ORIGINAL (Red)

MARYLAND DEPARTMENT OF THE ENVIRONMENT
WASTE MANAGEMENT ADMINISTRATION
SITE ASSESSMENT/STATE SUPERFUND DIVISION

BROWNFIELDS ASSESSMENT
of the
Riegel Scrap Yard
Havre de Grace, Maryland

Vol. II
Lab Data

August 1997

Prepared by: Maryland Department of the Environment
Waste Management Administration
Environmental Restoration and Redevelopment Program
2500 Broening Highway
Baltimore, Maryland 21224

Prepared for: U.S. Environmental Protection Agency
Region III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

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Region III
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ORIGINAL

RECEIVED
MAR 26
CERCLA PRE-REMEDIAL DIVISION

DATE : March 25, 1997

SUBJECT: Region III Data QA Review

FROM : Fredrick Foreman FF
Region III ESAT RPO (3ES20)

TO : James McCreary
Regional Project Manager (3HW30)

Attached is the organic data validation report for the Riegel Scrapyard Site (Case 25235) completed by the Region III Environmental Services Assistance Team (ESAT) contractor under the direction of Region III EAPD.

If you have any questions regarding this review, please call me at (410) 573-2629.

Attachment

cc: Beth Creamer, MD Dept Environment

TDF File: 0265

Lockheed Martin Services Group
Environmental Services & Technologies Region 3
1419 Forest Drive, Suite 104 Annapolis, MD 21403
Telephone 410-268-7705 Facsimile 410-268-0331

LOCKHEED MARTIN

DATE: March 20, 1997

SUBJECT: Level C1 CADRE Data Validation
Case: 25235 SDG: CNL44
Site: Riegel Scrapyard

FROM: Kenneth W. Curry
Senior Data Reviewer

Mahboobeh Mechanic
Senior Oversight Chemist

TO: Fredrick Foreman
ESAT Regional Project Officer

THRU: Dale S. Boshart
ESAT Team Manager

OVERVIEW

The sample set for Case 25235, Sample Delivery Group (SDG) CNL44, from the Riegel Scrapyard site consisted of fifteen (15) soil samples and one (1) associated aqueous trip blank. The samples were analyzed for volatile, semivolatile and pesticide/PCB compounds by American Analytical and Technical Services (AATS). The trip blank was analyzed for volatile organic compounds only. The samples were analyzed in accordance with the Contract Laboratory Program (CLP) Statement of Work (SOW) OLM03.2 through the Routine Analytical Services (RAS) program.

SUMMARY

The data were validated according to EPA Level C1 Innovative Approaches for Validation of Organic Data utilizing the Computer-Aided Data Review and Evaluation (CADRE) program, version 2.3. CADRE software utilizes the electronic data submitted by the laboratory and evaluates the data according to Region III Modifications to the National Functional Guidelines. The Quality Control (QC) measures evaluated by CADRE for this level of review are included in Appendix D. In addition, chromatograms and mass spectra were reviewed and examined by the reviewer.

All samples were successfully analyzed for all target compounds. All instrument and method sensitivities were according to the specified methods. Areas of concern with respect to data usability are listed below.

ORIGINAL (Red)

MINOR PROBLEMS

- Several compounds failed precision criteria [percent Relative Standard Deviation (%RSD) and/or percent difference (%D)] in the volatile, semivolatile and pesticide/PCB initial and/or continuing calibrations. The reported results for these compounds were qualified "J", unless superseded by the "B" qualifier, and the quantitation limits were qualified "UJ" on the CADRE Qualified Spreadsheet reports for those compounds that exceeded fifty (50) %RSD and/or %D.

- In the volatile analysis of sample CQG91, the recoveries of all three (3) System Monitoring Compounds (SMCs) were outside the upper Quality Control (QC) limit. This sample was reanalyzed with similar results. Results from the reanalysis were reported. The "K" qualifier for the reported results in this sample has been superseded by the "B" qualifier on the CADRE Qualified Spreadsheet report.

- In the volatile analyses, several samples had one (1) or more Internal Standard (IS) area counts outside the lower QC limits. These samples were reanalyzed with similar results as listed in the following table. The results for samples CQG81, CQG83, CQG84 and CQG90 were reported from the initial analyses and the results for samples CQG89 and CQG91 were reported from the reanalyses. The reported results and quantitation limits for these samples whose compounds were quantitated using these ISs were qualified "J" and "UJ", respectively, on the CADRE Qualified Spreadsheet reports.

SAMPLE	INTERNAL STANDARD(s)
CQG81	IS2, IS3
CQG83	IS3
CQG84	IS3
CQG89	IS1, IS2, IS3
CQG90	IS2, IS3
CQG90MS	IS3
CQG90MSD	IS3
CQG91	IS2, IS3
CQG81RE	IS1, IS2, IS3
CQG83RE	IS2, IS3
CQG84RE	IS2, IS3
CQG89RE	IS3

IS1 = bromochloromethane
IS2 = 1,4-difluorobenzene
IS3 = chlorobenzene-d5

ORIGINAL (Red)

- In the semivolatile analysis of sample CQG90, the ISs chrysene-d12 (IS5) and perylene-d12 (IS6) had area counts outside the lower QC limits. The Matrix Spike (MS) analysis of this sample had similar results. The reported results and quantitation limits for this sample whose compounds were quantitated using IS5 and IS6 were qualified "J" and "UJ", respectively, on the CADRE Qualified Spreadsheet reports.

- In the semivolatile analysis of sample CQG79, the laboratory reported a positive result for the compound n-nitrosodiphenylamine. This compound cannot be separated from the compound diphenylamine. Therefore, this compound is considered tentatively identified and has been qualified "N" on the CADRE Qualified Spreadsheet report.

- In the pesticide/PCB analyses, samples CQG79, CQG84, CQG87 and CQG91 had the recoveries of the surrogate decachlorobiphenyl (DCB) outside the upper QC limits on both columns. The reported results in these samples were qualified "J" on the CADRE Qualified Spreadsheet reports.

NOTES

- The maximum concentrations of all compounds found in the analyses of the field and method blanks are listed below. Samples with concentrations of these common laboratory contaminants less than ten times (<10X) the blank concentration have been qualified "B" on the CADRE Qualified Spreadsheet reports.

Compound	Concentration		
methylene chloride	11		µg/L
acetone	4	J	µg/L
diethylphthalate	22	J	µg/Kg
di-n-butylphthalate	19	J	µg/Kg
bis(2-ethylhexyl)phthalate	44	J	µg/Kg

- The pesticide/PCB compounds with a %D greater than twenty-five percent (>25%) between the two (2) analytical columns were qualified "J" on the CADRE Qualified Spreadsheet report. See Form Xs in Appendix D.

- Compounds detected below the Contract Required Quantitation Limits (CRQLs) were qualified "J", unless superseded by the "B" qualifier, on the CADRE Qualified Spreadsheet report.

ORIGINAL (Red)

- The CRQLs for some of the semivolatile compounds differ slightly between the Form Is submitted by the laboratory and the CRQLs calculated by CADRE. In all cases, the CADRE CRQLs are lower, and are the result of CADRE calculating the CRQLs based on the EPA CLP SOW OLM01.8. The quantitation limits reported on the CADRE Qualified Spreadsheet reports are those generated by CADRE.

- Based on screening, the initial semivolatile analysis of sample CQG89 was performed at a two fold (2X) dilution.

- In the semivolatile analyses, several samples were reanalyzed at dilutions listed below because the detected concentrations of several compounds exceeded the established linear calibration range in the initial analyses of these samples. The results for these compounds were reported from the reanalyses and annotated with a "*" on the CADRE Qualified Spreadsheet reports.

Sample	Dilution Factor
CQG83	20X
CQG84	5X
CQG85	2X
CQG90	2X
CQG91	2X

- In the pesticide/PCB analyses of samples CQG90DLMS/MSD, the recoveries of the spiked compounds heptachlor and 4,4'-DDT in the MS analysis and gamma-BHC in the MSD analysis, were outside the upper QC limits. No data were qualified based on these outliers.

- In the pesticide/PCB analyses, samples CNL44, CQGC79, CQG81, CQG82 and CQG83 were reanalyzed at ten fold (10X) dilutions because the detected concentrations of several compounds exceeded the established linear calibration range in the initial analyses of these samples and/or to achieve satisfactory chromatography in the samples and comply with the requirements of the SOW. Results reported from the diluted analyses were annotated with a "*" on the CADRE Qualified Spreadsheet reports.

- Based on screening, the initial pesticide/PCB analyses of samples CQG80, CQG84, CQG85, CQG86, CQG87, CQG88, CQG89, CQG90, CQG91 and CQG93 were performed at ten fold (10X) dilutions. These samples were reanalyzed at one hundred fold (100X) dilutions in order to achieve satisfactory chromatography in the samples and thus, comply with the requirements of the SOW. Results reported from the reanalyses were annotated with a "*" on the CADRE Qualified Spreadsheet reports.

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- The pesticide/PCB analyses indicated aroclors 1248, 1254 and 1260 present in most of the samples. The laboratory also reported concentrations of pesticides in these samples. No GC/MS confirmations were performed by the laboratory even though the reported concentration of several of the pesticides and PCB compounds warranted such confirmation. The presence of PCBs may have caused false identifications for the reported pesticides. The data user should be aware of such when evaluating the pesticide data for these samples.

All data for Case 25235, SDG CNL44, were reviewed in accordance with the Innovative Approaches to Data Validation, Region III, June 1995, and the Region III Modifications to the National Functional Guidelines for Organic Data Review, September 1994.

ATTACHMENTS

1) Appendix A - Glossary of Data Qualifiers
2) Appendix B - CADRE Qualified Spreadsheet Reports
3) Appendix C - CADRE Validation Reports
4) Appendix D - Support Documentation

DCN: 25234.C1

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ATTACHMENTS

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DCN: 25234.C1

ORIGINAL (Red)

Appendix A
Glossary of Data Qualifier Codes

GLOSSARY OF DATA QUALIFIER CODES (ORGANIC)

CODES RELATED TO IDENTIFICATION
(confidence concerning presence or absence of compounds)

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

NO CODE = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unusable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION
(can be used for both positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably higher.

OTHER CODES

NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

Q = No analytical result.

Appendix B
CADRE Qualified Spreadsheet Reports

VOLATILE DATA

TCL QUALIFIED SPREADSHEET

Case No: 25235
SDG No: CNL44

Site: Riegel Scrapyard
Laboratory: SWL - TULSA

PA SAMPLE NUMBER:	CNL44		CQG79		CQG80		CQG81		CQG82	
EGIONAL SAMPLE NUMBER:										
SAMPLE LOCATION:	S-15		S-1		S-2		S-3		S-4	
AMPLE TYPE:	Routine Sample		Routine Sample		Routine Sample		F. Dup. of CQG91		Routine Sample	
ATRIX/ANALYSIS:	Soil/LOW		Soil/LOW		Soil/LOW		Soil/LOW		Soil/LOW	
ILUTION FACTOR:	1.0		1.0		1.0		1.0		1.0	
ERCENT MOISTURE:	25		23		21		28		18	
OA										
hloromethane	2	J	13	U	13	U	14	U	12	U
Bromomethane	13	U	13	U	13	U	14	U	12	U
inyl Chloride	13	U	13	U	13	U	14	U	12	U
hloroethane	13	U	13	U	13	U	14	U	12	U
ethylene Chloride	6	B	13	U	2	B	11*	B	12	U
Acetone	3	B	4	B	13	U	14	U	12	U
Carbon Disulfide	13	U	13	U	13	U	14	U	12	U
,1-Dichloroethene	13	U	13	U	13	U	14	U	12	U
,1-Dichloroethane	13	U	13	U	13	U	14	U	12	U
,2-Dichloroethene (total)	2	J	13	U	13	U	14	U	12	U
hloroform	2	J	13	U	13	U	14	U	12	U
,2-Dichloroethane	13	U	13	U	13	U	14	U	12	U
-Butanone	13	U	13	U	13	U	14	U	12	U
,1,1-Trichloroethane	13	U	13	U	13	U	14	UJ	12	U
Carbon Tetrachloride	13	U	13	U	13	U	14	UJ	12	U
Bromodichloromethane	13	U	13	U	13	U	14	UJ	12	U
,2-Dichloropropane	13	U	13	U	13	U	14	UJ	12	U
is-1,3-Dichloropropene	13	U	13	U	13	U	14	UJ	12	U
richloroethene	3	J	13	U	13	U	14	UJ	12	U
Dibromochloromethane	13	U	13	U	13	U	14	UJ	12	U
,1,2-Trichloroethane	13	U	13	U	13	U	14	UJ	12	U
enzene	13	U	13	U	13	U	14	UJ	12	U
rans-1,3-Dichloropropene	13	U	13	U	13	U	14	UJ	12	U
Bromoform	13	U	13	U	13	U	14	UJ	12	U
4-Methyl-2-Pentanone	13	U	13	U	13	U	14	UJ	12	U
2-Hexanone	13	U	13	U	13	U	14	UJ	12	U
etrachloroethene	13	U	13	U	13	U	14	UJ	12	U
1,1,2,2-Tetrachloroethane	13	U	13	U	13	U	14	UJ	12	U
Toluene	13	U	13	U	13	U	14	UJ	12	U
Chlorobenzene	13	U	13	U	13	U	14	UJ	12	U
Ethylbenzene	13	U	13	U	13	U	14	UJ	12	U
Styrene	13	U	13	U	13	U	14	UJ	12	U
Xylene (total)	13	U	13	U	13	U	1	J	12	U

ILE NAME: CNL44 DATE: 03/17/97 TIME: 10:05 CADRE 2.3

Water units are reported in ug/L. * = Results reported from the reanalysis.
Soil units are reported in ug/Kg.

TCL QUALIFIED SPREADSHEET

Case No: 25235
SDG No: CNL44

Site: Riegel Scrapyard
Laboratory: SWL - TULSA

EPA SAMPLE NUMBER:	CQG83		CQG84		CQG85		CQG86		CQG87	
REGIONAL SAMPLE NUMBER:										
SAMPLE LOCATION:	S-5		S-6		S-7		S-8		S-9	
SAMPLE TYPE:	Routine Sample		Routine Sample		Routine Sample		Routine Sample		Routine Sample	
MATRIX/ANALYSIS:	Soil/LOW		Soil/LOW		Soil/LOW		Soil/LOW		Soil/LOW	
DILUTION FACTOR:	1.0		1.0		1.0		1.0		1.0	
PERCENT MOISTURE:	21		23		15		16		38	
VOA										
Chloromethane	13	U	13	U	12	U	12	U	16	U
Bromomethane	13	U	13	U	12	U	12	U	16	U
Vinyl Chloride	13	U	13	U	12	U	12	U	16	U
Chloroethane	13	U	13	U	12	U	12	U	16	U
Methylene Chloride	7*	B	2*	B	2	B	12	U	8	B
Acetone	13	U	13	U	12	U	12	U	16	U
Carbon Disulfide	13	U	13	U	12	U	12	U	16	U
1,1-Dichloroethene	13	U	13	U	12	U	12	U	16	U
1,1-Dichloroethane	13	U	13	U	12	U	12	U	16	U
1,2-Dichloroethene (total)	13	U	13	U	12	U	12	U	16	U
Chloroform	13	U	13	U	12	U	12	U	16	U
1,2-Dichloroethane	13	U	13	U	12	U	12	U	16	U
2-Butanone	13	U	13	U	12	U	12	U	16	U
1,1,1-Trichloroethane	13	U	13	U	12	U	12	U	16	U
Carbon Tetrachloride	13	U	13	U	12	U	12	U	16	U
Bromodichloromethane	13	U	13	U	12	U	12	U	16	U
1,2-Dichloropropane	13	U	13	U	12	U	12	U	16	U
cis-1,3-Dichloropropene	13	U	13	U	12	U	12	U	16	U
Trichloroethene	13	U	13	U	12	U	12	U	16	U
Dibromochloromethane	13	U	13	U	12	U	12	U	16	U
1,1,2-Trichloroethane	13	U	13	U	12	U	12	U	16	U
Benzene	13	U	13	U	12	U	12	U	16	U
trans-1,3-Dichloropropene	13	U	13	U	12	U	12	U	16	U
Bromoform	13	U	13	U	12	U	12	U	16	U
4-Methyl-2-Pentanone	13	UJ	13	UJ	12	U	12	U	16	U
2-Hexanone	13	UJ	13	UJ	12	U	12	U	16	U
Tetrachloroethene	13	UJ	13	UJ	12	U	12	U	16	U
1,1,2,2-Tetrachloroethane	13	UJ	13	UJ	12	U	12	U	16	U
Toluene	13	UJ	13	J	12	U	12	U	16	U
Chlorobenzene	13	UJ	13	UJ	12	U	12	U	16	U
Ethylbenzene	13	UJ	4	J	12	U	12	U	16	U
Styrene	13	UJ	13	UJ	12	U	12	U	16	U
Xylene (total)	13	UJ	18	J	12	U	12	U	16	U

FILE NAME: CNL44 DATE: 03/17/97 TIME: 10:05 CADRE 2.3

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EGIONAL SAMPLE NUMBER:										
SAMPLE LOCATION:	S-10		S-11		S-12		S-13		TB-1	
SAMPLE TYPE:	Routine Sample		Routine Sample		Routine Sample		F. Dup. of CQG81		Trip Blank	
ATRIX/ANALYSIS:	Soil/LOW		Soil/LOW		Soil/LOW		Soil/LOW		Water/LOW	
ILUTION FACTOR:	1.0		1.0		1.0		1.0		1.0	
ERCENT MOISTURE:	17		18		12		27			
OA										
hloromethane	12	U	12	U	11	U	14	U	10	U
romomethane	12	U	12	U	11	U	14	U	10	U
inyl Chloride	12	U	12	U	11	U	14	U	10	U
hloroethane	12	U	12	U	11	U	14	U	10	U
ethylene Chloride	1	B	12	U	2	B	2+	B	1	B
cetone	12	U	220		110	J	15+	B	10	U
arbon Disulfide	12	U	12	U	2	J	14	U	10	U
,1-Dichloroethene	12	U	12	U	11	U	14	U	10	U
,1-Dichloroethane	12	U	12	U	11	U	14	U	10	U
,2-Dichloroethene (total)	12	U	12	U	11	U	14	U	10	U
hloroform	12	U	12	U	11	U	14	U	10	U
,2-Dichloroethane	12	U	12	U	11	U	14	U	10	U
-Butanone	12	U	55	J	11	U	14	U	10	U
,1,1-Trichloroethane	12	U	12	U	11	UJ	14	U	10	U
arbon Tetrachloride	12	U	12	U	11	UJ	14	U	10	U
romodichloromethane	12	U	12	U	11	UJ	14	U	10	U
,2-Dichloropropane	12	U	12	U	11	UJ	14	U	10	U
is-1,3-Dichloropropene	12	U	12	U	11	UJ	14	U	10	U
richloroethene	12	U	12	U	11	UJ	14	U	10	U
ibromochloromethane	12	U	12	U	11	UJ	14	U	10	U
,1,2-Trichloroethane	12	U	12	U	11	UJ	14	U	10	U
enzene	12	U	12	U	1	J	14	U	10	U
rans-1,3-Dichloropropene	12	U	12	U	11	UJ	14	U	10	U
romoform	12	U	12	U	11	UJ	14	U	10	U
-Methyl-2-Pentanone	12	U	12	UJ	11	UJ	14	U	10	U
-Hexanone	12	U	12	UJ	11	UJ	14	U	10	U
etrachloroethene	12	U	12	UJ	11	UJ	14	U	10	U
,1,2,2-Tetrachloroethane	12	U	12	UJ	11	UJ	14	U	10	U
oluene	12	U	12	J	10	J	14	U	10	U
hlorobenzene	12	U	12	UJ	11	UJ	14	U	10	U
thylbenzene	12	U	12	UJ	4	J	14	U	10	U
tyrene	12	U	12	UJ	11	UJ	14	U	10	U
ylene (total)	12	U	1+	J	20	J	14	U	10	U

LE NAME: CNL44 DATE: 03/17/97 TIME: 10:05 CADRE 2.3

ater units are reported in ug/L. + = Results reported from the initial analysis.
oil units are reported in ug/Kg.

TCL QUALIFIED SPREADSHEET

Case No: 25235
SDG No: CNL44

Site: Riegel Scrapyard
Laboratory: SWL - TULSA

EPA SAMPLE NUMBER:	CQG93					
REGIONAL SAMPLE NUMBER:						
SAMPLE LOCATION:	S-14					
SAMPLE TYPE:	Routine Sample					
MATRIX/ANALYSIS:	Soil/LOW					
DILUTION FACTOR:	1.0					
PERCENT MOISTURE:	17					
VOA						
Chloromethane	2	J				
Bromomethane	12	U				
Vinyl Chloride	12	U				
Chloroethane	12	U				
Methylene Chloride	2	B				
Acetone	12	U				
Carbon Disulfide	12	U				
1,1-Dichloroethene	12	U				
1,1-Dichloroethane	12	U				
1,2-Dichloroethene (total)	1	J				
Chloroform	1	J				
1,2-Dichloroethane	12	U				
2-Butanone	12	U				
1,1,1-Trichloroethane	12	U				
Carbon Tetrachloride	12	U				
Bromodichloromethane	12	U				
1,2-Dichloropropane	12	U				
cis-1,3-Dichloropropene	12	U				
Trichloroethene	2	J				
Dibromochloromethane	12	U				
1,1,2-Trichloroethane	12	U				
Benzene	12	U				
trans-1,3-Dichloropropene	12	U				
Bromoform	12	U				
4-Methyl-2-Pentanone	12	U				
2-Hexanone	12	U				
Tetrachloroethene	12	U				
1,1,2,2-Tetrachloroethane	12	U				
Toluene	12	U				
Chlorobenzene	12	U				
Ethylbenzene	12	U				
Styrene	12	U				
Xylene (total)	12	U				

FILE NAME: CNL44 DATE: 03/17/97 TIME: 10:05 CADRE 2.3

Water units are reported in ug/L.
Soil units are reported in ug/Kg.

SEMIVOLATILE DATA

TCL QUALIFIED SPREADSHEET

Case No: 25235
SDG No: CNL44

Site: Riegel Scrapyard
Laboratory: SWL - TULSA

EPA SAMPLE NUMBER:	CNL44		CQG79		CQG80		CQG81		CQG82	
REGIONAL SAMPLE NUMBER:										
SAMPLE LOCATION:	S-15		S-1		S-2		S-3		S-4	
SAMPLE TYPE:	Routine Sample		Routine Sample		Routine Sample		F. Dup. of CQG91		Routine Sample	
MATRIX/ANALYSIS:	Soil/LOW		Soil/LOW		Soil/LOW		Soil/LOW		Soil/LOW	
DILUTION FACTOR:	1.0		1.0		1.0		1.0		1.0	
PERCENT MOISTURE:	25		23		21		28		18	
BNA										
Phenol	440	U	430	U	420	U	460	U	400	U
bis(2-Chloroethyl)ether	440	U	430	U	420	U	460	U	400	U
2-Chlorophenol	440	U	430	U	420	U	460	U	400	U
1,3-Dichlorobenzene	440	U	430	U	420	U	460	U	400	U
1,4-Dichlorobenzene	440	U	430	U	420	U	460	U	400	U
1,2-Dichlorobenzene	440	U	430	U	420	U	460	U	400	U
2-Methylphenol	440	U	430	U	420	U	460	U	400	U
2,2'-oxybis(1-Chloropropane)	440	U	430	U	420	U	460	U	400	U
4-Methylphenol	440	U	430	U	420	U	460	U	400	U
N-Nitroso-di-n-propylamine	440	U	430	U	420	U	460	U	400	U
Hexachloroethane	440	U	430	U	420	U	460	U	400	U
Nitrobenzene	440	U	430	U	420	U	460	U	400	U
Isophorone	440	U	430	U	420	U	460	U	400	U
2-Nitrophenol	440	U	430	U	420	U	460	U	400	U
2,4-Dimethylphenol	440	U	430	U	420	U	460	U	400	U
bis(2-Chloroethoxy)methane	440	U	430	U	420	U	460	U	400	U
2,4-Dichlorophenol	440	U	430	U	420	U	460	U	400	U
1,2,4-Trichlorobenzene	440	U	430	U	420	U	460	U	400	U
Naphthalene	43	J	430	U	420	U	39	J	400	U
4-Chloroaniline	440	U	430	U	420	U	460	U	400	U
Hexachlorobutadiene	440	U	430	U	420	U	460	U	400	U
4-Chloro-3-methylphenol	440	U	430	U	420	U	460	U	400	U
2-Methylnaphthalene	54	J	23	J	420	U	36	J	400	U
Hexachlorocyclopentadiene	440	U	430	U	420	U	460	U	400	U
2,4,6-Trichlorophenol	440	U	430	U	420	U	460	U	400	U
2,4,5-Trichlorophenol	1100	U	1000	U	1000	U	1100	U	980	U
2-Chloronaphthalene	440	U	430	U	420	U	460	U	400	U
2-Nitroaniline	1100	U	1000	U	1000	U	1100	U	980	U
Dimethylphthalate	440	U	430	U	420	U	460	U	400	U
Acenaphthylene	57	J	51	J	420	U	67	J	400	U
2,6-Dinitrotoluene	440	U	430	U	420	U	460	U	400	U
3-Nitroaniline	1100	U	1000	U	1000	U	1100	U	980	U
Acenaphthene	29	J	36	J	420	U	76	J	400	U
2,4-Dinitrophenol	1100	U	1000	U	1000	U	1100	U	980	U
4-Nitrophenol	1100	U	1000	U	1000	U	1100	U	980	U
Dibenzofuran	440	U	22	J	420	U	65	J	400	U
2,4-Dinitrotoluene	440	U	430	U	420	U	460	U	400	U
Diethylphthalate	440	U	22	B	420	U	460	U	23	B
4-Chlorophenyl-phenylether	440	U	430	U	420	U	460	U	400	U
Fluorene	32	J	40	J	420	U	100	J	400	U
4-Nitroaniline	300	J	1000	U	1000	U	240	J	980	U
4,6-Dinitro-2-methylphenol	1100	U	1000	U	1000	U	1100	U	980	U
N-Nitrosodiphenylamine (1)	440	U	34	N	420	U	460	U	400	U
4-Bromophenyl-phenylether	440	U	430	U	420	U	460	U	400	U
Hexachlorobenzene	440	U	430	U	420	U	460	U	400	U
Pentachlorophenol	1100	U	1000	U	1000	U	1100	U	980	U
Phenanthrene	520		370	J	420	U	1100		49	J
Anthracene	170	J	100	J	420	U	270	J	400	U
Carbazole	93	J	49	J	420	U	220	J	400	U
Di-n-butylphthalate	1000		90	B	22	B	1200		87	B
Fluoranthene	1400		690		420	U	1500		92	J
Pyrene	970		540		22	J	980		84	J
Butylbenzylphthalate	560		50	J	420	U	110	J	400	U
3,3'-Dichlorobenzidine	440	U	430	U	420	U	460	U	400	U
Benzo(a)anthracene	600		340	J	420	U	600		47	J
Chrysene	680		450		420	U	690		64	J
bis(2-Ethylhexyl)phthalate	1400		130	B	22	B	2600		110	B
Di-n-octylphthalate	93	J	430	U	420	U	400	J	400	U
Benzo(b)fluoranthene	950		600		29	J	680		58	J
Benzo(k)fluoranthene	440	U	430	U	420	U	360	J	26	J
Benzo(a)pyrene	500		320	J	420	U	490		36	J
Indeno(1,2,3-cd)pyrene	360	J	240	J	420	U	380	J	37	J
Dibenz(a,h)anthracene	150	J	100	J	420	U	160	J	400	U
Benzo(g,h,i)perylene	480		240	J	420	U	350	J	51	J

FILE NAME: CNL44 DATE: 03/17/97 TIME: 10:07 CADRE 2.3

Water units are reported in ug/L.
Soil units are reported in ug/Kg.

TCL QUALIFIED SPREADSHEET

Case No: 25235
SDG No: CNL44

Site: Riegel Scrapyard
Laboratory: SWL - TULSA

EPA SAMPLE NUMBER:	CQG83		CQG84		CQG85		CQG86		CQG87	
REGIONAL SAMPLE NUMBER:										
SAMPLE LOCATION:	S-5		S-6		S-7		S-8		S-9	
SAMPLE TYPE:	Routine Sample		Routine Sample		Routine Sample		Routine Sample		Routine Sample	
MATRIX/ANALYSIS:	Soil/LOW		Soil/LOW		Soil/LOW		Soil/LOW		Soil/LOW	
DILUTION FACTOR:	1.0/20.0		1.0/5.0		1.0/2.0		1.0		1.0	
PERCENT MOISTURE:	21		23		15		16		38	
BNA										
Phenol	420	U	430	U	390	U	390	U	530	U
bis(2-Chloroethyl)ether	420	U	430	U	390	U	390	U	530	U
2-Chlorophenol	420	U	430	U	390	U	390	U	530	U
1,3-Dichlorobenzene	420	U	430	U	390	U	390	U	530	U
1,4-Dichlorobenzene	420	U	430	U	390	U	390	U	530	U
1,2-Dichlorobenzene	420	U	430	U	390	U	390	U	530	U
2-Methylphenol	420	U	430	U	390	U	390	U	530	U
2,2'-oxybis(1-Chloropropane)	420	U	430	U	390	U	390	U	530	U
4-Methylphenol	420	U	430	U	390	U	390	U	530	U
N-Nitroso-di-n-propylamine	420	U	430	U	390	U	390	U	530	U
Hexachloroethane	420	U	430	U	390	U	390	U	530	U
Nitrobenzene	420	U	430	U	390	U	390	U	530	U
Isophorone	420	U	430	U	390	U	390	U	530	U
2-Nitrophenol	420	U	430	U	390	U	390	U	530	U
2,4-Dimethylphenol	420	U	430	U	390	U	390	U	530	U
bis(2-Chloroethoxy)methane	420	U	430	U	390	U	390	U	530	U
2,4-Dichlorophenol	420	U	430	U	390	U	390	U	530	U
1,2,4-Trichlorobenzene	420	U	430	U	390	U	390	U	530	U
Naphthalene	83	J	55	J	26	J	390	U	30	J
4-Chloroaniline	420	U	430	U	390	U	390	U	530	U
Hexachlorobutadiene	420	U	430	U	390	U	390	U	530	U
4-Chloro-3-methylphenol	420	U	430	U	390	U	390	U	530	U
2-Methylnaphthalene	150	J	100	J	45	J	390	U	33	J
Hexachlorocyclopentadiene	420	U	430	U	390	U	390	U	530	U
2,4,6-Trichlorophenol	420	U	430	U	390	U	390	U	530	U
2,4,5-Trichlorophenol	1000	U	1000	U	940	U	950	U	1300	U
2-Chloronaphthalene	420	U	430	U	390	U	390	U	530	U
2-Nitroaniline	1000	U	1000	U	940	U	950	U	1300	U
Dimethylphthalate	420	U	430	U	49	J	390	U	530	U
Acenaphthylene	3000*	J	1500		140	J	42	J	54	J
2,6-Dinitrotoluene	420	U	430	U	390	U	390	U	530	U
3-Nitroaniline	1000	U	1000	U	940	U	950	U	1300	U
Acenaphthene	460		130	J	130	J	390	U	530	U
2,4-Dinitrophenol	1000	U	1000	U	940	U	950	U	1300	U
4-Nitrophenol	1000	U	1000	U	940	U	950	U	1300	U
Dibenzofuran	500		81	J	60	J	390	U	34	J
2,4-Dinitrotoluene	420	U	430	U	390	U	390	U	530	U
Diethylphthalate	420	U	24	B	25	B	390	U	530	U
4-Chlorophenyl-phenylether	420	U	430	U	390	U	390	U	530	U
Fluorene	1400		320	J	170	J	390	U	530	U
4-Nitroaniline	900	J	280	J	84	J	950	U	1300	U
4,6-Dinitro-2-methylphenol	1000	U	1000	U	940	U	950	U	1300	U
N-Nitrosodiphenylamine (1)	420	U	430	U	390	U	390	U	530	U
4-Bromophenyl-phenylether	420	U	430	U	390	U	390	U	530	U
Hexachlorobenzene	420	U	430	U	390	U	390	U	40	J
Pentachlorophenol	1000	U	1000	U	940	U	950	U	1300	U
Phenanthrene	24000*		5100*		2400		390	U	580	
Anthracene	5600*		2500		520		390	U	77	J
Carbazole	2700		760		180	J	390	U	71	J
Di-n-butylphthalate	420	U	360	J	590		27	B	2000	
Fluoranthene	44000*		9400*		3700*		390	U	810	
Pyrene	28000*		7200*		2400		23	J	830	
Butylbenzylphthalate	420	U	180	J	55	J	390	U	130	J
3,3'-Dichlorobenzidine	420	U	430	U	390	U	390	U	530	U
Benzo(a)anthracene	17000*		4300*		1700		390	U	340	J
Chrysene	16000*		4800*		1800		390	U	480	J
bis(2-Ethylhexyl)phthalate	670		760		110	B	33	B	920	
Di-n-octylphthalate	420	U	430	U	390	U	390	U	530	U
Benzo(b)fluoranthene	18000*		5000*		1800		390	U	630	
Benzo(k)fluoranthene	420	U	430	U	910		390	U	530	U
Benzo(a)pyrene	13000*		3800*		1200		390	U	380	J
Indeno(1,2,3-cd)pyrene	8100*		2900		720		390	U	310	J
Dibenz(a,h)anthracene	3900*		1400		360	J	390	U	160	J
Benzo(g,h,i)perylene	8200*		2700		650		390	U	350	J

FILE NAME: CNL44 DATE: 03/17/97 TIME: 10:07 CADRE 2.3

Water units are reported in ug/L. * = Results reported from the diluted analysis.
Soil units are reported in ug/Kg

TCL QUALIFIED SPREADSHEET

Case No: 25235
SDG No: CNL44

Site: Riegel Scrapyard
Laboratory: SWL - TULSA

EPA SAMPLE NUMBER:	CQG88		CQG89		CQG90		CQG91		CQG93	
REGIONAL SAMPLE NUMBER:										
SAMPLE LOCATION:	S-10		S-11		S-12		S-13		S-14	
SAMPLE TYPE:	Routine Sample		Routine Sample		Routine Sample		F. Dup. of CQG81		Routine Sample	
MATRIX/ANALYSIS:	Soil/LOW		Soil/LOW		Soil/LOW		Soil/LOW		Soil/LOW	
DILUTION FACTOR:	1.0		2.0		1.0/2.0		1.0/2.0		1.0	
PERCENT MOISTURE:	17		18		12		27		17	
BNA										
Phenol	400	U	1600	U	380	U	450	U	400	U
bis(2-Chloroethyl)ether	400	U	1600	U	380	U	450	U	400	U
2-Chlorophenol	400	U	1600	U	380	U	450	U	400	U
1,3-Dichlorobenzene	400	U	1600	U	380	U	450	U	400	U
1,4-Dichlorobenzene	400	U	1600	U	380	U	450	U	400	U
1,2-Dichlorobenzene	400	U	1600	U	380	U	450	U	400	U
2-Methylphenol	400	U	1600	U	380	U	450	U	400	U
2,2'-oxybis(1-Chloropropane)	400	U	1600	U	380	U	450	U	400	U
4-Methylphenol	400	U	290	J	380	U	450	U	400	U
N-Nitroso-di-n-propylamine	400	U	1600	U	380	U	450	U	400	U
Hexachloroethane	400	U	1600	U	380	U	450	U	400	U
Nitrobenzene	400	U	1600	U	380	U	450	U	400	U
Isophorone	400	U	1600	U	380	U	450	U	400	U
2-Nitrophenol	400	U	1600	U	380	U	450	U	400	U
2,4-Dimethylphenol	400	U	1600	U	380	U	450	U	400	U
bis(2-Chloroethoxy)methane	400	U	1600	U	380	U	450	U	400	U
2,4-Dichlorophenol	400	U	1600	U	380	U	450	U	400	U
1,2,4-Trichlorobenzene	400	U	1600	U	380	U	450	U	400	U
Naphthalene	400	U	1600	U	98	J	450	U	400	U
4-Chloroaniline	400	U	1600	U	380	U	450	U	400	U
Hexachlorobutadiene	400	U	1600	U	380	U	450	U	400	U
4-Chloro-3-methylphenol	400	U	1600	U	380	U	450	U	400	U
2-Methylnaphthalene	400	U	160	J	180	J	28	J	400	U
Hexachlorocyclopentadiene	400	U	1600	U	380	U	450	U	400	U
2,4,6-Trichlorophenol	400	U	1600	U	380	U	450	U	400	U
2,4,5-Trichlorophenol	960	U	3900	U	910	U	1100	U	960	U
2-Chloronaphthalene	400	U	1600	U	380	U	450	U	400	U
2-Nitroaniline	960	U	3900	U	910	U	1100	U	960	U
Dimethylphthalate	400	U	1600	U	380	U	450	U	400	U
Acenaphthylene	24	J	180	J	55	J	69	J	400	U
2,6-Dinitrotoluene	400	U	1600	U	380	U	450	U	400	U
3-Nitroaniline	960	U	3900	U	910	U	1100	U	960	U
Acenaphthene	400	U	1600	U	42	J	46	J	400	U
2,4-Dinitrophenol	960	U	3900	U	910	U	1100	U	960	U
4-Nitrophenol	960	U	3900	U	910	U	1100	U	960	U
Dibenzofuran	400	U	1600	U	380	U	450	U	400	U
2,4-Dinitrotoluene	400	U	1600	U	380	U	450	U	400	U
Diethylphthalate	400	U	1600	U	380	U	450	U	400	U
4-Chlorophenyl-phenylether	400	U	1600	U	380	U	450	U	400	U
Fluorene	400	U	1600	U	79	J	52	J	400	U
4-Nitroaniline	960	U	3900	U	910	U	150	J	960	U
4,6-Dinitro-2-methylphenol	960	U	3900	U	910	U	1100	U	960	U
N-Nitrosodiphenylamine (1)	400	U	1600	U	380	U	450	U	400	U
4-Bromophenyl-phenylether	400	U	1600	U	380	U	450	U	400	U
Hexachlorobenzene	400	U	1600	U	150	J	450	U	400	U
Pentachlorophenol	960	U	3900	U	910	U	1100	U	960	U
Phenanthrene	22	J	180	J	330	J	410	J	400	U
Anthracene	400	U	1600	U	81	J	100	J	400	U
Carbazole	400	U	1600	U	380	U	76	J	400	U
Di-n-butylphthalate	26	B	1600	U	4900*		680		400	U
Fluoranthene	31	J	390	J	380		710		400	U
Pyrene	36	J	2400		1500	J	790		400	U
Butylbenzylphthalate	400	U	1600	U	380	UJ	83	J	400	U
3,3'-Dichlorobenzidine	400	U	1600	U	380	UJ	450	U	400	U
Benzo(a)anthracene	400	U	1600	U	200	J	380	J	400	U
Chrysene	23	J	1600	U	460	J	520		400	U
bis(2-Ethylhexyl)phthalate	51	B	7500		3600*		5300*		27	B
Di-n-octylphthalate	400	U	1600	U	380	UJ	450	U	400	U
Benzo(b)fluoranthene	25	J	1600	U	230	J	600		400	U
Benzo(k)fluoranthene	23	J	1600	U	190	J	450	U	400	U
Benzo(a)pyrene	30	J	1600	U	380	UJ	340	J	400	U
Indeno(1,2,3-cd)pyrene	400	U	1600	U	170*	J	270	J	400	U
Dibenz(a,h)anthracene	400	U	1600	U	380	UJ	140	J	400	U
Benzo(g,h,i)perylene	400	U	1000	J	320*	J	320	J	400	U

Water units are reported in ug/L. * = Results reported from the diluted analysis.
Soil units are reported in ug/Kg.

PESTICIDE/PCB DATA

TCL ORIGINAL SPREADSHEET

Case No: 25235
SDG No: CNL44

Site: Riegel Scrapyard
Laboratory: SWL - TULSA

EPA SAMPLE NUMBER:	CNL44		CQG79		CQG80		CQG81		CQG82	
REGIONAL SAMPLE NUMBER:										
SAMPLE LOCATION:	S-15		S-1		S-2		S-3		S-4	
SAMPLE TYPE:	Routine Sample		Routine Sample		Routine Sample		F. Dup. of CQG91		Routine Sample	
MATRIX/ANALYSIS:	Soil/		Soil/		Soil/		Soil/		Soil/	
DILUTION FACTOR:	1.0/10.0		1.0/10.0		10.0		1.0/10.0		1.0	
PERCENT MOISTURE:	25		23		21		28		18	
PES										
alpha-BHC	2.3	U	2.2	U	22	U	2.4	U	2.1	U
beta-BHC	2.3	U	2.2	U	22	U	2.4	U	2.1	U
delta-BHC	2.6	J	2.2	U	22	U	2.4	U	2.1	U
gamma-BHC (Lindane)	2.3	U	2.2	U	22	U	2.4	U	2.1	U
Heptachlor	7.2	J	8.5	K	22	U	2.4	U	2.1	U
Aldrin	2.3	U	2.2	U	22	U	7.1	J	2.1	U
Heptachlor epoxide	4.1	J	18	J	22	U	2.6	J	2.1	U
Endosulfan I	3.7*	J	2.2	U	22	U	2.4	U	2.1	U
Dieldrin	24	J	12	J	42	U	14	J	4.0	U
4,4'-DDE	28	J	10	J	42	U	6.5	J	4.0	U
Endrin	33	J	9.4	J	42	U	7.9	J	4.0	U
Endosulfan II	26	J	9.2	J	42	U	9.1	J	4.0	U
4,4'-DDD	14	J	18*	J	42	U	5.3	J	7.4	J
Endosulfan sulfate	14	J	4.3	U	42	U	4.6	U	4.0	U
4,4'-DDT	92*	J	57	J	42	UJ	140*	J	11	J
Methoxychlor	32	J	45*	J	220	U	69*	J	21	UJ
Endrin ketone	13	J	4.3	U	42	U	4.6	U	4.0	U
Endrin aldehyde	21	J	6.5	J	42	U	43*	J	4.4	J
alpha-Chlordane	34		26	J	22	U	18		2.1	U
gamma-Chlordane	46*	J	83*	J	22	U	42		2.1	U
Toxaphene	230	U	220	U	2200	U	240	U	210	U
Aroclor-1016	44	U	43	U	420	U	46	U	40	U
Aroclor-1221	89	U	87	U	850	U	93	U	82	U
Aroclor-1232	44	U	43	U	420	U	46	U	40	U
Aroclor-1242	44	U	43	U	420	U	46	U	40	U
Aroclor-1248	44	U	43	U	420	U	46	U	40	U
Aroclor-1254	800	J	1100	J	420	U	890	J	40	U
Aroclor-1260	230		170	J	420	U	250		40	U

FILE NAME: CNL44 DATE: 03/17/97 TIME: 10:09 CADRE 2.3

Water units are reported in ug/L.
Soil units are reported in ug/Kg.

* = Results reported from the diluted analysis.

TCL ORIGINAL SPREADSHEET

Case No: 25235
SDG No: CNL44

Site: Riegel Scrapyard
Laboratory: SWL - TULSA

EPA SAMPLE NUMBER:	CQG83		CQG84		CQG85		CQG86		CQG87	
REGIONAL SAMPLE NUMBER:										
SAMPLE LOCATION:	S-5		S-6		S-7		S-8		S-9	
SAMPLE TYPE:	Routine Sample		Routine Sample		Routine Sample		Routine Sample		Routine Sample	
MATRIX/ANALYSIS:	Soil/		Soil/		Soil/		Soil/		Soil/	
DILUTION FACTOR:	1.0/10.0		10.0		10.0		10.0		10.0	
PERCENT MOISTURE:	21		23		15		16		38	
PES										
alpha-BHC	2.2	U	22	U	20	U	20	U	27	U
beta-BHC	2.2	U	22	U	20	U	20	U	27	U
delta-BHC	7.6*	J	22	U	20	U	20	U	27	U
gamma-BHC (Lindane)	2.2	U	22	U	20	U	20	U	27	U
Heptachlor	3.8	J	17	J	11	J	20	U	5.8	J
Aldrin	7.5		96	J	20	U	20	U	27	U
Heptachlor epoxide	6.6	J	22	U	20	U	20	U	27	U
Endosulfan I	2.2	U	44*	J	20	U	20	U	27	U
Dieldrin	29	J	45	J	39	U	39	U	9.6	J
4,4'-DDE	39		64	J	8.2	J	39	U	16	J
Endrin	130*	J	88	J	39	U	39	U	53	U
Endosulfan II	11	J	43	U	39	U	39	U	53	U
4,4'-DDD	120*	J	61	J	39	U	39	U	9.7	J
Endosulfan sulfate	9.4	J	43	U	39	U	39	U	53	U
4,4'-DDT	350*	J	200	J	71	J	39	UJ	99	J
Methoxychlor	22	UJ	220	U	200	U	200	U	270	U
Endrin ketone	21	J	43	U	39	U	39	U	53	U
Endrin aldehyde	4.2	J	57	J	39	U	39	U	6.7	J
alpha-Chlordane	19	J	25	J	9.0	J	20	U	27	U
gamma-Chlordane	15	J	43	J	30		20	U	7.6	J
Toxaphene	220	U	2200	U	2000	U	2000	U	2700	U
Aroclor-1016	42	U	430	U	390	U	390	U	530	U
Aroclor-1221	85	U	870	U	790	U	800	U	1100	U
Aroclor-1232	42	U	430	U	390	U	390	U	530	U
Aroclor-1242	42	U	430	U	390	U	390	U	530	U
Aroclor-1248	42	U	850	J	390	U	390	U	530	U
Aroclor-1254	1600	J	2500	J	1400		390	U	1900	J
Aroclor-1260	460	J	430	U	84		390	U	120	J

FILE NAME: CNL44 DATE: 03/17/97 TIME: 10:09 CADRE 2.3

Water units are reported in ug/L. * = Results reported from the diluted analysis.
Soil units are reported in ug/Kg.

TCL ORIGINAL SPREADSHEET

Case No: 25235
SDG No: CNL44

Site: Riegel Scrapyard
Laboratory: SWL - TULSA

EPA SAMPLE NUMBER:	CQG88		CQG89		CQG90		CQG91		CQG93	
REGIONAL SAMPLE NUMBER:										
SAMPLE LOCATION:	S-10		S-11		S-12		S-13		S-14	
SAMPLE TYPE:	Routine Sample		Routine Sample		Routine Sample		F. Dup. of CQG81		Routine Sample	
MATRIX/ANALYSIS:	Soil/		Soil/		Soil/		Soil/		Soil/	
DILUTION FACTOR:	10.0		10.0		10.0		10.0/100.0		10.0/100.0	
PERCENT MOISTURE:	17		18		12		27		17	
PES										
alpha-BHC	20	U	21	U	19	U	23	U	20	U
beta-BHC	20	U	51		19	U	23	U	20	U
delta-BHC	20	U	23		5.0	J	23	U	20	U
gamma-BHC (Lindane)	20	U	21	U	19	U	23	U	20	U
Heptachlor	20	U	24	J	19	U	11	J	2.7*	J
Aldrin	20	U	78		11	J	47	J	20	U
Heptachlor epoxide	20	U	15	J	19	U	23	U	20	U
Endosulfan I	20	U	4.0	J	19	U	3.8*	J	20	U
Dieldrin	40	U	20	J	38	U	14	J	40	U
4,4'-DDE	40	U	38	J	7.9	J	35	J	40	U
Endrin	40	U	62		38	U	45	U	40	U
Endosulfan II	40	U	40	U	38	U	45	U	40	U
4,4'-DDD	40	U	31	J	14	J	38	J	40	U
Endosulfan sulfate	40	U	40	U	38	U	45	U	40	U
4,4'-DDT	40	UJ	38	J	11	J	130	J	40	UJ
Methoxychlor	200	U	210	U	190	U	230	U	200	U
Endrin ketone	40	U	40	U	38	U	45	U	40	U
Endrin aldehyde	40	U	54	J	38	U	44	J	40	U
alpha-Chlordane	20	U	35	J	5.2	J	19	J	20	U
gamma-Chlordane	20	U	21	J	13	J	42	J	20	U
Toxaphene	2000	U	2100	U	1900	U	2300	U	2000	U
Aroclor-1016	400	U	400	U	380	U	450	U	400	U
Aroclor-1221	810	U	820	U	760	U	920	U	810	U
Aroclor-1232	400	U	400	U	380	U	450	U	400	U
Aroclor-1242	400	U	400	U	380	U	450	U	400	U
Aroclor-1248	400	U	880	J	440	J	530	J	400	U
Aroclor-1254	400	U	400	U	380	U	450	U	400	U
Aroclor-1260	400	U	120	J	48	J	140	J	400	U

FILE NAME: CNL44 DATE: 03/17/97 TIME: 10:09 CADRE 2.3

Water units are reported in ug/L. * = Results reported from the diluted analysis.
Soil units are reported in ug/Kg.

ORIGINAL (Red)

Appendix C
CADRE Validation Reports

FILE NAME: CNL44 DATE: 02/26/97 TIME: 15:39

CRITERIA FILE: REG3091

DATA

	Original	X	Qualified

QUALIFICATIONS PERFORMED

X	Quantitation Limit		CRDL Standards
	Percent Moisture		ICS
X	Holding Time		LCS
X	Calibrations		Duplicates
X	Matrix Spikes		Furnace AA QC
X	IPC		ICP Serial Dilutions
X	Internal Standards		Sample Results Verification
X	SMC/Surrogates	X	Laboratory Blanks
X	System Performance		Field QC
	Sample Cleanup		

PRINT NON-DETECTS

X	Yes		No

PRINT REJECTED RESULTS

X	Yes		No

Quantitation Limit Report

SDG NO: CNL44
CASE NO: 25235

LABORATORY: SWL - TULSA
AGENCY INPUT FILE: CNL44.OAS

CONTRACT REQUIRED SAMPLE QUANTITY

	Water	Low Soil	Med Soil
VOA	5.0 (ML)	5.0 (G)	4.0 (G)
BNA	1000.0 (ML)	30.0 (G)	1.0 (G)
PES	1000.0 (ML)	30.0 (G)	

DC-45: The following volatile samples have analyte concentrations below the quantitation limit (CRQL). All results below the CRQL are qualified "J".

CNL44
Chloromethane, Methylene Chloride, Acetone, 1,2-Dichloroethene (total)
Chloroform, Trichloroethene

CQG79
Acetone

CQG80
Methylene Chloride

CQG81
Xylene (total)

CQG81RE
Methylene Chloride

CQG83RE
Methylene Chloride

CQG84
Ethylbenzene

CQG84RE
Methylene Chloride, Ethylbenzene

CQG85
Methylene Chloride

CQG87
Methylene Chloride

CQG88
Methylene Chloride

CQG89
Xylene (total)

CQG90
Methylene Chloride, Carbon Disulfide, Benzene, Toluene
Ethylbenzene

CQG90MS
Acetone

CQG91
Methylene Chloride

CQG92
Methylene Chloride

CQG93
Chloromethane, Methylene Chloride, 1,2-Dichloroethene (total), Chloroform
Trichloroethene

VBLK1
Acetone

VHBLK1
Methylene Chloride

DC-110: The following semivolatile samples have analyte concentrations below the quantitation limit (CRQL). All results below the CRQL are qualified "J".

CNL44
Naphthalene, 2-Methylnaphthalene, Acenaphthylene, Acenaphthene
Fluorene, 4-Nitroaniline, Anthracene, Carbazole
Di-n-octylphthalate, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene

CQG79
2-Methylnaphthalene, Acenaphthylene, Acenaphthene, Dibenzofuran
Diethylphthalate, Fluorene, N-Nitrosodiphenylamine (1), Phenanthrene
Anthracene, Carbazole, Di-n-butylphthalate, Butylbenzylphthalate
Benzo(a)anthracene, bis(2-Ethylhexyl)phthalate, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene
Dibenz(a,h)anthracene, Benzo(g,h,i)perylene

CQG80
Di-n-butylphthalate, Pyrene, bis(2-Ethylhexyl)phthalate, Benzo(b)fluoranthene

CQG81
Naphthalene, 2-Methylnaphthalene, Acenaphthylene, Acenaphthene
Dibenzofuran, Fluorene, 4-Nitroaniline, Anthracene
Carbazole, Butylbenzylphthalate, Di-n-octylphthalate, Benzo(k)fluoranthene
Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene, Benzo(g,h,i)perylene

CQG82
Diethylphthalate, Phenanthrene, Di-n-butylphthalate, Fluoranthene
Pyrene, Benzo(a)anthracene, Chrysene, bis(2-Ethylhexyl)phthalate
Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene
Benzo(g,h,i)perylene

CQG83
Naphthalene, 2-Methylnaphthalene, 4-Nitroaniline

CQG83DL
Acenaphthylene, Acenaphthene, Dibenzofuran, Fluorene
Anthracene, Carbazole, bis(2-Ethylhexyl)phthalate, Indeno(1,2,3-cd)pyrene
Dibenz(a,h)anthracene, Benzo(g,h,i)perylene

CQG84
Naphthalene, 2-Methylnaphthalene, Acenaphthene, Dibenzofuran
Diethylphthalate, Fluorene, 4-Nitroaniline, Di-n-butylphthalate
Butylbenzylphthalate

CQG84DL
Acenaphthylene, Acenaphthene, Fluorene, Anthracene
Carbazole, Di-n-butylphthalate, Butylbenzylphthalate, bis(2-Ethylhexyl)phthalate
Dibenz(a,h)anthracene

CQG85
Naphthalene, 2-Methylnaphthalene, Dimethylphthalate, Acenaphthylene
Acenaphthene, Dibenzofuran, Diethylphthalate, Fluorene
4-Nitroaniline, Carbazole, Butylbenzylphthalate, bis(2-Ethylhexyl)phthalate
Dibenz(a,h)anthracene

CQG85DL
2-Methylnaphthalene, Dimethylphthalate, Acenaphthylene, Acenaphthene
Dibenzofuran, Fluorene, Anthracene, Carbazole
Di-n-butylphthalate, Butylbenzylphthalate, bis(2-Ethylhexyl)phthalate, Indeno(1,2,3-cd)pyrene
Dibenz(a,h)anthracene, Benzo(g,h,i)perylene

CQG86
Acenaphthylene, Di-n-butylphthalate, Pyrene, bis(2-Ethylhexyl)phthalate

CQG87
Naphthalene, 2-Methylnaphthalene, Acenaphthylene, Dibenzofuran

Hexachlorobenzene, Anthracene, Carbazole, Butylbenzylphthalate
Benzo(a)anthracene, Chrysene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene
Dibenz(a,h)anthracene, Benzo(g,h,i)perylene

CQG88
Acenaphthylene, Phenanthrene, Di-n-butylphthalate, Fluoranthene
Pyrene, Chrysene, bis(2-Ethylhexyl)phthalate, Benzo(b)fluoranthene
Benzo(k)fluoranthene, Benzo(a)pyrene

CQG89
4-Methylphenol, 2-Methylnaphthalene, Acenaphthylene, Phenanthrene
Fluoranthene, Benzo(g,h,i)perylene

CQG90
Naphthalene, 2-Methylnaphthalene, Acenaphthylene, Acenaphthene
Fluorene, Hexachlorobenzene, Phenanthrene, Anthracene
Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene

CQG90DL
Naphthalene, 2-Methylnaphthalene, Acenaphthylene, Fluorene
Hexachlorobenzene, Phenanthrene, Anthracene, Fluoranthene
Chrysene, Benzo(b)fluoranthene, Indeno(1,2,3-cd)pyrene, Benzo(g,h,i)perylene

CQG90MS
4-Methylphenol, Naphthalene, 2-Methylnaphthalene, Acenaphthylene
Diethylphthalate, Phenanthrene, Anthracene, Carbazole
Fluoranthene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene
Indeno(1,2,3-cd)pyrene, Benzo(g,h,i)perylene

CQG90MSD
4-Methylphenol, Naphthalene, 2-Methylnaphthalene, Acenaphthylene
Hexachlorobenzene, Phenanthrene, Anthracene, Fluoranthene
Benzo(a)anthracene, Chrysene, Indeno(1,2,3-cd)pyrene, Benzo(g,h,i)perylene

CQG91
2-Methylnaphthalene, Acenaphthylene, Acenaphthene, Fluorene
4-Nitroaniline, Phenanthrene, Anthracene, Carbazole
Butylbenzylphthalate, Benzo(a)anthracene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene
Dibenz(a,h)anthracene, Benzo(g,h,i)perylene

CQG91DL
Acenaphthylene, Acenaphthene, Fluorene, 4-Nitroaniline
Phenanthrene, Anthracene, Carbazole, Di-n-butylphthalate
Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene
Benzo(b)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene
Benzo(g,h,i)perylene

CQG93
bis(2-Ethylhexyl)phthalate

SBLK1
Diethylphthalate, Di-n-butylphthalate, bis(2-Ethylhexyl)phthalate

DC-158: The following pesticide samples have analyte concentrations below the quantitation limit (CRQL). All results below the CRQL are qualified "J".

CNL44DL
Heptachlor, Heptachlor epoxide, Endosulfan I, Dieldrin
4,4'-DDE, 4,4'-DDD, Endosulfan sulfate, Methoxychlor
Endrin aldehyde, alpha-Chlordane, Aroclor-1260

CQG79DL
Heptachlor, 4,4'-DDE, Endrin, 4,4'-DDD
Methoxychlor, Endrin aldehyde, Aroclor-1260

CQG81DL
Heptachlor, Aldrin, Dieldrin, 4,4'-DDE
4,4'-DDD, Methoxychlor, Endrin aldehyde, alpha-Chlordane
Aroclor-1260

CQG82DL
4,4'-DDD, 4,4'-DDT

CQG83DL
delta-BHC, Heptachlor, Heptachlor epoxide, Endosulfan sulfate
Endrin ketone, Aroclor-1260

CQG84
Heptachlor

CQG84DL
Endosulfan I, Dieldrin, 4,4'-DDE, 4,4'-DDD
4,4'-DDT, alpha-Chlordane, gamma-Chlordane, Aroclor-1248
Aroclor-1254

CQG85
Heptachlor, 4,4'-DDE, alpha-Chlordane, Aroclor-1260

CQG85DL
Heptachlor, 4,4'-DDE, 4,4'-DDT, gamma-Chlordane
Aroclor-1254, Aroclor-1260

CQG87
Heptachlor, Dieldrin, 4,4'-DDE, 4,4'-DDD
Endrin aldehyde, gamma-Chlordane, Aroclor-1260

CQG87DL
Heptachlor, 4,4'-DDE, 4,4'-DDT, gamma-Chlordane
Aroclor-1254, Aroclor-1260

CQG89
Heptachlor epoxide, Endosulfan I, Dieldrin, 4,4'-DDE
4,4'-DDD, 4,4'-DDT, Aroclor-1260

CQG89DL
delta-BHC, Aldrin, Endosulfan I, Dieldrin
4,4'-DDE, Endrin, 4,4'-DDD, 4,4'-DDT
Endrin aldehyde, alpha-Chlordane, gamma-Chlordane, Aroclor-1248
Aroclor-1260

CQG90
delta-BHC, Aldrin, 4,4'-DDE, 4,4'-DDD
4,4'-DDT, alpha-Chlordane, gamma-Chlordane, Aroclor-1260

CQG90DL
delta-BHC, Aldrin, 4,4'-DDD, 4,4'-DDT
gamma-Chlordane, Aroclor-1248, Aroclor-1260

CQG90DLMS
gamma-BHC (Lindane), Heptachlor, Aldrin, Dieldrin
4,4'-DDE, Endrin, 4,4'-DDD, 4,4'-DDT
alpha-Chlordane, gamma-Chlordane, Aroclor-1248, Aroclor-1260

CQG90DLMSD
gamma-BHC (Lindane), Heptachlor, Aldrin, Dieldrin
4,4'-DDE, Endrin, 4,4'-DDD, 4,4'-DDT
alpha-Chlordane, gamma-Chlordane, Aroclor-1248, Aroclor-1260

CQG90MS
beta-BHC, delta-BHC, gamma-BHC (Lindane), Heptachlor
Endosulfan I, Dieldrin, 4,4'-DDE, Endrin
4,4'-DDT, Endrin ketone, Endrin aldehyde, alpha-Chlordane
Aroclor-1260

CQG90MSD
beta-BHC, delta-BHC, gamma-BHC (Lindane), Heptachlor
Endosulfan I, Dieldrin, 4,4'-DDE, Endrin
4,4'-DDD, 4,4'-DDT, Endrin aldehyde, alpha-Chlordane
Aroclor-1260

CQG91
Heptachlor, Dieldrin, 4,4'-DDE, 4,4'-DDD
Endrin aldehyde, alpha-Chlordane, Aroclor-1260

CQG91DL
Heptachlor, Aldrin, Endosulfan I, 4,4'-DDE
4,4'-DDT, alpha-Chlordane, gamma-Chlordane, Aroclor-1248
Aroclor-1260

CQG93DL
Heptachlor

Holding Time Report

SDG NO: CNL44
CASE NO: 25235

LABORATORY: SWL - TULSA
AGENCY INPUT FILE: CNL44.OAS

HOLDING TIME CRITERIA

VOLATILES

Preserved	Primary	Expanded
Water	14	28

	---- Aromatic ----		-- Non-aromatic --	
Unpreserved	Primary	Expanded	Primary	Expanded
Water	7	14	14	28
Soil	14	28	14	28

SEMIVOLATILES

	--- Extraction ---		---- Analysis ----	
	Primary	Expanded	Primary	Expanded
Water	7	14	40	60
Soil	7	14	40	60

PESTICIDES

	--- Extraction ---		---- Analysis ----	
	Primary	Expanded	Primary	Expanded
Water	7	14	40	60
Soil	7	14	40	60

No problems found for this qualification.

Calibration Report

SDG NO: CNL44
CASE NO: 25235

LABORATORY: SWL - TULSA
AGENCY INPUT FILE: CNL44.OAS

CALIBRATION CRITERIA

VOLATILES

	Primary	Expanded
Minimum RRF	0.05	0.05
Maximum %RSD (initial calibration)	30	50
Maximum %D (continuing calibration)	25	50
Calibration time period	12	

SEMIVOLATILES

	Primary	Expanded
Minimum RRF	0.05	0.05
Maximum %RSD (initial calibration)	30	50
Maximum %D (continuing calibration)	25	50
Calibration time period	12	

PESTICIDES

Maximum %RSD (initial calibration) - TCL analytes	20
- surrogates	30
Maximum RPD (continuing calibration)	25
INDA/INDB percent resolution	90
Continuing calibration sequence time	12

DC-23: The following volatile samples are associated with a continuing calibration percent difference (%D) outside criteria.
Hits are qualified "J" and non-detects are not qualified.

Vinyl Chloride
VBLK4, VHBLK1

Chloroethane
VBLK4, VHBLK1

Methylene Chloride
CQG92, VBLK1

Acetone
CQG79, CQG80, CQG81, CQG82, CQG83, CQG84

CQG85, CQG86, CQG88, CQG89, CQG90, VBLK2
VBLK4, VHBLK1

2-Butanone
CNL44, CQG79, CQG80, CQG81, CQG81RE, CQG82
CQG83, CQG83RE, CQG84, CQG84RE, CQG85, CQG86
CQG87, CQG88, CQG89, CQG89RE, CQG90, CQG90MS
CQG90MSD, CQG91, CQG91RE, CQG93, VBLK2, VBLK3
VBLK4, VHBLK1

4-Methyl-2-Pentanone
CNL44, CQG79, CQG80, CQG81, CQG81RE, CQG82
CQG83, CQG83RE, CQG84, CQG84RE, CQG85, CQG86
CQG87, CQG88, CQG89, CQG89RE, CQG90, CQG90MS
CQG90MSD, CQG91, CQG91RE, CQG93, VBLK2, VBLK3
VBLK4, VHBLK1

2-Hexanone
CNL44, CQG79, CQG80, CQG81, CQG81RE, CQG82
CQG83, CQG83RE, CQG84, CQG84RE, CQG85, CQG86
CQG87, CQG88, CQG89, CQG89RE, CQG90, CQG90MS
CQG90MSD, CQG91, CQG91RE, CQG93, VBLK2, VBLK3
VBLK4, VHBLK1

DC-100: The following semivolatile samples are associated with a continuing calibration having percent difference (%D) outside criteria. Hits are qualified "J" and non-detects are not qualified.

Hexachlorocyclopentadiene
CQG87, CQG88, CQG89, CQG90, CQG90DL, CQG90MS
CQG90MSD, CQG91, CQG91DL

2,6-Dinitrotoluene
CNL44, CQG79, CQG80, CQG81, CQG82, CQG83
CQG84, CQG85, CQG86, SBLK1

2,4-Dinitrophenol
CNL44, CQG79, CQG80, CQG81, CQG82, CQG83
CQG84, CQG85, CQG86, CQG93, SBLK1

4-Nitrophenol
CQG93

Benzo(b)fluoranthene
CQG83DL, CQG84DL, CQG85DL

DC-195: The RPD between the nominal and the calculated amount of an analyte in the midpoint INDA/INDB exceeded criteria. Hits are qualified "J" and non-detects are qualified "VS".

% RSD/%D > 50% qualify VJ ESPT (D.V.)

CNL44
4,4'-DDD, 4,4'-DDT, Methoxychlor, Endrin ketone

CQG79
4,4'-DDD, 4,4'-DDT, Methoxychlor, Endrin ketone

CQG80
4,4'-DDD, 4,4'-DDT, Methoxychlor

CQG81
4,4'-DDD, 4,4'-DDT, Methoxychlor, Endrin ketone

CQG82
4,4'-DDD, 4,4'-DDT, Methoxychlor, Endrin ketone

CQG83
4,4'-DDD, 4,4'-DDT, Methoxychlor, Endrin ketone

CQG84
4,4'-DDD, 4,4'-DDT, Methoxychlor

CQG85
4,4'-DDD, 4,4'-DDT, Methoxychlor

CQG86
4,4'-DDD, 4,4'-DDT, Methoxychlor

CQG87
4,4'-DDD, 4,4'-DDT, Methoxychlor

CQG88
4,4'-DDD, 4,4'-DDT, Methoxychlor

CQG89
4,4'-DDD, 4,4'-DDT, Methoxychlor

CQG90
4,4'-DDD, 4,4'-DDT, Methoxychlor

CQG90MS
4,4'-DDD, 4,4'-DDT, Methoxychlor

CQG90MSD
4,4'-DDD, 4,4'-DDT, Methoxychlor

CQG91
4,4'-DDD, 4,4'-DDT, Methoxychlor

CQG93
4,4'-DDD, 4,4'-DDT, Methoxychlor

DC-341: The following volatile samples are associated with a continuing calibration percent difference (%D) outside expanded criteria. Hits are qualified "J" and non-detects are qualified "UJ"

Chloromethane
VBLK4, VHBLK1

Matrix Spike Report

SDG NO: CNL44
CASE NO: 25235

LABORATORY: SWL - TULSA
AGENCY INPUT FILE: CNL44.OAS

MATRIX SPIKE CRITERIA

VOLATILES

Percent Recovery Limits & RPD

	Water			Soil		
	Lower	Upper	RPD	Lower	Upper	RPD
1,1-Dichloroethene	61.0	145.0	14.0	59.0	172.0	22.0
Trichloroethene	71.0	120.0	14.0	62.0	137.0	24.0
Benzene	76.0	127.0	11.0	66.0	142.0	21.0
Toluene	76.0	125.0	13.0	59.0	139.0	21.0
Chlorobenzene	75.0	130.0	13.0	60.0	133.0	21.0

SEMIVOLATILES

Percent Recovery Limits & RPD

	Water			Soil		
	Lower	Upper	RPD	Lower	Upper	RPD
Phenol	12.0	110.0	42.0	26.0	90.0	35.0
2-Chlorophenol	27.0	123.0	40.0	25.0	102.0	50.0
1,4-Dichlorobenzene	36.0	97.0	28.0	28.0	104.0	27.0
N-Nitroso-di-n-propylamine	41.0	116.0	38.0	41.0	126.0	38.0
1,2,4-Trichlorobenzene	39.0	98.0	28.0	38.0	107.0	23.0
4-Chloro-3-methylphenol	23.0	97.0	42.0	26.0	103.0	33.0
Acenaphthene	46.0	118.0	31.0	31.0	137.0	19.0
4-Nitrophenol	10.0	80.0	50.0	11.0	114.0	50.0
2,4-Dinitrotoluene	24.0	96.0	38.0	28.0	89.0	47.0
Pentachlorophenol	9.0	103.0	50.0	17.0	109.0	47.0
Pyrene	26.0	127.0	31.0	35.0	142.0	36.0

PESTICIDES

Percent Recovery Limits & RPD

	Water			Soil		
	Lower	Upper	RPD	Lower	Upper	RPD

gamma-BHC (Lindane)	56.0	123.0	15.0	46.0	127.0	50.0
Heptachlor	40.0	131.0	20.0	35.0	130.0	31.0
Aldrin	40.0	120.0	22.0	34.0	132.0	43.0
Dieldrin	52.0	126.0	18.0	31.0	134.0	38.0
Endrin	56.0	121.0	21.0	42.0	139.0	45.0
4,4'-DDT	38.0	127.0	27.0	23.0	134.0	50.0

DC-170: The following pesticide matrix spike/matrix spike duplicate samples have percent recovery outside criteria.
Hits and non-detects are not flagged.

CQG90DLMS
Heptachlor, ~~Aldrin~~ 4,4'-DDT

CQG90DLMSD
~~Aldrin~~ gamma-BHC

3/14/97

DC-171: The following pesticide samples are not fully qualified due to missing matrix spike information.
Hits and non-detects are flagged "M".

CQG90DLMSD

Instrument Performance Check Report

SDG NO: CNL44
CASE NO: 25235

LABORATORY: SWL - TULSA
AGENCY INPUT FILE: CNL44.OAS

The complete primary criteria for BFB are as follows:

Bromofluorobenzene (BFB)

m/z	ION ABUNDANCE CRITERIA (Volatile)
50	8.0 - 40.0% of m/z 95
75	30.0 - 66.0% of m/z 95
95	base peak, 100.0% relative abundance
96	5.0 - 9.0% of m/z 95
173	less than 2.0% of m/z 174
174	50.0 - 120.0% of m/z 95
175	4.0 - 9.0% of m/z 174
176	93.0 - 101.0% of m/z 174
177	5.0 - 9.0% of m/z 176

The complete primary criteria for DFTPP are as follows:

Decafluorotriphenylphosphine (DFTPP)

m/z	ION ABUNDANCE CRITERIA (Semivolatile)
51	30.0 - 80.0% of m/z 198
68	less than 2.0% of m/z 69
69	present
70	less than 2.0% of m/z 69
127	25.0 - 75.0% of m/z 198
197	less than 1.0% of m/z 198
198	base peak, 100.0% relative abundance
199	5.0 - 9.0% of m/z 198
275	10.0 - 30.0% of m/z 198
365	greater than 0.75% of m/z 198
441	present, but less than m/z 443
442	40.0 - 110.0% of m/z 198
443	15.0 - 24.0% of m/z 442

No problems found for this qualification.

Internal Standards Report

SDG NO: CNL44
CASE NO: 25235

LABORATORY: SWL - TULSA
AGENCY INPUT FILE: CNL44.OAS

INTERNAL STANDARD CRITERIA

VOLATILES

Retention Time & Area Count Limits

	-- Primary --		- Expanded --	
	Lower	Upper	Lower	Upper
Retention time	- 0.5	+ 0.5	- 0.5	+ 0.5
Area count	/ 2	* 2	/ 5	* 2

SEMIVOLATILES

Retention Time & Area Count Limits

	-- Primary --		- Expanded --	
	Lower	Upper	Lower	Upper
Retention time	- 0.5	+ 0.5	- 0.5	+ 0.5
Area count	/ 2	* 2	/ 5	* 2

DC-43: The following volatile samples have internal standard area counts that are outside the lower limit of primary criteria. Hits are qualified "J" and non-detects are qualified "UJ".

CQG81

1,1,1-Trichloroethane, Carbon Tetrachloride, Bromodichloromethane, 1,2-Dichloropropane
cis-1,3-Dichloropropene, Trichloroethene, Dibromochloromethane, 1,1,2-Trichloroethane
Benzene, trans-1,3-Dichloropropene, Bromoform, 4-Methyl-2-Pentanone
2-Hexanone, Tetrachloroethene, 1,1,2,2-Tetrachloroethane, Toluene
Chlorobenzene, Ethylbenzene, Styrene, Xylene (total)

Reruns 81

CQG81RE

Chloromethane, Bromomethane, Vinyl Chloride, Chloroethane
Methylene Chloride, Acetone, Carbon Disulfide, 1,1-Dichloroethene
1,1-Dichloroethane, 1,2-Dichloroethene (total), Chloroform, 1,2-Dichloroethane
2-Butanone, 1,1,1-Trichloroethane, Carbon Tetrachloride, Bromodichloromethane
1,2-Dichloropropane, cis-1,3-Dichloropropene, Trichloroethene, Dibromochloromethane
1,1,2-Trichloroethane, Benzene, trans-1,3-Dichloropropene, Bromoform
4-Methyl-2-Pentanone, 2-Hexanone, Tetrachloroethene, 1,1,2,2-Tetrachloroethane
Toluene, Chlorobenzene, Ethylbenzene, Styrene

Xylene (total)

CQG83
4-Methyl-2-Pentanone, 2-Hexanone, Tetrachloroethene, 1,1,2,2-Tetrachloroethane
Toluene, Chlorobenzene, Ethylbenzene, Styrene
Xylene (total)

CQG83RE
1,1,1-Trichloroethane, Carbon Tetrachloride, Bromodichloromethane, 1,2-Dichloropropane
cis-1,3-Dichloropropene, Trichloroethene, Dibromochloromethane, 1,1,2-Trichloroethane
Benzene, trans-1,3-Dichloropropene, Bromoform, 4-Methyl-2-Pentanone
2-Hexanone, Tetrachloroethene, 1,1,2,2-Tetrachloroethane, Toluene
Chlorobenzene, Ethylbenzene, Styrene, Xylene (total)

CQG84
4-Methyl-2-Pentanone, 2-Hexanone, Tetrachloroethene, 1,1,2,2-Tetrachloroethane
Toluene, Chlorobenzene, Ethylbenzene, Styrene
Xylene (total)

CQG84RE
1,1,1-Trichloroethane, Carbon Tetrachloride, Bromodichloromethane, 1,2-Dichloropropane
cis-1,3-Dichloropropene, Trichloroethene, Dibromochloromethane, 1,1,2-Trichloroethane
Benzene, trans-1,3-Dichloropropene, Bromoform, 4-Methyl-2-Pentanone
2-Hexanone, Tetrachloroethene, 1,1,2,2-Tetrachloroethane, Toluene
Chlorobenzene, Ethylbenzene, Styrene, Xylene (total)

CQG89
Chloromethane, Bromomethane, Vinyl Chloride, Chloroethane
Methylene Chloride, Acetone, Carbon Disulfide, 1,1-Dichloroethene
1,1-Dichloroethane, 1,2-Dichloroethene (total), Chloroform, 1,2-Dichloroethane
2-Butanone

CQG89RE
4-Methyl-2-Pentanone, 2-Hexanone, Tetrachloroethene, 1,1,2,2-Tetrachloroethane
Toluene, Chlorobenzene, Ethylbenzene, Styrene
Xylene (total)

CQG90
1,1,1-Trichloroethane, Carbon Tetrachloride, Bromodichloromethane, 1,2-Dichloropropane
cis-1,3-Dichloropropene, Trichloroethene, Dibromochloromethane, 1,1,2-Trichloroethane
Benzene, trans-1,3-Dichloropropene, Bromoform, 4-Methyl-2-Pentanone
2-Hexanone, Tetrachloroethene, 1,1,2,2-Tetrachloroethane, Toluene
Chlorobenzene, Ethylbenzene, Styrene, Xylene (total)

CQG90MS
4-Methyl-2-Pentanone, 2-Hexanone, Tetrachloroethene, 1,1,2,2-Tetrachloroethane
Toluene, Chlorobenzene, Ethylbenzene, Styrene

Xylene (total)

CQG90MSD
4-Methyl-2-Pentanone, 2-Hexanone, Tetrachloroethene, 1,1,2,2-Tetrachloroethane
Toluene, Chlorobenzene, Ethylbenzene, Styrene
Xylene (total)

CQG91
1,1,1-Trichloroethane, Carbon Tetrachloride, Bromodichloromethane, 1,2-Dichloropropane
cis-1,3-Dichloropropene, Trichloroethene, Dibromochloromethane, 1,1,2-Trichloroethane
Benzene, trans-1,3-Dichloropropene, Bromoform, 4-Methyl-2-Pentanone
2-Hexanone, Tetrachloroethene, 1,1,2,2-Tetrachloroethane, Toluene
Chlorobenzene, Ethylbenzene, Styrene, Xylene (total)

DC-44: The following volatile samples have internal standard area counts outside expanded criteria.
Hits are qualified "J" and non-detects are qualified "R".

CQG89
1,1,1-Trichloroethane, Carbon Tetrachloride, Bromodichloromethane, 1,2-Dichloropropane
cis-1,3-Dichloropropene, Trichloroethene, Dibromochloromethane, 1,1,2-Trichloroethane
Benzene, trans-1,3-Dichloropropene, Bromoform, 4-Methyl-2-Pentanone
2-Hexanone, Tetrachloroethene, 1,1,2,2-Tetrachloroethane, Toluene
Chlorobenzene, Ethylbenzene, Styrene, Xylene (total)

DC-77: The following semivolatile samples have internal standard area counts that are outside the lower limit of primary criteria.
Hits are qualified "J" and non-detects are qualified "UJ".

CQG90
Pyrene, Butylbenzylphthalate, 3,3'-Dichlorobenzidine, Benzo(a)anthracene
Chrysene, bis(2-Ethylhexyl)phthalate, Di-n-octylphthalate, Benzo(b)fluoranthene
Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene
Benzo(g,h,i)perylene

CQG90MS
Pyrene, Butylbenzylphthalate, 3,3'-Dichlorobenzidine, Benzo(a)anthracene
Chrysene, bis(2-Ethylhexyl)phthalate, Di-n-octylphthalate, Benzo(b)fluoranthene
Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene
Benzo(g,h,i)perylene

SMC/Surrogate Report

SDG NO: CNL44
CASE NO: 25235

LABORATORY: SWL - TULSA
AGENCY INPUT FILE: CNL44.OAS

SMC/SURROGATE CRITERIA

VOLATILES

Percent Recovery Limits

	--- Water ---		---- Soil ---	
	Lower	Upper	Lower	Upper
Toluene-d8	88.0	110.0	84.0	138.0
Bromofluorobenzene	86.0	115.0	59.0	113.0
1,2-Dichloroethane-d4	76.0	114.0	70.0	121.0

SEMIVOLATILES

Percent Recovery Limits

	--- Water ---		---- Soil ---	
	Lower	Upper	Lower	Upper
Nitrobenzene-d5	35.0	114.0	23.0	120.0
2-Fluorobiphenyl	43.0	116.0	30.0	115.0
Terphenyl-d14	33.0	141.0	18.0	137.0
Phenol-d5	10.0	110.0	24.0	113.0
2-Fluorophenol	21.0	110.0	25.0	121.0
2,4,6-Tribromophenol	10.0	123.0	19.0	122.0
2-Chlorophenol-d4	33.0	110.0	20.0	130.0
1,2-Dichlorobenzene-d4	16.0	110.0	20.0	130.0

PESTICIDES

Percent Recovery Limits

	--- Water ---		---- Soil ---	
	Lower	Upper	Lower	Upper
Tetrachloro-m-xylene	30.0	150.0	30.0	150.0
Decachlorobiphenyl	30.0	150.0	30.0	150.0

DC-174: The following pesticide samples have surrogate percent recoveries

which exceed the upper limit of the criteria window.
Hits are qualified "K" and non-detects are not flagged.

CQG79, CQG79DL, CQG81DL, CQG83, CQG83DL, CQG84
CQG84DL, CQG85, CQG85DL, CQG87, CQG87DL, CQG89
CQG89DL, CQG90DL, CQG90DLMS, CQG90MS, CQG91, CQG91DL

DC-387: The following volatile samples have two or more system monitoring compound (SMC) percent recoveries which are above the upper limit of the criteria window.
Hits are qualified "K" and non-detects are not flagged.

CQG91, CQG91RE

System Performance Report

SDG NO: CNL44
CASE NO: 25235

LABORATORY: SWL - TULSA
AGENCY INPUT FILE: CNL44.OAS

SYSTEM PERFORMANCE CRITERIA

Resolution & Breakdown Limits

RESC percent resolution	60.00
PEM percent resolution	90.00
4,4'-DDT percent breakdown	20.00
Endrin percent breakdown	20.00
Combined percent breakdown	30.00

No problems found for this qualification.

Laboratory Blanks Report

SDG NO: CNL44
CASE NO: 25235

LABORATORY: SWL - TULSA
AGENCY INPUT FILE: CNL44.OAS

LABORATORY BLANKS CRITERIA

VOLATILES

Method Blank Contamination Threshold Multipliers

	First	Expanded
Common contaminant compounds	10.00	10.00
Other compounds	5.00	5.00

SEMIVOLATILES

Method Blank Contamination Threshold Multipliers

	First	Expanded
Common contaminant compounds	10.00	10.00
Other compounds	5.00	5.00

PESTICIDES

Method Blank Contamination Threshold Multipliers

	First	Expanded
All compounds	5.00	5.00

DC-71: The following volatile samples have analyte concentrations reported below the CRQL and less than or equal to ten times (10X) the associated method blank concentration. Reported sample concentrations have not been elevated to the CRQL. Hits are qualified "B" and non-detects are not flagged.

CQG92
Methylene Chloride

DC-204: The following semivolatile samples have analyte concentrations reported below the CRQL and less than or equal to ten times (10X)

ORIGINAL (Red)

the associated method blank concentration. Reported sample concentrations have not been elevated to the CRQL.
Hits are qualified "B" and non-detects are not flagged.

CQG79
Diethylphthalate, Di-n-butylphthalate, bis(2-Ethylhexyl)phthalate

CQG80
Di-n-butylphthalate, bis(2-Ethylhexyl)phthalate

CQG82
Diethylphthalate, Di-n-butylphthalate, bis(2-Ethylhexyl)phthalate

CQG83DL
bis(2-Ethylhexyl)phthalate

CQG84
Diethylphthalate

CQG84DL
Di-n-butylphthalate, bis(2-Ethylhexyl)phthalate

CQG85
Diethylphthalate, bis(2-Ethylhexyl)phthalate

CQG85DL
bis(2-Ethylhexyl)phthalate

CQG86
Di-n-butylphthalate, bis(2-Ethylhexyl)phthalate

CQG88
Di-n-butylphthalate, bis(2-Ethylhexyl)phthalate

CQG90MS
Diethylphthalate

CQG93
bis(2-Ethylhexyl)phthalate

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File  Data  View  Review  Report  Options  Utilities  Help

èë[±]ëë Agency Standard Import ëëëëëë£
¤                                      ¤
¤  Input file name     : CNL44.OAS     ¤
¤  Output file name    : CNL44.SDG     ¤
¤  Records imported    : 14380         ¤
¤  Errors              : 13            ¤
¤  Warnings            : 0             ¤
¤  Elapsed time        : 00:01:50      ¤
¤  Available memory    : 12277400      ¤
¤                                      ¤
¤  ÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜ  ¤
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                 CADRE
F1 Help
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Missing Contents Error Report

SDG NO: CNL44
CASE NO: 25235

LABORATORY: SWL - TULSA
AGENCY INPUT FILE: CNL44.OAS

FIELD DESCRIPTION	CADRE KEY		
Date Received	Record Type 21	Line 484	Format YY/MM/DD
Analysis Time	Record Type 20	Line 7537	Format HH:MM
Analysis Time	Record Type 20	Line 7550	Format HH:MM
Sulfur Cleanup	Record Type 27	Line 7989	Format RANGE
Analysis Time	Record Type 20	Line 9264	Format HH:MM
Analysis Time	Record Type 20	Line 9277	Format HH:MM
Sulfur Cleanup	Record Type 27	Line 9716	Format RANGE
Analysis Time	Record Type 20	Line 10991	Format HH:MM
Analysis Time	Record Type 20	Line 11004	Format HH:MM
Sulfur Cleanup	Record Type 27	Line 11357	Format RANGE
Analysis Time	Record Type 20	Line 12745	Format HH:MM
Analysis Time	Record Type 20	Line 12758	Format HH:MM
Sulfur Cleanup	Record Type 27	Line 13111	Format RANGE

Appendix D
Support Documentation

Computer-Aided Data Review and Evaluation (CADRE)

Level C1 - Organic

DATA ASSESSMENT	CADRE	REVIEWER
Action Level Notification		X
Instrument Tune (volatile and semivolatile only)	X	
GC/ECD Performance Check (pesticide only)	X	
Initial Calibration (RRF/CF)	X	
Initial Calibration (%RSD)	X	
Continuing Calibration (RRF) (volatile and semivolatile only)	X	
Continuing Calibration (%D)	X	
Laboratory Blank	X	
MS/MSD (%R, RPD)	X	
Internal Standard Area (volatile and semivolatile only)	X	
Field Blank	X	
Holding Time	X	
Retention Time	X	
Surrogate Recovery	X	
Dilution Factor		X
Pesticide Cleanup Checks (pesticide only)	X	
Mass Spectra (volatile and semivolatile only)		X
Chromatograms		X
Sample Paperwork		X
Raw Data		
Field Duplicate Comparison		
MS/MSD Comparison		
TIC Evaluation (volatile and semivolatile only)		

EPA United States Environmehtal Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SAS No. (if applicable): —
Case No.: 25235

1. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. Oil (High only)
7. Waste (High only)
8. Other (Specify in Column A)

2. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. Other (Specify in Column D)
N. Not preserved

2. Region No.: III
Sampling Co.: MDE/WAS
4. Date Shipped: 12/18/96
Carrier: Federal Express
6. Date Received -- Received by: [signature] 12-19-96
Sampler (Name): Beth Creamer
Airbill Number: 1915745904
Laboratory Contract Number / Unit Price
Sampler Signature: Beth Creamer
5. Ship To: American Analytical and Technical Services, Inc. 1700 West Albany Suite C Broken Arrow, OK 74012 (918) 251-2858 ATTN: Sample Custodian
7. Transfer to: / Date Received
Received by
Contract Number / Price

3. Purpose*
Lead: SF, PRP, ST, FED
Early Action: CLEM, PA, REM, RI, SI, ESI
Long-Term Action: FS, RD, RA, O&M, NPLD

CLP Sample Numbers (from labels)	A Matrix (from Box 1) / Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 2) / Other:	E RAS Analysis: VOA	BNA	Pest/PCB	High only ARO/TOX	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K High Phases: Solids	Water-Miscible Liq.	Water-Immis. Liq.
CQG79	5	L	G	5	X	X	X		3-2200850 thru 3-2200852	S-1	12/18/96/1435	MCNF79				
CQG80	5	L	G	5	X	X	X		3-2200853 thru 3-2200855	S-2	12/18/96/1500	MCNF80				
CQG81	5	L	G	5	X	X	X		3-2200856 thru 3-2200858	S-3	12/18/96/1030	MCNF81				
CQG82	5	L	G	5	X	X	X		3-2200859 thru 3-2200861	S-4	12/18/96/1030	MCNF82				
CQG83	5	L	G	5	X	X	X		3-2200862 thru 3-2200864	S-5	12/18/96/1050	MCNF83				
CQG84	5	L	G	5	X	X	X		3-2200865 thru 3-2200867	S-6	12/18/96/1050	MCNF84				
CQG85	5	L	G	5	X	X	X		3-2200868 thru 3-2200870	S-7	12/18/96/1215	MCNF85				
CQG86	5	L	G	5	X	X	X		3-2200871 thru 3-2200873	S-8	12/18/96/1215	MCNF86				
CQG87	5	L	G	5	X	X	X		3-2200874 thru 3-2200876	S-9	12/18/96/1345	MCNF87				
CQG88	5	L	G	5	X	X	X		3-2200877 thru 3-2200879	S-10	12/18/96/1345	MCNF88				

Shipment for Case Complete? (Y/N): Y
Page 1 of 2
Sample(s) to be Used for Laboratory QC:
Additional Sampler Signatures:
Chain of Custody Seal Number(s):

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Beth Creamer	12/18/96 17:30				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Is custody seal intact? Y/N/none	
		[signature]	12/19/96 1000	INTACT	

DISTRIBUTION: White - Lab Copy for Return to Region; Pink - Lab Copy for Return to SMO; Yellow - Lab Copy for Return to SMO

EPA 9110 REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

A21-012-4 REV. 3/93

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SAS No. (If applicable): -
Case No.: 25235

1. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. Oil (High only)
7. Waste (High only)
8. Other (Specify in Column A)

2. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. Other (Specify in Column D)
N. Not preserved

2. Region No.: III
Sampling Co.: MDE/WAS
4. Date Shipped: 12/18/96
Carrier: Federal Express
6. Date Received -- Received by: [signature] 12-19-96
Sampler (Name): Beth Creamer
Airbill Number: 1915745904
Laboratory Contract Number:
Unit Price:
Sampler Signature: Beth Creamer
5. Ship To: American Analytical and Technical Services, Inc. 1700 West Albany, Suite C Broken Arrow, OK 74012 (918) 251-2858 ATTN: Sample Custodian
7. Transfer to:
Date Received:
Received by:
Contract Number:
Price:

3. Purpose
Lead: SF, PRP, ST, FED
Early Action: CLEM, PA, REM, RI, SI, ESI
Long-Term Action: FS, RD, RA, O&M, NPLD

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 2) Other:	E RAS Analysis VOA	BNA	Pest/PCB	High only ARO/TOX	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K High Phases Solids	Water-Miscible Liq.	Water-Immis. Liq.
CQG89	5	L	G	5	X	X	X		3-2200880 thru 3-2200882	S-11	12/18/96/1115	MCNF89	[illegible]			
CQG90	5	L	G	5	X	X	X		3-2200883 thru 3-2200888	S-12	12/18/96/1115	MCNF90	[illegible]			
CQG91	5	L	G	5	X	X	X		3-2200889 thru 3-2200891	S-13	12/18/96/1030	MCNF91	[illegible]			
CQG92	4	L	G	1	X				3-2200892, 3-2200893	TB-1	12/15/96/1030	MCNF92	[illegible]			
* CQG93	5	L	G	5	X	X	X		3-2195505 thru 3-2195507	S-14	12/18/96/1500	MCNF93	[illegible]			
CNL44	5	L	G	5	X	X	X		3-2195501 thru 3-2195503	S-15	12/18/96/1500	MCPG44	[illegible]			

Shipment for Case Complete? (Y/N): Y
Page: 2 of 2
Sample(s) to be Used for Laboratory QC: Do QC on CQG90
* SDG Final Sample
Additional Sampler Signatures: Beth Creamer, [illegible]
Chain of Custody Seal Number(s):

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Beth Creamer	12/18/96 17:30				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Is custody seal intact? Y/N/none	
		[signature]	12/19/96 1000	INTACT	

CNL44

DISTRIBUTION: Blue - Region Copy; White - Lab Copy for Return to Region; Pink - SMO Copy; Yellow - Lab Copy for Return to SMO

EPA Form 9110-2

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

A21-012-4 REV. 3/93

356052

PAGE 1 OF 2

EPA SAMPLE SHIPPING LOG

(1) (REQUIRED FOR ALL SAMPLES SENT THROUGH THE CONTRACT LAB PROGRAM)

PROJECT SITE NAME: Riegel Scrap Yard ; EPA PROJ. OFFICER: M. Giurrana
RAS NO. 25235 ; SAS NO. ; TASK NO.
PROJECT SITE LEADER: Dan Murphy ; PHONE NO. (410) 631-3493
PROJECT SAMPLE COORDINATOR: Beth Creamer ; PHONE NO. (410) 631-3493

SAS REQUEST (DETAILS REQUIRED) (10)

JAN 1997

QC SAMPLE INFORMATION AND/OR COMMENTS	CONC. (LOW/ MED./ HIGH)	SAMPLE PHASE (AQ/ SOL.)	TYPE OF REQUEST (ORG. DEL. OR INOR. SAS)	EPA SAMPLE NO.	ORGANICS OR INORGANICS: LAB NAME	DATE SHIPPED	DATA RECEIVED (XX-OUT ITEMS NOT REQUESTED): VOA	BNA	PEST	TCDD	METALS	CN	LAB NAME	SAS REQUEST (ITEMIZE)	DATE SHIPPED	DATA REC'D.
(2)	(3)	(4)	(5)	(6)	(7)	(8)	←			(9)		→	(11)	(12)	(13)	
	L	SOL	ORG	CQG79	ARTS	12/18/96										
				CQG80												
Dup of CQG91				CQG81												
				CQG82												
				CQG83												
				CQG84												
				CQG85												
				CQG86												
				CQG87												
				CQG88												
				CQG89												
MSMSD				CQG90												
Dup of CQG81		↓		CQG91												
trip blank		AQ		CQG92												
		SOL		CQG93												
	↓	↓	↓	CNC44	↓	↓										

Calibration Listing

SE NO: 25235
G NO: CNL44

LABORATORY: SWL - TULSA

TION	INSTRUMENT	TYPE	LAB FILE ID/ GC COLUMN	DATE	TIME	COMPOUND	RRF	%RSD (%D/RPD)
A	L	INITIAL	L23597.D	12/04/96	17:45			
A	L	CONTINUING	L23949.D	12/22/96	17:23			
						Methylene Chloride		-41.3
						Toluene-d8		-32.6
						Bromofluorobenzene		-26.5
Assoc. Sample(s):		VBLK1		12/22/96	18:41			
		CQG92		12/23/96	01:45			
A	L	CONTINUING	L24042.D	12/27/96	15:09			
						Chloromethane		52.9
						Vinyl Chloride		38.0
						Chloroethane		25.9
						Acetone		32.0
						2-Butanone		34.0
						4-Methyl-2-Pentanone		37.4
						2-Hexanone		38.4
						Toluene-d8		-26.0
Assoc. Sample(s):		VBLK4		12/27/96	16:00			
		VHBLK1		12/27/96	23:36			
A	L	INITIAL	L23567.D	12/03/96	11:02			
A	L	CONTINUING	L23970.D	12/23/96	12:11			
						Acetone		34.6
						2-Butanone		49.0
						4-Methyl-2-Pentanone		40.6
						2-Hexanone		45.9
Assoc. Sample(s):		VBLK2		12/23/96	13:15			
		CQG79		12/23/96	16:48			
		CQG80		12/23/96	17:14			
		CQG81		12/23/96	17:39			
		CQG82		12/23/96	18:05			
		CQG83		12/23/96	18:31			
		CQG84		12/23/96	18:57			
		CQG85		12/23/96	19:22			
		CQG86		12/23/96	19:48			
		CQG88		12/23/96	20:39			
		CQG89		12/23/96	21:05			
		CQG90		12/23/96	21:31			
A	L	CONTINUING	L23991.D	12/26/96	10:17			
						2-Butanone		30.3
						4-Methyl-2-Pentanone		31.0
						2-Hexanone		33.2
						Toluene-d8		-29.0
Assoc. Sample(s):		VBLK3		12/26/96	11:07			
		CNL44		12/26/96	11:49			
		CQG81RE		12/26/96	12:14			
		CQG83RE		12/26/96	12:39			
		CQG87		12/26/96	13:04			
		CQG84RE		12/26/96	14:21			
		CQG91		12/26/96	15:12			
		CQG93		12/26/96	15:37			
		CQG91RE		12/26/96	16:03			
		CQG89RE ✓		12/26/96	16:32			
		CQG90MS		12/26/96	16:58			
		CQG90MSD		12/26/96	17:23			
IA	M	INITIAL	M4001.D	12/19/96	09:18			
IA	M	CONTINUING	M4132.D	12/27/96	12:46			
						2,6-Dinitrotoluene		-26.5
						2,4-Dinitrophenol		33.9
Assoc. Sample(s):		SBLK1		12/27/96	18:53			
		CNL44		12/27/96	19:52			
		CQG79		12/27/96	20:22			
		CQG80		12/27/96	20:52			
		CQG81		12/27/96	21:21			
		CQG82		12/27/96	21:51			
		CQG83		12/27/96	22:20			
		CQG84		12/27/96	22:50			
		CQG85		12/27/96	23:19			
		CQG86		12/27/96	23:49			
IA	M	INITIAL	M4202.D	01/02/97	10:27			
IA	M	CONTINUING	M4210.D	01/02/97	15:42			
						Benzo(b)fluoranthene		-26.4

Only RRF and %RSD (%D/RPD) values which do not meet criteria are listed.

Calibration Listing

CASE NO: 25235
SDG NO: CNL44

LABORATORY: SWL - TULSA

FRACTION	INSTRUMENT	TYPE	LAB FILE ID/ GC COLUMN	DATE	TIME	COMPOUND	RRF	%RSD (%D/RPD)
Assoc. Sample(s):		CQG83DL		01/02/97	18:17			
		CQG84DL		01/02/97	18:56			
		CQG85DL		01/02/97	19:33			
BNA	M	CONTINUING	M4221.D	01/03/97	11:19			
						Hexachlorocyclopentadiene		36.4
Assoc. Sample(s):		CQG87		01/03/97	11:56			
		CQG88		01/03/97	12:34			
		CQG89		01/03/97	13:52			
		CQG90		01/03/97	14:29			
		CQG90DL		01/03/97	15:07			
		CQG90MS		01/03/97	15:46			
		CQG90MSD		01/03/97	16:24			
		CQG91		01/03/97	17:01			
		CQG91DL		01/03/97	17:38			
BNA	M	CONTINUING	M4344.D	01/08/97	16:34			
						2,4-Dinitrophenol		40.4
						4-Nitrophenol		41.2
Assoc. Sample(s):		CQG93		01/08/97	18:57			
PES	HP_14A	PEM	DB-17	01/06/97	19:43			
PES	HP_14A	INITIAL	DB-17	01/06/97	20:13			
PES	HP_14A	PEM	DB-17	01/07/97	03:17			
PES	HP_14A	INDA	DB-17	01/07/97	08:49			
PES	HP_14A	INDB	DB-17	01/07/97	09:20			
PES	HP_14A	PEM	DB-17	01/07/97	18:56			
PES	HP_14A	INDA	DB-17	01/08/97	06:03			
CNL44DL, CQG79DL, CQG80DL, CQG81DL, CQG82DL, CQG83DL,			CQG80, CQG84 — CQG91, CQG93			4,4'-DDD		47.5
						4,4'-DDT		62.5
						Methoxychlor		43.5
PES	HP_14A	INDB	DB-17	01/08/97	06:33			
PES	HP_14B	PEM	DB-1701	01/06/97	19:43			
PES	HP_14B	INITIAL	DB-1701	01/06/97	20:13			
PES	HP_14B	PEM	DB-1701	01/07/97	03:17			
PES	HP_14B	INDA	DB-1701	01/07/97	08:49			
PES	HP_14B	INDB	DB-1701	01/07/97	09:20			
PES	HP_14B	PEM	DB-1701	01/07/97	18:56			
PES	HP_14B	INDA	DB-1701	01/08/97	06:03			
						4,4'-DDD		32.5
						4,4'-DDT		62.5
						Methoxychlor		41.0
PES	HP_14B	INDB	DB-1701	01/08/97	06:33			
PES	HP_16A	PEM	DB-1701	01/14/97	15:13			
PES	HP_16A	INITIAL	DB-1701	01/14/97	15:41			
PES	HP_16A	PEM	DB-1701	01/14/97	23:11			
PES	HP_16A	INDA	DB-1701	01/15/97	11:01			
PES	HP_16A	INDB	DB-1701	01/15/97	11:30			
PES	HP_16A	PEM	DB-1701	01/15/97	20:38			
PES	HP_16A	INDA	DB-1701	01/16/97	05:45			
CQG90DL, CQG80DL, CQG91DL, CQG93DL,			CNL44, CQG79, CQG81, 82, 83			4,4'-DDD		50.0
						4,4'-DDT		85.0
						Methoxychlor		69.0
PES	HP_16A	INDB	DB-1701	01/16/97	06:14			
						Endrin ketone		30.0
						Decachlorobiphenyl		30.0
PES	HP_16A	INDA	DB-1701	01/16/97	06:42			
						4,4'-DDD		40.0
						4,4'-DDT		90.0
						Methoxychlor		69.0
PES	HP_16A	INDB	DB-1701	01/16/97	07:11			
						Endrin ketone		30.0
						Decachlorobiphenyl		30.0
PES	HP_16B	PEM	DB-17	01/14/97	15:13			
PES	HP_16B	INITIAL	DB-17	01/14/97	15:41			
PES	HP_16B	PEM	DB-17	01/14/97	23:11			
PES	HP_16B	INDA	DB-17	01/15/97	11:01			
PES	HP_16B	INDB	DB-17	01/15/97	11:30			
PES	HP_16B	PEM	DB-17	01/15/97	20:38			
PES	HP_16B	INDA	DB-17	01/16/97	05:45			

* Only RRF and %RSD (%D/RPD) values which do not meet criteria are listed.

Calibration Listing

ASE NO: 25235
DG NO: CNL44

LABORATORY: SWL - TULSA

CTION	INSTRUMENT	TYPE	LAB FILE ID/ GC COLUMN	DATE	TIME	COMPOUND	RRF	%RSD (%D/RPD)
						4,4'-DDD		50.0
						4,4'-DDT		85.0
						Methoxychlor		72.0
ES	HP_16B	INDB	DB-17	01/16/97	06:14			
						Endrin ketone		30.0
						Decachlorobiphenyl		30.0
ES	HP_16B	INDA	DB-17	01/16/97	06:42			
						4,4'-DDD		50.0
						4,4'-DDT		85.0
						Methoxychlor		71.0
ES	HP_16B	INDB	DB-17	01/16/97	07:11			

Only RRF and %RSD (%D/RPD) values which exceed criteria are listed.

AMERICAN ANALYTICAL AND TECHNICAL SERVICES
1700 West Albany, Suite A / Broken Arrow, OK 74012
918-251-2858

SDG NARRATIVE
January 15, 1997

CONTRACT NO.:	68-D5-0022
CASE NO.:	25235
SAMPLE NOS.:	CLN44, CQG79, CQG80, CQG81, CQG81RE, CQG82, CQG83, CQG83RE, CQG84, CQG84RE, CQG85, CQG86, CQG87, CQG88, CQG89, CQG89RE, CQG90, CQG90MS, CQG90MSD, CQG91, CQG91RE, CQG92, CQG93
SDG NO.:	CLN44

VOLATILE FRACTION

Fifteen soil samples plus MS/MSD and one water sample were submitted for Volatile Organic Analysis. The samples were analzyed by GC/MS following the OLM03.2 CLP Statement of Work.

Alternate columns used for the analysis of volatile compounds by Method OLM03.2 are the Restek XTI-5 (bonded 5% phenyl-95% dimethyl polysiloxane), 30m, 0.25mm ID, 1um film thickness (Restek #12253) and the DB624, 75m, 0.53mmID Megabore, 3um film thickness (J&W 125-1374).

An alternate trap used for the analysis of volatile compounds by method OLM03.2 is the Vocarb 3000 (Carbopack B/Carboxen 1000 & 1001; Tekmar #2-1066).

No major problems occurred during the analyses of these samples.

The following samples in this SDG (labled with an "RE") are considered billable since reanalysis was performed to verify internal standard area recoveries: CQG81RE, CQG83RE, CQG84RE, CQG89RE, CQG91RE.

The following sample in this SDG (labled with an "RE") is considered billable since reanalysis was performed to verify surrogate recoveries: CQG91RE.

Blanks: VBLK1 contained low level acetone contamination below the CRQL, and low level methylene chloride less than 2.5 times the CRQL. VHBLK1 contained low level methylene chloride less than 2.5 times the CRQL.

Surrogates: Sample CQG91 contained surrogates outside QC Recovery Limits. The reanalysis duplicated this result verifying a matrix effect. Both sets of data are submitted.

Matrix Spikes: No problems.

Internal Standards: Samples CQG81, CQG83, CQG84, CQG89, CQG90 and CQG91 contained internal standard areas outside QC Area Recovery Limits. Reanalysis duplicated the original result, verifying a matrix effect. Sample CQG90 was duplicated by its MS/MSD. Sample CQG91RE had internal standards within QC limits but, both sets of data are submitted due to surrogate failure.

NOTE: All manual integrations in this data package for GC/MS Volatiles have been performed for one of the following reasons:

a. Data system missed peak during acquisition.
b. Data system improperly integrated peak.

If water samples are contained in this case, their pH data is included on the page accompanying this SDG narrative.

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

Harry M. Borg

Harry M. Borg
Organic Program Manager

January 15, 1997

AMERICAN ANALYTICAL TECHNICAL SERVICES
1700 West Albany, Suite A / Broken Arrow, OK 74012
918-251-2858

SDG NARRATIVE
January 21, 1997

CONTRACT NO.:	68-D5-0022
CASE NO.:	25235
SAMPLE NOS.:	CNL44, CQG79, CQG80, CQG81, CQG82, CQG83, CQG83DL, CQG84, CQG84DL, CQG85, CQG85DL, CQG86, CQG87, CQG88, CQG89, CQG90, CQG90DL, CQG90MS, CQG90MSD, CQG91, CQG91DL, CQG93,
SDG NO.:	CNL44

SEMIVOLATILE FRACTION

Fifteen soil samples were submitted for Semivolatile Organic Analyses. The samples were analyzed by GC/MS following the OLM03.2 CLP Organic Statement of Work.

The following column is used for the semivolatile analyses: Restek XTI-5 (bonded 5% phenyl-95% dimethyl polysiloxane), 30m, 0.25mm ID, 0.25um film thickness (Restek #12223).

The following samples in this SDG (labeled with a " DL") are considered billable since these samples were diluted to bring target analytes within linear range:CQG83DL, CQG84DL, CQG85DL, CQG90DL, CQG91DL.

No major problems occurred during the analyses of these samples.

The following samples had alkanes reported and the reports are included at the end of this SDG narrative: CNL44, CQG79, CQG80, CQG81, CQG82, CQG84, CQG84DL, CQG85, CQG85DL, CQG86, CQG87, CQG88, CQG89, CQG90, CQG90DL, CQG91, CQG91DL, CQG93, SBLK1

Blanks:SBLK1 had low level phthalate contamination below CRQL.

Surrogates: No problems.

Matrix Spikes: No problems.

Internal Standards:The following samples had low recovery of internal standard area: CQG90, CQG90MS

NOTE: All manual integrations in this data package for GC/MS Volatiles/Semivolatiles have been performed for one of the following reasons:

a. Data system missed peak during acquisition.
b. Data system improperly integrated peak.

If water samples are contained in this case, their pH data is included on the page accompanying this SDG narrative.

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

Harry M. Borg

Harry M. Borg
Organic Program Manager
aw

January 21, 1997

SDG Narrative

Case: 25235
SDG: CNL44
Contract: 68-D5-0022
Samples: CNL44, CNL44DL, CQG79, CQG79DL, CQG80, CQG80DL, CQG81, CQG81DL, CQG82, CQG82DL, CQG83, CQG83DL, CQG84, CQG84DL, CQG85, CQG85DL, CQG86, CQG86DL, CQG87, CQG87DL, CQG88, CQG88DL, CQG89, CQG89DL, CQG90, CQG90DL, CQG91, CQG91DL, CQG93, CQG93DL.
Fraction: Pesticide/PCB

SDG CNL44 consisted of 15 soil samples plus 15 dilutions which were analyzed for pesticide/PCBs. All samples, blanks and spikes were extracted and analyzed according to EPA SOW OLM03.2. The samples were analyzed on J&W Scientific dual analytical columns (30m x 0.32mm ID, 0.25µm film thickness, DB-17 and DB-1701). The DB-17 phase consists of (50%-Phenyl) Methylpolysiloxane and the DB-1701 phase consists of (14%-Cyanopropylphenyl) Methylpolysiloxane. These columns were specifically designed for pesticide/PCB separation as required by the EPA's SOW. All applicable manufacturer's instructions were followed for the analysis of pesticides/PCBs. Manufacturer provided information concerning the performance characteristics of the column are kept on site. Hydrogen was used as the carrier gas for instrument HP-15. Helium was used as the carrier gas for all other instruments.

Surrogate recoveries of all method blanks were within limits. Matrix spike recoveries are within limits for CQG90. For CQG90DL, matrix spike recoveries are within limits except for heptachlor gamma-BHC and 4,4'-DDT.

It should be noted that when multi-responding compounds are present in a sample, false positives of single response compounds are common. The number of false positives may be reduced by employing a ratio technique in samples which are "clean", containing minimally more peaks than the multi-responder of interest, and do not contain environmentally altered multi-responders. However, "real-life" samples are typically not as previously described. Many times they exhibit highly complex chromatograms and environmentally altered multi-responders which are unable to be ratioed with a great deal of accuracy. Since ECD detection is not a definitive means of detection, single-response analytes in the presence of multi-responders will be reported (as per the method, if a peak is within a target analyte's retention time window on both columns, then it is reported as that target analyte). This alleviates the possibility that false negative results will be reported. However, this may lead to false positives. The end data user should be aware of the limitations of the method and take appropriate care.

Several samples contained multiple Aroclors. Quantitation for these samples was based off of peaks which do not coelute with other Aroclors or pesticides when possible.

Form 1Ds for some samples may exhibit a special flag denoted "X". When used alone, the "X" qualifier denotes that GC/MS identification was attempted but could not be confirmed *and* the concentration calculated from GC/EC is less than the GC/MS reference standard. In these cases, the GC/EC value is reported. When used in combination with the "U" qualifier (i.e. "UX"), the

flag indicates that GC/MS identification was attempted but did not confirm *and* the calculated GC/EC concentration is greater than or equal to the GC/MS reference standard. In these cases, the GC/MS reference standard concentration is reported on the form 1D.

All samples in this SDG caused extremely high breakdown of 4,4'-DDT, methoxychlor , and several other pesticides in the continuing standards following their injection. The continuing standards analyzed before these samples met OLM03.2 continuing calibration criteria. When samples CQG80, CQG84, CQG85, CQG86, CQG87, CQG88, CQG89, CQG90, CQG91, and CQG93 were diluted 1:10 (in order to achieve satisfactory chromatography as per D-59/PEST, 10.2.3.1), the samples did not meet OLM03.2 acceptance criteria. The samples were then analyzed at a 1:100 dilution as per the TPO of EPA Region III. A non-compliant 1:10 analysis and a 1:100 compliant analysis was performed for these samples. Forms for the 1:10 and the 1:100 data have been submitted. When samples CNL44, CQG79, CQG81, CQG82, and CQG83 were diluted 1:10 (in order to achieve satisfactory chromatography as per D-59/PEST, 10.2.3.1), the samples met OLM03.2 acceptance criteria. A non-compliant 1:1 analysis and a 1:10 compliant analysis was performed for these samples. Forms for the 1:1 and the 1:10 data have been submitted.

All samples in this SDG, as noted above, required dilution. This was performed per D-59/PEST, 10.2.3.1, which states that all samples must be analyzed at the most concentrated level that is consistent with achieving satisfactory chromatography. These samples were diluted in order to allow for the continuing calibration to be compliant. Therefore, the dilutions are billable.

The following tables list the total nanograms injected on column for each calibration standard based upon amount injected on column, 0.5µL, 1µL, or 2µL:

RESOLUTION CHECK

Compounds	Total nanograms (0.5µL)	Total nanograms (1µL)	Total nanograms (2µL)
gamma-Chlordane	0.005	0.01	0.02
Endosulfan I	0.005	0.01	0.02
4,4'-DDE	0.01	0.02	0.04
Dieldrin	0.01	0.02	0.04
Endosulfan Sulfate	0.01	0.02	0.04
Endrin Ketone	0.01	0.02	0.04
Methoxychlor	0.5	0.1	0.2
Tetrachloro-m-xylene	0.01	0.02	0.04
Decachlorobiphenyl	0.01	0.02	0.04

PERFORMANCE EVALUATION

Compounds	Total nanograms (0.5µL)	Total nanograms (1µL)	Total nanograms (2µL)
gamma-BHC	0.005	0.01	0.02
alpha-BHC	0.005	0.01	0.02
4,4'-DDT	0.05	0.1	.02
beta-BHC	0.005	0.01	0.02
Endrin	0.025	0.05	0.1

Methoxychlor	0.125	0.25	0.5
Tetrachloro-m-xylene	0.01	0.02	0.04
Decachlorobiphenyl	0.01	0.02	0.04

INDIVIDUAL STANDARD MIXTURE A -- LOW

Compounds	Total nanograms (0.5µL)	Total nanograms (1µL)	Total nanograms (2µL)
alpha-BHC	0.0025	0.005	0.01
Heptachlor	0.0025	0.005	0.01
gamma-BHC	0.0025	0.005	0.01
Endosulfan I	0.0025	0.005	0.01
Dieldrin	0.005	0.01	0.02
Endrin	0.005	0.01	0.02
4,4'-DDD	0.005	0.01	0.02
4,4'-DDT	0.005	0.01	0.02
Methoxychlor	0.025	0.05	0.1
Tetrachloro-m-xylene	0.0025	0.005	0.01
Decachlorobiphenyl	0.005	0.01	0.02

INDIVIDUAL STANDARD MIXTURE B -- LOW

Compounds	Total nanograms (0.5µL)	Total nanograms (1µL)	Total nanograms (2µL)
beta-BHC	0.0025	0.005	0.01
delta-BHC	0.0025	0.005	0.01
Aldrin	0.0025	0.005	0.01
Heptachlor epoxide	0.0025	0.005	0.01
alpha-Chlordane	0.0025	0.005	0.01
gamma-Chlordane	0.0025	0.005	0.01
4,4'-DDE	0.005	0.01	0.02
Endosulfan sulfate	0.005	0.01	0.02
Endrin aldehyde	0.005	0.01	0.02
Endrin ketone	0.005	0.01	0.02
Endosulfan II	0.005	0.01	0.02
Tetrachloro-m-xylene	0.0025	0.005	0.01
Decachlorobiphenyl	0.005	0.01	0.02

INDIVIDUAL STANDARD MIXTURE A -- MEDIUM

Compounds	Total nanograms (0.5µL)	Total nanograms (1µL)	Total nanograms (2µL)
alpha-BHC	0.01	0.02	0.04
Heptachlor	0.01	0.02	0.04
gamma-BHC	0.01	0.02	0.04
Endosulfan I	0.01	0.02	0.04
Dieldrin	0.02	0.04	0.08
Endrin	0.02	0.04	0.08
4,4'-DDD	0.02	0.04	0.08

4,4'-DDT	0.02	0.04	0.08
Methoxychlor	0.1	0.2	0.4
Tetrachloro-m-xylene	0.01	0.02	0.04
Decachlorobiphenyl	0.02	0.04	0.08

INDIVIDUAL STANDARD MIXTURE B -- MEDIUM

Compounds	Total nanograms (0.5µL)	Total nanograms (1µL)	Total nanograms (2µL)
beta-BHC	0.01	0.02	0.04
delta-BHC	0.01	0.02	0.04
Aldrin	0.01	0.02	0.04
Heptachlor epoxide	0.01	0.02	0.04
alpha-Chlordane	0.01	0.02	0.04
gamma-Chlordane	0.01	0.02	0.04
4,4'-DDE	0.02	0.04	0.08
Endosulfan sulfate	0.02	0.04	0.08
Endrin aldehyde	0.02	0.04	0.08
Endrin ketone	0.02	0.04	0.08
Endosulfan II	0.02	0.04	0.08
Tetrachloro-m-xylene	0.01	0.02	0.04
Decachlorobiphenyl	0.02	0.04	0.08

INDIVIDUAL STANDARD MIXTURE A -- HIGH

Compounds	Total nanograms (0.5µL)	Total nanograms (1µL)	Total nanograms (2µL)
alpha-BHC	0.04	0.08	0.16
Heptachlor	0.04	0.08	0.16
gamma-BHC	0.04	0.08	0.16
Endosulfan I	0.04	0.08	0.16
Dieldrin	0.08	0.16	0.32
Endrin	0.08	0.16	0.32
4,4'-DDD	0.08	0.16	0.32
4,4'-DDT	0.08	0.16	0.32
Methoxychlor	0.4	0.8	1.6
Tetrachloro-m-xylene	0.04	0.08	0.16
Decachlorobiphenyl	0.08	0.16	0.32

INDIVIDUAL STANDARD MIXTURE B -- HIGH

Compounds	Total nanograms (0.5µL)	Total nanograms (1µL)	Total nanograms (2µL)
beta-BHC	0.04	0.08	0.16
delta-BHC	0.04	0.08	0.16
Aldrin	0.04	0.08	0.16
Heptachlor epoxide	0.04	0.08	0.16
alpha-Chlordane	0.04	0.08	0.16
gamma-Chlordane	0.04	0.08	0.16

4,4'-DDE	0.08	0.16	0.32
Endosulfan sulfate	0.08	0.16	0.32
Endrin aldehyde	0.08	0.16	0.32
Endrin ketone	0.08	0.16	0.32
Endosulfan II	0.08	0.16	0.32
Tetrachloro-m-xylene	0.04	0.08	0.16
Decachlorobiphenyl	0.08	0.16	0.32

MULTI-RESPONSE STANDARD MIXTURES

Compounds	Total nanograms (0.5µL)	Total nanograms (1µL)	Total nanograms (2µL)
Aroclor-1016	0.05	0.1	0.2
Aroclor-1221	0.1	0.2	0.4
Aroclor-1232	0.05	0.1	0.2
Aroclor-1242	0.05	0.1	0.2
Aroclor-1248	0.05	0.1	0.2
Aroclor-1254	0.05	0.1	0.2
Aroclor-1260	0.05	0.1	0.2
Toxaphene	0.25	0.5	1.0

All manual integrations in this data package for GC/EC have been performed for one of the following reasons:

a. Data system missed a peak during processing.
b. Data system improperly integrated a peak.

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

Vicki L. Hall
GC Group Leader
January 20, 1997

Sample Listing

CASE NO: 25235
SDG NO: CNL44

LABORATORY: SWL - TULSA

EPA SAMPLE NUMBER	REGIONAL SAMPLE NUMBER	VOA DATE RECEIVED	VOA ANALYSIS DATE	VOA ANALYSIS TIME	VOA ANALYSIS INSTRUMENT
VBLK1		/ /	12/22/96	18:41	L
CQG92		12/19/96	12/23/96	01:45	L
VBLK4		/ /	12/27/96	16:00	L
VHBLK1		/ /	12/27/96	23:36	L
VBLK2		/ /	12/23/96	13:15	L
CQG79		12/19/96	12/23/96	16:48	L
CQG80		12/19/96	12/23/96	17:14	L
CQG81		12/19/96	12/23/96	17:39	L
CQG82		12/19/96	12/23/96	18:05	L
CQG83		12/19/96	12/23/96	18:31	L
CQG84		12/19/96	12/23/96	18:57	L
CQG85		12/19/96	12/23/96	19:22	L
CQG86		12/19/96	12/23/96	19:48	L
CQG88		12/19/96	12/23/96	20:39	L
CQG89		12/19/96	12/23/96	21:05	L
CQG90		12/19/96	12/23/96	21:31	L
VBLK3		/ /	12/26/96	11:07	L
CNL44		12/19/96	12/26/96	11:49	L
CQG81RE		12/19/96	12/26/96	12:14	L
CQG83RE		12/19/96	12/26/96	12:39	L
CQG87		12/19/96	12/26/96	13:04	L
CQG84RE		12/19/96	12/26/96	14:21	L
CQG91		12/19/96	12/26/96	15:12	L
CQG93		12/19/96	12/26/96	15:37	L
CQG91RE		12/19/96	12/26/96	16:03	L
CQG89RE		12/19/96	12/26/96	16:32	L
CQG90MS		12/19/96	12/26/96	16:58	L
CQG90MSD		12/19/96	12/26/96	17:23	L

Sample Listing

CASE NO: 25235
SDG NO: CNL44

LABORATORY: SWL - TULSA

EPA SAMPLE NUMBER	REGIONAL SAMPLE NUMBER	BNA DATE RECEIVED	BNA EXTRACT DATE	BNA ANALYSIS DATE	BNA ANALYSIS TIME	BNA ANALYSIS INSTRUMENT
SBLK1		/ /	12/20/96	12/27/96	18:53	M
CNL44		12/19/96	12/20/96	12/27/96	19:52	M
CQG79		12/19/96	12/20/96	12/27/96	20:22	M
CQG80		12/19/96	12/20/96	12/27/96	20:52	M
CQG81		12/19/96	12/20/96	12/27/96	21:21	M
CQG82		12/19/96	12/20/96	12/27/96	21:51	M
CQG83		12/19/96	12/20/96	12/27/96	22:20	M
CQG84		12/19/96	12/20/96	12/27/96	22:50	M
CQG85		12/19/96	12/20/96	12/27/96	23:19	M
CQG86		12/19/96	12/20/96	12/27/96	23:49	M
CQG83DL		12/19/96	12/20/96	01/02/97	18:17	M
CQG84DL		12/19/96	12/20/96	01/02/97	18:56	M
CQG85DL		12/19/96	12/20/96	01/02/97	19:33	M
CQG87		12/19/96	12/20/96	01/03/97	11:56	M
CQG88		12/19/96	12/20/96	01/03/97	12:34	M
CQG89		12/19/96	12/20/96	01/03/97	13:52	M
CQG90		12/19/96	12/20/96	01/03/97	14:29	M
CQG90DL		12/19/96	12/20/96	01/03/97	15:07	M
CQG90MS		12/19/96	12/20/96	01/03/97	15:46	M
CQG90MSD		12/19/96	12/20/96	01/03/97	16:24	M
CQG91		12/19/96	12/20/96	01/03/97	17:01	M
CQG91DL		12/19/96	12/20/96	01/03/97	17:38	M
CQG93		12/19/96	12/20/96	01/08/97	18:57	M

Sample Listing

CASE NO: 25235
SDG NO: CNL44

LABORATORY: SWL - TULSA

EPA SAMPLE NUMBER	REGIONAL SAMPLE NUMBER	PES DATE RECEIVED	PES EXTRACT DATE	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS INSTRUMENT	ANALYSIS GC COLUMN
PBLKSE		/ /	12/20/96	01/07/97	10:20	HP_14A	DB-17
				01/07/97	10:20	HP_14B	DB-1701
CNL44DL		12/19/96	12/20/96	01/07/97	11:21	HP_14A	DB-17
				01/07/97	11:21	HP_14B	DB-1701
CQG79DL		12/19/96	12/20/96	01/07/97	11:51	HP_14A	DB-17
				01/07/97	11:51	HP_14B	DB-1701
CQG81DL		12/19/96	12/20/96	01/07/97	12:22	HP_14A	DB-17
				01/07/97	12:22	HP_14B	DB-1701
CQG82DL		12/19/96	12/20/96	01/07/97	12:52	HP_14A	DB-17
				01/07/97	12:52	HP_14B	DB-1701
CQG83DL		12/19/96	12/20/96	01/07/97	13:22	HP_14A	DB-17
				01/07/97	13:22	HP_14B	DB-1701
CQG84		12/19/96	12/20/96	01/07/97	19:26	HP_14A	DB-17
				01/07/97	19:26	HP_14B	DB-1701
CQG85		12/19/96	12/20/96	01/07/97	19:56	HP_14A	DB-17
				01/07/97	19:56	HP_14B	DB-1701
CQG86		12/19/96	12/20/96	01/07/97	20:27	HP_14A	DB-17
				01/07/97	20:27	HP_14B	DB-1701
CQG87		12/19/96	12/20/96	01/07/97	20:57	HP_14A	DB-17
				01/07/97	20:57	HP_14B	DB-1701
CQG88		12/19/96	12/20/96	01/07/97	21:27	HP_14A	DB-17
				01/07/97	21:27	HP_14B	DB-1701
CQG89		12/19/96	12/20/96	01/07/97	21:58	HP_14A	DB-17
				01/07/97	21:58	HP_14B	DB-1701
CQG90		12/19/96	12/20/96	01/07/97	22:28	HP_14A	DB-17
				01/07/97	22:28	HP_14B	DB-1701
CQG90MS		12/19/96	12/20/96	01/07/97	22:58	HP_14A	DB-17
				01/07/97	22:58	HP_14B	DB-1701
CQG90MSD		12/19/96	12/20/96	01/07/97	23:28	HP_14A	DB-17
				01/07/97	23:28	HP_14B	DB-1701
CQG80		12/19/96	12/20/96	01/07/97	23:59	HP_14A	DB-17
				01/07/97	23:59	HP_14B	DB-1701
CQG91		12/19/96	12/20/96	01/08/97	00:29	HP_14A	DB-17
				01/08/97	00:29	HP_14B	DB-1701
CQG93		12/19/96	12/20/96	01/08/97	00:59	HP_14A	DB-17
				01/08/97	00:59	HP_14B	DB-1701

Sample Listing

CASE NO: 25235
SDG NO: CNL44

LABORATORY: SWL - TULSA

EPA SAMPLE NUMBER	REGIONAL SAMPLE NUMBER	PES DATE RECEIVED	PES EXTRACT DATE	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS INSTRUMENT	ANALYSIS GC COLUMN
PBLKS1		/ /	12/20/96	01/15/97	01:06	HP_16A	DB-1701
				01/15/97	01:06	HP_16B	DB-17
CQG84DL		12/19/96	12/20/96	01/15/97	02:03	HP_16A	DB-1701
				01/15/97	02:03	HP_16B	DB-17
CQG85DL		12/19/96	12/20/96	01/15/97	02:32	HP_16A	DB-1701
				01/15/97	02:32	HP_16B	DB-17
CQG86DL		12/19/96	12/20/96	01/15/97	03:01	HP_16A	DB-1701
				01/15/97	03:01	HP_16B	DB-17
CQG87DL		12/19/96	12/20/96	01/15/97	03:30	HP_16A	DB-1701
				01/15/97	03:30	HP_16B	DB-17
CQG88DL		12/19/96	12/20/96	01/15/97	03:58	HP_16A	DB-1701
				01/15/97	03:58	HP_16B	DB-17
CQG89DL		12/19/96	12/20/96	01/15/97	04:27	HP_16A	DB-1701
				01/15/97	04:27	HP_16B	DB-17
CQG90DL		12/19/96	12/20/96	01/15/97	11:59	HP_16A	DB-1701
				01/15/97	11:59	HP_16B	DB-17
CQG90DLMS		12/19/96	12/20/96	01/15/97	12:28	HP_16A	DB-1701
				01/15/97	12:28	HP_16B	DB-17
CQG90DLMSD		12/19/96	12/20/96	01/15/97	12:57	HP_16A	DB-1701
				01/15/97	12:57	HP_16B	DB-17
CQG80DL		12/19/96	12/20/96	01/15/97	13:25	HP_16A	DB-1701
				01/15/97	13:25	HP_16B	DB-17
CQG91DL		12/19/96	12/20/96	01/15/97	13:54	HP_16A	DB-1701
				01/15/97	13:54	HP_16B	DB-17
CQG93DL		12/19/96	12/20/96	01/15/97	14:23	HP_16A	DB-1701
				01/15/97	14:23	HP_16B	DB-17
CNL44		12/19/96	12/20/96	01/15/97	21:06	HP_16A	DB-1701
				01/15/97	21:06	HP_16B	DB-17
CQG79		12/19/96	12/20/96	01/15/97	21:35	HP_16A	DB-1701
				01/15/97	21:35	HP_16B	DB-17
CQG81		12/19/96	12/20/96	01/15/97	22:04	HP_16A	DB-1701
				01/15/97	22:04	HP_16B	DB-17
CQG82		12/19/96	12/20/96	01/15/97	22:33	HP_16A	DB-1701
				01/15/97	22:33	HP_16B	DB-17
CQG83		12/19/96	12/20/96	01/15/97	23:02	HP_16A	DB-1701
				01/15/97	23:02	HP_16B	DB-17

Sample Listing

CASE NO: 25235
SDG NO: CNL44

LABORATORY: SWL - TULSA

EPA SAMPLE NUMBER	REGIONAL SAMPLE NUMBER	PES DATE RECEIVED	PES EXTRACT DATE	ANALYSIS DATE	ANALYSIS TIME	ANALYSIS INSTRUMENT	ANALYSIS GC COLUMN

VOLATILE DATA

TCL ORIGINAL SPREADSHEET

Case No: 25235
SDG No: CNL44

Site: Riegel Scrapyard
Laboratory: SWL - TULSA

EPA SAMPLE NUMBER:	CQG81		CQG81RE		CQG83		CQG83RE		CQG84	
REGIONAL SAMPLE NUMBER:										
SAMPLE LOCATION:	S-3		S-3		S-5		S-5		S-6	
SAMPLE TYPE:	Routine Sample		Routine Sample		Routine Sample		Routine Sample		Routine Sample	
MATRIX/ANALYSIS:	Soil/LOW		Soil/LOW		Soil/LOW		Soil/LOW		Soil/LOW	
DILUTION FACTOR:	1.0		1.0		1.0		1.0		1.0	
PERCENT MOISTURE:	28		28		21		21		23	
VOA										
Chloromethane	14	U	14	U	13	U	13	U	13	U
Bromomethane	14	U	14	U	13	U	13	U	13	U
Vinyl Chloride	14	U	14	U	13	U	13	U	13	U
Chloroethane	14	U	14	U	13	U	13	U	13	U
Methylene Chloride	14	U	11	J	13	U	7	J	13	U
Acetone	14	U	14	U	13	U	13	U	13	U
Carbon Disulfide	14	U	14	U	13	U	13	U	13	U
1,1-Dichloroethene	14	U	14	U	13	U	13	U	13	U
1,1-Dichloroethane	14	U	14	U	13	U	13	U	13	U
1,2-Dichloroethene (total)	14	U	14	U	13	U	13	U	13	U
Chloroform	14	U	14	U	13	U	13	U	13	U
1,2-Dichloroethane	14	U	14	U	13	U	13	U	13	U
2-Butanone	14	U	14	U	13	U	13	U	13	U
1,1,1-Trichloroethane	14	U	14	U	13	U	13	U	13	U
Carbon Tetrachloride	14	U	14	U	13	U	13	U	13	U
Bromodichloromethane	14	U	14	U	13	U	13	U	13	U
1,2-Dichloropropane	14	U	14	U	13	U	13	U	13	U
cis-1,3-Dichloropropene	14	U	14	U	13	U	13	U	13	U
Trichloroethene	14	U	14	U	13	U	13	U	13	U
Dibromochloromethane	14	U	14	U	13	U	13	U	13	U
1,1,2-Trichloroethane	14	U	14	U	13	U	13	U	13	U
Benzene	14	U	14	U	13	U	13	U	13	U
trans-1,3-Dichloropropene	14	U	14	U	13	U	13	U	13	U
Bromoform	14	U	14	U	13	U	13	U	13	U
4-Methyl-2-Pentanone	14	U	14	U	13	U	13	U	13	U
2-Hexanone	14	U	14	U	13	U	13	U	13	U
Tetrachloroethene	14	U	14	U	13	U	13	U	13	U
1,1,2,2-Tetrachloroethane	14	U	14	U	13	U	13	U	13	U
Toluene	14	U	14	U	13	U	13	U	13	J
Chlorobenzene	14	U	14	U	13	U	13	U	13	U
Ethylbenzene	14	U	14	U	13	U	13	U	4	J
Styrene	14	U	14	U	13	U	13	U	13	U
Xylene (total)	1	J	14	U	13	U	13	U	18	

FILE NAME: CNL44 DATE: 03/17/97 TIME: 10:19 CADRE 2.3

Water units are reported in ug/L.
Soil units are reported in ug/Kg.

TCL ORIGINAL SPREADSHEET

Case No: 25235
SDG No: CNL44

Site: Riegel Scrapyard
Laboratory: SWL - TULSA

EPA SAMPLE NUMBER:	CQG84RE		CQG89		CQG89RE		CQG91		CQG91RE	
REGIONAL SAMPLE NUMBER:										
SAMPLE LOCATION:	S-6		S-11		S-11		S-13		S-13	
SAMPLE TYPE:	Routine Sample		Routine Sample		Routine Sample		Routine Sample		Routine Sample	
MATRIX/ANALYSIS:	Soil/LOW		Soil/LOW		Soil/LOW		Soil/LOW		Soil/LOW	
DILUTION FACTOR:	1.0		1.0		1.0		1.0		1.0	
PERCENT MOISTURE:	23		18		18		27		27	
VOA										
Chloromethane	13	U	12	U	12	U	14	U	14	U
Bromomethane	13	U	12	U	12	U	14	U	14	U
Vinyl Chloride	13	U	12	U	12	U	14	U	14	U
Chloroethane	13	U	12	U	12	U	14	U	14	U
Methylene Chloride	2	J	12	U	12	U	2	J	14	U
Acetone	13	U	240		220		15		14	U
Carbon Disulfide	13	U	12	U	12	U	14	U	14	U
1,1-Dichloroethene	13	U	12	U	12	U	14	U	14	U
1,1-Dichloroethane	13	U	12	U	12	U	14	U	14	U
1,2-Dichloroethene (total)	13	U	12	U	12	U	14	U	14	U
Chloroform	13	U	12	U	12	U	14	U	14	U
1,2-Dichloroethane	13	U	12	U	12	U	14	U	14	U
2-Butanone	13	U	44		55		14	U	14	U
1,1,1-Trichloroethane	13	U	12	U	12	U	14	U	14	U
Carbon Tetrachloride	13	U	12	U	12	U	14	U	14	U
Bromodichloromethane	13	U	12	U	12	U	14	U	14	U
1,2-Dichloropropane	13	U	12	U	12	U	14	U	14	U
cis-1,3-Dichloropropene	13	U	12	U	12	U	14	U	14	U
Trichloroethene	13	U	12	U	12	U	14	U	14	U
Dibromochloromethane	13	U	12	U	12	U	14	U	14	U
1,1,2-Trichloroethane	13	U	12	U	12	U	14	U	14	U
Benzene	13	U	12	U	12	U	14	U	14	U
trans-1,3-Dichloropropene	13	U	12	U	12	U	14	U	14	U
Bromoform	13	U	12	U	12	U	14	U	14	U
4-Methyl-2-Pentanone	13	U	12	U	12	U	14	U	14	U
2-Hexanone	13	U	12	U	12	U	14	U	14	U
Tetrachloroethene	13	U	12	U	12	U	14	U	14	U
1,1,2,2-Tetrachloroethane	13	U	12	U	12	U	14	U	14	U
Toluene	16		28		12	J	14	U	14	U
Chlorobenzene	13	U	12	U	12	U	14	U	14	U
Ethylbenzene	4	J	12	U	12	U	14	U	14	U
Styrene	13	U	12	U	12	U	14	U	14	U
Xylene (total)	18		1	J	12	U	14	U	14	U

FILE NAME: CNL44 DATE: 03/17/97 TIME: 10:19 CADRE 2.3

Water units are reported in ug/L.
Soil units are reported in ug/Kg.

2B
SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 25235 SAS No.: SDG No.: CNL44

Level:(low/med) LOW

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01	VBLK2	102	99	101		0
02	CQG79	111	82	100		0
03	CQG80	103	87	100		0
04	CQG81	116	76	117		0
05	CQG82	112	74	114		0
06	CQG83	107	74	99		0
07	CQG84	109	74	98		0
08	CQG85	101	79	100		0
09	CQG86	103	90	100		0
10	CQG88	104	90	102		0
11	CQG89	126	70	93		0
12	CQG90	110	71	98		0
13	VBLK3	101	94	103		0
14	CNL44	90	72	86		0
15	CQG81RE	108	66	85		0
16	CQG83RE	103	68	78		0
17	CQG87	84	66	75		0
18	CQG84RE	124	86	96		0
19	CQG91	152*	134*	134*		3
20	CQG93	105	97	97		0
21	CQG91RE	144*	120*	134*		3
22	CQG89RE	120	79	91		0
23	CQG90MS	119	80	94		0
24	CQG90MSD	115	80	99		0
25						
26						
27						
28						
29						
30						

		QC LIMITS
SMC1 (TOL)	= Toluene-d8	(84-138)
SMC2 (BFB)	= Bromofluorobenzene	(59-113)
SMC3 (DCE)	= 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 25235 SAS No.: SDG No.: CNL44

Lab File ID (Standard): L23970.D Date Analyzed: 12/23/96

Instrument ID: L Time Analyzed: 1211

GC Column:DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

		IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	615393	9.07	2989013	10.27	2525177	13.49
	UPPER LIMIT	1230786	9.57	5978026	10.77	5050354	13.99
	LOWER LIMIT	307696	8.57	1494506	9.77	1262588	12.99
	EPA SAMPLE No.						
01	VBLK2	768003	9.09	3666472	10.29	3046468	13.51
02	CQG79	460464	9.10	1882550	10.29	1293122	13.50
03	CQG80	516161	9.09	2161606	10.28	1642396	13.49
04	CQG81	313551	9.08	1292182*	10.28	789512*	13.49
05	CQG82	423561	9.07	1987372	10.26	1303324	13.48
06	CQG83	486742	9.06	1866490	10.27	1166312*	13.48
07	CQG84	494710	9.06	1880367	10.26	1182574*	13.47
08	CQG85	544899	9.06	2334458	10.26	1674692	13.47
09	CQG86	479684	9.06	2401792	10.26	1871762	13.47
10	CQG88	420052	9.06	1741900	10.26	1355647	13.47
11	CQG89	200696*	9.06	483353*	10.26	206216*	13.46
12	CQG90	406503	9.06	1209029*	10.25	638239*	13.47
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

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

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 25235 SAS No.: SDG No.: CNL44

Lab File ID (Standard): L23991.D Date Analyzed: 12/26/96

Instrument ID: L Time Analyzed: 1017

GC Column:DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

		IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	673690	9.12	3530837	10.32	2920664	13.53
	UPPER LIMIT	1347380	9.62	7061674	10.82	5841328	14.03
	LOWER LIMIT	336845	8.62	1765418	9.82	1460332	13.03
	EPA SAMPLE No.						
01	VBLK3	649825	9.13	3742179	10.34	3016137	13.55
02	CNL44	525943	9.13	2728798	10.33	1890809	13.55
03	CQG81RE	319934*	9.12	1277351*	10.31	708380*	13.54
04	CQG83RE	452779	9.12	1758296*	10.31	1000644*	13.53
05	CQG87	520514	9.09	2206069	10.30	1559231	13.52
06	CQG84RE	418659	9.10	1741462*	10.29	1094817*	13.51
07	CQG91	370294	9.10	1623575*	10.29	1150955*	13.51
08	CQG93	648327	9.09	3289996	10.28	2629902	13.51
09	CQG91RE	429355	9.10	2053121	10.29	1552145	13.51
10	CQG89RE	478581	9.10	1880993	10.30	1116208*	13.52
11	CQG90MS	504910	9.11	2023788	10.30	1197470*	13.51
12	CQG90MSD	506063	9.09	2133177	10.29	1370737*	13.51
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

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

SEMIVOLATILE DATA

TCL ORIGINAL SPREADSHEET

Case No: 25235
SDG No: CNL44

Site: Riegel Scrapyard
Laboratory: SWL - TULSA

EPA SAMPLE NUMBER:	CQG83		CQG83DL		CQG84		CQG84DL		CQG85	
REGIONAL SAMPLE NUMBER:										
SAMPLE LOCATION:	S-5		S-5		S-6		S-6		S-7	
SAMPLE TYPE:	Routine Sample		Routine Sample		Routine Sample		Routine Sample		Routine Sample	
MATRIX/ANALYSIS:	Soil/LOW		Soil/LOW		Soil/LOW		Soil/LOW		Soil/LOW	
DILUTION FACTOR:	1.0		20.0		1.0		5.0		1.0	
PERCENT MOISTURE:	21		21		23		23		15	
BNA										
Phenol	420	U	8400	U	430	U	2100	U	390	U
bis(2-Chloroethyl)ether	420	U	8400	U	430	U	2100	U	390	U
2-Chlorophenol	420	U	8400	U	430	U	2100	U	390	U
1,3-Dichlorobenzene	420	U	8400	U	430	U	2100	U	390	U
1,4-Dichlorobenzene	420	U	8400	U	430	U	2100	U	390	U
1,2-Dichlorobenzene	420	U	8400	U	430	U	2100	U	390	U
2-Methylphenol	420	U	8400	U	430	U	2100	U	390	U
2,2'-oxybis(1-Chloropropane)	420	U	8400	U	430	U	2100	U	390	U
4-Methylphenol	420	U	8400	U	430	U	2100	U	390	U
N-Nitroso-di-n-propylamine	420	U	8400	U	430	U	2100	U	390	U
Hexachloroethane	420	U	8400	U	430	U	2100	U	390	U
Nitrobenzene	420	U	8400	U	430	U	2100	U	390	U
Isophorone	420	U	8400	U	430	U	2100	U	390	U
2-Nitrophenol	420	U	8400	U	430	U	2100	U	390	U
2,4-Dimethylphenol	420	U	8400	U	430	U	2100	U	390	U
bis(2-Chloroethoxy)methane	420	U	8400	U	430	U	2100	U	390	U
2,4-Dichlorophenol	420	U	8400	U	430	U	2100	U	390	U
1,2,4-Trichlorobenzene	420	U	8400	U	430	U	2100	U	390	U
Naphthalene	83	J	8400	U	55	J	2100	U	26	J
4-Chloroaniline	420	U	8400	U	430	U	2100	U	390	U
Hexachlorobutadiene	420	U	8400	U	430	U	2100	U	390	U
4-Chloro-3-methylphenol	420	U	8400	U	430	U	2100	U	390	U
2-Methylnaphthalene	150	J	8400	U	100	J	2100	U	45	J
Hexachlorocyclopentadiene	420	U	8400	U	430	U	2100	U	390	U
2,4,6-Trichlorophenol	420	U	8400	U	430	U	2100	U	390	U
2,4,5-Trichlorophenol	1000	U	21000	U	1100	U	5400	U	980	U
2-Chloronaphthalene	420	U	8400	U	430	U	2100	U	390	U
2-Nitroaniline	1000	U	21000	U	1100	U	5400	U	980	U
Dimethylphthalate	420	U	8400	U	430	U	2100	U	49	J
Acenaphthylene	4000	E	3000	JD	1500		1400	JD	140	J
2,6-Dinitrotoluene	420	U	8400	U	430	U	2100	U	390	U
3-Nitroaniline	1000	U	21000	U	1100	U	5400	U	980	U
Acenaphthene	460		540	JD	130	J	160	JD	130	J
2,4-Dinitrophenol	1000	U	21000	U	1100	U	5400	U	980	U
4-Nitrophenol	1000	U	21000	U	1100	U	5400	U	980	U
Dibenzofuran	500		460	JD	81	J	2100	U	60	J
2,4-Dinitrotoluene	420	U	8400	U	430	U	2100	U	390	U
Diethylphthalate	420	U	8400	U	24	JB	2100	U	25	JB
4-Chlorophenyl-phenylether	420	U	8400	U	430	U	2100	U	390	U
Fluorene	1400		1600	JD	320	J	450	JD	170	J
4-Nitroaniline	900	J	21000	U	280	J	5400	U	84	J
4,6-Dinitro-2-methylphenol	1000	U	21000	U	1100	U	5400	U	980	U
N-Nitrosodiphenylamine (1)	420	U	8400	U	430	U	2100	U	390	U
4-Bromophenyl-phenylether	420	U	8400	U	430	U	2100	U	390	U
Hexachlorobenzene	420	U	8400	U	430	U	2100	U	390	U
Pentachlorophenol	1000	U	21000	U	1100	U	5400	U	980	U
Phenanthrene	18000	E	24000	D	5500	E	5100	D	2400	
Anthracene	8000	E	5600	JD	2500		1400	JD	520	
Carbazole	2700		2800	JD	760		670	JD	180	J
Di-n-butylphthalate	420	U	8400	U	360	JB	310	JBD	590	B
Fluoranthene	26000	E	44000	D	11000	E	8400	D	4000	E
Pyrene	17000	E	28000	D	5900	E	7200	D	2400	
Butylbenzylphthalate	420	U	8400	U	180	J	220	JD	55	J
3,3'-Dichlorobenzidine	420	U	8400	U	430	U	2100	U	390	U
Benzo(a)anthracene	15000	E	17000	D	4200	E	4300	D	1700	
Chrysene	13000	E	16000	D	4300	E	4800	D	1800	
bis(2-Ethylhexyl)phthalate	670	B	690	JBD	760	B	850	JBD	110	JB
Di-n-octylphthalate	420	U	8400	U	430	U	2100	U	390	U
Benzo(b)fluoranthene	18000	E	18000	D	6900	E	6000	D	1800	
Benzo(k)fluoranthene	420	U	8400	U	430	U	2100	U	910	
Benzo(a)pyrene	12000	E	13000	D	4200	E	3800	D	1200	
Indeno(1,2,3-cd)pyrene	8300	E	8100	JD	2900		2500	D	720	
Dibenz(a,h)anthracene	3800	E	3900	JD	1400		1200	JD	360	J
Benzo(g,h,i)perylene	6900	E	8200	JD	2700		2600	D	650	

FILE NAME: CNL44 DATE: 03/17/97 TIME: 10:16 CADRE 2.3

Water units are reported in ug/L.
Soil units are reported in ug/Kg.