Dichlorobenzene		100.0	20.0 *	20.0 *	14.0
2-Butanone (MEK)		200.0	20.0 *	20.0 *	60.0
2-Hexanone		30.0 *	10.0 *	10.0 *	1.0 *
4-Methyl-2-Pentanone (MIBK)		30.0 *	10.0 *	10.0 *	1.0 *
Acetone		300.0	130.0	170.0	140.0
Benzene		30.0 *	10.0 *	10.0 *	2.0
Carbon Disulfide		300.0 *	100.0 *	100.0 *	15.0
Chlorobenzene		30.0 *	10.0 *	10.0 *	9.3
Chloroform		200.0 *	60.0 *	60.0 *	6.0 *
Chloromethane (Methyl Chloride)		30.0 *	10.0 *	10.0 *	1.0 *
Dichloromethane		130,000.0	33,000.0	20,000.0	3,700.0
Ethylbenzene		200.0	290.0	28.0	9.3
Styrene		100.0 *	20.0 *	20.0 *	2.0 *
Tetrachloroethene (PCE)		12,000.0	23,000.0	8,100.0	3,400.0
Toluene		7,500.0	680.0	190.0	68.0
Trichloroethene (TCE)		200.0	790.0	360.0	79.0
Trichlorofluoromethane (F-11)		100.0 *	20.0 *	20.0 *	2.0 *
Trichlorotrifluoroethane (F-113)		2,000.0	40.0 *	40.0 *	4.1
Vinyl Chloride		30.0 *	10.0 *	10.0 *	1.0 *
Xylenes		2,600.0	3,000.0	440.0	130.0
cis-1,2-Dichloroethene		100.0 *	20.0 *	20.0 *	56.0

450RB/123r34/au401/v_1101.wk3

* – Not detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.3 (continued)
VOC Concentrations
Flux Source Locations
Phase B, 11/02/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2-1	S2-2 †	S3	S5-2	S9
1,1,1-Trichloroethane (TCA)	59,000.0		2,500.0	2,500.0	210.0
1,1-Dichloroethane	72.0		10.0 *	10.0 *	4.0
1,1-Dichloroethene	50.0 *		20.0 *	20.0 *	2.0 *
1,3-Dichlorobenzene	50.0 *		20.0 *	20.0 *	2.0 *
1,4-Dichlorobenzene	200.0		20.0 *	20.0 *	2.0 *
2-Butanone (MEK)	50.0 *		20.0 *	20.0 *	28.0
2-Hexanone	30.0 *		10.0 *	10.0 *	1.0 *
4-Methyl-2-Pentanone (MIBK)	30.0 *		10.0 *	10.0 *	1.0 *
Acetone	210.0		340.0	230.0	190.0
Benzene	30.0 *		10.0 *	10.0 *	1.0 *
Carbon Disulfide	300.0 *		100.0 *	100.0 *	10.0 *
Chlorobenzene	30.0 *		10.0 *	10.0 *	1.0 *
Chloroform	200.0 *		60.0 *	60.0 *	6.0 *
Chloromethane (Methyl Chloride)	30.0 *		10.0 *	10.0 *	1.0 *
Dichloromethane	91,000.0		27,000.0	23,000.0	2,900.0
Ethylbenzene	370.0		20.0 *	20.0 *	6.2
Styrene	50.0 *		20.0 *	20.0 *	2.0 *
Tetrachloroethene (PCE)	12,000.0		21,000.0	14,000.0	2,500.0
Toluene	8,200.0		1,400.0	920.0	33.0
Trichloroethene (TCE)	230.0		1,200.0	440.0	43.0
Trichlorofluoromethane (F-11)	50.0 *		20.0 *	20.0 *	2.0 *
Trichlorotrifluoroethane (F-113)	290.0		40.0 *	40.0 *	7.3
Vinyl Chloride	30.0 *		10.0 *	10.0 *	1.0 *
Xylenes	4,000.0		780.0	330.0	91.0
cis-1,2-Dichloroethene	170.0		390.0	290.0	31.0

450RB/123r34/au401/sv_1102.wk3

* – Not detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.3 (continued)
VOC Concentrations
Flux Source Locations
Phase B, 11/04/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2-1	S2-2 †	S3	S5-2	S9
1,1,1-Trichloroethane (TCA)	75,000.0		2,200.0	1,200.0	110.0
1,1-Dichloroethane	100.0		10.0 *	10.0 *	1.0 *
1,1-Dichloroethene	100.0 *		20.0 *	20.0 *	2.0 *
1,3-Dichlorobenzene	100.0 *		20.0 *	20.0 *	2.0 *
1,4-Dichlorobenzene	100.0 *		20.0 *	20.0 *	2.0 *
2-Butanone (MEK)	100.0 *		20.0 *	20.0 *	120.0
2-Hexanone	30.0 *		10.0 *	10.0 *	1.0 *
4-Methyl-2-Pentanone (MIBK)	30.0 *		10.0 *	10.0 *	1.0 *
Acetone	200.0		230.0	230.0	200.0
Benzene	100.0		67.0	27.0	3.5
Carbon Disulfide	300.0 *		100.0 *	100.0 *	14.0
Chlorobenzene	30.0 *		10.0 *	10.0 *	1.0 *
Chloroform	200.0 *		60.0 *	60.0 *	6.0 *
Chloromethane (Methyl Chloride)	30.0 *		10.0 *	10.0 *	1.0 *
Dichloromethane	120,000.0		21,000.0	13,000.0	2,200.0
Ethylbenzene	200.0		300.0	27.0	2.0 *
Styrene	100.0 *		20.0 *	20.0 *	2.0 *
Tetrachloroethene (PCE)	14,000.0		24,000.0	9,500.0	960.0
Toluene	6,600.0		640.0	260.0	33.0
Trichloroethene (TCE)	700.0		610.0	540.0	38.0
Trichlorofluoromethane (F-11)	100.0 *		20.0 *	20.0 *	2.0 *
Trichlorotrifluoroethane (F-113)	600.0		62.0	86.0	4.0 *
Vinyl Chloride	30.0 *		10.0 *	10.0 *	1.0 *
Xylenes	2,200.0		2,800.0	490.0	32.0
cis-1,2-Dichloroethene	300.0		310.0	190.0	29.0

450RB/123r34/au401/av_1104.wk3

* – Not detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.3 (continued)
VOC Concentrations
Flux Source Locations
Phase B, 11/06/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2−1 †	S2−2 †	S3	S5−2	S9
1,1,1−Trichloroethane (TCA)			20.0 *	890.0	57.0
1,1−Dichloroethane			10.0 *	10.0 *	1.0 *
1,1−Dichloroethene			20.0 *	20.0 *	2.0 *
1,3−Dichlorobenzene			20.0 *	20.0 *	2.0 *
1,4−Dichlorobenzene			20.0 *	20.0 *	2.0 *
2−Butanone (MEK)			20.0 *	20.0 *	2.0 *
2−Hexanone			10.0 *	10.0 *	1.0 *
4−Methyl−2−Pentanone (MIBK)			10.0 *	10.0 *	1.0 *
Acetone			50.0 *	190.0	170.0
Benzene			10.0 *	410.0	180.0
Carbon Disulfide			100.0 *	100.0 *	10.0 *
Chlorobenzene			10.0 *	10.0 *	1.0 *
Chloroform			60.0 *	60.0 *	6.0 *
Chloromethane (Methyl Chloride)			10.0 *	10.0 *	1.0 *
Dichloromethane			2,200.0	9,000.0	1,300.0
Ethylbenzene			20.0 *	420.0	28.0
Styrene			20.0 *	20.0 *	2.0 *
Tetrachloroethene (PCE)			20.0 *	14,000.0	1,300.0
Toluene			20.0 *	2,600.0	380.0
Trichloroethene (TCE)			10.0 *	1,100.0	74.0
Trichlorofluoromethane (F−11)			20.0 *	20.0 *	2.0 *
Trichlorotrifluoroethane (F−113)			40.0 *	52.0	4.0 *
Vinyl Chloride			10.0 *	10.0 *	1.0 *
Xylenes			20.0 *	4,500.0	290.0
cis−1,2−Dichloroethene			20.0 *	270.0	38.0

450RB/123r34/au401/sv_1106.wk3

* − Not detected; reported value is PQL.
† − No data indicates sample not collected or invalid.

Table N.3 (continued)
VOC Concentrations
Flux Source Locations
Phase B, 11/08/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2-1	S2-2 †	S3	S5-2	S9
1,1,1-Trichloroethane (TCA)	40,000.0		5,500.0	1,400.0	260.0
1,1-Dichloroethane	38.0		42.0	10.0 *	2.6
1,1-Dichloroethene	43.0		20.0 *	20.0 *	2.0 *
1,3-Dichlorobenzene	20.0 *		20.0 *	20.0 *	2.0 *
1,4-Dichlorobenzene	20.0 *		20.0 *	20.0 *	2.0 *
2-Butanone (MEK)	20.0 *		20.0 *	20.0 *	160.0
2-Hexanone	10.0 *		10.0 *	10.0 *	1.0 *
4-Methyl-2-Pentanone (MIBK)	10.0 *		10.0 *	10.0 *	1.0 *
Acetone	60.0		480.0	470.0	450.0
Benzene	10.0 *		150.0	39.0	25.0
Carbon Disulfide	100.0 *		100.0 *	100.0 *	11.0
Chlorobenzene	10.0 *		140.0	10.0 *	1.0 *
Chloroform	60.0 *		60.0 *	60.0 *	6.0 *
Chloromethane (Methyl Chloride)	10.0 *		10.0 *	10.0 *	1.0 *
Dichloromethane	45,000.0		31,000.0	15,000.0	3,200.0
Ethylbenzene	44.0		1,200.0	53.0	31.0
Styrene	20.0 *		20.0 *	20.0 *	2.0 *
Tetrachloroethene (PCE)	6,200.0		12,000.0	1,900.0	1,300.0
Toluene	2,200.0		3,500.0	320.0	190.0
Trichloroethene (TCE)	240.0		690.0	280.0	93.0
Trichlorofluoromethane (F-11)	20.0 *		20.0 *	20.0 *	2.0 *
Trichlorotrifluoroethane (F-113)	310.0		91.0	40.0 *	4.0 *
Vinyl Chloride	10.0 *		10.0 *	10.0 *	1.0 *
Xylenes	710.0		10,000.0	740.0	350.0
cis-1,2-Dichloroethene	160.0		470.0	88.0	49.0

450RB/123r34/au401/sv_1108.wk3

* – Not detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.4
VOC Analytical Results
Bag Sample Analysis by Field GC
First Sample Set
Tinker AFB, Oklahoma

DATE ANALYTE (ppmv)	9/28/93 S1	9/22/93 S2-1	9/22/93 S2-2	9/22/93 S3	9/22/93 S5-1	9/22/93 S5-2	9/22/93 S6-1	9/23/93 S8	9/23/93 S9	9/23/93 S11
1,1,1-Trichloroethane (TCA)	ND	3.6	5.5	5.6	2.8	0.6	ND	ND	1.8	ND
1,1-Dichlorethane	ND	ND	ND	3.6	1.5	ND	ND	ND	ND	ND
[1,2-Dibromoethane]	ND	ND	0.8	2.1	ND	ND	ND	ND	1.6	ND
Benzene	ND	ND	ND	ND	1.2	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	0.3	0.2	1.8	0.1	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	0.1	3.3	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	0.2	0.1	ND	ND	ND	ND	ND
[Chlorobenzene]	ND	ND	0.6	1.1	0.1	1.6	ND	ND	0.3	ND
[Methane]	0.9	ND	ND	ND	ND	ND	0.0	0.7	ND	0.7
[o-Xylene]	ND	ND	0.2	1.7	0.2	1.3	ND	ND	0.1	ND
Tetrachloroethene (PCE)	ND	2.7	1.6	0.8	0.5	ND	ND	ND	2.5	ND
Trichloroethene (TCE)	ND	0.1	0.3	0.1	0.3	ND	ND	ND	0.6	ND
Toluene	ND	4.1	4.2	1.6	1.6	1.9	ND	ND	2.2	ND
Vinilidene Chloride	ND	0.1	0.1	0.3	0.2	ND	ND	ND	ND	ND

DATE ANALYTE (ppmv)	9/23/93 S12	9/25/93 S13	9/25/93 S15	9/25/93 S16	9/25/93 S17	9/23/93 S19	9/23/93 S20-2	9/23/93 S21-2	9/23/93 S22	9/23/93 S23
1,1,1-Trichloroethane (TCA)	0.4	ND	ND	ND	ND	0.3	1.3	ND	ND	ND
1,1-Dichlorethane	ND	ND	ND	ND	ND	ND	0.7	ND	ND	ND
[1,2-Dibromoethane]	0.9	ND	0.9	ND	ND	ND	3.6	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	0.3	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	2.8	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
[Chlorobenzene]	ND	0.6	0.2	ND	ND	0.2	0.2	ND	ND	ND
[Methane]	ND	ND	ND	ND	ND	ND	ND	0.0	0.8	1.6
[o-Xylene]	0.1	0.3	0.1	0.2	0.2	0.2	0.3	ND	ND	ND
Tetrachloroethene (PCE)	0.5	ND	ND	ND	ND	0.3	0.8	ND	ND	ND
Trichloroethene (TCE)	0.5	ND	ND	ND	ND	ND	2.7	ND	ND	ND
Toluene	ND	ND	0.1	ND	ND	0.1	0.6	ND	ND	ND
Vinilidene Chloride	ND	ND	ND	ND	ND	ND	0.7	ND	ND	ND

[ ] – Compounds tentatively identified
ND – Not detected.

450RB/123r34/au401/gc1_1.wk5

Table N.4 (continued)
VOC Analytical Results
Bag Sample Analysis by Field GC
Second Sample Set
Tinker AFB, Oklahoma

DATE ANALYTE (ppmv)	9/28/93 S1	9/24/93 S2-1	9/24/93 S2-2	9/24/93 S3	9/24/93 S5-1	9/24/93 S5-2	9/27/93 S6-1	9/27/93 S8	9/27/93 S9
1,1,1-Trichloroethane (TCA)	ND	ND	7.9	0.9	0.8	0.7	ND	ND	2.6
1,1-Dichlorethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
[1,2-Dibromoethane]	ND	ND	ND	2.3	1.2	1.0	ND	ND	0.7
cis-1,2-Dichloroethene	ND	1.0	0.6	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	0.7	ND	ND	ND
Dichloromethane	ND	269.2	387.8	25.6	32.9	23.8	ND	ND	23.2
Chloroform	ND	19.7	ND	ND	ND	ND	ND	ND	ND
[Chlorobenzene]	ND	0.4	0.4	0.2	0.7	0.6	ND	ND	0.2
[Methane]	0.9	ND	ND	ND	ND	ND	0.7	0.7	0.3
[o-Xylene]	ND	ND	0.1	0.4	0.3	0.4	ND	ND	0.2
Tetrachloroethene (PCE)	ND	11.9	1.6	1.1	0.8	0.8	ND	ND	1.3
Trichloroethene (TCE)	ND	0.3	ND	0.6	0.4	0.5	ND	ND	ND
Toluene	ND	4.5	6.9	0.9	1.0	0.6	ND	ND	3.6
Vinilidene Chloride	ND	0.3	ND	ND	ND	ND	ND	ND	ND

DATE ANALYTE (ppmv)	9/27/93 S11	9/27/93 S12	9/30/93 S15	9/28/93 S16	9/30/93 S17	9/28/93 S19	9/29/93 S20-2	9/28/93 S22	9/28/93 S23
1,1,1-Trichloroethane (TCA)	ND	0.7	ND	ND	ND	ND	ND	3.4	ND
1,1-Dichlorethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
[1,2-Dibromoethane]	ND	1.9	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane	ND	2.5	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND
[Chlorobenzene]	ND	0.3	ND	ND	ND	ND	ND	ND	ND
[Methane]	0.7	58.3	0.9	0.9	77.9	1.0	1.1	1.1	1.2
[o-Xylene]	ND	0.6	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (PCE)	ND	0.5	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (TCE)	ND	0.4	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinilidene Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND

[ ] – Compounds tentatively identified.
ND – Not detected.

450RB/123r34/u401/gc1_2.wk3

Table N.4 (continued)
VOC Analytical Results
Bag Sample Analysis by Field GC
Third Sample Set
Tinker AFB, Oklahoma

DATE ANALYTE (ppmv)	9/28/93 S1	9/27/93 S2-1	9/27/93 S2-2	9/27/93 S3	9/27/93 S5-1	9/27/93 S5-2	9/30/93 S6-1	9/29/93 S8
1,1,1-Trichloroethane (TCA)	ND	33.8	11.4	4.1	ND	0.4	ND	ND
1,1-Dichlorethane	ND	7.8	ND	ND	ND	ND	ND	ND
[1,2-Dibromoethane]	ND	256.7	4.5	17.5	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	0.3	0.5	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	25.7	ND	6.2	ND	ND	ND	ND
Dichloromethane	ND	283.8	210.6	14.7	7.3	24.7	ND	ND
Chloroform	ND	1.0	ND	ND	ND	ND	ND	ND
[Chlorobenzene]	ND	3.8	0.7	0.7	ND	ND	ND	ND
[Methane]	0.9	0.2	1.7	ND	0.9	4.3	0.8	0.8
[o-Xylene]	ND	77.1	2.0	7.4	0.2	0.3	ND	ND
Tetrachloroethene (PCE)	ND	58.1	6.8	1.8	ND	ND	ND	ND
Trichloroethene (TCE)	ND	ND	ND	6.1	ND	ND	ND	ND
Toluene	ND	31.0	12.5	2.0	0.2	0.3	ND	ND

DATE ANALYTE (ppmv)	9/29/93 S9	9/29/93 S12	9/30/93 S15	9/29/93 S16	9/30/93 S17	9/29/93 S19	9/29/93 S20-2	9/29/93 S22
1,1,1-Trichloroethane (TCA)	ND	0.5	ND	ND	ND	ND	ND	ND
1,1-Dichlorethane	ND	ND	ND	ND	ND	ND	ND	ND
[1,2-Dibromoethane]	ND	0.9	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane	6.6	2.2	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND
[Chlorobenzene]	ND	ND	ND	ND	ND	ND	ND	ND
[Methane]	0.2	44.1	0.9	0.7	19.2	1.0	1.8	0.7
[o-Xylene]	0.2	ND	ND	ND	ND	0.3	ND	ND
Tetrachloroethene (PCE)	ND	0.5	ND	ND	ND	ND	ND	ND
Trichloroethene (TCE)	ND	0.4	ND	ND	ND	ND	ND	ND
Toluene	0.2	ND	ND	ND	ND	ND	ND	ND

[ ] – Compounds tentatively identified.
ND – Not detected.

450RB/123r34/au401/gc1_3.wk3

Table N.5
VOC Analytical Results
Bag Sample Analysis by Field GC
Phase B
Tinker AFB, Oklahoma

ANALYTE (ppmv)	Station Locations S2-1	S2-2	S3	S5-2	S9
Sample Date: 10/1/93					
1,1,1-Trichloroethane (TCA)	NA	18.8	4.6	2.9	ND
1,1-Dichlorethane	NA	ND	0.4	ND	ND
[1,2-Dibromoethane]	NA	ND	3.3	5.6	ND
Benzene	NA	ND	0.3	0.1	ND
cis-1,2-Dichloroethene	NA	ND	0.3	ND	ND
Dichloromethane	NA	747.2	130.4	49.9	8.1
[Chlorobenzene]	NA	ND	0.4	0.3	ND
[Methane]	NA	1.0	1.9	10.5	0.4
[o-Xylene]	NA	0.2	1.1	1.0	0.2
Tetrachloroethene (PCE)	NA	1.3	1.2	0.8	ND
Toluene	NA	8.8	0.6	0.5	ND
Sample Date: 10/4/93					
1,1,1-Trichloroethane (TCA)	NA	29.5	1.0	0.7	ND
[1,2-Dibromoethane]	NA	7.0	2.3	ND	ND
Dichloromethane	NA	423.4	22.4	20.1	5.1
[Chlorobenzene]	NA	1.5	0.8	ND	ND
[Methane]	NA	18.7	0.3	5.1	0.3
[o-Xylene]	NA	2.1	2.1	0.3	ND
Tetrachloroethene (PCE)	NA	21.3	1.6	ND	ND
Toluene	NA	20.6	1.0	0.4	ND
Vinilidene Chloride	NA	0.4	ND	ND	ND
Sample Date: 10/6/93					
1,1,1-Trichloroethane (TCA)	NA	28.1	4.8	1.8	ND
[1,2-Dibromoethane]	NA	2.4	3.2	0.8	ND
Dichloromethane	NA	491.8	100.2	37.5	3.4
[Chlorobenzene]	NA	0.5	0.9	ND	ND
[Methane]	NA	23.9	0.9	2.9	0.2
[o-Xylene]	NA	0.6	0.9	0.4	0.3
Tetrachloroethene (PCE)	NA	12.1	0.7	1.0	ND
Toluene	NA	16.4	0.5	0.3	ND
Vinilidene Chloride	NA	0.3	ND	ND	ND

Table N.5 (continued)
VOC Analytical Results
Bag Sample Analysis by Field GC
Phase B
Tinker AFB, Oklahoma

ANALYTE (ppmv)	Station Locations S2-1	S2-2	S3	S5-2	S9
Sample Date: 10/8/93					
1,1,1-Trichloroethane (TCA)	NA	10.2	4.0	1.6	ND
[1,2-Dibromoethane]	NA	1.3	2.9	ND	ND
Benzene	NA	ND	0.2	ND	ND
Dichloromethane	NA	586.6	97.2	64.2	13.8
[Chlorobenzene]	NA	0.4	0.5	ND	ND
[Methane]	NA	1.6	0.7	4.1	0.3
[o-Xylene]	NA	0.7	1.1	0.6	ND
Tetrachloroethene (PCE)	NA	3.3	0.6	0.7	ND
Toluene	NA	5.0	0.4	0.2	ND
Sample Date: 10/11/93					
1,1,1-Trichloroethane (TCA)	NA	37.7	1.4	0.9	ND
[1,2-Dibromoethane]	NA	3.2	3.5	ND	ND
Dichloromethane	NA	541.8	23.1	11.4	2.4
[Chlorobenzene]	NA	0.5	0.5	ND	ND
[Methane]	NA	2.8	0.4	2.8	0.2
[o-Xylene]	NA	0.9	1.7	0.4	ND
Tetrachloroethene (PCE)	NA	45.7	0.5	ND	ND
Toluene	NA	22.5	0.3	0.1	ND
Vinilidene Chloride	NA	0.5	ND	ND	ND
Sample Date: 10/13/93					
1,1,1-Trichloroethane (TCA)	NA	7.3	1.6	0.3	ND
[1,2-Dibromoethane]	NA	1.1	1.3	ND	ND
Dichloromethane	NA	163.5	32.0	8.3	3.6
[Chlorobenzene]	NA	0.7	0.2	0.4	ND
[Methane]	NA	3.6	0.9	0.7	0.4
[o-Xylene]	NA	0.3	0.4	ND	ND
Tetrachloroethene (PCE)	NA	4.2	1.0	ND	ND
Toluene	NA	3.5	0.2	ND	ND
Vinilidene Chloride	NA	ND	ND	ND	0.3

Table N.5 (continued)
VOC Analytical Results
Bag Sample Analysis by Field GC
Phase B
Tinker AFB, Oklahoma

ANALYTE (ppmv)	Station Locations S2-1	S2-2	S3	S5-2	S9
Sample Date: 10/15/93					
1,1,1-Trichloroethane (TCA)	NA	67.2	3.5	10.3	ND
1,1-Dichlorethane	NA	1.2	0.8	2.7	ND
[1,2-Dibromoethane]	NA	11.0	8.8	7.8	ND
Benzene	NA	ND	1.9	4.3	ND
cis-1,2-Dichloroethene	NA	ND	0.3	1.1	ND
Carbon Tetrachloride	NA	2.4	ND	ND	ND
Dichloromethane	NA	691.0	24.7	39.3	3.3
[Chlorobenzene]	NA	0.5	0.8	0.7	ND
[Methane]	NA	255.8	0.6	124.3	0.2
[o-Xylene]	NA	0.9	5.0	2.6	ND
Tetrachloroethene (PCE)	NA	14.6	1.4	2.0	ND
Trichloroethene (TCE)	NA	4.3	ND	ND	ND
Toluene	NA	8.8	0.5	0.5	ND
Vinilidene Chloride	NA	1.4	ND	0.5	ND
Sample Date: 10/18/93					
1,1,1-Trichloroethane (TCA)	NA	74.8	NA	4.2	ND
[1,2-Dibromoethane]	NA	5.0	NA	3.9	ND
Carbon Tetrachloride	NA	1.7	NA	4.1	ND
Dichloromethane	NA	620.6	NA	35.4	1.4
[Chlorobenzene]	NA	0.3	NA	0.5	ND
[Methane]	NA	513.8	NA	180.1	0.3
[o-Xylene]	NA	0.1	NA	1.1	ND
Tetrachloroethene (PCE)	NA	8.7	NA	0.6	ND
Trichloroethene (TCE)	NA	4.1	NA	1.9	ND
Toluene	NA	7.4	NA	0.4	ND
Vinilidene Chloride	NA	1.7	NA	ND	ND
Sample Date: 10/20/93					
1,1,1-Trichloroethane (TCA)	NA	37.8	2.3	1.2	ND
Benzene	NA	0.3	ND	ND	ND
Carbon Tetrachloride	NA	ND	ND	0.8	ND
Dichloromethane	NA	441.8	70.7	27.9	7.2
[Methane]	NA	118.2	0.8	67.6	0.9
Tetrachloroethene (PCE)	NA	0.7	0.4	0.4	ND
Trichloroethene (TCE)	NA	0.8	0.3	0.6	ND
Toluene	NA	0.9	0.3	0.2	ND
Vinilidene Chloride	NA	0.7	ND	ND	ND

Table N.5 (continued)
VOC Analytical Results
Bag Sample Analysis by Field GC
Phase B
Tinker AFB, Oklahoma

ANALYTE (ppmv)	Station Locations S2-1	S2-2	S3	S5-2	S9
Sample Date: 10/25/93					
1,1,1-Trichloroethane (TCA)	NA	85.6	1.5	0.3	ND
1,1-Dichlorethane	NA	0.7	ND	ND	ND
Carbon Tetrachloride	NA	1.5	1.1	ND	ND
Dichloromethane	NA	837.6	43.7	6.3	4.6
[Methane]	NA	404.0	0.6	8.5	0.5
Tetrachloroethene (PCE)	NA	3.0	0.3	ND	ND
Trichloroethene (TCE)	NA	3.2	1.4	ND	ND
Toluene	NA	7.1	0.3	0.1	ND
Vinilidene Chloride	NA	1.6	ND	ND	ND
Sample Date: 10/27/93					
1,1,1-Trichloroethane (TCA)	NA	96.0	6.6	0.9	ND
1,1-Dichlorethane	NA	0.7	0.4	ND	ND
Carbon Tetrachloride	NA	1.6	3.6	0.9	ND
Dichloromethane	NA	895.8	108.4	18.8	2.1
[Methane]	NA	207.8	1.5	34.4	ND
Tetrachloroethene (PCE)	NA	3.5	2.2	ND	ND
Trichloroethene (TCE)	NA	3.7	4.1	1.0	ND
Toluene	NA	6.9	0.9	0.1	ND
Vinilidene Chloride	NA	2.0	ND	ND	ND
Sample Date: 10/29/93					
1,1,1-Trichloroethane (TCA)	NA	110.0	8.9	0.8	ND
1,1-Dichlorethane	NA	2.6	2.0	ND	ND
cis-1,2-Dichloroethene	NA	1.2	1.4	ND	ND
Carbon Tetrachloride	NA	8.6	6.5	ND	ND
Dichloromethane	NA	898.8	63.9	20.7	4.9
Methane	NA	452.4	ND	ND	ND
[Methane]	NA	ND	1.7	25.9	0.3
Tetrachloroethene (PCE)	NA	6.2	2.2	0.4	ND
Trichloroethene (TCE)	NA	8.4	5.7	0.3	ND
Toluene	NA	8.5	1.2	0.3	ND
Vinilidene Chloride	NA	2.4	0.7	ND	ND

Table N.5 (continued)
VOC Analytical Results
Bag Sample Analysis by Field GC
Phase B
Tinker AFB, Oklahoma

ANALYTE (ppmv)	Station Locations S2-1	S2-2	S3	S5-2	S9
Sample Date: 11/1/93					
1,1,1-Trichloroethane (TCA)	NA	60.2	3.3	0.5	ND
1,1-Dichlorethane	NA	1.0	0.4	ND	ND
cis-1,2-Dichloroethene	NA	0.5	0.4	ND	ND
Carbon Tetrachloride	NA	2.4	2.4	ND	ND
Dichloromethane	NA	622.0	38.7	20.0	6.7
[Methane]	NA	302.8	0.7	1.4	0.2
Tetrachloroethene (PCE)	NA	3.6	3.2	1.7	0.7
Trichloroethene (TCE)	NA	4.4	0.4	ND	ND
Toluene	NA	4.6	0.4	0.1	ND
Vinilidene Chloride	NA	1.2	ND	ND	ND
Sample Date: 11/2/93					
1,1,1-Trichloroethane (TCA)	56.8	NA	1.0	0.7	ND
1,1-Dichlorethane	1.2	NA	ND	ND	ND
Carbon Tetrachloride	7.3	NA	1.2	ND	ND
Dichloromethane	675.2	NA	34.8	37.4	3.0
[Methane]	3.7	NA	0.9	8.5	0.4
Tetrachloroethene (PCE)	6.7	NA	4.0	4.6	0.6
Trichloroethene (TCE)	11.0	NA	0.7	0.3	ND
Toluene	7.5	NA	0.5	0.5	ND
Vinilidene Chloride	0.6	NA	0.3	ND	ND
Sample Date: 11/4/93					
1,1,1-Trichloroethane (TCA)	67.0	NA	1.6	1.9	ND
1,1-Dichlorethane	0.5	NA	0.5	0.6	ND
Carbon Tetrachloride	3.4	NA	2.6	2.4	ND
Dichloromethane	1,011.6	NA	21.5	21.2	3.0
[Methane]	15.8	NA	0.6	86.7	1.2
Tetrachloroethene (PCE)	7.4	NA	4.8	7.6	0.4
Trichloroethene (TCE)	0.7	NA	3.0	0.7	ND
Toluene	5.8	NA	0.4	0.3	ND
Vinilidene Chloride	0.8	NA	ND	ND	ND

Table N.5 (continued)
VOC Analytical Results
Bag Sample Analysis by Field GC
Phase B
Tinker AFB, Oklahoma

ANALYTE (ppmv)	Station Locations S2-1	S2-2	S3	S5-2	S9
Sample Date: 11/6/93					
1,1,1-Trichloroethane (TCA)	129.8	NA	12.6	32.9	ND
[1,2-Dibromoethane]	ND	NA	ND	23.7	ND
1,2-Dichloroethane	ND	NA	ND	9.7	ND
Benzene	ND	NA	1.3	ND	ND
cis-1,2-Dichloroethene	0.3	NA	0.5	ND	ND
Carbon Tetrachloride	1.3	NA	25.4	71.9	ND
[Chlorobenzene]	ND	NA	ND	1.0	ND
Chloroform	ND	NA	1.7	5.1	ND
Dichloromethane	1,353.0	NA	83.7	77.3	1.3
[Methane]	7.2	NA	0.8	25.2	0.4
Tetrachloroethene (PCE)	5.8	NA	2.5	ND	ND
Trichloroethene (TCE)	0.6	NA	ND	55.2	0.4
Toluene	3.9	NA	1.0	2.6	0.1
Vinilidene Chloride	1.1	NA	0.6	2.7	ND
Vinyl Chloride	ND	NA	ND	2.5	ND
Sample Date: 11/8/93					
1,1,1-Trichloroethane (TCA)	244.1	NA	29.3	2.7	0.3
Benzene	ND	NA	2.6	ND	ND
Carbon Tetrachloride	ND	NA	61.3	6.3	ND
cis-1,2-Dichloroethene	0.6	NA	ND	ND	ND
Dichloromethane	1,915.0	NA	68.1	16.9	5.5
[Methane]	10.3	NA	0.5	7.8	0.3
Tetrachloroethene (PCE)	7.1	NA	3.4	1.1	0.5
Trichloroethene (TCE)	0.8	NA	49.0	5.0	0.6
Toluene	5.3	NA	2.1	0.4	0.1
Vinilidene Chloride	1.9	NA	1.3	ND	ND

450RB/123r34/au401/gcphasb.wk3

[ ] – Compounds tentatively identified.
NA – Not analyzed.
ND – Not detected.

Table N.6
Process Exposure VOC Concentrations
Sample Date 09/22/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/M^3$)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,1,1-Trichloroethane (TCA)	12.0	10.0 *	1.0 *	2.8	2.0	2.0 *	1.0 *	3.7	11.0	52.0
1,4-Dichlorobenzene	1.0 *	10.0 *	1.0 *	2.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *	24.0
2-Butanone (MEK)	1.0 *	10.0 *	1.0 *	2.0 *	1.0 *	2.0 *	1.0 *	27.0	2.0 *	2.0 *
Acetone	24.0	140.0	2.0 *	130.0	28.0	47.0	5.7	50.0	55.0	28.0
Benzene	1.0	5.0 *	0.5 *	1.0 *	0.5 *	1.0 *	0.5 *	0.6	1.0 *	1.0 *
Carbon Disulfide	5.0 *	50.0 *	5.0 *	10.0 *	5.0 *	10.0 *	5.0 *	6.4	10.0 *	10.0 *
Chloromethane (Methyl Chloride)	0.5 *	5.0 *	0.5 *	1.0 *	0.5 *	1.0 *	0.5 *	0.5 *	1.0 *	1.0 *
Dichloromethane	270.0	51.0	5.0 *	63.0	31.0	89.0	5.0 *	92.0	300.0	840.0
Ethylbenzene	1.0 *	10.0 *	1.0 *	2.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *	2.0 *
Tetrachloroethene (PCE)	7.6	10.0 *	1.0 *	2.0 *	1.4	2.0 *	1.0 *	6.4	3.9	24.0
Toluene	6.2	95.0	1.0 *	3.3	1.8	3.8	1.0 *	2.9	6.2	17.0
Trichloroethene (TCE)	1.1	5.0 *	0.5 *	1.0 *	0.5 *	1.0 *	0.5 *	0.5 *	1.0 *	1.0 *
Trichlorofluoromethane (F-11)	1.0 *	10.0 *	1.0 *	2.0 *	1.0 *	2.0 *	1.0 *	1.5	2.0 *	2.0 *
Trichlorotrifluoroethane (F-113)	2.0 *	20.0 *	2.0 *	4.0 *	2.0 *	4.0 *	2.0 *	2.0 *	4.0 *	4.0 *
Xylenes	1.0 *	10.0 *	1.0 *	2.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *	12.0
cis-1,2-Dichloroethene	1.0 *	10.0 *	1.0 *	2.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *	2.0 *

450RB/123r34/au401/pv_0922.wk3

* - Not detected; reported value is PQL.

Table N.6 (continued)
Process Exposure VOC Concentrations
Sample Date 09/24/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/M^3$)	Station Locations									
	P1 †	P2 †	P3	P4	P5	P6	P7	P8 †	P9	P10
1,1,1-Trichloroethane (TCA)			2.0 *	100.0 *	2.0 *	3.0 *	6.0		100.0 *	29.0
1,4-Dichlorobenzene			2.0 *	100.0 *	2.0 *	3.0 *	1.0 *		100.0 *	2.0 *
2-Butanone (MEK)			2.0 *	100.0 *	2.0 *	21.0	1.0 *		100.0 *	18.0
Acetone			36.0	300.0 *	24.0	170.0	20.0		300.0 *	45.0
Benzene			1.0 *	50.0 *	1.0 *	2.0 *	2.3		50.0 *	2.6
Carbon Disulfide			10.0 *	500.0 *	10.0 *	20.0 *	5.0 *		500.0 *	10.0 *
Chloromethane (Methyl Chloride)			1.0 *	50.0 *	1.0 *	2.0 *	0.5 *		50.0 *	1.0 *
Dichloromethane			16.0	500.0 *	27.0	60.0	67.0		500.0 *	880.0
Ethylbenzene			2.0 *	100.0 *	2.0 *	3.0 *	1.0 *		100.0 *	2.0 *
Tetrachloroethene (PCE)			2.0 *	100.0 *	2.0 *	3.0 *	1.9		100.0 *	37.0
Toluene			2.1	100.0 *	2.4	3.3	14.0		100.0 *	21.0
Trichloroethene (TCE)			1.0 *	50.0 *	1.0 *	2.0 *	0.5 *		50.0 *	1.0 *
Trichlorofluoromethane (F-11)			2.0 *	100.0 *	2.0 *	3.0 *	1.8		100.0 *	2.0 *
Trichlorotrifluoroethane (F-113)			4.0 *	200.0 *	4.0 *	6.0 *	2.0 *		200.0 *	4.0 *
Xylenes			2.0 *	100.0 *	2.0 *	3.0 *	1.7		100.0 *	8.1
cis-1,2-Dichloroethene			2.0 *	100.0 *	2.0 *	3.0 *	1.0 *		100.0 *	2.0 *

450RB/123r34/au401/pv_0924.wk3

* – Not detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.6 (continued)
Process Exposure VOC Concentrations
Sample Date 09/27/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/M^3$)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10 †
1,1,1-Trichloroethane (TCA)	1.0 *	2.6	3.5	2.3	2.0	2.0 *	5.4	2.0 *	6.9	
1,4-Dichlorobenzene	1.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	1.0 *	
2-Butanone (MEK)	1.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	14.0	1.0 *	
Acetone	3.0 *	38.0	55.0	16.0	30.0	40.0	23.0	150.0	61.0	
Benzene	0.5 *	1.0 *	1.1	1.0 *	1.1	1.0 *	1.0 *	1.2	1.2	
Carbon Disulfide	5.0 *	10.0 *	10.0 *	10.0 *	10.0 *	10.0 *	10.0 *	10.0 *	11.0	
Chloromethane (Methyl Chloride)	0.5 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	0.5 *	
Dichloromethane	5.0 *	66.0	61.0	21.0	10.0 *	10.0 *	10.0 *	68.0	180.0	
Ethylbenzene	1.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	1.0 *	
Tetrachloroethene (PCE)	1.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	4.1	
Toluene	1.0 *	3.8	3.2	2.5	2.7	2.5	3.8	3.9	6.3	
Trichloroethene (TCE)	0.5 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	0.5 *	
Trichlorofluoromethane (F-11)	1.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	1.0 *	
Trichlorotrifluoroethane (F-113)	2.0 *	4.0 *	4.0 *	4.0 *	4.0 *	4.0 *	4.0 *	4.0 *	2.0 *	
Xylenes	1.0 *	2.0 *	6.2	5.6	6.9	5.3	7.0	2.3	12.0	
cis-1,2-Dichloroethene	1.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	1.0 *	

450RB/123r34/au401/pv_0927.wk3

* – Not detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.6 (continued)
Process Exposure VOC Concentrations
Sample Date 09/29/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/M^3$)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,1,1-Trichloroethane (TCA)	2.8	1.0 *	2.4	2.0 *	2.0 *	1.0 *	2.0 *	12.0	19.0	48.0
1,4-Dichlorobenzene	1.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *
2-Butanone (MEK)	1.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *
Acetone	16.0	22.0	36.0	81.0	19.0	8.8	23.0	19.0	23.0	31.0
Benzene	0.5 *	0.5 *	0.5 *	1.0 *	1.0 *	0.5 *	1.0 *	0.5 *	0.5 *	1.0 *
Carbon Disulfide	5.0 *	5.0 *	5.0 *	10.0 *	10.0 *	5.0 *	10.0 *	5.0 *	5.0 *	10.0 *
Chloromethane (Methyl Chloride)	0.5 *	0.5 *	0.5 *	1.0 *	1.0 *	0.5 *	1.0 *	0.5 *	0.5 *	1.0 *
Dichloromethane	75.0	28.0	44.0	44.0	10.0 *	5.0 *	10.0 *	360.0	480.0	980.0
Ethylbenzene	1.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *
Tetrachloroethene (PCE)	1.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *	2.0 *	1.0 *	8.6	45.0
Toluene	2.4	2.0	1.4	2.0 *	2.0 *	1.0 *	2.0 *	4.3	6.8	20.0
Trichloroethene (TCE)	0.5 *	0.5 *	0.5 *	1.0 *	1.0 *	0.5 *	1.0 *	0.5 *	0.5 *	1.0 *
Trichlorofluoromethane (F-11)	1.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *
Trichlorotrifluoroethane (F-113)	2.0 *	5.3	2.0 *	4.0 *	4.0 *	2.0 *	4.0 *	2.0 *	2.0 *	4.0 *
Xylenes	1.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *	2.0 *	1.0 *	1.9	29.0
cis-1,2-Dichloroethene	1.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *

450RB/AU401/PV_0929

* – Not detected, reported value is PQL

Table N.6 (continued)
Process Exposure VOC Concentrations
Sample Date 10/01/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/M^3$)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,1,1-Trichloroethane (TCA)	1.0 *	2.0 *	2.0 *	5.0 *	1.1	2.5	2.0 *	22.0	1.0 *	22.0
1,4-Dichlorobenzene	1.0 *	2.0 *	2.0 *	5.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	2.0 *
2-Butanone (MEK)	1.0 *	2.0 *	2.0 *	5.0 *	3.8	2.0 *	2.0 *	1.0 *	1.0 *	12.0
Acetone	3.0 *	20.0	13.0	41.0	30.0	17.0	35.0	14.0	3.0 *	64.0
Benzene	0.5 *	1.0 *	1.0 *	2.5 *	0.5 *	1.0 *	1.0 *	0.5 *	0.5 *	1.0 *
Carbon Disulfide	5.0 *	10.0 *	10.0 *	25.0 *	5.0 *	10.0 *	10.0 *	5.0 *	5.0 *	10.0 *
Chloromethane (Methyl Chloride)	0.5 *	1.0 *	1.0 *	2.5 *	2.6	1.0 *	1.0 *	0.5 *	0.5 *	1.0 *
Dichloromethane	5.0 *	19.0	13.0	46.0	7.8	38.0	25.0	520.0	5.0 *	330.0
Ethylbenzene	1.0 *	2.0 *	2.0 *	5.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	2.0 *
Tetrachloroethene (PCE)	1.0 *	2.0 *	2.0 *	5.0 *	1.0 *	2.0 *	2.0 *	3.1	1.0 *	6.4
Toluene	1.0 *	2.0 *	2.0 *	5.0 *	2.4	8.9	2.0 *	4.4	1.0 *	7.7
Trichloroethene (TCE)	0.5 *	1.0 *	1.0 *	2.5 *	0.5 *	1.0 *	1.0 *	0.5 *	0.5 *	1.0 *
Trichlorofluoromethane (F-11)	1.0 *	2.0 *	2.0 *	5.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	2.0 *
Trichlorotrifluoroethane (F-113)	2.0 *	4.0 *	4.0 *	10.0 *	2.3	4.0 *	4.0 *	2.0 *	2.0 *	4.0 *
Xylenes	1.0 *	2.0 *	2.0 *	5.0 *	1.0 *	2.0 *	2.0 *	1.0	1.0 *	6.1
cis-1,2-Dichloroethene	1.0 *	2.0 *	2.0 *	5.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	2.0 *

450RB/AU401/PV_1001

* – Not detected, reported value is PQL.

Table N.6 (continued)
Process Exposure VOC Concentrations
Sample Date 10/04/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/M^3$)	Sample Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,1,1-Trichloroethane (TCA)	23.0	4.4	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	42.0	190.0
1,4-Dichlorobenzene	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *	2.0 *
2-Butanone (MEK)	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	4.6	1.0 *	2.0 *	2.0 *
Acetone	74.0	18.0	17.0	3.0 *	18.0	20.0	34.0	3.0 *	110.0	43.0
Benzene	0.8	0.5 *	0.5 *	0.5 *	0.5 *	1.0 *	0.9	0.5 *	1.0 *	1.0 *
Carbon Disulfide	5.0 *	5.0 *	5.0 *	5.0 *	5.0 *	10.0 *	5.0 *	5.0 *	10.0 *	10.0 *
Chloromethane (Methyl Chloride)	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	1.0 *	1.0 *
Dichloromethane	310.0	65.0	43.0	5.0 *	5.0 *	10.0 *	5.0 *	5.0 *	470.0	1500.0
Ethylbenzene	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *	2.0 *
Tetrachloroethene (PCE)	2.2	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *	33.0
Toluene	3.4	1.9	2.2	1.0 *	1.8	2.0 *	1.5	1.0 *	5.3	19.0
Trichloroethene (TCE)	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	1.0 *	1.0 *
Trichlorofluoromethane (F-11)	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *	2.0 *
Trichlorotrifluoroethane (F-113)	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	4.0 *	2.0 *	2.0 *	4.0 *	4.0 *
Xylenes	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *	21.0
cis-1,2-Dichloroethene	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *	2.0 *

450RB/AU401/PV_1004

* – Not detected, reported value is PQL.

Table N.6 (continued)
Process Exposure VOC Concentrations
Sample Date 10/07/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/M^3$)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,1,1–Trichloroethane (TCA)	21.0	6.2	4.3	6.9	1.0 *	1.0 *	2.3	1.0 *	21.0	95.0
1,4–Dichlorobenzene	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	2.0 *	2.0 *
2–Butanone (MEK)	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	2.0 *	9.8
Acetone	21.0	110.0	37.0	60.0	20.0	27.0	36.0	3.0 *	42.0	24.0
Benzene	1.0 *	1.0 *	1.0 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	1.0 *	1.0 *
Carbon Disulfide	10.0 *	10.0 *	10.0 *	5.0 *	5.0 *	5.0 *	10.0 *	5.0 *	10.0 *	10.0 *
Chloromethane (Methyl Chloride)	1.0 *	1.0 *	1.0 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	1.0 *	1.0 *
Dichloromethane	380.0	66.0	62.0	12.0	7.5	6.4	10.0	5.0 *	310.0	1600.0
Ethylbenzene	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	2.0 *	2.0 *
Tetrachloroethene (PCE)	4.1	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	2.0 *	35.0
Toluene	2.3	2.0 *	2.5	1.0 *	1.7	1.0 *	6.8	1.0 *	2.3	9.8
Trichloroethene (TCE)	1.0 *	1.0 *	1.0 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	1.0 *	1.0 *
Trichlorofluoromethane (F–11)	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	2.0 *	2.0 *
Trichlorotrifluoroethane (F–113)	4.0 *	4.0 *	4.0 *	2.0 *	2.0 *	2.0 *	4.0 *	2.0 *	4.0 *	4.0 *
Xylenes	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	2.0 *	6.0
cis–1,2–Dichloroethene	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	2.0 *	2.0 *

* – Not detected, reported value is PQL

450RB/AU401/PV_1007

Table N.6 (continued)
Process Exposure VOC Concentrations
Sample Date 10/08/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/M^3$)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,1,1-Trichloroethane (TCA)	6.1	1.0 *	2.0 *	5.4	1.0 *	8.0	12.0	7.2	10.0	2.0 *
1,4-Dichlorobenzene	2.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	2.0 *
2-Butanone (MEK)	2.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *
Acetone	24.0	1700.0	23.0	38.0	60.0	17.0	36.0	3.0 *	44.0	31.0
Benzene	1.0 *	0.5 *	1.0 *	0.5 *	0.5 *	1.0 *	1.0 *	0.5 *	0.5 *	1.0 *
Carbon Disulfide	10.0 *	5.0 *	10.0 *	5.0 *	5.0 *	10.0 *	10.0 *	5.0 *	5.0 *	10.0 *
Chloromethane (Methyl Chloride)	1.0 *	0.5 *	1.0 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	1.0 *
Dichloromethane	130.0	29.0	29.0	81.0	34.0	150.0	320.0	5.0 *	140.0	17.0
Ethylbenzene	2.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *
Tetrachloroethene (PCE)	2.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *
Toluene	2.0 *	1.7	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *
Trichloroethene (TCE)	1.0 *	0.5 *	1.0 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	1.0 *
Trichlorofluoromethane (F-11)	2.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *
Trichlorotrifluoroethane (F-113)	4.0 *	2.0 *	4.0 *	2.0 *	2.0 *	2.0 *	4.0 *	2.0 *	2.0 *	4.0 *
Xylenes	2.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *
cis-1,2-Dichloroethene	2.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *

450RB/AU401/PV_1008

* – Not detected, reported value is PQL.

Table N.6 (continued)
Process Exposure VOC Concentrations
Sample Date 10/12/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/M^3$)	Station Location									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,1,1-Trichloroethane (TCA)	20.0	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	2.2	1.0 *	32.0
1,4-Dichlorobenzene	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *
2-Butanone (MEK)	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *
Acetone	19.0	3.0 *	18.0	20.0	22.0	16.0	35.0	190.0	3.0 *	63.0
Benzene	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	0.5 *
Carbon Disulfide	5.0 *	5.0 *	10.0 *	5.0 *	5.0 *	5.0 *	10.0 *	5.0 *	5.0 *	5.0 *
Chloromethane (Methyl Chloride)	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	0.5 *
Dichloromethane	220.0	5.0 *	29.0	14.0	6.4	6.5	10.0 *	5.6	5.0 *	370.0
Ethylbenzene	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *
Tetrachloroethene (PCE)	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.2	1.0 *	1.5
Toluene	3.5	1.0 *	2.0 *	1.2	1.6	1.6	2.0 *	2.1	1.0 *	4.2
Trichloroethene (TCE)	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	0.5 *
Trichlorofluoromethane (F-11)	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *
Trichlorotrifluoroethane (F-113)	2.0 *	2.0 *	4.0 *	2.0 *	2.0 *	2.0 *	4.0 *	3.7	2.0 *	2.0 *
Xylenes	2.3	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	4.4	1.0 *	6.0
cis-1,2-Dichloroethene	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *

450RB/AU401/PV_1012

* – Not detected, reported value is PQL.

Table N.6 (continued)
Process Exposure VOC Concentrations
Sample Date 10/13/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/M^3$)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,1,1-Trichloroethane (TCA)	12.0	2.8	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	12.0	34.0	89.0
1,4-Dichlorobenzene	2.0 *	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	2.0 *
2-Butanone (MEK)	2.0 *	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	2.0 *
Acetone	53.0	48.0	29.0	83.0	15.0	58.0	15.0	32.0	49.0	17.0
Benzene	1.0 *	1.0 *	1.0 *	1.0 *	0.9	0.5 *	0.5 *	1.0 *	0.5 *	1.0 *
Carbon Disulfide	10.0 *	10.0 *	10.0 *	10.0 *	5.0 *	5.0 *	5.0 *	10.0 *	5.0 *	10.0 *
Chloromethane (Methyl Chloride)	1.0 *	1.0 *	1.0 *	1.0 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	1.0 *
Dichloromethane	110.0	22.0	15.0	17.0	5.0 *	5.0 *	5.0 *	340.0	290.0	840.0
Ethylbenzene	2.0 *	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	6.9
Tetrachloroethene (PCE)	2.0 *	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	4.5	18.0
Toluene	2.0 *	2.0 *	2.0 *	2.0 *	1.6	1.2	1.9	3.1	2.8	15.0
Trichloroethene (TCE)	1.0 *	1.0 *	1.0 *	1.0 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	1.0 *
Trichlorofluoromethane (F-11)	2.0 *	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	2.0 *
Trichlorotrifluoroethane (F-113)	4.0 *	4.0 *	4.0 *	4.0 *	2.0 *	2.0 *	2.0 *	4.0 *	2.0 *	4.0 *
Xylenes	2.0 *	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	3.2	88.0
cis-1,2-Dichloroethene	2.0 *	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	2.0 *

450RB/AU401/PV_1013

* – Not detected, reported value is PQL.

Table N.6 (continued)
Process Exposure VOC Concentrations
Sample Date 10/15/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/M^3$)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,1,1-Trichloroethane (TCA)	12.0	6.6	1.0 *	2.7	2.0 *	2.0 *	1.0 *	3.8	9.2	75.0
1,4-Dichlorobenzene	1.0 *	2.0 *	1.0 *	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	2.0 *	1.0 *
2-Butanone (MEK)	7.8	2.0 *	1.0 *	2.0 *	6.6	2.0 *	1.0 *	1.0 *	2.0 *	17.0
Acetone	24.0	24.0	16.0	21.0	17.0	15.0	3.0 *	16.0	51.0	74.0
Benzene	0.5 *	1.0 *	0.5 *	1.0 *	1.0 *	1.0 *	0.5 *	1.3	1.0 *	0.5 *
Carbon Disulfide	5.0 *	10.0 *	5.0 *	10.0 *	10.0 *	10.0 *	5.0 *	5.0 *	10.0 *	5.0 *
Chloromethane (Methyl Chloride)	0.5 *	1.0 *	0.5 *	1.0 *	1.0 *	1.0 *	0.5 *	0.5 *	1.0 *	0.5 *
Dichloromethane	180.0	41.0	30.0	13.0	11.0	12.0	5.0 *	86.0	150.0	920.0
Ethylbenzene	1.0 *	2.0 *	1.0 *	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	2.0 *	2.6
Tetrachloroethene (PCE)	1.0 *	2.0 *	1.0 *	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	2.0 *	19.0
Toluene	2.6	16.0	1.3	2.0 *	2.0 *	2.0 *	1.0 *	2.2	2.0	25.0
Trichloroethene (TCE)	0.5 *	1.0 *	0.5 *	1.0 *	1.0 *	1.0 *	0.5 *	0.5 *	1.0 *	0.5 *
Trichlorofluoromethane (F-11)	1.0 *	13.0	1.0 *	2.0 *	2.0 *	2.0 *	1.0 *	1.3	2.0 *	4.5
Trichlorotrifluoroethane (F-113)	2.0 *	4.0 *	2.0 *	4.0 *	4.0 *	4.0 *	2.0 *	2.0 *	4.0 *	2.0 *
Xylenes	1.0 *	2.0 *	1.0 *	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	2.0 *	37.0
cis-1,2-Dichloroethene	1.0 *	2.0 *	1.0 *	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	2.0 *	1.0 *

450RB/AU401/PV_1015

* – Not detected, reported value is PQL.

Table N.6 (continued)
Process Exposure VOC Concentrations
Sample Date 10/18/93
Tinker AFB, Oklahoma

ANALYTE	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,1,1-Trichloroethane (TCA)	1.0 *	2.0 *	2.0 *	3.2	1.0 *	3.8	2.0 *	17.0	4.1	3.3
1,4-Dichlorobenzene	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *
2-Butanone (MEK)	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *
Acetone	19.0	31.0	73.0	5.9	17.0	13.0	68.0	11.0	3.0 *	15.0
Benzene	1.9	1.0 *	1.0 *	1.8	0.5 *	0.5 *	1.0 *	1.6	0.5 *	0.5 *
Carbon Disulfide	5.0 *	10.0 *	10.0 *	5.0 *	5.0 *	5.0 *	10.0 *	5.0 *	5.0 *	5.0 *
Chloromethane (Methyl Chloride)	0.5 *	1.0 *	1.0 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	0.5 *
Dichloromethane	87.0	10.0 *	10.0	68.0	22.0	53.0	94.0	330.0	5.0 *	89.0
Ethylbenzene	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *
Tetrachloroethene (PCE)	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *
Toluene	3.8	6.8	3.6	3.6	3.0	3.2	2.0 *	5.2	1.0	7.0
Trichloroethene (TCE)	0.5 *	1.0 *	1.0 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	0.5 *
Trichlorofluoromethane (F-11)	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.1	1.0 *
Trichlorotrifluoroethane (F-113)	2.0 *	4.0 *	4.0 *	2.0 *	2.0 *	2.0 *	4.0 *	2.0 *	2.0 *	2.0 *
Xylenes	1.0 *	2.0	2.0 *	1.1	1.0 *	1.0 *	2.0 *	1.2	1.0 *	1.0 *
cis-1,2-Dichloroethene	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *

* - Not detected, reported value is PQL.

450RB/AU401/PV_1018

Table N.6 (continued)
Process Exposure VOC Concentrations
Sample Date 10/20/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/M^3$)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,1,1-Trichloroethane (TCA)	36.0	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *	5.7	2.1
1,4-Dichlorobenzene	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *
2-Butanone (MEK)	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *
Acetone	14.0	33.0	20.0	41.0	21.0	37.0	12.0	28.0	30.0	28.0
Benzene	0.5 *	1.9	1.3	0.5 *	1.0 *	2.3	0.5 *	1.0 *	0.5 *	1.1
Carbon Disulfide	5.0 *	5.0 *	5.0 *	5.0 *	10.0 *	5.0 *	5.0 *	10.0 *	5.0 *	5.0 *
Chloromethane (Methyl Chloride)	0.5 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *
Dichloromethane	110.0	5.0 *	14.0	92.0	37.0	160.0	220.0	91.0	63.0	9.0
Ethylbenzene	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *
Tetrachloroethene (PCE)	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *
Toluene	3.8	4.3	9.9	4.2	10.0	6.3	3.3	6.0	11.0	4.6
Trichloroethene (TCE)	0.5 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *
Trichlorofluoromethane (F-11)	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *
Trichlorotrifluoroethane (F-113)	2.0 *	2.0 *	2.0 *	2.0 *	4.0 *	2.0 *	2.0 *	4.0 *	2.0 *	2.0 *
Xylenes	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *
cis-1,2-Dichloroethene	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *

450RB/123r34/nu401/pv_1020.wk3

* – Not detected; reported value is PQL.

Table N.6 (continued)
Process Exposure VOC Concentrations
Sample Date 10/25/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/M^3$)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,1,1–Trichloroethane (TCA)	13.0	2.2	1.0 *	2.8	2.0 *	8.8	1.0 *	6.9	9.3	52.0
1,4–Dichlorobenzene	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	2.0 *	2.0 *
2–Butanone (MEK)	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	2.0 *	2.0 *
Acetone	39.0	14.0	24.0	16.0	17.0	17.0	3.0 *	14.0	20.0	36.0
Benzene	1.0 *	0.5 *	3.0	0.5 *	1.0 *	1.0 *	0.5 *	0.5 *	1.0 *	1.0 *
Carbon Disulfide	10.0 *	5.0 *	5.0 *	5.0 *	10.0 *	10.0 *	5.0 *	5.0 *	10.0 *	10.0 *
Chloromethane (Methyl Chloride)	1.0 *	0.5 *	0.5 *	0.5 *	1.0 *	1.0 *	0.5 *	0.5 *	1.0 *	1.0 *
Dichloromethane	330.0	41.0	28.0	46.0	14.0	41.0	5.0 *	180.0	230.0	900.0
Ethylbenzene	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	2.0 *	2.0 *
Tetrachloroethene (PCE)	3.8	1.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	2.0 *	12.0
Toluene	4.5	3.9	7.2	3.3	3.3	3.4	1.0 *	3.0	3.6	8.3
Trichloroethene (TCE)	1.0 *	0.5 *	0.5 *	0.5 *	1.0 *	1.0 *	0.5 *	0.5 *	1.0 *	1.0 *
Trichlorofluoromethane (F–11)	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	2.0 *	2.0 *
Trichlorotrifluoroethane (F–113)	4.0 *	2.0 *	2.0 *	2.0 *	4.0 *	4.0 *	2.0 *	2.0 *	4.0 *	4.0 *
Xylenes	2.0 *	1.0 *	1.2	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	2.0 *	12.0
cis–1,2–Dichloroethene	2.0 *	2.8	1.0 *	3.8	2.0 *	2.0 *	1.0 *	1.0 *	2.0 *	2.0 *

450RB/123r34/nu401/pv_1025.wk3

* – Not detected; reported value is PQL.

Table N.6 (continued)
Process Exposure VOC Concentrations
Sample Date 10/27/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/M^3$)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,1,1-Trichloroethane (TCA)	10.0	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.8	2.0 *	15.0
1,4-Dichlorobenzene	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *
2-Butanone (MEK)	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *
Acetone	23.0	16.0	18.0	22.0	25.0	10.0	12.0	19.0	14.0	43.0
Benzene	1.0 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *
Carbon Disulfide	10.0 *	5.0 *	5.0 *	5.0 *	5.0 *	5.0 *	5.0 *	5.0 *	10.0 *	5.0 *
Chloromethane (Methyl Chloride)	1.0 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *
Dichloromethane	270.0	28.0	24.0	30.0	9.0	22.0	26.0	29.0	73.0	310.0
Ethylbenzene	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *
Tetrachloroethene (PCE)	2.0 *	1.0 *	1.0 *	4.8	1.0 *	1.0 *	4.2	1.0 *	2.0 *	2.7
Toluene	2.9	1.7	1.2	1.1	1.0 *	2.3	4.0	2.9	2.5	4.8
Trichloroethene (TCE)	1.0 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *
Trichlorofluoromethane (F-11)	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *
Trichlorotrifluoroethane (F-113)	4.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	4.0 *	2.0 *
Xylenes	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.4
cis-1,2-Dichloroethene	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *

450RB/123r34/au401/pv_1027.wk3

* – Not detected; reported value is PQL.

Table N.6 (continued)
Process Exposure VOC Concentrations
Sample Date 10/29/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/M^3$)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,1,1-Trichloroethane (TCA)	1.0 *	2.0 *	2.0 *	2.0 *	1.0 *	2.0	3.8	1.0 *	1.0 *	1.0 *
1,4-Dichlorobenzene	1.0 *	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *
2-Butanone (MEK)	1.0 *	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *
Acetone	13.0	13.0	67.0	20.0	8.8	8.7	11.0	18.0	30.0	40.0
Benzene	0.5 *	1.0 *	1.0 *	1.0 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *
Carbon Disulfide	5.0 *	10.0 *	10.0 *	10.0 *	5.0 *	5.0 *	5.0 *	5.0 *	5.0 *	5.0 *
Chloromethane (Methyl Chloride)	0.5 *	1.0 *	1.0 *	1.0 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *
Dichloromethane	39.0	10.0 *	10.0 *	38.0	12.0	55.0	130.0	42.0	29.0	6.5
Ethylbenzene	1.0 *	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *
Tetrachloroethene (PCE)	28.0	2.0 *	2.0 *	2.0 *	1.0 *	46.0	28.0	38.0	22.0	14.0
Toluene	1.0 *	2.0 *	2.0 *	2.0 *	1.3	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *
Trichloroethene (TCE)	0.5 *	1.0 *	1.0 *	1.0 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *
Trichlorofluoromethane (F-11)	1.0 *	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *
Trichlorotrifluoroethane (F-113)	2.0 *	4.0 *	4.0 *	4.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *
Xylenes	1.0 *	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *
cis-1,2-Dichloroethene	1.0 *	2.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *

450RB/123r34/ku401/pv_1029.wk3

* – Not detected; reported value is PQL.

Table N.6 (continued)
Process Exposure VOC Concentrations
Sample Date 11/01/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/M^3$)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,1,1-Trichloroethane (TCA)	7.4	2.4	20.0 *	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	33.0
1,4-Dichlorobenzene	2.0 *	1.0 *	20.0 *	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *
2-Butanone (MEK)	2.0 *	1.0 *	20.0 *	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *
Acetone	16.0	12.0	60.0 *	14.0	16.0	11.0	9.9	21.0	21.0	27.0
Benzene	1.0 *	1.0	10.0 *	1.0 *	0.5 *	1.1	0.5 *	0.5 *	0.5 *	1.4
Carbon Disulfide	10.0 *	5.0 *	100.0 *	10.0 *	5.0 *	5.0 *	5.0 *	5.0 *	5.0 *	5.0 *
Chloromethane (Methyl Chloride)	1.0 *	0.5 *	10.0 *	1.0 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *
Dichloromethane	200.0	27.0	100.0 *	10.0 *	6.6	5.0 *	7.5	31.0	100.0	730.0
Ethylbenzene	2.0 *	1.0 *	20.0 *	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *
Tetrachloroethene (PCE)	47.0	9.9	20.0 *	10.0	1.0 *	1.0 *	1.0 *	1.0 *	25.0	140.0
Toluene	3.1	1.8	20.0 *	2.0 *	1.0 *	1.8	1.0 *	1.0 *	1.0 *	7.5
Trichloroethene (TCE)	1.0 *	0.5 *	10.0 *	1.0 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	1.6
Trichlorofluoromethane (F-11)	2.0 *	1.0 *	20.0 *	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *
Trichlorotrifluoroethane (F-113)	4.0 *	2.0 *	40.0 *	4.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *
Xylenes	2.0 *	1.0 *	20.0 *	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	7.5
cis-1,2-Dichloroethene	2.0 *	1.0 *	20.0 *	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *

450RB/123r34/au401/pv_1101.wk3

* - Not detected; reported value is PQL.

Table N.6 (continued)
Process Exposure VOC Concentrations
Sample Date 11/02/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/M^3$)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,1,1-Trichloroethane (TCA)	4.7	1.0 *	1.0 *	2.0 *	2.0 *	2.4	2.6	4.6	3.3	6.7
1,4-Dichlorobenzene	2.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *
2-Butanone (MEK)	2.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *
Acetone	20.0	14.0	2.0 *	25.0	14.0	11.0	13.0	11.0	33.0	9.6
Benzene	1.0 *	2.9	0.5 *	1.0 *	2.8	2.8	2.3	1.0 *	1.0 *	2.4
Carbon Disulfide	10.0 *	5.0 *	5.0 *	10.0 *	10.0 *	5.0 *	5.0 *	10.0 *	10.0 *	5.0 *
Chloromethane (Methyl Chloride)	1.0 *	0.5 *	0.5 *	1.0 *	1.0 *	0.5 *	0.5 *	1.0 *	1.0 *	0.5 *
Dichloromethane	140.0	26.0	5.0 *	67.0	24.0	60.0	56.0	68.0	35.0	140.0
Ethylbenzene	2.0 *	2.1	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *
Tetrachloroethene (PCE)	20.0	5.5	1.0 *	18.0	6.5	12.0	6.2	6.3	22.0	32.0
Toluene	6.5	7.1	1.0 *	5.3	6.2	7.1	6.5	5.1	4.8	6.5
Trichloroethene (TCE)	1.0 *	0.5 *	0.5 *	1.0 *	1.0 *	0.5 *	0.5 *	1.0 *	1.0 *	0.5 *
Trichlorofluoromethane (F-11)	2.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.2	1.0 *	2.0 *	2.0 *	1.0 *
Trichlorotrifluoroethane (F-113)	4.0 *	2.0 *	2.0 *	4.0 *	4.0 *	2.0 *	2.0 *	4.0 *	4.0 *	2.0 *
Xylenes	2.0 *	2.1	1.0 *	2.0 *	2.0 *	3.7	2.1	2.0 *	2.0 *	3.2
cis-1,2-Dichloroethene	2.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *

450RB/123r34/au401/pv_1102.wk3

* – Not detected; reported value is PQL.

Table N.6 (continued)
Process Exposure VOC Concentrations
Sample Date 11/04/93
Tinker AFB, Oklahoma

	Station Locations									
ANALYTE ($\mu g/M^3$)	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,1,1-Trichloroethane (TCA)	3.2	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	7.4	1.9
1,4-Dichlorobenzene	2.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *
2-Butanone (MEK)	2.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *
Acetone	32.0	44.0	48.0	26.0	28.0	16.0	18.0	21.0	11.0	11.0
Benzene	3.4	1.8	2.4	2.1	1.0	2.2	10.0	1.0 *	5.1	1.5
Carbon Disulfide	10.0 *	5.0 *	10.0 *	10.0 *	5.0 *	5.0 *	5.0 *	10.0 *	5.0 *	5.0 *
Chloromethane (Methyl Chloride)	1.0 *	0.5 *	1.0 *	1.0 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *
Dichloromethane	95.0	13.0	12.0	79.0	13.0	29.0	35.0	17.0	30.0	8.8
Ethylbenzene	2.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	2.9	1.0 *
Tetrachloroethene (PCE)	63.0	7.3	3.7	2.0 *	5.2	21.0	18.0	11.0	70.0	38.0
Toluene	9.0	3.2	5.4	19.0	1.0 *	5.8	26.0	7.4	22.0	3.6
Trichloroethene (TCE)	1.0 *	0.5 *	1.0 *	1.0 *	0.5 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *
Trichlorofluoromethane (F-11)	2.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *
Trichlorotrifluoroethane (F-113)	34.0	2.0 *	4.0 *	4.0 *	2.0 *	2.0 *	2.0 *	4.0 *	2.0 *	2.0 *
Xylenes	2.2	1.0 *	2.0 *	2.0 *	1.0 *	1.6	15.0	2.0 *	26.0	1.6
cis-1,2-Dichloroethene	2.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *

450RB/123r34/au401/pv_1104.wk3

* – Not detected; reported value is PQL.

Table N.6 (continued)
Process Exposure VOC Concentrations
Sample Date 11/06/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/M^3$)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,1,1-Trichloroethane (TCA)	8.5	1.0 *	1.0 *	2.0 *	1.0 *	1.8	1.0 *	1.0 *	5.8	54.0
1,4-Dichlorobenzene	2.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *
2-Butanone (MEK)	2.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	6.0	1.0 *	1.0 *	2.0 *
Acetone	27.0	6.5	9.8	6.8	11.0	35.0	36.0	20.0	9.5	13.0
Benzene	2.1	1.4	0.5 *	1.0 *	0.5 *	1.2	1.2	0.5 *	0.5 *	1.0 *
Carbon Disulfide	10.0 *	5.0 *	5.0 *	10.0 *	5.0 *	5.0 *	5.0 *	5.0 *	5.0 *	10.0 *
Chloromethane (Methyl Chloride)	1.0 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	1.0 *
Dichloromethane	220.0	26.0	10.0	21.0	8.6	26.0	16.0	12.0	100.0	880.0
Ethylbenzene	2.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *
Tetrachloroethene (PCE)	24.0	6.1	4.4	8.8	1.0 *	3.6	1.0 *	1.0 *	6.3	25.0
Toluene	7.0	2.8	2.3	3.0	2.0	2.9	3.9	2.7	3.8	5.3
Trichloroethene (TCE)	1.0 *	0.5 *	0.5 *	1.0 *	0.5 *	0.5 *	0.5 *	0.5 *	0.5 *	1.9
Trichlorofluoromethane (F-11)	2.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.2	1.0 *	1.0 *	1.0 *	2.0 *
Trichlorotrifluoroethane (F-113)	4.0 *	2.0 *	2.0 *	4.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *	4.0 *
Xylenes	2.7	1.0 *	1.0 *	2.0 *	1.0 *	1.2	1.2	1.0 *	2.2	4.8
cis-1,2-Dichloroethene	2.0 *	1.0 *	1.0 *	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *	2.0 *

450RB/123r34/au401/pv_1106.wk3

* – Not detected; reported value is PQL.

Table N.6 (continued)
Process Exposure VOC Concentrations
Sample Date 11/08/93
Tinker AFB, Oklahoma

ANALYTE ($\mu g/M^3$)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,1,1-Trichloroethane (TCA)	22.0	2.0	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	3.3	17.0	48.0
1,4-Dichlorobenzene	1.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *
2-Butanone (MEK)	1.0 *	9.9	8.3	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.0 *
Acetone	24.0	29.0	56.0	28.0	25.0	9.4	10.0	8.8	22.0	40.0
Benzene	2.2	1.4	0.5 *	1.0 *	1.0 *	0.5 *	0.5 *	1.4	1.9	2.3
Carbon Disulfide	5.0 *	5.0 *	5.0 *	10.0 *	10.0 *	5.0 *	5.0 *	5.0 *	5.0 *	5.0 *
Chloromethane (Methyl Chloride)	0.5 *	0.5 *	0.5 *	1.0 *	1.0 *	0.5 *	0.5 *	0.5 *	0.5 *	1.0
Dichloromethane	360.0	37.0	31.0	23.0	10.0 *	5.4	5.0 *	42.0	410.0	670.0
Ethylbenzene	4.7	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	5.3
Tetrachloroethene (PCE)	12.0	1.3	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	6.4	19.0	60.0
Toluene	27.0	2.5	2.0	2.0 *	2.0 *	1.0	1.0 *	2.3	6.5	18.0
Trichloroethene (TCE)	0.8	0.5 *	0.5 *	1.0 *	1.0 *	0.5 *	0.5 *	0.5 *	0.5 *	3.8
Trichlorofluoromethane (F-11)	2.1	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	1.5
Trichlorotrifluoroethane (F-113)	2.0 *	2.0 *	2.0 *	4.6	4.0 *	2.0 *	2.0 *	2.0 *	2.0 *	2.0 *
Xylenes	28.0	1.4	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	5.4	58.0
cis-1,2-Dichloroethene	1.0 *	1.0 *	1.0 *	2.0 *	2.0 *	1.0 *	1.0 *	1.0 *	1.0 *	3.6

450RB/123r3/mu401/pv_1108.wk3

* – Not detected; reported value is PQL.

Table N.7
SVOC Concentrations
Flux and Probe Source Locations
Phase A, First Sample
Tinker AFB, Oklahoma

SAMPLE DATE	09/22/93 S2-1		09/22/93 S2-2		09/22/93 S3		09/22/93 S5-1		09/22/93 S5-2		09/23/93 S9		09/23/93 S12	
ANALYTE ($\mu g/m^3$)	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe
1,2,4-Trichlorobenzene	399 *	40 *	77 *	38 *	38 *	38 *	38 *	38 *	38 *	38 *	38 *	50 *	38 *	37 *
1,2-Dichlorobenzene	5911	40 *	614	38 *	91	38 *	241	38 *	191	38 *	38 *	50 *	38 *	37 *
1,3-Dichlorobenzene	879	40 *	77	38 *	38 *	38 *	38 *	38 *	38 *	38 *	38 *	50 *	38 *	37 *
1,4-Dichlorobenzene	1997	40 *	230	38 *	38 *	38 *	61	38 *	46	38 *	70	50 *	38 *	37 *
2,4-Dimethylphenol	399 *	40 *	77 *	38 *	38 *	38 *	38 *	38 *	38 *	38 *	38 *	50 *	38 *	37 *
2,4-Dinitrotoluene	399 *	40 *	77 *	38 *	38 *	38 *	38 *	38 *	38 *	38 *	38 *	50 *	38 *	37 *
Methylnaphthalenes	399 *	40 *	691	38 *	1215	38 *	377	38 *	382	38 *	615	50 *	38 *	37 *
Naphthalene	399 *	40 *	230	38 *	478	38 *	218	38 *	206	38 *	165	50 *	38 *	37 *
Phenol	3195	177	230	62	38 *	38 *	38 *	38 *	76	38 *	38 *	50 *	38 *	37 *

450RB/123r34/u401/sfx_pa1.wk3

* – Not detected; reported value is PQL.

Table N.7 (continued)
SVOC Concentrations
Flux and Probe Source Locations
Phase A, Second Sample
Tinker AFB, Oklahoma

SAMPLE DATE	09/24/93 S2-1		09/24/93 S2-2		09/24/93 S3		09/24/93 S5-1		09/24/93 S5-2		09/27/93 S9		09/27/93 S12	
ANALYTE ($\mu g/m^3$)	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe
1,2,4-Trichlorobenzene	49	37 *	37 *	37 *	37 *	37 *	37 *	37 *	38 *	39 *	37 *	37 *	37 *	37 *
1,2-Dichlorobenzene	6567	37 *	382	37 *	96	37 *	179	37 *	135	39 *	314	37 *	37 *	37 *
1,3-Dichlorobenzene	738	37 *	48	37 *	37 *	37 *	37 *	37 *	38 *	39 *	43	37 *	37 *	37 *
1,4-Dichlorobenzene	2214	37 *	110	37 *	37 *	37 *	42	37 *	38 *	39 *	102	37 *	37 *	37 *
2,4-Dimethylphenol	48	37 *	37 *	37 *	37 *	37 *	37 *	37 *	38 *	39 *	37 *	37 *	37 *	37 *
2,4-Dinitrotoluene	37 *	37 *	37 *	37 *	37 *	37 *	37 *	37 *	38 *	39 *	37 *	37 *	37 *	37 *
Methylnaphthalenes	133	37 *	434	37 *	600	72	208	37 *	285	39 *	183	37 *	37 *	37 *
Naphthalene	118	37 *	72	37 *	259	37 *	149	37 *	180	39 *	117	37 *	37 *	37 *
Phenol	4058	199	2499	387	63	37 *	51	37 *	105	39 *	365	814	37 *	37 *

450RJB/123r34/u401/sfx_pa2.wk3

* – Not detected; preorted value is PQL.

Table N.7 (continued)
SVOC Concentrations
Flux and Probe Source Locations
Phase A, Third Sample
Tinker AFB, Oklahoma

SAMPLE DATE	09/27/93 S2-1†		09/27/93 S2-2†		09/27/93 S3†		09/27/93 S5-1†		09/27/93 S5-2†		09/29/93 S9†		09/29/93 S12†	
ANALYTE ($\mu g/m^3$)	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe	Flux	Probe
1,2,4-Trichlorobenzene	361 *		36 *		37 *		37 *		37 *		36 *		37 *	
1,2-Dichlorobenzene	3102		866		37 *		37 *		57		130		37 *	
1,3-Dichlorobenzene	433		108		37 *		37 *		37 *		36 *		37 *	
1,4-Dichlorobenzene	938		274		37 *		37 *		37 *		36 *		37 *	
2,4-Dimethylphenol	361 *		36 *		37 *		37 *		37 *		36 *		37 *	
2,4-Dinitrotoluene	361 *		36 *		37 *		37 *		37 *		36 *		37 *	
Methylnaphthalenes	2741		498		1170		154		505		166		37 *	
Naphthalene	1587		332		709		64		307		116		37 *	
Phenol	1371		1298		37 *		37 *		103		203		37 *	

450RB/123r34/au401/sfr_pa3.wk3

* – Not detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.8
SVOC Concentrations
Probe Source Locations
Phase A, First Sample
Tinker AFB, Oklahoma

Sample Date	09/22/93	09/23/93	09/23/93	09/25/93	09/25/93	09/23/93	09/23/93	09/23/93	09/23/93	09/23/93
ANALYTE ($\mu g/m^3$)	S6–1	S8	S11	S13	S16	S19	S20–2	S21	S22	S23
1,2,4–Trichlorobenzene	38 *	37 *	37 *	36 *	36 *	37 *	38 *	37 *	38 *	38 *
1,2–Dichlorobenzene	38 *	37 *	37 *	36 *	36 *	37 *	38 *	37 *	38 *	38 *
1,3–Dichlorobenzene	38 *	37 *	37 *	36 *	36 *	37 *	38 *	37 *	38 *	38 *
1,4–Dichlorobenzene	38 *	37 *	37 *	36 *	36 *	37 *	38 *	37 *	38 *	38 *
2,4–Dimethylphenol	38 *	37 *	37 *	36 *	36 *	37 *	38 *	37 *	38 *	38 *
2,4–Dinitrotoluene	38 *	37 *	37 *	36 *	36 *	37 *	38 *	37 *	38 *	38 *
Methylnaphthalenes	38 *	37 *	37 *	36 *	36 *	37 *	38 *	37 *	38 *	38 *
Naphthalene	38 *	37 *	37 *	36 *	36 *	37 *	38 *	37 *	38 *	38 *
Phenol	38 *	37 *	37 *	36 *	36 *	37 *	38 *	37 *	38 *	38 *

450RB/123r34/au401/spx_pa1.wk3

* – Not detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.8 (continued)
SVOC Concentrations
Probe Source Locations
Phase A, Second Sample
Tinker AFB, Oklahoma

Sample Date	09/27/93	09/27/93	09/27/93	09/27/93	09/28/93	09/28/93	09/29/93	09/28/93	09/28/93	09/28/93
ANALYTE ($\mu g/m^3$)	S6–1	S8	S11	S13	S16	S19	S20–2	S21	S22	S23
1,2,4–Trichlorobenzene	38 *	38 *	38 *	38 *	37 *	37 *	36 *	37 *	37 *	37 *
1,2–Dichlorobenzene	38 *	38 *	38 *	38 *	37 *	37 *	36 *	37 *	37 *	37 *
1,3–Dichlorobenzene	38 *	38 *	38 *	38 *	37 *	37 *	36 *	37 *	37 *	37 *
1,4–Dichlorobenzene	38 *	38 *	38 *	38 *	37 *	37 *	36 *	37 *	37 *	37 *
2,4–Dimethylphenol	38 *	38 *	38 *	38 *	37 *	37 *	36 *	37 *	37 *	37 *
2,4–Dinitrotoluene	38 *	38 *	38 *	38 *	37 *	37 *	36 *	37 *	37 *	37 *
Methylnaphthalenes	53	38 *	38 *	38 *	495	37 *	36 *	37 *	37 *	155
Naphthalene	39	38 *	38 *	38 *	37 *	37 *	36 *	37 *	37 *	37 *
Phenol	38 *	113	38 *	105	37 *	37 *	255	37 *	37 *	37 *

450RB/123r34/au401/spx_pa2.wk3

* – Not detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.8 (continued)
SVOC Concentrations
Probe Source Locations
Phase A, Third Sample
Tinker AFB, Oklahoma

Sample Date	09/30/93	09/29/93	09/29/93	09/29/93	09/29/93	09/29/93	09/30/93	09/29/93	09/29/93	09/29/93
ANALYTE ($\mu g/m^3$)	S6–1	S8	S11	S13	S16	S19	S20–2	S21	S22	S23
1,2,4–Trichlorobenzene	37 *	36 *	36 *	37 *	36 *	37 *	38 *	37 *	36 *	37 *
1,2–Dichlorobenzene	37 *	36 *	36 *	37 *	36 *	37 *	38 *	37 *	36 *	37 *
1,3–Dichlorobenzene	37 *	36 *	36 *	37 *	36 *	37 *	38 *	37 *	36 *	37 *
1,4–Dichlorobenzene	37 *	36 *	36 *	37 *	36 *	37 *	38 *	37 *	36 *	37 *
2,4–Dimethylphenol	37 *	36 *	36 *	37 *	36 *	37 *	38 *	37 *	36 *	37 *
2,4–Dinitrotoluene	37 *	36 *	36 *	37 *	36 *	37 *	38 *	37 *	36 *	37 *
Methylnaphthalenes	37 *	36 *	36 *	37 *	36 *	37 *	38 *	37 *	36 *	37 *
Naphthalene	37 *	36 *	36 *	37 *	36 *	37 *	38 *	37 *	36 *	37 *
Phenol	37 *	36 *	36 *	37 *	36 *	37 *	38 *	37 *	36 *	37 *

450RB/123r34/au401/spx_pa3.wk3

* – Not detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.9
SVOC Concentrations
Flux Source Locations, Phase B
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2-1 †	S2-2	S3	S5-2	S9
Date: 10/01/93					
1,2,4-Trichlorobenzene		39 *	39 *	39 *	40 *
1,2-Dichlorobenzene		1794	134	212	134
1,3-Dichlorobenzene		172	39 *	39 *	40 *
1,4-Dichlorobenzene		429	39 *	39 *	40 *
2,4-Dimethylphenol		39 *	39 *	39 *	40 *
2,4-Dinitrotoluene		39 *	39 *	39 *	40 *
Methylnaphthalenes		250	1414	512	230
Naphthalene		172	746	315	182
Phenol		2496	236	73	95
Date: 10/04/93					
1,2,4-Trichlorobenzene		38 *	38 *	38 *	38 *
1,2-Dichlorobenzene		2486	52	75	64
1,3-Dichlorobenzene		294	38 *	38 *	38 *
1,4-Dichlorobenzene		663	38 *	38 *	38 *
2,4-Dimethylphenol		38 *	38 *	38 *	38 *
2,4-Dinitrotoluene		38 *	38 *	38 *	38 *
Methylnaphthalenes		324	601	206	162
Naphthalene		279	198	130	115
Phenol		2109	175	84	123
Date: 10/06/93					
1,2,4-Trichlorobenzene		35 *	35 *	36 *	36 *
1,2-Dichlorobenzene		1474	35 *	68	36 *
1,3-Dichlorobenzene		176	35 *	36 *	36 *
1,4-Dichlorobenzene		379	35 *	36 *	36 *
2,4-Dimethylphenol		35 *	35 *	36 *	36 *
2,4-Dinitrotoluene		35 *	35 *	36 *	36 *
Methylnaphthalenes		253	637	388	138
Naphthalene		197	283	230	102
Phenol		1825	276	67	66
Date: 10/08/93					
1,2,4-Trichlorobenzene		36 *	36 *	36 *	37 *
1,2-Dichlorobenzene		660	36 *	153	81
1,3-Dichlorobenzene		36 *	36 *	36 *	37 *
1,4-Dichlorobenzene		187	36 *	36 *	37 *
2,4-Dimethylphenol		36 *	36 *	36 *	37 *
2,4-Dinitrotoluene		36 *	36 *	36 *	37 *
Methylnaphthalenes		280	591	189	191
Naphthalene		187	252	160	140
Phenol		1435	223	131	162

Table N.9 (continued)
SVOC Concentrations
Flux Source Locations, Phase B
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2−1 †	S2−2	S3	S5−2	S9
Date: 10/11/93					
1,2,4−Trichlorobenzene		70 *	70 *	71 *	72 *
1,2−Dichlorobenzene		491	70 *	71 *	72 *
1,3−Dichlorobenzene		70 *	70 *	71 *	72 *
1,4−Dichlorobenzene		140	70 *	71 *	72 *
2,4−Dimethylphenol		70 *	70 *	71 *	72 *
2,4−Dinitrotoluene		70 *	70 *	71 *	72 *
Methylnaphthalenes		70 *	352	71	72 *
Naphthalene		70 *	141	71 *	72 *
Phenol		1472	70	71 *	144
Date: 10/13/93					
1,2,4−Trichlorobenzene		35 *	36 *	36 *	36 *
1,2−Dichlorobenzene		366	36 *	49	36 *
1,3−Dichlorobenzene		44	36 *	36 *	36 *
1,4−Dichlorobenzene		120	36 *	36 *	36 *
2,4−Dimethylphenol		35 *	36 *	36 *	36 *
2,4−Dinitrotoluene		35 *	36 *	36 *	36 *
Methylnaphthalenes		91	192	94	80
Naphthalene		68	63	53	49
Phenol		4854	114	36 *	73
Date: 10/15/93					
1,2,4−Trichlorobenzene		37 *	37 *	37 *	38 *
1,2−Dichlorobenzene		810	37 *	45	45
1,3−Dichlorobenzene		118	37 *	37 *	38 *
1,4−Dichlorobenzene		294	37 *	37 *	38 *
2,4−Dimethylphenol		37 *	37 *	37 *	38 *
2,4−Dinitrotoluene		37 *	37 *	37 *	38 *
Methylnaphthalenes		199	326	194	150
Naphthalene		177	274	156	75
Phenol		1766	81	149	150
Date: 10/18/93					
1,2,4−Trichlorobenzene		37 *	37 *	37 *	38 *
1,2−Dichlorobenzene		301	37 *	37 *	38 *
1,3−Dichlorobenzene		69	37 *	37 *	38 *
1,4−Dichlorobenzene		132	37 *	37 *	38 *
2,4−Dimethylphenol		37 *	37 *	37 *	38 *
2,4−Dinitrotoluene		37 *	37 *	37 *	38 *
Methylnaphthalenes		191	377	97	75
Naphthalene		118	148	44	40
Phenol		808	74	37 *	136

Table N.9 (continued)
SVOC Concentrations
Flux Source Locations, Phase B
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2-1 †	S2-2	S3	S5-2	S9
Date: 10/20/93					
1,2,4-Trichlorobenzene		36 *	36 *	37 *	37 *
1,2-Dichlorobenzene		420	36 *	37	37 *
1,3-Dichlorobenzene		72	36 *	37 *	37 *
1,4-Dichlorobenzene		152	36 *	37 *	37 *
2,4-Dimethylphenol		36 *	36 *	37 *	37 *
2,4-Dinitrotoluene		36 *	36 *	37 *	37 *
Methylnaphthalenes		166	364	147	67
Naphthalene		109	153	103	44
Phenol		1303	146	44	89
Date: 10/25/93					
1,2,4-Trichlorobenzene		36 *	36 *	37 *	37 *
1,2-Dichlorobenzene		36 *	36 *	37 *	37
1,3-Dichlorobenzene		36 *	36 *	37 *	37 *
1,4-Dichlorobenzene		36 *	36 *	37 *	37 *
2,4-Dimethylphenol		36 *	36 *	37 *	37 *
2,4-Dinitrotoluene		36 *	36 *	37 *	37 *
Methylnaphthalenes		36 *	486	140	120
Naphthalene		36 *	181	59	67
Phenol		6601	131	74	314
Date: 10/27/93					
1,2,4-Trichlorobenzene		35 *	35 *	35 *	36 *
1,2-Dichlorobenzene		146	238	163	36 *
1,3-Dichlorobenzene		35 *	35 *	35 *	36 *
1,4-Dichlorobenzene		51	35 *	35 *	36 *
2,4-Dimethylphenol		35 *	35 *	35 *	36 *
2,4-Dinitrotoluene		35 *	35 *	35 *	36 *
Methylnaphthalenes		35 *	238	248	71
Naphthalene		35 *	210	134	43
Phenol		598	140	106	114
Date: 10/29/93					
1,2,4-Trichlorobenzene		70 *	35 *	36 *	36 *
1,2-Dichlorobenzene		211	35 *	185	36
1,3-Dichlorobenzene		70 *	35 *	36 *	36 *
1,4-Dichlorobenzene		70 *	35 *	36 *	36 *
2,4-Dimethylphenol		70 *	35 *	36 *	36 *
2,4-Dinitrotoluene		70 *	35 *	36 *	36 *
Methylnaphthalenes		70 *	63	249	107
Naphthalene		70 *	49	185	57
Phenol		421	35 *	64	100

Table N.9 (continued)
SVOC Concentrations
Flux Source Locations, Phase B
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2−1 †	S2−2 †	S3	S5−2	S9
Date: 11/01/93					
1,2,4−Trichlorobenzene		70 *	70 *	71 *	72 *
1,2−Dichlorobenzene		491	70 *	71 *	72 *
1,3−Dichlorobenzene		70 *	70 *	71 *	72 *
1,4−Dichlorobenzene		140	70 *	71 *	72 *
2,4−Dimethylphenol		70 *	70 *	71 *	72 *
2,4−Dinitrotoluene		70 *	70 *	71 *	72 *
Methylnaphthalenes		70 *	352	71	72 *
Naphthalene		70 *	141	71 *	72 *
Phenol		1472	70	71 *	144
Date: 11/02/93					
1,2,4−Trichlorobenzene	71 *		71 *	36 *	36 *
1,2−Dichlorobenzene	213		71 *	36 *	36 *
1,3−Dichlorobenzene	71 *		71 *	36 *	36 *
1,4−Dichlorobenzene	142		71 *	36 *	36 *
2,4−Dimethylphenol	71 *		71 *	36 *	36 *
2,4−Dinitrotoluene	71 *		71 *	36 *	36 *
Methylnaphthalenes	71 *		999	144	160
Naphthalene	71		357	72	80
Phenol	711		143	188	226
Date: 11/04/93					
1,2,4−Trichlorobenzene	37 *		37 *	37 *	38 *
1,2−Dichlorobenzene	234		37 *	37 *	38 *
1,3−Dichlorobenzene	37 *		37 *	37 *	38 *
1,4−Dichlorobenzene	66		37 *	37 *	38 *
2,4−Dimethylphenol	37 *		37 *	37 *	38 *
2,4−Dinitrotoluene	37 *		37 *	37 *	38 *
Methylnaphthalenes	131		257	126	38 *
Naphthalene	66		220	67	38 *
Phenol	358		37 *	37 *	113
Date: 11/06/93					
1,2,4−Trichlorobenzene	34 *		34 *	34 *	34 *
1,2−Dichlorobenzene	666		34 *	122	34 *
1,3−Dichlorobenzene	141		34 *	34 *	34 *
1,4−Dichlorobenzene	34 *		34 *	34 *	34 *
2,4−Dimethylphenol	34 *		34 *	34 *	34 *
2,4−Dinitrotoluene	34 *		34 *	34 *	34 *
Methylnaphthalenes	101		67	285	96
Naphthalene	134		54	204	69
Phenol	605		34 *	34 *	48

Table N.9 (continued)
SVOC Concentrations
Flux Source Locations, Phase B
Tinker AFB, Oklahoma

ANALYTE ($\mu g/m^3$)	Station Locations S2−1	S2−2 †	S3	S5−2	S9
Date: 11/08/93					
1,2,4−Trichlorobenzene	35 *		35 *	35 *	36 *
1,2−Dichlorobenzene	762		42	35 *	36 *
1,3−Dichlorobenzene	132		35 *	35 *	36 *
1,4−Dichlorobenzene	284		35 *	35 *	36 *
2,4−Dimethylphenol	35 *		35 *	35 *	36 *
2,4−Dinitrotoluene	35 *		35 *	35 *	36 *
Methylnaphthalenes	339		515	218	122
Naphthalene	166		431	92	64
Phenol	969		90	35 *	107

450RB/au401/xtbl.wk3

* − Not detected; reported value is PQL.
† − No data indicates sample not collected or invalid.

Table N.10
SVOC Concentrations
Process Exposure Locations
Sample Date 09/22/93
Tinker AFB, Oklahoma

ANALYTE (ng/m³)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,2–Dichlorobenzene	114	22	94	50	27	48	107	366	219	183 *
1,3–Dichlorobenzene	38 *	19 *	18 *	18 *	18 *	15 *	36 *	183 *	36 *	183 *
1,4–Dichlorobenzene	38 *	19 *	34	20	18 *	22	36	183 *	73	183 *
2,4–Dinitrotoluene	38 *	19 *	18 *	18 *	18 *	15 *	36 *	183 *	36 *	183 *
2–Chlorophenol	38 *	19 *	18 *	18 *	18 *	15 *	36 *	183 *	36 *	183 *
4–Chloro–3–methylphenol	38 *	19 *	18 *	18 *	18 *	15 *	36 *	183 *	36 *	183 *
4–Nitrophenol	38 *	19 *	18 *	18 *	18 *	15 *	36 *	183 *	36 *	183 *
Acenaphthene	38 *	19 *	18 *	18 *	18 *	15 *	36 *	183 *	36 *	183 *
Acenaphthylene	38 *	19 *	18 *	18 *	18 *	15 *	36 *	183 *	36 *	183 *
Bis(2–chloroisopropyl)ether	38 *	19 *	18 *	18 *	18 *	15 *	36 *	183 *	36 *	183 *
Bis(2–ethylhexyl)phthalate	38 *	19 *	27	18	18	15 *	36 *	183 *	36 *	183 *
Di–n–butylphthalate	189	41	113	99	92	72	107	183 *	146	183 *
Di–n–octylphthalate	38 *	19 *	18 *	18 *	18 *	15 *	36 *	183 *	36 *	183 *
Diethylphthalate	76	19 *	33	39	42	15 *	36 *	256	36 *	183 *
Fluoranthene	38 *	19 *	18 *	18 *	18 *	15 *	36 *	183 *	36 *	183 *
Fluorene	38 *	19 *	18 *	18 *	18 *	15 *	36 *	183 *	36 *	183 *
Methylnaphthalenes	379	59	105	81	50	117	178	439	219	1536
N–Nitroso di–n–propylamine	38 *	19 *	18 *	18 *	18 *	15 *	36 *	183 *	36 *	183 *
N–Nitrosodiphenylamine	38 *	19 *	18 *	18 *	18 *	15 *	36 *	183 *	36 *	183 *
Naphthalene	379	41	120	64	46	123	107	220	219	1353
Pentachlorophenol	38 *	19 *	18 *	18 *	18 *	15 *	36 *	183 *	36 *	183 *
Phenanthrene	38 *	19 *	18 *	18 *	18 *	17	36 *	183 *	36 *	183 *
Phenol	38	19 *	98	29	32	69	534	2524	292	183 *
Pyrene	38 *	19 *	18 *	18 *	18 *	15 *	36 *	183 *	36 *	183 *

450RB/123r34/au401/pp_0922.wk3

* – Not detected; reported value is PQL.

Table N.10 (continued)
SVOC Concentrations
Process Exposure Locations
Sample Date 09/24/93
Tinker AFB, Oklahoma

ANALYTE (ng/m³)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,2–Dichlorobenzene	152	15 *	29	102	31	103	136	233	206	207
1,3–Dichlorobenzene	16 *	15 *	15 *	16 *	16 *	16 *	16 *	16 *	16 *	94 *
1,4–Dichlorobenzene	40	15 *	15 *	35	16 *	40	142	79	69	94 *
2,4–Dinitrotoluene	16 *	15 *	15 *	16 *	16 *	16 *	16 *	16 *	16 *	94 *
2–Chlorophenol	16 *	15 *	15 *	16 *	16 *	16 *	16 *	16 *	16 *	94 *
4–Chloro–3–methylphenol	16 *	15 *	15 *	16 *	16 *	16 *	16 *	16 *	16 *	94 *
4–Nitrophenol	16 *	15 *	15 *	16 *	16 *	16 *	16 *	16 *	16 *	94 *
Acenaphthene	16 *	15 *	15 *	16 *	16 *	16 *	16 *	16 *	16 *	94 *
Acenaphthylene	16 *	15 *	15 *	16 *	16 *	16 *	16 *	16 *	16 *	63 *
Bis(2–chloroisopropyl)ether	16 *	15 *	15 *	16 *	16 *	16 *	16 *	16 *	16 *	94 *
Bis(2–ethylhexyl)phthalate	20	15 *	18	35	16 *	29	20	18	16	94 *
Di–n–butylphthalate	121	93	139	154	131	280	186	163	131	169
Di–n–octylphthalate	16 *	15 *	15 *	16 *	16 *	16 *	16 *	16 *	16 *	94 *
Diethylphthalate	84	45	59	109	16 *	16 *	16 *	24	16 *	94 *
Fluoranthene	16 *	15 *	15 *	16 *	16 *	16 *	16 *	16 *	16 *	94 *
Fluorene	16 *	15 *	15 *	16 *	16 *	16 *	16 *	16 *	16 *	94 *
Methylnaphthalenes	341	51	77	173	53	156	114	157	780	721
N–Nitroso di–n–propylamine	16 *	15 *	15 *	16 *	16 *	16 *	16 *	16 *	16 *	94 *
N–Nitrosodiphenylamine	16 *	15 *	15 *	16 *	16 *	16 *	16 *	16 *	16 *	94 *
Naphthalene	341	45	65	173	50	187	133	151	686	564
Pentachlorophenol	16 *	15 *	15 *	16 *	16 *	16 *	16 *	16 *	16 *	94 *
Phenanthrene	16 *	15 *	15 *	16 *	16 *	16 *	16 *	16 *	16 *	94 *
Phenol	227	25	102	317	144	903	3161	2515	530	408
Pyrene	16 *	15 *	15 *	16 *	16 *	16 *	16 *	16 *	16 *	94 *

450RB/au401/pp_0924.wk3

* – Not detected; reported value is PQL.

Table N.10 (continued)
SVOC Concentrations
Process Exposure Locations
Sample Date 09/27/93
Tinker AFB, Oklahoma

ANALYTE (ng/m³)	Station Locations									
	P1 †	P2 †	P3 †	P4 †	P5 †	P6 †	P7 †	P8 †	P9 †	P10 †
1,2–Dichlorobenzene										
1,3–Dichlorobenzene										
1,4–Dichlorobenzene										
2,4–Dinitrotoluene										
2–Chlorophenol										
4–Chloro–3–methylphenol										
4–Nitrophenol										
Acenaphthene										
Acenaphthylene										
Bis(2–chloroisopropyl)ether										
Bis(2–ethylhexyl)phthalate										
Di–n–butylphthalate										
Di–n–octylphthalate										
Diethylphthalate										
Fluoranthene										
Fluorene										
Methylnaphthalenes										
N–Nitroso di–n–propylamine										
N–Nitrosodiphenylamine										
Naphthalene										
Pentachlorophenol										
Phenanthrene										
Phenol										
Pyrene										

450RB/123r34/au401/pp_0927.wk3

* – Not detected; reported value is PQL.
† – No data indicates sample not collected or invalid.

Table N.10 (continued)
SVOC Concentrations
Process Exposure Locations
Sample Date 09/29/93
Tinker AFB, Oklahoma

ANALYTE (ng/m³)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,2–Dichlorobenzene	174	56	54	74	13 *	55	16 *	70	617	592
1,3–Dichlorobenzene	16 *	33 *	16 *	17 *	13 *	16 *	16 *	17 *	162 *	329 *
1,4–Dichlorobenzene	42	33 *	16 *	24	13 *	19	16 *	17	162 *	329 *
2,4–Dinitrotoluene	16 *	33 *	16 *	17 *	13 *	16 *	16 *	17 *	162 *	329 *
2–Chlorophenol	16 *	33 *	16 *	17 *	13 *	16 *	16 *	17 *	162 *	329 *
4–Chloro–3–methylphenol	16 *	33 *	16 *	17 *	13 *	16 *	16 *	17 *	162 *	329 *
4–Nitrophenol	16 *	33 *	16 *	17 *	13 *	16 *	16 *	17 *	162 *	329 *
Acenaphthene	16 *	33 *	16 *	17 *	13 *	16 *	16 *	17 *	162 *	329 *
Acenaphthylene	16 *	33 *	16 *	17 *	13 *	16 *	16 *	17 *	162 *	329 *
Bis(2–chloroisopropyl)ether	16 *	33 *	16 *	17 *	13 *	16 *	16 *	17 *	162 *	329 *
Bis(2–ethylhexyl)phthalate	3067	4280	16 *	1817	2665	2264	3241	1327	2111	2599
Di–n–butylphthalate	17	33 *	141	94	13 *	71	16 *	96	162 *	329 *
Di–n–octylphthalate	16 *	33 *	16 *	17 *	13 *	16 *	16 *	17 *	162 *	329 *
Diethylphthalate	22	33 *	16 *	17 *	13 *	16 *	16 *	17 *	162 *	329 *
Fluoranthene	16 *	33 *	16 *	17 *	13 *	16 *	16 *	17 *	162 *	329 *
Fluorene	16 *	33 *	16 *	17 *	13 *	16 *	16 *	17 *	162	329 *
Methylnaphthalenes	420	165	125	239	32	39	36	189	2436	5921
N–Nitroso di–n–propylamine	16 *	33 *	16 *	17 *	13 *	16 *	16 *	17 *	162 *	329 *
N–Nitrosodiphenylamine	16 *	33 *	16 *	17 *	13 *	16 *	16 *	17 *	162 *	329 *
Naphthalene	320	102	80	175	30	28	32	70	1299	2303
Pentachlorophenol	16 *	33 *	16 *	17 *	13 *	16 *	16 *	17 *	162 *	329 *
Phenanthrene	16 *	33 *	16 *	17 *	13 *	16 *	16 *	17 *	162 *	329 *
Phenol	355	132	122	175	14	16 *	19	697	357	1875
Pyrene	16 *	33 *	16 *	17 *	13 *	16 *	16 *	17 *	162 *	329 *

450RB/123r34/au401/pp_0929.wk3

* – Not detected; reported value is PQL.

Table N.10 (continued)
SVOC Concentrations
Process Exposure Locations
Sample Date 10/01/93
Tinker AFB, Oklahoma

ANALYTE (ng/m³)	Station Locations P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,2–Dichlorobenzene	106	17 *	47	28	21	17 *	17	208	154	348 *
1,3–Dichlorobenzene	17 *	17 *	17 *	17 *	17 *	17 *	17 *	104 *	17 *	348 *
1,4–Dichlorobenzene	26	17 *	17 *	17 *	17 *	17 *	17 *	104 *	17 *	348 *
2,4–Dinitrotoluene	17 *	17 *	17 *	17 *	17 *	17 *	17 *	104 *	17 *	348 *
2–Chlorophenol	17 *	17 *	17 *	17 *	17 *	17 *	17 *	104 *	17 *	348 *
4–Chloro–3–methylphenol	17 *	17 *	17 *	17 *	17 *	17 *	17 *	104 *	17 *	348 *
4–Nitrophenol	17 *	17 *	17 *	17 *	17 *	17 *	17 *	104 *	17 *	348 *
Acenaphthene	17 *	17 *	17 *	17 *	17 *	17 *	17 *	104 *	17 *	348 *
Acenaphthylene	17 *	17 *	17 *	17 *	17 *	17 *	17 *	104 *	17 *	348 *
Bis(2–chloroisopropyl)ether	17 *	17 *	17 *	17 *	17 *	17 *	17 *	104 *	17 *	348 *
Bis(2–ethylhexyl)phthalate	165 *	2926	3200	1596	1713	17 *	1412	104 *	1818	3136
Di–n–butylphthalate	17 *	17 *	17 *	38	17 *	17 *	17 *	139	17 *	348 *
Di–n–octylphthalate	17 *	17 *	17 *	17 *	17 *	17 *	17 *	104 *	17 *	348 *
Diethylphthalate	17 *	17 *	17 *	17 *	17 *	17 *	17 *	104 *	17 *	348 *
Fluoranthene	17 *	17 *	17 *	17 *	17 *	17 *	17 *	104 *	17 *	348 *
Fluorene	17 *	17 *	17 *	17 *	17 *	17 *	17 *	104 *	17 *	348 *
Methylnaphthalenes	463	85	183	94	71	17 *	117	1145	1407	2613
N–Nitroso di–n–propylamine	17 *	17 *	17 *	17 *	17 *	17 *	17 *	104 *	17 *	348 *
N–Nitrosodiphenylamine	17 *	17 *	17 *	17 *	17 *	17 *	17 *	104 *	17 *	348 *
Naphthalene	278	44	110	52	44	17 *	62	729	583	1324
Pentachlorophenol	17 *	17 *	17 *	17 *	17 *	17 *	17 *	104 *	17 *	348 *
Phenanthrene	17 *	17 *	17 *	17 *	17 *	17 *	17 *	104 *	17 *	348 *
Phenol	294	17 *	240	38	37	17 *	17 *	6247	515	488
Pyrene	17 *	17 *	17 *	17 *	17 *	17 *	17 *	104 *	17 *	348 *

450RB/123r34/au401/pp_1001.wk3

* – Not detected; reported value is PQL.

Table N.10 (continued)
SVOC Concentrations
Process Exposure Locations
Sample Date 10/04/93
Tinker AFB, Oklahoma

ANALYTE (ng/m³)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,2-Dichlorobenzene	69	61	45	18 *	18 *	18 *	18 *	71	135	358 *
1,3-Dichlorobenzene	17 *	17 *	17 *	18 *	18 *	18 *	18 *	18 *	18 *	358 *
1,4-Dichlorobenzene	17 *	17 *	17 *	18 *	18 *	18 *	18 *	21	43	358 *
2,4-Dinitrotoluene	17 *	17 *	17 *	18 *	18 *	18 *	18 *	18 *	18 *	358 *
2-Chlorophenol	17 *	17 *	17 *	18 *	18 *	18 *	18 *	18 *	18 *	358 *
4-Chloro-3-methylphenol	17 *	17 *	17 *	18 *	18 *	18 *	18 *	18 *	18 *	358 *
4-Nitrophenol	17 *	17 *	17 *	18 *	18 *	18 *	18 *	18 *	18 *	358 *
Acenaphthene	17 *	17 *	17 *	18 *	18 *	18 *	18 *	18 *	18 *	358 *
Acenaphthylene	17 *	17 *	17 *	18 *	18 *	18 *	18 *	18 *	18 *	358 *
Bis(2-chloroisopropyl)ether	17 *	17 *	17 *	18 *	18 *	18 *	18 *	18 *	18 *	358 *
Bis(2-ethylhexyl)phthalate	28	17 *	17 *	42	18 *	18 *	18 *	18 *	1423	358 *
Di-n-butylphthalate	45	51	24	98	64	74	25	64	18 *	358 *
Di-n-octylphthalate	17 *	17 *	17 *	18 *	18 *	18 *	18 *	18 *	18 *	358 *
Diethylphthalate	17 *	17 *	17 *	18 *	32	18 *	18 *	18 *	18 *	358 *
Fluoranthene	17 *	17 *	17 *	18 *	18 *	18 *	18 *	18 *	18 *	358 *
Fluorene	17 *	17 *	17 *	18 *	18 *	18 *	18 *	18 *	18 *	358 *
Methylnaphthalenes	552	342	231	46	50	49	42	82	2953	7163
N-Nitroso di-n-propylamine	17 *	17 *	17 *	18 *	18 *	18 *	18 *	18 *	18 *	358 *
N-Nitrosodiphenylamine	17 *	17 *	17 *	18 *	18 *	18 *	18 *	18 *	18 *	358 *
Naphthalene	345	256	151 *	39	53	49	46	71	1637	3510
Pentachlorophenol	17 *	17 *	17 *	18 *	18 *	18 *	18 *	18 *	18 *	358 *
Phenanthrene	17 *	17 *	17 *	18 *	18 *	18 *	18 *	18 *	18 *	358 *
Phenol	221	143	107	18 *	18 *	18 *	18 *	4621	427	5372
Pyrene	17 *	17 *	17 *	18 *	18 *	18 *	18 *	18 *	18 *	358 *

450RB/123r34/au401/pp_1004.wk3

* – Not detected; reported value is PQL.

Table N.10 (continued)
SVOC Concentrations
Process Exposure Locations
Sample Date 10/07/93
Tinker AFB, Oklahoma

ANALYTE (ng/m³)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,2–Dichlorobenzene	268	16 *	38	16 *	16 *	16 *	16 *	16 *	220	315 *
1,3–Dichlorobenzene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	315 *
1,4–Dichlorobenzene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	315 *
2,4–Dinitrotoluene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	315 *
2–Chlorophenol	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	315 *
4–Chloro–3–methylphenol	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	315 *
4–Nitrophenol	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	315 *
Acenaphthene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	315 *
Acenaphthylene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	315 *
Bis(2–chloroisopropyl)ether	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	315 *
Bis(2–ethylhexyl)phthalate	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	315 *
Di–n–butylphthalate	95	80	92	75	80	73	70	16 *	16 *	315 *
Di–n–octylphthalate	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	315 *
Diethylphthalate	16 *	16 *	16 *	16 *	16 *	26	16 *	16 *	16 *	315 *
Fluoranthene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	315 *
Fluorene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	315 *
Methylnaphthalenes	1008	83	206	29	29	23	16 *	16 *	850	5037
N–Nitroso di–n–propylamine	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	315 *
N–Nitrosodiphenylamine	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	315 *
Naphthalene	567	38	130	28	30	26	16 *	16 *	472	1763
Pentachlorophenol	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	315 *
Phenanthrene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	315 *
Phenol	473	42	250	21	22	17	16 *	16 *	378	2613
Pyrene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	315 *

450RB/123r34/au401/pp_1007.wk3

* – Not detected; reported value is PQL.

Table N.10 (continued)
SVOC Concentrations
Process Exposure Locations
Sample Date 10/08/93
Tinker AFB, Oklahoma

ANALYTE (ng/m³)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,2–Dichlorobenzene	59	16 *	29	44	30	89	46	17 *	17 *	17 *
1,3–Dichlorobenzene	17 *	16 *	16 *	17 *	17 *	16 *	17 *	17 *	17 *	17 *
1,4–Dichlorobenzene	17 *	16 *	16 *	17 *	17 *	23	60	17 *	17 *	17 *
2,4–Dinitrotoluene	17 *	16 *	16 *	17 *	17 *	16 *	17 *	17 *	17 *	17 *
2–Chlorophenol	17 *	16 *	16 *	17 *	17 *	16 *	17 *	17 *	17 *	17 *
4–Chloro–3–methylphenol	17 *	16 *	16 *	17 *	17 *	16 *	17 *	17 *	17 *	17 *
4–Nitrophenol	17 *	16 *	16 *	17 *	17 *	16 *	17 *	17 *	17 *	17 *
Acenaphthene	17 *	16 *	16 *	17 *	17 *	16 *	17 *	17 *	17 *	17 *
Acenaphthylene	17 *	16 *	16 *	17 *	17 *	16 *	17 *	17 *	17 *	17 *
Bis(2–chloroisopropyl)ether	17 *	16 *	16 *	17 *	17 *	16 *	17 *	17 *	17 *	17 *
Bis(2–ethylhexyl)phthalate	17	16 *	45	17 *	20	16 *	27	17 *	17 *	17 *
Di–n–butylphthalate	66	118	78	101	155	135	86	126	109	106
Di–n–octylphthalate	17 *	16 *	16 *	17 *	17 *	16 *	17 *	17 *	17 *	17 *
Diethylphthalate	17 *	16 *	16 *	17 *	17 *	16	17 *	17 *	17 *	17 *
Fluoranthene	17 *	16 *	16 *	17 *	17 *	16 *	17 *	17 *	17 *	17 *
Fluorene	17 *	16 *	16 *	17 *	17 *	16 *	17 *	17 *	17 *	17 *
Methylnaphthalenes	244	72	94	219	132	362	123	25	235	60
N–Nitroso di–n–propylamine	17 *	16 *	16 *	17 *	17 *	16 *	17 *	17 *	17 *	17 *
N–Nitrosodiphenylamine	17 *	16 *	16 *	17 *	17 *	16 *	17 *	17 *	17 *	17 *
Naphthalene	165	52	71	135	89	240	66	25	96	33
Pentachlorophenol	17 *	16 *	16 *	17 *	17 *	16 *	17 *	17 *	17 *	17 *
Phenanthrene	17 *	16 *	16 *	17 *	17 *	16 *	17 *	17 *	17 *	17 *
Phenol	324	85	94	472	285	823	3644	263	364	36
Pyrene	17 *	16 *	16 *	17 *	17 *	16 *	17 *	17 *	17 *	17 *

450RB/123r34/au401/pp_1008.wk3

* – Not detected; reported value is PQL.

Table N.10 (continued)
SVOC Concentrations
Process Exposure Locations
Sample Date 10/12/93
Tinker AFB, Oklahoma

ANALYTE (ng/m³)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,2-Dichlorobenzene	75	24	44	17 *	17 *	17 *	17 *	17 *	52	175 *
1,3-Dichlorobenzene	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	175 *
1,4-Dichlorobenzene	24	31	17 *	17 *	17 *	17 *	145	17 *	17	175 *
2,4-Dinitrotoluene	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	175 *
2-Chlorophenol	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	175 *
4-Chloro-3-methylphenol	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	175 *
4-Nitrophenol	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	175 *
Acenaphthene	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	175 *
Acenaphthylene	17 *	28	17 *	17 *	17 *	17 *	17 *	17 *	17 *	175 *
Bis(2-chloroisopropyl)ether	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	175 *
Bis(2-ethylhexyl)phthalate	17 *	17 *	24	28	17 *	17 *	17 *	21	41	175 *
Di-n-butylphthalate	105	93	82	76	82	83	97	72	86	175
Di-n-octylphthalate	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	175 *
Diethylphthalate	17 *	17 *	17 *	17	17 *	17 *	17 *	17 *	17 *	175 *
Fluoranthene	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	175 *
Fluorene	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	175 *
Methylnaphthalenes	715	231	263	59	51	41	52	38	242	1501
N-Nitroso di-n-propylamine	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	175 *
N-Nitrosodiphenylamine	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	175 *
Naphthalene	238	200	164	52	55	45	55	41	121	454
Pentachlorophenol	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	175 *
Phenanthrene	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	175 *
Phenol	1939	241	171	90	58	69	17 *	55	3800	2514
Pyrene	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	17 *	175 *

* – Not detected; reported value is PQL.

450RB/123r34/au401/pp_1012.wk3

Table N.10 (continued)
SVOC Concentrations
Process Exposure Locations
Sample Date 10/13/93
Tinker AFB, Oklahoma

ANALYTE (ng/m³)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,2–Dichlorobenzene	61	18	42	49	27	16 *	16 *	66	69	17 *
1,3–Dichlorobenzene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
1,4–Dichlorobenzene	25	16 *	16 *	17	16 *	16 *	16 *	20	16 *	17 *
2,4–Dinitrotoluene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
2–Chlorophenol	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
4–Chloro–3–methylphenol	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
4–Nitrophenol	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
Acenaphthene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
Acenaphthylene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
Bis(2–chloroisopropyl)ether	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
Bis(2–ethylhexyl)phthalate	48	110	242	31	68	16	16 *	210	16 *	117
Di–n–butylphthalate	71	116	132	128	113	97	91	118	131	140
Di–n–octylphthalate	16 *	16 *	68	16 *	16 *	16 *	16 *	102	69	43
Diethylphthalate	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
Fluoranthene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
Fluorene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
Methylnaphthalenes	613	132	149	328	71	39	36	252	1018	7657
N–Nitroso di–n–propylamine	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
N–Nitrosodiphenylamine	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
Naphthalene	297	68	74	128	65	32	29	92	286	3263
Pentachlorophenol	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
Phenanthrene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
Phenol	139	55	65	92	48	39	49	2293	240	2930
Pyrene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *

450RB/123r34/au401/pp_1013.wk3

* – Not detected; reported value is PQL.

Table N.10 (continued)
SVOC Concentrations
Process Exposure Locations
Sample Date 10/15/93
Tinker AFB, Oklahoma

ANALYTE (ng/m^3)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,2-Dichlorobenzene	28	17 *	17 *	17 *	17 *	17 *	16 *	17 *	16 *	165 *
1,3-Dichlorobenzene	17 *	17 *	17 *	17 *	17 *	17 *	16 *	17 *	16 *	165 *
1,4-Dichlorobenzene	17 *	17 *	17 *	17 *	17 *	17 *	16 *	17 *	16 *	165 *
2,4-Dinitrotoluene	17 *	17 *	17 *	17 *	17 *	17 *	16 *	17 *	16 *	165 *
2-Chlorophenol	17 *	17 *	17 *	17 *	17 *	17 *	16 *	17 *	16 *	165 *
4-Chloro-3-methylphenol	17 *	17 *	17 *	17 *	17 *	17 *	16 *	17 *	16 *	165 *
4-Nitrophenol	17 *	17 *	17 *	17 *	17 *	17 *	16 *	17 *	16 *	165 *
Acenaphthene	17 *	17 *	17 *	17 *	17 *	17 *	16 *	17 *	16 *	165 *
Acenaphthylene	17 *	17 *	17 *	17 *	17 *	17 *	16 *	17 *	16 *	165 *
Bis(2-chloroisopropyl)ether	17 *	17 *	17 *	17 *	17 *	17 *	16 *	17 *	16 *	165 *
Bis(2-ethylhexyl)phthalate	17 *	33	17	20	17 *	19	81	17 *	49	165 *
Di-n-butylphthalate	236	301	157	184	134	173	124	110	265	198
Di-n-octylphthalate	17 *	17 *	17 *	17 *	17 *	17 *	16 *	17 *	16 *	165 *
Diethylphthalate	17 *	17 *	17 *	17 *	17 *	17 *	16 *	17 *	20	165 *
Fluoranthene	17 *	17 *	17 *	17 *	17 *	17 *	16 *	17 *	16 *	165 *
Fluorene	17 *	17 *	17 *	17 *	17 *	17 *	16 *	17 *	16 *	165 *
Methylnaphthalenes	565	18	110	17 *	101	22	16 *	25	170	1852
N-Nitroso di-n-propylamine	17 *	17 *	17 *	17 *	17 *	17 *	16 *	17 *	16 *	165 *
N-Nitrosodiphenylamine	17 *	17 *	17 *	17 *	17 *	17 *	16 *	17 *	16 *	165 *
Naphthalene	312	17 *	53	17 *	57	21	16 *	17	98	1257
Pentachlorophenol	17 *	17 *	17 *	17 *	17 *	17 *	16 *	17 *	16 *	165 *
Phenanthrene	17 *	17 *	17 *	17 *	17 *	17 *	16 *	17 *	16 *	165 *
Phenol	249	17 *	103	17 *	67	17 *	16 *	209	917	827
Pyrene	17 *	17 *	17 *	17 *	17 *	17 *	16 *	17 *	16 *	165 *

450RB/123r34/au401/pp_1015.wk3

* – Not detected; reported value is PQL.

Table N.10 (continued)
SVOC Concentrations
Process Exposure Locations
Sample Date 10/20/93
Tinker AFB, Oklahoma

ANALYTE (ng/m³)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,2-Dichlorobenzene	20	16 *	16 *	17 *	17 *	17	16 *	17 *	16 *	16 *
1,3-Dichlorobenzene	16 *	16 *	16 *	17 *	17 *	17 *	16 *	17 *	16 *	16 *
1,4-Dichlorobenzene	16	16 *	16 *	17 *	17 *	20	16 *	17 *	16 *	16 *
2,4-Dinitrotoluene	16 *	16 *	16 *	17 *	17 *	17 *	16 *	17 *	16 *	16 *
2-Chlorophenol	16 *	16 *	16 *	17 *	17 *	17 *	16 *	17 *	16 *	16 *
4-Chloro-3-methylphenol	16 *	16 *	16 *	17 *	17 *	17 *	16 *	17 *	16 *	16 *
4-Nitrophenol	16 *	16 *	16 *	17 *	17 *	17 *	16 *	17 *	16 *	16 *
Acenaphthene	16 *	16 *	16 *	17 *	17 *	17 *	16 *	17 *	16 *	16 *
Acenaphthylene	16 *	16 *	16 *	17 *	17 *	17 *	16 *	17 *	16 *	16 *
Bis(2-chloroisopropyl)ether	16 *	16 *	16 *	17 *	17 *	17 *	16 *	17 *	16 *	16 *
Bis(2-ethylhexyl)phthalate	16 *	16 *	16 *	17	27	17 *	16 *	17 *	16 *	16 *
Di-n-butylphthalate	131	128	140	199	173	174	134	124	170	161
Di-n-octylphthalate	16 *	16 *	16 *	17 *	17 *	17 *	16 *	17 *	16 *	16 *
Diethylphthalate	16 *	16 *	16 *	17 *	17 *	17 *	16 *	17 *	16 *	16 *
Fluoranthene	16 *	16 *	16 *	17 *	17 *	17 *	16 *	17 *	16 *	16 *
Fluorene	16 *	16 *	16 *	17 *	17 *	17 *	16 *	17 *	16 *	16 *
Methylnaphthalenes	265	63	69	273	189	270	324	97	305	16 *
N-Nitroso di-n-propylamine	16 *	16 *	16 *	17 *	17 *	17 *	16 *	17 *	16 *	16 *
N-Nitrosodiphenylamine	16 *	16 *	16 *	17 *	17 *	17 *	16 *	17 *	16 *	16 *
Naphthalene	196	76	78	148	139	190	200	77	151	16 *
Pentachlorophenol	16 *	16 *	16 *	17 *	17 *	17 *	16 *	17 *	16 *	16 *
Phenanthrene	16 *	16 *	16 *	17 *	17 *	17 *	16 *	17 *	16 *	16 *
Phenol	425	46	49	317	196	334	2160	835	223	16 *
Pyrene	16 *	16 *	16 *	17 *	17 *	17 *	16 *	17 *	16 *	16 *

450RB/123r34/au401/pp_1020.wk3

* – Not detected; reported value is PQL.

Table N.10 (continued)
SVOC Concentrations
Process Exposure Locations
Sample Date 10/25/93
Tinker AFB, Oklahoma

ANALYTE (ng/m³)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,2–Dichlorobenzene	18	16 *	16 *	16 *	16 *	16 *	16 *	16 *	19	173 *
1,3–Dichlorobenzene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	173 *
1,4–Dichlorobenzene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	173 *
2,4–Dinitrotoluene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	173 *
2–Chlorophenol	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	173 *
4–Chloro–3–methylphenol	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	173 *
4–Nitrophenol	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	173 *
Acenaphthene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	173 *
Acenaphthylene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	173 *
Bis(2–chloroisopropyl)ether	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	173 *
Bis(2–ethylhexyl)phthalate	18	16 *	16 *	16 *	16 *	16 *	16 *	20	19	173 *
Di–n–butylphthalate	128	115	129	114	122	162	125	229	187	287
Di–n–octylphthalate	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	173 *
Diethylphthalate	19	21	16 *	16 *	16 *	16 *	16 *	16 *	16 *	173 *
Fluoranthene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	173 *
Fluorene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	173 *
Methylnaphthalenes	230	92	60	52	93	111	106	92	219	1660
N–Nitroso di–n–propylamine	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	173 *
N–Nitrosodiphenylamine	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	173 *
Naphthalene	118	61	38	26	74	76	64	43	135	1003
Pentachlorophenol	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	173 *
Phenanthrene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	173 *
Phenol	223	61	35	157	90	149	350	688	222	484
Pyrene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	173 *

450RB/123r34/au401/pp_1025.wk3

* – Not detected; reported value is PQL.

Table N.10 (continued)
SVOC Concentrations
Process Exposure Locations
Sample Date 10/27/93
Tinker AFB, Oklahoma

ANALYTE (ng/m^3)	Station Locations P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,2-Dichlorobenzene	309	19	29	23	16 *	23	16 *	16 *	16 *	17 *
1,3-Dichlorobenzene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
1,4-Dichlorobenzene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
2,4-Dinitrotoluene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
2-Chlorophenol	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
4-Chloro-3-methylphenol	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
4-Nitrophenol	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
Acenaphthene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
Acenaphthylene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
Bis(2-chloroisopropyl)ether	19	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
Bis(2-ethylhexyl)phthalate	16 *	45	16 *	16 *	16 *	16 *	16	16 *	16 *	28
Di-n-butylphthalate	174	199	124	143	16 *	139	137	134	136	289
Di-n-octylphthalate	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
Diethylphthalate	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
Fluoranthene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
Fluorene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
Methylnaphthalenes	1671	103	156	133	83	130	134	59	100	1950
N-Nitroso di-n-propylamine	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
N-Nitrosodiphenylamine	16	16	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
Naphthalene	675	51	98	81	51	84	98	39	49	801
Pentachlorophenol	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
Phenanthrene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *
Phenol	1254	119	216	133	64	136	206	118	681	2333
Pyrene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	17 *

450RB/123r34/au401/pp_1027.wk3

* – Not detected; reported value is PQL.

Table N.10 (continued)
SVOC Concentrations
Process Exposure Locations**
Sample Date 10/29/93
Tinker AFB, Oklahoma

ANALYTE (ng/m³)	Station Locations P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,2–Dichlorobenzene	57	16 *	16 *	100	28	16 *	16 *	157 *	159 *	17 *
1,3–Dichlorobenzene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	157 *	159 *	17 *
1,4–Dichlorobenzene	16 *	16 *	16 *	22	16 *	16 *	314	157 *	159 *	17 *
2,4–Dinitrotoluene	16 *	16 *	16 *	16 *	16 *	16 *	314	157 *	159 *	17 *
2–Chlorophenol	16 *	16 *	16 *	16 *	16 *	16 *	629	157 *	159 *	17 *
4–Chloro–3–methylphenol	16 *	16 *	16 *	16 *	16 *	16 *	629	157 *	159 *	17 *
4–Nitrophenol	16 *	16 *	16 *	16 *	16 *	16 *	629	157 *	159 *	17 *
Acenaphthene	16 *	16 *	16 *	16 *	16 *	16 *	314	157 *	159 *	17 *
Acenaphthylene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	157 *	159 *	17 *
Bis(2–chloroisopropyl)ether	16 *	16 *	16 *	16 *	16 *	16 *	16 *	157 *	159 *	17 *
Bis(2–ethylhexyl)phthalate	31	25	34	118	313	28	16 *	157 *	159 *	20
Di–n–butylphthalate	314	246	16 *	231	253	269	16 *	376	191	187
Di–n–octylphthalate	16 *	16 *	16 *	16 *	19	16 *	16 *	157 *	159 *	17 *
Diethylphthalate	16 *	16 *	16 *	16 *	16 *	16 *	16 *	157 *	159 *	17 *
Fluoranthene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	157 *	159 *	17 *
Fluorene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	157 *	159 *	17 *
Methylnaphthalenes	274	41	40	343	116	344	16 *	439	574	163
N–Nitroso di–n–propylamine	16 *	16 *	16 *	16 *	16 *	16 *	314	157 *	159 *	17 *
N–Nitrosodiphenylamine	25	19	22	19	19	19	16 *	157 *	159 *	20
Naphthalene	170	50	53	227	78	253	16 *	313	414	119
Pentachlorophenol	16 *	16 *	16 *	16 *	16 *	16 *	629	157 *	159 *	17 *
Phenanthrene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	157 *	159 *	17 *
Phenol	566	44	50	1246	266	1313	629	752	383	99
Pyrene	16 *	16 *	16 *	16 *	16 *	16 *	314	157 *	159 *	17 *

450RB/123r34/au401/pp_1029.wk3

* – Not detected; reported value is PQL.
** – In addition to the above analytes, 1,2,4–trichlorobenzene was detected at concentrations of 314.4 ng/M³ at P7.

Table N.10 (continued)
SVOC Concentrations
Process Exposure Locations
Sample Date 11/01/93
Tinker AFB, Oklahoma

ANALYTE (ng/m³)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,2–Dichlorobenzene	68	23	29	16 *	16 *	16 *	16 *	42	46	350 *
1,3–Dichlorobenzene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	350 *
1,4–Dichlorobenzene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	350 *
2,4–Dinitrotoluene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	350 *
2–Chlorophenol	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	350 *
4–Chloro–3–methylphenol	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	350 *
4–Nitrophenol	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	350 *
Acenaphthene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	350 *
Acenaphthylene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	350 *
Bis(2–chloroisopropyl)ether	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	350 *
Bis(2–ethylhexyl)phthalate	39	29	23	23	16	19	23	36	29	350 *
Di–n–butylphthalate	313	269	176	183	128	159	160	294	301	350 *
Di–n–octylphthalate	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	350 *
Diethylphthalate	16 *	16	16 *	16 *	16 *	16 *	16 *	16 *	16 *	350 *
Fluoranthene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	350 *
Fluorene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	350 *
Methylnaphthalenes	2002	204	189	42	32	58	39	68	274	3845
N–Nitroso di–n–propylamine	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	350 *
N–Nitrosodiphenylamine	26	16	16 *	16 *	16 *	16 *	16 *	23	23	350 *
Naphthalene	775	133	140	59	48	75	52	58	180	1154
Pentachlorophenol	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	350 *
Phenanthrene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	350 *
Phenol	2680	16 *	488	75	74	88	82	518	1242	4544
Pyrene	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	16 *	350 *

450RB/123r34/au401/pp_1101.wk3

* – Not detected; reported value is PQL.

Table N.10 (continued)
SVOC Concentrations
Process Exposure Locations
Sample Date 11/02/93
Tinker AFB, Oklahoma

ANALYTE (ng/m³)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,2–Dichlorobenzene	257	87	51	135	68	77	189	555	174	144
1,3–Dichlorobenzene	16 *	16 *	16 *	36	16 *	18 *	16 *	46	16 *	18 *
1,4–Dichlorobenzene	64	29	16	17 *	23	37	59	127	48	35
2,4–Dinitrotoluene	16 *	16 *	16 *	17 *	16 *	18 *	16 *	16 *	16 *	18 *
2–Chlorophenol	16 *	16 *	16 *	17 *	16 *	18 *	16 *	16 *	16 *	18 *
4–Chloro–3–methylphenol	16 *	16 *	16 *	17 *	16 *	18 *	16 *	16 *	16 *	18 *
4–Nitrophenol	16 *	16 *	16 *	17 *	16 *	18 *	16 *	16 *	16 *	18 *
Acenaphthene	16 *	16 *	16 *	17 *	16 *	18 *	16 *	16 *	16 *	18 *
Acenaphthylene	16 *	16 *	16 *	17 *	16 *	18 *	16 *	16 *	16 *	18 *
Bis(2–chloroisopropyl)ether	16 *	16 *	16 *	17 *	16 *	18 *	16 *	16 *	16 *	18 *
Bis(2–ethylhexyl)phthalate	19	23	19	33	19	22	52	20	39	18 *
Di–n–butylphthalate	203	233	235	175	178	219	208	170	181	165
Di–n–octylphthalate	16 *	16 *	16 *	17 *	16 *	18 *	16 *	16 *	16 *	18 *
Diethylphthalate	16 *	16 *	16 *	17 *	16 *	18 *	16 *	16 *	16 *	18 *
Fluoranthene	16 *	16 *	16 *	17 *	16 *	18 *	16 *	16 *	16 *	18 *
Fluorene	16 *	16 *	16 *	17 *	16 *	18 *	16 *	16 *	16 *	18 *
Methylnaphthalenes	836	324	232	198	307	402	488	316	388	493
N–Nitroso di–n–propylamine	16 *	16 *	16 *	17 *	16 *	18 *	16 *	16 *	16 *	18 *
N–Nitrosodiphenylamine	16 *	16 *	16 *	17	16 *	18 *	16 *	16 *	16 *	18 *
Naphthalene	450	262	165	264	246	248	254	163	223	289
Pentachlorophenol	16 *	16 *	16 *	17 *	16 *	18 *	16 *	16 *	16 *	18 *
Phenanthrene	16 *	16 *	16 *	17 *	16 *	18 *	16	16	16 *	18 *
Phenol	771	298	254	396	207	986	618	1435	1098	1055
Pyrene	16 *	16 *	16 *	17 *	16 *	18 *	16 *	16 *	16 *	18 *

450RB/123r34/au401/pp_1102.wk3

* – Not detected; reported value is PQL.

Table N.10 (continued)
SVOC Concentrations
Process Exposure Locations
Sample Date 11/04/93
Tinker AFB, Oklahoma

ANALYTE (ng/m^3)	Station Locations									
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1,2–Dichlorobenzene	66	16 *	49	37	23	46	33	65	98 *	18 *
1,3–Dichlorobenzene	16 *	16 *	16 *	17 *	16 *	15 *	16 *	16 *	98 *	18 *
1,4–Dichlorobenzene	16 *	16 *	16 *	17 *	23	15 *	16 *	23	98 *	18 *
2,4–Dinitrotoluene	16 *	16 *	16 *	17 *	16 *	15 *	16 *	16 *	98 *	18 *
2–Chlorophenol	16 *	16 *	16 *	17 *	16 *	15 *	16 *	16 *	98 *	18 *
4–Chloro–3–methylphenol	16 *	16 *	16 *	17 *	16 *	15 *	16 *	16 *	98 *	18 *
4–Nitrophenol	16 *	16 *	16 *	17 *	16 *	15 *	16 *	16 *	98 *	18 *
Acenaphthene	16 *	16 *	16 *	17 *	16 *	15 *	16 *	16 *	98 *	18 *
Acenaphthylene	16 *	16 *	16 *	17 *	16 *	15 *	16 *	16 *	98 *	18 *
Bis(2–chloroisopropyl)ether	16 *	16 *	16 *	17 *	16 *	15 *	16 *	16 *	98 *	18 *
Bis(2–ethylhexyl)phthalate	46	16	30	27	39	22	33	26	98 *	35
Di–n–butylphthalate	427	202	283	253	357	234	360	277	230	276
Di–n–octylphthalate	16 *	16 *	16 *	17 *	16 *	15 *	16 *	16 *	98 *	18 *
Diethylphthalate	16 *	16 *	16 *	17 *	16 *	15 *	16 *	16 *	98 *	18 *
Fluoranthene	16 *	98	16 *	17 *	16 *	15 *	16 *	16 *	98 *	18 *
Fluorene	16 *	16 *	16 *	17 *	16 *	46	36	16 *	98 *	18 *
Methylnaphthalenes	1414	98	191	366	247	524	393	179	263	237
N–Nitroso di–n–propylamine	16 *	16 *	16 *	17 *	16 *	15 *	16 *	16 *	98 *	18 *
N–Nitrosodiphenylamine	39	16 *	23	17 *	29	52	62	29	98 *	35
Naphthalene	789	55	79	183	127	243	262	150	361	127
Pentachlorophenol	16 *	16 *	16 *	17 *	16 *	15 *	16 *	16 *	98 *	18 *
Phenanthrene	16 *	16 *	16 *	17 *	16 *	52	16 *	16 *	98 *	18 *
Phenol	855	42	66	932	299	462	785	329	394	39
Pyrene	16 *	16 *	16 *	17 *	16 *	15 *	16 *	16 *	98 *	18 *

450RB/123r34/au401/pp_1104.wk3

* – Not detected; reported value is PQL.