N83447.AR.000297
NAS FORT WORTH
5090.3a

DRAFT BASEWIDE BACKGROUND STUDY VOLUME 2 APPENDICES A THROUGH G PART 1 NAS FORT WORTH TX
1/1/1997
JACOBS ENGINEERING

File: 17G
A.F.

NAVAL AIR STATION
FORT WORTH JRB
CARSWELL FIELD
TEXAS

ADMINISTRATIVE RECORD
COVER SHEET

AR File Number 322

0322

File: A.F. 17A-76

322

United States Air Force
Air Force Base
Conversion Agency

DRAFT

NAS Fort Worth JRB, Texas
(Formerly Carswell AFB, Texas)

BASEWIDE BACKGROUND STUDY
VOLUME II
APPENDICES A THROUGH G

JANUARY 1997

By:

JACOBS ENGINEERING GROUP INC.
600 17th Street, Suite 1100N
Denver, CO 80202

TABLE OF CONTENTS

Section **Page**

VOLUME I

ACRONYMS AND ABBREVIATIONS vii

EXECUTIVE SUMMARY ES-1

1.0 INTRODUCTION 1-1

1.1 LOCATION AND HISTORY OF NAS FORT WORTH 1-2

1.2 INSTALLATION ENVIRONMENTAL SETTING 1-2

1.2.1 Demography 1-4

1.2.2 Geology 1-5

1.2.2.1 Regional Geology 1-5

1.2.2.2 Geology of NAS Fort Worth 1-7

1.2.3 Hydrogeology 1-11

1.2.4 Surface Water 1-15

1.2.5 Climatology/Meteorology 1-16

1.2.5.1 Precipitation 1-16

1.2.5.2 Temperature 1-16

1.2.5.3 Wind 1-16

1.2.6 Biological Resources 1-16

1.2.6.1 Flora and Fauna 1-17

1.2.6.2 Threatened and Endangered Species 1-17

1.2.7 Cultural/Archaeological Resources 1-17

1.3 PROJECT OBJECTIVES 1-18

1.4 GENERAL APPROACH AND RATIONALE 1-18

1.4.1 Media Classification 1-18

1.4.2 Chemical Analyses 1-20

1.4.3 Background Study 1-21

2.0 BACKGROUND SAMPLING PROGRAM 2-1

2.1 SAMPLING LOCATIONS 2-1

2.1.1 Soil Probes in Terrace Alluvium 2-1

2.1.2 Terrace Alluvium Groundwater Sampling 2-2

TABLE OF CONTENTS

Section **Page**

2.1.3 Surface Water and Sediment Sampling 2-2
2.2 SAMPLING AND DATA COLLECTION 2-2
2.2.1 Soil Probe and Borehole Logging 2-5
2.2.2 Soil Probe Sampling 2-5
2.2.3 Terrace Alluvium Groundwater Monitoring Well Installation 2-7
2.2.4 Monitoring Well Development 2-9
2.2.5 Groundwater Sampling 2-11
2.2.5.1 Low-Stress Aquifer Sampling 2-11
2.2.5.2 Sampling Groundwater Using Bailer Technique 2-14
2.2.6 Surface Water Sampling 2-14
2.2.7 Sediment Sampling 2-16
2.3 CHEMICAL ANALYSES 2-16
2.3.1 Metals 2-16
2.3.2 Volatile and Semivolatile Organic Compound Analyses 2-19
3.0 DATA QUALITY 3-1
3.1 VOLATILE ORGANIC COMPOUNDS 3-4
3.1.1 Accuracy 3-5
3.1.2 Precision 3-6
3.1.3 Representativeness 3-7
3.1.4 Completeness 3-7
3.1.5 Sensitivity 3-8
3.2 SEMIVOLATILE ORGANIC COMPOUNDS 3-8
3.2.1 Accuracy 3-8
3.2.2 Precision 3-10
3.2.3 Representativeness 3-10
3.2.4 Completeness 3-10
3.2.5 Sensitivity 3-11
3.3 METALS 3-11
3.3.1 Accuracy 3-11

TABLE OF CONTENTS

Section **Page**

3.3.2 Precision 3-12
3.3.3 Representativeness 3-13
3.3.4 Completeness 3-13
3.3.5 Sensitivity 3-13
4.0 BACKGROUND CHARACTERIZATION 4-1
4.1 STATISTICAL PARAMETERS OF BACKGROUND DATA SETS 4-2
4.2 PROCEDURES 4-2
4.2.1 Nondetects 4-4
4.2.2 Normality 4-5
4.2.3 Statistical Parameters 4-6
4.2.4 Adjustment for Nondetects 4-8
4.2.5 Outlier Identification 4-10
4.3 BACKGROUND CONCENTRATIONS 4-11
4.3.1 Soils 4-11
4.3.1.1 Horizon A Soils 4-11
4.3.1.2 Horizon B Soils 4-21
4.3.2 Groundwater 4-24
4.3.2.1 Metals in Groundwater Sampled by the Low-Stress Procedure 4-24
4.3.2.2 Total Metals in Groundwater 4-27
4.3.3 Surface Water 4-29
4.3.4 Stream Sediments 4-30
4.4 ORGANICS IN BACKGROUND SAMPLES 4-32
4.4.1 Surface Soil 4-32
4.4.2 Subsurface Soil 4-36
4.4.3 Groundwater 4-36
4.4.4 Surface Water 4-36
4.4.5 Sediment 4-37
5.0 REFERENCES 5-1

TABLE OF CONTENTS

Section **Page**

List of Figures

Figure 1-1 Location of NAS Fort Worth 1-3

Figure 2-1 Surface Water and Sediment Sampling Locations 2-3

Figure 4-1 Naval Air Station Fort Worth Background Study, Flowchart of Data Analyses 4-3

List of Tables

Table 1-1 Stratigraphic Units of Interest in the Vicinity of NAS Fort Worth 1-6

Table 2-1 Surface Water and Sediment Sampling Locations 2-4

Table 2-2 Soil Probe Information 2-8

Table 2-3 Field Parameter Measurements of Low-Stress Collected Samples 2-13

Table 2-4 Field Parameters Measurements for Bailer Collected Samples 2-15

Table 2-5 Background Soils, Groundwater, Surface Water, and Sediment Analytical Parameters 2-17

Table 3-1 Number of Samples in Completeness Categories 3-2

Table 4-1 Summary of Background Values for Surface Soil 4-12

Table 4-2 Summary of Background Values for Subsurface Soil 4-13

Table 4-3 Summary of Background Values for Low-Stress Groundwater Samples 4-14

Table 4-4 Summary of Background Values for Unfiltered Groundwater Samples 4-15

Table 4-5 Summary of Background Statistics for Surface Water 4-16

Table 4-6 Summary of Background Values for Stream Sediment Samples 4-17

Table 4-7 Organic Analytes Detected in Background Samples 4-33

List of Plates

Plate I Background Soil Sample Locations

Plate II Background Groundwater Sampling Locations

TABLE OF CONTENTS

Section

VOLUME II

List of Appendices

Appendix A Preliminary Analytical Results

Appendix B Chain of Custody Records

Appendix C Soil Probe Boring Logs

Appendix D Monitoring Well Boring Logs, Construction Details, Groundwater Sampling Data Sheets, and Development Records

Appendix E Surface Water Data Sheets

Appendix F Statistical Calculation Support Tables

Appendix G Photographs

(intentionally blank)

TAB

APPENDIX A

APPENDIX A
Laboratory Control Number - Sample Location Cross-Reference
Naval Air Station Fort Worth

CONTROL NO	LOCATION	SAMPLE ID	METHOD(S)	FIELD QC
CR-A151901	BJETA501	BJETA501-A	SW8240	
CR-A151902	BJETA501	BJETA501-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A151903	BJETA501	BJETA501-B	SW8240	
CR-A151904	BJETA501	BJETA501-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A152001	BJETA502	BJETA502-A	SW8240	
CR-A152002	BJETA502	BJETA502-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A152003	BJETA502	BJETA502-B	SW8240	
CR-A152004	BJETA502	BJETA502-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A152101	BJETA503	BJETA503-A	SW8240	
CR-A152102	BJETA503	BJETA503-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A152103	BJETA503	BJETA503-B	SW8240	
CR-A152104	BJETA503	BJETA503-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A152201	BJETA504	BJETA504-A	SW8240	
CR-A152202	BJETA504	BJETA504-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A152203	BJETA504	BJETA504-B	SW8240	
CR-A152204	BJETA504	BJETA504-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A152301	BJETA505	BJETA505-A	SW8240	
CR-A152302	BJETA505	BJETA505-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A152303	BJETA505	BJETA505-B	SW8240	
CR-A152304	BJETA505	BJETA505-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A152305	FIELDQC	EB961108	SW8240	Equipment Blank
CR-A152306	FIELDQC	EB961108	SW8270	Equipment Blank
CR-A152307	FIELDQC	EB961108	SW6010, 7041, 7470, 7520, 7740, 7761	Equipment Blank
CR-A152308	FIELDQC	TB961108	SW8240	Trip Blank
CR-A152401	BJETA506	BJETA506-A	SW8240	
CR-A152402	BJETA506	BJETA506-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A152403	BJETA506	BJETA506-B	SW8240	
CR-A152404	BJETA506	BJETA506-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A152501	BJETA507	BJETA507-A	SW8240	
CR-A152502	BJETA507	BJETA507-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A152503	BJETA507	BJETA507-B	SW8240	
CR-A152504	BJETA507	BJETA507-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A152601	BJETA508	BJETA508-A	SW8240	
CR-A152602	BJETA508	BJETA508-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A152604	FIELDQC	EB961109	SW8240	Equipment Blank
CR-A152605	FIELDQC	EB961109	SW8270	Equipment Blank
CR-A152607	FIELDQC	EB961109	SW6010, 7041, 7470, 7520, 7740, 7761	Equipment Blank
CR-A152701	BJETA509	BJETA509-A	SW8240	
CR-A152702	BJETA509	BJETA509-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A152703	BJETA509	BJETA509-B	SW8240	
CR-A152704	BJETA509	BJETA509-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A152801	BJETA510	BJETA510-A	SW8240	
CR-A152802	BJETA510	BJETA510-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A152803	BJETA510	BJETA510-B	SW8240	
CR-A152804	BJETA510	BJETA510-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A152805	BJETA510	BJETA510-AFD	SW8240	Field Duplicate
CR-A152806	BJETA510	BJETA510-AFD	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	Field Duplicate
CR-A152807	FIELDQC	TB961111	SW8240	Trip Blank
CR-A152901	BJETA511	BJETA511-A	SW8240	
CR-A152902	BJETA511	BJETA511-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A152903	BJETA511	BJETA511-B	SW8240	
CR-A152904	BJETA511	BJETA511-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A152905	BJETA511	BJETA511-AFD	SW8240	Field Duplicate
CR-A152906	BJETA511	BJETA511-AFD	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	Field Duplicate

APPENDIX A
Laboratory Control Number - Sample Location Cross-Reference
Naval Air Station Fort Worth

CONTROL NO	LOCATION	SAMPLE ID	METHOD(S)	FIELD QC
CR-A152907	BJETA511	BJETA511-BFD	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	Field Duplicate
CR-A152908	BJETA511	BJETA511-BFD	SW8240	Field Duplicate
CR-A153001	BJETA512	BJETA512-A	SW8240	
CR-A153002	BJETA512	BJETA512-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A153003	BJETA512	BJETA512-B	SW8240	
CR-A153004	BJETA512	BJETA512-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A153006	BJETA512	BJETA512-AFD	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	Field Duplicate
CR-A153007	BJETA512	BJETA512-AFD	SW8240	Field Duplicate
CR-A153008	BJETA512	BJETA512-BFD	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	Field Duplicate
CR-A153009	BJETA512	BJETA512-BFD	SW8240	Field Duplicate
CR-A153103	BJETA513	BJETA513-B	SW8240	
CR-A153104	BJETA513	BJETA513-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A153201	BJETA514	BJETA514-A	SW8240	
CR-A153202	BJETA514	BJETA514-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A153203	BJETA514	BJETA514-B	SW8240	
CR-A153204	BJETA514	BJETA514-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A153205	FIELDQC	EB961110	SW8240	Equipment Blank
CR-A153206	FIELDQC	EB961110	SW8270	Equipment Blank
CR-A153207	FIELDQC	EB961110	SW6010, 7041, 7470, 7520, 7740, 7761	Equipment Blank
CR-A153303	BJETA515	BJETA515-B	SW8240	
CR-A153304	BJETA515	BJETA515-B	SW6010, 7041, 7471, 7520, 7740, 7761	
CR-A153401	BJETA516	BJETA516-A	SW8240	
CR-A153402	BJETA516	BJETA516-A	SW6010, 7041, 7471, 7520, 7740, 7761	
CR-A153501	BJETA517	BJETA517-A	SW8240	
CR-A153502	BJETA517	BJETA517-A	SW6010, 7041, 7471, 7520, 7740, 7761	
CR-A153503	BJETA517	BJETA517-B	SW8240	
CR-A153504	BJETA517	BJETA517-B	SW6010, 7041, 7471, 7520, 7740, 7761	
CR-A153505	FIELDQC	EB961115	SW8240	Equipment Blank
CR-A153506	FIELDQC	EB961115	SW8270	Equipment Blank
CR-A153507	FIELDQC	EB961115	SW6010, 7041, 7470, 7520, 7740, 7761	Equipment Blank
CR-A153508	FIELDQC	TB961115	SW8240	Trip Blank
CR-A153601	BJETA518	BJETA518-A	SW8240	
CR-A153602	BJETA518	BJETA518-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A153603	BJETA518	BJETA518-B	SW8240	
CR-A153604	BJETA518	BJETA518-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A153701	BJETA519	BJETA519-A	SW8240	
CR-A153702	BJETA519	BJETA519-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A153703	BJETA519	BJETA519-B	SW8240	
CR-A153704	BJETA519	BJETA519-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A153705	BJETA519	BJETA519-AFD	SW8240	Field Duplicate
CR-A153706	BJETA519	BJETA519-AFD	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	Field Duplicate
CR-A153707	BJETA519	BJETA519-BFD	SW8240	Field Duplicate
CR-A153708	BJETA519	BJETA519-BFD	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	Field Duplicate
CR-A153801	BJETA520	BJETA520-A	SW8240	
CR-A153802	BJETA520	BJETA520-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A153803	BJETA520	BJETA520-B	SW8240	
CR-A153804	BJETA520	BJETA520-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A153901	BJETA521	BJETA521-A	SW8240	
CR-A153902	BJETA521	BJETA521-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A153903	BJETA521	BJETA521-B	SW8240	
CR-A153904	BJETA521	BJETA521-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A154001	BJETA522	BJETA522-A	SW8240	
CR-A154002	BJETA522	BJETA522-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A154003	BJETA522	BJETA522-B	SW8240	

APPENDIX A
Laboratory Control Number - Sample Location Cross-Reference
Naval Air Station Fort Worth

CONTROL NO	LOCATION	SAMPLE ID	METHOD(S)	FIELD QC
CR-A154004	BJETA522	BJETA522-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A154005	FIELDQC	EB961116	SW8240	Equipment Blank
CR-A154006	FIELDQC	EB961116	SW8270	Equipment Blank
CR-A154007	FIELDQC	EB961116	SW6010, 7041, 7470, 7520, 7740, 7761	Equipment Blank
CR-A154008	FIELDQC	TB961116	SW8240	Trip Blank
CR-A154101	BJETA523	BJETA523-A	SW8240	
CR-A154102	BJETA523	BJETA523-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A154103	BJETA523	BJETA523-B	SW8240	
CR-A154104	BJETA523	BJETA523-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A154201	BJETA524	BJETA524-A	SW8240	
CR-A154202	BJETA524	BJETA524-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A154203	BJETA524	BJETA524-B	SW8240	
CR-A154204	BJETA524	BJETA524-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A154303	BJETA525	BJETA525-B	SW8240	
CR-A154304	BJETA525	BJETA525-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A154403	BJETA526	BJETA526-B	SW8240	
CR-A154404	BJETA526	BJETA526-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A154405	FIELDQC	EB961118	SW8240	Equipment Blank
CR-A154406	FIELDQC	EB961118	SW8270	Equipment Blank
CR-A154407	FIELDQC	EB961118	SW6010, 7041, 7470, 7520, 7740, 7761	Equipment Blank
CR-A154501	BJETA527	BJETA527-A	SW8240	
CR-A154502	BJETA527	BJETA527-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A154503	BJETA527	BJETA527-B	SW8240	
CR-A154504	BJETA527	BJETA527-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A154601	BJETA528	BJETA528-A	SW8240	
CR-A154602	BJETA528	BJETA528-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A154603	BJETA528	BJETA528-B	SW8240	
CR-A154604	BJETA528	BJETA528-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A154703	BJETA529	BJETA529-B	SW8240	
CR-A154704	BJETA529	BJETA529-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A154801	BJETA530	BJETA530-A	SW8240	
CR-A154802	BJETA530	BJETA530-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A154803	BJETA530	BJETA530-B	SW8240	
CR-A154804	BJETA530	BJETA530-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A154901	BJETA531	BJETA531-A	SW8240	
CR-A154902	BJETA531	BJETA531-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A154903	BJETA531	BJETA531-B	SW8240	
CR-A154904	BJETA531	BJETA531-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A156201	BJETA532	BJETA532-A	SW8240	
CR-A156202	BJETA532	BJETA532-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A156203	BJETA532	BJETA532-B	SW8240	
CR-A156204	BJETA532	BJETA532-B	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A156205	FIELDQC	EB961210	SW8240	Equipment Blank
CR-A156206	FIELDQC	EB961210	SW8270	Equipment Blank
CR-A156207	FIELDQC	EB961210	SW6010, 7041, 7470, 7520, 7740, 7761	Equipment Blank
CR-A156301	BJETA533	BJETA533-A	SW8240	
CR-A156302	BJETA533	BJETA533-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A156401	BJETA534	BJETA534-A	SW8240	
CR-A156402	BJETA534	BJETA534-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A156501	BJETA535	BJETA535-A	SW8240	
CR-A156502	BJETA535	BJETA535-A	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A159201	JEFB001	JEFB001-SW	SW8240	
CR-A159202	JEFB001	JEFB001-SW	SW8270	
CR-A159203	JEFB001	JEFB001-SW	SW6010, 7041, 7470, 7520, 7740, 7761	

APPENDIX A
Laboratory Control Number - Sample Location Cross-Reference
Naval Air Station Fort Worth

CONTROL NO	LOCATION	SAMPLE ID	METHOD(S)	FIELD QC
CR-A159204	JEFB001	JEFB001-SE	SW8240	
CR-A159205	JEFB001	JEFB001-SE	SW8270, 6010, 7041, 7471; 7520, 7740, 7761	
CR-A159301	JEFB002	JEFB002-SW	SW8240	
CR-A159302	JEFB002	JEFB002-SW	SW8270	
CR-A159303	JEFB002	JEFB002-SW	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A159304	JEFB002	JEFB002-SE	SW8240	
CR-A159305	JEFB002	JEFB002-SE	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A159401	JEFB003	JEFB003-SW	SW8240	
CR-A159402	JEFB003	JEFB003-SW	SW8270	
CR-A159403	JEFB003	JEFB003-SW	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A159404	JEFB003	JEFB003-SE	SW8240	
CR-A159405	JEFB003	JEFB003-SE	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A159406	JEFB003	JEFB003-SWFD	SW8240	Field Duplicate
CR-A159407	JEFB003	JEFB003-SWFD	SW8270	Field Duplicate
CR-A159408	JEFB003	JEFB003-SWFD	SW6010, 7041, 7470, 7520, 7740, 7761	Field Duplicate
CR-A159501	JEFB004	JEFB004-SW	SW8240	
CR-A159502	JEFB004	JEFB004-SW	SW8270	
CR-A159503	JEFB004	JEFB004-SW	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A159504	JEFB004	JEFB004-SE	SW8240	
CR-A159505	JEFB004	JEFB004-SE	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A159506	JEFB003	JEFB003-SEFD	SW8240	Field Duplicate
CR-A159507	JEFB003	JEFB003-SEFD	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	Field Duplicate
CR-A159601	JEFB005	JEFB005-SW	SW8240	
CR-A159602	JEFB005	JEFB005-SW	SW8270	
CR-A159603	JEFB005	JEFB005-SW	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A159604	JEFB005	JEFB005-SE	SW8240	
CR-A159605	JEFB005	JEFB005-SE	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A159701	JEFB006	JEFB006-SW	SW8240	
CR-A159702	JEFB006	JEFB006-SW	SW8270	
CR-A159703	JEFB006	JEFB006-SW	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A159704	JEFB006	JEFB006-SE	SW8240	
CR-A159705	JEFB006	JEFB006-SE	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A159801	JEFB007	JEFB007-SW	SW8240	
CR-A159802	JEFB007	JEFB007-SW	SW8270	
CR-A159803	JEFB007	JEFB007-SW	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A159804	JEFB007	JEFB007-SE	SW8240	
CR-A159805	JEFB007	JEFB007-SE	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A159901	JEFB008	JEFB008-SW	SW8240	
CR-A159902	JEFB008	JEFB008-SW	SW8270	
CR-A159903	JEFB008	JEFB008-SW	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A159904	JEFB008	JEFB008-SE	SW8240	
CR-A159905	JEFB008	JEFB008-SE	SW8270, 6010, 7041, 7471, 7520, 7740, 7761	
CR-A159906	FIELDQC	EB112096	SW8240	Equipment Blank
CR-A159908	FIELDQC	EB112096	SW6010, 7041, 7470, 7520, 7740, 7761	Equipment Blank
CR-A159909	FIELDQC	TB112196	SW8240	Trip Blank
CR-A160001	WJETA530	WJETA530-01	SW8240	
CR-A160002	WJETA530	WJETA530-01	SW8270	
CR-A160003	WJETA530	WJETA530-01	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A160004	WJETA530	WJETA530-01M	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A160005	FIELDQC	TB961214	SW8240	Trip Blank
CR-A160101	WJETA531	WJETA531	SW8240	
CR-A160102	WJETA531	WJETA531	SW8270	
CR-A160103	WJETA531	WJETA531	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A160104	WJETA531	WJETA531-M	SW6010, 7041, 7470, 7520, 7740, 7761	

APPENDIX A
Laboratory Control Number - Sample Location Cross-Reference
Naval Air Station Fort Worth

CONTROL NO	LOCATION	SAMPLE ID	METHOD(S)	FIELD QC
CR-A160105	WJETA531	WJETA531-01D	SW8240	Field Duplicate
CR-A160106	WJETA531	WJETA531-01D	SW8270	Field Duplicate
CR-A160107	WJETA531	WJETA531-01D	SW6010, 7041, 7470, 7520, 7740, 7761	Field Duplicate
CR-A160108	WJETA531	WJETA531-01MD	SW6010, 7041, 7470, 7520, 7740, 7761	Field Duplicate
CR-A160201	WJETA534	WJETA534-01	SW8240	
CR-A160202	WJETA534	WJETA534-01	SW8270	
CR-A160203	WJETA534	WJETA534-01	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A160204	WJETA534	WJETA534-01M	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A160205	FIELDQC	EB961214	SW8240	Equipment Blank
CR-A160206	FIELDQC	EB961214	SW8270	Equipment Blank
CR-A160207	FIELDQC	EB961214	SW6010, 7041, 7470, 7520, 7740, 7761	Equipment Blank
CR-A160301	WJETA535	WJETA535-01	SW8240	
CR-A160302	WJETA535	WJETA535-01	SW8270	
CR-A160303	WJETA535	WJETA535-01	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A160304	WJETA535	WJETA535-01M	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A160305	FIELDQC	AB961214	SW8240	Ambient Blank
CR-A160401	USGS01T	USGS01T	SW8240	
CR-A160402	USGS01T	USGS01T	SW8270	
CR-A160403	USGS01T	USGS01T	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A160404	USGS01T	USGS01T-M	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A160501	USGS02T	USGS02T	SW8240	
CR-A160502	USGS02T	USGS02T	SW8270	
CR-A160503	USGS02T	USGS02T	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A160504	USGS02T	USGS02T-M	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A160505	FIELDQC	EB961209	SW8240	Equipment Blank
CR-A160506	FIELDQC	EB961209	SW8270	Equipment Blank
CR-A160507	FIELDQC	EB961209	SW6010, 7041, 7470, 7520, 7740, 7761	Equipment Blank
CR-A160508	FIELDQC	TB961209	SW8240	Trip Blank
CR-A160601	HM-120	HM120-01	SW8240	
CR-A160602	HM-120	HM120-01	SW8270	
CR-A160603	HM-120	HM120-01	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A160604	HM-120	HM120-01M	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A160701	HM-127	HM127-01	SW8240	
CR-A160702	HM-127	HM127-01	SW8270	
CR-A160703	HM-127	HM127-01	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A160704	HM-127	HM127-01M	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A160705	HM-127	HM127-01FD	SW8240	Field Duplicate
CR-A160706	HM-127	HM127-01FD	SW8270	Field Duplicate
CR-A160707	HM-127	HM127-01FD	SW6010, 7041, 7470, 7520, 7740, 7761	Field Duplicate
CR-A160801	LF03-3D	LF033D-01	SW8240	
CR-A160802	LF03-3D	LF033D-01	SW8270	
CR-A160803	LF03-3D	LF033D-01	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A160804	LF03-3D	LF033D-01M	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A160805	FIELDQC	EB961212	SW8240	Equipment Blank
CR-A160806	FIELDQC	EB961212	SW8270	Equipment Blank
CR-A160807	FIELDQC	EB961212	SW6010, 7041, 7470, 7520, 7740, 7761	Equipment Blank
CR-A160901	LF04-4A	LF044A-01	SW8240	
CR-A160902	LF04-4A	LF044A-01	SW8270	
CR-A160903	LF04-4A	LF044A-01	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A160904	LF04-4A	LF044A-01M	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A160905	FIELDQC	EB961207	SW8240	Equipment Blank
CR-A160906	FIELDQC	EB961207	SW8270	Equipment Blank
CR-A160907	FIELDQC	EB961207	SW6010, 7041, 7470, 7520, 7740, 7761	Equipment Blank
CR-A161001	LF04-4B	LF044B-01	SW8240	

APPENDIX A
Laboratory Control Number - Sample Location Cross-Reference
Naval Air Station Fort Worth

CONTROL NO	LOCATION	SAMPLE ID	METHOD(S)	FIELD QC
CR-A161002	LF04-4B	LF044B-01	SW8270	
CR-A161003	LF04-4B	LF044B-01	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A161004	LF04-4B	LF044B-01M	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A161005	FIELDQC	EB961208	SW8240	Equipment Blank
CR-A161006	FIELDQC	EB961208	SW8270	Equipment Blank
CR-A161007	FIELDQC	EB961208	SW6010, 7041, 7470, 7520, 7740, 7761	Equipment Blank
CR-A161101	MWMTAC001	MWMTAC001-01	SW8240	
CR-A161102	MWMTAC001	MWMTAC001-01	SW8270	
CR-A161103	MWMTAC001	MWMTAC001-01	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A161104	MWMTAC001	MWMTAC001-01M	SW6010, 7041, 7470, 7520, 7740, 7761	
CR-A161108	FIELDQC	TB961213	SW8240	Trip Blank
CR-A161201	BJETA515	BJETA515-BRS	SW8270	
CR-A161202	BJETA516	BJETA516-ARS	SW8270	
CR-A161203	BJETA517	BJETA517-ARS	SW8240	
CR-A161204	BJETA517	BJETA517-BRS	SW8270	
CR-A161205	FIELDQC	TB961211	SW8240	Trip Blank
CR-A161206	FIELDQC	EB961211	SW8240	Equipment Blank
CR-A161207	FIELDQC	EB961211	SW8270	Equipment Blank
CR-A161208	FIELDQC	EB961211	SW6010, 7041, 7470, 7520, 7740, 7761	Equipment Blank

APPENDIX A

Preliminary Analytical Results

Naval Air Station, Fort Worth Background Study Report
January 1997

EMAX Batch No. 96K042

EMAX
LABORATORIES, INC.
630 Maple Ave.
Torrance, CA 90503
Telephone: (310) 618-8889
Fax: (310) 618-0818

RECEIVED
DEC 16 1996
JE • Denver

Date: 12-12-1996
EMAX Batch No.: 96K042

Attn: Lynn Schuetter

Jacobs Engineering Group
600 17th. Street, STe. 1100N
Denver CO 80202

Subject: Laboratory Report
Project: Carswell AFB / 05G47900

Enclosed is the Laboratory report for samples received on 11/09/96. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
CR-A151901	K042-01	11/08/96	Soil	EPA 8240
CR-A151902	K042-02	11/08/96	Soil	Metals Mercury EPA 8270
CR-A151903	K042-03	11/08/96	Soil	EPA 8240
CR-A151904	K042-04	11/08/96	Soil	EPA 8270 Metals Mercury
CR-A152001	K042-05	11/08/96	Soil	EPA 8240
CR-A152002	K042-06	11/08/96	Soil	EPA 8270 Metals Mercury
CR-A152003	K042-07	11/08/96	Soil	EPA 8240
CR-A152004	K042-08	11/08/96	Soil	EPA 8270 Metals Mercury
CR-A152101	K042-09	11/08/96	Soil	EPA 8240
CR-A152102	K042-10	11/08/96	Soil	EPA 8270 Metals

Date: 12-12-1996
EMAX Batch No.: 96K042

Attn: Lynn Schuetter

Jacobs Engineering Group
600 17th. Street, STe. 1100N
Denver CO 80202

Subject: Laboratory Report
Project: Carswell AFB / 05G47900

Enclosed is the Laboratory report for samples received on 11/09/96. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
CR-A151901	K042-01	11/08/96	Soil	EPA 8240
CR-A151902	K042-02	11/08/96	Soil	Metals Mercury EPA 8270
CR-A151903	K042-03	11/08/96	Soil	EPA 8240
CR-A151904	K042-04	11/08/96	Soil	EPA 8270 Metals Mercury
CR-A152001	K042-05	11/08/96	Soil	EPA 8240
CR-A152002	K042-06	11/08/96	Soil	EPA 8270 Metals Mercury
CR-A152003	K042-07	11/08/96	Soil	EPA 8240
CR-A152004	K042-08	11/08/96	Soil	EPA 8270 Metals Mercury
CR-A152101	K042-09	11/08/96	Soil	EPA 8240
CR-A152102	K042-10	11/08/96	Soil	EPA 8270 Metals

Sample ID	Control #	Col Date	Matrix	Analysis
				Mercury
CR-A152103	K042-11	11/08/96	Soil	EPA 8240
CR-A152104	K042-12	11/08/96	Soil	EPA 8270
				Metals
				Mercury
CR-A152201	K042-13	11/08/96	Soil	EPA 8240
CR-A152202	K042-14	11/08/96	Soil	Metals
				Mercury
				EPA 8270
CR-A152203	K042-15	11/08/96	Soil	EPA 8240
CR-A152204	K042-16	11/08/96	Soil	Metals
				Mercury
				EPA 8270
CR-A152301	K042-17	11/08/96	Soil	EPA 8240
CR-A152302	K042-18	11/08/96	Soil	Metals
				Mercury
				EPA 8270
CR-A152303	K042-19	11/08/96	Soil	EPA 8240
CR-A152304	K042-20	11/08/96	Soil	Metals
				Mercury
				EPA 8270
CR-A152305	K042-21	11/08/96	Water	EPA 8240
CR-A152306	K042-22	11/08/96	Water	EPA 8270
CR-A152307	K042-23	11/08/96	Water	Metals
				Lead
CR-A152308	K042-24	11/08/96	Water	EPA 8240
CR-A152401	K042-25	11/08/96	Soil	EPA 8240
CR-A152402	K042-26	11/08/96	Soil	Metals
				Mercury
				EPA 8270
CR-A152403	K042-27	11/08/96	Soil	EPA 8240
CR-A152404	K042-28	11/08/96	Soil	Metals
				Mercury
				EPA 8270
CR-A156601	K042-29	11/06/96	Soil	EPA 418.1
CR-A156603	K042-30	11/06/96	Soil	EPA 418.1
CR-A156604	K042-31	11/06/96	Soil	EPA 418.1
CR-A156605	K042-32	11/06/96	Soil	EPA 418.1
CR-A156606	K042-33	11/06/96	Soil	EPA 418.1
CR-A156607	K042-34	11/06/96	Water	EPA 418.1
CR-A156608	K042-35	11/07/96	Water	EPA 418.1

Sample ID	Control #	Col Date	Matrix	Analysis
CR-A156701	K042-36	11/06/96	Soil	EPA 418.1
CR-A156704	K042-38	11/06/96	Soil	EPA 418.1
CR-A156705	K042-39	11/06/96	Soil	EPA 418.1
CR-A156706	K042-40	11/06/96	Soil	EPA 418.1
CR-A156801	K042-41	11/07/96	Soil	EPA 418.1
CR-A156802	K042-42	11/07/96	Soil	EPA 418.1
CR-A156803	K042-43	11/07/96	Soil	EPA 418.1
CR-A156804	K042-44	11/07/96	Soil	EPA 418.1
CR-A156805	K042-45	11/07/96	Soil	EPA 418.1
CR-A156806	K042-46	11/07/96	Soil	EPA 418.1
CR-A156703	K042-37	11/06/96	Soil	EPA 418.1

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D.
Laboratory Director

P.S. - All analyses requested for the above referenced project have been completed. Therefore, unless instructed, the remaining portions of the samples will be disposed after fifteen (15) days from the date of this report.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP

CARSWELL AFB (D.O. 21)

METALS

SDG#: 96K042

DECEMBER 10, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP

PROJECT: CARSWELL

SDG: 96K042

METALS

Twelve (12) soil and one (1) water samples were received on 11/09//96 to be analyzed for metals analysis by ICP method in accordance with USEPA SW846 method 6010A.

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   All preparation blanks were free of contamination except aluminum, barium, cadmium, iron, sodium, and zinc were detected in soil blank and aluminum, calcium, iron, manganese, and sodium in water blank, all detected levels were below PQL.

3. **Matrix Spike/Matrix Spike Duplicate**

   All MS/MSD recoveries in water were within QC limits. Several elements in soil matrix, aluminum, calcium, iron, arsenic, barium, lead, and molybdenum in MS/MSD: and manganese and sodium in MS were out of QC limits. No corrective action was required.

4. **Lab Control Sample/Lab Control Duplicate**

   All lab control results were within the control limits.

5. **Sample Analysis**

   Analysis was performed within the QC requirements. Several elements in serial dilutions for soil matrix were out of QC limits. Post analytical spike was performed in the failed analytes, all recoveries were within QC limits except calcium and iron. Post spike analysis was repeated with double spike level for calcium and iron but recoveries were still out QC limits.

   An original report of sodium in sample K042-02 was questionably high, the sodium result in the reanalysis run was also similar to the original analysis. However, there was no sodium detected in the redigested sample. High level of sodium in the first analysis might be from possible lab or sample contamination. Calcium in K042-08 and K042-12 were also revised due to error in dilution. Rsults for sodium in K042-02, calcium in K042-08 (DF = 5), and K042-12 (DF = 40) were resubmitted on January 22, 1997.

   Sodium in calibration blanks were slightly above PQL. Serial dilutions for calcium, chromium, copper, iron, magnesium, potassium, sodium, thallium, and zinc were out of QC limits. Post analytical spike recoveries of these failed serial dilution analytes were within QC limits except calcium and iron.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP

PROJECT: CARSWELL AFB (DO 21)

SDG: 96K042

METALS

Twelve (12) soil and one (1) water sample was received on 11/09/96 to be analyzed for metals analysis in accordance with USEPA SW846 method 6010A.

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   All preparation blanks were free of contamination except trace level of Aluminum, Barium, Cadmium, Iron, Sodium, and Zinc were detected in soil blank and Aluminum, Calcium, Iron, Manganese, and Sodium in water blank, all detected levels were below PQL.

3. **Matrix Spike/Matrix Spike Duplicate**

   All MS/MSD recoveries in water matrix were within QC limits. Several elements in soil matrix, Aluminum, Calcium, Iron, Arsenic, Barium, Lead, and Molybdenum in MS/MSD; and Manganese and Sodium in MS were out of QC limits. No corrective action was required.

4. **Lab Control Sample/Lab Control Duplicate**

   All lab control results were within the control limits.

6. **Sample Analysis**

   Analysis was performed within the QC requirements.

   All serial dilutions in water matrix were within QC limits. Several elements in serial dilutions for soil matrix were out of QC limits. Post analytical spike was performed in the failed analytes, all recoveries were within QC limits except Calcium and Iron. Post spike analysis was repeated with double spike level for Calcium and Iron but recoveries were still out of QC limits.

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/13/96 11:00
Sample ID	: CR-A151902	DaTime Analyzd :	11/25/96 17:29
Lab Cnt NO.	: K042-02	Dilutn Factor :	1
Lab File ID	: I07K035	Matrix :	SOIL
Ext Btch ID	: IPK008S	% Moisture :	22.3
Calib. Ref.	: I07K035	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	19900	64.4	1.3
Arsenic*	2.85	.644	0.59
Barium	39	2.57	.0515
Beryllium	.487	.386	.0129
Cadmium*	.138	.129	.129
Calcium	6700	12.9	2.9
Chromium	20.1	9.01	.708
Cobalt	5.64F	9.01	1.08
Copper	12.3	7.72	.18
Iron	11700	9.01	.746
Lead*	14.7	.644	.18
Magnesium	827	38.6	7.12
Manganese	509	2.57	.154
Molybdenum	ND	10.3	.785
Potassium	1250	644	67.2
Sodium**	ND	38.6	2.57
Thallium	107	51.5	11.9
Vanadium	30.4	10.3	.502
Zinc	124	2.57	.219

*Reanalyzed on 12/02/96, I31K025 Cal. Ref.
**Redigested on 01/14/97 and reanalyzed on 01/18/97, I07A023 Cal. Ref.

Revised
004

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/13/96 11:0
Sample ID	: CR-A152004	DaTime Analyzd :	11/25/96 17:40
Lab Cnt NO.	: K042-08	Dilutn Factor :	1
Lab File ID	: I07K035	Matrix :	SOIL
Ext Btch ID	: IPK008S	% Moisture :	11.3
Calib. Ref.	: I07K035	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	7080	56.4	1.14
Arsenic*	1.93	.564	.408
Barium	24.5	2.25	.0451
Beryllium	.336F	.338	.0113
Cadmium*	.134	.113	.113
Calcium**	272000	56.4	12.7
Chromium	6.04F	7.89	.62
Cobalt	ND	7.89	.947
Copper	3.02F	6.76	.158
Iron	5740	7.89	.654
Lead*	1.57	.564	.158
Magnesium	1620	33.8	6.23
Manganese	45.6	2.25	.135
Molybdenum	ND	9.02	.688
Potassium	480F	564	58.9
Sodium	2970	33.8	2.25
Thallium	31F	45.1	10.4
Vanadium	16.3	9.02	.44
Zinc	5.9	2.25	.192

**: Reanalyzed 01/18/97, I07A023 Cal. Ref. at 5 times dilution.
*: Analyzed on 12/02/96, I31K025 Cal. Ref.

Reanal
0.7

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/13/96 11:00
Sample ID	: CR-A152104	DaTime Analyzd :	11/25/96 17:47
Lab Cnt NO.	: K042-12	Dilutn Factor :	1
Lab File ID	: I07K035	Matrix :	SOIL
Ext Btch ID	: IPK008S	% Moisture :	4.4
Calib. Ref.	: I07K035	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	4360	52.3	1.06
Arsenic*	1.42	.523	.481
Barium	16.4	2.09	.0418
Beryllium	.208F	.314	.0105
Cadmium*	.212	.105	.105
Calcium**	347000	418	94.1
Chromium	7.13F	7.32	.575
Cobalt	ND	7.32	.879
Copper	2.61F	6.28	.146
Iron	3840	7.32	.607
Lead*	ND	.523	.146
Magnesium	1860	31.4	5.78
Manganese	101	2.09	.126
Molybdenum	ND	8.37	.638
Potassium	271F	523	54.6
Sodium	19900	31.4	2.09
Thallium	18.2F	41.8	9.64
Vanadium	16.5	8.37	.408
Zinc	7.69	2.09	.178

* Reanalyzed on 01/18/97, I07A023 Cal. Ref. at 40 times dilution.
* Reanalyzed on 12/02/96, I31K025 Cal. Ref.

Revised
009

LAB CHRONICLE 11-13-199612:07:0

Method: Metals
Client: Jacobs Engineering Group

PROJECT: Carswell AFB / 05G47900
SDG/Batch No.: 96K042
Matrix: Soil

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A151902	K042-02	22.3		11/13/96/IPK008S	11/25/96I07K035	*
CR-A151904	K042-04	12.1				
CR-A152002	K042-06	22.1				
CR-A152004	K042-08	11.3				
CR-A152102	K042-10	19.4				
CR-A152104	K042-12	4.4				
CR-A152202	K042-14	20.7				
CR-A152204	K042-16	6.9				
CR-A152302	K042-18	20.5				
CR-A152304	K042-20	8.6				
CR-A152402	K042-26	20.8				
CR-A152404	K042-28	9.7				
Mat Sp.	K042-28M					
Mat Sp. Dup.	K042-28S					
MBLKIS	IPK008SB					
LCSI	IPK008SL					
LCSID	IPK008SC					

*- As, Pb, and Cd were analyzed by Trace ICP File I31K025 for IPK008SB SL, SC and K042-02, 04, 06, 08, 10 and 12 Date 12/2/96

As, Pb, and Cd were analyzed by Trace-ICP File I31L001 for K042-14, 16, 18, 20, 26, 28, 28M, 28S

- Ca in K042-08 and 12 was analyzed on 12/6/96 File I31L006

LAB CHRONICLE 11-13-199612:07:0

Method: Metals
Client: Jacobs Engineering Group

JECT: Carswell AFB / 05G47900
/Batch No.: 96K042
Matrix: Water

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A152307	K042-23	NA		11/12/96/IPKD10W	11/25/96/I07K035	*
Mal. Sp.	K042-23M					
Mal Sp. Dup	K042-23S					
MBLK1W	IPK010WB					
LCS1		WL				
LCSD		WC				

* As, Cd and Pb were analyzed on 12/2/96

File I31K025

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/13/96 11:00
Sample ID	: CR-A151902	DaTime Analyzd :	11/25/96 17:29
Lab Cnt No.:	K042-02	Dilutn Factor :	1
Lab File ID:	I07K035	Matrix :	SOIL
Ext Btch ID:	IPK008S	% Moisture :	22.3
Calib. Ref.:	I07K035	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	19900	64.4	1.3
Arsenic*	2.85	.644	0.59
Barium	39	2.57	.0515
Beryllium	.487	.386	.0129
Cadmium*	.138	.129	.129
Calcium	6700	12.9	2.9
Chromium	20.1	9.01	.708
Cobalt	5.64F	9.01	1.08
Copper	12.3	7.72	.18
Iron	11700	9.01	.746
Lead*	14.7	.644	.18
Magnesium	827	38.6	7.12
Manganese	509	2.57	.154
Molybdenum	ND	10.3	.785
Potassium	1250	644	67.2
Sodium	1110000	38.6	2.57
Thallium	107	51.5	11.9
Vanadium	30.4	10.3	.502
Zinc	124	2.57	.219

*: Analyzed on 12/02/96, I31K025 Cal. Ref.

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Btch No.	: 96K042	DaTime Extrctd :	11/13/96 11:00
Sample ID	: CR-A152002	DaTime Analyzd :	11/25/96 17:36
Lab Cnt NO.:	K042-06	Dilutn Factor :	1
Lab File ID:	I07K035	Matrix :	SOIL
Ext Btch ID:	IPK008S	% Moisture :	22.1
Calib. Ref.:	I07K035	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	19500	64.2	1.3
Arsenic*	4.38	.642	.591
Barium	233	2.57	.0513
Beryllium	.926	.385	.0128
Cadmium*	.356	.128	.128
Calcium	51700	12.8	2.89
Chromium	18.8	8.99	.706
Cobalt	10.2	8.99	1.08
Copper	15.6	7.7	.18
Iron	15000	8.99	.745
Lead*	29.6	.642	.180
Magnesium	2830	38.5	7.1
Manganese	1420	2.57	.154
Molybdenum	ND	10.3	.783
Potassium	1750	642	67.1
[illegible]ium	25800	38.5	2.57
[illegible]lium	63.9	51.3	11.8
Vanadium	48.5	10.3	.501
Zinc	37.8	2.57	.218

*: Analyzed on 12/02/96, I31K025 Cal. Ref.

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/13/96 11:00
Sample ID	: CR-A151904	DaTime Analyzd :	11/25/96 17:32
Lab Cnt NO.:	K042-04	Dilutn Factor :	1
Lab File ID:	I07K035	Matrix :	SOIL
Ext Btch ID:	IPK008S	% Moisture :	12.1
Calib. Ref.:	I07K035	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	17700	56.9	1.15
Arsenic*	4.08	.569	.523
Barium	72.4	2.28	.0455
Beryllium	.693	.341	.0114
Cadmium*	.223	.114	.114
Calcium	111000	11.4	2.56
Chromium	16.8	7.96	.626
Cobalt	3.2F	7.96	.956
Copper	9.12	6.83	.159
Iron	12600	7.96	.66
Lead*	10.2	.569	.159
Magnesium	2420	34.1	6.29
Manganese	186	2.28	.137
Molybdenum	.797F	9.1	.694
Potassium	1420	569	59.4
Sodium	53200	34.1	2.28
Thallium	60.4	45.5	10.5
Vanadium	30.6	9.1	.444
Zinc	26.4	2.28	.193

*: Analyzed on 12/02/96, I31K025 Cal. Ref.

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Btch No.	: 96K042	DaTime Extrctd :	11/13/96 11:00
Sample ID	: CR-A152004	DaTime Analyzd :	11/25/96 17:40
Lab Cnt NO.:	K042-08	Dilutn Factor :	1
Lab File ID:	I07K035	Matrix :	SOIL
Ext Btch ID:	IPK008S	% Moisture :	11.3
Calib. Ref.:	I07K035	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	7080	56.4	1.14
Arsenic*	1.93	.564	.408
Barium	24.5	2.25	.0451
Beryllium	.336F	.338	.0113
Cadmium*	.134	.113	.113
Calcium**	6530000	22.6	5.8
Chromium	6.04F	7.89	.62
Cobalt	ND	7.89	.947
Copper	3.02F	6.76	.158
Iron	5740	7.89	.654
Lead*	1.57	.564	.158
Magnesium	1620	33.8	6.23
Manganese	45.6	2.25	.135
Molybdenum	ND	9.02	.688
Potassium	480F	564	58.9
Sodium	2970	33.8	2.25
Thallium	31F	45.1	10.4
Vanadium	16.3	9.02	.44
Zinc	5.9	2.25	.192

**: Analyzed using TRACE - ICP on 12/06/96, I31L006 Cal. Ref.
*: Analyzed on 12/02/96, I31K025 Cal. Ref.

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/13/96 11:0
Sample ID	: CR-A152102	DaTime Analyzd :	11/25/96 17:43
Lab Cnt NO.	: K042-10	Dilutn Factor :	1
Lab File ID	: I07K035	Matrix :	SOIL
Ext Btch ID	: IPK008S	% Moisture :	19.4
Calib. Ref.	: I07K035	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	16700	62	1.25
Arsenic*	4.21	.62	.571
Barium	83.1	2.48	.0496
Beryllium	.806	.372	.0124
Cadmium*	.283	.124	.124
Calcium	28200	12.4	2.79
Chromium	19.1	8.68	.682
Cobalt	4.09F	8.68	1.04
Copper	13.5	7.44	.174
Iron	15200	8.68	.72
Lead*	21.3	.62	.174
Magnesium	1830	37.2	6.86
Manganese	314	2.48	.149
Molybdenum	ND	9.93	.757
Potassium	1590	620	64.8
Sodium	13100	37.2	2.48
Thallium	55.2	49.6	11.4
Vanadium	40.8	9.93	.484
Zinc	29.5	2.48	.211

*: Analyzed on 12/02/96, I31K025 Cal. Ref.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Btch No.	: 96K042	DaTime Extrctd :	11/13/96 11:00
Sample ID	: CR-A152104	DaTime Analyzd :	11/25/96 17:47
Lab Cnt NO.:	K042-12	Dilutn Factor :	1
Lab File ID:	I07K035	Matrix :	SOIL
Ext Btch ID:	IPK008S	% Moisture :	4.4
Calib. Ref.:	I07K035	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	4360	52.3	1.06
Arsenic*	1.42	.523	.481
Barium	16.4	2.09	.0418
Beryllium	.208F	.314	.0105
Cadmium*	.212	.105	.105
Calcium**	4550000	210	47
Chromium	7.13F	7.32	.575
Cobalt	ND	7.32	.879
Copper	2.61F	6.28	.146
Iron	3840	7.32	.607
Lead*	ND	.523	.146
Magnesium	1860	31.4	5.78
Manganese	101	2.09	.126
Molybdenum	ND	8.37	.638
Potassium	271F	523	54.6
Sodium	19900	31.4	2.09
Thallium	18.2F	41.8	9.64
Vanadium	16.5	8.37	.408
Zinc	7.69	2.09	.178

**: Analyzed using TRACE - ICP on 12/06/96, I31L006 Cal. Ref.
*: Analyzed on 12/02/96, I31K025 Cal. Ref.

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/13/96 11:00
Sample ID	: CR-A152202	DaTime Analyzd :	11/25/96 17:51
Lab Cnt NO.:	K042-14	Dilutn Factor :	1
Lab File ID:	I07K035	Matrix :	SOIL
Ext Btch ID:	IPK008S	% Moisture :	20.7
Calib. Ref.:	I07K035	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	16500	63.1	1.27
Arsenic*	5.88	.631	.580
Barium	100	2.52	.0504
Beryllium	.781	.378	.0126
Cadmium*	.279	.126	.126
Calcium	37100	12.6	2.84
Chromium	15.2	8.83	.694
Cobalt	5.57F	8.83	1.06
Copper	11.3	7.57	.177
Iron	12700	8.83	.731
Lead*	8.76	.631	.176
Magnesium	1890	37.8	6.97
Manganese	321	2.52	.151
Molybdenum	ND	10.1	.769
Potassium	1700	631	65.9
Sodium	15300	37.8	2.52
Thallium	45F	50.4	11.6
Vanadium	30	10.1	.492
Zinc	28.2	2.52	.214

*: Analyzed using TRACE - ICP on 12/03/96, I31L001 Cal. Ref.

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/13/96 11:00
Sample ID	: CR-A152204	DaTime Analyzd :	11/25/96 17:54
Lab Cnt NO.:	K042-16	Dilutn Factor :	1
Lab File ID:	I07K035	Matrix :	SOIL
Ext Btch ID:	IPK008S	% Moisture :	6.9
Calib. Ref.:	I07K035	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	10500	53.7	1.08
Arsenic*	2.37	.537	.494
Barium	56.9	2.15	.043
Beryllium	.516	.322	.0107
Cadmium*	.228	.107	.107
Calcium	110000	10.7	2.42
Chromium	9.04	7.52	.591
Cobalt	2.73F	7.52	.902
Copper	6.72	6.44	.15
Iron	8410	7.52	.623
Lead*	1.00	.537	.150
Magnesium	1470	32.2	5.94
Manganese	168	2.15	.129
Molybdenum	ND	8.59	.655
Potassium	972	537	56.1
Sodium	12300	32.2	2.15
Thallium	41.3F	43	9.9
Vanadium	16.7	8.59	.419
Zinc	16.7	2.15	.183

*: Analyzed using TRACE - ICP on 12/03/96, I31L001 Cal. Ref.

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/13/96 11:00
Sample ID	: CR-A152302	DaTime Analyzd :	11/25/96 17:58
Lab Cnt NO.:	K042-18	Dilutn Factor :	1
Lab File ID:	I07K035	Matrix :	SOIL
Ext Btch ID:	IPK008S	% Moisture :	20.5
Calib. Ref.:	I07K035	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	15400	62.9	1.27
Arsenic*	2.98	.629	.579
Barium	91.4	2.52	.0503
Beryllium	.835	.377	.0126
Cadmium*	.233	.126	.126
Calcium	14600	12.6	2.83
Chromium	16.3	8.81	.692
Cobalt	5.37F	8.81	1.06
Copper	12.6	7.55	.176
Iron	13800	8.81	.73
Lead*	7.10	.629	.176
Magnesium	1660	37.7	6.96
Manganese	374	2.52	.151
Molybdenum	ND	10.1	.767
Potassium	1720	629	65.7
Sodium	37300	37.7	2.52
Thallium	49.1F	50.3	11.6
Vanadium	31	10.1	.491
Zinc	28	2.52	.214

*: Analyzed using TRACE - ICP on 12/03/96, I31L001 Cal. Ref.

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Btch No.	: 96K042	DaTime Extrctd :	11/13/96 11:00
Sample ID	: CR-A152304	DaTime Analyzd :	11/25/96 18:02
Lab Cnt NO.:	K042-20	Dilutn Factor :	1
Lab File ID:	I07K035	Matrix :	SOIL
Ext Btch ID:	IPK008S	% Moisture :	8.6
Calib. Ref.:	I07K035	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	9770	54.7	1.11
Arsenic*	2.97	.547	.503
Barium	62.4	2.19	.0438
Beryllium	.507	.328	.0109
Cadmium*	.147	.109	.109
Calcium	108000	10.9	2.46
Chromium	8.82	7.66	.602
Cobalt	3.25F	7.66	.919
Copper	6.72	6.56	.153
Iron	8340	7.66	.635
Lead*	1.16	.547	.153
Magnesium	1560	32.8	6.05
Manganese	243	2.19	.131
Molybdenum	ND	8.75	.667
Potassium	949	547	57.2
[illegible]ium	34000	32.8	2.19
[illegible]llium	37.7F	43.8	10.1
[illegible]adium	17.5	8.75	.427
Zinc	16.6	2.19	.186

*: Analyzed using TRACE - ICP on 12/03/96, I31L001 Cal. Ref.

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/13/96 11:00
Sample ID	: CR-A152402	DaTime Analyzd :	11/25/96 18:26
Lab Cnt NO.:	K042-26	Dilutn Factor :	1
Lab File ID:	I07K035	Matrix :	SOIL
Ext Btch ID:	IPK008S	% Moisture :	20.8
Calib. Ref.:	I07K035	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	14100	63.1	1.28
Arsenic*	3.30	.631	.581
Barium	81.1	2.53	.0505
Beryllium	.784	.379	.0126
Cadmium*	.226	.126	.126
Calcium	8150	12.6	2.84
Chromium	15.1	8.84	.694
Cobalt	4.85F	8.84	1.06
Copper	12.9	7.58	.177
Iron	12700	8.84	.732
Lead*	12.2	.631	.177
Magnesium	1580	37.9	6.98
Manganese	357	2.53	.152
Molybdenum	ND	10.1	.77
Potassium	2040	631	66
Sodium	12200	37.9	2.53
Thallium	40.6F	50.5	11.6
Vanadium	29.4	10.1	.492
Zinc	31.5	2.53	.215

*: Analyzed using TRACE - ICP on 12/03/96, I31L001 Cal. Ref.

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Btch No.	: 96K042	DaTime Extrctd :	11/13/96 11:00
Sample ID	: CR-A152404	DaTime Analyzd :	11/25/96 18:30
Lab Cnt NO.:	K042-28	Dilutn Factor :	1
Lab File ID:	I07K035	Matrix :	SOIL
Ext Btch ID:	IPK008S	% Moisture :	9.7
Calib. Ref.:	I07K035	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	11200	55.4	1.12
Arsenic*	1.90	.554	.504
Barium	56.9	2.21	.0443
Beryllium	.547	.332	.0111
Cadmium*	ND	.110	.110
Calcium	97600	11.1	2.49
Chromium	10.1	7.75	.609
Cobalt	3.84F	7.75	.93
Copper	7.67	6.64	.155
Iron	9140	7.75	.642
Lead*	1.83	.554	.153
Magnesium	1780	33.2	6.12
Manganese	276	2.21	.133
Molybdenum	ND	8.86	.676
Potassium	1140	554	57.9
[illegible]ium	1720	33.2	2.21
[illegible]llium	37.7F	44.3	10.2
Vanadium	16.6	8.86	.432
Zinc	19.8	2.21	.188

*: Analyzed using TRACE - ICP on 12/03/96, I31L001 Cal. Ref.

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

ANTIMONY BY GFAA

SDG#: 96K042

DECEMBER 10, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K042

ANTIMONY BY GFAA

Twelve (12) soil and one (1) water samples were received on 11/09/96 to be analyzed for Antimony by GFAA method 7041 in accordance with USEPA SW846 (1994,9).

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   Preparation blanks were free of contamination.

3. **Matrix Spike/Matrix Spike Duplicate**

   MS recovery in water and soil were within QC limits.

4. **Lab Control Sample/Lab Control Sample Duplicate**

   All lab control results were within the QC limits.

5. **Calibration**

   All initial and continuing calibration results were within QC criteria.

6. **Sample Analyses**

   Sample analyses met QC requirements.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EPA 3050A/7041
ANTIMONY BY GFAA

CLIENT:	JACOBS ENGINEERING GROUP	DATE COLLECTED:	11/08/96
PROJECT:	CARSWELL AFB / 05G47900	DATE RECEIVED:	11/09/96
BATCH NO.:	96K042	DATE EXTRACTED:	11/13/96 15:00
MATRIX:	SOIL	INSTRUMENT ID:	G06
CAL REF:	G06L002-34	PREP BATCH:	IPK008S

SAMPLE ID	CONTROL NO	RESULT (mg/kg)	DL FACTOR	MOIST (%)	POL (mg/kg)	MDL (mg/kg)	ANALYZED DATETIME
CR-A151902	K042-02	ND	160	22.3	103	41.2	12/02/96 17:51
CR-A151904	K042-04	0.43F	1	12.1	.57	.23	12/02/96 16:56
CR-A152002	K042-06	ND	1	22.1	.64	.26	12/02/96 16:59
CR-A152004	K042-08	ND	1	11.3	.56	.23	12/02/96 17:03
CR-A152102	K042-10	ND	1	19.4	.62	.25	12/02/96 17:06
CR-A152104	K042-12	ND	1	4.4	.52	.21	12/02/96 17:10
CR-A152202	K042-14	ND	1	20.7	.63	.25	12/02/96 17:14
CR-A152204	K042-16	ND	1	6.9	.54	.21	12/02/96 17:18
CR-A152302	K042-18	0.56F	1	20.5	.63	.25	12/02/96 17:29
CR-A152304	K042-20	ND	1	8.6	.55	.22	12/02/96 17:33
CR-A152402	K042-26	0.33F	1	20.8	.63	.25	12/02/96 17:36
CR-A152404	K042-28	ND	1	9.7	.55	.22	12/02/96 16:13
CR-A152404	K042-28M	1.79	1	9.7	.55	.22	12/02/96 16:24
CR-A152404	K042-28S	1.73	1	9.7	.55	.22	12/02/96 16:28
MBLK1S	IPK008SB	ND	1	NA	.5	.2	12/02/96 16:02
LCS1S	IPK009SL	2.42	1	NA	.5	.2	12/02/96 16:06
LCD1S	IPK009SC	2.23	1	NA	.5	.2	12/02/96 16:10

POL: Practical Quantitation Limit
CAL REF: G06L002-10, for K042-28, 28M, 28S, IPK008SB, L and C
G06L002-22, for K042-04, 06, 08, 10, 12, 14 and 16
F : Estimated value
AFCEE Ver. 1.1

PA 3005A/7041
ANTIMONY BY GFAA

CLIENT:	JACOBS ENGINEERING GROUP	DATE COLLECTED:	11/08/96
PROJECT:	CARSWELL AFB / 05G47900	DATE RECEIVED:	11/09/96
BATCH NO.:	96K042	DATE EXTRACTED:	11/13/96 18:00
MATRIX:	WATER	INSTRUMENT ID:	G06
CAL REF:	G06L001-10	PREP BATCH:	IPK010W

SAMPLE ID	CONTROL NO	RESULT (mg/L)	DILUTION FACTOR	PQL (mg/L)	MDL (mg/L)	ANALYZED DATETIME
CR-A152307	K042-23	ND	1	.005	.002	12/02/96 18:51
CR-A152307	K042-23M	.0221	1	.005	.002	12/02/96 19:02
CR-A152307	K042-23S	.0221	1	.005	.002	12/02/96 19:06
MBLK1W	IPK010WB	ND	1	.005	.002	12/02/96 18:40
LCS1W	IPK011WL	.0211	1	.005	.002	12/02/96 18:44
LCD1W	IPK011WC	.0241	1	.005	.002	12/02/96 18:48

PQL: Practical Quantitation Limit
AFCEE Ver. 1.1

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

MERCURY BY COLD VAPOR

SDG#: 96K042

DECEMBER 12, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K042

MERCURY BY COLD VAPOR

Twelve (12) soil samples were received on 11/09/96 for Mercury by Method 7471A in accordance with SW846 (1994).

1. **Holding Time**

   Extraction and analysis met holding time.

2. **Blank**

   A preparation blank was free of contamination.

3. **Matrix Spike/Matrix Spike Duplicate**

   Recoveries were within QC limits.

4. **Lab Control Sample/Lab Control Sample Duplicate**

   Lab control sample results and RPD were within the control limits.

5. **Sample Analyses**

   Sample analyses were performed within the QC requirements.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EPA 7471A
MERCURY BY COLD VAPOR

CLIENT:	JACOBS ENGINEERING GROUP	DATE COLLECTED:	11/08/96
PROJECT:	CARSWELL AFB / 05G47900	DATE RECEIVED:	11/09/96
BATCH NO.:	96K042	DATE EXTRACTED:	11/22/96 10:00
MATRIX:	SOIL	INSTRUMENT ID:	I23
CAL REF:	M96K014-7	PREP BATCH:	HGK014S

SAMPLE ID	CONTROL NO	RESULT (mg/kg)	DL FACTOR	MOIST (%)	PQL (mg/kg)	MDL (mg/kg)	ANALYZED DATETIME
CR-A151902	K042-02	ND	1	22.3	.13	.037	11/22/96 19:24
CR-A151904	K042-04	ND	1	12.1	.11	.033	11/22/96 19:28
CR-A152002	K042-06	ND	1	22.1	.13	.037	11/22/96 19:31
CR-A152004	K042-08	ND	1	11.3	.11	.033	11/22/96 19:34
CR-A152102	K042-10	ND	1	19.4	.12	.036	11/22/96 19:37
CR-A152104	K042-12	ND	1	4.4	.1	.03	11/22/96 19:40
CR-A152202	K042-14	ND	1	20.7	.13	.037	11/22/96 19:53
CR-A152204	K042-16	ND	1	6.9	.11	.031	11/22/96 19:56
CR-A152302	K042-18	ND	1	20.5	.13	.036	11/22/96 19:59
CR-A152304	K042-20	ND	1	8.6	.11	.032	11/22/96 20:02
CR-A152402	K042-26	ND	1	20.8	.13	.037	11/22/96 20:05
CR-A152404	K042-28	ND	1	9.7	.11	.032	11/22/96 20:08
CR-A152404	K042-28M	2.07	1	9.7	.11	.032	11/22/96 20:11
CR-A152404	K042-28S	2.07	1	9.7	.11	.032	11/22/96 20:15
MBLK1S	HGK014SB	ND	1	NA	.1	.029	11/22/96 19:15
LCS1S	HGK014SL	1.88	1	NA	.1	.029	11/22/96 19:18
LCD1S	HGK014SC	1.84	1	NA	.1	.029	11/22/96 19:21

PQL: Practical Quantitation Limit
CAL REF: M96K014-19, for K042-14 to 28, 28M and 28S.
AFCEE Ver. 1.1

002

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

NICKEL BY GFAA

SDG#: 96K042

DECEMBER 10, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K042

NICKEL BY GFAA

Twelve (12) soil and one (1) water samples were received on 11/09/96 to be analyzed for Nickel by GFAA method 7520 in accordance with USEPA SW846 (1994,9).

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   Preparation blanks were free of contamination.

3. **Matrix Spike/Matrix Spike Duplicate**

   MS recovery in water was within QC limits but recovery in soil could not be calculated because of high concentration of Nickel in the sample.

4. **Lab Control Sample/Lab Control Sample Duplicate**

   All lab control results were within the QC limits.

5. **Calibration**

   All initial and continuing calibration results were within QC criteria.

6. **Sample Analyses**

   Sample analyses met QC requirements.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EPA 3050A/7520
NICKEL BY GFAA

CLIENT:	JACOBS ENGINEERING GROUP	DATE COLLECTED:	11/08/96
PROJECT:	CARSWELL AFB / 05G47900	DATE RECEIVED:	11/09/96
BATCH NO.:	96K042	DATE EXTRACTED:	11/20/96 18:00
MATRIX:	SOIL	INSTRUMENT ID:	GFAA #6
CAL REF:	G06L003-33	PREP BATCH:	GFK006S

SAMPLE ID	CONTROL NO	RESULT (mg/kg)	DL FACTOR	MOIST (%)	POL (mg/kg)	MDL (mg/kg)	ANALYZED DATETIME
CR-A151902	K042-02	12.23	2	22.3	2.57	.51	12/04/96 21:24
CR-A151904	K042-04	12.61	4	12.1	4.55	.91	12/04/96 21:28
CR-A152002	K042-06	14.63	10	22.1	12.8	2.57	12/04/96 21:41
CR-A152004	K042-08	5.84	1	11.3	1.13	.23	12/04/96 21:49
CR-A152102	K042-10	11.87	4	19.4	4.96	.99	12/04/96 21:54
CR-A152104	K042-12	4.17	1	4.4	1.05	.21	12/04/96 22:02
CR-A152202	K042-14	10.06	4	20.7	5.04	1.01	12/04/96 22:06
CR-A152204	K042-16	7.30	2	6.9	2.15	.43	12/04/96 22:14
CR-A152302	K042-18	12.01	4	20.5	5.03	1.01	12/04/96 22:18
CR-A152304	K042-20	7.47	2	8.6	2.19	.44	12/04/96 22:35
CR-A152402	K042-26	11.36	2	20.8	2.53	.51	12/04/96 22:43
CR-A152404	K042-28	10.15	5	9.7	5.54	1.11	12/04/96 20:29
CR-A152404	K042-28M	10.18	4	9.7	4.43	.89	12/04/96 21:03
CR-A152404	K042-28S	10.00	4	9.7	4.43	.89	12/04/96 21:15
MBLK1S	GFK006SB	ND	1	NA	1	.2	12/04/96 20:16
LCS1S	GFK006SL	1.05	1	NA	1	.2	12/04/96 20:20
LCD1S	GFK006SC	1.08	1	NA	1	.2	12/04/96 20:25

POL: Practical Quantitation Limit
CAL REF: G06L003-21, for GFK006SB, L and C
G06L003-45, for K047-06 to 18
G06L003-57, for K047-20 and 26
AFCEE Ver. 1.1

EPA 3020A/7520
NICKEL BY GFAA

CLIENT:	JACOBS ENGINEERING GROUP	DATE COLLECTED:	11/08/96
PROJECT:	CARSWELL AFB / 05G47900	DATE RECEIVED:	11/09/96
BATCH NO.:	96K042	DATE EXTRACTED:	11/20/96 15:00
MATRIX:	WATER	INSTRUMENT ID:	GFAA #6
CAL REF:	G06L003-9	PREP BATCH:	GFK007W

SAMPLE ID	CONTROL NO	RESULT (mg/L)	DILUTION FACTOR	PQL (mg/L)	MDL (mg/L)	ANALYZED DATETIME
CR-A152307	K042-23	ND	1	.01	.002	12/04/96 20:00
MBLK1W	GFK007WB	ND	1	.01	.002	12/04/96 19:10
LCS1W	GFK007WL	0.0098	1	.01	.002	12/04/96 19:14
LCD1W	GFK007WC	0.0099	1	.01	.002	12/04/96 19:18

PQL: Practical Quantitation Limit
CAL REF: G06L003-21, for K042-23
AFCEE Ver. 1.1

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

SELENIUM BY GFAA

SDG#: 96K042

DECEMBER 10, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K042

SELENIUM BY GFAA

Twelve (12) soil and one (1) water samples were received on 11/09/96 to be analyzed for Selenium by GFAA method 7740 in accordance with USEPA SW846 (1994,9).

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   Preparation blanks were free of contamination.

3. **Matrix Spike/Matrix Spike Duplicate**

   MS recovery in water and soil were within QC limits.

4. **Lab Control Sample/Lab Control Sample Duplicate**

   All lab control results were within the QC limits.

5. **Calibration**

   All initial and continuing calibration results were within QC criteria.

6. **Sample Analyses**

   Sample analyses met QC requirements.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EPA 3050A/7740
SELENIUM BY GFAA

CLIENT:	JACOBS ENGINEERING GROUP	DATE COLLECTED:	11/08/96
PROJECT:	CARSWELL AFB / 05G47900	DATE RECEIVED:	11/09/96
BATCH NO.:	96K042	DATE EXTRACTED:	11/20/96 18:00
MATRIX:	SOIL	INSTRUMENT ID:	GFAA #6
CAL REF:	G06L005-34	PREP BATCH:	GFK006S

SAMPLE ID	CONTROL NO	RESULT (mg/kg)	DL FACTOR	MOIST (%)	PQL (mg/kg)	MDL (mg/kg)	ANALYZED DATETIME
CR-A151902	K042-02	0.27F	1	22.3	.64	.14	12/06/96 15:07
CR-A151904	K042-04	ND	1	12.1	.57	.13	12/06/96 15:11
CR-A152002	K042-06	0.41F	1	22.1	.64	.14	12/06/96 15:15
CR-A152004	K042-08	ND	1	11.3	.56	.12	12/06/96 15:18
CR-A152102	K042-10	0.31F	1	19.4	.62	.14	12/06/96 15:22
CR-A152104	K042-12	ND	1	4.4	.52	.12	12/06/96 15:26
CR-A152202	K042-14	0.27F	1	20.7	.63	.14	12/06/96 15:38
CR-A152204	K042-16	0.15F	1	6.9	.54	.12	12/06/96 15:41
CR-A152302	K042-18	ND	1	20.5	.63	.14	12/06/96 15:45
CR-A152304	K042-20	ND	1	8.6	.55	.12	12/06/96 15:49
CR-A152402	K042-26	ND	1	20.8	.63	.14	12/06/96 15:52
CR-A152404	K042-28	ND	1	9.7	.55	.12	12/06/96 14:40
CR-A152404	K042-28M	1.88	1	9.7	.55	.12	12/06/96 14:59
CR-A152404	K042-28S	1.87	1	9.7	.55	.12	12/06/96 15:03
MBLK1S	GFK006SB	ND	1	NA	.5	.11	12/06/96 14:24
LCS1S	GFK006SL	2.45	1	NA	.5	.11	12/06/96 14:28
LCD1S	GFK006SC	2.47	1	NA	.5	.11	12/06/96 14:36

PQL: Practical Quantitation Limit
F : Estimated value
CAL REF: G06L005-22, for K042-28, GFK006SB, L and C
G06L005-46, for K042-14 to 26
AFCEE Ver. 1.1

PA 3020A/7740
SELENIUM BY GFAA

CLIENT:	JACOBS ENGINEERING GROUP	DATE COLLECTED:	11/08/96
PROJECT:	CARSWELL AFB / 05G47900	DATE RECEIVED:	11/09/96
BATCH NO.:	96K042	DATE EXTRACTED:	11/20/96 19:00
MATRIX:	WATER	INSTRUMENT ID:	GFAA #6
CAL REF:	G06L005-10	PREP BATCH:	GFK007W

SAMPLE ID	CONTROL NO	RESULT (mg/L)	DILUTION FACTOR	POL (mg/L)	MDL (mg/L)	ANALYZED DATETIME
CR-A152307	K042-23	ND	1	.005	.0011	12/06/96 14:05
MBLK1W	GFK007WB	ND	1	.005	.0011	12/06/96 13:20
LCS1W	GFK007WL	0.0229	1	.005	.0011	12/06/96 13:24
LCD1W	GFK007WC	0.0234	1	.005	.0011	12/06/96 13:28

POL: Practical Quantitation Limit
CAL REF: G06L005-22, for K042-23
AFCEE Ver. 1.1

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

SILVER BY GFAA

SDG#: 96K042

DECEMBER 10, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K042

SILVER BY GFAA

Twelve (12) soil and one (1) water samples were received on 11/09/96 to be analyzed for Silver by GFAA method 7760 in accordance with USEPA SW846 (1994,9).

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   Preparation blanks were free of contamination.

3. **Matrix Spike/Matrix Spike Duplicate**

   MS recovery in water and soil were within QC limits.

4. **Lab Control Sample/Lab Control Sample Duplicate**

   All lab control results were within the QC limits.

5. **Calibration**

   All initial and continuing calibration results were within QC criteria.

6. **Sample Analyses**

   Sample analyses met QC requirements.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EPA 3050A/7760
SILVER BY GFAA

CLIENT:	JACOBS ENGINEERING GROUP	DATE COLLECTED:	11/08/96
PROJECT:	CARSWELL AFB / 05G47900	DATE RECEIVED:	11/09/96
BATCH NO.:	96K042	DATE EXTRACTED:	11/20/96 18:00
MATRIX:	SOIL	INSTRUMENT ID:	GFAA #3
CAL REF:	G03L006-33	PREP BATCH:	GFK006S

SAMPLE ID	CONTROL NO	RESULT (mg/kg)	DL FACTOR	MOIST (%)	PQL (mg/kg)	MDL (mg/kg)	ANALYZED DATETIME
CR-A151902	K042-02	.110F	1	22.3	.13	.026	12/04/96 19:55
CR-A151904	K042-04	.075F	1	12.1	.11	.023	12/04/96 19:58
CR-A152002	K042-06	.081F	1	22.1	.13	.026	12/04/96 20:02
CR-A152004	K042-08	ND	1	11.3	.11	.023	12/04/96 20:05
CR-A152102	K042-10	.073F	1	19.4	.12	.025	12/04/96 20:08
CR-A152104	K042-12	ND	1	4.4	.1	.021	12/04/96 20:11
CR-A152202	K042-14	ND	1	20.7	.13	.025	12/04/96 20:14
CR-A152204	K042-16	ND	1	6.9	.11	.021	12/04/96 20:18
CR-A152302	K042-18	.094F	1	20.5	.13	.025	12/04/96 20:27
CR-A152304	K042-20	ND	1	8.6	.11	.022	12/04/96 20:30
CR-A152402	K042-26	.073F	1	20.8	.13	.025	12/04/96 20:34
CR-A152404	K042-28	ND	1	9.7	.11	.022	12/04/96 19:32
CR-A152404	K042-28M	.280	1	9.7	.11	.022	12/04/96 19:48
CR-A152404	K042-28S	.246	1	9.7	.11	.022	12/04/96 19:52
MBLK1S	GFK006SB	ND	1	NA	.1	.02	12/04/96 19:22
LCS1S	GFK006SL	.210	1	NA	.1	.02	12/04/96 19:25
LCD1S	GFK006SC	.221	1	NA	.1	.02	12/04/96 19:28

PQL: Practical Quantitation Limit
F : Estimated value
CAL REF : G03L006-21, for GFL006SB, L and C
G03L006-45, for K042-18, 20 and 26
AFCEE Ver. 1.1

PA 3020A/7760
SILVER BY GFAA

CLIENT:	JACOBS ENGINEERING GROUP	DATE COLLECTED:	11/08/96
PROJECT:	CARSWELL AFB / 05G47900	DATE RECEIVED:	11/09/96
BATCH NO.:	96K042	DATE EXTRACTED:	11/20/96 19:00
MATRIX:	WATER	INSTRUMENT ID:	GFAA #3
CAL REF:	G03L006-9	PREP BATCH:	GFK007W

SAMPLE ID	CONTROL NO	RESULT (mg/L)	DILUTION FACTOR	PQL (mg/L)	MDL (mg/L)	ANALYZED DATETIME
CR-A152307	K042-23	ND	1	.001	.0002	12/04/96 19:09
MBLK1W	GFK007WB	ND	1	.001	.0002	12/04/96 18:31
LCS1W	GFK007WL	.00219	1	.001	.0002	12/04/96 18:34
LCD1W	GFK007WC	.00224	1	.001	.0002	12/04/96 18:37

PQL: Practical Quantitation Limit
CAL REF: G03L006-21, for K042-23
AFCEE Ver. 1.1

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

VOLATILES

SDG#: 96K042

DECEMBER 11, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K042

SW 5030A/8240B
VOLATILES

Twelve (12) soil and one (1) water samples were received on 11/09/96 to be analyzed for volatile organics by Method 8240B in accordance with USEPA SW846 (1994).

1. Holding Time

   Analytical holding time was met.

2. Surrogate Recovery

   Recoveries were within QC limits except sample K042-01, 09 and 25. Upon reanalysis, surrogates were still out. Both results were submitted.

3. Matrix Spike/Matrix Spike Duplicate

   No MS was designated.

4. Laboratory Control Sample/Laboratory Control Sample Duplicate

   All recoveries and RPDs were within QC limits.

5. Method Blank

   Method blanks were free of contamination.

6. Tuning and Calibration

   Tuning and calibration were carried out at 12 hour interval. All QC requirements were met.

7. Sample Analysis

   All sample analyses met QC requirements.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

LAB CHRONICLE 11-13-199612:07:0

Method: EPA 8240
Client: Jacobs Engineering Group

Project: Carswell AFB / 05G47900
SDG/Batch No.: 96K042
Matrix: Soil

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A151901	K042-01	20.3	KP230	11/19		
CR-A151903	K042-03	16.9	231			
CR-A152001	K042-05	22.0	232			
CR-A152003	K042-07	8.0	233			
CR-A152101	K042-09	18.9	234			
CR-A152103	K042-11	5.9	235			
CR-A152201	K042-13	18.6	236	11/20		
CR-A152203	K042-15	11.2	237	11/19		
CR-A152301	K042-17	18.6	238			
CR-A152303	K042-19	8.7	239			
CR-A152401	K042-25	19.7	240			
CR-A152403	K042-27	11.0	241			
	K042-01R		242			
	K042-09R		243			
	VOK 1202B		KP227			
	1202L		KP242			
	1202C		KP243			
	K042-25R		KP256	11/20		
	VOK 1302B		KP252			
	1302L		253			
	1302C		254			

LAB CHRONICLE 11-13-199612:07:0

Method: EPA 8240
Client: Jacobs Engineering Group
JECT: Carswell AFB / 05G47900
/Batch No.: 96K042
Matrix: Water

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A152305	K042-21	NA	KP 211	11/18		
CR-A152308	K042-24	NA	212			
	VOK1102B		KP208			
	1102L		KP209			
	1102C		KP210			

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/19/96 11:4[illegible]
Sample ID	: CR-A151901	DaTime Analyzd :	11/19/96 11:43
Lab Cnt NO.	: K042-01	Dilutn Factor :	1
Lab File ID	: RKP230	Matrix :	SOIL
Ext Btch ID	: VOK1202	% Moisture :	20.3
Calib. Ref.	: RKP226	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.27	.669
1,1,2,2-Tetrachloroethane	ND	6.27	1.04
1,1,2-Trichloroethane	ND	6.27	1.06
1,1-Dichloroethane	ND	6.27	.532
1,1-Dichloroethene	ND	6.27	.655
1,2,3-Trichloropropane	ND	62.7	1.91
1,2-Dichloroethane	ND	6.27	.373
1,2-Dichloropropane	ND	6.27	1.2
2-Butanone	ND	125	2.84
2-Chloroethyl Vinyl Ether	ND	12.5	1.25
2-Hexanone	ND	62.7	1.66
4-Methyl-2-Pentanone	ND	62.7	1.96
Acetone	ND	125	5.62
Benzene	ND	6.27	.509
Bromodichloromethane	ND	6.27	.482
Bromoform	ND	6.27	.719
Bromomethane	ND	12.5	1.54
Carbon Disulfide	ND	6.27	.617
Carbon Tetrachloride	ND	6.27	.494
Chlorobenzene	ND	6.27	.55
Chloroethane	ND	12.5	1.1[illegible]
Chloroform	ND	6.27	.5[illegible]
Chloromethane	ND	12.5	1.17
Cis-1,2-Dichloroethene	ND	6.27	.586
Cis-1,3-Dichloropropene	ND	6.27	.502
Dibromochloromethane	ND	6.27	.484
Ethylbenzene	ND	6.27	.678
Methylene Chloride	ND	6.27	3.12
m/p-Xylenes	ND	12.5	.866
o-Xylene	ND	6.27	.478
Styrene	ND	6.27	.598
Tetrachloroethylene	ND	6.27	.393
Toluene	.654F	6.27	.507
Trans-1,2-Dichloroethene	ND	6.27	.478
Trans-1,3-Dichloropropene	ND	6.27	.438
Trichloroethene	ND	6.27	.59
Vinyl Acetate	ND	62.7	1.03
Vinyl Chloride	ND	12.5	1.58

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	89	79-118
Bromofluorobenzene	83*	86-115
Toluene-d8	106	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/19/96 17:24
Sample ID	: CR-A151901RE	DaTime Analyzd :	11/19/96 17:24
Lab Cnt NO.:	K042-01R	Dilutn Factor :	1
Lab File ID:	RKP242	Matrix :	SOIL
Ext Btch ID:	VOK1202	% Moisture :	20.3
Calib. Ref.:	RKP226	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.27	.669
1,1,2,2-Tetrachloroethane	ND	6.27	1.04
1,1,2-Trichloroethane	ND	6.27	1.06
1,1-Dichloroethane	ND	6.27	.532
1,1-Dichloroethene	ND	6.27	.655
1,2,3-Trichloropropane	ND	62.7	1.91
1,2-Dichloroethane	ND	6.27	.373
1,2-Dichloropropane	ND	6.27	1.2
2-Butanone	ND	125	2.84
2-Chloroethyl Vinyl Ether	ND	12.5	1.25
2-Hexanone	ND	62.7	1.66
4-Methyl-2-Pentanone	ND	62.7	1.96
Acetone	ND	125	5.62
Benzene	ND	6.27	.509
Bromodichloromethane	ND	6.27	.482
Bromoform	ND	6.27	.719
Bromomethane	ND	12.5	1.54
Carbon Disulfide	ND	6.27	.617
Carbon Tetrachloride	ND	6.27	.494
Chlorobenzene	ND	6.27	.55
Chloroethane	ND	12.5	1.15
Chloroform	ND	6.27	.57
Chloromethane	ND	12.5	1.17
Cis-1,2-Dichloroethene	ND	6.27	.586
Cis-1,3-Dichloropropene	ND	6.27	.502
Dibromochloromethane	ND	6.27	.484
Ethylbenzene	ND	6.27	.678
Methylene Chloride	ND	6.27	3.12
m/p-Xylenes	ND	12.5	.866
o-Xylene	ND	6.27	.478
Styrene	ND	6.27	.598
Tetrachloroethylene	ND	6.27	.393
Toluene	ND	6.27	.507
Trans-1,2-Dichloroethene	ND	6.27	.478
Trans-1,3-Dichloropropene	ND	6.27	.438
Trichloroethene	ND	6.27	.59
Vinyl Acetate	ND	62.7	1.03
Vinyl Chloride	ND	12.5	1.58

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	99	79-118
Bromofluorobenzene	89	86-115
Toluene-d8	115*	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/19/96 12:1[illegible]
Sample ID	: CR-A151903	DaTime Analyzd :	11/19/96 12:10
Lab Cnt NO.	: K042-03	Dilutn Factor :	1
Lab File ID	: RKP231	Matrix :	SOIL
Ext Btch ID	: VOK1202	% Moisture :	16.9
Calib. Ref.	: RKP226	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.02	.641
1,1,2,2-Tetrachloroethane	ND	6.02	.999
1,1,2-Trichloroethane	ND	6.02	1.02
1,1-Dichloroethane	ND	6.02	.51
1,1-Dichloroethene	ND	6.02	.628
1,2,3-Trichloropropane	ND	60.2	1.83
1,2-Dichloroethane	ND	6.02	.357
1,2-Dichloropropane	ND	6.02	1.16
2-Butanone	ND	120	2.72
2-Chloroethyl Vinyl Ether	ND	12	1.2
2-Hexanone	ND	60.2	1.59
4-Methyl-2-Pentanone	ND	60.2	1.88
Acetone	ND	120	5.39
Benzene	ND	6.02	.489
Bromodichloromethane	ND	6.02	.462
Bromoform	ND	6.02	.69
Bromomethane	ND	12	1.48
Carbon Disulfide	ND	6.02	.592
Carbon Tetrachloride	ND	6.02	.474
Chlorobenzene	ND	6.02	.527
Chloroethane	ND	12	1.1[illegible]
Chloroform	ND	6.02	.546
Chloromethane	ND	12	1.12
Cis-1,2-Dichloroethene	ND	6.02	.562
Cis-1,3-Dichloropropene	ND	6.02	.481
Dibromochloromethane	ND	6.02	.465
Ethylbenzene	ND	6.02	.65
Methylene Chloride	ND	6.02	3
m/p-Xylenes	ND	12	.83
o-Xylene	ND	6.02	.458
Styrene	ND	6.02	.574
Tetrachloroethylene	ND	6.02	.377
Toluene	ND	6.02	.486
Trans-1,2-Dichloroethene	ND	6.02	.458
Trans-1,3-Dichloropropene	ND	6.02	.42
Trichloroethene	ND	6.02	.566
Vinyl Acetate	ND	60.2	.983
Vinyl Chloride	ND	12	1.52

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	95	79-118
Bromofluorobenzene	90	86-115
Toluene-d8	104	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/19/96 12:38
Sample ID	: CR-A152001	DaTime Analyzd :	11/19/96 12:38
Lab Cnt NO.	: K042-05	Dilutn Factor :	1
Lab File ID	: RKP232	Matrix :	SOIL
Ext Btch ID	: VOK1202	% Moisture :	22.0
Calib. Ref.	: RKP226	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.41	.683
1,1,2,2-Tetrachloroethane	ND	6.41	1.06
1,1,2-Trichloroethane	ND	6.41	1.08
1,1-Dichloroethane	ND	6.41	.544
1,1-Dichloroethene	ND	6.41	.669
1,2,3-Trichloropropane	ND	64.1	1.95
1,2-Dichloroethane	ND	6.41	.381
1,2-Dichloropropane	ND	6.41	1.23
2-Butanone	ND	128	2.9
2-Chloroethyl Vinyl Ether	ND	12.8	1.27
2-Hexanone	ND	64.1	1.69
4-Methyl-2-Pentanone	ND	64.1	2
Acetone	ND	128	5.75
Benzene	ND	6.41	.521
Bromodichloromethane	ND	6.41	.492
Bromoform	ND	6.41	.735
Bromomethane	ND	12.8	1.57
Carbon Disulfide	ND	6.41	.631
Carbon Tetrachloride	ND	6.41	.505
Chlorobenzene	ND	6.41	.562
Chloroethane	ND	12.8	1.18
Chloroform	ND	6.41	.582
Chloromethane	ND	12.8	1.2
Cis-1,2-Dichloroethene	ND	6.41	.599
Cis-1,3-Dichloropropene	ND	6.41	.513
Dibromochloromethane	ND	6.41	.495
Ethylbenzene	ND	6.41	.692
Methylene Chloride	ND	6.41	3.19
m/p-Xylenes	ND	12.8	.885
o-Xylene	ND	6.41	.488
Styrene	ND	6.41	.612
Tetrachloroethylene	ND	6.41	.401
Toluene	.802F	6.41	.518
Trans-1,2-Dichloroethene	ND	6.41	.488
Trans-1,3-Dichloropropene	ND	6.41	.447
Trichloroethene	ND	6.41	.603
Vinyl Acetate	ND	64.1	1.05
Vinyl Chloride	ND	12.8	1.62

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	96	79-118
Bromofluorobenzene	89	86-115
Toluene-d8	105	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/19/96 13:0
Sample ID	: CR-A152003	DaTime Analyzd :	11/19/96 13:05
Lab Cnt NO.	: K042-07	Dilutn Factor :	1
Lab File ID	: RKP233	Matrix :	SOIL
Ext Btch ID	: VOK1202	% Moisture :	8.0
Calib. Ref.	: RKP226	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.43	.579
1,1,2,2-Tetrachloroethane	ND	5.43	.902
1,1,2-Trichloroethane	ND	5.43	.918
1,1-Dichloroethane	ND	5.43	.461
1,1-Dichloroethene	ND	5.43	.567
1,2,3-Trichloropropane	ND	54.3	1.65
1,2-Dichloroethane	ND	5.43	.323
1,2-Dichloropropane	ND	5.43	1.04
2-Butanone	ND	109	2.46
2-Chloroethyl Vinyl Ether	ND	10.9	1.08
2-Hexanone	ND	54.3	1.44
4-Methyl-2-Pentanone	ND	54.3	1.7
Acetone	ND	109	4.87
Benzene	ND	5.43	.441
Bromodichloromethane	ND	5.43	.417
Bromoform	ND	5.43	.623
Bromomethane	ND	10.9	1.33
Carbon Disulfide	ND	5.43	.535
Carbon Tetrachloride	ND	5.43	.428
Chlorobenzene	ND	5.43	.476
Chloroethane	ND	10.9	.99
Chloroform	ND	5.43	.493
Chloromethane	ND	10.9	1.01
Cis-1,2-Dichloroethene	ND	5.43	.508
Cis-1,3-Dichloropropene	ND	5.43	.435
Dibromochloromethane	ND	5.43	.42
Ethylbenzene	ND	5.43	.587
Methylene Chloride	ND	5.43	2.71
m/p-Xylenes	ND	10.9	.75
o-Xylene	ND	5.43	.414
Styrene	ND	5.43	.518
Tetrachloroethylene	ND	5.43	.34
Toluene	ND	5.43	.439
Trans-1,2-Dichloroethene	ND	5.43	.414
Trans-1,3-Dichloropropene	ND	5.43	.379
Trichloroethene	ND	5.43	.511
Vinyl Acetate	ND	54.3	.888
Vinyl Chloride	ND	10.9	1.37

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	96	79-118
Bromofluorobenzene	94	86-115
Toluene-d8	105	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/19/96 13:32
Sample ID	: CR-A152101	DaTime Analyzd :	11/19/96 13:32
Lab Cnt NO.	: K042-09	Dilutn Factor :	1
Lab File ID	: RKP234	Matrix :	SOIL
Ext Btch ID	: VOK1202	% Moisture :	18.9
Calib. Ref.	: RKP226	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.17	.657
1,1,2,2-Tetrachloroethane	ND	6.17	1.02
1,1,2-Trichloroethane	ND	6.17	1.04
1,1-Dichloroethane	ND	6.17	.523
1,1-Dichloroethene	ND	6.17	.644
1,2,3-Trichloropropane	ND	61.7	1.88
1,2-Dichloroethane	ND	6.17	.366
1,2-Dichloropropane	ND	6.17	1.18
2-Butanone	ND	123	2.79
2-Chloroethyl Vinyl Ether	ND	12.3	1.23
2-Hexanone	ND	61.7	1.63
4-Methyl-2-Pentanone	ND	61.7	1.92
Acetone	ND	123	5.53
Benzene	ND	6.17	.501
Bromodichloromethane	ND	6.17	.473
Bromoform	ND	6.17	.707
Bromomethane	ND	12.3	1.51
Carbon Disulfide	ND	6.17	.607
Carbon Tetrachloride	ND	6.17	.486
Chlorobenzene	ND	6.17	.54
Chloroethane	ND	12.3	1.13
Chloroform	ND	6.17	.56
Chloromethane	ND	12.3	1.15
Cis-1,2-Dichloroethene	ND	6.17	.576
Cis-1,3-Dichloropropene	ND	6.17	.493
Dibromochloromethane	ND	6.17	.476
Ethylbenzene	ND	6.17	.666
Methylene Chloride	ND	6.17	3.07
m/p-Xylenes	ND	12.3	.851
o-Xylene	ND	6.17	.47
Styrene	ND	6.17	.588
Tetrachloroethylene	ND	6.17	.386
Toluene	.783F	6.17	.498
Trans-1,2-Dichloroethene	ND	6.17	.47
Trans-1,3-Dichloropropene	ND	6.17	.43
Trichloroethene	ND	6.17	.58
Vinyl Acetate	ND	61.7	1.01
Vinyl Chloride	ND	12.3	1.56

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	97	79-118
Bromofluorobenzene	80*	86-115
Toluene-d8	112*	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted	: 11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received	: 11/09/96
Batch No.	: 96K042	DaTime Extrctd	: 11/19/96 17
Sample ID	: CR-A152101RE	DaTime Analyzd	: 11/19/96 17
Lab Cnt NO.	: K042-09R	Dilutn Factor	: 1
Lab File ID	: RKP243	Matrix	: SOIL
Ext.Btch ID	: VOK1202	% Moisture	: 18.9
Calib. Ref.	: RKP226	Instrument ID	: MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.17	.657
1,1,2,2-Tetrachloroethane	ND	6.17	1.02
1,1,2-Trichloroethane	ND	6.17	1.04
1,1-Dichloroethane	ND	6.17	.523
1,1-Dichloroethene	ND	6.17	.644
1,2,3-Trichloropropane	ND	61.7	1.88
1,2-Dichloroethane	ND	6.17	.366
1,2-Dichloropropane	ND	6.17	1.18
2-Butanone	ND	123	2.79
2-Chloroethyl Vinyl Ether	ND	12.3	1.23
2-Hexanone	ND	61.7	1.63
4-Methyl-2-Pentanone	ND	61.7	1.92
Acetone	ND	123	5.53
Benzene	ND	6.17	.501
Bromodichloromethane	ND	6.17	.473
Bromoform	ND	6.17	.707
Bromomethane	ND	12.3	1.51
Carbon Disulfide	ND	6.17	.607
Carbon Tetrachloride	ND	6.17	.486
Chlorobenzene	ND	6.17	.54
Chloroethane	ND	12.3	1.13
Chloroform	ND	6.17	.56
Chloromethane	ND	12.3	1.15
Cis-1,2-Dichloroethene	ND	6.17	.576
Cis-1,3-Dichloropropene	ND	6.17	.493
Dibromochloromethane	ND	6.17	.476
Ethylbenzene	ND	6.17	[illegible]
Methylene Chloride	ND	6.17	3[illegible]
m/p-Xylenes	ND	12.3	.8[illegible]
o-Xylene	ND	6.17	.47
Styrene	ND	6.17	.588
Tetrachloroethylene	ND	6.17	.386
Toluene	ND	6.17	.498
Trans-1,2-Dichloroethene	ND	6.17	.47
Trans-1,3-Dichloropropene	ND	6.17	.43
Trichloroethene	ND	6.17	.58
Vinyl Acetate	ND	61.7	1.01
Vinyl Chloride	ND	12.3	1.56

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	93	79-118
Bromofluorobenzene	85	86-115
Toluene-d8	114*	88-110

POL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/19/96 14:00
Sample ID	: CR-A152103	DaTime Analyzd :	11/19/96 14:00
Lab Cnt NO.	: K042-11	Dilutn Factor :	1
Lab File ID	: RKP235	Matrix :	SOIL
Ext Btch ID	: VOK1202	% Moisture :	5.9
Calib. Ref.	: RKP226	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.31	.566
1,1,2,2-Tetrachloroethane	ND	5.31	.882
1,1,2-Trichloroethane	ND	5.31	.898
1,1-Dichloroethane	ND	5.31	.451
1,1-Dichloroethene	ND	5.31	.555
1,2,3-Trichloropropane	ND	53.1	1.62
1,2-Dichloroethane	ND	5.31	.316
1,2-Dichloropropane	ND	5.31	1.02
2-Butanone	3.37F	106	2.4
2-Chloroethyl Vinyl Ether	ND	10.6	1.06
2-Hexanone	ND	53.1	1.4
4-Methyl-2-Pentanone	ND	53.1	1.66
Acetone	8.3F	106	4.76
Benzene	ND	5.31	.431
Bromodichloromethane	ND	5.31	.408
Bromoform	ND	5.31	.609
Bromomethane	ND	10.6	1.3
Carbon Disulfide	ND	5.31	.523
Carbon Tetrachloride	ND	5.31	.419
Chlorobenzene	ND	5.31	.465
Chloroethane	ND	10.6	.977
Chloroform	ND	5.31	.482
Chloromethane	ND	10.6	.991
Cis-1,2-Dichloroethene	ND	5.31	.496
Cis-1,3-Dichloropropene	ND	5.31	.425
Dibromochloromethane	ND	5.31	.41
Ethylbenzene	ND	5.31	.574
Methylene Chloride	ND	5.31	2.65
m/p-Xylenes	ND	10.6	.733
o-Xylene	ND	5.31	.405
Styrene	ND	5.31	.507
Tetrachloroethylene	ND	5.31	.333
Toluene	ND	5.31	.429
Trans-1,2-Dichloroethene	ND	5.31	.405
Trans-1,3-Dichloropropene	ND	5.31	.371
Trichloroethene	ND	5.31	.499
Vinyl Acetate	ND	53.1	.868
Vinyl Chloride	ND	10.6	1.34

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	99	79-118
Bromofluorobenzene	88	86-115
Toluene-d8	106	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted	: 11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received	: 11/09/96
Batch No.	: 96K042	DaTime Extrctd	: 11/20/96 10:1[illegible]
Sample ID	: CR-A152201	DaTime Analyzd	: 11/20/96 10:17
Lab Cnt NO.	: K042-13	Dilutn Factor	: 1
Lab File ID	: RKP255	Matrix	: SOIL
Ext Btch ID	: VOK1302	% Moisture	: 18.6
Calib. Ref.	: RKP251	Instrument ID	: MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.14	.655
1,1,2,2-Tetrachloroethane	ND	6.14	1.02
1,1,2-Trichloroethane	ND	6.14	1.04
1,1-Dichloroethane	ND	6.14	.521
1,1-Dichloroethene	ND	6.14	.641
1,2,3-Trichloropropane	ND	61.4	1.87
1,2-Dichloroethane	ND	6.14	.365
1,2-Dichloropropane	ND	6.14	1.18
2-Butanone	ND	123	2.78
2-Chloroethyl Vinyl Ether	ND	12.3	1.22
2-Hexanone	ND	61.4	1.62
4-Methyl-2-Pentanone	ND	61.4	1.92
Acetone	ND	123	5.51
Benzene	ND	6.14	.499
Bromodichloromethane	ND	6.14	.472
Bromoform	ND	6.14	.704
Bromomethane	ND	12.3	1.51
Carbon Disulfide	ND	6.14	.604
Carbon Tetrachloride	ND	6.14	.484
Chlorobenzene	ND	6.14	.538
Chloroethane	ND	12.3	1.1[illegible]
Chloroform	ND	6.14	.558
Chloromethane	ND	12.3	1.15
Cis-1,2-Dichloroethene	ND	6.14	.574
Cis-1,3-Dichloropropene	ND	6.14	.491
Dibromochloromethane	ND	6.14	.474
Ethylbenzene	ND	6.14	.663
Methylene Chloride	3.1F	6.14	3.06
m/p-Xylenes	ND	12.3	.848
o-Xylene	ND	6.14	.468
Styrene	ND	6.14	.586
Tetrachloroethylene	ND	6.14	.385
Toluene	ND	6.14	.496
Trans-1,2-Dichloroethene	ND	6.14	.468
Trans-1,3-Dichloropropene	ND	6.14	.429
Trichloroethene	ND	6.14	.577
Vinyl Acetate	ND	61.4	1
Vinyl Chloride	ND	12.3	1.55

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	94	79-118
Bromofluorobenzene	91	86-115
Toluene-d8	102	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/19/96 14:57
Sample ID	: CR-A152203	DaTime Analyzd :	11/19/96 14:57
Lab Cnt NO.	: K042-15	Dilutn Factor :	1
Lab File ID	: RKP237	Matrix :	SOIL
Ext Btch ID	: VOK1202	% Moisture :	11.2
Calib. Ref.	: RKP226	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.63	.6
1,1,2,2-Tetrachloroethane	ND	5.63	.935
1,1,2-Trichloroethane	ND	5.63	.952
1,1-Dichloroethane	ND	5.63	.477
1,1-Dichloroethene	ND	5.63	.588
1,2,3-Trichloropropane	ND	56.3	1.71
1,2-Dichloroethane	ND	5.63	.334
1,2-Dichloropropane	ND	5.63	1.08
2-Butanone	ND	113	2.55
2-Chloroethyl Vinyl Ether	ND	11.3	1.12
2-Hexanone	ND	56.3	1.49
4-Methyl-2-Pentanone	ND	56.3	1.76
Acetone	ND	113	5.05
Benzene	ND	5.63	.457
Bromodichloromethane	ND	5.63	.432
Bromoform	ND	5.63	.645
Bromomethane	ND	11.3	1.38
Carbon Disulfide	ND	5.63	.554
Carbon Tetrachloride	ND	5.63	.444
Chlorobenzene	ND	5.63	.493
Chloroethane	ND	11.3	1.03
Chloroform	ND	5.63	.511
Chloromethane	ND	11.3	1.05
Cis-1,2-Dichloroethene	ND	5.63	.526
Cis-1,3-Dichloropropene	ND	5.63	.45
Dibromochloromethane	ND	5.63	.435
Ethylbenzene	ND	5.63	.608
Methylene Chloride	ND	5.63	2.8
m/p-Xylenes	ND	11.3	.777
o-Xylene	ND	5.63	.429
Styrene	ND	5.63	.537
Tetrachloroethylene	ND	5.63	.352
Toluene	ND	5.63	.455
Trans-1,2-Dichloroethene	ND	5.63	.429
Trans-1,3-Dichloropropene	ND	5.63	.393
Trichloroethene	ND	5.63	.529
Vinyl Acetate	ND	56.3	.92
Vinyl Chloride	ND	11.3	1.42

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	99	79-118
Bromofluorobenzene	93	86-115
Toluene-d8	102	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted	: 11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received	: 11/09/96
Batch No.	: 96K042	DaTime Extrctd	: 11/19/96 15:2
Sample ID	: CR-A152301	DaTime Analyzd	: 11/19/96 15:25
Lab Cnt NO.	: K042-17	Dilutn Factor	: 1
Lab File ID	: RKP238	Matrix	: SOIL
Ext Btch ID	: VOK1202	% Moisture	: 18.6
Calib. Ref.	: RKP226	Instrument ID	: MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.14	.655
1,1,2,2-Tetrachloroethane	ND	6.14	1.02
1,1,2-Trichloroethane	ND	6.14	1.04
1,1-Dichloroethane	ND	6.14	.521
1,1-Dichloroethene	ND	6.14	.641
1,2,3-Trichloropropane	ND	61.4	1.87
1,2-Dichloroethane	ND	6.14	.365
1,2-Dichloropropane	ND	6.14	1.18
2-Butanone	ND	123	2.78
2-Chloroethyl Vinyl Ether	ND	12.3	1.22
2-Hexanone	ND	61.4	1.62
4-Methyl-2-Pentanone	ND	61.4	1.92
Acetone	ND	123	5.51
Benzene	ND	6.14	.499
Bromodichloromethane	ND	6.14	.472
Bromoform	ND	6.14	.704
Bromomethane	ND	12.3	1.51
Carbon Disulfide	ND	6.14	.604
Carbon Tetrachloride	ND	6.14	.484
Chlorobenzene	ND	6.14	.538
Chloroethane	ND	12.3	1.1
Chloroform	ND	6.14	.55
Chloromethane	ND	12.3	1.15
Cis-1,2-Dichloroethene	ND	6.14	.574
Cis-1,3-Dichloropropene	ND	6.14	.491
Dibromochloromethane	ND	6.14	.474
Ethylbenzene	ND	6.14	.663
Methylene Chloride	ND	6.14	3.06
m/p-Xylenes	ND	12.3	.848
o-Xylene	ND	6.14	.468
Styrene	ND	6.14	.586
Tetrachloroethylene	ND	6.14	.385
Toluene	ND	6.14	.496
Trans-1,2-Dichloroethene	ND	6.14	.468
Trans-1,3-Dichloropropene	ND	6.14	.429
Trichloroethene	ND	6.14	.577
Vinyl Acetate	ND	61.4	1
Vinyl Chloride	ND	12.3	1.55

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	98	79-118
Bromofluorobenzene	94	86-115
Toluene-d8	108	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted	: 11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received	: 11/09/96
Batch No.	: 96K042	DaTime Extrctd	: 11/19/96 15:53
Sample ID	: CR-A152303	DaTime Analyzd	: 11/19/96 15:53
Lab Cnt NO.	: K042-19	Dilutn Factor	: 1
Lab File ID	: RKP239	Matrix	: SOIL
Ext Btch ID	: VOK1202	% Moisture	: 8.7
Calib. Ref.	: RKP226	Instrument ID	: MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.48	.584
1,1,2,2-Tetrachloroethane	ND	5.48	.909
1,1,2-Trichloroethane	ND	5.48	.926
1,1-Dichloroethane	ND	5.48	.464
1,1-Dichloroethene	ND	5.48	.572
1,2,3-Trichloropropane	ND	54.8	1.67
1,2-Dichloroethane	ND	5.48	.325
1,2-Dichloropropane	ND	5.48	1.05
2-Butanone	ND	110	2.48
2-Chloroethyl Vinyl Ether	ND	11	1.09
2-Hexanone	ND	54.8	1.45
4-Methyl-2-Pentanone	ND	54.8	1.71
Acetone	ND	110	4.91
Benzene	ND	5.48	.445
Bromodichloromethane	ND	5.48	.421
Bromoform	ND	5.48	.628
Bromomethane	ND	11	1.34
Carbon Disulfide	ND	5.48	.539
Carbon Tetrachloride	ND	5.48	.432
Chlorobenzene	ND	5.48	.48
Chloroethane	ND	11	1.01
Chloroform	ND	5.48	.497
Chloromethane	ND	11	1.02
Cis-1,2-Dichloroethene	ND	5.48	.512
Cis-1,3-Dichloropropene	ND	5.48	.438
Dibromochloromethane	ND	5.48	.423
Ethylbenzene	ND	5.48	.591
Methylene Chloride	ND	5.48	2.73
m/p-Xylenes	ND	11	.756
o-Xylene	ND	5.48	.417
Styrene	ND	5.48	.522
Tetrachloroethylene	ND	5.48	.343
Toluene	ND	5.48	.442
Trans-1,2-Dichloroethene	ND	5.48	.417
Trans-1,3-Dichloropropene	ND	5.48	.382
Trichloroethene	ND	5.48	.515
Vinyl Acetate	ND	54.8	.895
Vinyl Chloride	ND	11	1.38

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	97	79-118
Bromofluorobenzene	104	86-115
Toluene-d8	109	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/19/96 16:2
Sample ID	: CR-A152401	DaTime Analyzd :	11/19/96 16:29
Lab Cnt NO.	: K042-25	Dilutn Factor :	1
Lab File ID	: RKP240	Matrix :	SOIL
Ext Btch ID	: VOK1202	% Moisture :	19.7
Calib. Ref.	: RKP226	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.23	.664
1,1,2,2-Tetrachloroethane	ND	6.23	1.03
1,1,2-Trichloroethane	ND	6.23	1.05
1,1-Dichloroethane	ND	6.23	.528
1,1-Dichloroethene	ND	6.23	.65
1,2,3-Trichloropropane	ND	62.3	1.9
1,2-Dichloroethane	ND	6.23	.37
1,2-Dichloropropane	ND	6.23	1.2
2-Butanone	ND	125	2.82
2-Chloroethyl Vinyl Ether	ND	12.5	1.24
2-Hexanone	ND	62.3	1.65
4-Methyl-2-Pentanone	ND	62.3	1.94
Acetone	ND	125	5.58
Benzene	ND	6.23	.506
Bromodichloromethane	ND	6.23	.478
Bromoform	ND	6.23	.714
Bromomethane	ND	12.5	1.53
Carbon Disulfide	ND	6.23	.613
Carbon Tetrachloride	ND	6.23	.491
Chlorobenzene	ND	6.23	.545
Chloroethane	ND	12.5	1.1
Chloroform	ND	6.23	.56
Chloromethane	ND	12.5	1.16
Cis-1,2-Dichloroethene	ND	6.23	.582
Cis-1,3-Dichloropropene	ND	6.23	.498
Dibromochloromethane	ND	6.23	.481
Ethylbenzene	ND	6.23	.672
Methylene Chloride	ND	6.23	3.1
m/p-Xylenes	ND	12.5	.859
o-Xylene	ND	6.23	.474
Styrene	ND	6.23	.594
Tetrachloroethylene	ND	6.23	.39
Toluene	.685F	6.23	.503
Trans-1,2-Dichloroethene	ND	6.23	.474
Trans-1,3-Dichloropropene	ND	6.23	.435
Trichloroethene	ND	6.23	.585
Vinyl Acetate	ND	62.3	1.02
Vinyl Chloride	ND	12.5	1.57

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	98	79-118
Bromofluorobenzene	87	86-115
Toluene-d8	116*	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Btch No.	: 96K042	DaTime Extrctd :	11/20/96 10:45
Sample ID	: CR-A152401RE	DaTime Analyzd :	11/20/96 10:45
Lab Cnt NO.	: K042-25R	Dilutn Factor :	1
Lab File ID	: RKP256	Matrix :	SOIL
Ext Btch ID	: VOK1302	% Moisture :	19.7
Calib. Ref.	: RKP251	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	POL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.23	.664
1,1,2,2-Tetrachloroethane	ND	6.23	1.03
1,1,2-Trichloroethane	ND	6.23	1.05
1,1-Dichloroethane	ND	6.23	.528
1,1-Dichloroethene	ND	6.23	.65
1,2,3-Trichloropropane	ND	62.3	1.9
1,2-Dichloroethane	ND	6.23	.37
1,2-Dichloropropane	ND	6.23	1.2
2-Butanone	ND	125	2.82
2-Chloroethyl Vinyl Ether	ND	12.5	1.24
2-Hexanone	ND	62.3	1.65
4-Methyl-2-Pentanone	ND	62.3	1.94
Acetone	ND	125	5.58
Benzene	ND	6.23	.506
Bromodichloromethane	ND	6.23	.478
Bromoform	ND	6.23	.714
Bromomethane	ND	12.5	1.53
Carbon Disulfide	ND	6.23	.613
Carbon Tetrachloride	ND	6.23	.491
Chlorobenzene	ND	6.23	.545
Chloroethane	ND	12.5	1.14
Chloroform	ND	6.23	.565
Chloromethane	ND	12.5	1.16
Cis-1,2-Dichloroethene	ND	6.23	.582
Cis-1,3-Dichloropropene	ND	6.23	.498
Dibromochloromethane	ND	6.23	.481
Ethylbenzene	ND	6.23	.672
Methylene Chloride	ND	6.23	3.1
m/p-Xylenes	ND	12.5	.859
o-Xylene	ND	6.23	.474
Styrene	ND	6.23	.594
Tetrachloroethylene	ND	6.23	.39
Toluene	.951J	6.23	.503
Trans-1,2-Dichloroethene	ND	6.23	.474
Trans-1,3-Dichloropropene	ND	6.23	.435
Trichloroethene	ND	6.23	.585
Vinyl Acetate	ND	62.3	1.02
Vinyl Chloride	ND	12.5	1.57

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	94	79-118
Bromofluorobenzene	84*	86-115
Toluene-d8	111*	88-110

POL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/19/96 16:5
Sample ID	: CR-A152403	DaTime Analyzd :	11/19/96 16:56
Lab Cnt NO.	: K042-27	Dilutn Factor :	1
Lab File ID	: RKP241	Matrix :	SOIL
Ext Btch ID	: VOK1202	% Moisture :	11.0
Calib. Ref.	: RKP226	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.62	.599
1,1,2,2-Tetrachloroethane	ND	5.62	.933
1,1,2-Trichloroethane	ND	5.62	.949
1,1-Dichloroethane	ND	5.62	.476
1,1-Dichloroethene	ND	5.62	.587
1,2,3-Trichloropropane	ND	56.2	1.71
1,2-Dichloroethane	ND	5.62	.334
1,2-Dichloropropane	ND	5.62	1.08
2-Butanone	ND	112	2.54
2-Chloroethyl Vinyl Ether	ND	11.2	1.12
2-Hexanone	ND	56.2	1.49
4-Methyl-2-Pentanone	ND	56.2	1.75
Acetone	ND	112	5.04
Benzene	ND	5.62	.456
Bromodichloromethane	ND	5.62	.431
Bromoform	ND	5.62	.644
Bromomethane	ND	11.2	1.38
Carbon Disulfide	ND	5.62	.553
Carbon Tetrachloride	ND	5.62	.443
Chlorobenzene	ND	5.62	.492
Chloroethane	ND	11.2	1.0
Chloroform	ND	5.62	.51
Chloromethane	ND	11.2	1.05
Cis-1,2-Dichloroethene	ND	5.62	.525
Cis-1,3-Dichloropropene	ND	5.62	.449
Dibromochloromethane	ND	5.62	.434
Ethylbenzene	ND	5.62	.607
Methylene Chloride	ND	5.62	2.8
m/p-Xylenes	ND	11.2	.775
o-Xylene	ND	5.62	.428
Styrene	ND	5.62	.536
Tetrachloroethylene	ND	5.62	.352
Toluene	ND	5.62	.454
Trans-1,2-Dichloroethene	ND	5.62	.428
Trans-1,3-Dichloropropene	ND	5.62	.392
Trichloroethene	ND	5.62	.528
Vinyl Acetate	ND	56.2	.918
Vinyl Chloride	ND	11.2	1.42

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	97	79-118
Bromofluorobenzene	99	86-115
Toluene-d8	101	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted	: 11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received	: 11/09/96
Btch No.	: 96K042	DaTime Extrctd	: 11/18/96 18:52
Sample ID	: CR-A152305	DaTime Analyzd	: 11/18/96 18:52
Lab Cnt NO.	: K042-21	Dilutn Factor	: 1
Lab File ID	: RKP211	Matrix	: WATER
Ext Btch ID	: VOK1102	% Moisture	: NA
Calib. Ref.	: RKP207	Instrument ID	: MSVOA2

PARAMETERS	RESULTS (ug/L)	PQL (ug/L)	MDL (ug/L)
1,1,1-Trichloroethane	ND	5	.308
1,1,2,2-Tetrachloroethane	ND	5	.326
1,1,2-Trichloroethane	ND	5	.064
1,1-Dichloroethane	ND	5	.55
1,1-Dichloroethene	ND	5	.688
1,2,3-Trichloropropane	ND	5	1.52
1,2-Dichloroethane	ND	5	.327
1,2-Dichloropropane	ND	5	.822
2-Butanone	ND	100	1.3
2-Chloroethyl Vinyl Ether	ND	10	.387
2-Hexanone	ND	50	.962
4-Methyl-2-Pentanone	ND	50	1.88
Acetone	ND	100	2.18
Benzene	ND	5	.7
Bromodichloromethane	ND	5	.406
Bromoform	ND	5	.299
Bromomethane	ND	10	.721
Carbon Disulfide	ND	5	.474
Carbon Tetrachloride	ND	5	.398
Chlorobenzene	ND	5	.345
Chloroethane	ND	10	.71
Chloroform	ND	5	.441
Chloromethane	ND	10	1.16
Cis-1,2-Dichloroethene	ND	5	.402
Cis-1,3-Dichloropropene	ND	5	.327
Dibromochloromethane	ND	5	.317
Ethylbenzene	ND	5	.428
Methylene Chloride	7.47	5	.771
m/p-Xylenes	ND	10	.71
o-Xylene	ND	5	.26
Styrene	ND	5	.263
Tetrachloroethylene	ND	5	.32
Toluene	ND	5	.372
Trans-1,2-Dichloroethene	ND	5	.494
Trans-1,3-Dichloropropene	ND	5	.171
Trichloroethene	ND	5	.325
Vinyl Acetate	ND	50	.293
Vinyl Chloride	ND	10	.458

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	101	79-118
Bromofluorobenzene	110	86-115
Toluene-d8	104	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/18/96 19:[illegible]
Sample ID	: CR-A152308	DaTime Analyzd :	11/18/96 19:21
Lab Cnt NO.	: K042-24	Dilutn Factor :	1
Lab File ID	: RKP212	Matrix :	WATER
Ext Btch ID	: VOK1102	% Moisture :	NA
Calib. Ref.	: RKP207	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/L)	PQL (ug/L)	MDL (ug/L)
1,1,1-Trichloroethane	ND	5	.308
1,1,2,2-Tetrachloroethane	ND	5	.326
1,1,2-Trichloroethane	ND	5	.064
1,1-Dichloroethane	ND	5	.55
1,1-Dichloroethene	ND	5	.688
1,2,3-Trichloropropane	ND	5	1.52
1,2-Dichloroethane	ND	5	.327
1,2-Dichloropropane	ND	5	.822
2-Butanone	ND	100	1.3
2-Chloroethyl Vinyl Ether	ND	10	.387
2-Hexanone	ND	50	.962
4-Methyl-2-Pentanone	ND	50	1.88
Acetone	ND	100	2.18
Benzene	ND	5	.7
Bromodichloromethane	ND	5	.406
Bromoform	ND	5	.299
Bromomethane	ND	10	.721
Carbon Disulfide	ND	5	.474
Carbon Tetrachloride	ND	5	.398
Chlorobenzene	ND	5	.345
Chloroethane	ND	10	.7[illegible]
Chloroform	ND	5	.441
Chloromethane	ND	10	1.16
Cis-1,2-Dichloroethene	ND	5	.402
Cis-1,3-Dichloropropene	ND	5	.327
Dibromochloromethane	ND	5	.317
Ethylbenzene	ND	5	.428
Methylene Chloride	7.73	5	.771
m/p-Xylenes	ND	10	.71
o-Xylene	ND	5	.26
Styrene	ND	5	.263
Tetrachloroethylene	ND	5	.32
Toluene	ND	5	.372
Trans-1,2-Dichloroethene	ND	5	.494
Trans-1,3-Dichloropropene	ND	5	.171
Trichloroethene	ND	5	.325
Vinyl Acetate	ND	50	.293
Vinyl Chloride	ND	10	.458

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	105	79-118
Bromofluorobenzene	108	86-115
Toluene-d8	104	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

SEMIVOLATILES

SDG#: 96K042

DECEMBER 10, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K042

SEMIVOLATILES

Twelve (12) soil and one (1) water samples were received on 11/09/96 to be analyzed for semivolatile organics by Method 8270B in accordance with USEPA SW846 (1994).

1. Holding Time

   Analytical holding time was met.

2. Surrogate Recovery

   All surrogate recoveries were within QC limits.

3. Matrix Spike/Matrix Spike Duplicate

   K042-08 (soil) was spiked. All recoveries were within QC limits except low recoveries of 2-Chloronaphthalene in MS and Benzoic acid in MS and MSD. 4,6 Dinitro-2-Methylphenol and Dibenzo(a,h)anthracene had high recoveries in MSD.

4. Lab Control Sample/Lab Control Sample Duplicate

   All recoveries in LCS/LCSD for soil were within QC limits. Low recoveries of 2-Chloronaphthalene and Benzoic acid were found in SVK007WL and SVK007WC. Hexapentachlorodiene had low recovery in SVK007WL.

5. Method Blank

   Method blanks were free of contamination.

6. Tuning and Calibration

   Tuning and calibration were carried out at 12 hour interval. All QC requirements were met.

7. Sample Analysis

   Sample analyses were within QC requirements.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

LAB CHRONICLE 11-13-199612:07:0

Method: EPA 8270
Client: Jacobs Engineering Group

PROJECT: Carswell AFB / 05G47900
SDG/Batch No.: 96K042
Matrix: Soil

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A151902	K042-02	22.3	RLS033	11/11/96 / SVK004S	12/04/96 / RLS022	
CR-A151904	K042-04	12.1	023		12/03/96 / RLS022	
CR-A152002	K042-06	22.1	024			
CR-A152004	K042-08	11.3	025			
CR-A152102	K042-10	19.4	028			
CR-A152104	K042-12	4.4	019		12/03/96 / RLS015	
CR-A152202	K042-14	20.7	034		12/04/96 / RLS022	
CR-A152204	K042-16	6.9	020		12/03/96 / RLS015	
CR-A152302	K042-18	20.5	029		12/04/96 / RLS022	
CR-A152304	K042-20	8.6	030			
CR-A152402	K042-26	20.8	031			
CR-A152404	K042-28	9.7	032			
MBLK IS	SVK004SB		016		12/03/96 / RLS015	
LCS IS	SVK004SL		017			
LCD IS	SVK004SC		018			

LAB CHRONICLE 11-13-199612:07:0

Method: EPA 8270
Client: Jacobs Engineering Group

JECT: Carswell AFB / 05G47900
/Batch No.: 96K042
Matrix: Water

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A152306	K042-22	NA	RLS013	11/13/96 /SVK006W	12/03/96 /RLS002	
mBLK1W	SVK006WB		010	↓	↓	
LCS1W	SVK007WL		011			
LCD1W	SVK007WC		012			

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/11/96 14:30
Sample ID	: CR-A151902	DaTime Analyzd :	12/04/96 03:34
Lab Cnt NO.	: K042-02	Dilutn Factor :	1
Lab File ID	: RLS033	Matrix :	SOIL
Ext Btch ID	: SVK004S	% Moisture :	22.3
Calib. Ref.	: RLS022	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	901	133
1,2-Dichlorobenzene	ND	901	142
1,3-Dichlorobenzene	ND	901	103
1,4-Dichlorobenzene	ND	901	125
2,4,5-Trichlorophenol	ND	4250	127
2,4,6-Trichlorophenol	ND	386	148
2,4-Dichlorophenol	ND	386	97.8
2,4-Dimethylphenol	ND	386	115
2,4-Dinitrophenol	ND	4250	72.1
2,4-Dinitrotoluene	ND	901	148
2,6-Dinitrotoluene	ND	901	126
2-Chloronaphthalene	ND	901	120
2-Chlorophenol	ND	386	87.5
2-Methylnaphthalene	ND	901	131
2-Methylphenol	ND	386	124
2-Nitroaniline	ND	4250	1[illegible]
2-Nitrophenol	ND	386	1[illegible]
3,3'-Dichlorobenzidine	ND	1670	176
3-Nitroaniline	ND	4250	108
4,6-Dinitro-2-methylphenol	ND	4250	94
4-Bromophenyl phenyl ether	ND	901	134
4-Chloro-3-methylphenol	ND	1670	151
4-Chloroaniline	ND	1670	79.8
4-Chlorophenyl phenyl ether	ND	901	135
4-Methylphenol (1)	ND	386	87.5
4-Nitroaniline	ND	4250	112
4-Nitrophenol	ND	2060	7.21
Acenaphthene	ND	901	120
Acenaphthylene	ND	901	113
Anthracene	ND	901	133
Benzo(a)anthracene	ND	901	111
Benzo(a)pyrene	ND	901	117
Benzo(b)fluoranthene	ND	901	138
Benzo(k)fluoranthene	ND	901	129
Benzo(g,h,i)perylene	ND	901	120
Benzoic Acid	ND	2060	138
Benzyl alcohol	ND	1670	104
bis(2-Chloroethoxy)methane	ND	901	131

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Btch No.	: 96K042	DaTime Extrctd :	11/11/96 14:30
Sample ID	: CR-A151902	DaTime Analyzd :	12/04/96 03:34
Lab Cnt NO.:	K042-02	Dilutn Factor :	1
Lab File ID:	RLS033	Matrix :	SOIL
Ext Btch ID:	SVK004S	% Moisture :	22.3
Calib. Ref.:	RLS022	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	901	86.2
bis(2-Chloroisopropyl)ether	ND	901	116
bis(2-Ethylhexyl)phthalate	ND	901	126
Butylbenzylphthalate	ND	901	261
Chrysene	ND	901	129
Di-n-butylphthalate	ND	901	143
Di-n-octylphthalate	ND	901	116
Dibenzo(a,h)anthracene	ND	901	124
Dibenzofuran	ND	901	129
Diethylphthalate	ND	901	125
Dimethylphthalate	ND	901	138
Fluoranthene	ND	901	133
Fluorene	ND	901	112
Hexachlorobenzene	ND	901	144
Hexachlorobutadiene	ND	901	134
Hexachlorocyclopentadiene	ND	901	149
Hexachloroethane	ND	901	113
Indeno(1,2,3-cd)pyrene	ND	901	122
Isophorone	ND	901	120
n-Nitroso-di-n-propylamine	ND	901	147
n-Nitrosodiphenylamine (2)	ND	901	130
Naphthalene	ND	901	125
Nitrobenzene	ND	901	100
Pentachlorophenol	ND	4250	38.6
Phenanthrene	ND	901	130
Phenol	ND	386	100
Pyrene	ND	901	124

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	80	25-144
2-Fluorobiphenyl	69	34-135
2-Fluorophenol	66	25-135
Nitrobenzene-d5	73	25-135
Phenol-d5	76	25-135
Terphenyl-d14	57	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/11/96 14:30
Sample ID	: CR-A151904	DaTime Analyzd :	12/03/96 19:39
Lab Cnt NO.	: K042-04	Dilutn Factor :	1
Lab File ID	: RLS023	Matrix :	SOIL
Ext Btch ID	: SVK004S	% Moisture :	12.1
Calib. Ref.	: RLS022	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	796	117
1,2-Dichlorobenzene	ND	796	125
1,3-Dichlorobenzene	ND	796	91
1,4-Dichlorobenzene	ND	796	110
2,4,5-Trichlorophenol	ND	3750	113
2,4,6-Trichlorophenol	ND	341	131
2,4-Dichlorophenol	ND	341	86.5
2,4-Dimethylphenol	ND	341	101
2,4-Dinitrophenol	ND	3750	63.7
2,4-Dinitrotoluene	ND	796	131
2,6-Dinitrotoluene	ND	796	111
2-Chloronaphthalene	ND	796	106
2-Chlorophenol	ND	341	77.4
2-Methylnaphthalene	ND	796	116
2-Methylphenol	ND	341	109
2-Nitroaniline	ND	3750	1[illegible]
2-Nitrophenol	ND	341	1[illegible]
3,3'-Dichlorobenzidine	ND	1480	156
3-Nitroaniline	ND	3750	95.6
4,6-Dinitro-2-methylphenol	ND	3750	83
4-Bromophenyl phenyl ether	ND	796	118
4-Chloro-3-methylphenol	ND	1480	133
4-Chloroaniline	ND	1480	70.5
4-Chlorophenyl phenyl ether	ND	796	119
4-Methylphenol (1)	ND	341	77.4
4-Nitroaniline	ND	3750	99
4-Nitrophenol	ND	1820	6.37
Acenaphthene	ND	796	106
Acenaphthylene	ND	796	100
Anthracene	ND	796	117
Benzo(a)anthracene	ND	796	97.8
Benzo(a)pyrene	ND	796	104
Benzo(b)fluoranthene	ND	796	122
Benzo(k)fluoranthene	ND	796	114
Benzo(g,h,i)perylene	ND	796	106
Benzoic Acid	ND	1820	122
Benzyl alcohol	ND	1480	92.2
bis(2-Chloroethoxy)methane	ND	796	116

31031

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Btch No.	: 96K042	DaTime Extrctd :	11/11/96 14:30
Sample ID	: CR-A151904	DaTime Analyzd :	12/03/96 19:39
Lab Cnt NO.:	K042-04	Dilutn Factor :	1
Lab File ID:	RLS023	Matrix :	SOIL
Ext Btch ID:	SVK004S	% Moisture :	12.1
Calib. Ref.:	RLS022	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	796	76.2
bis(2-Chloroisopropyl)ether	ND	796	102
bis(2-Ethylhexyl)phthalate	ND	796	111
Butylbenzylphthalate	ND	796	231
Chrysene	ND	796	114
Di-n-butylphthalate	ND	796	126
Di-n-octylphthalate	ND	796	102
Dibenzo(a,h)anthracene	ND	796	109
Dibenzofuran	ND	796	114
Diethylphthalate	ND	796	110
Dimethylphthalate	ND	796	122
Fluoranthene	ND	796	117
Fluorene	ND	796	99
Hexachlorobenzene	ND	796	127
Hexachlorobutadiene	ND	796	118
Hexachlorocyclopentadiene	ND	796	132
Hexachloroethane	ND	796	100
Indeno(1,2,3-cd)pyrene	ND	796	108
Isophorone	ND	796	106
n-Nitroso-di-n-propylamine	ND	796	130
n-Nitrosodiphenylamine (2)	ND	796	115
Naphthalene	ND	796	110
Nitrobenzene	ND	796	88.7
Pentachlorophenol	ND	3750	34.1
Phenanthrene	ND	796	115
Phenol	ND	341	88.7
Pyrene	ND	796	109

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	72	25-144
2-Fluorobiphenyl	69	34-135
2-Fluorophenol	62	25-135
Nitrobenzene-d5	71	25-135
Phenol-d5	73	25-135
Terphenyl-d14	59	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/11/96 14:30
Sample ID	: CR-A152002	DaTime Analyzd :	12/03/96 20:27
Lab Cnt NO.	: K042-06	Dilutn Factor :	1
Lab File ID	: RLS024	Matrix :	SOIL
Ext Btch ID	: SVK004S	% Moisture :	22.1
Calib. Ref.	: RLS022	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	899	132
1,2-Dichlorobenzene	ND	899	141
1,3-Dichlorobenzene	ND	899	103
1,4-Dichlorobenzene	ND	899	125
2,4,5-Trichlorophenol	ND	4240	127
2,4,6-Trichlorophenol	ND	385	148
2,4-Dichlorophenol	ND	385	97.6
2,4-Dimethylphenol	ND	385	114
2,4-Dinitrophenol	ND	4240	71.9
2,4-Dinitrotoluene	ND	899	148
2,6-Dinitrotoluene	ND	899	126
2-Chloronaphthalene	ND	899	119
2-Chlorophenol	ND	385	87.3
2-Methylnaphthalene	ND	899	131
2-Methylphenol	ND	385	123
2-Nitroaniline	ND	4240	1[illegible]
2-Nitrophenol	ND	385	1[illegible]
3,3'-Dichlorobenzidine	ND	1670	176
3-Nitroaniline	ND	4240	108
4,6-Dinitro-2-methylphenol	ND	4240	93.7
4-Bromophenyl phenyl ether	ND	899	134
4-Chloro-3-methylphenol	ND	1670	150
4-Chloroaniline	ND	1670	79.6
4-Chlorophenyl phenyl ether	ND	899	135
4-Methylphenol (1)	ND	385	87.3
4-Nitroaniline	ND	4240	112
4-Nitrophenol	ND	2050	7.19
Acenaphthene	ND	899	119
Acenaphthylene	ND	899	113
Anthracene	ND	899	132
Benzo(a)anthracene	ND	899	110
Benzo(a)pyrene	ND	899	117
Benzo(b)fluoranthene	ND	899	137
Benzo(k)fluoranthene	ND	899	128
Benzo(g,h,i)perylene	ND	899	119
Benzoic Acid	ND	2050	137
Benzyl alcohol	ND	1670	104
bis(2-Chloroethoxy)methane	ND	899	131

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Btch No.	: 96K042	DaTime Extrctd :	11/11/96 14:30
Sample ID	: CR-A152002	DaTime Analyzd :	12/03/96 20:27
Lab Cnt NO.	: K042-06	Dilutn Factor :	1
Lab File ID	: RLS024	Matrix :	SOIL
Ext Btch ID	: SVK004S	% Moisture :	22.1
Calib. Ref.	: RLS022	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	899	86
bis(2-Chloroisopropyl)ether	ND	899	116
bis(2-Ethylhexyl)phthalate	ND	899	126
Butylbenzylphthalate	ND	899	261
Chrysene	ND	899	128
Di-n-butylphthalate	ND	899	142
Di-n-octylphthalate	ND	899	116
Dibenzo(a,h)anthracene	ND	899	123
Dibenzofuran	ND	899	128
Diethylphthalate	ND	899	125
Dimethylphthalate	ND	899	137
Fluoranthene	ND	899	132
Fluorene	ND	899	112
Hexachlorobenzene	ND	899	144
Hexachlorobutadiene	ND	899	134
Hexachlorocyclopentadiene	ND	899	149
Hexachloroethane	ND	899	113
Indeno(1,2,3-cd)pyrene	ND	899	122
Isophorone	ND	899	119
n-Nitroso-di-n-propylamine	ND	899	146
n-Nitrosodiphenylamine (2)	ND	899	130
Naphthalene	ND	899	125
Nitrobenzene	ND	899	100
Pentachlorophenol	ND	4240	38.5
Phenanthrene	ND	899	130
Phenol	ND	385	100
Pyrene	ND	899	123

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	84	25-144
2-Fluorobiphenyl	76	34-135
2-Fluorophenol	68	25-135
Nitrobenzene-d5	79	25-135
Phenol-d5	78	25-135
Terphenyl-d14	65	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/11/96 14:30
Sample ID	: CR-A152004	DaTime Analyzd :	12/03/96 21:15
Lab Cnt NO.	: K042-08	Dilutn Factor :	1
Lab File ID	: RLS025	Matrix :	SOIL
Ext Btch ID	: SVK004S	% Moisture :	11.3
Calib. Ref.	: RLS022	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	789	116
1,2-Dichlorobenzene	ND	789	124
1,3-Dichlorobenzene	ND	789	90.2
1,4-Dichlorobenzene	ND	789	109
2,4,5-Trichlorophenol	ND	3720	112
2,4,6-Trichlorophenol	ND	338	130
2,4-Dichlorophenol	ND	338	85.7
2,4-Dimethylphenol	ND	338	100
2,4-Dinitrophenol	ND	3720	63.1
2,4-Dinitrotoluene	ND	789	130
2,6-Dinitrotoluene	ND	789	110
2-Chloronaphthalene	ND	789	105
2-Chlorophenol	ND	338	76.7
2-Methylnaphthalene	ND	789	115
2-Methylphenol	ND	338	108
2-Nitroaniline	ND	3720	99
2-Nitrophenol	ND	338	11
3,3'-Dichlorobenzidine	ND	1470	154
3-Nitroaniline	ND	3720	94.7
4,6-Dinitro-2-methylphenol	ND	3720	82.3
4-Bromophenyl phenyl ether	ND	789	117
4-Chloro-3-methylphenol	ND	1470	132
4-Chloroaniline	ND	1470	69.9
4-Chlorophenyl phenyl ether	ND	789	118
4-Methylphenol (1)	ND	338	76.7
4-Nitroaniline	ND	3720	98.1
4-Nitrophenol	ND	1800	6.31
Acenaphthene	ND	789	105
Acenaphthylene	ND	789	99.2
Anthracene	ND	789	116
Benzo(a)anthracene	ND	789	97
Benzo(a)pyrene	ND	789	103
Benzo(b)fluoranthene	ND	789	121
Benzo(k)fluoranthene	ND	789	113
Benzo(g,h,i)perylene	ND	789	105
Benzoic Acid	ND	1800	121
Benzyl alcohol	ND	1470	91.3
bis(2-Chloroethoxy)methane	ND	789	115

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Btch No.	: 96K042	DaTime Extrctd :	11/11/96 14:30
Sample ID	: CR-A152004	DaTime Analyzd :	12/03/96 21:15
Lab Cnt NO.	: K042-08	Dilutn Factor :	1
Lab File ID	: RLS025	Matrix :	SOIL
Ext Btch ID	: SVK004S	% Moisture :	11.3
Calib. Ref.	: RLS022	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	789	75.5
bis(2-Chloroisopropyl)ether	ND	789	101
bis(2-Ethylhexyl)phthalate	ND	789	110
Butylbenzylphthalate	ND	789	229
Chrysene	ND	789	113
Di-n-butylphthalate	ND	789	125
Di-n-octylphthalate	ND	789	101
Dibenzo(a,h)anthracene	ND	789	108
Dibenzofuran	ND	789	113
Diethylphthalate	ND	789	109
Dimethylphthalate	ND	789	121
Fluoranthene	ND	789	116
Fluorene	ND	789	98.1
Hexachlorobenzene	ND	789	126
Hexachlorobutadiene	ND	789	117
Hexachlorocyclopentadiene	ND	789	131
Hexachloroethane	ND	789	99.2
Indeno(1,2,3-cd)pyrene	ND	789	107
Isophorone	ND	789	105
n-Nitroso-di-n-propylamine	ND	789	129
n-Nitrosodiphenylamine (2)	ND	789	114
Naphthalene	ND	789	109
Nitrobenzene	ND	789	87.9
Pentachlorophenol	ND	3720	33.8
Phenanthrene	ND	789	114
Phenol	ND	338	87.9
Pyrene	ND	789	108

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	76	25-144
2-Fluorobiphenyl	60	34-135
2-Fluorophenol	54	25-135
Nitrobenzene-d5	60	25-135
Phenol-d5	69	25-135
Terphenyl-d14	58	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/11/96 14:3[illegible]
Sample ID	: CR-A152102	DaTime Analyzd :	12/03/96 23:37
Lab Cnt NO.	: K042-10	Dilutn Factor :	1
Lab File ID	: RLS028	Matrix :	SOIL
Ext Btch ID	: SVK004S	% Moisture :	19.4
Calib. Ref.	: RLS022	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	868	128
1,2-Dichlorobenzene	ND	868	136
1,3-Dichlorobenzene	ND	868	99.3
1,4-Dichlorobenzene	ND	868	120
2,4,5-Trichlorophenol	ND	4090	123
2,4,6-Trichlorophenol	ND	372	143
2,4-Dichlorophenol	ND	372	94.3
2,4-Dimethylphenol	ND	372	110
2,4-Dinitrophenol	ND	4090	69.5
2,4-Dinitrotoluene	ND	868	143
2,6-Dinitrotoluene	ND	868	122
2-Chloronaphthalene	ND	868	115
2-Chlorophenol	ND	372	84.4
2-Methylnaphthalene	ND	868	127
2-Methylphenol	ND	372	119
2-Nitroaniline	ND	4090	1[illegible]
2-Nitrophenol	ND	372	1.[illegible]
3,3'-Dichlorobenzidine	ND	1610	170
3-Nitroaniline	ND	4090	104
4,6-Dinitro-2-methylphenol	ND	4090	90.6
4-Bromophenyl phenyl ether	ND	868	129
4-Chloro-3-methylphenol	ND	1610	145
4-Chloroaniline	ND	1610	76.9
4-Chlorophenyl phenyl ether	ND	868	130
4-Methylphenol (1)	ND	372	84.4
4-Nitroaniline	ND	4090	108
4-Nitrophenol	ND	1990	6.95
Acenaphthene	ND	868	115
Acenaphthylene	ND	868	109
Anthracene	ND	868	128
Benzo(a)anthracene	ND	868	107
Benzo(a)pyrene	ND	868	113
Benzo(b)fluoranthene	ND	868	133
Benzo(k)fluoranthene	ND	868	124
Benzo(g,h,i)perylene	ND	868	115
Benzoic Acid	ND	1990	133
Benzyl alcohol	ND	1610	100
bis(2-Chloroethoxy)methane	ND	868	127

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Btch No.	: 96K042	DaTime Extrctd :	11/11/96 14:30
Sample ID	: CR-A152102	DaTime Analyzd :	12/03/96 23:37
Lab Cnt NO.	: K042-10	Dilutn Factor :	1
Lab File ID	: RLS028	Matrix :	SOIL
Ext Btch ID	: SVK004S	% Moisture :	19.4
Calib. Ref.	: RLS022	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	868	83.1
bis(2-Chloroisopropyl)ether	ND	868	112
bis(2-Ethylhexyl)phthalate	ND	868	122
Butylbenzylphthalate	ND	868	252
Chrysene	ND	868	124
Di-n-butylphthalate	ND	868	138
Di-n-octylphthalate	ND	868	112
Dibenzo(a,h)anthracene	ND	868	119
Dibenzofuran	ND	868	124
Diethylphthalate	ND	868	120
Dimethylphthalate	ND	868	133
Fluoranthene	ND	868	128
Fluorene	ND	868	108
Hexachlorobenzene	ND	868	139
Hexachlorobutadiene	ND	868	129
Hexachlorocyclopentadiene	ND	868	144
Hexachloroethane	ND	868	109
Indeno(1,2,3-cd)pyrene	ND	868	118
Isophorone	ND	868	115
n-Nitroso-di-n-propylamine	ND	868	141
n-Nitrosodiphenylamine (2)	ND	868	125
Naphthalene	ND	868	120
Nitrobenzene	ND	868	96.8
Pentachlorophenol	ND	4090	37.2
Phenanthrene	ND	868	125
Phenol	ND	372	96.8
Pyrene	ND	868	119

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	84	25-144
2-Fluorobiphenyl	78	34-135
2-Fluorophenol	71	25-135
Nitrobenzene-d5	79	25-135
Phenol-d5	80	25-135
Terphenyl-d14	61	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/11/96 14:30
Sample ID	: CR-A152104	DaTime Analyzd :	12/03/96 16:13
Lab Cnt NO.	: K042-12	Dilutn Factor :	1
Lab File ID	: RLS019	Matrix :	SOIL
Ext Btch ID	: SVK004S	% Moisture :	4.4
Calib. Ref.	: RLS015	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	732	108
1,2-Dichlorobenzene	ND	732	115
1,3-Dichlorobenzene	ND	732	83.7
1,4-Dichlorobenzene	ND	732	101
2,4,5-Trichlorophenol	ND	3450	104
2,4,6-Trichlorophenol	ND	314	120
2,4-Dichlorophenol	ND	314	79.5
2,4-Dimethylphenol	ND	314	93.1
2,4-Dinitrophenol	ND	3450	58.6
2,4-Dinitrotoluene	ND	732	120
2,6-Dinitrotoluene	ND	732	103
2-Chloronaphthalene	ND	732	97.3
2-Chlorophenol	ND	314	71.1
2-Methylnaphthalene	ND	732	107
2-Methylphenol	ND	314	100
2-Nitroaniline	ND	3450	92
2-Nitrophenol	ND	314	10[illegible]
3,3'-Dichlorobenzidine	ND	1360	143
3-Nitroaniline	ND	3450	87.9
4,6-Dinitro-2-methylphenol	ND	3450	76.4
4-Bromophenyl phenyl ether	ND	732	109
4-Chloro-3-methylphenol	ND	1360	122
4-Chloroaniline	ND	1360	64.9
4-Chlorophenyl phenyl ether	ND	732	110
4-Methylphenol (1)	ND	314	71.1
4-Nitroaniline	ND	3450	91
4-Nitrophenol	ND	1670	5.86
Acenaphthene	ND	732	97.3
Acenaphthylene	ND	732	92.1
Anthracene	ND	732	108
Benzo(a)anthracene	ND	732	90
Benzo(a)pyrene	ND	732	95.2
Benzo(b)fluoranthene	ND	732	112
Benzo(k)fluoranthene	ND	732	105
Benzo(g,h,i)perylene	ND	732	97.3
Benzoic Acid	ND	1670	112
Benzyl alcohol	ND	1360	84.7
bis(2-Chloroethoxy)methane	ND	732	107

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Btch No.	: 96K042	DaTime Extrctd :	11/11/96 14:30
Sample ID	: CR-A152104	DaTime Analyzd :	12/03/96 16:13
Lab Cnt NO.:	K042-12	Dilutn Factor :	1
Lab File ID:	RLS019	Matrix :	SOIL
Ext Btch ID:	SVK004S	% Moisture :	4.4
Calib. Ref.:	RLS015	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	732	70.1
bis(2-Chloroisopropyl)ether	ND	732	94.1
bis(2-Ethylhexyl)phthalate	ND	732	103
Butylbenzylphthalate	ND	732	212
Chrysene	ND	732	105
Di-n-butylphthalate	ND	732	116
Di-n-octylphthalate	ND	732	94.1
Dibenzo(a,h)anthracene	ND	732	100
Dibenzofuran	ND	732	105
Diethylphthalate	ND	732	101
Dimethylphthalate	ND	732	112
Fluoranthene	ND	732	108
Fluorene	ND	732	91
Hexachlorobenzene	ND	732	117
Hexachlorobutadiene	ND	732	109
Hexachlorocyclopentadiene	ND	732	121
Hexachloroethane	ND	732	92.1
Indeno(1,2,3-cd)pyrene	ND	732	99.4
Isophorone	ND	732	97.3
n-Nitroso-di-n-propylamine	ND	732	119
n-Nitrosodiphenylamine (2)	ND	732	106
Naphthalene	ND	732	101
Nitrobenzene	ND	732	81.6
Pentachlorophenol	ND	3450	31.4
Phenanthrene	ND	732	106
Phenol	ND	314	81.6
Pyrene	ND	732	100

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	79	25-144
2-Fluorobiphenyl	77	34-135
2-Fluorophenol	69	25-135
Nitrobenzene-d5	80	25-135
Phenol-d5	79	25-135
Terphenyl-d14	62	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/11/96 14:30
Sample ID	: CR-A152202	DaTime Analyzd :	12/04/96 04:21
Lab Cnt NO.	: K042-14	Dilutn Factor :	1
Lab File ID	: RLS034	Matrix :	SOIL
Ext Btch ID	: SVK004S	% Moisture :	20.7
Calib. Ref.	: RLS022	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	883	130
1,2-Dichlorobenzene	ND	883	139
1,3-Dichlorobenzene	ND	883	101
1,4-Dichlorobenzene	ND	883	122
2,4,5-Trichlorophenol	ND	4160	125
2,4,6-Trichlorophenol	ND	378	145
2,4-Dichlorophenol	ND	378	95.8
2,4-Dimethylphenol	ND	378	112
2,4-Dinitrophenol	ND	4160	70.6
2,4-Dinitrotoluene	ND	883	145
2,6-Dinitrotoluene	ND	883	124
2-Chloronaphthalene	ND	883	117
2-Chlorophenol	ND	378	85.8
2-Methylnaphthalene	ND	883	129
2-Methylphenol	ND	378	121
2-Nitroaniline	ND	4160	1[illegible]
2-Nitrophenol	ND	378	1[illegible]
3,3'-Dichlorobenzidine	ND	1640	173
3-Nitroaniline	ND	4160	106
4,6-Dinitro-2-methylphenol	ND	4160	92.1
4-Bromophenyl phenyl ether	ND	883	131
4-Chloro-3-methylphenol	ND	1640	148
4-Chloroaniline	ND	1640	78.2
4-Chlorophenyl phenyl ether	ND	883	132
4-Methylphenol (1)	ND	378	85.8
4-Nitroaniline	ND	4160	110
4-Nitrophenol	ND	2020	7.06
Acenaphthene	ND	883	117
Acenaphthylene	ND	883	111
Anthracene	ND	883	130
Benzo(a)anthracene	ND	883	108
Benzo(a)pyrene	ND	883	115
Benzo(b)fluoranthene	ND	883	135
Benzo(k)fluoranthene	ND	883	126
Benzo(g,h,i)perylene	ND	883	117
Benzoic Acid	ND	2020	135
Benzyl alcohol	ND	1640	102
bis(2-Chloroethoxy)methane	ND	883	129

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Btch No.	: 96K042	DaTime Extrctd :	11/11/96 14:30
Sample ID	: CR-A152202	DaTime Analyzd :	12/04/96 04:21
Lab Cnt NO.:	K042-14	Dilutn Factor :	1
Lab File ID:	RLS034	Matrix :	SOIL
Ext Btch ID:	SVK004S	% Moisture :	20.7
Calib. Ref.:	RLS022	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	883	84.5
bis(2-Chloroisopropyl)ether	ND	883	113
bis(2-Ethylhexyl)phthalate	ND	883	124
Butylbenzylphthalate	ND	883	256
Chrysene	ND	883	126
Di-n-butylphthalate	ND	883	140
Di-n-octylphthalate	ND	883	113
Dibenzo(a,h)anthracene	ND	883	121
Dibenzofuran	ND	883	126
Diethylphthalate	ND	883	122
Dimethylphthalate	ND	883	135
Fluoranthene	ND	883	130
Fluorene	ND	883	110
Hexachlorobenzene	ND	883	141
Hexachlorobutadiene	ND	883	131
Hexachlorocyclopentadiene	ND	883	146
Hexachloroethane	ND	883	111
Indeno(1,2,3-cd)pyrene	ND	883	120
Isophorone	ND	883	117
n-Nitroso-di-n-propylamine	ND	883	144
n-Nitrosodiphenylamine (2)	ND	883	127
Naphthalene	ND	883	122
Nitrobenzene	ND	883	98.4
Pentachlorophenol	ND	4160	37.8
Phenanthrene	ND	883	127
Phenol	ND	378	98.4
Pyrene	ND	883	121

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	87	25-144
2-Fluorobiphenyl	69	34-135
2-Fluorophenol	67	25-135
Nitrobenzene-d5	72	25-135
Phenol-d5	76	25-135
Terphenyl-d14	62	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/11/96 14:30
Sample ID	: CR-A152204	DaTime Analyzd :	12/03/96 17:01
Lab Cnt NO.	: K042-16	Dilutn Factor :	1
Lab File ID	: RLS020	Matrix :	SOIL
Ext Btch ID	: SVK004S	% Moisture :	6.9
Calib. Ref.	: RLS015	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	752	111
1,2-Dichlorobenzene	ND	752	118
1,3-Dichlorobenzene	ND	752	85.9
1,4-Dichlorobenzene	ND	752	104
2,4,5-Trichlorophenol	ND	3540	106
2,4,6-Trichlorophenol	ND	322	124
2,4-Dichlorophenol	ND	322	81.6
2,4-Dimethylphenol	ND	322	95.6
2,4-Dinitrophenol	ND	3540	60.2
2,4-Dinitrotoluene	ND	752	124
2,6-Dinitrotoluene	ND	752	105
2-Chloronaphthalene	ND	752	99.9
2-Chlorophenol	ND	322	73
2-Methylnaphthalene	ND	752	110
2-Methylphenol	ND	322	103
2-Nitroaniline	ND	3540	94
2-Nitrophenol	ND	322	1[illegible]
3,3'-Dichlorobenzidine	ND	1400	147
3-Nitroaniline	ND	3540	90.2
4,6-Dinitro-2-methylphenol	ND	3540	78.4
4-Bromophenyl phenyl ether	ND	752	112
4-Chloro-3-methylphenol	ND	1400	126
4-Chloroaniline	ND	1400	66.6
4-Chlorophenyl phenyl ether	ND	752	113
4-Methylphenol (1)	ND	322	73
4-Nitroaniline	ND	3540	93.4
4-Nitrophenol	ND	1720	6.02
Acenaphthene	ND	752	99.9
Acenaphthylene	ND	752	94.5
Anthracene	ND	752	111
Benzo(a)anthracene	ND	752	92.4
Benzo(a)pyrene	ND	752	97.7
Benzo(b)fluoranthene	ND	752	115
Benzo(k)fluoranthene	ND	752	107
Benzo(g,h,i)perylene	ND	752	99.9
Benzoic Acid	ND	1720	115
Benzyl alcohol	ND	1400	87
bis(2-Chloroethoxy)methane	ND	752	110

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Btch No.	: 96K042	DaTime Extrctd :	11/11/96 14:30
Sample ID	: CR-A152204	DaTime Analyzd :	12/03/96 17:01
Lab Cnt NO.	: K042-16	Dilutn Factor :	1
Lab File ID	: RLS020	Matrix :	SOIL
Ext Btch ID	: SVK004S	% Moisture :	6.9
Calib. Ref.	: RLS015	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	752	72
bis(2-Chloroisopropyl)ether	ND	752	96.7
bis(2-Ethylhexyl)phthalate	ND	752	105
Butylbenzylphthalate	ND	752	218
Chrysene	ND	752	107
Di-n-butylphthalate	ND	752	119
Di-n-octylphthalate	ND	752	96.7
Dibenzo(a,h)anthracene	ND	752	103
Dibenzofuran	ND	752	107
Diethylphthalate	ND	752	104
Dimethylphthalate	ND	752	115
Fluoranthene	ND	752	111
Fluorene	ND	752	93.4
Hexachlorobenzene	ND	752	120
Hexachlorobutadiene	ND	752	112
Hexachlorocyclopentadiene	ND	752	125
Hexachloroethane	ND	752	94.5
Indeno(1,2,3-cd)pyrene	ND	752	102
Isophorone	ND	752	99.9
n-Nitroso-di-n-propylamine	ND	752	122
n-Nitrosodiphenylamine (2)	ND	752	108
Naphthalene	ND	752	104
Nitrobenzene	ND	752	83.8
Pentachlorophenol	ND	3540	32.2
Phenanthrene	ND	752	108
Phenol	ND	322	83.8
Pyrene	ND	752	103

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	85	25-144
2-Fluorobiphenyl	72	34-135
2-Fluorophenol	64	25-135
Nitrobenzene-d5	73	25-135
Phenol-d5	76	25-135
Terphenyl-d14	65	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

68063

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/11/96 14:[illegible]
Sample ID	: CR-A152302	DaTime Analyzd :	12/04/96 00:24
Lab Cnt NO.	: K042-18	Dilutn Factor :	1
Lab File ID	: RLS029	Matrix :	SOIL
Ext Btch ID	: SVK004S	% Moisture :	20.5
Calib. Ref.	: RLS022	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	881	130
1,2-Dichlorobenzene	ND	881	138
1,3-Dichlorobenzene	ND	881	101
1,4-Dichlorobenzene	ND	881	122
2,4,5-Trichlorophenol	ND	4150	125
2,4,6-Trichlorophenol	ND	377	145
2,4-Dichlorophenol	ND	377	95.6
2,4-Dimethylphenol	ND	377	112
2,4-Dinitrophenol	ND	4150	70.4
2,4-Dinitrotoluene	ND	881	145
2,6-Dinitrotoluene	ND	881	123
2-Chloronaphthalene	ND	881	117
2-Chlorophenol	ND	377	85.5
2-Methylnaphthalene	ND	881	128
2-Methylphenol	ND	377	121
2-Nitroaniline	ND	4150	1[illegible]
2-Nitrophenol	ND	377	1[illegible]
3,3'-Dichlorobenzidine	ND	1640	172
3-Nitroaniline	ND	4150	106
4,6-Dinitro-2-methylphenol	ND	4150	91.8
4-Bromophenyl phenyl ether	ND	881	131
4-Chloro-3-methylphenol	ND	1640	147
4-Chloroaniline	ND	1640	78
4-Chlorophenyl phenyl ether	ND	881	132
4-Methylphenol (1)	ND	377	85.5
4-Nitroaniline	ND	4150	109
4-Nitrophenol	ND	2010	7.04
Acenaphthene	ND	881	117
Acenaphthylene	ND	881	111
Anthracene	ND	881	130
Benzo(a)anthracene	ND	881	108
Benzo(a)pyrene	ND	881	114
Benzo(b)fluoranthene	ND	881	135
Benzo(k)fluoranthene	ND	881	126
Benzo(g,h,i)perylene	ND	881	117
Benzoic Acid	ND	2010	135
Benzyl alcohol	ND	1640	102
bis(2-Chloroethoxy)methane	ND	881	128

072

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Btch No.	: 96K042	DaTime Extrctd :	11/11/96 14:30
Sample ID	: CR-A152302	DaTime Analyzd :	12/04/96 00:24
Lab Cnt NO.	: K042-18	Dilutn Factor :	1
Lab File ID	: RLS029	Matrix :	SOIL
Ext Btch ID	: SVK004S	% Moisture :	20.5
Calib. Ref.	: RLS022	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	881	84.3
bis(2-Chloroisopropyl)ether	ND	881	113
bis(2-Ethylhexyl)phthalate	ND	881	123
Butylbenzylphthalate	ND	881	255
Chrysene	ND	881	126
Di-n-butylphthalate	ND	881	140
Di-n-octylphthalate	ND	881	113
Dibenzo(a,h)anthracene	ND	881	121
Dibenzofuran	ND	881	126
Diethylphthalate	ND	881	122
Dimethylphthalate	ND	881	135
Fluoranthene	ND	881	130
Fluorene	ND	881	109
Hexachlorobenzene	ND	881	141
Hexachlorobutadiene	ND	881	131
Hexachlorocyclopentadiene	ND	881	146
Hexachloroethane	ND	881	111
Indeno(1,2,3-cd)pyrene	ND	881	119
Isophorone	ND	881	117
n-Nitroso-di-n-propylamine	ND	881	143
n-Nitrosodiphenylamine (2)	ND	881	127
Naphthalene	ND	881	122
Nitrobenzene	ND	881	98.1
Pentachlorophenol	ND	4150	37.7
Phenanthrene	ND	881	127
Phenol	ND	377	98.1
Pyrene	ND	881	121

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	82	25-144
2-Fluorobiphenyl	76	34-135
2-Fluorophenol	70	25-135
Nitrobenzene-d5	78	25-135
Phenol-d5	79	25-135
Terphenyl-d14	59	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

#073

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/11/96 14:30
Sample ID	: CR-A152304	DaTime Analyzd :	12/04/96 01:12
Lab Cnt NO.	: K042-20	Dilutn Factor :	1
Lab File ID	: RLS030	Matrix :	SOIL
Ext Btch ID	: SVK004S	% Moisture :	8.6
Calib. Ref.	: RLS022	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	766	113
1,2-Dichlorobenzene	ND	766	120
1,3-Dichlorobenzene	ND	766	87.5
1,4-Dichlorobenzene	ND	766	106
2,4,5-Trichlorophenol	ND	3610	108
2,4,6-Trichlorophenol	ND	328	126
2,4-Dichlorophenol	ND	328	83.2
2,4-Dimethylphenol	ND	328	97.4
2,4-Dinitrophenol	ND	3610	61.3
2,4-Dinitrotoluene	ND	766	126
2,6-Dinitrotoluene	ND	766	107
2-Chloronaphthalene	ND	766	102
2-Chlorophenol	ND	328	74.4
2-Methylnaphthalene	ND	766	112
2-Methylphenol	ND	328	105
2-Nitroaniline	ND	3610	96
2-Nitrophenol	ND	328	1[illegible]
3,3'-Dichlorobenzidine	ND	1420	150
3-Nitroaniline	ND	3610	91.9
4,6-Dinitro-2-methylphenol	ND	3610	79.9
4-Bromophenyl phenyl ether	ND	766	114
4-Chloro-3-methylphenol	ND	1420	128
4-Chloroaniline	ND	1420	67.8
4-Chlorophenyl phenyl ether	ND	766	115
4-Methylphenol (1)	ND	328	74.4
4-Nitroaniline	ND	3610	95.2
4-Nitrophenol	ND	1750	6.13
Acenaphthene	ND	766	102
Acenaphthylene	ND	766	96.3
Anthracene	ND	766	113
Benzo(a)anthracene	ND	766	94.1
Benzo(a)pyrene	ND	766	99.6
Benzo(b)fluoranthene	ND	766	117
Benzo(k)fluoranthene	ND	766	109
Benzo(g,h,i)perylene	ND	766	102
Benzoic Acid	ND	1750	117
Benzyl alcohol	ND	1420	88.6
bis(2-Chloroethoxy)methane	ND	766	112

85
un

080

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Btch No.	: 96K042	DaTime Extrctd :	11/11/96 14:30
Sample ID	: CR-A152304	DaTime Analyzd :	12/04/96 01:12
Lab Cnt NO.	: K042-20	Dilutn Factor :	1
Lab File ID	: RLS030	Matrix :	SOIL
Ext Btch ID	: SVK004S	% Moisture :	8.6
Calib. Ref.	: RLS022	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	766	73.3
bis(2-Chloroisopropyl)ether	ND	766	98.5
bis(2-Ethylhexyl)phthalate	ND	766	107
Butylbenzylphthalate	ND	766	222
Chrysene	ND	766	109
Di-n-butylphthalate	ND	766	121
Di-n-octylphthalate	ND	766	98.5
Dibenzo(a,h)anthracene	ND	766	105
Dibenzofuran	ND	766	109
Diethylphthalate	ND	766	106
Dimethylphthalate	ND	766	117
Fluoranthene	ND	766	113
Fluorene	ND	766	95.2
Hexachlorobenzene	ND	766	123
Hexachlorobutadiene	ND	766	114
Hexachlorocyclopentadiene	ND	766	127
Hexachloroethane	ND	766	96.3
Indeno(1,2,3-cd)pyrene	ND	766	104
Isophorone	ND	766	102
n-Nitroso-di-n-propylamine	ND	766	125
n-Nitrosodiphenylamine (2)	ND	766	111
Naphthalene	ND	766	106
Nitrobenzene	ND	766	85.3
Pentachlorophenol	ND	3610	32.8
Phenanthrene	ND	766	111
Phenol	ND	328	85.3
Pyrene	ND	766	105

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	74	25-144
2-Fluorobiphenyl	70	34-135
2-Fluorophenol	68	25-135
Nitrobenzene-d5	77	25-135
Phenol-d5	77	25-135
Terphenyl-d14	56	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

86 W

081

SW 3520B/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/13/96 17:30
Sample ID	: CR-A152306	DaTime Analyzd :	12/03/96 04:23
Lab Cnt NO.	: K042-22	Dilutn Factor :	1
Lab File ID	: RLS013	Matrix :	WATER
Ext Btch ID	: SVK006W	% Moisture :	NA
Calib. Ref.	: RLS002	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/L)	PQL (ug/L)	MDL (ug/L)
1,2,4-Trichlorobenzene	ND	10	2.8
1,2-Dichlorobenzene	ND	10	2.7
1,3-Dichlorobenzene	ND	10	2.6
1,4-Dichlorobenzene	ND	10	2.5
2,4,5-Trichlorophenol	ND	50	3.4
2,4,6-Trichlorophenol	ND	10	3.5
2,4-Dichlorophenol	ND	10	3
2,4-Dimethylphenol	ND	10	2.2
2,4-Dinitrophenol	ND	50	.86
2,4-Dinitrotoluene	ND	10	4
2,6-Dinitrotoluene	ND	10	3.6
2-Chloronaphthalene	ND	10	2.9
2-Chlorophenol	ND	10	2.9
2-Methylnaphthalene	ND	10	2.9
2-Methylphenol	ND	10	3.1
2-Nitroaniline	ND	50	3
2-Nitrophenol	ND	10	
3,3'-Dichlorobenzidine	ND	20	3.5
3-Nitroaniline	ND	50	3
4,6-Dinitro-2-methylphenol	ND	50	1.8
4-Bromophenyl phenyl ether	ND	10	4.2
4-Chloro-3-methylphenol	ND	20	3.1
4-Chloroaniline	ND	20	3.1
4-Chlorophenyl phenyl ether	ND	10	3.8
4-Methylphenol (1)	ND	10	3.2
4-Nitroaniline	ND	50	2.3
4-Nitrophenol	ND	50	.91
Acenaphthene	ND	10	3.2
Acenaphthylene	ND	10	3.3
Anthracene	ND	10	2.8
Benzo(a)anthracene	ND	10	2.4
Benzo(a)pyrene	ND	10	2.8
Benzo(b)fluoranthene	ND	10	2.8
Benzo(k)fluoranthene	ND	10	3.3
Benzo(g,h,i)perylene	ND	10	3.3
Benzoic Acid	8.74F	50	2.6
Benzyl alcohol	ND	20	2.7
bis(2-Chloroethoxy)methane	ND	10	3

SW 3520B/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/13/96 17:30
Sample ID	: CR-A152306	DaTime Analyzd :	12/03/96 04:23
Lab Cnt NO.	: K042-22	Dilutn Factor :	1
Lab File ID	: RLS013	Matrix :	WATER
Ext Btch ID	: SVK006W	% Moisture :	NA
Calib. Ref.	: RLS002	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/L)	PQL (ug/L)	MDL (ug/L)
bis(2-Chloroethyl)ether	ND	10	2.9
bis(2-Chloroisopropyl)ether	ND	10	4.2
bis(2-Ethylhexyl)phthalate	ND	10	4.2
Butylbenzylphthalate	ND	10	2.8
Chrysene	ND	10	3
Di-n-butylphthalate	ND	10	5.4
Di-n-octylphthalate	ND	10	2.6
Dibenzo(a,h)anthracene	ND	10	3.1
Dibenzofuran	ND	10	3.8
Diethylphthalate	ND	10	2.8
Dimethylphthalate	ND	10	3.6
Fluoranthene	ND	10	2.7
Fluorene	ND	10	3.3
Hexachlorobenzene	ND	10	3.6
Hexachlorobutadiene	ND	10	2.2
Hexachlorocyclopentadiene	ND	10	1.6
Hexachloroethane	ND	10	2
Indeno(1,2,3-cd)pyrene	ND	10	3.2
Isophorone	ND	10	3
n-Nitroso-di-n-propylamine	ND	10	3.7
n-Nitrosodiphenylamine (2)	ND	10	3
Naphthalene	ND	10	2.9
Nitrobenzene	ND	10	2.8
Pentachlorophenol	ND	50	2.4
Phenanthrene	ND	10	3
Phenol	ND	10	2.9
Pyrene	ND	10	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	81	25-134
2-Fluorobiphenyl	64	43-125
2-Fluorophenol	73	25-125
Nitrobenzene-d5	76	32-125
Phenol-d5	76	25-125
Terphenyl-d14	62	42-126

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

92
086

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/11/96 14:[illegible]
Sample ID	: CR-A152402	DaTime Analyzd :	12/04/96 01:59
Lab Cnt NO.	: K042-26	Dilutn Factor :	1
Lab File ID	: RLS031	Matrix :	SOIL
Ext Btch ID	: SVK004S	% Moisture :	20.8
Calib. Ref.	: RLS022	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	884	130
1,2-Dichlorobenzene	ND	884	139
1,3-Dichlorobenzene	ND	884	101
1,4-Dichlorobenzene	ND	884	122
2,4,5-Trichlorophenol	ND	4170	125
2,4,6-Trichlorophenol	ND	379	145
2,4-Dichlorophenol	ND	379	96
2,4-Dimethylphenol	ND	379	112
2,4-Dinitrophenol	ND	4170	70.7
2,4-Dinitrotoluene	ND	884	145
2,6-Dinitrotoluene	ND	884	124
2-Chloronaphthalene	ND	884	117
2-Chlorophenol	ND	379	85.9
2-Methylnaphthalene	ND	884	129
2-Methylphenol	ND	379	121
2-Nitroaniline	ND	4170	1[illegible]
2-Nitrophenol	ND	379	1[illegible]
3,3'-Dichlorobenzidine	ND	1640	173
3-Nitroaniline	ND	4170	106
4,6-Dinitro-2-methylphenol	ND	4170	92.2
4-Bromophenyl phenyl ether	ND	884	131
4-Chloro-3-methylphenol	ND	1640	148
4-Chloroaniline	ND	1640	78.3
4-Chlorophenyl phenyl ether	ND	884	133
4-Methylphenol (1)	ND	379	85.9
4-Nitroaniline	ND	4170	110
4-Nitrophenol	ND	2020	7.07
Acenaphthene	ND	884	117
Acenaphthylene	ND	884	111
Anthracene	ND	884	130
Benzo(a)anthracene	ND	884	109
Benzo(a)pyrene	ND	884	115
Benzo(b)fluoranthene	ND	884	135
Benzo(k)fluoranthene	ND	884	126
Benzo(g,h,i)perylene	ND	884	117
Benzoic Acid	ND	2020	135
Benzyl alcohol	ND	1640	102
bis(2-Chloroethoxy)methane	ND	884	129

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Btch No.	: 96K042	DaTime Extrctd :	11/11/96 14:30
Sample ID	: CR-A152402	DaTime Analyzd :	12/04/96 01:59
Lab Cnt NO.:	K042-26	Dilutn Factor :	1
Lab File ID:	RLS031	Matrix :	SOIL
Ext Btch ID:	SVK004S	% Moisture :	20.8
Calib. Ref.:	RLS022	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	884	84.6
bis(2-Chloroisopropyl)ether	ND	884	114
bis(2-Ethylhexyl)phthalate	ND	884	124
Butylbenzylphthalate	ND	884	256
Chrysene	ND	884	126
Di-n-butylphthalate	ND	884	140
Di-n-octylphthalate	ND	884	114
Dibenzo(a,h)anthracene	ND	884	121
Dibenzofuran	ND	884	126
Diethylphthalate	ND	884	122
Dimethylphthalate	ND	884	135
Fluoranthene	ND	884	130
Fluorene	ND	884	110
Hexachlorobenzene	ND	884	141
Hexachlorobutadiene	ND	884	131
Hexachlorocyclopentadiene	ND	884	146
Hexachloroethane	ND	884	111
Indeno(1,2,3-cd)pyrene	ND	884	120
Isophorone	ND	884	117
n-Nitroso-di-n-propylamine	ND	884	144
n-Nitrosodiphenylamine (2)	ND	884	128
Naphthalene	ND	884	122
Nitrobenzene	ND	884	98.5
Pentachlorophenol	ND	4170	37.9
Phenanthrene	ND	884	128
Phenol	ND	379	98.5
Pyrene	ND	884	121

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	89	25-144
2-Fluorobiphenyl	75	34-135
2-Fluorophenol	70	25-135
Nitrobenzene-d5	77	25-135
Phenol-d5	79	25-135
Terphenyl-d14	62	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

093

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/11/96 14:3[illegible]
Sample ID	: CR-A152404	DaTime Analyzd :	12/04/96 02:47
Lab Cnt NO.	: K042-28	Dilutn Factor :	1
Lab File ID	: RLS032	Matrix :	SOIL
Ext Btch ID	: SVK004S	% Moisture :	9.7
Calib. Ref.	: RLS022	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	775	114
1,2-Dichlorobenzene	ND	775	122
1,3-Dichlorobenzene	ND	775	88.6
1,4-Dichlorobenzene	ND	775	107
2,4,5-Trichlorophenol	ND	3650	110
2,4,6-Trichlorophenol	ND	332	127
2,4-Dichlorophenol	ND	332	84.2
2,4-Dimethylphenol	ND	332	98.6
2,4-Dinitrophenol	ND	3650	62
2,4-Dinitrotoluene	ND	775	127
2,6-Dinitrotoluene	ND	775	109
2-Chloronaphthalene	ND	775	103
2-Chlorophenol	ND	332	75.3
2-Methylnaphthalene	ND	775	113
2-Methylphenol	ND	332	106
2-Nitroaniline	ND	3650	97
2-Nitrophenol	ND	332	1[illegible]
3,3'-Dichlorobenzidine	ND	1440	152
3-Nitroaniline	ND	3650	93
4,6-Dinitro-2-methylphenol	ND	3650	80.8
4-Bromophenyl phenyl ether	ND	775	115
4-Chloro-3-methylphenol	ND	1440	130
4-Chloroaniline	ND	1440	68.7
4-Chlorophenyl phenyl ether	ND	775	116
4-Methylphenol (1)	ND	332	75.3
4-Nitroaniline	ND	3650	96.3
4-Nitrophenol	ND	1770	6.2
Acenaphthene	ND	775	103
Acenaphthylene	ND	775	97.5
Anthracene	ND	775	114
Benzo(a)anthracene	ND	775	95.2
Benzo(a)pyrene	ND	775	101
Benzo(b)fluoranthene	ND	775	118
Benzo(k)fluoranthene	ND	775	111
Benzo(g,h,i)perylene	ND	775	103
Benzoic Acid	ND	1770	118
Benzyl alcohol	ND	1440	89.7
bis(2-Chloroethoxy)methane	ND	775	113

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/08/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/09/96
Batch No.	: 96K042	DaTime Extrctd :	11/11/96 14:30
Sample ID	: CR-A152404	DaTime Analyzd :	12/04/96 02:47
Lab Cnt NO.	: K042-28	Dilutn Factor :	1
Lab File ID	: RLS032	Matrix :	SOIL
Ext Btch ID	: SVK004S	% Moisture :	9.7
Calib. Ref.	: RLS022	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	775	74.2
bis(2-Chloroisopropyl)ether	ND	775	99.7
bis(2-Ethylhexyl)phthalate	ND	775	109
Butylbenzylphthalate	ND	775	225
Chrysene	ND	775	111
Di-n-butylphthalate	ND	775	123
Di-n-octylphthalate	ND	775	99.7
Dibenzo(a,h)anthracene	ND	775	106
Dibenzofuran	ND	775	111
Diethylphthalate	ND	775	107
Dimethylphthalate	ND	775	118
Fluoranthene	ND	775	114
Fluorene	ND	775	96.3
Hexachlorobenzene	ND	775	124
Hexachlorobutadiene	ND	775	115
Hexachlorocyclopentadiene	ND	775	128
Hexachloroethane	ND	775	97.5
Indeno(1,2,3-cd)pyrene	ND	775	105
Isophorone	ND	775	103
n-Nitroso-di-n-propylamine	ND	775	126
n-Nitrosodiphenylamine (2)	ND	775	112
Naphthalene	ND	775	107
Nitrobenzene	ND	775	86.4
Pentachlorophenol	ND	3650	33.2
Phenanthrene	ND	775	112
Phenol	ND	332	86.4
Pyrene	ND	775	106

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	75	25-144
2-Fluorobiphenyl	74	34-135
2-Fluorophenol	63	25-135
Nitrobenzene-d5	74	25-135
Phenol-d5	74	25-135
Terphenyl-d14	58	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

EMAX Batch No. 96K047

EMAX
LABORATORIES, INC.
630 Maple Ave.
Torrance, CA 90503
Telephone: (310) 618-8889
Fax: (310) 618-0818

RECEIVED
DEC 16 1996
JE • Denver

Date: 12-15-1996
CKY Batch No.: 96K047

Attn: Lynn Schuetter

Jacobs Engineering Group
600 17th. Street, STe. 1100N
Denver CO 80202

Subject: Laboratory Report
Project: Carswell AFB / 05G47900

Enclosed is the Laboratory report for samples received on 11/12/96. The samples were received in coolers with ice and intact; the chain-of-custody forms were properly filled out. The data reported include :

Sample ID	Control No.	Matrix	Analysis
CR-A152501	K047-01	Soil	EPA 8240
CR-A152502	K047-02	Soil	Metals - TRACE ICP ONLY 1-19-97
			Mercury
			EPA 8270
CR-A152503	K047-03	Soil	EPA 8240
CR-A152504	K047-04	Soil	Metals - "
			Mercury
			EPA 8270
CR-A152601	K047-05	Soil	EPA 8240
CR-A152602	K047-06	Soil	Metals - "
			Mercury
			EPA 8270
CR-A152604	K047-07	Water	EPA 8240
CR-A152605	K047-08	Water	EPA 8270
CR-A152606	K047-09	Water	EPA 418.1
CR-A152607	K047-10	Water	Metals - "
			Mercury
CR-A152701	K047-11	Soil	EPA 8240
CR-A152702	K047-12	Soil	Metals - "
			Mercury
			EPA 8270
CR-A152703	K047-13	Soil	EPA 8240
CR-A152704	K047-14	Soil	Metals - "
			Mercury
			EPA 8270
CR-A152801	K047-15	Soil	EPA 8240

Sample ID	Control No.	Matrix	Analysis
CR-A152802	K047-16	Soil	Metals - TRACE ICP ONLY 5/1/97
			Mercury
			EPA 8270
CR-A152803	K047-17	Soil	EPA 8240
CR-A152804	K047-18	Soil	Metals
			Mercury
			EPA 8270
CR-A152805	K047-19	Soil	EPA 8240
CR-A152806	K047-20	Soil	Metals
			Mercury
			EPA 8270
CR-A152807	K047-21	Water	EPA 8240
CR-A152901	K047-22	Soil	EPA 8240
CR-A152902	K047-23	Soil	Metals
			Mercury
			EPA 8270
CR-A152903	K047-24	Soil	EPA 8240
CR-A152904	K047-25	Soil	Metals
			Mercury
			EPA 8270
CR-A152905	K047-26	Soil	EPA 8240
CR-A152906	K047-27	Soil	Metals
			Mercury
			EPA 8270
CR-A152907	K047-28	Soil	Metals
			Mercury
			EPA 8270
CR-A152908	K047-29	Soil	EPA 8240
CR-A153001	K047-30	Soil	EPA 8240
CR-A153002	K047-31	Soil	Metals
			Mercury
			EPA 8270
CR-A153003	K047-32	Soil	EPA 8240
CR-A153004	K047-33	Soil	Metals
			Mercury
			EPA 8270
CR-A153006	K047-34	Soil	Metals
			Mercury
			EPA 8270
CR-A153007	K047-35	Soil	EPA 8240
CR-A153008	K047-36	Soil	Metals
			Mercury
			EPA 8270
CR-A153009	K047-37	Soil	EPA 8240
CR-A153103	K047-38	Soil	EPA 8240
CR-A153103MS	K047-38M	Soil	EPA 8240
CR-A153103MSD	K047-38S	Soil	EPA 8240

FedEx. *USA Airbill* Tracking Number 2149885883

96K047 11/12/96 10:00 AM 112 500 639 205 625

Recipient's Copy

1 From

Date 11/11/96

Sender's Name Mike Johnson Phone (303)595-8855

Dept./Floor/Suite/Room

Company JACOBS ENGINEERING

Address 1001 17TH ST ST 1100 N

City DENVER State CO Zip 80202

2 Your Internal Billing Reference Information

3 To

Recipient's Name Cecilia Chavez Phone (310)618-8889

Dept./Floor/Suite/Room

Company TEMAX Laboratories, Inc.

Address 630 Maple Ave.
(To "HOLD" at FedEx location, print FedEx address here)

City Torrance State CA Zip 90503

For HOLD at FedEx Location check here

- [ ] Hold Weekday (Not available with FedEx First Overnight)
- [ ] Hold Saturday (Not available at all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

For Saturday Delivery check here

- [ ] (Extra Charge. Not available to all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

2 1 4 9 8 8 5 8 8 3

4a Express Package Service Packages under 150 lbs.

- [ ] FedEx Priority Overnight (Next business morning)
- [x] FedEx Standard Overnight (Next business afternoon)
- [ ] FedEx 2Day
- [ ] FedEx Express Saver
- [ ] NEW FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

4b Express Freight Service Packages over 150 lbs.

- [ ] FedEx Overnight Freight (Next business day service for any distance)
- [ ] FedEx 2Day Freight (Second business day service for any distance)
- [ ] FedEx Express Saver Freight (Up to 3 business day service, limited commitments)

(Call for delivery schedule. See back for detailed descriptions of freight services.)

5 Packaging

- [ ] FedEx Letter (Declared Value limit $500)
- [ ] FedEx Pak
- [ ] FedEx Box
- [ ] FedEx Tube
- [x] Other Pkg.

6 Special Handling

Does this shipment contain dangerous goods?

- [ ] Yes
- [ ] Yes
- [ ] Dry Ice (Dry Ice, 9, UN 1845 III) (Dangerous Goods Shipper's Declaration not required)
- [ ] CA
- [ ] Cargo Aircraft Only

7 Payment

Bill to:

- [x] Sender (Account no. in section 1 will be billed)
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

Obtain Recipient FedEx Account No.

(Enter FedEx account, not a Credit Card or Cash/Check number)

Total Packages 1 Total Weight 10 lbs. Total Declared Value* $ .00

*When declaring a value higher than $100 per shipment, you pay an additional charge. See signature CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

Total Charges

Rate Applied

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

Questions?
Call 1-800-Go-FedEx
(1-800-463-3339)

272

Rev. Date 5/96
PART #147666
©1994-96 FedEx
PRINTED IN U.S.A.

Sample ID	Control No.	Matrix	Analysis
CR-A153104	K047-39	Soil	Metals - TRACE ICP FALL 1. 1.17.97
			Mercury
			EPA 8270
CR-A153104MS	K047-39M	Soil	Metals
			Mercury
			EPA 8270
CR-A153104MSD	K047-39S	Soil	EPA 8270
CR-A153104DUP	K047-39D	Soil	Metals
			Mercury
CR-A153201	K047-40	Soil	EPA 8240
CR-A153202	K047-41	Soil	Metals
			Mercury
			EPA 8270
CR-A153203	K047-42	Soil	EPA 8240
CR-A153204	K047-43	Soil	Metals
			Mercury
			EPA 8270
CR-A153205	K047-44	Water	EPA 8240
CR-A153206	K047-45	Water	EPA 8270
CR-A153207	K047-46	Water	Metals
			Mercury
CR-A156901	K047-47	Soil	EPA 418.1
CR-A156902	K047-48	Soil	EPA 418.1
CR-A156904	K047-49	Soil	EPA 418.1
CR-A156905	K047-50	Soil	EPA 418.1
CR-A156906	K047-51	Soil	EPA 418.1
CR-A157001	K047-52	Soil	EPA 418.1
CR-A157002	K047-53	Soil	EPA 418.1
CR-A157003	K047-54	Soil	EPA 418.1
CR-A157004	K047-55	Soil	EPA 418.1
CR-A157006	K047-56	Soil	EPA 418.1
CR-A157007	K047-57	Soil	EPA 418.1

Due to instrument problem, results for regular ICP elements will be submitted in a later date.

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D.
Laboratory Director

P.S. - All analyses requested for the above referenced project have been completed. Therefore, unless instructed, the remaining portions of the samples will be disposed after fifteen (15) days from the date of this report.

SAMPLE RECEIPT FORM

CONTROL NO.	96K0 47
CLIENT	Jacobs
PROJECT	Carswell

DATE	11/12/96
TIME	10:00
RECIPIENT	ML

SAMPLE TRANSPORTATION TO EMAX LABORATORY:		BY	ON(DATE)	AT(TIME)	FROM(SITE/CO.)	COMMENTS
PICKED-UP BY EMAX COURIER						
DELIVERED BY CLIENT						
SHIPPED/AIRBILL NO:	Fedex 2149885883					

SAMPLE BATCH PACKAGING/SEALING UPON RECEIPT:			✓ INTACT	___ DAMAGED	✓ SEALED	___ NOT SEALED	___ NO CONTAINER
CONTAINER:	INSIDE TEMPERATURE (4°C ± 2 °C)		2 °C	CUSTODY SEAL		LOCATION	NUMBER
___ COOLER	PACKAGING	TYPE	SUFFICIENCY	___ INTACT	___ DAMAGED		
___ BOX	INSULATION:			NAME:			
___ OTHER:	ICE/COOLANT:	regular	OK	DATE:			
_____	PACKING MATERIAL:	none		TIME:			

SAMPLE DOCUMENTATION/CHAIN-OF-CUSTODY(COC)	✓ SEALED	___ ENCLOSED	___ HANDCARRIED	___ FAXED	___ MAILED

SAMPLE LOG-IN:	CRITERIA	COMMENTS	DISCREPANCY
SAMPLE CUSTODY SEAL	EVERY SAMPLE	OK	
CONTAINER TYPE/MATERIAL	APPROPRIATE		
SAMPLE AMOUNT	ENOUGH		
HOLDING TIME	SUFFICENT		
SAMPLE PRESERVATION (For appropriate preservative see GP-0001 Appendix I)	NaOH preserved samples pH ≥ 12 HNO_3 / H_2SO_4 preserved samples pH ≤ 2		
HEADSPACE/BUBBLES	ZERO/NONE		
SAMPLE LABEL INFORMATION	SUFFICIENT		
CHAIN-OF-CUSTODY INFORMATION	SUFFICIENT		

SAMPLE INFO.:	SAMPLE ID	DATE	TIME	SIGNATURE	ANALYSES	PRESERVATIVE	CONTAINER

INDIVIDUAL SAMPLE CONTAINER:	___ NONE	___ SEALED PLASTIC BAG	___ CAN	___ OTHER(SPECIFY)

SAMPLE NUMBER	CLIENT ID	DISCREPANCY	ACTION

CLIENT SERVICES COPY RECEIVED BY	Cecilia 11/13/96	DATE		TIME	

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

ARSENIC, LEAD, CADMIUM BY TRACE ICP

SDG#: 96K047

DECEMBER 15, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K047

ARSENIC, LEAD, CADMIUM BY TRACE ICP

Nineteen (19) soil and two (2) water samples were received on 11/12/96 to be analyzed for metals analysis in accordance with USEPA SW846 Method 6010A.

1. **Holding Time**

   Digestion and analysis met holding time. Arsenic, Lead and Cadmium were analyzed by Trace ICP.

2. **Blank**

   All preparation blanks were free of contamination except trace level of Lead at below PQL.

3. **Matrix Spike/Matrix Spike Duplicate**

   All MS/MSD recoveries in soil matrix were within QC limits.

4. **Lab Control Sample/Lab Control Sample Duplicate**

   All lab control results were within the control limits.

5. **Sample Analyses**

   Sample analyses were performed within the QC requirements.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

LAB CHRONICLE 11-18-199616:45:1

Method: Metals by Trace ICP
Client: Jacobs Engineering Group

PROJECT: Carswell AFB / 05G47900 As, Pb, Cd
SDG/Batch No.: 96K047
Matrix: Soil

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A152502	K047-02	16.5		11/26	12/5	
CR-A152504	K047-04	11.7				
CR-A152602	K047-06	20.7				
CR-A152702	K047-12	20.9				
CR-A152704	K047-14	13.6				
CR-A152802	K047-16	18.9				
CR-A152804	K047-18	12.1				
CR-A152806	K047-20	17.8				
CR-A152902	K047-23	18.0				
CR-A152904	K047-25	15.1				
CR-A152906	K047-27	21.1				
CR-A152907	K047-28	15.9				
CR-A153002	K047-31	19.6				
CR-A153004	K047-33	9.3				
CR-A153006	K047-34	19.2				
CR-A153008	K047-36	9.3			12/6	
CR-A153104	K047-39	12.1			12/5	
CR-A153104MS	K047-39M	12.1			12/5	
CR-A153202	K047-41	17.1			12/6	
CR-A153204	K047-43	8.6			12/6	
CR-A153104DUP	K047-39D	12.1			12/6	

LAB CHRONICLE 11-18-199616

Method: Metals
Client: Jacobs Engineering Group

PROJECT: Carswell AFB / 05G47900
SDG/Batch No.: 96K047
Matrix: Water

As, Pb, Cd.

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMAR
CR-A152607	K047-10	NA		11/18	12/5	
CR-A153207	K047-46	NA		11/18	12/5	

03

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/09/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152502	DaTime Analyzd :	12/05/96 17:20
Lab Cnt NO.:	K047-02	Dilutn Factor :	1
Lab File ID:	I31L005	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	16.5
Calib. Ref.:	I31L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	3.35	.599	.551
Cadmium	.165	.12	.12
Lead	13.3	.599	.168

04

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/09/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Btch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152504	DaTime Analyzd :	12/05/96 17:24
Lab Cnt NO.:	K047-04	Dilutn Factor :	1
Lab File ID:	I31L005	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	11.7
Calib. Ref.:	I31L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	3.49	.566	.521
Cadmium	.212	.113	.113
Lead	6.4	.566	.159

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/09/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152602	DaTime Analyzd :	12/05/96 17:28
Lab Cnt NO.:	K047-06	Dilutn Factor :	1
Lab File ID:	I31L005	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	20.7
Calib. Ref.:	I31L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	4.78	.631	.58
Cadmium	.264	.126	.126
Lead	19.2	.631	.177

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Btch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152702	DaTime Analyzd :	12/05/96 17:32
Lab Cnt NO.:	K047-12	Dilutn Factor :	1
Lab File ID:	I31L005	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	20.9
Calib. Ref.:	I31L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	4.73	.632	.582
Cadmium	.169	.126	.126
Lead	14.6	.632	.177

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152704	DaTime Analyzd :	12/05/96 17:36
Lab Cnt NO.:	K047-14	Dilutn Factor :	1
Lab File ID:	I31L005	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	13.6
Calib. Ref.:	I31L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	5.31	.579	.532
Cadmium	.153	.116	.116
Lead	14.3	.579	.162

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Btch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152802	DaTime Analyzd :	12/05/96 17:51
Lab Cnt NO.:	K047-16	Dilutn Factor :	1
Lab File ID:	I31L005	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	18.9
Calib. Ref.:	I31L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	5.2	.617	.567
Cadmium	.23	.123	.123
Lead	14.4	.617	.173

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152804	DaTime Analyzd :	12/05/96 17:55
Lab Cnt NO.:	K047-18	Dilutn Factor :	1
Lab File ID:	I31L005	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	12.1
Calib. Ref.:	I31L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	5.12	.569	.523
Cadmium	.213	.114	.114
Lead	4.26	.569	.159

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Btch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152806	DaTime Analyzd :	12/05/96 17:58
Lab Cnt NO.:	K047-20	Dilutn Factor :	1
Lab File ID:	I31L005	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	17.8
Calib. Ref.:	I31L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	4.55	.608	.56
Cadmium	.208	.122	.122
Lead	13.5	.608	.17

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152902	DaTime Analyzd :	12/05/96 18:02
Lab Cnt NO.:	K047-23	Dilutn Factor :	1
Lab File ID:	I31L005	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	18.0
Calib. Ref.:	I31L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	4.24	.61	.561
Cadmium	.198	.122	.122
Lead	13.5	.61	.171

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152904	DaTime Analyzd :	12/05/96 18:06
Lab Cnt NO.:	K047-25	Dilutn Factor :	1
Lab File ID:	I31L005	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	15.1
Calib. Ref.:	I31L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	4.84	.589	.542
Cadmium	.163	.118	.118
Lead	11.5	.589	.165

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152906	DaTime Analyzd :	12/05/96 18:10
Lab Cnt NO.:	K047-27	Dilutn Factor :	1
Lab File ID:	I31L005	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	21.1
Calib. Ref.:	I31L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	3.6	.634	.583
Cadmium	.22	.127	.127
Lead	12.9	.634	.177

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152907	DaTime Analyzd :	12/05/96 18:14
Lab Cnt NO.:	K047-28	Dilutn Factor :	1
Lab File ID:	I31L005	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	15.9
Calib. Ref.:	I31L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	4.41	.595	.547
Cadmium	.173	.119	.119
Lead	10.4	.595	.166

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153002	DaTime Analyzd :	12/05/96 18:18
Lab Cnt NO.:	K047-31	Dilutn Factor :	1
Lab File ID:	I31L005	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	19.6
Calib. Ref.:	I31L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	3.89	.622	.572
Cadmium	.163	.124	.124
Lead	12.3	.622	.174

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Btch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153004	DaTime Analyzd :	12/05/96 18:22
Lab Cnt NO.:	K047-33	Dilutn Factor :	1
Lab File ID:	I31L005	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	9.3
Calib. Ref.:	I31L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	3.83	.551	.507
Cadmium	.18	.11	.11
Lead	5.04	.551	.154

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153006	DaTime Analyzd :	12/05/96 18:29
Lab Cnt NO.:	K047-34	Dilutn Factor :	1
Lab File ID:	I31L005	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	19.2
Calib. Ref.:	I31L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	5.5	.619	.569
Cadmium	.166	.124	.124
Lead	6.41	.619	.173

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153008	DaTime Analyzd :	12/06/96 18:34
Lab Cnt NO.:	K047-36	Dilutn Factor :	1
Lab File ID:	I31L008	Matrix :	SOIL
Ext Btch ID:	IPK025S	% Moisture :	9.3
Calib. Ref.:	I31L008	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	3.38	.551	.507
Cadmium	ND	.11	.11
Lead	3.28	.551	.154

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153104	DaTime Analyzd :	12/05/96 18:47
Lab Cnt NO.:	K047-39	Dilutn Factor :	1
Lab File ID:	I31L005	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	12.1
Calib. Ref.:	I31L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	3.33	.569	.523
Cadmium	.176	.114	.114
Lead	6.97	.569	.159

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153204	DaTime Analyzd :	12/06/96 18:42
Lab Cnt NO.:	K047-43	Dilutn Factor :	1
Lab File ID:	I31L008	Matrix :	SOIL
Ext Btch ID:	IPK025S	% Moisture :	8.6
Calib. Ref.:	I31L008	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	4.41	.547	.503
Cadmium	.122	.109	.109
Lead	2.13	.547	.153

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153202	DaTime Analyzd :	12/06/96 18:38
Lab Cnt NO.:	K047-41	Dilutn Factor :	1
Lab File ID:	I31L008	Matrix :	SOIL
Ext Btch ID:	IPK025S	% Moisture :	17.1
Calib. Ref.:	I31L008	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	3.65	.603	.555
Cadmium	.149	.121	.121
Lead	11.4	.603	.169

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 96K047
METHOD: SW 3050A/6010A

MATRIX:	SOIL		% MOISTURE:	12.1
DILTN FACTR:	1	1		
SAMPLE ID:	CR-A153104	CR-A153104		
CONTROL NO.:	K047-39	K047-39T		
LAB FILE ID:	I31L005	I31L005		
DATIME EXTRCTD:	11/26/9609:00	11/26/9609:00	DATE COLLECTED:	11/10/96
DATIME ANALYZD:	12/05/9618:47	12/05/9619:01	DATE RECEIVED:	11/12/96
PREP. BATCH:	IPK023S	IPK023S		
CALIB. REF:	I31L005	I31L005		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT (%)
Arsenic	3.33	3.04	9	10
Cadmium	.176	1.11	531R	10
Lead	6.97	9.51	36R	10

R: The QC limit does not apply since analyte concnetration was less than 50X MDL.

SW3005A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/09/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/18/96 15:00
Sample ID	: CR-A152607	DaTime Analyzd :	12/05/96 20:14
Lab Cnt NO.	: K047-10	Dilutn Factor :	1
Lab File ID	: I31L005	Matrix :	WATER
Ext Btch ID	: IPK015W	% Moisture :	NA
Calib. Ref.	: I31L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/L)	PQL (mg/L)	MDL (mg/L)
Arsenic	ND	.005	.0049
Cadmium	ND	.001	.00046
Lead	.00166F	.005	.0016

SW3005A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Btch No.	: 96K047	DaTime Extrctd :	11/18/96 15:00
Sample ID	: CR-A153207	DaTime Analyzd :	12/05/96 20:18
Lab Cnt NO.:	K047-46	Dilutn Factor :	1
Lab File ID:	I31L005	Matrix :	WATER
Ext Btch ID:	IPK015W	% Moisture :	NA
Calib. Ref.:	I31L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/L)	PQL (mg/L)	MDL (mg/L)
Arsenic	ND	.005	.0049
Cadmium	ND	.001	.00046
Lead	ND	.005	.0016

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

MERCURY BY COLD VAPOR

SDG#: 96K047

DECEMBER 13, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K047

MERCURY BY COLD VAPOR

Nineteen (19) soil and two (2) water samples were received on 11/12/96 for Mercury by Method 7471A in accordance with SW846 (1994).

1. **Holding Time**

   Extraction and analysis met holding time.

2. **Blank**

   A preparation blank was free of contamination.

3. **Matrix Spike/Matrix Spike Duplicate**

   Recoveries were within QC limits for soil. No MS/MSD was designated for water.

4. **Lab Control Sample/Lab Control Sample Duplicate**

   Lab control sample results and RPD were within the control limits.

5. **Sample Analyses**

   Sample analyses were performed within the QC requirements.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

LAB CHRONICLE 11-18-199616:45:1

Method: Mercury
Client: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900
SDG/Batch No.: 96K047
Matrix: Soil

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A152502	K047-02	16.5		11/22/96/Hg.K015S	11/22/96/M96K014	
CR-A152504	K047-04	11.7				
CR-A152602	K047-06	20.7				
CR-A152702	K047-12	20.9				
CR-A152704	K047-14	13.6				
CR-A152802	K047-16	18.9				
CR-A152804	K047-18	12.1				
CR-A152806	K047-20	17.8				
CR-A152902	K047-23	18.0				
CR-A152904	K047-25	15.1				
CR-A152906	K047-27	21.1				
CR-A152907	K047-28	15.9				
CR-A153002	K047-31	19.6				
CR-A153004	K047-33	9.3				
CR-A153006	K047-34	19.2				
CR-A153008	K047-36	9.3				
CR-A153104	K047-39	12.1				
CR-A153104MS	K047-39M	12.1				
CR-A153202	K047-41	17.1				
CR-A153204	K047-43	8.6				
CR-A153104DUP	K047-39D	12.1				
MBLK1S	HgK015SB					
LCS1S	HgK015SL					
LCD1S	HgK015SC					

02

LAB CHRONICLE 11-18-199616:45:1

Method: Mercury
Client: Jacobs Engineering Group

PROJECT: Carswell AFB / 05G47900
S Batch No.: 96K047
M x: Water

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A152607	K047-10	NA		11/13/96/HgK008W	11/14/96/M96K003	
CR-A153207	K047-46	NA				
MBLK1W	HgK008WB					
LCS1W	HgK008WL					
LCSD1W	HgK008WC					

03

EPA 7471A
MERCURY BY COLD VAPOR

CLIENT:	JACOBS ENGINEERING GROUP	DATE COLLECTED:	11/09/96
PROJECT:	CARSWELL AFB / 05G47900	DATE RECEIVED:	11/12/96
BATCH NO.:	96K047	DATE EXTRACTED:	11/22/96 10:00
MATRIX:	SOIL	INSTRUMENT ID:	I23
CAL REF:	M96K014-31	PREP BATCH:	HGK015S

SAMPLE ID	CONTROL NO	RESULT (mg/kg)	DL FACTOR	MOIST (%)	PQL (mg/kg)	MDL (mg/kg)	ANALYZED DATETIME
CR-A152502	K047-02	ND	1	16.5	.12	.035	11/22/96 20:38
CR-A152504	K047-04	ND	1	11.7	.11	.033	11/22/96 20:41
CR-A152602	K047-06	ND	1	20.7	.13	.037	11/22/96 20:44
CR-A152702	K047-12	ND	1	20.9	.13	.037	11/22/96 20:49
CR-A152704	K047-14	ND	1	13.6	.12	.034	11/22/96 20:52
CR-A152802	K047-16	0.14	1	18.9	.12	.036	11/22/96 20:55
CR-A152804	K047-18	ND	1	12.1	.11	.033	11/22/96 20:58
CR-A152806	K047-20	ND	1	17.8	.12	.035	11/22/96 21:11
CR-A152902	K047-23	ND	1	18.0	.12	.035	11/22/96 21:14
CR-A152904	K047-25	ND	1	15.1	.12	.034	11/22/96 21:17
CR-A152906	K047-27	ND	1	21.1	.13	.037	11/22/96 21:21
CR-A152907	K047-28	ND	1	15.9	.12	.034	11/22/96 21:24
CR-A153002	K047-31	ND	1	19.6	.12	.036	11/22/96 21:27
CR-A153004	K047-33	ND	1	9.3	.11	.032	11/22/96 21:30
CR-A153006	K047-34	ND	1	19.2	.12	.036	11/22/96 21:33
CR-A153008	K047-36	ND	1	9.3	.11	.032	11/22/96 21:37
CR-A153104	K047-39	ND	1	12.1	.11	.033	11/22/96 21:49
CR-A153104MS	K047-39M	2.03	1	12.1	.11	.033	11/22/96 21:53
CR-A153104MSD	K047-39S	2.05	1	12.1	.11	.033	11/22/96 21:56
CR-A153202	K047-41	ND	1	17.1	.12	.035	11/22/96 21:59
CR-A153204	K047-43	ND	1	8.6	.11	.032	11/22/96 22:02
MBLK1S	HGK015SB	ND	1	NA	.1	.029	11/22/96 20:18
LCS1S	HGK015SL	1.85	1	NA	.1	.029	11/22/96 20:30
LCD1S	HGK015SC	1.90	1	NA	.1	.029	11/22/96 20:34

PQL: Practical Quantitation Limit
CAL REF: M96K014-45, for K047-20 to 36
M96K014-55, for K047-39, 39M, 39S to 43
M96K014-19, for HGK015SB
AFCEE Ver. 1.1

EPA [illegible]OA
MERCURY BY COLD VAPOR

CLIENT:	JACOBS ENGINEERING GROUP	DATE COLLECTED:	11/09/96
PROJECT:	CARSWELL AFB / 05G47900	DATE RECEIVED:	11/12/96
BATCH NO.:	96K047	DATE EXTRACTED:	11/13/96 20:00
MATRIX:	WATER	INSTRUMENT ID:	I23
CAL REF:	M96K005-7	PREP BATCH:	HGK008W

SAMPLE ID	CONTROL NO	RESULT (mg/L)	DILUTION FACTOR	PQL (mg/L)	MDL (mg/L)	ANALYZED DATETIME
CR-A152607	K047-10	ND	1	.001	.0001	11/14/96 16:58
CR-A153207	K047-46	ND	1	.001	.0001	11/14/96 17:01
MBLK1W	HGK008WB	ND	1	.001	.0001	11/14/96 16:39
LCS1W	HGK008WL	.0049	1	.001	.0001	11/14/96 16:43
LCD1W	HGK008WC	.0049	1	.001	.0001	11/14/96 16:46

PQL: Practical Quantitation Limit
AFCEE Ver. 1.1

EPA 7470A
MERCURY BY COLD VAPOR

CLIENT:	JACOBS ENGINEERING GROUP	DATE COLLECTED:	11/09/96
PROJECT:	CARSWELL AFB / 05G47900	DATE RECEIVED:	11/12/96
BATCH NO.:	96K047	DATE EXTRACTED:	11/13/96 20:00
MATRIX:	WATER	INSTRUMENT ID:	I23
CAL REF:	M96K005-7	PREP BATCH:	HGK008W

SAMPLE ID	CONTROL NO	RESULT (mg/L)	DILUTION FACTOR	POL (mg/L)	MDL (mg/L)	ANALYZED DATETIME
CR-A152607	K047-10	ND	1	.001	.0001	11/14/96 16:58
CR-A153207	K047-46	ND	1	.001	.0001	11/14/96 17:01
MBLK1W	HGK008WB	ND	1	.001	.0001	11/14/96 16:39
LCS1W	HGK008WL	.0049	1	.001	.0001	11/14/96 16:43
LCD1W	HGK008WC	.0049	1	.001	.0001	11/14/96 16:46

POL: Practical Quantitation Limit
AFCEE Ver. 1.1

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

SW 5030A/8240B
VOLATILES

SDG#: 96K047

DECEMBER 13, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K047

SW 5030A/8240B
VOLATILES

Nineteen (19) soil and three (3) water samples were received on 11/12/96 to be analyzed for volatile organics by Method 8240B in accordance with USEPA SW846 (1994).

1. Holding Time

   Analytical holding time was met.

2. Surrogate Recovery

   Recoveries were within the QC limits except sample K047-05, -11, -22 and -35. Upon reanalysis, surrogates were still out. Both results were submitted.

3. Matrix Spike/Matrix Spike Duplicate

   Sample K047-38 was spiked. All recoveries were within the QC limits except vinyl acetate in MSD.

4. Lab Control Sample/Lab Control Sample Duplicate

   All recoveries were within QC limits.

5. Method Blank

   Method blanks were free of contamination.

6. Tuning and Calibration

   Tuning and calibration were carried out at 12 hour interval. All QC requirements were met.

7. Sample Analysis

   All sample analyses were within QC requirements.

LAB CHRONICLE 11-18-199612:17:1

Method: EPA 8240
Client: Jacobs Engineering Group

Project: Carswell AFB / 05G47900
SDG/Batch No.: 96K047
Matrix: Soil

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A152501	K047-01	17.6	KP244	11/19		
CR-A152503	K047-03	11.7	KP245	11/19		
CR-A152601	K047-05	19.5	KP246	11/19		
CR-A152701	K047-11	20.6	KP247	11/19		
CR-A152703	K047-13	21.8	KP262	11/20		
CR-A152801	K047-15	17.9	KP263	11/20		
CR-A152803	K047-17	13.3	KP264	11/20		
CR-A152805	K047-19	16.7	KP265	11/20		
CR-A152901	K047-22	20.7	KP266	11/20		
CR-A152903	K047-24	12.3	KP267	11/20		
CR-A152905	K047-26	14.7	KP268	11/20		
CR-A152908	K047-29	17.3	KP269	11/20		
CR-A153001	K047-30	19.7	KP270	11/20		
CR-A153003	K047-32	13.6	KP271	11/20		
CR-A153007	K047-35	20.3	KP272	11/20		
CR-A153009	K047-37	9.7	KP273	11/20		
CR-A153103	K047-38	10.5	KP259	11/20		
CR-A153103MS	K047-38M	10.5	KP260	11/20		
CR-A153103MSD	K047-38S	10.5	KP261	11/20		
CR-A153201	K047-40	18.3	KP274	11/20		
CR-A153203	K047-42	8.4	KP296	11/21		
	K047-05R		KP257	11/20		
	K047-11R		KP258	11/20		
	KP47-22R		KP294	11/21		
	KP47-35R		KP295	11/21		

LAB CHRONICLE 11-18-199612:17:1

Method: EPA 8240
Client: Jacobs Engineering Group
JECT: Carswell AFB / 05G47900
/Batch No.: 96K047
Matrix: Water

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A152604	K047-07	NA	KP213	11/18		
CR-A152807	K047-21	NA	KP214	11/18		
CR-A153205	K047-44	NA	KP215	11/18		

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/09/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/19/96 18:20
Sample ID	: CR-A152501	DaTime Analyzd :	11/19/96 18:20
Lab Cnt NO.:	K047-01	Dilutn Factor :	1
Lab File ID:	RKP244	Matrix :	SOIL
Ext Btch ID:	VOK1202	% Moisture :	17.6
Calib. Ref.:	RKP226	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.07	.647
1,1,2,2-Tetrachloroethane	ND	6.07	1.01
1,1,2-Trichloroethane	ND	6.07	1.03
1,1-Dichloroethane	ND	6.07	.515
1,1-Dichloroethene	ND	6.07	.633
1,2,3-Trichloropropane	ND	60.7	1.85
1,2-Dichloroethane	ND	6.07	.36
1,2-Dichloropropane	ND	6.07	1.17
2-Butanone	ND	121	2.75
2-Chloroethyl Vinyl Ether	ND	12.1	1.21
2-Hexanone	ND	60.7	1.6
4-Methyl-2-Pentanone	ND	60.7	1.89
Acetone	ND	121	5.44
Benzene	ND	6.07	.493
Bromodichloromethane	ND	6.07	.466
Bromoform	ND	6.07	.695
Bromomethane	ND	12.1	1.49
Carbon Disulfide	ND	6.07	.597
Carbon Tetrachloride	ND	6.07	.478
Chlorobenzene	ND	6.07	.532
Chloroethane	ND	12.1	1.12
Chloroform	ND	6.07	.551
Chloromethane	ND	12.1	1.13
Cis-1,2-Dichloroethene	ND	6.07	.567
Cis-1,3-Dichloropropene	ND	6.07	.485
Dibromochloromethane	ND	6.07	.468
Ethylbenzene	ND	6.07	.655
Methylene Chloride	ND	6.07	3.02
m/p-Xylenes	ND	12.1	.837
o-Xylene	ND	6.07	.462
Styrene	ND	6.07	.579
Tetrachloroethylene	ND	6.07	.38
Toluene	ND	6.07	.49
Trans-1,2-Dichloroethene	ND	6.07	.462
Trans-1,3-Dichloropropene	ND	6.07	.424
Trichloroethene	ND	6.07	.57
Vinyl Acetate	ND	60.7	.992
Vinyl Chloride	ND	12.1	1.53

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	103	79-118
Bromofluorobenzene	97	86-115
Toluene-d8	110	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/09/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/19/96 18:47
Sample ID	: CR-A152503	DaTime Analyzd :	11/19/96 18:47
Lab Cnt NO.:	K047-03	Dilutn Factor :	1
Lab File ID:	RKP245	Matrix :	SOIL
Ext Btch ID:	VOK1202	% Moisture :	11.7
Calib. Ref.:	RKP226	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.66	.604
1,1,2,2-Tetrachloroethane	ND	5.66	.94
1,1,2-Trichloroethane	ND	5.66	.957
1,1-Dichloroethane	ND	5.66	.48
1,1-Dichloroethene	ND	5.66	.591
1,2,3-Trichloropropane	ND	56.6	1.72
1,2-Dichloroethane	ND	5.66	.336
1,2-Dichloropropane	ND	5.66	1.09
2-Butanone	ND	113	2.56
2-Chloroethyl Vinyl Ether	ND	11.3	1.13
2-Hexanone	ND	56.6	1.5
4-Methyl-2-Pentanone	ND	56.6	1.77
Acetone	ND	113	5.08
Benzene	ND	5.66	.46
Bromodichloromethane	ND	5.66	.435
Bromoform	ND	5.66	.649
Bromomethane	ND	11.3	1.39
Carbon Disulfide	ND	5.66	.557
Carbon Tetrachloride	ND	5.66	.446
Chlorobenzene	ND	5.66	.496
Chloroethane	ND	11.3	1.04
Chloroform	ND	5.66	.514
Chloromethane	ND	11.3	1.06
Cis-1,2-Dichloroethene	ND	5.66	.529
Cis-1,3-Dichloropropene	ND	5.66	.453
Dibromochloromethane	ND	5.66	.437
Ethylbenzene	ND	5.66	.612
Methylene Chloride	ND	5.66	2.82
m,p-Xylenes	ND	11.3	.781
o-Xylene	ND	5.66	.431
Styrene	ND	5.66	.54
Tetrachloroethylene	ND	5.66	.354
Toluene	ND	5.66	.458
Trans-1,2-Dichloroethene	ND	5.66	.431
Trans-1,3-Dichloropropene	ND	5.66	.395
Trichloroethene	ND	5.66	.532
Vinyl Acetate	ND	56.6	.925
Vinyl Chloride	ND	11.3	1.43

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	98	79-118
Bromofluorobenzene	105	86-115
Toluene-d8	99	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/09/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/19/96 19:15
Sample ID	: CR-A152601	DaTime Analyzd :	11/19/96 19:15
Lab Cnt NO.:	K047-05	Dilutn Factor :	1
Lab File ID:	RKP246	Matrix :	SOIL
Ext Btch ID:	VOK1202	% Moisture :	19.5
Calib. Ref.:	RKP226	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.21	.662
1,1,2,2-Tetrachloroethane	ND	6.21	1.03
1,1,2-Trichloroethane	ND	6.21	1.05
1,1-Dichloroethane	ND	6.21	.527
1,1-Dichloroethene	ND	6.21	.648
1,2,3-Trichloropropane	ND	62.1	1.89
1,2-Dichloroethane	ND	6.21	.369
1,2-Dichloropropane	ND	6.21	1.19
2-Butanone	ND	124	2.81
2-Chloroethyl Vinyl Ether	ND	12.4	1.23
2-Hexanone	ND	62.1	1.64
4-Methyl-2-Pentanone	ND	62.1	1.94
Acetone	ND	124	5.57
Benzene	ND	6.21	.504
Bromodichloromethane	ND	6.21	.477
Bromoform	ND	6.21	.712
Bromomethane	ND	12.4	1.52
Carbon Disulfide	ND	6.21	.611
Carbon Tetrachloride	ND	6.21	.489
Chlorobenzene	ND	6.21	.544
Chloroethane	ND	12.4	1.14
Chloroform	ND	6.21	.564
Chloromethane	ND	12.4	1.16
Cis-1,2-Dichloroethene	ND	6.21	.58
Cis-1,3-Dichloropropene	ND	6.21	.497
Dibromochloromethane	ND	6.21	.48
Ethylbenzene	ND	6.21	.671
Methylene Chloride	ND	6.21	3.09
m/p-Xylenes	ND	12.4	.857
o-Xylene	ND	6.21	.473
Styrene	ND	6.21	.593
Tetrachloroethylene	ND	6.21	.389
Toluene	1.6F	6.21	.502
Trans-1,2-Dichloroethene	ND	6.21	.473
Trans-1,3-Dichloropropene	ND	6.21	.434
Trichloroethene	ND	6.21	.584
Vinyl Acetate	ND	62.1	1.01
Vinyl Chloride	ND	12.4	1.57

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	100	79-118
Bromofluorobenzene	77*	86-115
Toluene-d8	116*	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/09/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Btch No.	: 96K047	DaTime Extrctd :	11/20/96 11:13
Sample ID	: CR-A152601	DaTime Analyzd :	11/20/96 11:13
Lab Cnt NO.	: K047-05R	Dilutn Factor :	1
Lab File ID	: RKP257	Matrix :	SOIL
Ext Btch ID	: VOK1302	% Moisture :	19.5
Calib. Ref.	: RKP251	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.21	.662
1,1,2,2-Tetrachloroethane	ND	6.21	1.03
1,1,2-Trichloroethane	ND	6.21	1.05
1,1-Dichloroethane	ND	6.21	.527
1,1-Dichloroethene	ND	6.21	.648
1,2,3-Trichloropropane	ND	62.1	1.89
1,2-Dichloroethane	ND	6.21	.369
1,2-Dichloropropane	ND	6.21	1.19
2-Butanone	ND	124	2.81
2-Chloroethyl Vinyl Ether	ND	12.4	1.23
2-Hexanone	ND	62.1	1.64
4-Methyl-2-Pentanone	ND	62.1	1.94
Acetone	ND	124	5.57
Benzene	ND	6.21	.504
Bromodichloromethane	ND	6.21	.477
Bromoform	ND	6.21	.712
Bromomethane	ND	12.4	1.52
Carbon Disulfide	ND	6.21	.611
Carbon Tetrachloride	ND	6.21	.489
Chlorobenzene	ND	6.21	.544
Chloroethane	ND	12.4	1.14
Chloroform	ND	6.21	.564
Chloromethane	ND	12.4	1.16
Cis-1,2-Dichloroethene	ND	6.21	.58
Cis-1,3-Dichloropropene	ND	6.21	.497
Dibromochloromethane	ND	6.21	.48
Ethylbenzene	ND	6.21	.671
Methylene Chloride	3.2F	6.21	3.09
m/p-Xylenes	ND	12.4	.857
o-Xylene	ND	6.21	.473
Styrene	ND	6.21	.593
Tetrachloroethylene	ND	6.21	.389
Toluene	1.09F	6.21	.502
Trans-1,2-Dichloroethene	ND	6.21	.473
Trans-1,3-Dichloropropene	ND	6.21	.434
Trichloroethene	ND	6.21	.584
Vinyl Acetate	ND	62.1	1.01
Vinyl Chloride	ND	12.4	1.57

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	96	79-118
Bromofluorobenzene	79*	86-115
Toluene-d8	124*	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/09/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/18/96 19:49
Sample ID	: CR-A152604	DaTime Analyzd :	11/18/96 19:49
Lab Cnt NO.:	K047-07	Dilutn Factor :	1
Lab File ID:	RKP213	Matrix :	WATER
Ext Btch ID:	VOK1102	% Moisture :	NA
Calib. Ref.:	RKP207	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/L)	PQL (ug/L)	MDL (ug/L)
1,1,1-Trichloroethane	ND	5	.308
1,1,2,2-Tetrachloroethane	ND	5	.326
1,1,2-Trichloroethane	ND	5	.064
1,1-Dichloroethane	ND	5	.55
1,1-Dichloroethene	ND	5	.688
1,2,3-Trichloropropane	ND	5	1.52
1,2-Dichloroethane	ND	5	.327
1,2-Dichloropropane	ND	5	.822
2-Butanone	ND	100	1.3
2-Chloroethyl Vinyl Ether	ND	10	.387
2-Hexanone	ND	50	.962
4-Methyl-2-Pentanone	ND	50	1.88
Acetone	ND	100	2.18
Benzene	ND	5	.7
Bromodichloromethane	ND	5	.406
Bromoform	ND	5	.299
Bromomethane	ND	10	.721
Carbon Disulfide	ND	5	.474
Carbon Tetrachloride	ND	5	.398
Chlorobenzene	ND	5	.345
Chloroethane	ND	10	.71
Chloroform	ND	5	.441
Chloromethane	ND	10	1.16
Cis-1,2-Dichloroethene	ND	5	.402
Cis-1,3-Dichloropropene	ND	5	.327
Dibromochloromethane	ND	5	.317
Ethylbenzene	ND	5	.428
Methylene Chloride	8.23	5	.771
m/p-Xylenes	ND	10	.71
o-Xylene	ND	5	.26
Styrene	ND	5	.263
Tetrachloroethylene	ND	5	.32
Toluene	ND	5	.372
Trans-1,2-Dichloroethene	ND	5	.494
Trans-1,3-Dichloropropene	ND	5	.171
Trichloroethene	ND	5	.325
Vinyl Acetate	ND	50	.293
Vinyl Chloride	ND	10	.458

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	105	79-118
Bromofluorobenzene	113	86-115
Toluene-d8	106	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Btch No.	: 96K047	DaTime Extrctd :	11/19/96 19:43
Sample ID	: CR-A152701	DaTime Analyzd :	11/19/96 19:43
Lab Cnt NO.	: K047-11	Dilutn Factor :	1
Lab File ID	: RKP247	Matrix :	SOIL
Ext Btch ID	: VOK1202	% Moisture :	20.6
Calib. Ref.	: RKP226	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.3	.671
1,1,2,2-Tetrachloroethane	ND	6.3	1.05
1,1,2-Trichloroethane	ND	6.3	1.06
1,1-Dichloroethane	ND	6.3	.534
1,1-Dichloroethene	ND	6.3	.657
1,2,3-Trichloropropane	ND	63	1.92
1,2-Dichloroethane	ND	6.3	.374
1,2-Dichloropropane	ND	6.3	1.21
2-Butanone	ND	126	2.85
2-Chloroethyl Vinyl Ether	ND	12.6	1.25
2-Hexanone	ND	63	1.66
4-Methyl-2-Pentanone	ND	63	1.97
Acetone	ND	126	5.65
Benzene	ND	6.3	.511
Bromodichloromethane	ND	6.3	.484
Bromoform	ND	6.3	.722
Bromomethane	ND	12.6	1.55
Carbon Disulfide	ND	6.3	.62
Carbon Tetrachloride	ND	6.3	.496
Chlorobenzene	ND	6.3	.552
Chloroethane	ND	12.6	1.16
Chloroform	ND	6.3	.572
Chloromethane	ND	12.6	1.18
Cis-1,2-Dichloroethene	ND	6.3	.588
Cis-1,3-Dichloropropene	ND	6.3	.504
Dibromochloromethane	ND	6.3	.486
Ethylbenzene	ND	6.3	.68
Methylene Chloride	ND	6.3	3.14
m,p-Xylenes	ND	12.6	.869
o-Xylene	ND	6.3	.48
Styrene	ND	6.3	.601
Tetrachloroethylene	ND	6.3	.394
Toluene	ND	6.3	.509
Trans-1,2-Dichloroethene	ND	6.3	.48
Trans-1,3-Dichloropropene	ND	6.3	.44
Trichloroethene	ND	6.3	.592
Vinyl Acetate	ND	63	1.03
Vinyl Chloride	ND	12.6	1.59

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	96	79-118
Bromofluorobenzene	89	86-115
Toluene-d8	112*	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 11:41
Sample ID	: CR-A152701	DaTime Analyzd :	11/20/96 11:41
Lab Cnt NO.:	K047-11R	Dilutn Factor :	1
Lab File ID:	RKP258	Matrix :	SOIL
Ext Btch ID:	VOK1302	% Moisture :	20.6
Calib. Ref.:	RKP251	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.3	.671
1,1,2,2-Tetrachloroethane	ND	6.3	1.05
1,1,2-Trichloroethane	ND	6.3	1.06
1,1-Dichloroethane	ND	6.3	.534
1,1-Dichloroethene	ND	6.3	.657
1,2,3-Trichloropropane	ND	63	1.92
1,2-Dichloroethane	ND	6.3	.374
1,2-Dichloropropane	ND	6.3	1.21
2-Butanone	ND	126	2.85
2-Chloroethyl Vinyl Ether	ND	12.6	1.25
2-Hexanone	ND	63	1.66
4-Methyl-2-Pentanone	ND	63	1.97
Acetone	ND	126	5.65
Benzene	ND	6.3	.511
Bromodichloromethane	ND	6.3	.484
Bromoform	ND	6.3	.722
Bromomethane	ND	12.6	1.55
Carbon Disulfide	ND	6.3	.62
Carbon Tetrachloride	ND	6.3	.496
Chlorobenzene	ND	6.3	.552
Chloroethane	ND	12.6	1.16
Chloroform	ND	6.3	.572
Chloromethane	ND	12.6	1.18
Cis-1,2-Dichloroethene	ND	6.3	.588
Cis-1,3-Dichloropropene	ND	6.3	.504
Dibromochloromethane	ND	6.3	.486
Ethylbenzene	ND	6.3	.68
Methylene Chloride	3.72F	6.3	3.14
m/p-Xylenes	ND	12.6	.869
o-Xylene	ND	6.3	.48
Styrene	ND	6.3	.601
Tetrachloroethylene	ND	6.3	.394
Toluene	.698F	6.3	.509
Trans-1,2-Dichloroethene	ND	6.3	.48
Trans-1,3-Dichloropropene	ND	6.3	.44
Trichloroethene	ND	6.3	.592
Vinyl Acetate	ND	63	1.03
Vinyl Chloride	ND	12.6	1.59

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	99	79-118
Bromofluorobenzene	95	86-115
Toluene-d8	113*	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 13:31
Sample ID	: CR-A152703	DaTime Analyzd :	11/20/96 13:31
Lab Cnt NO.:	K047-13	Dilutn Factor :	1
Lab File ID:	RKP262	Matrix :	SOIL
Ext Btch ID:	VOK1302	% Moisture :	21.8
Calib. Ref.:	RKP251	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.39	.682
1,1,2,2-Tetrachloroethane	ND	6.39	1.06
1,1,2-Trichloroethane	ND	6.39	1.08
1,1-Dichloroethane	ND	6.39	.542
1,1-Dichloroethene	ND	6.39	.668
1,2,3-Trichloropropane	ND	63.9	1.95
1,2-Dichloroethane	ND	6.39	.38
1,2-Dichloropropane	ND	6.39	1.23
2-Butanone	ND	128	2.89
2-Chloroethyl Vinyl Ether	ND	12.8	1.27
2-Hexanone	ND	63.9	1.69
4-Methyl-2-Pentanone	ND	63.9	2
Acetone	ND	128	5.73
Benzene	ND	6.39	.519
Bromodichloromethane	ND	6.39	.491
Bromoform	ND	6.39	.733
Bromomethane	ND	12.8	1.57
Carbon Disulfide	ND	6.39	.629
Carbon Tetrachloride	ND	6.39	.504
Chlorobenzene	ND	6.39	.56
Chloroethane	ND	12.8	1.18
Chloroform	ND	6.39	.581
Chloromethane	ND	12.8	1.19
Cis-1,2-Dichloroethene	ND	6.39	.597
Cis-1,3-Dichloropropene	ND	6.39	.512
Dibromochloromethane	ND	6.39	.494
Ethylbenzene	ND	6.39	.691
Methylene Chloride	ND	6.39	3.18
m,p-Xylenes	ND	12.8	.882
o-Xylene	ND	6.39	.487
Styrene	ND	6.39	.61
Tetrachloroethylene	ND	6.39	.4
Toluene	ND	6.39	.517
Trans-1,2-Dichloroethene	ND	6.39	.487
Trans-1,3-Dichloropropene	ND	6.39	.446
Trichloroethene	ND	6.39	.601
Vinyl Acetate	ND	63.9	1.04
Vinyl Chloride	ND	12.8	1.62

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	96	79-118
Bromofluorobenzene	102	86-115
Toluene-d8	102	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 14:01
Sample ID	: CR-A152801	DaTime Analyzd :	11/20/96 14:01
Lab Cnt NO.	: K047-15	Dilutn Factor :	1
Lab File ID	: RKP263	Matrix :	SOIL
Ext Btch ID	: VOK1302	% Moisture :	17.9
Calib. Ref.	: RKP251	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.09	.649
1,1,2,2-Tetrachloroethane	ND	6.09	1.01
1,1,2-Trichloroethane	ND	6.09	1.03
1,1-Dichloroethane	ND	6.09	.516
1,1-Dichloroethene	ND	6.09	.636
1,2,3-Trichloropropane	ND	60.9	1.85
1,2-Dichloroethane	ND	6.09	.362
1,2-Dichloropropane	ND	6.09	1.17
2-Butanone	ND	122	2.76
2-Chloroethyl Vinyl Ether	ND	12.2	1.21
2-Hexanone	ND	60.9	1.61
4-Methyl-2-Pentanone	ND	60.9	1.9
Acetone	ND	122	5.46
Benzene	ND	6.09	.495
Bromodichloromethane	ND	6.09	.468
Bromoform	ND	6.09	.698
Bromomethane	ND	12.2	1.49
Carbon Disulfide	ND	6.09	.599
Carbon Tetrachloride	ND	6.09	.48
Chlorobenzene	ND	6.09	.533
Chloroethane	ND	12.2	1.12
Chloroform	ND	6.09	.553
Chloromethane	ND	12.2	1.14
Cis-1,2-Dichloroethene	ND	6.09	.569
Cis-1,3-Dichloropropene	ND	6.09	.487
Dibromochloromethane	ND	6.09	.47
Ethylbenzene	ND	6.09	.658
Methylene Chloride	ND	6.09	3.03
m/p-Xylenes	ND	12.2	.84
o-Xylene	ND	6.09	.464
Styrene	ND	6.09	.581
Tetrachloroethylene	ND	6.09	.381
Toluene	.652F	6.09	.492
Trans-1,2-Dichloroethene	ND	6.09	.464
Trans-1,3-Dichloropropene	ND	6.09	.425
Trichloroethene	ND	6.09	.572
Vinyl Acetate	ND	60.9	.995
Vinyl Chloride	ND	12.2	1.54

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	99	79-118
Bromofluorobenzene	87	86-115
Toluene-d8	110	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Btch No.	: 96K047	DaTime Extrctd :	11/20/96 14:28
Sample ID	: CR-A152803	DaTime Analyzd :	11/20/96 14:28
Lab Cnt NO.	: K047-17	Dilutn Factor :	1
Lab File ID	: RKP264	Matrix :	SOIL
Ext Btch ID	: VOK1302	% Moisture :	13.3
Calib. Ref.	: RKP251	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.77	.615
1,1,2,2-Tetrachloroethane	ND	5.77	.957
1,1,2-Trichloroethane	ND	5.77	.975
1,1-Dichloroethane	ND	5.77	.489
1,1-Dichloroethene	ND	5.77	.602
1,2,3-Trichloropropane	ND	57.7	1.76
1,2-Dichloroethane	ND	5.77	.343
1,2-Dichloropropane	ND	5.77	1.11
2-Butanone	ND	115	2.61
2-Chloroethyl Vinyl Ether	ND	11.5	1.15
2-Hexanone	ND	57.7	1.52
4-Methyl-2-Pentanone	ND	57.7	1.8
Acetone	6.09F	115	5.17
Benzene	ND	5.77	.468
Bromodichloromethane	ND	5.77	.443
Bromoform	ND	5.77	.661
Bromomethane	ND	11.5	1.42
Carbon Disulfide	ND	5.77	.567
Carbon Tetrachloride	ND	5.77	.454
Chlorobenzene	ND	5.77	.505
Chloroethane	ND	11.5	1.06
Chloroform	ND	5.77	.524
Chloromethane	ND	11.5	1.08
Cis-1,2-Dichloroethene	ND	5.77	.539
Cis-1,3-Dichloropropene	ND	5.77	.461
Dibromochloromethane	ND	5.77	.445
Ethylbenzene	ND	5.77	.623
Methylene Chloride	ND	5.77	2.87
m,p-Xylenes	ND	11.5	.796
o-Xylene	ND	5.77	.439
Styrene	ND	5.77	.55
Tetrachloroethylene	ND	5.77	.361
Toluene	ND	5.77	.466
Trans-1,2-Dichloroethene	ND	5.77	.439
Trans-1,3-Dichloropropene	ND	5.77	.403
Trichloroethene	ND	5.77	.542
Vinyl Acetate	ND	57.7	.942
Vinyl Chloride	ND	11.5	1.46

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	92	79-118
Bromofluorobenzene	91	86-115
Toluene-d8	99	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 15:29
Sample ID	: CR-A152805	DaTime Analyzd :	11/20/96 15:29
Lab Cnt NO.:	K047-19	Dilutn Factor :	1
Lab File ID:	RKP265	Matrix :	SOIL
Ext Btch ID:	VOK1302	% Moisture :	16.7
Calib. Ref.:	RKP251	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6	.64
1,1,2,2-Tetrachloroethane	ND	6	.996
1,1,2-Trichloroethane	ND	6	1.01
1,1-Dichloroethane	ND	6	.509
1,1-Dichloroethene	ND	6	.627
1,2,3-Trichloropropane	ND	60	1.83
1,2-Dichloroethane	ND	6	.357
1,2-Dichloropropane	ND	6	1.15
2-Butanone	ND	120	2.72
2-Chloroethyl Vinyl Ether	ND	12	1.19
2-Hexanone	ND	60	1.59
4-Methyl-2-Pentanone	ND	60	1.87
Acetone	ND	120	5.38
Benzene	ND	6	.487
Bromodichloromethane	ND	6	.461
Bromoform	ND	6	.688
Bromomethane	ND	12	1.47
Carbon Disulfide	ND	6	.591
Carbon Tetrachloride	ND	6	.473
Chlorobenzene	ND	6	.526
Chloroethane	ND	12	1.1
Chloroform	ND	6	.545
Chloromethane	ND	12	1.12
Cis-1,2-Dichloroethene	ND	6	.561
Cis-1,3-Dichloropropene	ND	6	.48
Dibromochloromethane	ND	6	.463
Ethylbenzene	ND	6	.648
Methylene Chloride	ND	6	2.99
m/p-Xylenes	ND	12	.828
o-Xylene	ND	6	.457
Styrene	ND	6	.573
Tetrachloroethylene	ND	6	.376
Toluene	ND	6	.485
Trans-1,2-Dichloroethene	ND	6	.457
Trans-1,3-Dichloropropene	ND	6	.419
Trichloroethene	ND	6	.564
Vinyl Acetate	ND	60	.981
Vinyl Chloride	ND	12	1.52

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	92	79-118
Bromofluorobenzene	94	86-115
Toluene-d8	110	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/11/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047.	DaTime Extrctd :	11/18/96 20:18
Sample ID	: CR-A152807	DaTime Analyzd :	11/18/96 20:18
Lab Cnt NO.:	K047-21	Dilutn Factor :	1
Lab File ID:	RKP214	Matrix :	WATER
Ext Btch ID:	VOK1102	% Moisture :	NA
Calib. Ref.:	RKP207	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/L)	PQL (ug/L)	MDL (ug/L)
1,1,1-Trichloroethane	ND	5	.308
1,1,2,2-Tetrachloroethane	ND	5	.326
1,1,2-Trichloroethane	ND	5	.064
1,1-Dichloroethane	ND	5	.55
1,1-Dichloroethene	ND	5	.688
1,2,3-Trichloropropane	ND	5	1.52
1,2-Dichloroethane	ND	5	.327
1,2-Dichloropropane	ND	5	.822
2-Butanone	ND	100	1.3
2-Chloroethyl Vinyl Ether	ND	10	.387
2-Hexanone	ND	50	.962
4-Methyl-2-Pentanone	ND	50	1.88
Acetone	ND	100	2.18
Benzene	ND	5	.7
Bromodichloromethane	ND	5	.406
Bromoform	ND	5	.299
Bromomethane	ND	10	.721
Carbon Disulfide	ND	5	.474
Carbon Tetrachloride	ND	5	.398
Chlorobenzene	ND	5	.345
Chloroethane	ND	10	.71
Chloroform	ND	5	.441
Chloromethane	ND	10	1.16
Cis-1,2-Dichloroethene	ND	5	.402
Cis-1,3-Dichloropropene	ND	5	.327
Dibromochloromethane	ND	5	.317
Ethylbenzene	ND	5	.428
Methylene Chloride	3.36F	5	.771
m,p-Xylenes	ND	10	.71
o-Xylene	ND	5	.26
Styrene	ND	5	.263
Tetrachloroethylene	ND	5	.32
Toluene	ND	5	.372
Trans-1,2-Dichloroethene	ND	5	.494
Trans-1,3-Dichloropropene	ND	5	.171
Trichloroethene	ND	5	.325
Vinyl Acetate	ND	50	.293
Vinyl Chloride	ND	10	.458

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	106	79-118
Bromofluorobenzene	112	86-115
Toluene-d8	102	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047.	DaTime Extrctd :	11/20/96 15:57
Sample ID	: CR-A152901	DaTime Analyzd :	11/20/96 15:57
Lab Cnt NO.:	K047-22	Dilutn Factor :	1
Lab File ID:	RKP266	Matrix :	SOIL
Ext Btch ID:	VOK1302	% Moisture :	20.7
Calib. Ref.:	RKP251	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.31	.672
1,1,2,2-Tetrachloroethane	ND	6.31	1.05
1,1,2-Trichloroethane	ND	6.31	1.07
1,1-Dichloroethane	ND	6.31	.535
1,1-Dichloroethene	ND	6.31	.658
1,2,3-Trichloropropane	ND	63.1	1.92
1,2-Dichloroethane	ND	6.31	.375
1,2-Dichloropropane	ND	6.31	1.21
2-Butanone	ND	126	2.85
2-Chloroethyl Vinyl Ether	ND	12.6	1.25
2-Hexanone	ND	63.1	1.67
4-Methyl-2-Pentanone	ND	63.1	1.97
Acetone	ND	126	5.65
Benzene	ND	6.31	.512
Bromodichloromethane	ND	6.31	.484
Bromoform	ND	6.31	.723
Bromomethane	ND	12.6	1.55
Carbon Disulfide	ND	6.31	.62
Carbon Tetrachloride	ND	6.31	.497
Chlorobenzene	ND	6.31	.552
Chloroethane	ND	12.6	1.16
Chloroform	ND	6.31	.573
Chloromethane	ND	12.6	1.18
Cis-1,2-Dichloroethene	ND	6.31	.589
Cis-1,3-Dichloropropene	ND	6.31	.504
Dibromochloromethane	ND	6.31	.487
Ethylbenzene	ND	6.31	.681
Methylene Chloride	ND	6.31	3.14
m/p-Xylenes	ND	12.6	.87
o-Xylene	ND	6.31	.48
Styrene	ND	6.31	.602
Tetrachloroethylene	ND	6.31	.395
Toluene	ND	6.31	.509
Trans-1,2-Dichloroethene	ND	6.31	.48
Trans-1,3-Dichloropropene	ND	6.31	.44
Trichloroethene	ND	6.31	.593
Vinyl Acetate	ND	63.1	1.03
Vinyl Chloride	ND	12.6	1.59

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	96	79-118
Bromofluorobenzene	89	86-115
Toluene-d8	111*	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Btch No.	: 96K047.	DaTime Extrctd :	11/21/96 17:31
Sample ID	: CR-A152901	DaTime Analyzd :	11/21/96 17:31
Cnt NO.:	K047-22R	Dilutn Factor :	1
Lab File ID:	RKP294	Matrix :	SOIL
Ext Btch ID:	VOK1502	% Moisture :	20.7
Calib. Ref.:	RKP290	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.31	.672
1,1,2,2-Tetrachloroethane	ND	6.31	1.05
1,1,2-Trichloroethane	ND	6.31	1.07
1,1-Dichloroethane	ND	6.31	.535
1,1-Dichloroethene	ND	6.31	.658
1,2,3-Trichloropropane	ND	63.1	1.92
1,2-Dichloroethane	ND	6.31	.375
1,2-Dichloropropane	ND	6.31	1.21
2-Butanone	ND	126	2.85
2-Chloroethyl Vinyl Ether	ND	12.6	1.25
2-Hexanone	ND	63.1	1.67
4-Methyl-2-Pentanone	ND	63.1	1.97
Acetone	ND	126	5.65
Benzene	ND	6.31	.512
Bromodichloromethane	ND	6.31	.484
Bromoform	ND	6.31	.723
Bromomethane	ND	12.6	1.55
Carbon Disulfide	ND	6.31	.62
Carbon Tetrachloride	ND	6.31	.497
Chlorobenzene	ND	6.31	.552
Chloroethane	ND	12.6	1.16
Chloroform	ND	6.31	.573
Chloromethane	ND	12.6	1.18
Cis-1,2-Dichloroethene	ND	6.31	.589
Cis-1,3-Dichloropropene	ND	6.31	.504
Dibromochloromethane	ND	6.31	.487
Ethylbenzene	ND	6.31	.681
Methylene Chloride	ND	6.31	3.14
m,p-Xylenes	ND	12.6	.87
o-Xylene	ND	6.31	.48
Styrene	ND	6.31	.602
Tetrachloroethylene	ND	6.31	.395
Toluene	ND	6.31	.509
Trans-1,2-Dichloroethene	ND	6.31	.48
Trans-1,3-Dichloropropene	ND	6.31	.44
Trichloroethene	ND	6.31	.593
Vinyl Acetate	ND	63.1	1.03
Vinyl Chloride	ND	12.6	1.59

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	90	79-118
Bromofluorobenzene	81*	86-115
Toluene-d8	112*	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 16:24
Sample ID	: CR-A152903	DaTime Analyzd :	11/20/96 16:24
Lab Cnt NO.	: K047-24	Dilutn Factor :	1
Lab File ID	: RKP267	Matrix :	SOIL
Ext Btch ID	: VOK1302	% Moisture :	12.3
Calib. Ref.	: RKP251	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.7	.608
1,1,2,2-Tetrachloroethane	ND	5.7	.946
1,1,2-Trichloroethane	ND	5.7	.964
1,1-Dichloroethane	ND	5.7	.483
1,1-Dichloroethene	ND	5.7	.595
1,2,3-Trichloropropane	ND	57	1.74
1,2-Dichloroethane	ND	5.7	.339
1,2-Dichloropropane	ND	5.7	1.09
2-Butanone	ND	114	2.58
2-Chloroethyl Vinyl Ether	ND	11.4	1.13
2-Hexanone	ND	57	1.51
4-Methyl-2-Pentanone	ND	57	1.78
Acetone	ND	114	5.11
Benzene	ND	5.7	.463
Bromodichloromethane	ND	5.7	.438
Bromoform	ND	5.7	.653
Bromomethane	ND	11.4	1.4
Carbon Disulfide	ND	5.7	.561
Carbon Tetrachloride	ND	5.7	.449
Chlorobenzene	ND	5.7	.499
Chloroethane	ND	11.4	1.05
Chloroform	ND	5.7	.518
Chloromethane	ND	11.4	1.06
Cis-1,2-Dichloroethene	ND	5.7	.532
Cis-1,3-Dichloropropene	ND	5.7	.456
Dibromochloromethane	ND	5.7	.44
Ethylbenzene	ND	5.7	.616
Methylene Chloride	ND	5.7	2.84
m/p-Xylenes	ND	11.4	.787
o-Xylene	ND	5.7	.434
Styrene	ND	5.7	.544
Tetrachloroethylene	ND	5.7	.357
Toluene	ND	5.7	.461
Trans-1,2-Dichloroethene	ND	5.7	.434
Trans-1,3-Dichloropropene	ND	5.7	.398
Trichloroethene	ND	5.7	.536
Vinyl Acetate	ND	57	.932
Vinyl Chloride	ND	11.4	1.44

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	96	79-118
Bromofluorobenzene	99	86-115
Toluene-d8	103	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 16:52
Sample ID	: CR-A152905	DaTime Analyzd :	11/20/96 16:52
Lab Cnt NO.:	K047-26	Dilutn Factor :	1
Lab File ID:	RKP268	Matrix :	SOIL
Ext Btch ID:	VOK1302	% Moisture :	14.7
Calib. Ref.:	RKP251	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.86	.625
1,1,2,2-Tetrachloroethane	ND	5.86	.973
1,1,2-Trichloroethane	ND	5.86	.991
1,1-Dichloroethane	ND	5.86	.497
1,1-Dichloroethene	ND	5.86	.612
1,2,3-Trichloropropane	ND	58.6	1.78
1,2-Dichloroethane	ND	5.86	.348
1,2-Dichloropropane	ND	5.86	1.13
2-Butanone	ND	117	2.65
2-Chloroethyl Vinyl Ether	ND	11.7	1.17
2-Hexanone	ND	58.6	1.55
4-Methyl-2-Pentanone	ND	58.6	1.83
Acetone	ND	117	5.26
Benzene	ND	5.86	.476
Bromodichloromethane	ND	5.86	.45
Bromoform	ND	5.86	.672
Bromomethane	ND	11.7	1.44
Carbon Disulfide	ND	5.86	.577
Carbon Tetrachloride	ND	5.86	.462
Chlorobenzene	ND	5.86	.513
Chloroethane	ND	11.7	1.08
Chloroform	ND	5.86	.532
Chloromethane	ND	11.7	1.09
Cis-1,2-Dichloroethene	ND	5.86	.547
Cis-1,3-Dichloropropene	ND	5.86	.469
Dibromochloromethane	ND	5.86	.453
Ethylbenzene	ND	5.86	.633
Methylene Chloride	ND	5.86	2.92
m,p-Xylenes	ND	11.7	.809
o-Xylene	ND	5.86	.447
Styrene	ND	5.86	.559
Tetrachloroethylene	ND	5.86	.367
Toluene	ND	5.86	.474
Trans-1,2-Dichloroethene	ND	5.86	.447
Trans-1,3-Dichloropropene	ND	5.86	.409
Trichloroethene	ND	5.86	.551
Vinyl Acetate	ND	58.6	.958
Vinyl Chloride	ND	11.7	1.48

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	95	79-118
Bromofluorobenzene	88	86-115
Toluene-d8	106	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 17:19
Sample ID	: CR-A152908	DaTime Analyzd :	11/20/96 17:19
Lab Cnt NO.:	K047-29	Dilutn Factor :	1
Lab File ID:	RKP269	Matrix :	SOIL
Ext Btch ID:	VOK1302	% Moisture :	17.3
Calib. Ref.:	RKP251	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.05	.644
1,1,2,2-Tetrachloroethane	ND	6.05	1
1,1,2-Trichloroethane	ND	6.05	1.02
1,1-Dichloroethane	ND	6.05	.513
1,1-Dichloroethene	ND	6.05	.631
1,2,3-Trichloropropane	ND	60.5	1.84
1,2-Dichloroethane	ND	6.05	.359
1,2-Dichloropropane	ND	6.05	1.16
2-Butanone	ND	121	2.74
2-Chloroethyl Vinyl Ether	ND	12.1	1.2
2-Hexanone	ND	60.5	1.6
4-Methyl-2-Pentanone	ND	60.5	1.89
Acetone	ND	121	5.42
Benzene	ND	6.05	.491
Bromodichloromethane	ND	6.05	.464
Bromoform	ND	6.05	.693
Bromomethane	ND	12.1	1.48
Carbon Disulfide	ND	6.05	.595
Carbon Tetrachloride	ND	6.05	.476
Chlorobenzene	ND	6.05	.53
Chloroethane	ND	12.1	1.11
Chloroform	ND	6.05	.549
Chloromethane	ND	12.1	1.13
Cis-1,2-Dichloroethene	ND	6.05	.565
Cis-1,3-Dichloropropene	ND	6.05	.484
Dibromochloromethane	ND	6.05	.467
Ethylbenzene	ND	6.05	.653
Methylene Chloride	ND	6.05	3.01
m/p-Xylenes	ND	12.1	.834
o-Xylene	ND	6.05	.461
Styrene	ND	6.05	.577
Tetrachloroethylene	ND	6.05	.378
Toluene	ND	6.05	.489
Trans-1,2-Dichloroethene	ND	6.05	.461
Trans-1,3-Dichloropropene	ND	6.05	.422
Trichloroethene	ND	6.05	.568
Vinyl Acetate	ND	60.5	.988
Vinyl Chloride	ND	12.1	1.53

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	93	79-118
Bromofluorobenzene	88	86-115
Toluene-d8	103	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Btch No.	: 96K047	DaTime Extrctd :	11/20/96 17:48
Sample ID	: CR-A153001	DaTime Analyzd :	11/20/96 17:48
Lab Cnt NO.:	K047-30	Dilutn Factor :	1
Lab File ID:	RKP270	Matrix :	SOIL
Ext Btch ID:	VOK1302	% Moisture :	19.7
Calib. Ref.:	RKP251	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.23	.664
1,1,2,2-Tetrachloroethane	ND	6.23	1.03
1,1,2-Trichloroethane	ND	6.23	1.05
1,1-Dichloroethane	ND	6.23	.528
1,1-Dichloroethene	ND	6.23	.65
1,2,3-Trichloropropane	ND	62.3	1.9
1,2-Dichloroethane	ND	6.23	.37
1,2-Dichloropropane	ND	6.23	1.2
2-Butanone	ND	125	2.82
2-Chloroethyl Vinyl Ether	ND	12.5	1.24
2-Hexanone	ND	62.3	1.65
4-Methyl-2-Pentanone	ND	62.3	1.94
Acetone	ND	125	5.58
Benzene	ND	6.23	.506
Bromodichloromethane	ND	6.23	.478
Bromoform	ND	6.23	.714
Bromomethane	ND	12.5	1.53
Carbon Disulfide	ND	6.23	.613
Carbon Tetrachloride	ND	6.23	.491
Chlorobenzene	ND	6.23	.545
Chloroethane	ND	12.5	1.14
Chloroform	ND	6.23	.565
Chloromethane	ND	12.5	1.16
Cis-1,2-Dichloroethene	ND	6.23	.582
Cis-1,3-Dichloropropene	ND	6.23	.498
Dibromochloromethane	ND	6.23	.481
Ethylbenzene	ND	6.23	.672
Methylene Chloride	ND	6.23	3.1
m,p-Xylenes	ND	12.5	.859
o-Xylene	ND	6.23	.474
Styrene	ND	6.23	.594
Tetrachloroethylene	ND	6.23	.39
Toluene	ND	6.23	.503
Trans-1,2-Dichloroethene	ND	6.23	.474
Trans-1,3-Dichloropropene	ND	6.23	.435
Trichloroethene	ND	6.23	.585
Vinyl Acetate	ND	62.3	1.02
Vinyl Chloride	ND	12.5	1.57

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	100	79-118
Bromofluorobenzene	93	86-115
Toluene-d8	109	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 18:16
Sample ID	: CR-A153003	DaTime Analyzd :	11/20/96 18:16
Lab Cnt NO.:	K047-32	Dilutn Factor :	1
Lab File ID:	RKP271	Matrix :	SOIL
Ext Btch ID:	VOK1302	% Moisture :	13.6
Calib. Ref.:	RKP251	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.79	.617
1,1,2,2-Tetrachloroethane	ND	5.79	.961
1,1,2-Trichloroethane	ND	5.79	.978
1,1-Dichloroethane	ND	5.79	.491
1,1-Dichloroethene	ND	5.79	.604
1,2,3-Trichloropropane	ND	57.9	1.76
1,2-Dichloroethane	ND	5.79	.344
1,2-Dichloropropane	ND	5.79	1.11
2-Butanone	ND	116	2.62
2-Chloroethyl Vinyl Ether	ND	11.6	1.15
2-Hexanone	ND	57.9	1.53
4-Methyl-2-Pentanone	ND	57.9	1.81
Acetone	ND	116	5.19
Benzene	ND	5.79	.47
Bromodichloromethane	ND	5.79	.444
Bromoform	ND	5.79	.663
Bromomethane	ND	11.6	1.42
Carbon Disulfide	ND	5.79	.569
Carbon Tetrachloride	ND	5.79	.456
Chlorobenzene	ND	5.79	.507
Chloroethane	ND	11.6	1.06
Chloroform	ND	5.79	.525
Chloromethane	ND	11.6	1.08
Cis-1,2-Dichloroethene	ND	5.79	.541
Cis-1,3-Dichloropropene	ND	5.79	.463
Dibromochloromethane	ND	5.79	.447
Ethylbenzene	ND	5.79	.625
Methylene Chloride	ND	5.79	2.88
m/p-Xylenes	ND	11.6	.799
o-Xylene	ND	5.79	.441
Styrene	ND	5.79	.552
Tetrachloroethylene	ND	5.79	.362
Toluene	ND	5.79	.468
Trans-1,2-Dichloroethene	ND	5.79	.441
Trans-1,3-Dichloropropene	ND	5.79	.404
Trichloroethene	ND	5.79	.544
Vinyl Acetate	ND	57.9	.946
Vinyl Chloride	ND	11.6	1.46

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	97	79-118
Bromofluorobenzene	93	86-115
Toluene-d8	100	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Btch No.	: 96K047	DaTime Extrctd :	11/20/96 18:43
Sample ID	: CR-A153007	DaTime Analyzd :	11/20/96 18:43
Lab Cnt NO.:	K047-35	Dilutn Factor :	1
Lab File ID:	RKP272	Matrix :	SOIL
Ext Btch ID:	VOK1302	% Moisture :	20.3
Calib. Ref.:	RKP251	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.27	.669
1,1,2,2-Tetrachloroethane	ND	6.27	1.04
1,1,2-Trichloroethane	ND	6.27	1.06
1,1-Dichloroethane	ND	6.27	.532
1,1-Dichloroethene	ND	6.27	.655
1,2,3-Trichloropropane	ND	62.7	1.91
1,2-Dichloroethane	ND	6.27	.373
1,2-Dichloropropane	ND	6.27	1.2
2-Butanone	ND	125	2.84
2-Chloroethyl Vinyl Ether	ND	12.5	1.25
2-Hexanone	ND	62.7	1.66
4-Methyl-2-Pentanone	ND	62.7	1.96
Acetone	ND	125	5.62
Benzene	ND	6.27	.509
Bromodichloromethane	ND	6.27	.482
Bromoform	ND	6.27	.719
Bromomethane	ND	12.5	1.54
Carbon Disulfide	ND	6.27	.617
Carbon Tetrachloride	ND	6.27	.494
Chlorobenzene	ND	6.27	.55
Chloroethane	ND	12.5	1.15
Chloroform	ND	6.27	.57
Chloromethane	ND	12.5	1.17
Cis-1,2-Dichloroethene	ND	6.27	.586
Cis-1,3-Dichloropropene	ND	6.27	.502
Dibromochloromethane	ND	6.27	.484
Ethylbenzene	ND	6.27	.678
Methylene Chloride	ND	6.27	3.12
m,p-Xylenes	ND	12.5	.866
o-Xylene	ND	6.27	.478
Styrene	ND	6.27	.598
Tetrachloroethylene	ND	6.27	.393
Toluene	ND	6.27	.507
Trans-1,2-Dichloroethene	ND	6.27	.478
Trans-1,3-Dichloropropene	ND	6.27	.438
Trichloroethene	ND	6.27	.59
Vinyl Acetate	ND	62.7	1.03
Vinyl Chloride	ND	12.5	1.58

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	94	79-118
Bromofluorobenzene	84*	86-115
Toluene-d8	107	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/21/96 17:58
Sample ID	: CR-A153007	DaTime Analyzd :	11/21/96 17:58
Lab Cnt No.:	K047-35R	Dilutn Factor :	1
Lab File ID:	RKP295	Matrix :	SOIL
Ext Btch ID:	VOK1502	% Moisture :	20.3
Calib. Ref.:	RKP290	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.27	.669
1,1,2,2-Tetrachloroethane	ND	6.27	1.04
1,1,2-Trichloroethane	ND	6.27	1.06
1,1-Dichloroethane	ND	6.27	.532
1,1-Dichloroethene	ND	6.27	.655
1,2,3-Trichloropropane	ND	62.7	1.91
1,2-Dichloroethane	ND	6.27	.373
1,2-Dichloropropane	ND	6.27	1.2
2-Butanone	ND	125	2.84
2-Chloroethyl Vinyl Ether	ND	12.5	1.25
2-Hexanone	ND	62.7	1.66
4-Methyl-2-Pentanone	ND	62.7	1.96
Acetone	ND	125	5.62
Benzene	ND	6.27	.509
Bromodichloromethane	ND	6.27	.482
Bromoform	ND	6.27	.719
Bromomethane	ND	12.5	1.54
Carbon Disulfide	ND	6.27	.617
Carbon Tetrachloride	ND	6.27	.494
Chlorobenzene	ND	6.27	.55
Chloroethane	ND	12.5	1.15
Chloroform	ND	6.27	.57
Chloromethane	ND	12.5	1.17
Cis-1,2-Dichloroethene	ND	6.27	.586
Cis-1,3-Dichloropropene	ND	6.27	.502
Dibromochloromethane	ND	6.27	.484
Ethylbenzene	ND	6.27	.678
Methylene Chloride	ND	6.27	3.12
m/p-Xylenes	ND	12.5	.866
o-Xylene	ND	6.27	.478
Styrene	ND	6.27	.598
Tetrachloroethylene	ND	6.27	.393
Toluene	ND	6.27	.507
Trans-1,2-Dichloroethene	ND	6.27	.478
Trans-1,3-Dichloropropene	ND	6.27	.438
Trichloroethene	ND	6.27	.59
Vinyl Acetate	ND	62.7	1.03
Vinyl Chloride	ND	12.5	1.58

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	95	79-118
Bromofluorobenzene	90	86-115
Toluene-d8	111*	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Btch No.	: 96K047	DaTime Extrctd :	11/20/96 19:11
Sample ID	: CR-A153009	DaTime Analyzd :	11/20/96 19:11
Cnt No.	: K047-37	Dilutn Factor :	1
Lab File ID	: RKP273	Matrix :	SOIL
Ext Btch ID	: VOK1302	% Moisture :	9.7
Calib. Ref.	: RKP251	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.54	.59
1,1,2,2-Tetrachloroethane	ND	5.54	.919
1,1,2-Trichloroethane	ND	5.54	.936
1,1-Dichloroethane	ND	5.54	.47
1,1-Dichloroethene	ND	5.54	.578
1,2,3-Trichloropropane	ND	55.4	1.69
1,2-Dichloroethane	ND	5.54	.329
1,2-Dichloropropane	ND	5.54	1.06
2-Butanone	ND	111	2.5
2-Chloroethyl Vinyl Ether	ND	11.1	1.1
2-Hexanone	ND	55.4	1.46
4-Methyl-2-Pentanone	ND	55.4	1.73
Acetone	ND	111	4.96
Benzene	ND	5.54	.45
Bromodichloromethane	ND	5.54	.425
Bromoform	ND	5.54	.635
Bromomethane	ND	11.1	1.36
Carbon Disulfide	ND	5.54	.545
Carbon Tetrachloride	ND	5.54	.436
Chlorobenzene	ND	5.54	.485
Chloroethane	ND	11.1	1.02
Chloroform	ND	5.54	.503
Chloromethane	ND	11.1	1.03
Cis-1,2-Dichloroethene	ND	5.54	.517
Cis-1,3-Dichloropropene	ND	5.54	.443
Dibromochloromethane	ND	5.54	.427
Ethylbenzene	ND	5.54	.598
Methylene Chloride	ND	5.54	2.76
m,p-Xylenes	ND	11.1	.764
o-Xylene	ND	5.54	.422
Styrene	ND	5.54	.528
Tetrachloroethylene	ND	5.54	.347
Toluene	ND	5.54	.447
Trans-1,2-Dichloroethene	ND	5.54	.422
Trans-1,3-Dichloropropene	ND	5.54	.386
Trichloroethene	ND	5.54	.52
Vinyl Acetate	ND	55.4	.905
Vinyl Chloride	ND	11.1	1.4

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	93	79-118
Bromofluorobenzene	87	86-115
Toluene-d8	97	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 12:09
Sample ID	: CR-A153103	DaTime Analyzd :	11/20/96 12:09
Lab Cnt NO.:	K047-38	Dilutn Factor :	1
Lab File ID:	RKP259	Matrix :	SOIL
Ext Btch ID:	VOK1302	% Moisture :	10.5
Calib. Ref.:	RKP251	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.59	.596
1,1,2,2-Tetrachloroethane	ND	5.59	.927
1,1,2-Trichloroethane	ND	5.59	.944
1,1-Dichloroethane	ND	5.59	.474
1,1-Dichloroethene	ND	5.59	.583
1,2,3-Trichloropropane	ND	55.9	1.7
1,2-Dichloroethane	ND	5.59	.332
1,2-Dichloropropane	ND	5.59	1.07
2-Butanone	ND	112	2.53
2-Chloroethyl Vinyl Ether	ND	11.2	1.11
2-Hexanone	ND	55.9	1.48
4-Methyl-2-Pentanone	ND	55.9	1.74
Acetone	ND	112	5.01
Benzene	ND	5.59	.454
Bromodichloromethane	ND	5.59	.429
Bromoform	ND	5.59	.64
Bromomethane	ND	11.2	1.37
Carbon Disulfide	ND	5.59	.55
Carbon Tetrachloride	ND	5.59	.44
Chlorobenzene	ND	5.59	.489
Chloroethane	ND	11.2	1.03
Chloroform	ND	5.59	.507
Chloromethane	ND	11.2	1.04
Cis-1,2-Dichloroethene	ND	5.59	.522
Cis-1,3-Dichloropropene	ND	5.59	.447
Dibromochloromethane	ND	5.59	.431
Ethylbenzene	ND	5.59	.603
Methylene Chloride	ND	5.59	2.78
m/p-Xylenes	ND	11.2	.771
o-Xylene	ND	5.59	.426
Styrene	ND	5.59	.533
Tetrachloroethylene	ND	5.59	.35
Toluene	ND	5.59	.451
Trans-1,2-Dichloroethene	ND	5.59	.426
Trans-1,3-Dichloropropene	ND	5.59	.39
Trichloroethene	ND	5.59	.525
Vinyl Acetate	ND	55.9	.913
Vinyl Chloride	ND	11.2	1.41

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	97	79-118
Bromofluorobenzene	88	86-115
Toluene-d8	109	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Btch No.	: 96K047	DaTime Extrctd :	11/20/96 19:38
Sample ID	: CR-A153201	DaTime Analyzd :	11/20/96 19:38
Cnt NO.	: K047-40	Dilutn Factor :	1
Lab File ID	: RKP274	Matrix :	SOIL
Ext Btch ID	: VOK1302	% Moisture :	18.3
Calib. Ref.	: RKP251	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.12	.652
1,1,2,2-Tetrachloroethane	ND	6.12	1.02
1,1,2-Trichloroethane	ND	6.12	1.03
1,1-Dichloroethane	ND	6.12	.519
1,1-Dichloroethene	ND	6.12	.639
1,2,3-Trichloropropane	ND	61.2	1.86
1,2-Dichloroethane	ND	6.12	.364
1,2-Dichloropropane	ND	6.12	1.18
2-Butanone	ND	122	2.77
2-Chloroethyl Vinyl Ether	ND	12.2	1.22
2-Hexanone	ND	61.2	1.62
4-Methyl-2-Pentanone	ND	61.2	1.91
Acetone	ND	122	5.49
Benzene	ND	6.12	.497
Bromodichloromethane	ND	6.12	.47
Bromoform	ND	6.12	.701
Bromomethane	ND	12.2	1.5
Carbon Disulfide	ND	6.12	.602
Carbon Tetrachloride	ND	6.12	.482
Chlorobenzene	ND	6.12	.536
Chloroethane	ND	12.2	1.12
Chloroform	ND	6.12	.556
Chloromethane	ND	12.2	1.14
Cis-1,2-Dichloroethene	ND	6.12	.572
Cis-1,3-Dichloropropene	ND	6.12	.49
Dibromochloromethane	ND	6.12	.472
Ethylbenzene	ND	6.12	.661
Methylene Chloride	ND	6.12	3.05
m,p-Xylenes	ND	12.2	.845
o-Xylene	ND	6.12	.466
Styrene	ND	6.12	.584
Tetrachloroethylene	ND	6.12	.383
Toluene	ND	6.12	.494
Trans-1,2-Dichloroethene	ND	6.12	.466
Trans-1,3-Dichloropropene	ND	6.12	.427
Trichloroethene	ND	6.12	.575
Vinyl Acetate	ND	61.2	1.0
Vinyl Chloride	ND	12.2	1.55

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	100	79-118
Bromofluorobenzene	93	86-115
Toluene-d8	96	88-110

POL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/21/96 18:25
Sample ID	: CR-A153203	DaTime Analyzd :	11/21/96 18:25
Lab Cnt NO.:	K047-42	Dilutn Factor :	1
Lab File ID:	RKP296	Matrix :	SOIL
Ext Btch ID:	VOK1502	% Moisture :	8.4
Calib. Ref.:	RKP290	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.46	.582
1,1,2,2-Tetrachloroethane	ND	5.46	.906
1,1,2-Trichloroethane	ND	5.46	.922
1,1-Dichloroethane	ND	5.46	.463
1,1-Dichloroethene	ND	5.46	.57
1,2,3-Trichloropropane	ND	54.6	1.66
1,2-Dichloroethane	ND	5.46	.324
1,2-Dichloropropane	ND	5.46	1.05
2-Butanone	ND	109	2.47
2-Chloroethyl Vinyl Ether	ND	10.9	1.09
2-Hexanone	ND	54.6	1.44
4-Methyl-2-Pentanone	ND	54.6	1.7
Acetone	ND	109	4.89
Benzene	ND	5.46	.443
Bromodichloromethane	ND	5.46	.419
Bromoform	ND	5.46	.626
Bromomethane	ND	10.9	1.34
Carbon Disulfide	ND	5.46	.537
Carbon Tetrachloride	ND	5.46	.43
Chlorobenzene	ND	5.46	.478
Chloroethane	ND	10.9	1
Chloroform	ND	5.46	.496
Chloromethane	ND	10.9	1.02
Cis-1,2-Dichloroethene	ND	5.46	.51
Cis-1,3-Dichloropropene	ND	5.46	.437
Dibromochloromethane	ND	5.46	.421
Ethylbenzene	ND	5.46	.59
Methylene Chloride	ND	5.46	2.72
m/p-Xylenes	ND	10.9	.753
o-Xylene	ND	5.46	.416
Styrene	ND	5.46	.521
Tetrachloroethylene	ND	5.46	.342
Toluene	ND	5.46	.441
Trans-1,2-Dichloroethene	ND	5.46	.416
Trans-1,3-Dichloropropene	ND	5.46	.381
Trichloroethene	ND	5.46	.513
Vinyl Acetate	ND	54.6	.892
Vinyl Chloride	ND	10.9	1.38

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	95	79-118
Bromofluorobenzene	96	86-115
Toluene-d8	104	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/18/96 20:46
Sample ID	: CR-A153205	DaTime Analyzd :	11/18/96 20:46
Lab Cnt NO.:	K047-44	Dilutn Factor :	1
Lab File ID:	RKP215	Matrix :	WATER
Ext Btch ID:	VOK1102	% Moisture :	NA
Calib. Ref.:	RKP207	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/L)	PQL (ug/L)	MDL (ug/L)
1,1,1-Trichloroethane	ND	5	.308
1,1,2,2-Tetrachloroethane	ND	5	.326
1,1,2-Trichloroethane	ND	5	.064
1,1-Dichloroethane	ND	5	.55
1,1-Dichloroethene	ND	5	.688
1,2,3-Trichloropropane	ND	5	1.52
1,2-Dichloroethane	ND	5	.327
1,2-Dichloropropane	ND	5	.822
2-Butanone	ND	100	1.3
2-Chloroethyl Vinyl Ether	ND	10	.387
2-Hexanone	ND	50	.962
4-Methyl-2-Pentanone	ND	50	1.88
Acetone	ND	100	2.18
Benzene	ND	5	.7
Bromodichloromethane	ND	5	.406
Bromoform	ND	5	.299
Bromomethane	ND	10	.721
Carbon Disulfide	ND	5	.474
Carbon Tetrachloride	ND	5	.398
Chlorobenzene	ND	5	.345
Chloroethane	ND	10	.71
Chloroform	ND	5	.441
[illegible]oromethane	ND	10	1.16
[illegible]-1,2-Dichloroethene	ND	5	.402
[illegible]-1,3-Dichloropropene	ND	5	.327
Dibromochloromethane	ND	5	.317
Ethylbenzene	ND	5	.428
Methylene Chloride	8	5	.771
m/p-Xylenes	ND	10	.71
o-Xylene	ND	5	.26
Styrene	ND	5	.263
Tetrachloroethylene	ND	5	.32
Toluene	ND	5	.372
Trans-1,2-Dichloroethene	ND	5	.494
Trans-1,3-Dichloropropene	ND	5	.171
Trichloroethene	ND	5	.325
Vinyl Acetate	ND	50	.293
Vinyl Chloride	ND	10	.458

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	105	79-118
Bromofluorobenzene	109	86-115
Toluene-d8	106	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

SEMIVOLATILES

SDG#: 96K047

DECEMBER 13, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K047

SEMIVOLATILES

Nineteen (19) soil and two (2) water samples were received on 11/12/96 to be analyzed for semivolatile organics by Method 8270B in accordance with USEPA SW846 (1994).

1. Holding Time

   Analytical holding time was met.

2. Surrogate Recovery

   All surrogate recoveries were within QC limits.

3. Matrix Spike/Matrix Spike Duplicate

   Sample K047-39 was spiked. High recovery of 2,4-Dinitrophenol, 2-Methylnaphthalene, 2-Methylphenol, 2-Nitroaniline, 4,6-Dinitro-2-methylphenol, Benzo(a)pyrene, Benzo(b)fluoranthene, Dibenzofuran, Fluoranthene and Hexachlorocyclopentadiene were found in MS. Low recovery of Benzoic Acid and high recoveries of 3-Nitroaniline and Dibenzo(a,h)anthracene were found in MS and MSD. %RPD of Benzoic Acid and Di-n-Butylphthalate were out of QC limits.

4. Lab Control Samples

   Two sets of LCS were extracted and analyzed. Recoveries in SVK008SL, SVK008SC and SVK011SL were all within the QC. Thirteen analytes in SVK011SC had high recoveries. No corrective action was required. In LCS for water, low recoveries of 2-Chloronaphthalene and Hexachlorocyclopentadiene were found in SCK007WL and were within the QC in SVK007WC Benzoic Acid had low recoveries in both LCS.

5. Method Blank

   Method blanks were free of contamination.

6. Tuning and Calibration

   Tuning and calibration were carried out at 12 hour interval. All QC requirements were met.

7. Sample Analysis

   All sample analyses were within QC requirements.

LAB CHRONICLE 11-18-199612:17:1

Method: EPA 8270
Client: Jacobs Engineering Group

PROJECT: Carswell AFB / 05G47900
SDG/Batch No.: 96K047
Matrix: Soil

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A152502	K047-02	16.5	RKB128	11/15/96 / SVK008S	11/27/96 / RKB119	
CR-A152504	K047-04	11.7	RKB129			
CR-A152602	K047-06	20.7	RKB130			
CR-A152702	K047-12	20.9	RKB131			
CR-A152704	K047-14	13.6	RKB132			
CR-A152802	K047-16	18.9	RKB133			
CR-A152804	K047-18	12.1	RLS040	11/20/96 / SVK011S	12/04/96 / RLS036	
CR-A152806	K047-20	17.8	RLS055		12/05/96 / RLS052	
CR-A152902	K047-23	18.0	RLS041		12/04/96 / RLS036	
CR-A152904	K047-25	15.1	RLS042			
CR-A152906	K047-27	21.1	RLS043			
CR-A152907	K047-28	15.9	RLS044			
CR-A153002	K047-31	19.6	RLS056		12/05/96 / RLS052	
CR-A153004	K047-33	9.3	RLS045		12/04/96 / RLS036	
CR-A153006	K047-34	19.2	RLS057		12/05/96 / RLS052	
CR-A153008	K047-36	9.3	RLS046		12/05/96 / RLS036	
CR-A153104	K047-39	12.1	RLS047			
CR-A153104MS	K047-39M	12.1	RLS048			
CR-A153104MSD	K047-39S	12.1	RLS053		12/05/96 / RLS052	
CR-A153202	K047-41	17.1	RLS058			
CR-A153204	K047-43	8.6	RLS054			
MBLK1S	SVK008SB		RKB125	11/15/96/SVK008S	11/27/96 / RKB119	
LCS1S	SVK008SL		RKB126			
LCD1S	SVK008SC		RKB127			
MBLK2S	SVK011SB		RLS037	11/20/96 / SVK011S	12/04/96 / RLS036	
LCS2S	SVK011SL		RLS038			

LAB CHRONICLE 11-18-199612:17:1

Method: EPA 8270
Client: Jacobs Engineering Group
JECT: Carswell AFB / 05G47900
G/Batch No.: 96K047
Matrix: Water

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A152605	K047-08	NA	RKB 123	11/13/96 / SVK006W	11/27/96 / RKB119	
CR-A153206	K047-45	NA	124			
MBLK1W	SVK006WB		120			
LCS1W	SVK007WL		121			
LCD1W	SVK007WC		122			

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/09/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/15/96 12:[illegible]
Sample ID	: CR-A152502	DaTime Analyzd :	11/27/96 09:57
Lab Cnt NO.:	K047-02	Dilutn Factor :	1
Lab File ID:	RKB128	Matrix :	SOIL
Ext Btch ID:	SVK008S	% Moisture :	16.5
Calib. Ref.:	RKB119	Instrument ID :	MSBNA1

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	838	123
1,2-Dichlorobenzene	ND	838	132
1,3-Dichlorobenzene	ND	838	95.8
1,4-Dichlorobenzene	ND	838	116
2,4,5-Trichlorophenol	ND	3950	119
2,4,6-Trichlorophenol	ND	359	138
2,4-Dichlorophenol	ND	359	91
2,4-Dimethylphenol	ND	359	107
2,4-Dinitrophenol	ND	3950	67.1
2,4-Dinitrotoluene	ND	838	138
2,6-Dinitrotoluene	ND	838	117
2-Chloronaphthalene	ND	838	111
2-Chlorophenol	ND	359	81.4
2-Methylnaphthalene	ND	838	122
2-Methylphenol	ND	359	115
2-Nitroaniline	ND	3950	1[illegible]
2-Nitrophenol	ND	359	1[illegible]
3,3'-Dichlorobenzidine	ND	1560	164
3-Nitroaniline	ND	3950	101
4,6-Dinitro-2-methylphenol	ND	3950	87.4
4-Bromophenyl phenyl ether	ND	838	125
4-Chloro-3-methylphenol	ND	1560	140
4-Chloroaniline	ND	1560	74.3
4-Chlorophenyl phenyl ether	ND	838	126
4-Methylphenol (1)	ND	359	81.4
4-Nitroaniline	ND	3950	104
4-Nitrophenol	ND	1920	6.71
Acenaphthene	ND	838	111
Acenaphthylene	ND	838	105
Anthracene	ND	838	123
Benzo(a)anthracene	ND	838	103
Benzo(a)pyrene	ND	838	109
Benzo(b)fluoranthene	ND	838	128
Benzo(k)fluoranthene	ND	838	120
Benzo(g,h,i)perylene	ND	838	111
Benzoic Acid	ND	1920	128
Benzyl alcohol	ND	1560	97
bis(2-Chloroethoxy)methane	ND	838	122

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/09/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/15/96 12:00
Sample ID	: CR-A152502	DaTime Analyzd :	11/27/96 09:57
Lab Cnt NO.:	K047-02	Dilutn Factor :	1
Lab File ID:	RKB128	Matrix :	SOIL
Ext Btch ID:	SVK008S	% Moisture :	16.5
Calib. Ref.:	RKB119	Instrument ID :	MSBNA1

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	838	80.2
bis(2-Chloroisopropyl)ether	ND	838	108
bis(2-Ethylhexyl)phthalate	ND	838	117
Butylbenzylphthalate	ND	838	243
Chrysene	ND	838	120
Di-n-butylphthalate	ND	838	133
Di-n-octylphthalate	ND	838	108
Dibenzo(a,h)anthracene	ND	838	115
Dibenzofuran	ND	838	120
Diethylphthalate	ND	838	116
Dimethylphthalate	ND	838	128
Fluoranthene	ND	838	123
Fluorene	ND	838	104
Hexachlorobenzene	ND	838	134
Hexachlorobutadiene	ND	838	125
Hexachlorocyclopentadiene	ND	838	139
Hexachloroethane	ND	838	105
Indeno(1,2,3-cd)pyrene	ND	838	114
Isophorone	ND	838	111
n-Nitroso-di-n-propylamine	ND	838	137
n-Nitrosodiphenylamine (2)	ND	838	121
Naphthalene	ND	838	116
Nitrobenzene	ND	838	93.4
Pentachlorophenol	ND	3950	35.9
Phenanthrene	ND	838	121
Phenol	ND	359	93.4
Pyrene	ND	838	115

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	83	25-144
2-Fluorobiphenyl	74	34-135
2-Fluorophenol	71	25-135
Nitrobenzene-d5	71	25-135
Phenol-d5	68	25-135
Terphenyl-d14	75	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/09/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/15/96 12:00
Sample ID	: CR-A152504	DaTime Analyzd :	11/27/96 11:05
Lab Cnt NO.:	K047-04	Dilutn Factor :	1
Lab File ID:	RKB129	Matrix :	SOIL
Ext Btch ID:	SVK008S	% Moisture :	11.7
Calib. Ref.:	RKB119	Instrument ID :	MSBNA1

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	793	117
1,2-Dichlorobenzene	ND	793	125
1,3-Dichlorobenzene	ND	793	90.6
1,4-Dichlorobenzene	ND	793	110
2,4,5-Trichlorophenol	ND	3740	112
2,4,6-Trichlorophenol	ND	340	130
2,4-Dichlorophenol	ND	340	86.1
2,4-Dimethylphenol	ND	340	101
2,4-Dinitrophenol	ND	3740	63.4
2,4-Dinitrotoluene	ND	793	130
2,6-Dinitrotoluene	ND	793	111
2-Chloronaphthalene	ND	793	105
2-Chlorophenol	ND	340	77
2-Methylnaphthalene	ND	793	116
2-Methylphenol	ND	340	109
2-Nitroaniline	ND	3740	99
2-Nitrophenol	ND	340	1
3,3'-Dichlorobenzidine	ND	1470	155
3-Nitroaniline	ND	3740	95.1
4,6-Dinitro-2-methylphenol	ND	3740	82.7
4-Bromophenyl phenyl ether	ND	793	118
4-Chloro-3-methylphenol	ND	1470	133
4-Chloroaniline	ND	1470	70.2
4-Chlorophenyl phenyl ether	ND	793	119
4-Methylphenol (1)	ND	340	77
4-Nitroaniline	ND	3740	98.5
4-Nitrophenol	ND	1810	6.34
Acenaphthene	ND	793	105
Acenaphthylene	ND	793	99.7
Anthracene	ND	793	117
Benzo(a)anthracene	ND	793	97.4
Benzo(a)pyrene	ND	793	103
Benzo(b)fluoranthene	ND	793	121
Benzo(k)fluoranthene	ND	793	113
Benzo(g,h,i)perylene	ND	793	105
Benzoic Acid	ND	1810	121
Benzyl alcohol	ND	1470	91.7
bis(2-Chloroethoxy)methane	ND	793	116

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/09/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/15/96 12:00
Sample ID	: CR-A152504	DaTime Analyzd :	11/27/96 11:05
Lab Cnt NO.	: K047-04	Dilutn Factor :	1
Lab File ID	: RKB129	Matrix :	SOIL
Ext Btch ID	: SVK008S	% Moisture :	11.7
Calib. Ref.	: RKB119	Instrument ID :	MSBNA1

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	793	75.9
bis(2-Chloroisopropyl)ether	ND	793	102
bis(2-Ethylhexyl)phthalate	ND	793	111
Butylbenzylphthalate	ND	793	230
Chrysene	ND	793	113
Di-n-butylphthalate	ND	793	126
Di-n-octylphthalate	ND	793	102
Dibenzo(a,h)anthracene	ND	793	109
Dibenzofuran	ND	793	113
Diethylphthalate	ND	793	110
Dimethylphthalate	ND	793	121
Fluoranthene	ND	793	117
Fluorene	ND	793	98.5
Hexachlorobenzene	ND	793	127
Hexachlorobutadiene	ND	793	118
Hexachlorocyclopentadiene	ND	793	131
Hexachloroethane	ND	793	99.7
Indeno(1,2,3-cd)pyrene	ND	793	108
Isophorone	ND	793	105
n-Nitroso-di-n-propylamine	ND	793	129
n-Nitrosodiphenylamine (2)	ND	793	114
Naphthalene	ND	793	110
Nitrobenzene	ND	793	88.3
Pentachlorophenol	ND	3740	34
Phenanthrene	ND	793	114
Phenol	ND	340	88.3
Pyrene	ND	793	109

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	76	25-144
2-Fluorobiphenyl	68	34-135
2-Fluorophenol	72	25-135
Nitrobenzene-d5	76	25-135
Phenol-d5	76	25-135
Terphenyl-d14	68	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/09/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/15/96 12:[illegible]
Sample ID	: CR-A152602	DaTime Analyzd :	11/27/96 11:51
Lab Cnt NO.	: K047-06	Dilutn Factor :	1
Lab File ID	: RKB130	Matrix :	SOIL
Ext Btch ID	: SVK008S	% Moisture :	20.7
Calib. Ref.	: RKB119	Instrument ID :	MSBNA1

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	883	130
1,2-Dichlorobenzene	ND	883	139
1,3-Dichlorobenzene	ND	883	101
1,4-Dichlorobenzene	ND	883	122
2,4,5-Trichlorophenol	ND	4160	125
2,4,6-Trichlorophenol	ND	378	145
2,4-Dichlorophenol	ND	378	95.8
2,4-Dimethylphenol	ND	378	112
2,4-Dinitrophenol	ND	4160	70.6
2,4-Dinitrotoluene	ND	883	145
2,6-Dinitrotoluene	ND	883	124
2-Chloronaphthalene	ND	883	117
2-Chlorophenol	ND	378	85.8
2-Methylnaphthalene	ND	883	129
2-Methylphenol	ND	378	121
2-Nitroaniline	ND	4160	[illegible]
2-Nitrophenol	ND	378	[illegible]
3,3'-Dichlorobenzidine	ND	1640	173
3-Nitroaniline	ND	4160	106
4,6-Dinitro-2-methylphenol	ND	4160	92.1
4-Bromophenyl phenyl ether	ND	883	131
4-Chloro-3-methylphenol	ND	1640	148
4-Chloroaniline	ND	1640	78.2
4-Chlorophenyl phenyl ether	ND	883	132
4-Methylphenol (1)	ND	378	85.8
4-Nitroaniline	ND	4160	110
4-Nitrophenol	ND	2020	7.06
Acenaphthene	ND	883	117
Acenaphthylene	ND	883	111
Anthracene	ND	883	130
Benzo(a)anthracene	ND	883	108
Benzo(a)pyrene	ND	883	115
Benzo(b)fluoranthene	ND	883	135
Benzo(k)fluoranthene	ND	883	126
Benzo(g,h,i)perylene	ND	883	117
Benzoic Acid	ND	2020	135
Benzyl alcohol	ND	1640	102
bis(2-Chloroethoxy)methane	ND	883	129

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/09/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/15/96 12:00
Sample ID	: CR-A152602	DaTime Analyzd :	11/27/96 11:51
Lab Cnt NO.	: K047-06	Dilutn Factor :	1
Lab File ID	: RKB130	Matrix :	SOIL
Ext Btch ID	: SVK008S	% Moisture :	20.7
Calib. Ref.	: RKB119	Instrument ID :	MSBNA1

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	883	84.5
bis(2-Chloroisopropyl)ether	ND	883	113
bis(2-Ethylhexyl)phthalate	ND	883	124
Butylbenzylphthalate	365F	883	256
Chrysene	ND	883	126
Di-n-butylphthalate	ND	883	140
Di-n-octylphthalate	ND	883	113
Dibenzo(a,h)anthracene	ND	883	121
Dibenzofuran	ND	883	126
Diethylphthalate	ND	883	122
Dimethylphthalate	ND	883	135
Fluoranthene	ND	883	130
Fluorene	ND	883	110
Hexachlorobenzene	ND	883	141
Hexachlorobutadiene	ND	883	131
Hexachlorocyclopentadiene	ND	883	146
Hexachloroethane	ND	883	111
Indeno(1,2,3-cd)pyrene	ND	883	120
Isophorone	ND	883	117
n-Nitroso-di-n-propylamine	ND	883	144
n-Nitrosodiphenylamine (2)	ND	883	127
Naphthalene	ND	883	122
Nitrobenzene	ND	883	98.4
Pentachlorophenol	ND	4160	37.8
Phenanthrene	ND	883	127
Phenol	ND	378	98.4
Pyrene	ND	883	121

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	68	25-144
2-Fluorobiphenyl	71	34-135
2-Fluorophenol	72	25-135
Nitrobenzene-d5	70	25-135
Phenol-d5	70	25-135
Terphenyl-d14	74	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/15/96 12:00
Sample ID	: CR-A152702	DaTime Analyzd :	11/27/96 12:36
Lab Cnt NO.	: K047-12	Dilutn Factor :	1
Lab File ID	: RKB131	Matrix :	SOIL
Ext Btch ID	: SVK008S	% Moisture :	20.9
Calib. Ref.	: RKB119	Instrument ID :	MSBNA1

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	885	130
1,2-Dichlorobenzene	ND	885	139
1,3-Dichlorobenzene	ND	885	101
1,4-Dichlorobenzene	ND	885	123
2,4,5-Trichlorophenol	ND	4170	125
2,4,6-Trichlorophenol	ND	379	145
2,4-Dichlorophenol	ND	379	96.1
2,4-Dimethylphenol	ND	379	113
2,4-Dinitrophenol	ND	4170	70.8
2,4-Dinitrotoluene	ND	885	145
2,6-Dinitrotoluene	ND	885	124
2-Chloronaphthalene	ND	885	118
2-Chlorophenol	ND	379	86
2-Methylnaphthalene	ND	885	129
2-Methylphenol	ND	379	1[illegible]
2-Nitroaniline	ND	4170	1[illegible]
2-Nitrophenol	ND	379	130
3,3'-Dichlorobenzidine	ND	1640	173
3-Nitroaniline	ND	4170	106
4,6-Dinitro-2-methylphenol	ND	4170	92.3
4-Bromophenyl phenyl ether	ND	885	131
4-Chloro-3-methylphenol	ND	1640	148
4-Chloroaniline	ND	1640	78.4
4-Chlorophenyl phenyl ether	ND	885	133
4-Methylphenol (1)	ND	379	86
4-Nitroaniline	ND	4170	110
4-Nitrophenol	ND	2020	7.08
Acenaphthene	ND	885	118
Acenaphthylene	ND	885	111
Anthracene	ND	885	130
Benzo(a)anthracene	ND	885	109
Benzo(a)pyrene	ND	885	115
Benzo(b)fluoranthene	ND	885	135
Benzo(k)fluoranthene	ND	885	126
Benzo(g,h,i)perylene	ND	885	118
Benzoic Acid	ND	2020	135
Benzyl alcohol	ND	1640	102
bis(2-Chloroethoxy)methane	ND	885	129

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/15/96 12:00
Sample ID	: CR-A152702	DaTime Analyzd :	11/27/96 12:36
Lab Cnt NO.	: K047-12	Dilutn Factor :	1
Lab File ID	: RKB131	Matrix :	SOIL
Ext Btch ID	: SVK008S	% Moisture :	20.9
Calib. Ref.	: RKB119	Instrument ID :	MSBNA1

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	885	84.7
bis(2-Chloroisopropyl)ether	ND	885	114
bis(2-Ethylhexyl)phthalate	ND	885	124
Butylbenzylphthalate	ND	885	257
Chrysene	ND	885	126
Di-n-butylphthalate	ND	885	140
Di-n-octylphthalate	ND	885	114
Dibenzo(a,h)anthracene	ND	885	121
Dibenzofuran	ND	885	126
Diethylphthalate	ND	885	123
Dimethylphthalate	ND	885	135
Fluoranthene	ND	885	130
Fluorene	ND	885	110
Hexachlorobenzene	ND	885	142
Hexachlorobutadiene	ND	885	131
Hexachlorocyclopentadiene	ND	885	147
Hexachloroethane	ND	885	111
Indeno(1,2,3-cd)pyrene	ND	885	120
Isophorone	ND	885	118
n-Nitroso-di-n-propylamine	ND	885	144
n-Nitrosodiphenylamine (2)	ND	885	128
Naphthalene	ND	885	123
Nitrobenzene	ND	885	98.6
Pentachlorophenol	ND	4170	37.9
Phenanthrene	ND	885	128
Phenol	ND	379	98.6
Pyrene	ND	885	121

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	87	25-144
2-Fluorobiphenyl	73	34-135
2-Fluorophenol	81	25-135
Nitrobenzene-d5	76	25-135
Phenol-d5	78	25-135
Terphenyl-d14	81	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/15/96 12:00
Sample ID	: CR-A152704	DaTime Analyzd :	11/27/96 13:21
Lab Cnt NO.	: K047-14	Dilutn Factor :	1
Lab File ID	: RKB132	Matrix :	SOIL
Ext Btch ID	: SVK008S	% Moisture :	13.6
Calib. Ref.	: RKB119	Instrument ID :	MSBNA1

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	810	119
1,2-Dichlorobenzene	ND	810	127
1,3-Dichlorobenzene	ND	810	92.6
1,4-Dichlorobenzene	ND	810	112
2,4,5-Trichlorophenol	ND	3820	115
2,4,6-Trichlorophenol	ND	347	133
2,4-Dichlorophenol	ND	347	88
2,4-Dimethylphenol	ND	347	103
2,4-Dinitrophenol	ND	3820	64.8
2,4-Dinitrotoluene	ND	810	133
2,6-Dinitrotoluene	ND	810	113
2-Chloronaphthalene	ND	810	108
2-Chlorophenol	ND	347	78.7
2-Methylnaphthalene	ND	810	118
2-Methylphenol	ND	347	[illegible]
2-Nitroaniline	ND	3820	[illegible]
2-Nitrophenol	ND	347	[illegible]
3,3'-Dichlorobenzidine	ND	1500	159
3-Nitroaniline	ND	3820	97.2
4,6-Dinitro-2-methylphenol	ND	3820	84.5
4-Bromophenyl phenyl ether	ND	810	120
4-Chloro-3-methylphenol	ND	1500	135
4-Chloroaniline	ND	1500	71.8
4-Chlorophenyl phenyl ether	ND	810	122
4-Methylphenol (1)	ND	347	78.7
4-Nitroaniline	ND	3820	101
4-Nitrophenol	ND	1850	6.48
Acenaphthene	ND	810	108
Acenaphthylene	ND	810	102
Anthracene	ND	810	119
Benzo(a)anthracene	ND	810	99.5
Benzo(a)pyrene	ND	810	105
Benzo(b)fluoranthene	ND	810	124
Benzo(k)fluoranthene	ND	810	116
Benzo(g,h,i)perylene	ND	810	108
Benzoic Acid	ND	1850	124
Benzyl alcohol	ND	1500	93.8
bis(2-Chloroethoxy)methane	ND	810	118

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/15/96 12:00
Sample ID	: CR-A152704	DaTime Analyzd :	11/27/96 13:21
Lab Cnt NO.	: K047-14	Dilutn Factor :	1
Lab File ID	: RKB132	Matrix :	SOIL
Ext Btch ID	: SVK008S	% Moisture :	13.6
Calib. Ref.	: RKB119	Instrument ID :	MSBNA1

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	810	77.5
bis(2-Chloroisopropyl)ether	ND	810	104
bis(2-Ethylhexyl)phthalate	ND	810	113
Butylbenzylphthalate	ND	810	235
Chrysene	ND	810	116
Di-n-butylphthalate	ND	810	128
Di-n-octylphthalate	ND	810	104
Dibenzo(a,h)anthracene	ND	810	111
Dibenzofuran	ND	810	116
Diethylphthalate	ND	810	112
Dimethylphthalate	ND	810	124
Fluoranthene	ND	810	119
Fluorene	ND	810	101
Hexachlorobenzene	ND	810	130
Hexachlorobutadiene	ND	810	120
Hexachlorocyclopentadiene	ND	810	134
Hexachloroethane	ND	810	102
Indeno(1,2,3-cd)pyrene	ND	810	110
Isophorone	ND	810	108
n-Nitroso-di-n-propylamine	ND	810	132
n-Nitrosodiphenylamine (2)	ND	810	117
Naphthalene	ND	810	112
Nitrobenzene	ND	810	90.3
Pentachlorophenol	ND	3820	34.7
Phenanthrene	ND	810	117
Phenol	ND	347	90.3
Pyrene	ND	810	111

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	76	25-144
2-Fluorobiphenyl	66	34-135
2-Fluorophenol	68	25-135
Nitrobenzene-d5	66	25-135
Phenol-d5	66	25-135
Terphenyl-d14	65	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/15/96 12:00
Sample ID	: CR-A152802	DaTime Analyzd :	11/27/96 14:07
Lab Cnt NO.	: K047-16	Dilutn Factor :	1
Lab File ID	: RKB133	Matrix :	SOIL
Ext Btch ID	: SVK008S	% Moisture :	18.9
Calib. Ref.	: RKB119	Instrument ID :	MSBNA1

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	863	127
1,2-Dichlorobenzene	ND	863	136
1,3-Dichlorobenzene	ND	863	98.6
1,4-Dichlorobenzene	ND	863	120
2,4,5-Trichlorophenol	ND	4070	122
2,4,6-Trichlorophenol	ND	370	142
2,4-Dichlorophenol	ND	370	93.7
2,4-Dimethylphenol	ND	370	110
2,4-Dinitrophenol	ND	4070	69.1
2,4-Dinitrotoluene	ND	863	142
2,6-Dinitrotoluene	ND	863	121
2-Chloronaphthalene	ND	863	115
2-Chlorophenol	ND	370	83.8
2-Methylnaphthalene	ND	863	126
2-Methylphenol	ND	370	[illegible]
2-Nitroaniline	ND	4070	[illegible]
2-Nitrophenol	ND	370	[illegible]
3,3'-Dichlorobenzidine	ND	1600	169
3-Nitroaniline	ND	4070	104
4,6-Dinitro-2-methylphenol	ND	4070	90
4-Bromophenyl phenyl ether	ND	863	128
4-Chloro-3-methylphenol	ND	1600	144
4-Chloroaniline	ND	1600	76.4
4-Chlorophenyl phenyl ether	ND	863	129
4-Methylphenol (1)	ND	370	83.8
4-Nitroaniline	ND	4070	107
4-Nitrophenol	ND	1970	6.91
Acenaphthene	ND	863	115
Acenaphthylene	ND	863	109
Anthracene	ND	863	127
Benzo(a)anthracene	ND	863	106
Benzo(a)pyrene	ND	863	112
Benzo(b)fluoranthene	ND	863	132
Benzo(k)fluoranthene	ND	863	123
Benzo(g,h,i)perylene	ND	863	115
Benzoic Acid	ND	1970	132
Benzyl alcohol	ND	1600	99.9
bis(2-Chloroethoxy)methane	ND	863	126

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/15/96 12:00
Sample ID	: CR-A152802	DaTime Analyzd :	11/27/96 14:07
Lab Cnt NO.	: K047-16	Dilutn Factor :	1
Lab File ID	: RKB133	Matrix :	SOIL
Ext Btch ID	: SVK008S	% Moisture :	18.9
Calib. Ref.	: RKB119	Instrument ID :	MSBNA1

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	863	82.6
bis(2-Chloroisopropyl)ether	ND	863	111
bis(2-Ethylhexyl)phthalate	ND	863	121
Butylbenzylphthalate	ND	863	250
Chrysene	ND	863	123
Di-n-butylphthalate	ND	863	137
Di-n-octylphthalate	ND	863	111
Dibenzo(a,h)anthracene	ND	863	118
Dibenzofuran	ND	863	123
Diethylphthalate	ND	863	120
Dimethylphthalate	ND	863	132
Fluoranthene	ND	863	127
Fluorene	ND	863	107
Hexachlorobenzene	ND	863	138
Hexachlorobutadiene	ND	863	128
Hexachlorocyclopentadiene	ND	863	143
Hexachloroethane	ND	863	109
Indeno(1,2,3-cd)pyrene	ND	863	117
Isophorone	ND	863	115
n-Nitroso-di-n-propylamine	ND	863	141
n-Nitrosodiphenylamine (2)	ND	863	125
Naphthalene	ND	863	120
Nitrobenzene	ND	863	96.2
Pentachlorophenol	ND	4070	37
Phenanthrene	ND	863	125
Phenol	ND	370	96.2
Pyrene	ND	863	118

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	89	25-144
2-Fluorobiphenyl	72	34-135
2-Fluorophenol	78	25-135
Nitrobenzene-d5	74	25-135
Phenol-d5	74	25-135
Terphenyl-d14	74	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19:30
Sample ID	: CR-A152804	DaTime Analyzd :	12/04/96 19:19
Lab Cnt NO.	: K047-18	Dilutn Factor :	1
Lab File ID	: RLS040	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	12.1
Calib. Ref.	: RLS036	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	796	117
1,2-Dichlorobenzene	ND	796	125
1,3-Dichlorobenzene	ND	796	91
1,4-Dichlorobenzene	ND	796	110
2,4,5-Trichlorophenol	ND	3750	113
2,4,6-Trichlorophenol	ND	341	131
2,4-Dichlorophenol	ND	341	86.5
2,4-Dimethylphenol	ND	341	101
2,4-Dinitrophenol	ND	3750	63.7
2,4-Dinitrotoluene	ND	796	131
2,6-Dinitrotoluene	ND	796	111
2-Chloronaphthalene	ND	796	106
2-Chlorophenol	ND	341	77.4
2-Methylnaphthalene	ND	796	116
2-Methylphenol	ND	341	1[illegible]
2-Nitroaniline	ND	3750	[illegible]
2-Nitrophenol	ND	341	1[illegible]
3,3'-Dichlorobenzidine	ND	1480	156
3-Nitroaniline	ND	3750	95.6
4,6-Dinitro-2-methylphenol	ND	3750	83
4-Bromophenyl phenyl ether	ND	796	118
4-Chloro-3-methylphenol	ND	1480	133
4-Chloroaniline	ND	1480	70.5
4-Chlorophenyl phenyl ether	ND	796	119
4-Methylphenol (1)	ND	341	77.4
4-Nitroaniline	ND	3750	99
4-Nitrophenol	ND	1820	6.37
Acenaphthene	ND	796	106
Acenaphthylene	ND	796	100
Anthracene	ND	796	117
Benzo(a)anthracene	ND	796	97.8
Benzo(a)pyrene	ND	796	104
Benzo(b)fluoranthene	ND	796	122
Benzo(k)fluoranthene	ND	796	114
Benzo(g,h,i)perylene	ND	796	106
Benzoic Acid	ND	1820	122
Benzyl alcohol	ND	1480	92.2
bis(2-Chloroethoxy)methane	ND	796	116

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted	: 11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received	: 11/12/96
Batch No.	: 96K047	DaTime Extrctd	: 11/20/96 19:30
Sample ID	: CR-A152804	DaTime Analyzd	: 12/04/96 19:19
Lab Cnt NO.	: K047-18	Dilutn Factor	: 1
Lab File ID	: RLS040	Matrix	: SOIL
Ext Btch ID	: SVK011S	% Moisture	: 12.1
Calib. Ref.	: RLS036	Instrument ID	: MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	796	76.2
bis(2-Chloroisopropyl)ether	ND	796	102
bis(2-Ethylhexyl)phthalate	ND	796	111
Butylbenzylphthalate	ND	796	231
Chrysene	ND	796	114
Di-n-butylphthalate	1070	796	126
Di-n-octylphthalate	ND	796	102
Dibenzo(a,h)anthracene	ND	796	109
Dibenzofuran	ND	796	114
Diethylphthalate	ND	796	110
Dimethylphthalate	ND	796	122
Fluoranthene	ND	796	117
Fluorene	ND	796	99
Hexachlorobenzene	ND	796	127
Hexachlorobutadiene	ND	796	118
Hexachlorocyclopentadiene	ND	796	132
Hexachloroethane	ND	796	100
Indeno(1,2,3-cd)pyrene	ND	796	108
Isophorone	ND	796	106
n-Nitroso-di-n-propylamine	ND	796	130
n-Nitrosodiphenylamine (2)	ND	796	115
Naphthalene	ND	796	110
Nitrobenzene	ND	796	88.7
Pentachlorophenol	ND	3750	34.1
Phenanthrene	ND	796	115
Phenol	ND	341	88.7
Pyrene	ND	796	109

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	98	25-144
2-Fluorobiphenyl	85	34-135
2-Fluorophenol	100	25-135
Nitrobenzene-d5	99	25-135
Phenol-d5	101	25-135
Terphenyl-d14	79	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19:[illegible]
Sample ID	: CR-A152806	DaTime Analyzd :	12/05/96 17:46
Lab Cnt NO.	: K047-20	Dilutn Factor :	1
Lab File ID	: RLS055	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	17.8
Calib. Ref.	: RLS052	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	852	125
1,2-Dichlorobenzene	ND	852	134
1,3-Dichlorobenzene	ND	852	97.3
1,4-Dichlorobenzene	ND	852	118
2,4,5-Trichlorophenol	ND	4010	120
2,4,6-Trichlorophenol	ND	365	140
2,4-Dichlorophenol	ND	365	92.5
2,4-Dimethylphenol	ND	365	108
2,4-Dinitrophenol	ND	4010	68.1
2,4-Dinitrotoluene	ND	852	140
2,6-Dinitrotoluene	ND	852	119
2-Chloronaphthalene	ND	852	113
2-Chlorophenol	ND	365	82.7
2-Methylnaphthalene	ND	852	124
2-Methylphenol	ND	365	117
2-Nitroaniline	ND	4010	1[illegible]
2-Nitrophenol	ND	365	1[illegible]
3,3'-Dichlorobenzidine	ND	1580	167
3-Nitroaniline	ND	4010	102
4,6-Dinitro-2-methylphenol	ND	4010	88.8
4-Bromophenyl phenyl ether	ND	852	127
4-Chloro-3-methylphenol	ND	1580	142
4-Chloroaniline	ND	1580	75.4
4-Chlorophenyl phenyl ether	ND	852	128
4-Methylphenol (1)	ND	365	82.7
4-Nitroaniline	ND	4010	106
4-Nitrophenol	ND	1950	6.81
Acenaphthene	ND	852	113
Acenaphthylene	ND	852	107
Anthracene	ND	852	125
Benzo(a)anthracene	ND	852	105
Benzo(a)pyrene	ND	852	111
Benzo(b)fluoranthene	ND	852	130
Benzo(k)fluoranthene	ND	852	122
Benzo(g,h,i)perylene	ND	852	113
Benzoic Acid	ND	1950	130
Benzyl alcohol	ND	1580	98.5
bis(2-Chloroethoxy)methane	ND	852	124

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19:30
Sample ID	: CR-A152806	DaTime Analyzd :	12/05/96 17:46
Lab Cnt NO.	: K047-20	Dilutn Factor :	1
Lab File ID	: RLS055	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	17.8
Calib. Ref.	: RLS052	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	852	81.5
bis(2-Chloroisopropyl)ether	ND	852	109
bis(2-Ethylhexyl)phthalate	ND	852	119
Butylbenzylphthalate	ND	852	247
Chrysene	ND	852	122
Di-n-butylphthalate	201F	852	135
Di-n-octylphthalate	ND	852	109
Dibenzo(a,h)anthracene	ND	852	117
Dibenzofuran	ND	852	122
Diethylphthalate	ND	852	118
Dimethylphthalate	ND	852	130
Fluoranthene	ND	852	125
Fluorene	ND	852	106
Hexachlorobenzene	ND	852	136
Hexachlorobutadiene	ND	852	127
Hexachlorocyclopentadiene	ND	852	141
Hexachloroethane	ND	852	107
Indeno(1,2,3-cd)pyrene	ND	852	116
Isophorone	ND	852	113
n-Nitroso-di-n-propylamine	ND	852	139
n-Nitrosodiphenylamine (2)	ND	852	123
Naphthalene	ND	852	118
Nitrobenzene	ND	852	94.9
Pentachlorophenol	ND	4010	36.5
Phenanthrene	ND	852	123
Phenol	ND	365	94.9
Pyrene	ND	852	117

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	92	25-144
2-Fluorobiphenyl	81	34-135
2-Fluorophenol	84	25-135
Nitrobenzene-d5	86	25-135
Phenol-d5	87	25-135
Terphenyl-d14	74	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19:30
Sample ID	: CR-A152902	DaTime Analyzd :	12/04/96 20:07
Lab Cnt NO.	: K047-23	Dilutn Factor :	1
Lab File ID	: RLS041	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	18.0
Calib. Ref.	: RLS036	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	854	126
1,2-Dichlorobenzene	ND	854	134
1,3-Dichlorobenzene	ND	854	97.6
1,4-Dichlorobenzene	ND	854	118
2,4,5-Trichlorophenol	ND	4020	121
2,4,6-Trichlorophenol	ND	366	140
2,4-Dichlorophenol	ND	366	92.7
2,4-Dimethylphenol	ND	366	109
2,4-Dinitrophenol	ND	4020	68.3
2,4-Dinitrotoluene	ND	854	140
2,6-Dinitrotoluene	ND	854	120
2-Chloronaphthalene	ND	854	113
2-Chlorophenol	ND	366	82.9
2-Methylnaphthalene	ND	854	124
2-Methylphenol	ND	366	11[illegible]
2-Nitroaniline	ND	4020	1[illegible]
2-Nitrophenol	ND	366	12[illegible]
3,3'-Dichlorobenzidine	ND	1590	167
3-Nitroaniline	ND	4020	102
4,6-Dinitro-2-methylphenol	ND	4020	89
4-Bromophenyl phenyl ether	ND	854	127
4-Chloro-3-methylphenol	ND	1590	143
4-Chloroaniline	ND	1590	75.6
4-Chlorophenyl phenyl ether	ND	854	128
4-Methylphenol (1)	ND	366	82.9
4-Nitroaniline	ND	4020	106
4-Nitrophenol	ND	1950	6.83
Acenaphthene	ND	854	113
Acenaphthylene	ND	854	107
Anthracene	ND	854	126
Benzo(a)anthracene	ND	854	105
Benzo(a)pyrene	ND	854	111
Benzo(b)fluoranthene	ND	854	130
Benzo(k)fluoranthene	ND	854	122
Benzo(g,h,i)perylene	ND	854	113
Benzoic Acid	ND	1950	130
Benzyl alcohol	ND	1590	98.8
bis(2-Chloroethoxy)methane	ND	854	124

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19:30
Sample ID	: CR-A152902	DaTime Analyzd :	12/04/96 20:07
Lab Cnt NO.	: K047-23	Dilutn Factor :	1
Lab File ID	: RLS041	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	18.0
Calib. Ref.	: RLS036	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	854	81.7
bis(2-Chloroisopropyl)ether	ND	854	110
bis(2-Ethylhexyl)phthalate	ND	854	120
Butylbenzylphthalate	ND	854	248
Chrysene	ND	854	122
Di-n-butylphthalate	702F	854	135
Di-n-octylphthalate	ND	854	110
Dibenzo(a,h)anthracene	ND	854	117
Dibenzofuran	ND	854	122
Diethylphthalate	ND	854	118
Dimethylphthalate	ND	854	130
Fluoranthene	ND	854	126
Fluorene	ND	854	106
Hexachlorobenzene	ND	854	137
Hexachlorobutadiene	ND	854	127
Hexachlorocyclopentadiene	ND	854	141
Hexachloroethane	ND	854	107
Indeno(1,2,3-cd)pyrene	ND	854	116
Isophorone	ND	854	113
n-Nitroso-di-n-propylamine	ND	854	139
n-Nitrosodiphenylamine (2)	ND	854	123
Naphthalene	ND	854	118
Nitrobenzene	ND	854	95.1
Pentachlorophenol	ND	4020	36.6
Phenanthrene	ND	854	123
Phenol	ND	366	95.1
Pyrene	ND	854	117

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	82	25-144
2-Fluorobiphenyl	72	34-135
2-Fluorophenol	78	25-135
Nitrobenzene-d5	82	25-135
Phenol-d5	81	25-135
Terphenyl-d14	66	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19:30
Sample ID	: CR-A152904	DaTime Analyzd :	12/04/96 20:55
Lab Cnt NO.	: K047-25	Dilutn Factor :	1
Lab File ID	: RLS042	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	15.1
Calib. Ref.	: RLS036	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	824	121
1,2-Dichlorobenzene	ND	824	130
1,3-Dichlorobenzene	ND	824	94.2
1,4-Dichlorobenzene	ND	824	114
2,4,5-Trichlorophenol	ND	3890	117
2,4,6-Trichlorophenol	ND	353	135
2,4-Dichlorophenol	ND	353	89.5
2,4-Dimethylphenol	ND	353	105
2,4-Dinitrophenol	ND	3890	660
2,4-Dinitrotoluene	ND	824	135
2,6-Dinitrotoluene	ND	824	115
2-Chloronaphthalene	ND	824	110
2-Chlorophenol	ND	353	80.1
2-Methylnaphthalene	ND	824	120
2-Methylphenol	ND	353	[illegible]
2-Nitroaniline	ND	3890	[illegible]
2-Nitrophenol	ND	353	[illegible]
3,3'-Dichlorobenzidine	ND	1530	161
3-Nitroaniline	ND	3890	98.9
4,6-Dinitro-2-methylphenol	ND	3890	86
4-Bromophenyl phenyl ether	ND	824	122
4-Chloro-3-methylphenol	ND	1530	138
4-Chloroaniline	ND	1530	73
4-Chlorophenyl phenyl ether	ND	824	124
4-Methylphenol (1)	ND	353	80.1
4-Nitroaniline	ND	3890	102
4-Nitrophenol	ND	1880	6.6
Acenaphthene	ND	824	110
Acenaphthylene	ND	824	104
Anthracene	ND	824	121
Benzo(a)anthracene	ND	824	101
Benzo(a)pyrene	ND	824	107
Benzo(b)fluoranthene	ND	824	126
Benzo(k)fluoranthene	ND	824	118
Benzo(g,h,i)perylene	ND	824	110
Benzoic Acid	ND	1880	126
Benzyl alcohol	ND	1530	95.4
bis(2-Chloroethoxy)methane	ND	824	120

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19:30
Sample ID	: CR-A152904	DaTime Analyzd :	12/04/96 20:55
Lab Cnt NO.	: K047-25	Dilutn Factor :	1
Lab File ID	: RLS042	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	15.1
Calib. Ref.	: RLS036	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	824	78.9
bis(2-Chloroisopropyl)ether	ND	824	106
bis(2-Ethylhexyl)phthalate	ND	824	115
Butylbenzylphthalate	ND	824	239
Chrysene	ND	824	118
Di-n-butylphthalate	427F	824	131
Di-n-octylphthalate	ND	824	106
Dibenzo(a,h)anthracene	ND	824	113
Dibenzofuran	ND	824	118
Diethylphthalate	ND	824	114
Dimethylphthalate	ND	824	126
Fluoranthene	ND	824	121
Fluorene	ND	824	102
Hexachlorobenzene	ND	824	132
Hexachlorobutadiene	ND	824	122
Hexachlorocyclopentadiene	ND	824	137
Hexachloroethane	ND	824	104
Indeno(1,2,3-cd)pyrene	ND	824	112
Isophorone	ND	824	110
n-Nitroso-di-n-propylamine	ND	824	134
n-Nitrosodiphenylamine (2)	ND	824	119
Naphthalene	ND	824	114
Nitrobenzene	ND	824	91.9
Pentachlorophenol	ND	3890	35.3
Phenanthrene	ND	824	119
Phenol	ND	353	91.9
Pyrene	ND	824	113

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	93	25-144
2-Fluorobiphenyl	80	34-135
2-Fluorophenol	92	25-135
Nitrobenzene-d5	97	25-135
Phenol-d5	93	25-135
Terphenyl-d14	75	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19[illegible]
Sample ID	: CR-A152906	DaTime Analyzd :	12/04/96 21:43
Lab Cnt NO.	: K047-27	Dilutn Factor :	1
Lab File ID	: RLS043	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	21.1
Calib. Ref.	: RLS036	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	887	131
1,2-Dichlorobenzene	ND	887	139
1,3-Dichlorobenzene	ND	887	101
1,4-Dichlorobenzene	ND	887	123
2,4,5-Trichlorophenol	ND	4180	125
2,4,6-Trichlorophenol	ND	380	146
2,4-Dichlorophenol	ND	380	96.3
2,4-Dimethylphenol	ND	380	113
2,4-Dinitrophenol	ND	4180	71[illegible]
2,4-Dinitrotoluene	ND	887	146
2,6-Dinitrotoluene	ND	887	124
2-Chloronaphthalene	ND	887	118
2-Chlorophenol	ND	380	86.2
2-Methylnaphthalene	ND	887	129
2-Methylphenol	ND	380	122
2-Nitroaniline	ND	4180	1[illegible]
2-Nitrophenol	ND	380	[illegible]
3,3'-Dichlorobenzidine	ND	1650	1[illegible]
3-Nitroaniline	ND	4180	106
4,6-Dinitro-2-methylphenol	ND	4180	92.5
4-Bromophenyl phenyl ether	ND	887	132
4-Chloro-3-methylphenol	ND	1650	148
4-Chloroaniline	ND	1650	78.6
4-Chlorophenyl phenyl ether	ND	887	133
4-Methylphenol (1)	ND	380	86.2
4-Nitroaniline	ND	4180	110
4-Nitrophenol	ND	2030	7.1
Acenaphthene	ND	887	118
Acenaphthylene	ND	887	112
Anthracene	ND	887	131
Benzo(a)anthracene	ND	887	109
Benzo(a)pyrene	ND	887	115
Benzo(b)fluoranthene	ND	887	136
Benzo(k)fluoranthene	ND	887	127
Benzo(g,h,i)perylene	ND	887	118
Benzoic Acid	ND	2030	136
Benzyl alcohol	ND	1650	103
bis(2-Chloroethoxy)methane	ND	887	129

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19:30
Sample ID	: CR-A152906	DaTime Analyzd :	12/04/96 21:43
Lab Cnt NO.	: K047-27	Dilutn Factor :	1
Lab File ID	: RLS043	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	21.1
Calib. Ref.	: RLS036	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	887	84.9
bis(2-Chloroisopropyl)ether	ND	887	114
bis(2-Ethylhexyl)phthalate	ND	887	124
Butylbenzylphthalate	ND	887	257
Chrysene	ND	887	127
Di-n-butylphthalate	229F	887	141
Di-n-octylphthalate	ND	887	114
Dibenzo(a,h)anthracene	ND	887	122
Dibenzofuran	ND	887	127
Diethylphthalate	ND	887	123
Dimethylphthalate	ND	887	136
Fluoranthene	ND	887	131
Fluorene	ND	887	110
Hexachlorobenzene	ND	887	142
Hexachlorobutadiene	ND	887	132
Hexachlorocyclopentadiene	ND	887	147
Hexachloroethane	ND	887	112
Indeno(1,2,3-cd)pyrene	ND	887	120
Isophorone	ND	887	118
n-Nitroso-di-n-propylamine	ND	887	144
n-Nitrosodiphenylamine (2)	ND	887	128
Naphthalene	ND	887	123
Nitrobenzene	ND	887	98.9
Pentachlorophenol	ND	4180	38
Phenanthrene	ND	887	128
Phenol	ND	380	98.9
Pyrene	ND	887	122

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	96	25-144
2-Fluorobiphenyl	83	34-135
2-Fluorophenol	95	25-135
Nitrobenzene-d5	100	25-135
Phenol-d5	96	25-135
Terphenyl-d14	78	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19:30
Sample ID	: CR-A152907	DaTime Analyzd :	12/04/96 22:30
Lab Cnt NO.	: K047-28	Dilutn Factor :	1
Lab File ID	: RLS044	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	15.9
Calib. Ref.	: RLS036	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	832	122
1,2-Dichlorobenzene	ND	832	131
1,3-Dichlorobenzene	ND	832	95.1
1,4-Dichlorobenzene	ND	832	115
2,4,5-Trichlorophenol	ND	3920	118
2,4,6-Trichlorophenol	ND	357	137
2,4-Dichlorophenol	ND	357	90.4
2,4-Dimethylphenol	ND	357	106
2,4-Dinitrophenol	ND	3920	66.6
2,4-Dinitrotoluene	ND	832	137
2,6-Dinitrotoluene	ND	832	117
2-Chloronaphthalene	ND	832	111
2-Chlorophenol	ND	357	80.9
2-Methylnaphthalene	ND	832	121
2-Methylphenol	ND	357	11[illegible]
2-Nitroaniline	ND	3920	1[illegible]
2-Nitrophenol	ND	357	1[illegible]
3,3'-Dichlorobenzidine	ND	1550	163
3-Nitroaniline	ND	3920	99.9
4,6-Dinitro-2-methylphenol	ND	3920	86.8
4-Bromophenyl phenyl ether	ND	832	124
4-Chloro-3-methylphenol	ND	1550	139
4-Chloroaniline	ND	1550	73.7
4-Chlorophenyl phenyl ether	ND	832	125
4-Methylphenol (1)	ND	357	80.9
4-Nitroaniline	ND	3920	103
4-Nitrophenol	ND	1900	6.66
Acenaphthene	ND	832	111
Acenaphthylene	ND	832	105
Anthracene	ND	832	122
Benzo(a)anthracene	ND	832	102
Benzo(a)pyrene	ND	832	108
Benzo(b)fluoranthene	ND	832	127
Benzo(k)fluoranthene	ND	832	119
Benzo(g,h,i)perylene	ND	832	111
Benzoic Acid	ND	1900	127
Benzyl alcohol	ND	1550	96.3
bis(2-Chloroethoxy)methane	ND	832	121

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19:30
Sample ID	: CR-A152907	DaTime Analyzd :	12/04/96 22:30
Lab Cnt NO.	: K047-28	Dilutn Factor :	1
Lab File ID	: RLS044	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	15.9
Calib. Ref.	: RLS036	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	832	79.7
bis(2-Chloroisopropyl)ether	ND	832	107
bis(2-Ethylhexyl)phthalate	ND	832	117
Butylbenzylphthalate	ND	832	241
Chrysene	ND	832	119
Di-n-butylphthalate	262F	832	132
Di-n-octylphthalate	ND	832	107
Dibenzo(a,h)anthracene	ND	832	114
Dibenzofuran	ND	832	119
Diethylphthalate	ND	832	115
Dimethylphthalate	ND	832	127
Fluoranthene	ND	832	122
Fluorene	ND	832	103
Hexachlorobenzene	ND	832	133
Hexachlorobutadiene	ND	832	124
Hexachlorocyclopentadiene	ND	832	138
Hexachloroethane	ND	832	105
Indeno(1,2,3-cd)pyrene	ND	832	113
Isophorone	ND	832	111
n-Nitroso-di-n-propylamine	ND	832	136
n-Nitrosodiphenylamine (2)	ND	832	120
Naphthalene	ND	832	115
Nitrobenzene	ND	832	92.7
Pentachlorophenol	ND	3920	35.7
Phenanthrene	ND	832	120
Phenol	ND	357	92.7
Pyrene	ND	832	114

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	78	25-144
2-Fluorobiphenyl	71	34-135
2-Fluorophenol	73	25-135
Nitrobenzene-d5	78	25-135
Phenol-d5	76	25-135
Terphenyl-d14	64	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19:[illegible]
Sample ID	: CR-A153002	DaTime Analyzd :	12/05/96 18:34
Lab Cnt NO.	: K047-31	Dilutn Factor :	1
Lab File ID	: RLS056	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	19.6
Calib. Ref.	: RLS052	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	871	128
1,2-Dichlorobenzene	ND	871	137
1,3-Dichlorobenzene	ND	871	99.5
1,4-Dichlorobenzene	ND	871	121
2,4,5-Trichlorophenol	ND	4100	123
2,4,6-Trichlorophenol	ND	373	143
2,4-Dichlorophenol	ND	373	94.5
2,4-Dimethylphenol	ND	373	111
2,4-Dinitrophenol	ND	4100	69.7
2,4-Dinitrotoluene	ND	871	143
2,6-Dinitrotoluene	ND	871	122
2-Chloronaphthalene	ND	871	116
2-Chlorophenol	ND	373	84.6
2-Methylnaphthalene	ND	871	127
2-Methylphenol	ND	373	119
2-Nitroaniline	ND	4100	1[illegible]
2-Nitrophenol	ND	373	1[illegible]
3,3'-Dichlorobenzidine	ND	1620	170
3-Nitroaniline	ND	4100	104
4,6-Dinitro-2-methylphenol	ND	4100	90.8
4-Bromophenyl phenyl ether	ND	871	129
4-Chloro-3-methylphenol	ND	1620	146
4-Chloroaniline	ND	1620	77.1
4-Chlorophenyl phenyl ether	ND	871	131
4-Methylphenol (1)	ND	373	84.6
4-Nitroaniline	ND	4100	108
4-Nitrophenol	ND	1990	6.97
Acenaphthene	ND	871	116
Acenaphthylene	ND	871	109
Anthracene	ND	871	128
Benzo(a)anthracene	ND	871	107
Benzo(a)pyrene	ND	871	113
Benzo(b)fluoranthene	ND	871	133
Benzo(k)fluoranthene	ND	871	124
Benzo(g,h,i)perylene	ND	871	116
Benzoic Acid	ND	1990	133
Benzyl alcohol	ND	1620	101
bis(2-Chloroethoxy)methane	ND	871	127

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19:30
Sample ID	: CR-A153002	DaTime Analyzd :	12/05/96 18:34
Lab Cnt NO.	: K047-31	Dilutn Factor :	1
Lab File ID	: RLS056	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	19.6
Calib. Ref.	: RLS052	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	871	83.3
bis(2-Chloroisopropyl)ether	ND	871	112
bis(2-Ethylhexyl)phthalate	ND	871	122
Butylbenzylphthalate	ND	871	252
Chrysene	ND	871	124
Di-n-butylphthalate	389F	871	138
Di-n-octylphthalate	ND	871	112
Dibenzo(a,h)anthracene	ND	871	119
Dibenzofuran	ND	871	124
Diethylphthalate	ND	871	121
Dimethylphthalate	ND	871	133
Fluoranthene	ND	871	128
Fluorene	ND	871	108
Hexachlorobenzene	ND	871	139
Hexachlorobutadiene	ND	871	129
Hexachlorocyclopentadiene	ND	871	144
Hexachloroethane	ND	871	109
Indeno(1,2,3-cd)pyrene	ND	871	118
Isophorone	ND	871	116
n-Nitroso-di-n-propylamine	ND	871	142
n-Nitrosodiphenylamine (2)	ND	871	126
Naphthalene	ND	871	121
Nitrobenzene	ND	871	97
Pentachlorophenol	ND	4100	37.3
Phenanthrene	ND	871	126
Phenol	ND	373	97
Pyrene	ND	871	119

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	101	25-144
2-Fluorobiphenyl	94	34-135
2-Fluorophenol	100	25-135
Nitrobenzene-d5	99	25-135
Phenol-d5	101	25-135
Terphenyl-d14	82	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19[illegible]
Sample ID	: CR-A153004	DaTime Analyzd :	12/04/96 23:18
Lab Cnt NO.	: K047-33	Dilutn Factor :	1
Lab File ID	: RLS045	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	9.3
Calib. Ref.	: RLS036	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	772	114
1,2-Dichlorobenzene	ND	772	121
1,3-Dichlorobenzene	ND	772	88.2
1,4-Dichlorobenzene	ND	772	107
2,4,5-Trichlorophenol	ND	3640	109
2,4,6-Trichlorophenol	ND	331	127
2,4-Dichlorophenol	ND	331	83.8
2,4-Dimethylphenol	ND	331	98.1
2,4-Dinitrophenol	ND	3640	61.7
2,4-Dinitrotoluene	ND	772	127
2,6-Dinitrotoluene	ND	772	108
2-Chloronaphthalene	ND	772	103
2-Chlorophenol	ND	331	75
2-Methylnaphthalene	ND	772	112
2-Methylphenol	ND	331	106
2-Nitroaniline	ND	3640	[illegible]
2-Nitrophenol	ND	331	1[illegible]
3,3'-Dichlorobenzidine	ND	1430	151
3-Nitroaniline	ND	3640	92.6
4,6-Dinitro-2-methylphenol	ND	3640	80.5
4-Bromophenyl phenyl ether	ND	772	115
4-Chloro-3-methylphenol	ND	1430	129
4-Chloroaniline	ND	1430	68.4
4-Chlorophenyl phenyl ether	ND	772	116
4-Methylphenol (1)	ND	331	75
4-Nitroaniline	ND	3640	95.9
4-Nitrophenol	ND	1760	6.17
Acenaphthene	ND	772	103
Acenaphthylene	ND	772	97
Anthracene	ND	772	114
Benzo(a)anthracene	ND	772	94.8
Benzo(a)pyrene	ND	772	100
Benzo(b)fluoranthene	ND	772	118
Benzo(k)fluoranthene	ND	772	110
Benzo(g,h,i)perylene	ND	772	103
Benzoic Acid	ND	1760	118
Benzyl alcohol	ND	1430	89.3
bis(2-Chloroethoxy)methane	ND	772	112

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19:30
Sample ID	: CR-A153004	DaTime Analyzd :	12/04/96 23:18
Lab Cnt NO.	: K047-33	Dilutn Factor :	1
Lab File ID	: RLS045	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	9.3
Calib. Ref.	: RLS036	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	772	73.9
bis(2-Chloroisopropyl)ether	ND	772	99.2
bis(2-Ethylhexyl)phthalate	ND	772	108
Butylbenzylphthalate	ND	772	224
Chrysene	ND	772	110
Di-n-butylphthalate	381F	772	122
Di-n-octylphthalate	ND	772	99.2
Dibenzo(a,h)anthracene	ND	772	106
Dibenzofuran	ND	772	110
Diethylphthalate	ND	772	107
Dimethylphthalate	ND	772	118
Fluoranthene	ND	772	114
Fluorene	ND	772	95.9
Hexachlorobenzene	ND	772	123
Hexachlorobutadiene	ND	772	115
Hexachlorocyclopentadiene	ND	772	128
Hexachloroethane	ND	772	97
Indeno(1,2,3-cd)pyrene	ND	772	105
Isophorone	ND	772	103
n-Nitroso-di-n-propylamine	ND	772	126
n-Nitrosodiphenylamine (2)	ND	772	111
Naphthalene	ND	772	107
Nitrobenzene	ND	772	86
Pentachlorophenol	ND	3640	33.1
Phenanthrene	ND	772	111
Phenol	ND	331	86
Pyrene	ND	772	106

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	95	25-144
2-Fluorobiphenyl	79	34-135
2-Fluorophenol	92	25-135
Nitrobenzene-d5	94	25-135
Phenol-d5	92	25-135
Terphenyl-d14	72	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19:30
Sample ID	: CR-A153006	DaTime Analyzd :	12/05/96 19:22
Lab Cnt NO.:	K047-34	Dilutn Factor :	1
Lab File ID:	RLS057	Matrix :	SOIL
Ext Btch ID:	SVK011S	% Moisture :	19.2
Calib. Ref.:	RLS052	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	866	127
1,2-Dichlorobenzene	ND	866	136
1,3-Dichlorobenzene	ND	866	99
1,4-Dichlorobenzene	ND	866	120
2,4,5-Trichlorophenol	ND	4080	123
2,4,6-Trichlorophenol	ND	371	142
2,4-Dichlorophenol	ND	371	94.1
2,4-Dimethylphenol	ND	371	110
2,4-Dinitrophenol	ND	4080	69.3
2,4-Dinitrotoluene	ND	866	142
2,6-Dinitrotoluene	ND	866	121
2-Chloronaphthalene	ND	866	115
2-Chlorophenol	ND	371	84.2
2-Methylnaphthalene	ND	866	126
2-Methylphenol	ND	371	11[illegible]
2-Nitroaniline	ND	4080	1[illegible]
2-Nitrophenol	ND	371	12[illegible]
3,3'-Dichlorobenzidine	ND	1610	170
3-Nitroaniline	ND	4080	104
4,6-Dinitro-2-methylphenol	ND	4080	90.3
4-Bromophenyl phenyl ether	ND	866	129
4-Chloro-3-methylphenol	ND	1610	145
4-Chloroaniline	ND	1610	76.7
4-Chlorophenyl phenyl ether	ND	866	130
4-Methylphenol (1)	ND	371	84.2
4-Nitroaniline	ND	4080	108
4-Nitrophenol	ND	1980	6.93
Acenaphthene	ND	866	115
Acenaphthylene	ND	866	109
Anthracene	ND	866	127
Benzo(a)anthracene	ND	866	106
Benzo(a)pyrene	ND	866	113
Benzo(b)fluoranthene	ND	866	132
Benzo(k)fluoranthene	ND	866	124
Benzo(g,h,i)perylene	ND	866	115
Benzoic Acid	ND	1980	132
Benzyl alcohol	ND	1610	100
bis(2-Chloroethoxy)methane	ND	866	126

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted	: 11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received	: 11/12/96
Batch No.	: 96K047	DaTime Extrctd	: 11/20/96 19:30
Sample ID	: CR-A153006	DaTime Analyzd	: 12/05/96 19:22
Lab Cnt NO.	: K047-34	Dilutn Factor	: 1
Lab File ID	: RLS057	Matrix	: SOIL
Ext Btch ID	: SVK011S	% Moisture	: 19.2
Calib. Ref.	: RLS052	Instrument ID	: MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	866	82.9
bis(2-Chloroisopropyl)ether	ND	866	111
bis(2-Ethylhexyl)phthalate	ND	866	121
Butylbenzylphthalate	ND	866	251
Chrysene	ND	866	124
Di-n-butylphthalate	276F	866	137
Di-n-octylphthalate	ND	866	111
Dibenzo(a,h)anthracene	ND	866	119
Dibenzofuran	ND	866	124
Diethylphthalate	ND	866	120
Dimethylphthalate	ND	866	132
Fluoranthene	ND	866	127
Fluorene	ND	866	108
Hexachlorobenzene	ND	866	139
Hexachlorobutadiene	ND	866	129
Hexachlorocyclopentadiene	ND	866	144
Hexachloroethane	ND	866	109
Indeno(1,2,3-cd)pyrene	ND	866	118
Isophorone	ND	866	115
n-Nitroso-di-n-propylamine	ND	866	141
n-Nitrosodiphenylamine (2)	ND	866	125
Naphthalene	ND	866	120
Nitrobenzene	ND	866	96.5
Pentachlorophenol	ND	4080	37.1
Phenanthrene	ND	866	125
Phenol	ND	371	96.5
Pyrene	ND	866	119

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	94	25-144
2-Fluorobiphenyl	84	34-135
2-Fluorophenol	89	25-135
Nitrobenzene-d5	93	25-135
Phenol-d5	91	25-135
Terphenyl-d14	78	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19:30
Sample ID	: CR-A153008	DaTime Analyzd :	12/05/96 00:06
Lab Cnt NO.	: K047-36	Dilutn Factor :	1
Lab File ID	: RLS046	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	9.3
Calib. Ref.	: RLS036	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	772	114
1,2-Dichlorobenzene	ND	772	121
1,3-Dichlorobenzene	ND	772	88.2
1,4-Dichlorobenzene	ND	772	107
2,4,5-Trichlorophenol	ND	3640	109
2,4,6-Trichlorophenol	ND	331	127
2,4-Dichlorophenol	ND	331	83.8
2,4-Dimethylphenol	ND	331	98.1
2,4-Dinitrophenol	ND	3640	61.7
2,4-Dinitrotoluene	ND	772	127
2,6-Dinitrotoluene	ND	772	108
2-Chloronaphthalene	ND	772	103
2-Chlorophenol	ND	331	75
2-Methylnaphthalene	ND	772	112
2-Methylphenol	ND	331	1[illegible]
2-Nitroaniline	ND	3640	[illegible]
2-Nitrophenol	ND	331	11[illegible]
3,3'-Dichlorobenzidine	ND	1430	151
3-Nitroaniline	ND	3640	92.6
4,6-Dinitro-2-methylphenol	ND	3640	80.5
4-Bromophenyl phenyl ether	ND	772	115
4-Chloro-3-methylphenol	ND	1430	129
4-Chloroaniline	ND	1430	68.4
4-Chlorophenyl phenyl ether	ND	772	116
4-Methylphenol (1)	ND	331	75
4-Nitroaniline	ND	3640	95.9
4-Nitrophenol	ND	1760	6.17
Acenaphthene	ND	772	103
Acenaphthylene	ND	772	97
Anthracene	ND	772	114
Benzo(a)anthracene	ND	772	94.8
Benzo(a)pyrene	ND	772	100
Benzo(b)fluoranthene	ND	772	118
Benzo(k)fluoranthene	ND	772	110
Benzo(g,h,i)perylene	ND	772	103
Benzoic Acid	ND	1760	118
Benzyl alcohol	ND	1430	89.3
bis(2-Chloroethoxy)methane	ND	772	112

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19:30
Sample ID	: CR-A153008	DaTime Analyzd :	12/05/96 00:06
Lab Cnt NO.	: K047-36	Dilutn Factor :	1
Lab File ID	: RLS046	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	9.3
Calib. Ref.	: RLS036	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	772	73.9
bis(2-Chloroisopropyl)ether	ND	772	99.2
bis(2-Ethylhexyl)phthalate	ND	772	108
Butylbenzylphthalate	ND	772	224
Chrysene	ND	772	110
Di-n-butylphthalate	1800	772	122
Di-n-octylphthalate	ND	772	99.2
Dibenzo(a,h)anthracene	ND	772	106
Dibenzofuran	ND	772	110
Diethylphthalate	ND	772	107
Dimethylphthalate	ND	772	118
Fluoranthene	ND	772	114
Fluorene	ND	772	95.9
Hexachlorobenzene	ND	772	123
Hexachlorobutadiene	ND	772	115
Hexachlorocyclopentadiene	ND	772	128
Hexachloroethane	ND	772	97
Indeno(1,2,3-cd)pyrene	ND	772	105
Isophorone	ND	772	103
n-Nitroso-di-n-propylamine	ND	772	126
n-Nitrosodiphenylamine (2)	ND	772	111
Naphthalene	ND	772	107
Nitrobenzene	ND	772	86
Pentachlorophenol	ND	3640	33.1
Phenanthrene	ND	772	111
Phenol	ND	331	86
Pyrene	ND	772	106

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	103	25-144
2-Fluorobiphenyl	86	34-135
2-Fluorophenol	99	25-135
Nitrobenzene-d5	102	25-135
Phenol-d5	100	25-135
Terphenyl-d14	81	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19:50
Sample ID	: CR-A153104	DaTime Analyzd :	12/05/96 00:53
Lab Cnt NO.	: K047-39	Dilutn Factor :	1
Lab File ID	: RLS047	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	12.1
Calib. Ref.	: RLS036	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	796	117
1,2-Dichlorobenzene	ND	796	125
1,3-Dichlorobenzene	ND	796	91
1,4-Dichlorobenzene	ND	796	110
2,4,5-Trichlorophenol	ND	3750	113
2,4,6-Trichlorophenol	ND	341	131
2,4-Dichlorophenol	ND	341	86.5
2,4-Dimethylphenol	ND	341	101
2,4-Dinitrophenol	ND	3750	63.7
2,4-Dinitrotoluene	ND	796	131
2,6-Dinitrotoluene	ND	796	111
2-Chloronaphthalene	ND	796	106
2-Chlorophenol	ND	341	77.4
2-Methylnaphthalene	ND	796	116
2-Methylphenol	ND	341	109
2-Nitroaniline	ND	3750	1[illegible]
2-Nitrophenol	ND	341	1[illegible]
3,3'-Dichlorobenzidine	ND	1480	156
3-Nitroaniline	ND	3750	95.6
4,6-Dinitro-2-methylphenol	ND	3750	83
4-Bromophenyl phenyl ether	ND	796	118
4-Chloro-3-methylphenol	ND	1480	133
4-Chloroaniline	ND	1480	70.5
4-Chlorophenyl phenyl ether	ND	796	119
4-Methylphenol (1)	ND	341	77.4
4-Nitroaniline	ND	3750	99
4-Nitrophenol	ND	1820	6.37
Acenaphthene	ND	796	106
Acenaphthylene	ND	796	100
Anthracene	ND	796	117
Benzo(a)anthracene	ND	796	97.8
Benzo(a)pyrene	ND	796	104
Benzo(b)fluoranthene	ND	796	122
Benzo(k)fluoranthene	ND	796	114
Benzo(g,h,i)perylene	ND	796	106
Benzoic Acid	ND	1820	122
Benzyl alcohol	ND	1480	92.2
bis(2-Chloroethoxy)methane	ND	796	116

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19:30
Sample ID	: CR-A153104	DaTime Analyzd :	12/05/96 00:53
Lab Cnt NO.	: K047-39	Dilutn Factor :	1
Lab File ID	: RLS047	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	12.1
Calib. Ref.	: RLS036	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	796	76.2
bis(2-Chloroisopropyl)ether	ND	796	102
bis(2-Ethylhexyl)phthalate	ND	796	111
Butylbenzylphthalate	ND	796	231
Chrysene	ND	796	114
Di-n-butylphthalate	2170	796	126
Di-n-octylphthalate	ND	796	102
Dibenzo(a,h)anthracene	ND	796	109
Dibenzofuran	ND	796	114
Diethylphthalate	ND	796	110
Dimethylphthalate	ND	796	122
Fluoranthene	ND	796	117
Fluorene	ND	796	99
Hexachlorobenzene	ND	796	127
Hexachlorobutadiene	ND	796	118
Hexachlorocyclopentadiene	ND	796	132
Hexachloroethane	ND	796	100
Indeno(1,2,3-cd)pyrene	ND	796	108
Isophorone	ND	796	106
n-Nitroso-di-n-propylamine	ND	796	130
n-Nitrosodiphenylamine (2)	ND	796	115
Naphthalene	ND	796	110
Nitrobenzene	ND	796	88.7
Pentachlorophenol	ND	3750	34.1
Phenanthrene	ND	796	115
Phenol	ND	341	88.7
Pyrene	ND	796	109

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	94	25-144
2-Fluorobiphenyl	76	34-135
2-Fluorophenol	84	25-135
Nitrobenzene-d5	89	25-135
Phenol-d5	87	25-135
Terphenyl-d14	72	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19:[illegible]
Sample ID	: CR-A153202	DaTime Analyzd :	12/05/96 20:10
Lab Cnt NO.	: K047-41	Dilutn Factor :	1
Lab File ID	: RLS058	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	17.1
Calib. Ref.	: RLS052	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	844	124
1,2-Dichlorobenzene	ND	844	133
1,3-Dichlorobenzene	ND	844	96.5
1,4-Dichlorobenzene	ND	844	117
2,4,5-Trichlorophenol	ND	3980	119
2,4,6-Trichlorophenol	ND	362	139
2,4-Dichlorophenol	ND	362	91.7
2,4-Dimethylphenol	ND	362	107
2,4-Dinitrophenol	ND	3980	67.6
2,4-Dinitrotoluene	ND	844	139
2,6-Dinitrotoluene	ND	844	118
2-Chloronaphthalene	ND	844	112
2-Chlorophenol	ND	362	82
2-Methylnaphthalene	ND	844	123
2-Methylphenol	ND	362	116
2-Nitroaniline	ND	3980	1[illegible]
2-Nitrophenol	ND	362	1[illegible]
3,3'-Dichlorobenzidine	ND	1570	165
3-Nitroaniline	ND	3980	101
4,6-Dinitro-2-methylphenol	ND	3980	88.1
4-Bromophenyl phenyl ether	ND	844	125
4-Chloro-3-methylphenol	ND	1570	141
4-Chloroaniline	ND	1570	74.8
4-Chlorophenyl phenyl ether	ND	844	127
4-Methylphenol (1)	ND	362	82
4-Nitroaniline	ND	3980	105
4-Nitrophenol	ND	1930	6.76
Acenaphthene	ND	844	112
Acenaphthylene	ND	844	106
Anthracene	ND	844	124
Benzo(a)anthracene	ND	844	104
Benzo(a)pyrene	ND	844	110
Benzo(b)fluoranthene	ND	844	129
Benzo(k)fluoranthene	ND	844	121
Benzo(g,h,i)perylene	ND	844	112
Benzoic Acid	ND	1930	129
Benzyl alcohol	ND	1570	97.7
bis(2-Chloroethoxy)methane	ND	844	123

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted	: 11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received	: 11/12/96
Batch No.	: 96K047	DaTime Extrctd	: 11/20/96 19:30
Sample ID	: CR-A153202	DaTime Analyzd	: 12/05/96 20:10
Lab Cnt NO.	: K047-41	Dilutn Factor	: 1
Lab File ID	: RLS058	Matrix	: SOIL
Ext Btch ID	: SVK011S	% Moisture	: 17.1
Calib. Ref.	: RLS052	Instrument ID	: MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	844	80.8
bis(2-Chloroisopropyl)ether	ND	844	109
bis(2-Ethylhexyl)phthalate	ND	844	118
Butylbenzylphthalate	ND	844	245
Chrysene	ND	844	121
Di-n-butylphthalate	2660	844	134
Di-n-octylphthalate	ND	844	109
Dibenzo(a,h)anthracene	ND	844	116
Dibenzofuran	ND	844	121
Diethylphthalate	ND	844	117
Dimethylphthalate	ND	844	129
Fluoranthene	ND	844	124
Fluorene	ND	844	105
Hexachlorobenzene	ND	844	135
Hexachlorobutadiene	ND	844	125
Hexachlorocyclopentadiene	ND	844	140
Hexachloroethane	ND	844	106
Indeno(1,2,3-cd)pyrene	ND	844	115
Isophorone	ND	844	112
n-Nitroso-di-n-propylamine	ND	844	138
n-Nitrosodiphenylamine (2)	ND	844	122
Naphthalene	ND	844	117
Nitrobenzene	ND	844	94.1
Pentachlorophenol	ND	3980	36.2
Phenanthrene	ND	844	122
Phenol	ND	362	94.1
Pyrene	ND	844	116

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	99	25-144
2-Fluorobiphenyl	93	34-135
2-Fluorophenol	98	25-135
Nitrobenzene-d5	100	25-135
Phenol-d5	99	25-135
Terphenyl-d14	81	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19:30
Sample ID	: CR-A153204	DaTime Analyzd :	12/05/96 16:58
Lab Cnt NO.	: K047-43	Dilutn Factor :	1
Lab File ID	: RLS054	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	8.6
Calib. Ref.	: RLS052	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,2,4-Trichlorobenzene	ND	766	113
1,2-Dichlorobenzene	ND	766	120
1,3-Dichlorobenzene	ND	766	87.5
1,4-Dichlorobenzene	ND	766	106
2,4,5-Trichlorophenol	ND	3610	108
2,4,6-Trichlorophenol	ND	328	126
2,4-Dichlorophenol	ND	328	83.2
2,4-Dimethylphenol	ND	328	97.4
2,4-Dinitrophenol	ND	3610	61.3
2,4-Dinitrotoluene	ND	766	126
2,6-Dinitrotoluene	ND	766	107
2-Chloronaphthalene	ND	766	102
2-Chlorophenol	ND	328	74.4
2-Methylnaphthalene	ND	766	112
2-Methylphenol	ND	328	1[illegible]
2-Nitroaniline	ND	3610	96[illegible]
2-Nitrophenol	ND	328	113
3,3'-Dichlorobenzidine	ND	1420	150
3-Nitroaniline	ND	3610	91.9
4,6-Dinitro-2-methylphenol	ND	3610	79.9
4-Bromophenyl phenyl ether	ND	766	114
4-Chloro-3-methylphenol	ND	1420	128
4-Chloroaniline	ND	1420	67.8
4-Chlorophenyl phenyl ether	ND	766	115
4-Methylphenol (1)	ND	328	74.4
4-Nitroaniline	ND	3610	95.2
4-Nitrophenol	ND	1750	6.13
Acenaphthene	ND	766	102
Acenaphthylene	ND	766	96.3
Anthracene	ND	766	113
Benzo(a)anthracene	ND	766	94.1
Benzo(a)pyrene	ND	766	99.6
Benzo(b)fluoranthene	ND	766	117
Benzo(k)fluoranthene	ND	766	109
Benzo(g,h,i)perylene	ND	766	102
Benzoic Acid	ND	1750	117
Benzyl alcohol	ND	1420	88.6
bis(2-Chloroethoxy)methane	ND	766	112

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/20/96 19:30
Sample ID	: CR-A153204	DaTime Analyzd :	12/05/96 16:58
Lab Cnt NO.	: K047-43	Dilutn Factor :	1
Lab File ID	: RLS054	Matrix :	SOIL
Ext Btch ID	: SVK011S	% Moisture :	8.6
Calib. Ref.	: RLS052	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
bis(2-Chloroethyl)ether	ND	766	73.3
bis(2-Chloroisopropyl)ether	ND	766	98.5
bis(2-Ethylhexyl)phthalate	ND	766	107
Butylbenzylphthalate	ND	766	222
Chrysene	ND	766	109
Di-n-butylphthalate	338F	766	121
Di-n-octylphthalate	ND	766	98.5
Dibenzo(a,h)anthracene	ND	766	105
Dibenzofuran	ND	766	109
Diethylphthalate	ND	766	106
Dimethylphthalate	ND	766	117
Fluoranthene	ND	766	113
Fluorene	ND	766	95.2
Hexachlorobenzene	ND	766	123
Hexachlorobutadiene	ND	766	114
Hexachlorocyclopentadiene	ND	766	127
Hexachloroethane	ND	766	96.3
Indeno(1,2,3-cd)pyrene	ND	766	104
Isophorone	ND	766	102
n-Nitroso-di-n-propylamine	ND	766	125
n-Nitrosodiphenylamine (2)	ND	766	111
Naphthalene	ND	766	106
Nitrobenzene	ND	766	85.3
Pentachlorophenol	ND	3610	32.8
Phenanthrene	ND	766	111
Phenol	ND	328	85.3
Pyrene	ND	766	105

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	90	25-144
2-Fluorobiphenyl	84	34-135
2-Fluorophenol	89	25-135
Nitrobenzene-d5	89	25-135
Phenol-d5	89	25-135
Terphenyl-d14	72	32-136

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3520B/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/09/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/13/96 17:30
Sample ID	: CR-A152605	DaTime Analyzd :	11/27/96 06:02
Lab Cnt NO.	: K047-08	Dilutn Factor :	1
Lab File ID	: RKB123	Matrix :	WATER
Ext Btch ID	: SVK006W	% Moisture :	NA
Calib. Ref.	: RKB119	Instrument ID :	MSBNA1

PARAMETERS	RESULTS (ug/L)	PQL (ug/L)	MDL (ug/L)
1,2,4-Trichlorobenzene	ND	10	2.8
1,2-Dichlorobenzene	ND	10	2.7
1,3-Dichlorobenzene	ND	10	2.6
1,4-Dichlorobenzene	ND	10	2.5
2,4,5-Trichlorophenol	ND	50	3.4
2,4,6-Trichlorophenol	ND	10	3.5
2,4-Dichlorophenol	ND	10	3
2,4-Dimethylphenol	ND	10	2.2
2,4-Dinitrophenol	ND	50	.86
2,4-Dinitrotoluene	ND	10	4
2,6-Dinitrotoluene	ND	10	3.6
2-Chloronaphthalene	ND	10	2.9
2-Chlorophenol	ND	10	2.9
2-Methylnaphthalene	ND	10	2.9
2-Methylphenol	ND	10	3
2-Nitroaniline	ND	50	3
2-Nitrophenol	ND	10	[illegible]
3,3'-Dichlorobenzidine	ND	20	3.5
3-Nitroaniline	ND	50	3
4,6-Dinitro-2-methylphenol	ND	50	1.8
4-Bromophenyl phenyl ether	ND	10	4.2
4-Chloro-3-methylphenol	ND	20	3.1
4-Chloroaniline	ND	20	3.1
4-Chlorophenyl phenyl ether	ND	10	3.8
4-Methylphenol (1)	ND	10	3.2
4-Nitroaniline	ND	50	2.3
4-Nitrophenol	ND	50	.91
Acenaphthene	ND	10	3.2
Acenaphthylene	ND	10	3.3
Anthracene	ND	10	2.8
Benzo(a)anthracene	ND	10	2.4
Benzo(a)pyrene	ND	10	2.8
Benzo(b)fluoranthene	ND	10	2.8
Benzo(k)fluoranthene	ND	10	3.3
Benzo(g,h,i)perylene	ND	10	3.3
Benzoic Acid	ND	50	2.6
Benzyl alcohol	ND	20	2.7
bis(2-Chloroethoxy)methane	ND	10	3

SW 3520B/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/09/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/13/96 17:30
Sample ID	: CR-A152605	DaTime Analyzd :	11/27/96 06:02
Lab Cnt NO.	: K047-08	Dilutn Factor :	1
Lab File ID	: RKB123	Matrix :	WATER
Ext Btch ID	: SVK006W	% Moisture :	NA
Calib. Ref.	: RKB119	Instrument ID :	MSBNA1

PARAMETERS	RESULTS (ug/L)	PQL (ug/L)	MDL (ug/L)
bis(2-Chloroethyl)ether	ND	10	2.9
bis(2-Chloroisopropyl)ether	ND	10	4.2
bis(2-Ethylhexyl)phthalate	4.51F	10	4.2
Butylbenzylphthalate	ND	10	2.8
Chrysene	ND	10	3
Di-n-butylphthalate	ND	10	5.4
Di-n-octylphthalate	ND	10	2.6
Dibenzo(a,h)anthracene	ND	10	3.1
Dibenzofuran	ND	10	3.8
Diethylphthalate	ND	10	2.8
Dimethylphthalate	ND	10	3.6
Fluoranthene	ND	10	2.7
Fluorene	ND	10	3.3
Hexachlorobenzene	ND	10	3.6
Hexachlorobutadiene	ND	10	2.2
Hexachlorocyclopentadiene	ND	10	1.6
Hexachloroethane	ND	10	2
Indeno(1,2,3-cd)pyrene	ND	10	3.2
Isophorone	ND	10	3
n-Nitroso-di-n-propylamine	ND	10	3.7
n-Nitrosodiphenylamine (2)	ND	10	3
Naphthalene	ND	10	2.9
Nitrobenzene	ND	10	2.8
Pentachlorophenol	ND	50	2.4
Phenanthrene	ND	10	3
Phenol	ND	10	2.9
Pyrene	ND	10	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	94	25-134
2-Fluorobiphenyl	69	43-125
2-Fluorophenol	76	25-125
Nitrobenzene-d5	70	32-125
Phenol-d5	73	25-125
Terphenyl-d14	79	42-126

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

SW 3520B/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/13/96 17:30
Sample ID	: CR-A153206	DaTime Analyzd :	11/27/96 06:49
Lab Cnt NO.	: K047-45	Dilutn Factor :	1
Lab File ID	: RKB124	Matrix :	WATER
Ext Btch ID	: SVK006W	% Moisture :	NA
Calib. Ref.	: RKB119	Instrument ID :	MSBNA1

PARAMETERS	RESULTS (ug/L)	PQL (ug/L)	MDL (ug/L)
1,2,4-Trichlorobenzene	ND	10	2.8
1,2-Dichlorobenzene	ND	10	2.7
1,3-Dichlorobenzene	ND	10	2.6
1,4-Dichlorobenzene	ND	10	2.5
2,4,5-Trichlorophenol	ND	50	3.4
2,4,6-Trichlorophenol	ND	10	3.5
2,4-Dichlorophenol	ND	10	3
2,4-Dimethylphenol	ND	10	2.2
2,4-Dinitrophenol	ND	50	.86
2,4-Dinitrotoluene	ND	10	4
2,6-Dinitrotoluene	ND	10	3.6
2-Chloronaphthalene	ND	10	2.9
2-Chlorophenol	ND	10	2.9
2-Methylnaphthalene	ND	10	2.9
2-Methylphenol	ND	10	3
2-Nitroaniline	ND	50	3
2-Nitrophenol	ND	10	3
3,3'-Dichlorobenzidine	ND	20	3.5
3-Nitroaniline	ND	50	3
4,6-Dinitro-2-methylphenol	ND	50	1.8
4-Bromophenyl phenyl ether	ND	10	4.2
4-Chloro-3-methylphenol	ND	20	3.1
4-Chloroaniline	ND	20	3.1
4-Chlorophenyl phenyl ether	ND	10	3.8
4-Methylphenol (1)	ND	10	3.2
4-Nitroaniline	ND	50	2.3
4-Nitrophenol	ND	50	.91
Acenaphthene	ND	10	3.2
Acenaphthylene	ND	10	3.3
Anthracene	ND	10	2.8
Benzo(a)anthracene	ND	10	2.4
Benzo(a)pyrene	ND	10	2.8
Benzo(b)fluoranthene	ND	10	2.8
Benzo(k)fluoranthene	ND	10	3.3
Benzo(g,h,i)perylene	ND	10	3.3
Benzoic Acid	ND	50	2.6
Benzyl alcohol	ND	20	2.7
bis(2-Chloroethoxy)methane	ND	10	3

SW 3520B/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/13/96 17:30
Sample ID	: CR-A153206	DaTime Analyzd :	11/27/96 06:49
Lab Cnt NO.	: K047-45	Dilutn Factor :	1
Lab File ID	: RKB124	Matrix :	WATER
Ext Btch ID	: SVK006W	% Moisture :	NA
Calib. Ref.	: RKB119	Instrument ID :	MSBNA1

PARAMETERS	RESULTS (ug/L)	PQL (ug/L)	MDL (ug/L)
bis(2-Chloroethyl)ether	ND	10	2.9
bis(2-Chloroisopropyl)ether	ND	10	4.2
bis(2-Ethylhexyl)phthalate	ND	10	4.2
Butylbenzylphthalate	ND	10	2.8
Chrysene	ND	10	3
Di-n-butylphthalate	ND	10	5.4
Di-n-octylphthalate	ND	10	2.6
Dibenzo(a,h)anthracene	ND	10	3.1
Dibenzofuran	ND	10	3.8
Diethylphthalate	ND	10	2.8
Dimethylphthalate	ND	10	3.6
Fluoranthene	ND	10	2.7
Fluorene	ND	10	3.3
Hexachlorobenzene	ND	10	3.6
Hexachlorobutadiene	ND	10	2.2
Hexachlorocyclopentadiene	ND	10	1.6
Hexachloroethane	ND	10	2
Indeno(1,2,3-cd)pyrene	ND	10	3.2
Isophorone	ND	10	3
n-Nitroso-di-n-propylamine	ND	10	3.7
n-Nitrosodiphenylamine (2)	ND	10	3
Naphthalene	ND	10	2.9
Nitrobenzene	ND	10	2.8
Pentachlorophenol	ND	50	2.4
Phenanthrene	ND	10	3
Phenol	ND	10	2.9
Pyrene	ND	10	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	90	25-134
2-Fluorobiphenyl	73	43-125
2-Fluorophenol	79	25-125
Nitrobenzene-d5	73	32-125
Phenol-d5	75	25-125
Terphenyl-d14	82	42-126

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

EMAX Batch No. 96K047

EMAX
LABORATORIES, INC.
630 Maple Ave.
Torrance, CA 90503
Telephone: (310) 618-8889
Fax: (310) 618-0818

RECEIVED
DEC 26 1996
JE - Denver

Date: 12-24-1996
EMAX Batch No.: 96K047

Attn: Lynn Schuetter

Jacobs Engineering Group
600 17th. Street, STe. 1100N
Denver CO 80202

Subject: Laboratory Report
Project: Carswell AFB / 05G47900

Enclosed is the Laboratory report for samples received on 11/12/96. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
CR-A152502	K047-02	11/09/96	Soil	Metals
CR-A152504	K047-04	11/09/96	Soil	Metals
CR-A152602	K047-06	11/09/96	Soil	Metals
CR-A152607	K047-10	11/09/96	Water	Metals
CR-A152702	K047-12	11/10/96	Soil	Metals
CR-A152704	K047-14	11/10/96	Soil	Metals
CR-A152802	K047-16	11/10/96	Soil	Metals
CR-A152804	K047-18	11/10/96	Soil	Metals
CR-A152806	K047-20	11/10/96	Soil	Metals
CR-A152902	K047-23	11/10/96	Soil	Metals
CR-A152904	K047-25	11/10/96	Soil	Metals
CR-A152906	K047-27	11/10/96	Soil	Metals
CR-A152907	K047-28	11/10/96	Soil	Metals
CR-A153002	K047-31	11/10/96	Soil	Metals
CR-A153004	K047-33	11/10/96	Soil	Metals
CR-A153006	K047-34	11/10/96	Soil	Metals
CR-A153008	K047-36	11/10/96	Soil	Metals
CR-A153104	K047-39	11/10/96	Soil	Metals
CR-A153104MS	K047-39M	11/10/96	Soil	Metals
CR-A153202	K047-41	11/10/96	Soil	Metals
CR-A153204	K047-43	11/10/96	Soil	Metals
CR-A153207	K047-46	11/10/96	Water	Metals
CR-A153104DUP	K047-39D	11/10/96	Soil	Metals

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D.
Laboratory Director

P.S. - All analyses requested for the above referenced project have been completed. Therefore, unless instructed, the remaining portions of the samples will be disposed after fifteen (15) days from the date of this report.

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL

METALS

SDG#: 96K047

DECEMBER 24, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP

PROJECT: CARSWELL

SDG: 96K047

METALS

Nineteen (19) soil and two (2) water samples were received on 11//96 to be analyzed for metals analysis by ICP method in accordance with USEPA SW846 method 6010A.

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   Trace amount of some elements were found in soil blanks: barium, beryllium, copper, iron, manganese, molybdenum, and sodium in IPK025SB and sodium in IPK023SB. All detected levels were below PQL except sodium.

   Trace amount of calcium and sodium were found in water blank, calcium level was below PQL but sodium was slightly above PQL.

3. **Matrix Spike/Matrix Spike Duplicate**

   No MS/MSD sample was designated for water matrix. MS/MSD recoveries in designated soil sample were within QC limits except beryllium, cobalt, and molybdenum. The QC limit does not apply to aluminum, calcium, and iron since the elements concentration were more than 4 times spiking level.

4. **Lab Control Sample/Lab Control Duplicate**

   All lab control results were within the control limits.

5. **Calibration**

   All initial and continuing calibration results were within QC criteria.

6. **Sample Analysis**

   Analysis was performed within the QC requirements except as aforementioned.

   Sodium in calibration blanks were slightly above PQL. Serial dilutions for

calcium, chromium, copper, iron, magnesium, potassium, sodium, thallium, and zinc were out of QC limits. Post analytical spike recoveries of these failed serial dilution analytes were within QC limits except calcium and iron.

LAB CHRONICLE 11-18-199616:45:1

Method: Metals
Client: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900
SDG/Batch No.: 96K047
Matrix: Soil

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A152502	K047-02	16.5		11/26/96/IPK023S	12/16/96/IC7L002	
CR-A152504	K047-04	11.7				
CR-A152602	K047-06	20.7				
CR-A152702	K047-12	20.9				
CR-A152704	K047-14	13.6				
CR-A152802	K047-16	18.9				
CR-A152804	K047-18	12.1				
CR-A152806	K047-20	17.8				
CR-A152902	K047-23	18.0				
CR-A152904	K047-25	15.1				
CR-A152906	K047-27	21.1				
CR-A152907	K047-28	15.9				
CR-A153002	K047-31	19.6				
CR-A153004	K047-33	9.3				
CR-A153006	K047-34	19.2				
CR-A153008	K047-36	9.3		11/26/96/IPK025S	12/17/96/IC7L005	
CR-A153104	K047-39	12.1		11/26/96/IPK023S	12/16/96/IC7L002	
CR-A153104MS	K047-39M	12.1		↓	↓	
CR-A153202	K047-41	17.1		11/26/96/IPK025S	12/17/96/IC7L005	
CR-A153204	K047-43	8.6		↓	↓	
CR-A153104DUP	K047-39D	12.1		11/26/96/IPK023S	12/16/96/IC7L002	
MBLK1S	IPK023SB			↓	↓	
LCS1	↓	SL				
LCSD		SC				
MBLK2S	IPK025SB			11/26/96/IPK025S	12/17/96/IC7L005	
LCS2	↓	SL		↓	↓	
LCS2D		SC				

LAB CHRONICLE 11-18-199616:45:1

Method: Metals
Client: Jacobs Engineering Group

PROJECT: Carswell AFB / 05G47900
SDG/Batch No.: 96K047
Matrix: Water

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A152607	K047-10	NA		11/18/96/IPKC15W	12/16/96/IG7L002	
CR-A153207	K047-46	NA				
MBLK1W	IPKC15WB					
LCS		WL				
LCSD		WC				

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/09/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152502	DaTime Analyzd :	12/16/96 20:30
Lab Cnt NO.:	K047-02	Dilutn Factor :	1
Lab File ID:	I07L002	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	16.5
Calib. Ref.:	I07L002	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	11300	59.9	1.21
Barium	116	2.4	.0479
Beryllium	.891	.359	.012
Calcium	5410	12	2.69
Chromium	11.4	8.38	.659
Cobalt	7F	8.38	1.01
Copper	11.6	7.19	.168
Iron	11400	8.38	.695
Magnesium	1200	35.9	6.62
Manganese	419	2.4	.144
Molybdenum	ND	9.58	.731
Potassium	820	599	62.6
Sodium	47.3	35.9	2.4
Thallium	42.5F	47.9	11
Vanadium	21.2	9.58	.467
Zinc	19.9	2.4	.204

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/09/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152504	DaTime Analyzd :	12/16/96 20:34
Lab Cnt NO.:	K047-04	Dilutn Factor :	1
Lab File ID:	I07L002	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	11.7
Calib. Ref.:	I07L002	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	11100	56.6	1.14
Barium	48.9	2.27	.0453
Beryllium	.589	.34	.0113
Calcium	98700	11.3	2.55
Chromium	8.41	7.93	.623
Cobalt	3.25F	7.93	.951
Copper	8.58	6.8	.159
Iron	9330	7.93	.657
Magnesium	1970	34	6.26
Manganese	215	2.27	.136
Molybdenum	ND	9.06	.691
Potassium	1380	566	59.2
Sodium	24.5F	34	2.27
Thallium	44.7F	45.3	10.4
Vanadium	17.7	9.06	.442
Zinc	24.4	2.27	.193

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/09/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152602	DaTime Analyzd :	12/16/96 20:37
Lab Cnt NO.:	K047-06	Dilutn Factor :	1
Lab File ID:	I07L002	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	20.7
Calib. Ref.:	I07L002	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	16200	63.1	1.27
Barium	84.7	2.52	.0504
Beryllium	.886	.378	.0126
Calcium	8690	12.6	2.84
Chromium	16.9	8.83	.694
Cobalt	3.93F	8.83	1.06
Copper	12.5	7.57	.177
Iron	13600	8.83	.731
Magnesium	2230	37.8	6.97
Manganese	235	2.52	.151
Molybdenum	ND	10.1	.769
Potassium	1580	631	65.9
Sodium	70	37.8	2.52
Thallium	54.6	50.4	11.6
Vanadium	35.9	10.1	.492
Zinc	38.8	2.52	.214

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152702	DaTime Analyzd :	12/16/96 20:41
Lab Cnt NO.:	K047-12	Dilutn Factor :	1
Lab File ID:	I07L002	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	20.9
Calib. Ref.:	I07L002	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	15600	63.2	1.28
Barium	126	2.53	.0506
Beryllium	1.02	.379	.0126
Calcium	6450	12.6	2.84
Chromium	16.1	8.85	.695
Cobalt	5.38F	8.85	1.06
Copper	12.3	7.59	.177
Iron	15500	8.85	.733
Magnesium	1810	37.9	6.99
Manganese	270	2.53	.152
Molybdenum	ND	10.1	.771
Potassium	1110	632	66
Sodium	21.4F	37.9	2.53
Thallium	54.6	50.6	11.7
Vanadium	29.9	10.1	.493
Zinc	25.1	2.53	.215

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152704	DaTime Analyzd :	12/16/96 20:45
Lab Cnt NO.:	K047-14	Dilutn Factor :	1
Lab File ID:	I07L002	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	13.6
Calib. Ref.:	I07L002	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	17500	57.9	1.17
Barium	120	2.31	.0463
Beryllium	1.07	.347	.0116
Calcium	11600	11.6	2.6
Chromium	17.9	8.1	.637
Cobalt	4.78F	8.1	.972
Copper	13.2	6.94	.162
Iron	16900	8.1	.671
Magnesium	2100	34.7	6.4
Manganese	211	2.31	.139
Molybdenum	ND	9.26	.706
Potassium	1280	579	60.5
Sodium	17.6F	34.7	2.31
Thallium	65.4	46.3	10.7
Vanadium	33.7	9.26	.451
Zinc	26.3	2.31	.197

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152802	DaTime Analyzd :	12/16/96 20:48
Lab Cnt NO.:	K047-16	Dilutn Factor :	1
Lab File ID:	I07L002	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	18.9
Calib. Ref.:	I07L002	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	13600	61.7	1.25
Barium	82	2.47	.0493
Beryllium	.755	.37	.0123
Calcium	24700	12.3	2.77
Chromium	13.9	8.63	.678
Cobalt	4.11F	8.63	1.04
Copper	10.3	7.4	.173
Iron	12500	8.63	.715
Magnesium	1570	37	6.82
Manganese	208	2.47	.148
Molybdenum	ND	9.86	.752
Potassium	1230	617	64.4
Sodium	62.2	37	2.47
Thallium	51.4	49.3	11.4
Vanadium	31.1	9.86	.481
Zinc	25.6	2.47	.21

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152804	DaTime Analyzd :	12/16/96 20:52
Lab Cnt NO.	: K047-18	Dilutn Factor :	1
Lab File ID	: I07L002	Matrix :	SOIL
Ext Btch ID	: IPK023S	% Moisture :	12.1
Calib. Ref.	: I07L002	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	8250	56.9	1.15
Barium	44.3	2.28	.0455
Beryllium	.422	.341	.0114
Calcium	147000	11.4	2.56
Chromium	8.41	7.96	.626
Cobalt	1.99F	7.96	.956
Copper	7.16	6.83	.159
Iron	8340	7.96	.66
Magnesium	1640	34.1	6.29
Manganese	148	2.28	.137
Molybdenum	ND	9.1	.694
Potassium	654	569	59.4
Sodium	14.9F	34.1	2.28
Thallium	39.7F	45.5	10.5
Vanadium	25.4	9.1	.444
Zinc	15.3	2.28	.193

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152806	DaTime Analyzd :	12/16/96 20:56
Lab Cnt NO.:	K047-20	Dilutn Factor :	1
Lab File ID:	I07L002	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	17.8
Calib. Ref.:	I07L002	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	12400	60.8	1.23
Barium	80.8	2.43	.0487
Beryllium	.739	.365	.0122
Calcium	29400	12.2	2.74
Chromium	12.6	8.52	.669
Cobalt	4.42F	8.52	1.02
Copper	10.7	7.3	.17
Iron	11500	8.52	.706
Magnesium	1400	36.5	6.73
Manganese	202	2.43	.146
Molybdenum	ND	9.73	.742
Potassium	1140	608	63.6
Sodium	63.6	36.5	2.43
Thallium	45.3F	48.7	11.2
Vanadium	28.8	9.73	.474
Zinc	23.5	2.43	.207

SW3050A/6010A
METALS BY ICP

ient	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
ject	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
tch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152902	DaTime Analyzd :	12/16/96 20:59
Lab Cnt NO.:	K047-23	Dilutn Factor :	1
Lab File ID:	I07L002	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	18.0
Calib. Ref.:	I07L002	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	11800	61	1.23
Barium	117	2.44	.0488
Beryllium	.866	.366	.0122
Calcium	6900	12.2	2.74
Chromium	11.6	8.54	.671
Cobalt	8.13F	8.54	1.02
Copper	13.1	7.32	.171
Iron	11200	8.54	.707
Magnesium	1480	36.6	6.74
Manganese	559	2.44	.146
Molybdenum	ND	9.76	.744
Potassium	1180	610	63.7
Sodium	23.6F	36.6	2.44
Thallium	40.1F	48.8	11.2
Vanadium	23.9	9.76	.476
c	24	2.44	.207

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152904	DaTime Analyzd :	12/16/96 21:03
Lab Cnt NO.:	K047-25	Dilutn Factor :	1
Lab File ID:	I07L002	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	15.1
Calib. Ref.:	I07L002	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	15300	58.9	1.19
Barium	82.9	2.36	.0471
Beryllium	.903	.353	.0118
Calcium	31300	11.8	2.65
Chromium	13	8.24	.648
Cobalt	4.66F	8.24	.989
Copper	13.3	7.07	.165
Iron	13800	8.24	.683
Magnesium	2120	35.3	6.51
Manganese	258	2.36	.141
Molybdenum	ND	9.42	.718
Potassium	1900	589	61.5
Sodium	543	35.3	2.36
Thallium	59.4	47.1	10.9
Vanadium	24.5	9.42	.459
Zinc	31	2.36	.2

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152906	DaTime Analyzd :	12/16/96 21:17
Lab Cnt NO.:	K047-27	Dilutn Factor :	1
Lab File ID:	I07L002	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	21.1
Calib. Ref.:	I07L002	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	11200	63.4	1.28
Barium	112	2.53	.0507
Beryllium	.849	.38	.0127
Calcium	5600	12.7	2.85
Chromium	11	8.87	.697
Cobalt	6.94F	8.87	1.06
Copper	12.1	7.6	.177
Iron	9500	8.87	.735
Magnesium	1340	38	7.01
Manganese	407	2.53	.152
Molybdenum	ND	10.1	.773
Potassium	1270	634	66.2
Sodium	50.1	.38	2.53
Thallium	40.5F	50.7	11.7
Vanadium	19.7	10.1	.494
Zinc	23	2.53	.215

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A152907	DaTime Analyzd :	12/16/96 21:21
Lab Cnt NO.	: K047-28	Dilutn Factor :	1
Lab File ID	: I07L002	Matrix :	SOIL
Ext Btch ID	: IPK023S	% Moisture :	15.9
Calib. Ref.	: I07L002	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	13800	59.5	1.2
Barium	90	2.38	.0476
Beryllium	.888	.357	.0119
Calcium	30600	11.9	2.68
Chromium	12.1	8.32	.654
Cobalt	4.39F	8.32	.999
Copper	12.6	7.13	.166
Iron	12900	8.32	.69
Magnesium	2030	35.7	6.58
Manganese	235	2.38	.143
Molybdenum	ND	9.51	.725
Potassium	1760	595	62.1
Sodium	599	35.7	2.38
Thallium	58.4	47.6	11
Vanadium	24.6	9.51	.464
Zinc	29.1	2.38	.202

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153002	DaTime Analyzd :	12/16/96 21:25
Lab Cnt NO.:	K047-31	Dilutn Factor :	1
Lab File ID:	I07L002	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	19.6
Calib. Ref.:	I07L002	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	9080	62.2	1.26
Barium	70.9	2.49	.0498
Beryllium	.725	.373	.0124
Calcium	4790	12.4	2.8
Chromium	10.3	8.71	.684
Cobalt	4.8F	8.71	1.04
Copper	11.8	7.46	.174
Iron	10400	8.71	.721
Magnesium	1130	37.3	6.88
Manganese	163	2.49	.149
Molybdenum	ND	9.95	.759
Potassium	1270	622	65
Sodium	60.5	37.3	2.49
Thallium	41.4F	49.8	11.5
Vanadium	23.6	9.95	.485
Zinc	21.8	2.49	.211

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153004	DaTime Analyzd :	12/16/96 21:28
Lab Cnt NO.:	K047-33	Dilutn Factor :	1
Lab File ID:	I07L002	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	9.3
Calib. Ref.:	I07L002	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	8420	55.1	1.11
Barium	61.2	2.21	.0441
Beryllium	.513	.331	.011
Calcium	105000	11	2.48
Chromium	8.17	7.72	.606
Cobalt	3.31F	7.72	.926
Copper	7.13	6.62	.154
Iron	8350	7.72	.639
Magnesium	1880	33.1	6.1
Manganese	162	2.21	.132
Molybdenum	ND	8.82	.673
Potassium	1010	551	57.6
Sodium	20.9F	33.1	2.21
Thallium	43F	44.1	10.2
Vanadium	18.4	8.82	.43
Zinc	17.7	2.21	.187

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153006	DaTime Analyzd :	12/16/96 21:32
Lab Cnt NO.:	K047-34	Dilutn Factor :	1
Lab File ID:	I07L002	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	19.2
Calib. Ref.:	I07L002	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	13000	61.9	1.25
Barium	70.2	2.48	.0495
Beryllium	.62	.371	.0124
Calcium	114000	12.4	2.78
Chromium	10	8.66	.681
Cobalt	3.61F	8.66	1.04
Copper	8.48	7.43	.173
Iron	10300	8.66	.718
Magnesium	2370	37.1	6.84
Manganese	200	2.48	.149
Molybdenum	ND	9.9	.755
Potassium	1420	619	64.7
Sodium	23.5F	37.1	2.48
Thallium	57.2	49.5	11.4
Vanadium	22.6	9.9	.483
Zinc	21.2	2.48	.21

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153008	DaTime Analyzd :	12/16/96 22:25
Lab Cnt NO.:	K047-36	Dilutn Factor :	1
Lab File ID:	I07L005	Matrix :	SOIL
Ext Btch ID:	IPK025S	% Moisture :	9.3
Calib. Ref.:	I07L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	10900	55.1	1.11
Barium	56.6	2.21	.0441
Beryllium	.525	.331	.011
Calcium	96400	11	2.48
Chromium	8.5	7.72	.606
Cobalt	3.45F	7.72	.926
Copper	6.77	6.62	.154
Iron	8540	7.72	.639
Magnesium	2050	33.1	6.1
Manganese	170	2.21	.132
Molybdenum	ND	8.82	.673
Potassium	1300	551	57.6
Sodium	22.1F	33.1	2.21
Thallium*	42.8F	44.1	10.2
Vanadium	18.2	8.82	.43
Zinc	19.3	2.21	.187

*: Analyzed on 12/26/96, Calibration Reference I07L002

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153104	DaTime Analyzd :	12/16/96 21:36
Lab Cnt NO.:	K047-39	Dilutn Factor :	1
Lab File ID:	I07L002	Matrix :	SOIL
Ext Btch ID:	IPK023S	% Moisture :	12.1
Calib. Ref.:	I07L002	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	10200	56.9	1.15
Barium	92.2	2.28	.0455
Beryllium	.642	.341	.0114
Calcium	84300	11.4	2.56
Chromium	9.12	7.96	.626
Cobalt	3.52F	7.96	.956
Copper	7.88	6.83	.159
Iron	8950	7.96	.66
Magnesium	1630	34.1	6.29
Manganese	167	2.28	.137
Molybdenum	ND	9.1	.694
Potassium	964	569	59.4
Sodium	14.9F	34.1	2.28
Thallium	43.5F	45.5	10.5
Vanadium	21	9.1	.444
Zinc	18.5	2.28	.193

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153202	DaTime Analyzd :	12/16/96 22:28
Lab Cnt NO.:	K047-41	Dilutn Factor :	1
Lab File ID:	I07L005	Matrix :	SOIL
Ext Btch ID:	IPK025S	% Moisture :	17.1
Calib. Ref.:	I07L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	10900	60.3	1.22
Barium	66.6	2.41	.0483
Beryllium	.633	.362	.0121
Calcium	12500	12.1	2.71
Chromium	10.1	8.44	.663
Cobalt	3.52F	8.44	1.01
Copper	8.41	7.24	.169
Iron	9800	8.44	.7
Magnesium	1250	36.2	6.67
Manganese	195	2.41	.145
Molybdenum	ND	9.65	.736
Potassium	968	603	63
Sodium	58.6	36.2	2.41
Thallium*	40.5F	48.3	11.1
Vanadium	20.7	9.65	.47
Zinc	22.3	2.41	.205

*: Analyzed on 12/26/96, Calibration Reference I07L002

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153204	DaTime Analyzd :	12/16/96 22:32
Lab Cnt No.:	K047-43	Dilutn Factor :	1
Lab File ID:	I07L005	Matrix :	SOIL
Ext Btch ID:	IPK025S	% Moisture :	8.6
Calib. Ref.:	I07L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	9740	54.7	1.11
Barium	74	2.19	.0438
Beryllium	.462	.328	.0109
Calcium	119000	10.9	2.46
Chromium	7.9	7.66	.602
Cobalt	2.64F	7.66	.919
Copper	6.19F	6.56	.153
Iron	7880	7.66	.635
Magnesium	1940	32.8	6.05
Manganese	193	2.19	.131
Molybdenum	ND	8.75	.667
Potassium	941	547	57.2
Sodium	20F	32.8	2.19
Thallium*	39F	43.8	10.1
Vanadium	18	8.75	.427
Zinc	17	2.19	.186

*: Analyzed on 12/26/96, Calibration Reference I07L002

SW3005A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/09/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/18/96 15:00
Sample ID	: CR-A152607	DaTime Analyzd :	12/16/96 19:45
Lab Cnt NO.:	K047-10	Dilutn Factor :	1
Lab File ID:	I07L002	Matrix :	WATER
Ext Btch ID:	IPK015W	% Moisture :	NA
Calib. Ref.:	I07L002	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/L)	PQL (mg/L)	MDL (mg/L)
Aluminum	ND	.5	.0122
Barium	ND	.02	.001
Beryllium	ND	.003	.0003
Calcium	.0233F	.1	.0222
Chromium	ND	.07	.0053
Cobalt	ND	.07	.0089
Copper	ND	.06	.0008
Iron	ND	.07	.0035
Magnesium	ND	.3	.0342
Manganese	ND	.02	.0013
Molybdenum	ND	.08	.0144
Potassium	ND	5	.466
Sodium	.826	.3	.05
Thallium	ND	.4	.0632
Vanadium	ND	.08	.0029
Zinc	ND	.02	.0039

SW3005A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/10/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/12/96
Batch No.	: 96K047	DaTime Extrctd :	11/18/96 15:00
Sample ID	: CR-A153207	DaTime Analyzd :	12/16/96 19:49
Lab Cnt NO.	: K047-46	Dilutn Factor :	1
Lab File ID	: I07L002	Matrix :	WATER
Ext Btch ID	: IPK015W	% Moisture :	NA
Calib. Ref.	: I07L002	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/L)	PQL (mg/L)	MDL (mg/L)
Aluminum	ND	.5	.0122
Barium	ND	.02	.001
Beryllium	ND	.003	.0003
Calcium	ND	.1	.0222
Chromium	ND	.07	.0053
Cobalt	ND	.07	.0089
Copper	.00165F	.06	.0008
Iron	ND	.07	.0035
Magnesium	ND	.3	.0342
Manganese	ND	.02	.0013
Molybdenum	ND	.08	.0144
Potassium	ND	5	.466
Sodium	.826	.3	.05
Thallium	ND	.4	.0632
Vanadium	ND	.08	.0029
[illegible]	ND	.02	.0039

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

ANTIMONY BY GFAA

SDG#: 96K047

DECEMBER 14, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K047

ANTIMONY BY GFAA

Nineteen (19) soil and two (2) water samples were received on 11/12/96 to be analyzed for Antimony by GFAA method 7041 in accordance with USEPA SW846 (1994,9).

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   Preparation blanks were free of contamination.

3. **Matrix Spike/Matrix Spike Duplicate**

   MS recoveries soil were out of QC limits. Since LCS was in, no corrective action was performed.

4. **Lab Control Sample/Lab Control Sample Duplicate**

   All lab control results were within the QC limits.

5. **Calibration**

   All initial and continuing calibration results were within QC criteria.

6. **Sample Analyses**

   Sample analyses met QC requirements.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

LAB CHRONICLE 11-18-199616:45:1

Method: Metals
Client: Jacobs Engineering Group

PROJECT: Carswell AFB / 05G47900
SDG/Batch No.: 96K047
Matrix: Soil

Antimony

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A152502	K047-02	16.5		11/26	12/3	
CR-A152504	K047-04	11.7			12/3	
CR-A152602	K047-06	20.7			12/6	
CR-A152702	K047-12	20.9				
CR-A152704	K047-14	13.6				
CR-A152802	K047-16	18.9				
CR-A152804	K047-18	12.1				
CR-A152806	K047-20	17.8				
CR-A152902	K047-23	18.0				
CR-A152904	K047-25	15.1				
CR-A152906	K047-27	21.1				
CR-A152907	K047-28	15.9				
CR-A153002	K047-31	19.6				
CR-A153004	K047-33	9.3				
CR-A153006	K047-34	19.2				
CR-A153008	K047-36	9.3			12/3	
CR-A153104	K047-39	12.1				
CR-A153104MS	K047-39M	12.1				
CR-A153202	K047-41	17.1				
CR-A153204	K047-43	8.6				
CR-A153104DUP	K047-39DS	12.1				

LAB CHRONICLE 11-18-199616:45:1

Method: Metals
Client: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900
/Batch No.: 96K047
Matrix: Water

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A152607	K047-10	NA		11/13	12/02	
CR-A153207	K047-46	NA		11/13	12/02	

EPA 3050A/7041
ANTIMONY BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K047
Matrix : SOIL

Date Collcted : 11/09/96
DaTime Received: 11/12/96
Instrument ID : EMAXTI03

SAMPLE ID	CONTROL NO	RESULTS (mg/kg)	DLF	MOIST	PQL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A152502	K047-02	ND	1	16.5	.599	.24	12/03/9623:42	11/26/9609:00	G03L005021	G03L005010	IPK023S
CR-A152504	K047-04	ND	1	11.7	.566	.227	12/03/9623:57	11/26/9609:00	G03L005025	G03L005022	IPK023S
CR-A152602	K047-06	.429F	1	20.7	.631	.252	12/04/9600:01	11/26/9609:00	G03L005026	G03L005022	IPK023S
CR-A152702*	K047-12	ND	1	20.9	.632	.253	12/04/9600:04	11/26/9609:00	G03L005027	G03L005022	IPK023S
CR-A152704*	K047-14	ND	1	13.6	.579	.231	12/04/9600:08	11/26/9609:00	G03L005028	G03L005022	IPK023S
CR-A152802*	K047-16	ND	1	18.9	.617	.247	12/04/9600:12	11/26/9609:00	G03L005029	G03L005022	IPK023S
CR-A152804*	K047-18	.315F	1	12.1	.569	.228	12/04/9600:15	11/26/9609:00	G03L005030	G03L005022	IPK023S
CR-A152806*	K047-20	ND	1	17.8	.608	.243	12/04/9600:19	11/26/9609:00	G03L005031	G03L005022	IPK023S
CR-A152902*	K047-23	.396F	1	18.0	.61	.244	12/04/9600:23	11/26/9609:00	G03L005032	G03L005022	IPK023S
CR-A152904*	K047-25	ND	1	15.1	.589	.236	12/04/9600:26	11/26/9609:00	G03L005033	G03L005022	IPK023S
CR-A152906*	K047-27	.617F	1	21.1	.634	.253	12/04/9600:38	11/26/9609:00	G03L005036	G03L005034	IPK023S
CR-A152907*	K047-28	.247F	1	15.9	.595	.238	12/04/9600:42	11/26/9609:00	G03L005037	G03L005034	IPK023S
CR-A153002*	K047-31	ND	1	19.6	.622	.249	12/04/9600:45	11/26/9609:00	G03L005038	G03L005034	IPK023S
CR-A153004*	K047-33	.273F	1	9.3	.551	.221	12/04/9600:49	11/26/9609:00	G03L005039	G03L005034	IPK023S
CR-A153006*	K047-34	ND	1	19.2	.619	.248	12/04/9600:53	11/26/9609:00	G03L005040	G03L005034	IPK023S
CR-A153008*	K047-36	ND	1	9.3	.551	.221	12/03/9620:11	11/26/9609:00	G03L004015	G03L004010	IPK025S
CR-A153104*	K047-39	.267F	1	12.1	.569	.228	12/03/9623:24	11/26/9609:00	G03L005016	G03L005010	IPK023S
CR-A153104MS*	K047-39M	.546F	1	12.1	.569	.228	12/03/9623:35	11/26/9609:00	G03L005019	G03L005010	IPK023S
CR-A153104MSD*	K047-39S	.486F	1	12.1	.569	.228	12/03/9623:39	11/26/9609:00	G03L005020	G03L005010	IPK023S
CR-A153202*	K047-41	.381F	1	17.1	.603	.241	12/03/9620:22	11/26/9609:00	G03L004018	G03L004010	IPK025S
CR-A153204*	K047-43	ND	1	8.6	.547	.219	12/03/9620:26	11/26/9609:00	G03L004019	G03L004010	IPK025S
MBLK1S	IPK023SB	ND	1	NA	.5	.2	12/03/9623:10	11/26/9609:00	G03L005012	G03L005010	IPK023S
LCS1S	IPK024SL	2.28	1	NA	.5	.2	12/03/9623:13	11/26/9609:00	G03L005013	G03L005010	IPK023S
LCD1S	IPK024SC	2.29	1	NA	.5	.2	12/03/9623:17	11/26/9609:00	G03L005014	G03L005010	IPK023S
MBLK2S	IPK025SB	ND	1	NA	.5	.2	12/03/9620:00	11/26/9609:00	G03L004012	G03L004010	IPK025S
LCS2S	IPK026SL	2.48	1	NA	.5	.2	12/03/9620:04	11/26/9609:00	G03L004013	G03L004010	IPK025S
LCD2S	IPK026SC	2.13	1	NA	.5	.2	12/03/9620:08	11/26/9609:00	G03L004014	G03L004010	IPK025S

PQL: Practical Quantitation Limit
* DATE COLLECTED : 11/10/96

04

EPA 3005A/7041
ANTIMONY BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K047
Matrix : WATER

Date Collcted : 11/09/96
DaTime Received: 11/12/96
Instrument ID : EMAXT106

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PQL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A152607	K047-10	ND	1	NA	.005	.002	12/02/9619:42	11/13/9614:00	G06L001029	G06L001022	IPK010W
CR-A153207*	K047-46	ND	1	NA	.005	.002	12/02/9619:46	11/13/9614:00	G06L001030	G06L001022	IPK010W
MBLK1W	IPK010WB	ND	1	NA	.005	.002	12/02/9618:40	11/13/9614:00	G06L001012	G06L001010	IPK010W
LCS1W	IPK011WL	.0211	1	NA	.005	.002	12/02/9618:44	11/13/9614:00	G06L001013	G06L001010	IPK010W
LCD1W	IPK011WC	.0241	1	NA	.005	.002	12/02/9618:48	11/13/9614:00	G06L001014	G06L001010	IPK010W

PQL: Practical Quantitation Limit
* DATE COLLECTED : 11/10/96

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

NICKEL BY GFAA

SDG#: 96K047

DECEMBER 14, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K047

NICKEL BY GFAA

Nineteen (19) soil and two (2) water samples were received on 11/12/96 to be analyzed for Nickel by GFAA method 7520 in accordance with USEPA SW846 (1994,9).

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   Preparation blanks were free of contamination.

3. **Matrix Spike/Matrix Spike Duplicate**

   MS recovery in water was within QC limits but recovery in soil could not be calculated because of high concentration of Nickel in the sample.

4. **Lab Control Sample/Lab Control Sample Duplicate**

   All lab control results were within the QC limits.

5. **Calibration**

   All initial and continuing calibration results were within QC criteria.

6. **Sample Analyses**

   Sample analyses met QC requirements.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

LAB CHRONICLE 11-18-199616:45:1

Method: Metals
Client: Jacobs Engineering Group

PROJECT: Carswell AFB / 05G47900
SDG/Batch No.: 96K047
Matrix: Soil

Nickel

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A152502	K047-02	16.5		11/20	12/4	
CR-A152504	K047-04	11.7		11/20	12/4	
CR-A152602	K047-06	20.7		11/21	12/7	
CR-A152702	K047-12	20.9				
CR-A152704	K047-14	13.6				
CR-A152802	K047-16	18.9				
CR-A152804	K047-18	12.1				
CR-A152806	K047-20	17.8				
CR-A152902	K047-23	18.0				
CR-A152904	K047-25	15.1				
CR-A152906	K047-27	21.1				
CR-A152907	K047-28	15.9				
CR-A153002	K047-31	19.6				
CR-A153004	K047-33	9.3				
CR-A153006	K047-34	19.2				
CR-A153008	K047-36	9.3				
CR-A153104	K047-39	12.1				
CR-A153104MS	K047-39M	12.1				
CR-A153202	K047-41	17.1				
CR-A153204	K047-43	8.6				
CR-A153104DUP	K047-39D	12.1				

LAB CHRONICLE 11-18-199616:45:1

Method: Metals
Client: Jacobs Engineering Group

JECT: Carswell AFB / 05G47900
/Batch No.: 96K047 Nickel
Matrix: Water

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A152607	K047-10	NA		11/20	12/4	
CR-A153207	K047-46	NA		11/20	12/4	

EPA 3050A/7520
NICKEL BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K047
Matrix : SOIL

Date Collcted : 11/09/96
DaTime Received: 11/12/96
Instrument ID : EMAXT106

SAMPLE ID	CONTROL NO	RESULTS (mg/kg)	DLF	MOIST	PQL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A152502	K047-02	13.3	2	16.5	2.4	.479	12/04/9623:32	11/20/9612:00	G06L003074	G06L003069	GFK006S
CR-A152504	K047-04	9.24	2	11.7	2.27	.453	12/04/9623:40	11/20/9612:00	G06L003076	G06L003069	GFK006S
CR-A152602	K047-06	12.2	4	20.7	5.04	1.01	12/07/9615:50	11/21/9609:00	G06L007020	G06L007009	GFK008S
CR-A152702*	K047-12	14.3	4	20.9	5.06	1.01	12/07/9616:03	11/21/9609:00	G06L007023	G06L007021	GFK008S
CR-A152704*	K047-14	19.3	4	13.6	4.63	.926	12/07/9616:07	11/21/9609:00	G06L007025	G06L007021	GFK008S
CR-A152802*	K047-16	12.2	4	18.9	4.93	.986	12/07/9616:15	11/21/9609:00	G06L007026	G06L007021	GFK008S
CR-A152804*	K047-18	8.12	4	12.1	4.55	.91	12/07/9616:19	11/21/9609:00	G06L007027	G06L007021	GFK008S
CR-A152806*	K047-20	12	4	17.8	4.87	.973	12/07/9616:23	11/21/9609:00	G06L007028	G06L007021	GFK008S
CR-A152902*	K047-23	14.3	4	18.0	4.88	.976	12/07/9616:28	11/21/9609:00	G06L007029	G06L007021	GFK008S
CR-A152904*	K047-25	22.1	4	15.1	4.71	.942	12/07/9616:32	11/21/9609:00	G06L007031	G06L007021	GFK008S
CR-A152906*	K047-27	13	4	21.1	5.07	1.01	12/07/9616:40	11/21/9609:00	G06L007032	G06L007021	GFK008S
CR-A152907*	K047-28	18.6	4	15.9	4.76	.951	12/07/9616:53	11/21/9609:00	G06L007036	G06L007033	GFK008S
CR-A153002*	K047-31	11.2	4	19.6	4.98	.995	12/07/9617:01	11/21/9609:00	G06L007037	G06L007033	GFK008S
CR-A153004*	K047-33	10.4	4	9.3	4.41	.882	12/07/9617:06	11/21/9609:00	G06L007038	G06L007033	GFK008S
CR-A153006*	K047-34	12.9	4	19.2	4.95	.99	12/07/9617:10	11/21/9609:00	G06L007039	G06L007033	GFK008S
CR-A153008*	K047-36	10.1	4	9.3	4.41	.882	12/07/9617:14	11/21/9609:00	G06L007040	G06L007033	GFK008S
CR-A153104*	K047-39	10.6	5	12.1	5.69	1.14	12/07/9615:26	11/21/9609:00	G06L007014	G06L007009	GFK008S
CR-A153104MS*	K047-39M	15.7	5	12.1	5.69	1.14	12/07/9615:42	11/21/9609:00	G06L007018	G06L007009	GFK008S
CR-A153104MSD*	K047-39S	15.3	5	12.1	5.69	1.14	12/07/9615:46	11/21/9609:00	G06L007019	G06L007009	GFK008S
CR-A153202*	K047-41	11.9	4	17.1	4.83	.965	12/07/9617:19	11/21/9609:00	G06L007041	G06L007033	GFK008S
CR-A153204*	K047-43	10.2	4	8.6	4.38	.875	12/07/9617:23	11/21/9609:00	G06L007042	G06L007033	GFK008S
MBLK1S	GFK006SB	ND	1	NA	1	.2	12/04/9620:16	11/21/9609:00	G06L003027	G06L003021	GFK008S
LCS1S	GFK006SL	1.05	1	NA	1	.2	12/04/9620:20	11/21/9609:00	G06L003028	G06L003021	GFK008S
LCD1S	GFK006SC	1.08	1	NA	1	.2	12/04/9620:25	11/21/9609:00	G06L003029	G06L003021	GFK008S
MBLK2S	GFK008SB	ND	1	NA	1	.2	12/07/9615:13	11/21/9609:00	G06L007011	G06L007009	GFK008S
LCS2S	GFK008SL	1.04	1	NA	1	.2	12/07/9615:17	11/21/9609:00	G06L007012	G06L007009	GFK008S
LCD2S	GFK008SC	1	1	NA	1	.2	12/07/9615:22	11/21/9609:00	G06L007013	G06L007009	GFK008S

PQL: Practical Quantitation Limit
* DATE COLLECTED : 11/10/96

04

EPA 3020A/7520
NICKEL BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K047
Matrix : WATER

Date Collcted : 11/09/96
DaTime Received: 11/12/96
Instrument ID : EMAXTI06

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PQL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A152607	K047-10	ND	1	NA	.01	.002	12/04/9619:22	11/20/9613:00	G06L003014	G06L003009	GFK007W
CR-A152607MS	K047-10M	.00994F	1	NA	.01	.002	12/04/9619:39	11/20/9613:00	G06L003018	G06L003009	GFK007W
CR-A152607MSD	K047-10S	.011	1	NA	.01	.002	12/04/9619:43	11/20/9613:00	G06L003019	G06L003009	GFK007W
CR-A152607	K047-10D	ND	1	NA	.01	.002	12/04/9619:35	11/20/9613:00	G06L003014	G06L003009	GFK007W
CR-A153207*	K047-46	ND	1	NA	.01	.002	12/04/9619:47	11/20/9613:00	G06L003020	G06L003009	GFK007W
MBLK1W	GFK007WB	ND	1	NA	.01	.002	12/04/9619:10	11/20/9613:00	G06L003011	G06L003009	GFK007W
LCS1W	GFK007WL	.00976F	1	NA	.01	.002	12/04/9619:14	11/20/9613:00	G06L003012	G06L003009	GFK007W
LCD1W	GFK007WC	.00986F	1	NA	.01	.002	12/04/9619:18	11/20/9613:00	G06L003013	G06L003009	GFK007W

PQL: Practical Quantitation Limit
* DATE COLLECTED : 11/10/96

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

SELENIUM BY GFAA

SDG#: 96K047

DECEMBER 14, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K047

SELENIUM BY GFAA

Nineteen (19) soil and two (2) water samples were received on 11/12/96 to be analyzed for Selenium by GFAA method 7740 in accordance with USEPA SW846 (1994,9).

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   Preparation blanks were free of contamination.

3. **Matrix Spike/Matrix Spike Duplicate**

   MS recovery in water and soil were within QC limits.

4. **Lab Control Sample/Lab Control Sample Duplicate**

   Two sets of LCS for soil and one set for water were extracted and analyzed. Recovery in GFK006SL was 1% higher than QC limit. All other lab control results were within the QC limits.

5. **Calibration**

   All initial and continuing calibration results were within QC criteria.

6. **Sample Analyses**

   Sample analyses met QC requirements.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

LAB CHRONICLE 11-18-199616:45:1

Method: Metals
Client: Jacobs Engineering Group

PROJECT: Carswell AFB / 05G47900
SDG/Batch No.: 96K047
Matrix: Soil

Selenium

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A152502	K047-02	16.5		11/20	12/6	
CR-A152504	K047-04	11.7		11/20		
CR-A152602	K047-06	20.7		11/21		
CR-A152702	K047-12	20.9				
CR-A152704	K047-14	13.6				
CR-A152802	K047-16	18.9				
CR-A152804	K047-18	12.1				
CR-A152806	K047-20	17.8				
CR-A152902	K047-23	18.0				
CR-A152904	K047-25	15.1				
CR-A152906	K047-27	21.1				
CR-A152907	K047-28	15.9				
CR-A153002	K047-31	19.6				
CR-A153004	K047-33	9.3				
CR-A153006	K047-34	19.2				
CR-A153008	K047-36	9.3				
CR-A153104	K047-39	12.1				
CR-A153104MS	K047-39M	12.1				
CR-A153202	K047-41	17.1				
CR-A153204	K047-43	8.6				
CR-A153104DUP	K047-39~~D~~ 3	12.1				

LAB CHRONICLE 11-18-199616:45:1

Method: Metals
Client: Jacobs Engineering Group

PROJECT: Carswell AFB / 05G47900
/Batch No.: 96K047
Matrix: Water

Selenium

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A152607	K047-10	NA		11/20	12/6	
CR-A153207	K047-46	NA		11/20	12/6	

EPA 3050A/7740
SELENIUM BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K047
Matrix : SOIL

Date Collcted : 11/09/96
DaTime Received: 11/12/96
Instrument ID : EMAXTI06

SAMPLE ID	CONTROL NO	RESULTS (mg/kg)	DLF	MOIST	PQL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A152502	K047-02	.204F	1	16.5	.599	.132	12/06/9616:11	11/20/9612:00	G06L005057	G06L005046	GFK006S
CR-A152504	K047-04	ND	1	11.7	.566	.125	12/06/9616:22	11/20/9612:00	G06L005060	G06L005058	GFK006S
CR-A152602	K047-06	.265F	1	20.7	.631	.139	12/06/9619:41	11/21/9609:00	G06L006021	G06L006010	GFK008S
CR-A152702*	K047-12	ND	1	20.9	.632	.139	12/06/9619:52	11/21/9609:00	G06L006024	G06L006022	GFK008S
CR-A152704*	K047-14	ND	1	13.6	.579	.127	12/06/9619:56	11/21/9609:00	G06L006025	G06L006022	GFK008S
CR-A152802*	K047-16	.185F	1	18.9	.617	.136	12/06/9619:59	11/21/9609:00	G06L006026	G06L006022	GFK008S
CR-A152804*	K047-18	ND	1	12.1	.569	.125	12/06/9620:03	11/21/9609:00	G06L006027	G06L006022	GFK008S
CR-A152806*	K047-20	ND	1	17.8	.608	.134	12/06/9620:07	11/21/9609:00	G06L006028	G06L006022	GFK008S
CR-A152902*	K047-23	ND	1	18.0	.61	.134	12/06/9620:11	11/21/9609:00	G06L006029	G06L006022	GFK008S
CR-A152904*	K047-25	ND	1	15.1	.589	.13	12/06/9620:14	11/21/9609:00	G06L006030	G06L006022	GFK008S
CR-A152906*	K047-27	ND	1	21.1	.634	.139	12/06/9620:18	11/21/9609:00	G06L006031	G06L006022	GFK008S
CR-A152907*	K047-28	ND	1	15.9	.595	.131	12/06/9620:22	11/21/9609:00	G06L006032	G06L006022	GFK008S
CR-A153002*	K047-31	.274F	1	19.6	.622	.137	12/06/9620:26	11/21/9609:00	G06L006033	G06L006022	GFK008S
CR-A153004*	K047-33	ND	1	9.3	.551	.121	12/06/9620:38	11/21/9609:00	G06L006036	G06L006034	GFK008S
CR-A153006*	K047-34	.223F	1	19.2	.619	.136	12/06/9620:42	11/21/9609:00	G06L006037	G06L006034	GFK008S
CR-A153008*	K047-36	ND	1	9.3	.551	.121	12/06/9620:46	11/21/9609:00	G06L006038	G06L006034	GFK008S
CR-A153104*	K047-39	ND	1	12.1	.569	.125	12/06/9619:22	11/21/9609:00	G06L006016	G06L006010	GFK008S
CR-A153104MS*	K047-39M	1.85	1	12.1	.569	.125	12/06/9619:33	11/21/9609:00	G06L006019	G06L006010	GFK008S
CR-A153104MSD*	K047-39S	1.77	1	12.1	.569	.125	12/06/9619:37	11/21/9609:00	G06L006020	G06L006010	GFK008S
CR-A153202*	K047-41	.217F	1	17.1	.603	.133	12/06/9620:49	11/21/9609:00	G06L006039	G06L006034	GFK008S
CR-A153204*	K047-43	ND	1	8.6	.547	.12	12/06/9620:53	11/21/9609:00	G06L006040	G06L006034	GFK008S
MBLK1S	GFK006SB	ND	1	NA	.5	.11	12/06/9614:24	11/20/9612:00	G06L005029	G06L005022	GFK006S
LCS1S	GFK006SL	2.45	1	NA	.5	.11	12/06/9614:28	11/20/9612:00	G06L005030	G06L005022	GFK006S
LCD1S	GFK006SC	2.15	1	NA	.5	.11	12/06/9614:32	11/20/9612:00	G06L005031	G06L005022	GFK006S
MBLK2S	GFK008SB	ND	1	NA	.5	.11	12/06/9619:07	11/21/9609:00	G06L006012	G06L006010	GFK008S
LCS2S	GFK008SL	2.05	1	NA	.5	.11	12/06/9619:14	11/21/9609:00	G06L006014	G06L006010	GFK008S
LCD2S	GFK008SC	2.16	1	NA	.5	.11	12/06/9619:18	11/21/9609:00	G06L006015	G06L006010	GFK008S

PQL: Practical Quantitation Limit
* DATE COLLECTED : 11/10/96

EPA 3020A/7740
SELENIUM BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K047
Matrix : WATER

Date Collcted : 11/09/96
DaTime Received: 11/12/96
Instrument ID : EMAXTI06

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PQL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A152607	K047-10	ND	1	NA	.005	.0011	12/06/9613:32	11/20/9613:00	G06L005015	G06L005010	GFK007W
CR-A152607MS	K047-10M	.0215	1	NA	.005	.0011	12/06/9613:47	11/20/9613:00	G06L005019	G06L005010	GFK007W
CR-A152607MSD	K047-10S	.023	1	NA	.005	.0011	12/06/9613:50	11/20/9613:00	G06L005020	G06L005010	GFK007W
CR-A152607	K047-10D	ND	1	NA	.005	.0011	12/06/9613:43	11/20/9613:00	G06L005018	G06L005010	GFK007W
CR-A153207*	K047-46	ND	1	NA	.005	.0011	12/06/9613:54	11/20/9613:00	G06L005021	G06L005010	GFK007W
MBLK1W	GFK007WB	ND	1	NA	.005	.0011	12/06/9613:20	11/20/9613:00	G06L005012	G06L005010	GFK007W
LCS1W	GFK007WL	.0229	1	NA	.005	.0011	12/06/9613:24	11/20/9613:00	G06L005013	G06L005010	GFK007W
LCD1W	GFK007WC	.0234	1	NA	.005	.0011	12/06/9613:28	11/20/9613:00	G06L005014	G06L005010	GFK007W

PQL: Practical Quantitation Limit
* DATE COLLECTED : 11/10/96

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

SILVER BY GFAA

SDG#: 96K047

DECEMBER 14, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K047

SILVER BY GFAA

Nineteen (19) soil and two (2) water samples were received on 11/12/96 to be analyzed for Silver by GFAA method 7760 in accordance with USEPA SW846 (1994,9).

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   Preparation blanks were free of contamination.

3. **Matrix Spike/Matrix Spike Duplicate**

   MS recovery in water and soil were within QC limits.

4. **Lab Control Sample/Lab Control Sample Duplicate**

   All lab control results were within the QC limits.

5. **Calibration**

   All initial and continuing calibration results were within QC criteria.

6. **Sample Analyses**

   Sample analyses met QC requirements.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

LAB CHRONICLE 11-18-199616:45:1

Method: Metals
Client: Jacobs Engineering Group

PROJECT: Carswell AFB / 05G47900 Silver
SDG/Batch No.: 96K047
Matrix: Soil

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A152502	K047-02	16.5		11/21	12/4	
CR-A152504	K047-04	11.7		11/21	12/4	
CR-A152602	K047-06	20.7			12/5	
CR-A152702	K047-12	20.9				
CR-A152704	K047-14	13.6				
CR-A152802	K047-16	18.9				
CR-A152804	K047-18	12.1				
CR-A152806	K047-20	17.8				
CR-A152902	K047-23	18.0				
CR-A152904	K047-25	15.1				
CR-A152906	K047-27	21.1				
CR-A152907	K047-28	15.9				
CR-A153002	K047-31	19.6				
CR-A153004	K047-33	9.3				
CR-A153006	K047-34	19.2				
CR-A153008	K047-36	9.3				
CR-A153104	K047-39	12.1				
CR-A153104MS	K047-39M	12.1				
CR-A153202	K047-41	17.1				
CR-A153204	K047-43	8.6				
CR-A153104DUP	K047-39D	12.1				

LAB CHRONICLE 11-18-199616:45:1

Method: Metals
Client: Jacobs Engineering Group

PROJECT: Carswell AFB / 05G47900 Silver
Lot/Batch No.: 96K047
Matrix: Water

SAMPLE ID	CONT NO	%H2O	FILE ID	EXT DATE/BATCH	ANL DATE/BATCH	REMARKS
CR-A152607	K047-10	NA		11/20	12/4	
CR-A153207	K047-46	NA		11/20	12/4	

EPA 3050A/7760
SILVER BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K047
Matrix : SOIL

Date Collcted : 11/09/96
DaTime Received: 11/12/96
Instrument ID : EMAXTI03

SAMPLE ID	CONTROL NO	RESULTS (mg/kg)	DLF	MOIST	PQL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A152502	K047-02	.0551F	1	16.5	.12	.024	12/04/9620:49	11/21/9609:00	G03L006055	G03L006046	GFK008S
CR-A152504	K047-04	ND	1	11.7	.113	.0227	12/04/9620:52	11/21/9609:00	G03L006056	G03L006046	GFK008S
CR-A152602	K047-06	.087F	1	20.7	.126	.0252	12/05/9619:02	11/21/9609:00	G03L008019	G03L008009	GFK008S
CR-A152702*	K047-12	.091F	1	20.9	.126	.0253	12/05/9619:05	11/21/9609:00	G03L008020	G03L008009	GFK008S
CR-A152704*	K047-14	.0903F	1	13.6	.116	.0231	12/05/9619:15	11/21/9609:00	G03L008023	G03L008021	GFK008S
CR-A152802*	K047-16	.0789F	1	18.9	.123	.0247	12/05/9619:18	11/21/9609:00	G03L008024	G03L008021	GFK008S
CR-A152804*	K047-18	.0375F	1	12.1	.114	.0228	12/05/9619:21	11/21/9609:00	G03L008025	G03L008021	GFK008S
CR-A152806*	K047-20	.0693F	1	17.8	.122	.0243	12/05/9619:25	11/21/9609:00	G03L008026	G03L008021	GFK008S
CR-A152902*	K047-23	.0902F	1	18.0	.122	.0244	12/05/9619:28	11/21/9609:00	G03L008027	G03L008021	GFK008S
CR-A152904*	K047-25	.0483F	1	15.1	.118	.0236	12/05/9619:31	11/21/9609:00	G03L008028	G03L008021	GFK008S
CR-A152906*	K047-27	.0913F	1	21.1	.127	.0253	12/05/9619:34	11/21/9609:00	G03L008029	G03L008021	GFK008S
CR-A152907*	K047-28	.044F	1	15.9	.119	.0238	12/05/9619:38	11/21/9609:00	G03L008030	G03L008021	GFK008S
CR-A153002*	K047-31	.0684F	1	19.6	.124	.0249	12/05/9619:41	11/21/9609:00	G03L008031	G03L008021	GFK008S
CR-A153004*	K047-33	.0243F	1	9.3	.11	.0221	12/05/9619:44	11/21/9609:00	G03L008032	G03L008021	GFK008S
CR-A153006*	K047-34	.073F	1	19.2	.124	.0248	12/05/9619:54	11/21/9609:00	G03L008035	G03L008033	GFK008S
CR-A153008*	K047-36	.0353F	1	9.3	.11	.0221	12/05/9619:58	11/21/9609:00	G03L008036	G03L008033	GFK008S
CR-A153104*	K047-39	.0603F	1	12.1	.114	.0228	12/05/9618:47	11/21/9609:00	G03L008014	G03L008009	GFK008S
CR-A153104MS*	K047-39M	.312	1	12.1	.114	.0228	12/05/9618:56	11/21/9609:00	G03L008017	G03L008009	GFK008S
CR-A153104MSD*	K047-39S	.286	1	12.1	.114	.0228	12/05/9618:59	11/21/9609:00	G03L008018	G03L008009	GFK008S
CR-A153202*	K047-41	.0434F	1	17.1	.121	.0241	12/05/9620:01	11/21/9609:00	G03L008037	G03L008033	GFK008S
CR-A153204*	K047-43	.0284F	1	8.6	.109	.0219	12/05/9620:04	11/21/9609:00	G03L008038	G03L008033	GFK008S
MBLK1S	GFK006SB	.032F	1	NA	.1	.02	12/04/9619:22	11/21/9609:00	G03L006028	G03L006022	GFK008S
LCS1S	GFK006SL	.21	1	NA	.1	.02	12/04/9619:25	11/21/9609:00	G03L006029	G03L006022	GFK008S
LCD1S	GFK006SC	.221	1	NA	.1	.02	12/04/9619:28	11/21/9609:00	G03L006030	G03L006022	GFK008S
MBLK2S	GFK008SB	.024F	1	NA	.1	.02	12/05/9618:37	11/21/9609:00	G03L008011	G03L008009	GFK008S
LCS2S	GFK008SL	.223	1	NA	.1	.02	12/05/9618:40	11/21/9609:00	G03L008012	G03L008009	GFK008S
LCD2S	GFK008SC	.233	1	NA	.1	.02	12/05/9618:43	11/21/9609:00	G03L008013	G03L008009	GFK008S

PQL: Practical Quantitation Limit
* DATE COLLECTED : 11/10/96

EPA 3020A/7760
SILVER BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K047
Matrix : WATER

Date Collcted : 11/09/96
DaTime Received: 11/12/96
Instrument ID : EMAXT103

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PQL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A152607	K047-10	.00036F	1	NA	.001	.0002	12/04/9618:41	11/20/9613:00	G03L006015	G03L006010	GFK007W
CR-A152607MS	K047-10M	.00218	1	NA	.001	.0002	12/04/9618:53	11/20/9613:00	G03L006019	G03L006010	GFK007W
CR-A152607MSD	K047-10S	.00229	1	NA	.001	.0002	12/04/9618:56	11/20/9613:00	G03L006020	G03L006010	GFK007W
CR-A153207*	K047-46	.00035F	1	NA	.001	.0002	12/04/9618:59	11/20/9613:00	G03L006021	G03L006010	GFK007W
MBLK1W	GFK007WB	.00042F	1	NA	.001	.0002	12/04/9618:31	11/20/9613:00	G03L006012	G03L006010	GFK007W
LCS1W	GFK007WL	.00219	1	NA	.001	.0002	12/04/9618:34	11/20/9613:00	G03L006013	G03L006010	GFK007W
LCD1W	GFK007WC	.00224	1	NA	.001	.0002	12/04/9618:37	11/20/9613:00	G03L006014	G03L006010	GFK007W

PQL: Practical Quantitation Limit
* DATE COLLECTED : 11/10/96

EMAX Batch No. 96K088

EMAX
LABORATORIES, INC.
630 Maple Ave.
Torrance, CA 90503
Telephone: (310) 618-8889
Fax: (310) 618-0818

RECEIVED
DEC 2 0 1996
JE • Denver

Date: 12-19-1996
EMAX Batch No.: 96K088

Attn: Lynn Schuetter

Jacobs Engineering Group
600 17th. Street, STe. 1100N
Denver CO 80202

Subject: Laboratory Report
Project: Carswell AFB / 05G47900

Enclosed is the Laboratory report for samples received on 11/16/96. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
CR-A153303	K088-01	11/15/96	Soil	EPA 8240
CR-A153304	K088-02	11/15/96	Soil	EPA 8270
				Metals
				Mercury
CR-A153401	K088-03	11/15/96	Soil	EPA 8240
CR-A153402	K088-04	11/15/96	Soil	EPA 8270
				Metals
				Mercury
CR-A153501	K088-05	11/15/96	Soil	EPA 8240
CR-A153502	K088-06	11/15/96	Soil	EPA 8270
				Metals
				Mercury
CR-A153503	K088-07	11/15/96	Soil	EPA 8240
CR-A153504	K088-08	11/15/96	Soil	EPA 8270
				Metals
				Mercury
CR-A153505	K088-09	11/15/96	Water	EPA 8240
CR-A153506	K088-10	11/15/96	Water	EPA 8270
CR-A153507	K088-11	11/15/96	Water	Metals

Sample ID	Control #	Col Date	Matrix	Analysis
CR-A153508	K088-12	11/15/96	Water	Mercury EPA 8240

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D.
Laboratory Director

P.S. - All analyses requested for the above referenced project have been completed. Therefore, unless instructed, the remaining portions of the samples will be disposed after fifteen (15) days from the date of this report.

SAMPLE RECEIPT FORM

CONTROL NO.	96K088
CLIENT	JACOBS ENG
PROJECT	CARSWELL AFB DD21

DATE	11-16-96
TIME	0900 AM
RECIPIENT	I. PATEL

SAMPLE TRANSPORTATION TO EMAX LABORATORY:		BY	ON(DATE)	AT(TIME)	FROM(SITE/CO.)	COMMENTS
PICKED-UP BY EMAX COURIER						
DELIVERED BY CLIENT ✓						
SHIPPED/AIRBILL NO:	FEDEX AIRTN: 2149885861 SEE AIRBILL					

SAMPLE BATCH PACKAGING/SEALING UPON RECEIPT:			✓ INTACT	___ DAMAGED	✓ SEALED	___ NOT SEALED	___ NO CONTAINER
CONTAINER:	INSIDE TEMPERATURE (4°C ± 2°C)	2°	°C	CUSTODY SEAL		LOCATION	NUMBER
✓ COOLER	PACKAGING	TYPE	SUFFICIENCY	___ INTACT	___ DAMAGED		
___ BOX	INSULATION:		OK	NAME:			
___ OTHER:	ICE/COOLANT:	REGULAR		DATE:			
___	PACKING MATERIAL:	NONE		TIME:			

SAMPLE DOCUMENTATION/CHAIN-OF-CUSTODY(COC)	___ SEALED	✓ ENCLOSED	___ HANDCARRIED	___ FAXED	___ MAILED

SAMPLE LOG-IN:	CRITERIA	COMMENTS	DISCREPANCY
SAMPLE CUSTODY SEAL	EVERY SAMPLE	NONE	
CONTAINER TYPE/MATERIAL	APPROPRIATE	OK	
SAMPLE AMOUNT	ENOUGH		
HOLDING TIME	SUFFICENT		
SAMPLE PRESERVATION (For appropriate preservative see GP-0001 Appendix I)	NaOH preserved samples pH ≥ 12 HNO_3 / H_2SO_4 preserved samples pH ≤ 2		
HEADSPACE/BUBBLES	ZERO/NONE		
SAMPLE LABEL INFORMATION	SUFFICIENT		
CHAIN-OF-CUSTODY INFORMATION	SUFFICIENT	SEE BELOW	

SAMPLE INFO.:	SAMPLE ID	DATE	TIME	SIGNATURE	ANALYSES	PRESERVATIVE	CONTAINER
	—	—	—	—	—	—	—

INDIVIDUAL SAMPLE CONTAINER:	___ NONE	✓ SEALED PLASTIC BAG	___ CAN	___ OTHER(SPECIFY):

SAMPLE NUMBER	CLIENT ID	DISCREPANCY	ACTION
-3	CA-A153401	REC'D (1) 8 OZ JAR COC SAYS 1" SLEEVE	✓ fwd'd info.
-4	CA-A153402	REC'D (1) 1" SLEEVE COC SAYS 8 OZ JAR	✓ fwd'd info.

CLIENT SERVICES COPY RECEIVED BY	Cecilia 11/15/96	DATE		TIME	

EMAX LABORATORIES INC. 630 Middlesex Ave., Wilmington, CT 06887 TEL: (203) 657-8022 FAX: (203) 657-8818

FedEx USA Airbill

2149885861

96K088 11-16-96 110 00 63942051 5:34M
9:00 AM

1 From

Date 11/15/96 Sender's FedEx Account No. 1505-0792-5

Sender's Name DAN SCHULTZ 303-595-8853

Company JACOBS ENGINEERING

Address 600 17TH ST STE 1100 N

City DENVER State CO Zip

2 Your Internal Billing Reference Information 06G47900 - 50501

3 To

Recipient's Name EMAX LABORATORIES Phone (310) 618-8889

Company CECELIA CHAVEZ (SAMPLE RECEIVING)

Address 630 MAPLE AVE

(To "HOLD" at FedEx location, print FedEx address here)

City TORRANCE State CA Zip 90503

For HOLD at FedEx Location check here

1 ☐ Hold Weekday (Not available with FedEx First Overnight) 31 ☐ Hold Saturday (Not available with FedEx Standard Overnight)

For Saturday Delivery ☒

1 38

2 1 4 9 8 8 5 8 6 1

272

Rev. Date 6/96
PART #147956

PETE - STAND SINGLE AGAIN
Call Keith

RECEIVED
DEC 2 6 1996
JE • Denver

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP

CARSWELL

METALS

SDG#: 96K088

DECEMBER 19, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP

PROJECT: CARSWELL

SDG: 96K088

METALS

Four (4) soil and one (1) water samples were received on 11/16/96 to be analyzed for metals analysis by ICP method in accordance with USEPA SW846 method 6010A.

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   Trace level of beryllium, barium, calcium, iron, manganese, molybdenum, lead, and sodium were found in soil blank and trace level of cadmium, cadmium, and sodium were found in water blank. All concentration levels were below PQL except sodium.

3. **Matrix Spike**

   No MS sample was designated.

4. **Duplicate**

   No duplicate sample was designated.

5 **Lab Control Sample/Lab Control Duplicate**

   All lab control results were within the control limits.

5. **Calibration**

   All initial and continuing calibration results were within QC criteria. All calibration blanks for sodium were slightly above PQL.

7. **Sample Analysis**

Analysis was performed within the QC requirements except as aforementioned.

Arsenic, Lead, and Cadmium were analyzed by Trace-ICP, all others metals by regular ICP.

001A

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/15/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/16/96
Batch No.	: 96K088	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153304	DaTime Analyzd :	12/17/96 17:30
Lab Cnt NO.:	K088-02	Dilutn Factor :	1
Lab File ID:	I07L005	Matrix :	SOIL
Ext Btch ID:	IPK025S	% Moisture :	13.7
Calib. Ref.:	I07L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	13000	57.9	1.17
Barium	71.9	2.32	.0463
Beryllium	.736	.348	.0116
Calcium	86000	11.6	2.61
Chromium	10.9	8.11	.637
Cobalt	5.48F	8.11	.973
Copper	8.81	6.95	.162
Iron	10500	8.11	.672
Magnesium	1970	34.8	6.41
Manganese	172	2.32	.139
Molybdenum	ND	9.27	.707
Potassium	1110	579	60.5
Sodium	1400	34.8	2.32
Thallium*	47.6	46.3	10.7
Vanadium	37.8	9.27	.452
Zinc	21.3	2.32	.197

*: Analyzed on 12/16/96, Cal. Ref. I07L002

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/15/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/16/96
Batch No.	: 96K088	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153304	DaTime Analyzd :	12/06/96 19:58
Lab Cnt NO.:	K088-02	Dilutn Factor :	1
Lab File ID:	I31L008	Matrix :	SOIL
Ext Btch ID:	IPK025S	% Moisture :	13.7
Calib. Ref.:	I31L008	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	4.28	.579	.533
Cadmium	.195	.116	.116
Lead	5.45	.579	.162

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/15/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/16/96
Batch No.	: 96K088	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153402	DaTime Analyzd :	12/17/96 17:34
Lab Cnt NO.:	K088-04	Dilutn Factor :	1
Lab File ID:	I07L005	Matrix :	SOIL
Ext Btch ID:	IPK025S	% Moisture :	17.9
Calib. Ref.:	I07L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	15500	60.9	1.23
Barium	185	2.44	.0487
Beryllium	.932	.365	.0122
Calcium	7440	12.2	2.74
Chromium	13.7	8.53	.67
Cobalt	6.77F	8.53	1.02
Copper	14.9	7.31	.171
Iron	12400	8.53	.706
Magnesium	1940	36.5	6.74
Manganese	691	2.44	.146
Molybdenum	ND	9.74	.743
Potassium	1440	609	63.6
Sodium	13.5F	36.5	2.44
Thallium*	48.3F	48.7	11.2
Vanadium	36.1	9.74	.475
Zinc	28.4	2.44	.207

*: Analyzed on 12/16/96, Cal. Ref. I07L002

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/15/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/16/96
Batch No.	: 96K088	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153402	DaTime Analyzd :	12/06/96 20:02
Lab Cnt NO.:	K088-04	Dilutn Factor :	1
Lab File ID:	I31L008	Matrix :	SOIL
Ext Btch ID:	IPK025S	% Moisture :	17.9
Calib. Ref.:	I31L008	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	4.04	.609	.56
Cadmium	.186	.122	.122
Lead	8.84	.609	.171

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/15/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/16/96
Batch No.	: 96K088	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153502	DaTime Analyzd :	12/17/96 17:38
Lab Cnt NO.:	K088-06	Dilutn Factor :	1
Lab File ID:	I07L005	Matrix :	SOIL
Ext Btch ID:	IPK025S	% Moisture :	18.9
Calib. Ref.:	I07L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	10300	61.7	1.25
Barium	75.2	2.47	.0493
Beryllium	.727	.37	.0123
Calcium	4330	12.3	2.77
Chromium	12.8	8.63	.678
Cobalt	5.44F	8.63	1.04
Copper	12.1	7.4	.173
Iron	11100	8.63	.715
Magnesium	1120	37	6.82
Manganese	341	2.47	.148
Molybdenum	1.05F	9.86	.752
Potassium	1610	617	64.4
Sodium	28.4F	37	2.47
Thallium*	37.2F	49.3	11.4
Vanadium	27.9	9.86	.481
Zinc	25.2	2.47	.21

*: Analyzed on 12/16/96, Cal. Ref. I07L002

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/15/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/16/96
Batch No.	: 96K088	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153502	DaTime Analyzd :	12/06/96 20:06
Lab Cnt NO.:	K088-06	Dilutn Factor :	1
Lab File ID:	I31L008	Matrix :	SOIL
Ext Btch ID:	IPK025S	% Moisture :	18.9
Calib. Ref.:	I31L008	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	4.22	.617	.567
Cadmium	.171	.123	.123
Lead	11	.617	.173

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/15/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/16/96
Batch No.	: 96K088	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153504	DaTime Analyzd :	12/17/96 17:41
Lab Cnt No.:	K088-08	Dilutn Factor :	1
Lab File ID:	I07L005	Matrix :	SOIL
Ext Btch ID:	IPK025S	% Moisture :	14.0
Calib. Ref.:	I07L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	11900	58.1	1.17
Barium	86	2.33	.0465
Beryllium	.703	.349	.0116
Calcium	57900	11.6	2.62
Chromium	11.7	8.14	.64
Cobalt	5.5F	8.14	.977
Copper	9.88	6.98	.163
Iron	10900	8.14	.674
Magnesium	1490	34.9	6.43
Manganese	315	2.33	.14
Molybdenum	ND	9.3	.709
Potassium	1180	581	60.7
Sodium	22.6F	34.9	2.33
Thallium*	45F	46.5	10.7
Vanadium	26.7	9.3	.453
Zinc	24.5	2.33	.198

*: Analyzed on 12/16/96, Cal. Ref. I07L002

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/15/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/16/96
Batch No.	: 96K088	DaTime Extrctd :	11/26/96 09:00
Sample ID	: CR-A153504	DaTime Analyzd :	12/06/96 20:10
Lab Cnt NO.:	K088-08	Dilutn Factor :	1
Lab File ID:	I31L008	Matrix :	SOIL
Ext Btch ID:	IPK025S	% Moisture :	14.0
Calib. Ref.:	I31L008	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	3.76	.581	.535
Cadmium	.119	.116	.116
Lead	5.56	.581	.163

SW3005A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/15/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/16/96
Batch No.	: 96K088	DaTime Extrctd :	11/18/96 15:00
Sample ID	: CR-A153507	DaTime Analyzd :	12/16/96 19:41
Lab Cnt NO.:	K088-11	Dilutn Factor :	1
Lab File ID:	I07L002	Matrix :	WATER
Ext Btch ID:	IPK015W	% Moisture :	NA
Calib. Ref.:	I07L002	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/L)	PQL (mg/L)	MDL (mg/L)
Aluminum	.031F	.5	.0122
Barium	ND	.02	.001
Beryllium	ND	.003	.0003
Calcium	ND	.1	.0222
Chromium	ND	.07	.0053
Cobalt	ND	.07	.0089
Copper	.00192F	.06	.0008
Iron	.0048F	.07	.0035
Magnesium	ND	.3	.0342
Manganese	.00132F	.02	.0013
Molybdenum	ND	.08	.0144
Potassium	ND	5	.466
Sodium	.826	.3	.05
Thallium	ND	.4	.0632
Vanadium	ND	.08	.0029
Zinc	ND	.02	.0039

SW3005A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/15/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/16/96
Batch No.	: 96K088	DaTime Extrctd :	11/18/96 15:00
Sample ID	: CR-A153507	DaTime Analyzd :	12/05/96 20:10
Lab Cnt NO.	: K088-11	Dilutn Factor :	1
Lab File ID	: I31L005	Matrix :	WATER
Ext Btch ID	: IPK015W	% Moisture :	NA
Calib. Ref.	: I31L005	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/L)	PQL (mg/L)	MDL (mg/L)
Arsenic	ND	.005	.0049
Cadmium	.000685F	.001	.00046
Lead	ND	.005	.0016

RECEIVED
DEC 2 0 1996
JE • Denver

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

ANTIMONY BY GFAA

SDG#: 96K088

DECEMBER 17, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K088

ANTIMONY BY GFAA

Four (4) soil and one (1) water samples were received on 11/16/96 to be analyzed for Antimony by GFAA method 7041 in accordance with USEPA SW846 (1994,9).

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   Preparation blanks were free of contamination.

3. **Matrix Spike**

   No MS was designated.

4. **Lab Control Sample/Lab Control Sample Duplicate**

   All lab control results were within the QC limits.

5. **Calibration**

   All initial and continuing calibration results were within QC criteria.

6. **Sample Analyses**

   Sample analyses were performed within the QC requirements.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-081

EPA 3050A/7041
ANTIMONY BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K088
Matrix : SOIL

Date Collected : 11/15/96
DaTime Received: 11/16/96
Instrument ID : EMAXTI03

SAMPLE ID	CONTROL NO	RESULTS (mg/kg)	DLF	MOIST	PQL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A153304	K088-02	ND	1	13.7	.579	.232	12/03/9621:17	11/26/9609:00	G03L004033	G03L004022	IPK025S
CR-A153402	K088-04	ND	1	17.9	.609	.244	12/03/9621:29	11/26/9609:00	G03L004036	G03L004034	IPK025S
CR-A153502	K088-06	.334F	1	18.9	.617	.247	12/03/9621:33	11/26/9609:00	G03L004037	G03L004034	IPK025S
CR-A153504	K088-08	ND	1	14.0	.581	.233	12/03/9621:36	11/26/9609:00	G03L004038	G03L004034	IPK025S
MBLK1S	IPK025SB	ND	1	NA	.5	.2	12/03/9620:00	11/26/9609:00	G03L004012	G03L004010	IPK025S
LCS1S	IPK026SL	2.48	1	NA	.5	.2	12/03/9620:04	11/26/9609:00	G03L004013	G03L004010	IPK025S
LCD1S	IPK026SC	2.13	1	NA	.5	.2	12/03/9620:08	11/26/9609:00	G03L004014	G03L004010	IPK025S

PQL: Practical Quantitation Limit

EPA 3005A/7041
ANTIMONY BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K088
Matrix : WATER

Date Collcted : 11/15/96
DaTime Received: 11/16/96
Instrument ID : EMAXTI06

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PQL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A153507	K088-11	ND	1	NA	.005	.002	12/02/9619:28	11/18/9615:00	G06L001025	G06L001022	IPK015W
CR-A153507	K088-11T	ND	4	NA	.02	.008	12/02/9619:31	11/18/9615:00	G06L001026	G06L001022	IPK015W
MBLK1W	IPK010WB	ND	1	NA	.005	.002	12/02/9618:40	11/18/9615:00	G06L001012	G06L001010	IPK015W
LCS1W	IPK011WL	.0211	1	NA	.005	.002	12/02/9618:44	11/18/9615:00	G06L001013	G06L001010	IPK015W
LCD1W	IPK011WC	.0241	1	NA	.005	.002	12/02/9618:48	11/18/9615:00	G06L001014	G06L001010	IPK015W

PQL: Practical Quantitation Limit

RECEIVED
DEC 2 0 1996
JE • Denver

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

MERCURY BY COLD VAPOR

SDG#: 96K088

DECEMBER 19, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K088

MERCURY BY COLD VAPOR

Four (4) soil and one (1) water samples were received on 11/16/96 for Mercury by Method 7470A/7471A in accordance with SW846 (1994).

1. **Holding Time**

   Extraction and analysis met holding time.

2. **Matrix Spike**

   No MS was designated.

3. **Blank**

   Preparation blanks were free of contamination.

4. Lab Control Sample/Lab Control Sample Duplicate

   Lab control sample results and RPD were within the control limits.

5. **Sample Analyses**

   Sample analyses were performed within the QC requirements.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance. CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EPA 7471A
MERCURY BY COLD VAPOR

CLIENT:	JACOBS ENGINEERING GROUP	DATE COLLECTED:	11/15/96
PROJECT:	CARSWELL AFB / 05G47900	DATE RECEIVED:	11/16/96
BATCH NO.:	96K088	DATE EXTRACTED:	11/18/96 11:00
MATRIX:	SOIL	INSTRUMENT ID:	I23
CAL REF:	M96K011-19	PREP BATCH:	HGK018S

SAMPLE ID	CONTROL NO	RESULT (mg/kg)	DL FACTOR	MOIST (%)	PQL (mg/kg)	MDL (mg/kg)	ANALYZED DATETIME
CR-A153304	K088-02	ND	1	13.7	.12	.034	11/18/96 23:54
CR-A153402	K088-04	ND	1	17.9	.12	.035	11/18/96 23:57
CR-A153502	K088-06	ND	1	18.9	.12	.036	11/19/96 00:00
CR-A153504	K088-08	ND	1	14.0	.12	.034	11/19/96 00:03
MBLK1S	HGK012SB	ND	1	NA	.1	.029	11/18/96 23:04
LCS1S	HGK012SL	2.19	1	NA	.1	.029	11/18/96 23:07
LCD1S	HGK012SC	2.03	1	NA	.1	.029	11/18/96 23:10

PQL: Practical Quantitation Limit
CAL REF: M96K011-7, for HGK012SB, L and C
AFCEE Ver. 1.1

EPA 7470A
MERCURY BY COLD VAPOR

CLIENT:	JACOBS ENGINEERING GROUP	DATE COLLECTED:	11/15/96
PROJECT:	CARSWELL AFB / 05G47900	DATE RECEIVED:	11/16/96
BATCH NO.:	96K088	DATE EXTRACTED:	11/25/96 09:00
MATRIX:	WATER	INSTRUMENT ID:	I23
CAL REF:	M96K015-19	PREP BATCH:	HGK018W

SAMPLE ID	CONTROL NO	RESULT (mg/L)	DILUTION FACTOR	PQL (mg/L)	MDL (mg/L)	ANALYZED DATETIME
CR-A153507	K088-11	ND	1	.001	.0001	11/25/96 22:06
MBLK1W	HGK018WB	ND	1	.001	.0001	11/25/96 21:53
LCS1W	HGK018WL	.0044	1	.001	.0001	11/25/96 21:56
LCD1W	HGK018WC	.0043	1	.001	.0001	11/25/96 21:59

PQL: Practical Quantitation Limit
AFCEE Ver. 1.1

RECEIVED
DEC 2 0 1996
JE - Denver

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

NICKEL BY GFAA

SDG#: 96K088

DECEMBER 17, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K088

NICKEL BY GFAA

Four (4) soil and one (1) water samples were received on 11/16/96 to be analyzed for Nickel by GFAA method 7520 in accordance with USEPA SW846 (1994,9).

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   Preparation blanks were free of contamination.

3. **Matrix Spike**

   No MS was designated.

4. **Lab Control Sample/Lab Control Sample Duplicate**

   All lab control results were within the QC limits.

5. **Calibration**

   All initial and continuing calibration results were within QC criteria.

6. **Sample Analyses**

   Sample analyses were performed within the QC requirements.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

Project : CARSWELL AFB / 05G47900
Batch No. : 96K088
Matrix : SOIL

Date Collected : 11/15/96
DaTime Received: 11/16/96
Instrument ID : EMAXTI06

SAMPLE ID	CONTROL NO	RESULTS (mg/kg)	DLF	MOIST	PQL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A153304	K088-02	11	2	13.7	2.32	.463	12/04/9622:51	11/20/9612:00	G06L003064	G06L003057	GFK006S
CR-A153402	K088-04	10.6	2	17.9	2.44	.487	12/04/9622:59	11/20/9612:00	G06L003066	G06L003057	GFK006S
CR-A153502	K088-06	11	2	18.9	2.47	.493	12/04/9623:07	11/20/9612:00	G06L003068	G06L003057	GFK006S
CR-A153504	K088-08	11.3	2	14.0	2.33	.465	12/04/9623:23	11/20/9612:00	G06L003072	G06L003069	GFK006S
MBLK1S	GFK006SB	ND	1	NA	1	.2	12/04/9620:16	11/20/9612:00	G06L003027	G06L003021	GFK006S
LCS1S	GFK006SL	1.05	1	NA	1	.2	12/04/9620:20	11/20/9612:00	G06L003028	G06L003021	GFK006S
LCD1S	GFK006SC	1.08	1	NA	1	.2	12/04/9620:25	11/20/9612:00	G06L003029	G06L003021	GFK006S

PQL: Practical Quantitation Limit

Project : CARSWELL AFB / 05647900
Batch No. 088
Matrix ER

Datime Received: 11/16/96
Instrument ID : EMAXTI06

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PQL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A153507	K088-11	ND	1	NA	.01	.002	12/04/9620:04	11/20/9613:00	G06L003024	G06L003021	GFK007W
MBLK1W	GFK007WB	ND	1	NA	.01	.002	12/04/9619:10	11/20/9613:00	G06L003011	G06L003009	GFK007W
LCS1W	GFK007WL	.00976F	1	NA	.01	.002	12/04/9619:14	11/20/9613:00	G06L003012	G06L003009	GFK007W
LCD1W	GFK007WC	.00986F	1	NA	.01	.002	12/04/9619:18	11/20/9613:00	G06L003013	G06L003009	GFK007W

PQL: Practical Quantitation Limit

RECEIVED
DEC 20 1996
JE - Denver

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

SELENIUM BY GFAA

SDG#: 96K088

DECEMBER 17, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K088

SELENIUM BY GFAA

Four (4) soil and one (1) water samples were received on 11/16/96 to be analyzed for Selenium by GFAA method 7740 in accordance with USEPA SW846 (1994,9).

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   Preparation blanks were free of contamination.

3. **Matrix Spike**

   No MS was designated.

4. **Lab Control Sample/Lab Control Sample Duplicate**

   Recovery was less than 1% higher than QC in LCS and was within QC in LCSD.

5. **Calibration**

   All initial and continuing calibration results were within QC criteria.

6. **Sample Analyses**

   Sample analyses were performed within the QC requirements.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

Project : CARSWELL AFB / 05G47900
Batch No. : 96K088
Matrix : SOIL

Date Time Received: 11/16/96
Instrument ID : EMAXT106

SAMPLE ID	CONTROL NO	RESULTS (mg/kg)	DLF	MOIST	PQL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A153304	K088-02	ND	1	13.7	.579	.127	12/06/9615:56	11/20/9612:00	G06L005053	G06L005046	GFK006S
CR-A153402	K088-04	ND	1	17.9	.609	.134	12/06/9616:00	11/20/9612:00	G06L005054	G06L005046	GFK006S
CR-A153502	K088-06	.148F	1	18.9	.617	.136	12/06/9616:03	11/20/9612:00	G06L005055	G06L005046	GFK006S
CR-A153504	K088-08	ND	1	14.0	.581	.128	12/06/9616:07	11/20/9612:00	G06L005056	G06L005046	GFK006S
MBLK1S	GFK006SB	ND	1	NA	.5	.11	12/06/9614:24	11/20/9612:00	G06L005029	G06L005022	GFK006S
LCS1S	GFK006SL	2.45	1	NA	.5	.11	12/06/9614:28	11/20/9612:00	G06L005030	G06L005022	GFK006S
LCD1S	GFK006SC	2.15	1	NA	.5	.11	12/06/9614:32	11/20/9612:00	G06L005031	G06L005022	GFK006S

PQL: Practical Quantitation Limit
AFCEE Ver. 1.1

Client : JACOBS ENGINEERING GROUP
Project : [illegible]SWELL AFB / 05G47900
Batch No. : [illegible]88
Matrix : [illegible]ER

Date Collected : 11/15/96
DaTime Received: 11/16/96
Instrument ID : EMAXTI06

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PQL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A153507	K088-11	ND	1	NA	.005	.0011	12/06/9614:13	11/20/9613:00	G06L005026	G06L005022	GFK007W
MBLK1W	GFK007WB	ND	1	NA	.005	.0011	12/06/9613:20	11/20/9613:00	G06L005012	G06L005010	GFK007W
LCS1W	GFK007WL	.0229	1	NA	.005	.0011	12/06/9613:24	11/20/9613:00	G06L005013	G06L005010	GFK007W
LCD1W	GFK007WC	.0234	1	NA	.005	.0011	12/06/9613:28	11/20/9613:00	G06L005014	G06L005010	GFK007W

PQL: Practical Quantitation Limit
AFCEE Ver. 1.1

RECEIVED
DEC 2 0 1996
JE - Denver

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

SILVER BY GFAA

SDG#: 96K088

DECEMBER 17, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K088

SILVER BY GFAA

Four (4) soil and one (1) water samples were received on 11/16/96 to be analyzed for Silver by GFAA method 7760 in accordance with USEPA SW846 (1994,9).

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   Preparation blanks were free of contamination.

3. **Matrix Spike**

   No MS was designated.

4. **Lab Control Sample/Lab Control Sample Duplicate**

   All lab control results were within the QC limits.

5. **Calibration**

   All initial and continuing calibration results were within QC criteria.

6. **Sample Analyses**

   Sample analyses were performed within the QC requirements.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EPA 3050A/7760
SILVER BY GFAA

002

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K088
Matrix : SOIL

Date Collcted : 11/15/96
DaTime Received: 11/16/96
Instrument ID : EMAXT103

SAMPLE ID	CONTROL NO	RESULTS (mg/kg)	DLF	MOIST	PQL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A153304	K088-02	.0475F	1	13.7	.116	.0232	12/04/9620:37	11/20/9612:00	G03L006051	G03L006046	GFK006S
CR-A153402	K088-04	.0853F	1	17.9	.122	.0244	12/04/9620:40	11/20/9612:00	G03L006052	G03L006046	GFK006S
CR-A153502	K088-06	.0641F	1	18.9	.123	.0247	12/04/9620:43	11/20/9612:00	G03L006053	G03L006046	GFK006S
CR-A153504	K088-08	.0523F	1	14.0	.116	.0233	12/04/9620:46	11/20/9612:00	G03L006054	G03L006046	GFK006S
MBLK1S	GFK006SB	.032F	1	NA	.1	.02	12/04/9619:22	11/20/9612:00	G03L006028	G03L006022	GFK006S
LCS1S	GFK006SL	.21	1	NA	.1	.02	12/04/9619:25	11/20/9612:00	G03L006029	G03L006022	GFK006S
LCD1S	GFK006SC	.221	1	NA	.1	.02	12/04/9619:28	11/20/9612:00	G03L006030	G03L006022	GFK006S

PQL: Practical Quantitation Limit
AFCEE Ver. 1.1

Project : CARSWELL AFB / 05G47900
Batch No. : K088
Matrix : WATER

DaTime Received: 11/16/96
Instrument ID : EMAXT106

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PQL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A153507	K088-11	.0007F	1	NA	.001	.0002	12/06/9619:56	11/20/9613:00	G06L006025	G06L006022	GFK007W
MBLK1W	GFK007WB	ND	1	NA	.001	.0002	12/06/9619:07	11/20/9613:00	G06L006012	G06L006010	GFK007W
LCS1W	GFK007WL	.022	1	NA	.001	.0002	12/06/9619:11	11/20/9613:00	G06L006013	G06L006010	GFK007W
LCD1W	GFK007WC	.0205	1	NA	.001	.0002	12/06/9619:14	11/20/9613:00	G06L006014	G06L006010	GFK007W

PQL: Practical Quantitation Limit
AFCEE Ver. 1.1

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

VOLATILES

SDG#: 96K088

DECEMBER 19, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K088

VOLATILES

Four (4) soil and two (2) water samples were received on 11/16/96 to be analyzed for volatile organics by Method 8240B in accordance with USEPA SW846 (1994).

1. Holding Time

   Analytical holding time was met.

2. Surrogate Recovery

   All surrogate recoveries were within QC limits except for K088-05. Sample was analyzed twice with high recovery possibly due to matrix effect.

3. Matrix Spike/Matrix Spike Duplicate

   No MS/MSD was designated.

4. Lab Control Sample/Lab Control Sample Duplicate

   All recoveries were within QC limits.

5. Method Blank

   Method blanks were free of contamination.

6. Tuning and Calibration

   Tuning and calibration were carried out at 12 hour interval. All QC requirements were met.

7. Sample Analysis

   Sample analyses were within QC requirements. Sample K088-05 was analyzed twice due to high surrogate recoveries. Both results are reported.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

11/27/1996 09:40

LAB CHRONICLE
EPA 8240

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K088
MATRIX: Soil

SAMPLE ID	CONTROL NO	%H2O	PREPARATION BATCH/DATE/TIME		ANALYTICAL BATCH/DATE/TIME		CALIB REF	FILE ID
CR-A153303	K088-01	12.9	V0K1502	11/21/96	19.22		>KP290	>KP298
CR-A153401	K088-03	16.6			19.49			>KP299
CR-A153501	K088-05	17.0			20.16			>KP300
CR-A153503	K088-07	14.2			20.44			>KP301
CR-A153501	K088-05R	17.0	V0K2302	11/27/96	18:24		>KP434	>KP438
VBLK01	V0K1502B		V0K1502	11/21/96	16.02		>KP290	>KP291
LCS01	V0K1502C				16.35			>KP292
LCSD01	V0K1502C				17.03			>KP2[illegible]
VBLK02	V0K2302B		V0K2302	11/27/96	16.54		>KP434	>KP435
LCS02	V0K2302C				17.23			>KP436
LCSD02	V0K2302C				17.51			>KP437

11/27/1996 09:40

LAB CHRONICLE
EPA 8240

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K088
MATRIX: Water

SAMPLE ID	CONTROL NO	%H2O	PREPARATION BATCH/DATE/TIME	ANALYTICAL BATCH/DATE/TIME	CALIB REF	FILE ID
CR-A153505	K088-09	NA	Vok 1102 11/18/96	21:13	>KP207	>KP286
CR-A153508	K088-12	NA		21:42		>KP214
VBLK01	VOK1102B			17:18		>KP208
LCS01	VOK1102L			17:57		>KP209
LCSD01	VOK1102C			18:24		>KP210

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/15/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/16/96
Batch No.	: 96K088	DaTime Extrctd :	11/21/96 19:22
Sample ID	: CR-A153303	DaTime Analyzd :	11/21/96 19:22
Lab Cnt NO.	: K088-01	Dilutn Factor :	1
Lab File ID	: RKP298	Matrix :	SOIL
Ext Btch ID	: VOK1502	% Moisture :	12.9
Calib. Ref.	: RKP290	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.74	.612
1,1,2,2-Tetrachloroethane	ND	5.74	.953
1,1,2-Trichloroethane	ND	5.74	.97[illegible]
1,1-Dichloroethane	ND	5.74	.487
1,1-Dichloroethene	ND	5.74	.599
1,2,3-Trichloropropane	ND	57.4	1.75
1,2-Dichloroethane	ND	5.74	.341
1,2-Dichloropropane	ND	5.74	1.1[illegible]
2-Butanone	ND	115	2.6[illegible]
2-Chloroethyl Vinyl Ether	ND	11.5	1.14
2-Hexanone	ND	57.4	1.52
4-Methyl-2-Pentanone	ND	57.4	1.79
Acetone	ND	115	5.15
Benzene	ND	5.74	.466
Bromodichloromethane	ND	5.74	.44[illegible]
Bromoform	ND	5.74	.6[illegible]
Bromomethane	ND	11.5	1.4[illegible]
Carbon Disulfide	ND	5.74	.565
Carbon Tetrachloride	ND	5.74	.452
Chlorobenzene	ND	5.74	.503
Chloroethane	ND	11.5	1.06
Chloroform	ND	5.74	.521
Chloromethane	ND	11.5	1.07
Cis-1,2-Dichloroethene	ND	5.74	.536
Cis-1,3-Dichloropropene	ND	5.74	.459
Dibromochloromethane	ND	5.74	.443
Ethylbenzene	ND	5.74	.62
Methylene Chloride	ND	5.74	2.86
m/p-Xylenes	ND	11.5	.792
o-Xylene	ND	5.74	.437
Styrene	ND	5.74	.548
Tetrachloroethylene	ND	5.74	.359
Toluene	ND	5.74	.464
Trans-1,2-Dichloroethene	ND	5.74	.437
Trans-1,3-Dichloropropene	ND	5.74	.401
Trichloroethene	ND	5.74	.54
Vinyl Acetate	ND	57.4	.938
Vinyl Chloride	ND	11.5	1.45

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	96	79-118
Bromofluorobenzene	96	86-115
Toluene-d8	102	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/15/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/16/96
Batch No.	: 96K088	DaTime Extrctd :	11/21/96 19:49
Sample ID	: CR-A153401	DaTime Analyzd :	11/21/96 19:49
Lab Cnt NO.:	K088-03	Dilutn Factor :	1
Lab File ID:	RKP299	Matrix :	SOIL
Ext Btch ID:	VOK1502	% Moisture :	16.6
Calib. Ref.:	RKP290	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6	.639
1,1,2,2-Tetrachloroethane	ND	6	.995
1,1,2-Trichloroethane	ND	6	1.01
1,1-Dichloroethane	ND	6	.508
1,1-Dichloroethene	ND	6	.626
1,2,3-Trichloropropane	ND	60	1.82
1,2-Dichloroethane	ND	6	.356
1,2-Dichloropropane	ND	6	1.15
2-Butanone	ND	120	2.71
2-Chloroethyl Vinyl Ether	ND	12	1.19
2-Hexanone	ND	60	1.59
4-Methyl-2-Pentanone	ND	60	1.87
Acetone	ND	120	5.38
Benzene	ND	6	.487
Bromodichloromethane	ND	6	.46
Bromoform	ND	6	.687
Bromomethane	ND	12	1.47
Carbon Disulfide	ND	6	.59
Carbon Tetrachloride	ND	6	.472
Chlorobenzene	ND	6	.525
Chloroethane	ND	12	1.1
Chloroform	ND	6	.544
Chloromethane	ND	12	1.12
Cis-1,2-Dichloroethene	ND	6	.56
Cis-1,3-Dichloropropene	ND	6	.48
Dibromochloromethane	ND	6	.463
Ethylbenzene	ND	6	.647
Methylene Chloride	ND	6	2.99
m/p-Xylenes	ND	12	.827
o-Xylene	ND	6	.457
Styrene	ND	6	.572
Tetrachloroethylene	ND	6	.375
Toluene	ND	6	.484
Trans-1,2-Dichloroethene	ND	6	.457
Trans-1,3-Dichloropropene	ND	6	.418
Trichloroethene	ND	6	.564
Vinyl Acetate	ND	60	.98
Vinyl Chloride	ND	12	1.51

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	96	79-118
Bromofluorobenzene	90	86-115
Toluene-d8	104	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/15/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/16/96
Batch No.	: 96K088	DaTime Extrctd :	11/21/96 20:16
Sample ID	: CR-A153501	DaTime Analyzd :	11/21/96 20:16
Lab Cnt NO.	: K088-05	Dilutn Factor :	1
Lab File ID	: RKP300	Matrix :	SOIL
Ext Btch ID	: VOK1502	% Moisture :	17.0
Calib. Ref.	: RKP290	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.02	.642
1,1,2,2-Tetrachloroethane	ND	6.02	1
1,1,2-Trichloroethane	ND	6.02	1.02
1,1-Dichloroethane	ND	6.02	.511
1,1-Dichloroethene	ND	6.02	.629
1,2,3-Trichloropropane	ND	60.2	1.83
1,2-Dichloroethane	ND	6.02	.358
1,2-Dichloropropane	ND	6.02	1.16
2-Butanone	ND	120	2.73
2-Chloroethyl Vinyl Ether	ND	12	1.22
2-Hexanone	ND	60.2	1.59
4-Methyl-2-Pentanone	ND	60.2	1.88
Acetone	ND	120	5.4
Benzene	ND	6.02	.489
Bromodichloromethane	ND	6.02	.46[illegible]
Bromoform	ND	6.02	[illegible]
Bromomethane	ND	12	1.4[illegible]
Carbon Disulfide	ND	6.02	.593
Carbon Tetrachloride	ND	6.02	.475
Chlorobenzene	ND	6.02	.528
Chloroethane	ND	12	1.11
Chloroform	ND	6.02	.547
Chloromethane	ND	12	1.12
Cis-1,2-Dichloroethene	ND	6.02	.563
Cis-1,3-Dichloropropene	ND	6.02	.482
Dibromochloromethane	ND	6.02	.465
Ethylbenzene	ND	6.02	.651
Methylene Chloride	ND	6.02	3
m/p-Xylenes	ND	12	.831
o-Xylene	ND	6.02	.459
Styrene	ND	6.02	.575
Tetrachloroethylene	ND	6.02	.377
Toluene	ND	6.02	.487
Trans-1,2-Dichloroethene	ND	6.02	.459
Trans-1,3-Dichloropropene	ND	6.02	.42
Trichloroethene	ND	6.02	.566
Vinyl Acetate	ND	60.2	.984
Vinyl Chloride	ND	12	1.52

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	97	79-118
Bromofluorobenzene	88	86-115
Toluene-d8	115*	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/15/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/27/96
Batch No.	: 96K088	DaTime Extrctd :	11/27/96 18:20
Sample ID	: CR-A153501	DaTime Analyzd :	11/27/96 18:20
Lab Cnt NO.	: K088-05R	Dilutn Factor :	1
Lab File ID	: RKP438	Matrix :	SOIL
Ext Btch ID	: VOK2302	% Moisture :	17.0
Calib. Ref.	: RKP434	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	6.02	.642
1,1,2,2-Tetrachloroethane	ND	6.02	1
1,1,2-Trichloroethane	ND	6.02	1.02
1,1-Dichloroethane	ND	6.02	.511
1,1-Dichloroethene	ND	6.02	.629
1,2,3-Trichloropropane	ND	60.2	1.83
1,2-Dichloroethane	ND	6.02	.358
1,2-Dichloropropane	ND	6.02	1.16
2-Butanone	ND	120	2.73
2-Chloroethyl Vinyl Ether	ND	12	1.2
2-Hexanone	ND	60.2	1.59
4-Methyl-2-Pentanone	ND	60.2	1.88
Acetone	ND	120	5.4
Benzene	ND	6.02	.489
Bromodichloromethane	ND	6.02	.463
Bromoform	ND	6.02	.69
Bromomethane	ND	12	1.48
Carbon Disulfide	ND	6.02	.593
Carbon Tetrachloride	ND	6.02	.475
Chlorobenzene	ND	6.02	.528
Chloroethane	ND	12	1.11
Chloroform	ND	6.02	.547
Chloromethane	ND	12	1.12
Cis-1,2-Dichloroethene	ND	6.02	.563
Cis-1,3-Dichloropropene	ND	6.02	.482
Dibromochloromethane	ND	6.02	.465
Ethylbenzene	ND	6.02	.651
Methylene Chloride	ND	6.02	3
m/p-Xylenes	ND	12	.831
o-Xylene	ND	6.02	.459
Styrene	ND	6.02	.575
Tetrachloroethylene	ND	6.02	.377
Toluene	ND	6.02	.487
Trans-1,2-Dichloroethene	ND	6.02	.459
Trans-1,3-Dichloropropene	ND	6.02	.42
Trichloroethene	ND	6.02	.566
Vinyl Acetate	ND	60.2	.984
Vinyl Chloride	ND	12	1.52

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	97	79-118
Bromofluorobenzene	85*	86-115
Toluene-d8	110	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/15/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/16/96
Batch No.	: 96K088	DaTime Extrctd :	11/21/96 20:44
Sample ID	: CR-A153503	DaTime Analyzd :	11/21/96 20:44
Lab Cnt NO.:	K088-07	Dilutn Factor :	1
Lab File ID:	RKP301	Matrix :	SOIL
Ext Btch ID:	VOK1502	% Moisture :	14.2
Calib. Ref.:	RKP290	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.83	.621
1,1,2,2-Tetrachloroethane	ND	5.83	.967
1,1,2-Trichloroethane	ND	5.83	.985
1,1-Dichloroethane	ND	5.83	.494
1,1-Dichloroethene	ND	5.83	.608
1,2,3-Trichloropropane	ND	58.3	1.77
1,2-Dichloroethane	ND	5.83	.346
1,2-Dichloropropane	ND	5.83	1.12
2-Butanone	ND	117	2.64
2-Chloroethyl Vinyl Ether	ND	11.7	1.16
2-Hexanone	ND	58.3	1.54
4-Methyl-2-Pentanone	ND	58.3	1.82
Acetone	ND	117	5.22
Benzene	ND	5.83	.473
Bromodichloromethane	ND	5.83	.44
Bromoform	ND	5.83	.6
Bromomethane	ND	11.7	1.4
Carbon Disulfide	ND	5.83	.573
Carbon Tetrachloride	ND	5.83	.459
Chlorobenzene	ND	5.83	.51
Chloroethane	ND	11.7	1.07
Chloroform	ND	5.83	.529
Chloromethane	ND	11.7	1.09
Cis-1,2-Dichloroethene	ND	5.83	.544
Cis-1,3-Dichloropropene	ND	5.83	.466
Dibromochloromethane	ND	5.83	.45
Ethylbenzene	ND	5.83	.629
Methylene Chloride	ND	5.83	2.9
m/p-Xylenes	ND	11.7	.804
o-Xylene	ND	5.83	.444
Styrene	ND	5.83	.556
Tetrachloroethylene	ND	5.83	.365
Toluene	ND	5.83	.471
Trans-1,2-Dichloroethene	ND	5.83	.444
Trans-1,3-Dichloropropene	ND	5.83	.407
Trichloroethene	ND	5.83	.548
Vinyl Acetate	ND	58.3	.952
Vinyl Chloride	ND	11.7	1.47

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	94	79-118
Bromofluorobenzene	95	86-115
Toluene-d8	99	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/15/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/16/96
Batch No.	: 96K088	DaTime Extrctd :	11/18/96 21:13
Sample ID	: CR-A153505	DaTime Analyzd :	11/18/96 21:13
Lab Cnt NO.	: K088-09	Dilutn Factor :	1
Lab File ID	: RKP216	Matrix :	WATER
Ext Btch ID	: VOK1102	% Moisture :	NA
Calib. Ref.	: RKP207	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/L)	PQL (ug/L)	MDL (ug/L)
1,1,1-Trichloroethane	ND	5	.308
1,1,2,2-Tetrachloroethane	ND	5	.326
1,1,2-Trichloroethane	ND	5	.064
1,1-Dichloroethane	ND	5	.55
1,1-Dichloroethene	ND	5	.688
1,2,3-Trichloropropane	ND	5	1.52
1,2-Dichloroethane	ND	5	.327
1,2-Dichloropropane	ND	5	.822
2-Butanone	ND	100	1.3
2-Chloroethyl Vinyl Ether	ND	10	.387
2-Hexanone	ND	50	.962
4-Methyl-2-Pentanone	ND	50	1.88
Acetone	ND	100	2.18
Benzene	ND	5	.7
Bromodichloromethane	ND	5	.406
Bromoform	ND	5	.299
Bromomethane	ND	10	.721
Carbon Disulfide	ND	5	.474
Carbon Tetrachloride	ND	5	.398
Chlorobenzene	ND	5	.345
Chloroethane	ND	10	.71
Chloroform	ND	5	.441
Chloromethane	ND	10	1.16
Cis-1,2-Dichloroethene	ND	5	.402
Cis-1,3-Dichloropropene	ND	5	.327
Dibromochloromethane	ND	5	.317
Ethylbenzene	ND	5	.428
Methylene Chloride	6.22	5	.771
m/p-Xylenes	ND	10	.71
o-Xylene	ND	5	.26
Styrene	ND	5	.263
Tetrachloroethylene	ND	5	.32
Toluene	ND	5	.372
Trans-1,2-Dichloroethene	ND	5	.494
Trans-1,3-Dichloropropene	ND	5	.171
Trichloroethene	ND	5	.325
Vinyl Acetate	ND	50	.293
Vinyl Chloride	ND	10	.458

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	102	79-118
Bromofluorobenzene	107	86-115

039

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/15/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/16/96
Batch No.	: 96K088	DaTime Extrctd :	11/18/96 21:42
Sample ID	: CR-A153508	DaTime Analyzd :	11/18/96 21:42
Lab Cnt NO.	: K088-12	Dilutn Factor :	1
Lab File ID	: RKP217	Matrix :	WATER
Ext Btch ID	: VOK1102	% Moisture :	NA
Calib. Ref.	: RKP207	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/L)	PQL (ug/L)	MDL (ug/L)
1,1,1-Trichloroethane	ND	5	.308
1,1,2,2-Tetrachloroethane	ND	5	.326
1,1,2-Trichloroethane	ND	5	.064
1,1-Dichloroethane	ND	5	.55
1,1-Dichloroethene	ND	5	.688
1,2,3-Trichloropropane	ND	5	1.52
1,2-Dichloroethane	ND	5	.327
1,2-Dichloropropane	ND	5	.822
2-Butanone	ND	100	1.3
2-Chloroethyl Vinyl Ether	ND	10	.387
2-Hexanone	ND	50	.962
4-Methyl-2-Pentanone	ND	50	1.88
Acetone	ND	100	2.18
Benzene	ND	5	.7
Bromodichloromethane	ND	5	.40
Bromoform	ND	5	.2
Bromomethane	ND	10	.721
Carbon Disulfide	ND	5	.474
Carbon Tetrachloride	ND	5	.398
Chlorobenzene	ND	5	.345
Chloroethane	ND	10	.71
Chloroform	ND	5	.441
Chloromethane	ND	10	1.16
Cis-1,2-Dichloroethene	ND	5	.402
Cis-1,3-Dichloropropene	ND	5	.327
Dibromochloromethane	ND	5	.317
Ethylbenzene	ND	5	.428
Methylene Chloride	3.45F	5	.771
m/p-Xylenes	ND	10	.71
o-Xylene	ND	5	.26
Styrene	ND	5	.263
Tetrachloroethylene	ND	5	.32
Toluene	ND	5	.372
Trans-1,2-Dichloroethene	ND	5	.494
Trans-1,3-Dichloropropene	ND	5	.171
Trichloroethene	ND	5	.325
Vinyl Acetate	ND	50	.293
Vinyl Chloride	ND	10	.458

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
1,2-Dichloroethane-d4	108	79-118	OAB
Bromofluorobenzene			

RECEIVED
DEC 20 1996
JE - Denver

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

SEMIVOLATILES

SDG#: 96K088

DECEMBER 19, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K088

SEMIVOLATILES

Four (4) soil and one (1) water samples were received on 11/16/96 to be analyzed for semivolatile organic by EPA 8270B in accordance with USEPA SW846.

1. Holding Time

   Soil sample was extracted out of holding time. Client was informed on 12/03/96. New samples will be submitted later. ---> CK. [illegible] SDG 96K039 12-12-97

2. Surrogate Recovery

   All surrogate recoveries were within QC limits.

3. Matrix Spike/Matrix Spike Duplicate

   No MS/MSD was designated.

4. Lab Control Sample/Lab Control Sample Duplicate

   All recoveries were within QC limits except low recoveries of Benzoic acid and Hexachlorocyclopentadiene in SVK009WL and SVK009WC.

5. Method Blank

   Method blank was free of contamination except Di-n-butylphthalate in SVK009WB.

6. Tuning and Calibration

   Tuning and calibration were carried out at 12 hour interval. All QC requirements were met.

7. Sample Analysis

   Sample analysis met QC requirements.

11/27/1996 09:40

LAB CHRONICLE
EPA 8270

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K088
MATRIX: Water

SAMPLE ID	CONTROL NO	%H2O	PREPARATION BATCH/DATE/TIME	ANALYTICAL BATCH/DATE/TIME	CALIB REF	FILE ID
CR-A153506	K088-10	NA	SVK009W / 11/17/96 / 10:00	RLS052 / 12/06/96 / 00:57	RLS052	RLS064
MBLK1W	SVK009WB			RLS052 / 12/05/96 / 22:34		RLS061
LCS1W	SVK009WL			RLS052 / 12/05/96 / 23:21		RLS062
LCD1W	SVK009WC			RLS052 / 12/06/96 / 00:57		RLS063

SW 3520B/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/15/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/16/96
Batch No.	: 96K088	DaTime Extrctd :	11/17/96 10:00
Sample ID	: CR-A153506	DaTime Analyzd :	12/06/96 00:57
Lab Cnt NO.	: K088-10	Dilutn Factor :	1
Lab File ID	: RLS064	Matrix :	WATER
Ext Btch ID	: SVK009W	% Moisture :	NA
Calib. Ref.	: RLS052	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/L)	PQL (ug/L)	MDL (ug/L)
1,2,4-Trichlorobenzene	ND	10	2.8
1,2-Dichlorobenzene	ND	10	2.7
1,3-Dichlorobenzene	ND	10	2.6
1,4-Dichlorobenzene	ND	10	2.5
2,4,5-Trichlorophenol	ND	50	3.4
2,4,6-Trichlorophenol	ND	10	3.5
2,4-Dichlorophenol	ND	10	3
2,4-Dimethylphenol	ND	10	2.2
2,4-Dinitrophenol	ND	50	.86
2,4-Dinitrotoluene	ND	10	4
2,6-Dinitrotoluene	ND	10	3.6
2-Chloronaphthalene	ND	10	2.9
2-Chlorophenol	ND	10	2.9
2-Methylnaphthalene	ND	10	2.9
2-Methylphenol	ND	10	3.1
2-Nitroaniline	ND	50	3.1
2-Nitrophenol	ND	10	3
3,3'-Dichlorobenzidine	ND	20	3.5
3-Nitroaniline	ND	50	3
4,6-Dinitro-2-methylphenol	ND	50	1.8
4-Bromophenyl phenyl ether	ND	10	4.2
4-Chloro-3-methylphenol	ND	20	3.1
4-Chloroaniline	ND	20	3.1
4-Chlorophenyl phenyl ether	ND	10	3.8
4-Methylphenol (1)	ND	10	3.2
4-Nitroaniline	ND	50	2.3
4-Nitrophenol	ND	50	.91
Acenaphthene	ND	10	3.2
Acenaphthylene	ND	10	3.3
Anthracene	ND	10	2.8
Benzo(a)anthracene	ND	10	2.4
Benzo(a)pyrene	ND	10	2.8
Benzo(b)fluoranthene	ND	10	2.8
Benzo(k)fluoranthene	ND	10	3.3
Benzo(g,h,i)perylene	ND	10	3.3
Benzoic Acid	ND	50	2.6
Benzyl alcohol	ND	20	2.7
bis(2-Chloroethoxy)methane	ND	10	3

SW 3520B/8270B
SEMI VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/15/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/16/96
Batch No.	: 96K088	DaTime Extrctd :	11/17/96 10:00
Sample ID	: CR-A153506	DaTime Analyzd :	12/06/96 00:57
Lab Cnt NO.	: K088-10	Dilutn Factor :	1
Lab File ID	: RLS064	Matrix :	WATER
Ext Btch ID	: SVK009W	% Moisture :	NA
Calib. Ref.	: RLS052	Instrument ID :	MSBNA2

PARAMETERS	RESULTS (ug/L)	PQL (ug/L)	MDL (ug/L)
bis(2-Chloroethyl)ether	ND	10	2.9
bis(2-Chloroisopropyl)ether	ND	10	4.2
bis(2-Ethylhexyl)phthalate	6.35F	10	4.2
Butylbenzylphthalate	4.51F	10	2.8
Chrysene	ND	10	3
Di-n-butylphthalate	20.6	10	5.4
Di-n-octylphthalate	ND	10	2.6
Dibenzo(a,h)anthracene	ND	10	3.1
Dibenzofuran	ND	10	3.8
Diethylphthalate	ND	10	2.8
Dimethylphthalate	ND	10	3.6
Fluoranthene	ND	10	2.7
Fluorene	ND	10	3.3
Hexachlorobenzene	ND	10	3.6
Hexachlorobutadiene	ND	10	2.2
Hexachlorocyclopentadiene	ND	10	1
Hexachloroethane	ND	10	
Indeno(1,2,3-cd)pyrene	ND	10	3.2
Isophorone	ND	10	3
n-Nitroso-di-n-propylamine	ND	10	3.7
n-Nitrosodiphenylamine (2)	ND	10	3
Naphthalene	ND	10	2.9
Nitrobenzene	ND	10	2.8
Pentachlorophenol	ND	50	2.4
Phenanthrene	ND	10	3
Phenol	ND	10	2.9
Pyrene	ND	10	3.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-Tribromophenol	85	25-134
2-Fluorobiphenyl	71	43-125
2-Fluorophenol	72	25-125
Nitrobenzene-d5	79	32-125
Phenol-d5	78	25-125
Terphenyl-d14	69	42-126

PQL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
JAKWHTG/JAKWHTS: Revision 0 19-NOV-96

EMAX Batch No. 96K097

EMAX
LABORATORIES, INC.
630 Maple Ave.
Torrance, CA 90503
Telephone: (310) 618-8889
Fax: (310) 618-0818

RECEIVED
DEC 24 1996
JE - Denver

Date: 12-20-1996
EMAX Batch No.: 96K097

Attn: Lynn Schuetter

Jacobs Engineering Group
600 17th. Street, STe. 1100N
Denver CO 80202

Subject: Laboratory Report
Project: Carswell AFB / 05G47900

Enclosed is the Laboratory report for samples received on 11/19/96. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
CR-A153601	K097-01	11/16/96	Soil	EPA 8240
CR-A153602	K097-02	11/16/96	Soil	Metals Mercury EPA 8270
CR-A153603	K097-03	11/16/96	Soil	EPA 8240
CR-A153604	K097-04	11/16/96	Soil	Metals Mercury EPA 8270
CR-A153701	K097-05	11/16/96	Soil	EPA 8240
CR-A153702	K097-06	11/16/96	Soil	Metals Mercury EPA 8270
CR-A153703	K097-07	11/16/96	Soil	EPA 8240
CR-A153704	K097-08	11/16/96	Soil	Metals Mercury EPA 8270
CR-A153705	K097-09	11/16/96	Soil	EPA 8240
CR-A153706	K097-10	11/16/96	Soil	Metals Mercury

Sample ID	Control #	Col Date	Matrix	Analysis
				EPA 8270
CR-A153707	K097-11	11/16/96	Soil	EPA 8240
CR-A153708	K097-12	11/16/96	Soil	Metals
				Mercury
				EPA 8270
CR-A153801	K097-13	11/16/96	Soil	EPA 8240
CR-A153802	K097-14	11/16/96	Soil	Metals
				Mercury
				EPA 8270
CR-A153803	K097-15	11/16/96	Soil	EPA 8240
CR-A153804	K097-16	11/16/96	Soil	Metals
				Mercury
				EPA 8270
CR-A153901	K097-17	11/16/96	Soil	EPA 8240
CR-A153902	K097-18	11/16/96	Soil	Metals
				Mercury
				EPA 8270
CR-A153903	K097-19	11/16/96	Soil	EPA 8240
CR-A153904	K097-20	11/16/96	Soil	Metals
				Mercury
				EPA 8270
CR-A153904MS	K097-20M	11/16/96	Soil	Metals
				Mercury
				EPA 8270
CR-A153904MSD	K097-20S	11/16/96	Soil	EPA 8270
CR-A153904DUP	K097-20D	11/16/96	Soil	Metals
				Mercury
CR-A154001	K097-21	11/16/96	Soil	EPA 8240
CR-A154002	K097-22	11/16/96	Soil	Metals
				Mercury
				EPA 8270
CR-A154003	K097-23	11/16/96	Soil	EPA 8240
CR-A154004	K097-24	11/16/96	Soil	Metals
				Mercury
				EPA 8270
CR-A154005	K097-25	11/16/96	Water	EPA 8240
CR-A154006	K097-26	11/16/96	Water	EPA 8270
CR-A154007	K097-27	11/16/96	Water	Metals
				Mercury
CR-A154008	K097-28	11/16/96	Water	EPA 8240
CR-A154101	K097-29	11/18/96	Soil	EPA 8240

Sample ID	Control #	Col Date	Matrix	Analysis
CR-A154102	K097-30	11/18/96	Soil	Metals Mercury EPA 8270
CR-A154103	K097-31	11/18/96	Soil	EPA 8240
CR-A154104	K097-32	11/18/96	Soil	Metals Mercury EPA 8270
CR-A154201	K097-33	11/18/96	Soil	EPA 8240
CR-A154202	K097-34	11/18/96	Soil	Metals Mercury EPA 8270
CR-A154203	K097-35	11/18/96	Soil	EPA 8240
CR-A154204	K097-36	11/18/96	Soil	Metals Mercury EPA 8270
CR-A154303	K097-37	11/18/96	Soil	EPA 8240
CR-A154304	K097-38	11/18/96	Soil	Metals Mercury EPA 8270
CR-A154403	K097-39	11/18/96	Soil	EPA 8240
CR-A154404	K097-40	11/18/96	Soil	Metals Mercury EPA 8270
CR-A154405	K097-41	11/18/96	Water	EPA 8240
CR-A154406	K097-42	11/18/96	Water	EPA 8270
CR-A154407	K097-43	11/18/96	Water	Metals Mercury

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D.
Laboratory Director

P.S. - All analyses requested for the above referenced project have been completed. Therefore, unless instructed, the remaining portions of the samples will be disposed after fifteen (15) days from the date of this report.

FedEx *USA Airbill* Tracking Number 2746027814

96 K097 11:00
11-19-96 ML

Recipient's Copy

1 From

Date 11/18/96

Sender's Name DAN SCHULTZ Phone (817) 239-1768

Dept./Floor/Suite/Room

Company JACOBS ENGINEERING

Address 6560 WHITE SETTLEMENT ROAD

City FT WORTH State TX Zip 76114

2 Your Internal Billing Reference Information 05647900 - 50501

3 To,

Recipient's Name SAMPLE RECEIVING Phone (310) 618-8889

Dept./Floor/Suite/Room

Company EMAX

Address 630 MAPLE AVE.
(To "HOLD" at FedEx location, print FedEx address here)

City TORRANCE State CA Zip 90503

For HOLD at FedEx Location check here
- [ ] Hold Weekday (Not available with FedEx First Overnight)
- [ ] Hold Saturday (Not available at all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

For Saturday Delivery check here
- [ ] (Extra Charge. Not available to all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

4a Express Package Service *Packages under 150 lbs.* Delivery commitment may be later in some areas

- [X] FedEx Priority Overnight (Next business morning)
- [ ] FedEx Standard Overnight (Next business afternoon)
- [ ] FedEx 2Day* (Second business day)
- [ ] NEW FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

* FedEx Letter Rate not available. Minimum charge One pound FedEx 2Day rate.

4b Express Freight Service *Packages over 150 lbs.* Delivery commitment may be later in some areas

- [ ] FedEx Overnight Freight (Next business day service for any distance)
- [ ] FedEx 2Day Freight (Second business day service for any distance)
- [ ] FedEx Express Saver Freight (Up to 3 business day service based upon distance)

(Call for delivery schedule. See back for detailed descriptions of freight products.)

5 Packaging
- [ ] FedEx Letter
- [ ] FedEx Pak (Declared value limit $500)
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other Pkg.

6 Special Handling

Does this shipment contain dangerous goods?
- [ ] Yes (No per attached Shipper's Declaration)
- [ ] Yes (Shipper's Declaration not required)
- [ ] Dry Ice — Dry Ice, 9, UN 1845 III ____ x ____ kg 904 (Dangerous Goods Shipper's Declaration not required)
- [ ] CA Cargo Aircraft Only

7 Payment

Bill to:
- [X] Sender (Account no. in Section 1 will be billed)
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

(Enter FedEx account no. or Credit Card no. below)

- [ ] Obtain Recipient FedEx Account No.

Total Packages	Total Weight	Total Declared Value*	Total Charges
2	105	$ .00	$

* When declaring a value higher than $100 per shipment, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information

Credit Card Auth.

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims

2946027814

272

Questions?
Call 1·800·Go·FedEx
(1·800·463·3339)

SAMPLE RECEIPT FORM

CONTROL NO.	96K097
CLIENT	JACOBS ENG'G
PROJECT	CARSWELL AFB D021

DATE	11-19-96
TIME	11:00 AM
RECIPIENT	I. PATEL

SAMPLE TRANSPORTATION TO EMAX LABORATORY:		BY	ON(DATE)	AT(TIME)	FROM(SITE/CO.)	COMMENTS
PICKED-UP BY EMAX COURIER						
DELIVERED BY CLIENT ✓						
SHIPPED/AIRBILL NO:	FEDEX APTN.					

SAMPLE BATCH PACKAGING/SEALING UPON RECEIPT:			✓ INTACT	___ DAMAGED	✓ SEALED	___ NOT SEALED	___ NO CONTAINER
CONTAINER:	INSIDE TEMPERATURE (4°C ± 2°C)	2° °C		CUSTODY SEAL		LOCATION	NUMBER
2 COOLER S	PACKAGING	TYPE	SUFFICIENCY	✓ INTACT	___ DAMAGED	FRONT CLOSURE	1
___ BOX	INSULATION:			NAME:	SEE CLOC	REAR CLOSURE	1
___ OTHER:	ICE/COOLANT:	REGULAR	OK	DATE:			
___	PACKING MATERIAL:	BUBBLEPAK		TIME:			

SAMPLE DOCUMENTATION/CHAIN-OF-CUSTODY(COC)	___ SEALED	✓ ENCLOSED	___ HANDCARRIED	___ FAXED	___ MAILED

SAMPLE LOG-IN:	CRITERIA	COMMENTS	DISCREPANCY
SAMPLE CUSTODY SEAL	EVERY SAMPLE	NONE	
CONTAINER TYPE/MATERIAL	APPROPRIATE	OK	
SAMPLE AMOUNT	ENOUGH		
HOLDING TIME	SUFFICENT		
SAMPLE PRESERVATION (For appropriate preservative see GP-0001 Appendix I)	NaOH preserved samples pH ≥ 12 HNO_3 / H_2SO_4 preserved samples pH ≤ 2		
HEADSPACE/BUBBLES	ZERO/NONE		
SAMPLE LABEL INFORMATION	SUFFICIENT		
CHAIN-OF-CUSTODY INFORMATION	SUFFICIENT		

SAMPLE INFO.:	SAMPLE ID	DATE	TIME	SIGNATURE	ANALYSES	PRESERVATIVE	CONTAINER

INDIVIDUAL SAMPLE CONTAINER:	___ NONE	✓ SEALED PLASTIC BAG	___ CAN	___ OTHER(SPECIFY): BUBBLEPAK

SAMPLE NUMBER	CLIENT ID	DISCREPANCY	ACTION

CLIENT SERVICES REPRESENTATIVE RECEIVED BY		DATE		TIME	

RECEIVED
DEC 24 1996
JE - Denver

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP

CARSWELL

METALS

SDG#: 96K097

DECEMBER 20, 1996

EMAX
LABORATORIES, INC.
630 Maple Ave.
Torrance, CA 90503
Telephone: (310) 618-8889
Fax: (310) 618-0818

RECEIVED
JAN 2 5 1997
JE • Denver

Date: 01-22-1997
EMAX Batch No.: 96K097

Attn: Lynn Schuetter

Jacobs Engineering Group
600 17th. Street, STe. 1100N
Denver CO 80202

Subject: Laboratory Report
Project: Carswell AFB / 05G47900

Enclosed is the Laboratory report for sample received on 11/19/96. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
CR-A154104	K097-32	11/18/96	Soil	Metals

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D.
Laboratory Director

P.S. - All analysis requested for the above referenced project have been completed. Therefore, unless instructed, the remaining portions of the sample will be disposed after fifteen (15) days from the date of this report.

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

SILVER AND NICKEL BY GFAA

SDG#: 96K097

JANUARY 22, 1997

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K097

SILVER AND NICKEL BY GFAA

Sample 96K097-32 was digested with prep. batch GFK0115 on 11/27/96 and missed in the original analysis, and was analyzed on 01/20/97. This report includes data from these reanalyses.

EPA 3050A/7520
NICKEL BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K097
Matrix : SOIL

Date Collcted : 11/18/96
DaTime Received: 11/19/96
Instrument ID : EMAXTI06

SAMPLE ID	CONTROL NO	RESULTS (mg/kg)	DLF	MOIST	PQL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A154104	K097-32	10.6	4	11.2	4.5	.901	01/20/9721:02	11/27/9609:00	G06A012015	G06A012010	GFK011S
MBLK1S	GFK011SB	ND	1	NA	1	.2	01/20/9720:50	11/27/9609:00	G06A012012	G06A012010	GFK011S
LCS1S	GFK011SL	.983F	1	NA	1	.2	01/20/9720:54	11/27/9609:00	G06A012013	G06A012010	GFK011S
LCD1S	GFK011SC	.918F	1	NA	1	.2	01/20/9720:58	11/27/9609:00	G06A012014	G06A012010	GFK011S

EPA 3050A/7760
SILVER BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K097
Matrix : SOIL

Date Collcted : 11/18/96
DaTime Received: 11/19/96
Instrument ID : EMAXTI03

SAMPLE ID	CONTROL NO	RESULTS (mg/kg)	DLF	MOIST	PQL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A154104	K097-32	.0248F	1	11.2	.113	.0225	01/15/9721:56	11/27/9609:00	G03A005015	G03A005010	GFK011S
MBLK1S	GFK011SB	ND	1	NA	.1	.02	01/15/9721:47	11/27/9609:00	G03A005012	G03A005010	GFK011S
LCS1S	GFK011SL	.219	1	NA	.1	.02	01/15/9721:50	11/27/9609:00	G03A005013	G03A005010	GFK011S
LCD1S	GFK011SC	.228	1	NA	.1	.02	01/15/9721:53	11/27/9609:00	G03A005014	G03A005010	GFK011S

PQL: Practical Quantitation Limit

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP

PROJECT: CARSWELL

SDG: 96K097

METALS

Twenty (20) soil and two (2) water samples were received on 11/19/96 to be analyzed for metals analysis by ICP method in accordance with USEPA SW846 method 6010A. Antimony, silver, selenium, and nickel were analyzed by GFAA.

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   Trace amount of some elements were found in soil blanks: aluminum, barium, calcium, copper, iron, and sodium in IPK029SB and aluminum, molybdenum, potassium, and lead in IPK031SB, all detected levels were below PQL. Trace amount of iron and sodium were found in water blank, iron level was below PQL but sodium was slightly above PQL.

3. **Matrix Spike/Matrix Spike Duplicate**

   MS/MSD recoveries were within QC limits for soil matrix except molybdenum, arsenic, cadmium, and lead. The QC limit does not apply to aluminum, calcium, and iron since the elements concentration were more than 4 times spiking level.

4. **Lab Control Sample/Lab Control Duplicate**

   All lab control results were within the control limits.

5. **Calibration**

   All initial and continuing calibration results were within QC criteria.

6. **Sample Analysis**

   Analysis was performed within the QC requirements except as aforementioned.

   Arsenic, lead, and cadmium were analyzed by Trace-ICP, all others metals by

regular ICP. Several serial dilutions were out of QC limits, post analytical spike of all failed serial dilutions were within QC limits except calcium and lead.

01A

12/04/1996 10:16

LAB CHRONICLE
Metals

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K097
MATRIX: soil

SAMPLE ID	CONTROL NO	%H2O	PREPARATION BATCH/DATE/TIME	ANALYTICAL BATCH/DATE/TIME	CALIB REF	FILE ID
CR-A153602	K097-02	16.9	11/27/96/IPK029SB/9.00	I07L012/12/19/96		
CR-A153604	K097-04	11.6				
CR-A153702	K097-06	16.1				
CR-A153704	K097-08	13.8				
CR-A153706	K097-10	12.0				
CR-A153708	K097-12	13.9				
CR-A153802	K097-14	16.3				
CR-A153804	K097-16	17.0				
CR-A153902	K097-18	21.5				
CR-A153904	K097-20	13.8				
CR-A153904MS	K097-20M	13.8				
CR-A153904DUP	K097-20D	13.8				
CR-A154002	K097-22	17.1				
CR-A154004	K097-24	10.3				
CR-A154102	K097-30	18.6				
CR-A154104	K097-32	11.2				
CR-A154202	K097-34	19.5				
CR-A154204	K097-36	9.2				
CR-A154304	K097-38	10.0	11/27/96/IPK031SB/9.00	I07L008/12/18/96		
CR-A154404	K097-40	12.7				
MBLK1S	IPK029SB		11/27/96/IPK029SB/9.00	I07L012/12/19/96		
LCS1 LCSD	SL SC					
MBLK2S	IPK031SB					
LCS2 LCS2D	SL SC					

02

12/04/1996 10:16

LAB CHRONICLE
Metals

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K097
MATRIX: Water

SAMPLE ID	CONTROL NO	%H2O	PREPARATION BATCH/DATE/TIME	ANALYTICAL BATCH/DATE/TIME	CALIB REF	FILE ID
CR-A154007	K097-27	NA	IPK020WB | 11/20/96/15.00	IC7L008/12/18/96		**
CR-A154407	K097-43	NA				
MBLK1W	IPK020WB					
LCS		WL				
LCSD		WC				

*(soil)
* As, Pb, Cd were analyzed by Trace-ICP on for K097-02 to 36 on 12/12/96 File I31L013 and for K097-38 to 40 on 12/11/96 File I31L016
(water) **
** As, Pb, Cd were analyzed by Trace-ICP on 11/23/96 File I31K020

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A153602	DaTime Analyzd :	12/19/96 16:25
Lab Cnt NO.:	K097-02	Dilutn Factor :	1
Lab File ID:	I07L012	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	16.9
Calib. Ref.:	I07L012	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	9580	60.2	1.22
Barium	80.8	2.41	.0481
Beryllium	.702	.361	.012
Calcium	4430	12	2.71
Chromium	10.3	8.42	.662
Cobalt	4.84F	8.42	1.01
Copper	9.97	7.22	.168
Iron	9660	8.42	.698
Magnesium	1210	36.1	6.65
Manganese	277	2.41	.144
Molybdenum	ND	9.63	.734
Potassium	1360	602	62.9
Sodium	18.6F	36.1	2.41
Thallium	36.2F	48.1	11.1
Vanadium	24.3	9.63	.469
Zinc	24.6	2.41	.205

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A153602	DaTime Analyzd :	12/11/96 18:35
Lab Cnt NO.:	K097-02	Dilutn Factor :	1
Lab File ID:	I31L013	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	16.9
Calib. Ref.:	I31L013	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	3.48	.602	.554
Cadmium	.167	.12	.12
Lead	19.9	.602	.168

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A153604	DaTime Analyzd :	12/19/96 16:28
Lab Cnt NO.:	K097-04	Dilutn Factor :	1
Lab File ID:	I07L012	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	11.6
Calib. Ref.:	I07L012	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	11200	56.6	1.14
Barium	97.7	2.26	.0452
Beryllium	.68	.339	.0113
Calcium	45300	11.3	2.55
Chromium	10.2	7.92	.622
Cobalt	3.4F	7.92	.95
Copper	9.33	6.79	.158
Iron	9670	7.92	.656
Magnesium	1620	33.9	6.26
Manganese	199	2.26	.136
Molybdenum	.96F	9.05	.69
Potassium	1030	566	59.1
Sodium	ND	33.9	2.26
Thallium	45.2F	45.2	10.4
Vanadium	23.6	9.05	.441
Zinc	20.3	2.26	.192

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A153604	DaTime Analyzd :	12/11/96 18:39
Lab Cnt NO.:	K097-04	Dilutn Factor :	1
Lab File ID:	I31L013	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	11.6
Calib. Ref.:	I31L013	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	2.78	.566	.52
Cadmium	ND	.113	.113
Lead	8.22	.566	.158

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A153702	DaTime Analyzd :	12/19/96 16:32
Lab Cnt NO.:	K097-06	Dilutn Factor :	1
Lab File ID:	I07L012	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	16.1
Calib. Ref.:	I07L012	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	6200	59.6	1.2
Barium	40.4	2.38	.0477
Beryllium	.423	.358	.0119
Calcium	63200	11.9	2.68
Chromium	7.67F	8.34	.656
Cobalt	1.54F	8.34	1
Copper	7.2	7.15	.167
Iron	6470	8.34	.691
Magnesium	1290	35.8	6.59
Manganese	158	2.38	.143
Molybdenum	1.43F	9.54	.727
Potassium	956	596	62.3
Sodium	9.96F	35.8	2.38
Thallium	29.4F	47.7	11
Vanadium	18.7	9.54	.465
Zinc	21.9	2.38	.203

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A153702	DaTime Analyzd :	12/11/96 18:43
Lab Cnt NO.:	K097-06	Dilutn Factor :	1
Lab File ID:	I31L013	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	16.1
Calib. Ref.:	I31L013	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	3.93	.596	.548
Cadmium	.141	.119	.119
Lead	11.8	.596	.167

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A153704	DaTime Analyzd :	12/19/96 16:36
Lab Cnt NO.:	K097-08	Dilutn Factor :	1
Lab File ID:	I07L012	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	13.8
Calib. Ref.:	I07L012	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	3780	58	1.17
Barium	21.3	2.32	.0464
Beryllium	.283F	.348	.0116
Calcium	160000	11.6	2.61
Chromium	5.77F	8.12	.638
Cobalt	ND	8.12	.974
Copper	3.17F	6.96	.162
Iron	4240	8.12	.673
Magnesium	1850	34.8	6.42
Manganese	88.3	2.32	.139
Molybdenum	1.93F	9.28	.708
Potassium	517F	580	60.6
Sodium	2.9F	34.8	2.32
Thallium	22.1F	46.4	10.7
Vanadium	14.1	9.28	.452
Zinc	7.1	2.32	.197

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A153704	DaTime Analyzd :	12/11/96 18:47
Lab Cnt NO.:	K097-08	Dilutn Factor :	1
Lab File ID:	I31L013	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	13.8
Calib. Ref.:	I31L013	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	1.68	.58	.534
Cadmium	ND	.116	.116
Lead	ND	.58	.162

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A153706	DaTime Analyzd :	12/19/96 16:39
Lab Cnt No.:	K097-10	Dilutn Factor :	1
Lab File ID:	I07L012	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	12.0
Calib. Ref.:	I07L012	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	4670	56.8	1.15
Barium	35.4	2.27	.0455
Beryllium	.337F	.341	.0114
Calcium	51800	11.4	2.56
Chromium	5.94F	7.95	.625
Cobalt	1.81F	7.95	.955
Copper	6.32F	6.82	.159
Iron	5600	7.95	.659
Magnesium	1000	34.1	6.28
Manganese	162	2.27	.136
Molybdenum	.979F	9.09	.693
Potassium	890	568	59.4
Sodium	17.6F	34.1	2.27
Thallium	25.6F	45.5	10.5
Vanadium	13.3	9.09	.443
Zinc	23.3	2.27	.193

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A153706	DaTime Analyzd :	12/11/96 18:51
Lab Cnt NO.:	K097-10	Dilutn Factor :	1
Lab File ID:	I31L013	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	12.0
Calib. Ref.:	I31L013	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	5.18	.568	.523
Cadmium	.127	.114	.114
Lead	16.7	.568	.159

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A153708	DaTime Analyzd :	12/19/96 16:43
Lab Cnt NO.:	K097-12	Dilutn Factor :	1
Lab File ID:	I07L012	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	13.9
Calib. Ref.:	I07L012	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	4360	58.1	1.17
Barium	24.5	2.32	.0465
Beryllium	.335F	.348	.0116
Calcium	172000	11.6	2.61
Chromium	6.33F	8.13	.639
Cobalt	ND	8.13	.976
Copper	3.77F	6.97	.163
Iron	4830	8.13	.674
Magnesium	2080	34.8	6.42
Manganese	111	2.32	.139
Molybdenum	ND	9.29	.708
Potassium	522F	581	60.7
Sodium	2.52F	34.8	2.32
Thallium	31.8F	46.5	10.7
Vanadium	16.6	9.29	.453
Zinc	8.41	2.32	.197

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A153708	DaTime Analyzd :	12/11/96 18:55
Lab Cnt NO.	: K097-12	Dilutn Factor :	1
Lab File ID	: I31L013	Matrix :	SOIL
Ext Btch ID	: IPK029S	% Moisture :	13.9
Calib. Ref.	: I31L013	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	1.97	.581	.534
Cadmium	ND	.116	.116
Lead	ND	.581	.163

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A153802	DaTime Analyzd :	12/19/96 16:58
Lab Cnt No.:	K097-14	Dilutn Factor :	1
Lab File ID:	I07L012	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	16.3
Calib. Ref.:	I07L012	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	9210	59.7	1.21
Barium	86	2.39	.0478
Beryllium	.803	.358	.0119
Calcium	5940	11.9	2.69
Chromium	11.2	8.36	.657
Cobalt	5.11F	8.36	1
Copper	11.7	7.17	.167
Iron	10800	8.36	.693
Magnesium	1260	35.8	6.61
Manganese	289	2.39	.143
Molybdenum	ND	9.56	.729
Potassium	1110	597	62.4
Sodium	22F	35.8	2.39
Thallium	49.6	47.8	11
Vanadium	26.5	9.56	.466
Zinc	22.2	2.39	.203

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A153802	DaTime Analyzd :	12/11/96 19:24
Lab Cnt NO.:	K097-14	Dilutn Factor :	1
Lab File ID:	I31L013	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	16.3
Calib. Ref.:	I31L013	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	3.61	.597	.55
Cadmium	.163	.119	.119
Lead	12	.597	.167

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A153804	DaTime Analyzd :	12/19/96 17:01
Lab Cnt NO.:	K097-16	Dilutn Factor :	1
Lab File ID:	I07L012	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	17.0
Calib. Ref.:	I07L012	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	8600	60.2	1.22
Barium	58.4	2.41	.0482
Beryllium	.639	.361	.012
Calcium	67800	12	2.71
Chromium	7.04F	8.43	.663
Cobalt	4.21F	8.43	1.01
Copper	9.17	7.23	.169
Iron	8490	8.43	.699
Magnesium	1700	36.1	6.66
Manganese	301	2.41	.145
Molybdenum	1.24F	9.64	.735
Potassium	1170	602	62.9
Sodium	7.46F	36.1	2.41
Thallium	37.9F	48.2	11.1
Vanadium	16.4	9.64	.47
Zinc	23.2	2.41	.205

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A153804	DaTime Analyzd :	12/11/96 19:28
Lab Cnt NO.:	K097-16	Dilutn Factor :	1
Lab File ID:	I31L013	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	17.0
Calib. Ref.:	I31L013	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	2.85	.602	.554
Cadmium	ND	.12	.12
Lead	7.14	.602	.169

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A153902	DaTime Analyzd :	12/19/96 17:05
Lab Cnt NO.:	K097-18	Dilutn Factor :	1
Lab File ID:	I07L012	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	21.5
Calib. Ref.:	I07L012	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	10500	63.7	1.29
Barium	88.7	2.55	.051
Beryllium	.815	.382	.0127
Calcium	9820	12.7	2.87
Chromium	12.2	8.92	.701
Cobalt	5.34F	8.92	1.07
Copper	11.4	7.64	.178
Iron	11400	8.92	.739
Magnesium	1390	38.2	7.04
Manganese	225	2.55	.153
Molybdenum	ND	10.2	.777
Potassium	1310	637	66.5
Sodium	23F	38.2	2.55
Thallium	50F	51	11.7
Vanadium	28.5	10.2	.497
Zinc	25.8	2.55	.217

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A153902	DaTime Analyzd :	12/11/96 19:32
Lab Cnt NO.:	K097-18	Dilutn Factor :	1
Lab File ID:	I31L013	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	21.5
Calib. Ref.:	I31L013	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	3.24	.637	.586
Cadmium	.206	.127	.127
Lead	15.5	.637	.178

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A153904	DaTime Analyzd :	12/19/96 17:32
Lab Cnt NO.:	K097-20	Dilutn Factor :	1
Lab File ID:	I07L012	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	13.8
Calib. Ref.:	I07L012	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	9590	58	1.17
Barium	82.4	2.32	.0464
Beryllium	.683	.348	.0116
Calcium	55500	11.6	2.61
Chromium	8.64	8.12	.638
Cobalt	2.75F	8.12	.974
Copper	9.08	6.96	.162
Iron	9080	8.12	.673
Magnesium	1290	34.8	6.42
Manganese	177	2.32	.139
Molybdenum	ND	9.28	.708
Potassium	895	580	60.6
Sodium	17.9F	34.8	2.32
Thallium	47.2	46.4	10.7
Vanadium	20.5	9.28	.452
Zinc	19	2.32	.197

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A153904	DaTime Analyzd :	12/11/96 19:36
Lab Cnt NO.:	K097-20	Dilutn Factor :	1
Lab File ID:	I31L013	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	13.8
Calib. Ref.:	I31L013	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	2.58	.58	.534
Cadmium	1.48	.116	.116
Lead	7.6	.58	.162

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A154002	DaTime Analyzd :	12/19/96 18:06
Lab Cnt NO.:	K097-22	Dilutn Factor :	1
Lab File ID:	I07L012	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	17.1
Calib. Ref.:	I07L012	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	7960	60.3	1.22
Barium	84.3	2.41	.0483
Beryllium	.641	.362	.0121
Calcium	2800	12.1	2.71
Chromium	10.7	8.44	.663
Cobalt	6.79F	8.44	1.01
Copper	10.2	7.24	.169
Iron	10200	8.44	.7
Magnesium	738	36.2	6.67
Manganese	347	2.41	.145
Molybdenum	ND	9.65	.736
Potassium	932	603	63
Sodium	19.3F	36.2	2.41
Thallium	41.3F	48.3	11.1
Vanadium	23	9.65	.47
Zinc	21.2	2.41	.205

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A154002	DaTime Analyzd :	12/11/96 19:59
Lab Cnt NO.:	K097-22	Dilutn Factor :	1
Lab File ID:	I31L013	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	17.1
Calib. Ref.:	I31L013	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	2.96	.603	.555
Cadmium	ND	.121	.121
Lead	14.4	.603	.169

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A154004	DaTime Analyzd :	12/19/96 18:10
Lab Cnt NO.:	K097-24	Dilutn Factor :	1
Lab File ID:	I07L012	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	10.3
Calib. Ref.:	I07L012	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	8320	55.7	1.13
Barium	127	2.23	.0446
Beryllium	.559	.334	.0111
Calcium	78700	11.1	2.51
Chromium	8.44	7.8	.613
Cobalt	4.66F	7.8	.936
Copper	9.41	6.69	.156
Iron	8300	7.8	.647
Magnesium	1880	33.4	6.16
Manganese	158	2.23	.134
Molybdenum	ND	8.92	.68
Potassium	964	557	58.2
Sodium	158	33.4	2.23
Thallium	38.6F	44.6	10.3
Vanadium	18	8.92	.435
Zinc	23.5	2.23	.19

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A154004	DaTime Analyzd :	12/11/96 20:14
Lab Cnt NO.:	K097-24	Dilutn Factor :	1
Lab File ID:	I31L013	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	10.3
Calib. Ref.:	I31L013	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	2.34	.557	.513
Cadmium	.122	.111	.111
Lead	6.23	.557	.156

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/18/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A154102	DaTime Analyzd :	12/19/96 18:14
Lab Cnt NO.:	K097-30	Dilutn Factor :	1
Lab File ID:	I07L012	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	18.6
Calib. Ref.:	I07L012	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	6500	61.4	1.24
Barium	57	2.46	.0491
Beryllium	.525	.369	.0123
Calcium	2300	12.3	2.76
Chromium	9.01	8.6	.676
Cobalt	4.53F	8.6	1.03
Copper	9.51	7.37	.172
Iron	8060	8.6	.713
Magnesium	633	36.9	6.79
Manganese	308	2.46	.147
Molybdenum	ND	9.83	.749
Potassium	857	614	64.2
Sodium	19.6F	36.9	2.46
Thallium	37.3F	49.1	11.3
Vanadium	19.1	9.83	.479
Zinc	18.5	2.46	.209

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/18/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A154102	DaTime Analyzd :	12/11/96 20:18
Lab Cnt No.:	K097-30	Dilutn Factor :	1
Lab File ID:	I31L013	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	18.6
Calib. Ref.:	I31L013	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	2.18	.614	.565
Cadmium	.167	.123	.123
Lead	12.1	.614	.172

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/18/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A154104	DaTime Analyzd :	12/19/96 18:17
Lab Cnt NO.:	K097-32	Dilutn Factor :	1
Lab File ID:	I07L012	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	11.2
Calib. Ref.:	I07L012	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	8600	56.3	1.14
Barium	63.6	2.25	.045
Beryllium	.56	.338	.0113
Calcium	87600	11.3	2.53
Chromium	8.4	7.88	.619
Cobalt	4.52F	7.88	.946
Copper	7.86	6.76	.158
Iron	7890	7.88	.653
Magnesium	1660	33.8	6.23
Manganese	317	2.25	.135
Molybdenum	1.32F	9.01	.687
Potassium	1060	563	58.8
Sodium	171	33.8	2.25
Thallium	42.4F	45	10.4
Vanadium	22.2	9.01	.439
Zinc	19.4	2.25	.191

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/18/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A154104	DaTime Analyzd :	12/11/96 20:22
Lab Cnt NO.:	K097-32	Dilutn Factor :	1
Lab File ID:	I31L013	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	11.2
Calib. Ref.:	I31L013	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	4.53	.563	.518
Cadmium	.159	.113	.113
Lead	6.61	.563	.158

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/18/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A154202	DaTime Analyzd :	12/19/96 18:21
Lab Cnt NO.:	K097-34	Dilutn Factor :	1
Lab File ID:	I07L012	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	19.5
Calib. Ref.:	I07L012	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	9320	62.1	1.25
Barium	63.3	2.48	.0497
Beryllium	.644	.373	.0124
Calcium	69600	12.4	2.8
Chromium	10	8.7	.683
Cobalt	3.65F	8.7	1.04
Copper	11	7.45	.174
Iron	8720	8.7	.72
Magnesium	2370	37.3	6.87
Manganese	261	2.48	.149
Molybdenum	1.46F	9.94	.758
Potassium	1510	621	64.9
Sodium	12.4F	37.3	2.48
Thallium	43.1F	49.7	11.5
Vanadium	21.1	9.94	.484
Zinc	30.1	2.48	.211

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/18/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A154202	DaTime Analyzd :	12/11/96 20:26
Lab Cnt NO.:	K097-34	Dilutn Factor :	1
Lab File ID:	I31L013	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	19.5
Calib. Ref.:	I31L013	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	3.46	.621	.571
Cadmium	.625	.124	.124
Lead	14.9	.621	.174

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/18/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A154204	DaTime Analyzd :	12/19/96 18:25
Lab Cnt NO.:	K097-36	Dilutn Factor :	1
Lab File ID:	I07L012	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	9.2
Calib. Ref.:	I07L012	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	7250	55.1	1.11
Barium	53.1	2.2	.0441
Beryllium	.482	.33	.011
Calcium	128000	11	2.48
Chromium	8.42	7.71	.606
Cobalt	1.66F	7.71	.925
Copper	6.87	6.61	.154
Iron	7100	7.71	.639
Magnesium	2420	33	6.09
Manganese	110	2.2	.132
Molybdenum	ND	8.81	.672
Potassium	869	551	57.5
Sodium	ND	33	2.2
Thallium	41.3F	44.1	10.2
Vanadium	18.9	8.81	.43
Zinc	16.6	2.2	.187

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/18/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A154204	DaTime Analyzd :	12/11/96 20:30
Lab Cnt NO.:	K097-36	Dilutn Factor :	1
Lab File ID:	I31L013	Matrix :	SOIL
Ext Btch ID:	IPK029S	% Moisture :	9.2
Calib. Ref.:	I31L013	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	2.55	.551	.507
Cadmium	.206	.11	.11
Lead	3.19	.551	.154

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/18/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A154304	DaTime Analyzd :	12/18/96 20:34
Lab Cnt NO.:	K097-38	Dilutn Factor :	1
Lab File ID:	I07L008	Matrix :	SOIL
Ext Btch ID:	IPK031S	% Moisture :	10.0
Calib. Ref.:	I07L008	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	12000	55.6	1.12
Barium	103	2.22	.0444
Beryllium	.671	.333	.0111
Calcium	80200	11.1	2.5
Chromium	11	7.78	.611
Cobalt	4.39F	7.78	.933
Copper	10	6.67	.156
Iron	10400	7.78	.644
Magnesium	1830	33.3	6.14
Manganese	247	2.22	.133
Molybdenum	ND	8.89	.678
Potassium	1350	556	58
Sodium	6.16F	33.3	2.22
Thallium	60.2	44.4	10.2
Vanadium	26.9	8.89	.433
Zinc	22.9	2.22	.189

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/18/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A154304	DaTime Analyzd :	12/11/96 19:24
Lab Cnt NO.:	K097-38	Dilutn Factor :	1
Lab File ID:	I31L016	Matrix :	SOIL
Ext Btch ID:	IPK031S	% Moisture :	10.0
Calib. Ref.:	I31L016	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	3.64	.556	.511
Cadmium	.119	.111	.111
Lead	7.7	.556	.156

SW3050A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/18/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A154404	DaTime Analyzd :	12/18/96 20:37
Lab Cnt NO.:	K097-40	Dilutn Factor :	1
Lab File ID:	I07L008	Matrix :	SOIL
Ext Btch ID:	IPK031S	% Moisture :	12.7
Calib. Ref.:	I07L008	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Aluminum	9560	57.3	1.16
Barium	84.7	2.29	.0458
Beryllium	.57	.344	.0115
Calcium	101000	11.5	2.58
Chromium	9.8	8.02	.63
Cobalt	3.75F	8.02	.962
Copper	8.24	6.87	.16
Iron	8580	8.02	.664
Magnesium	1760	34.4	6.33
Manganese	216	2.29	.137
Molybdenum	ND	9.16	.699
Potassium	1180	573	59.8
Sodium	ND	34.4	2.29
Thallium	48.9	45.8	10.6
Vanadium	23.1	9.16	.447
Zinc	18.7	2.29	.195

SW3050A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/18/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 09:00
Sample ID	: CR-A154404	DaTime Analyzd :	12/11/96 19:28
Lab Cnt NO.:	K097-40	Dilutn Factor :	1
Lab File ID:	I31L016	Matrix :	SOIL
Ext Btch ID:	IPK031S	% Moisture :	12.7
Calib. Ref.:	I31L016	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/kg)	PQL (mg/kg)	MDL (mg/kg)
Arsenic	2.36	.573	.527
Cadmium	ND	.115	.115
Lead	5.53	.573	.16

SW3005A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/20/96 15:00
Sample ID	: CR-A154007	DaTime Analyzd :	12/18/96 19:14
Lab Cnt NO.:	K097-27	Dilutn Factor :	1
Lab File ID:	I07L008	Matrix :	WATER
Ext Btch ID:	IPK020W	% Moisture :	NA
Calib. Ref.:	I07L008	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/L)	PQL (mg/L)	MDL (mg/L)
Aluminum	ND	.5	.0122
Barium	ND	.02	.001
Beryllium	ND	.003	.0003
Calcium	ND	.1	.0222
Chromium	ND	.07	.0053
Cobalt	ND	.07	.0089
Copper	ND	.06	.0008
Iron	.00685F	.07	.0035
Magnesium	ND	.3	.0342
Manganese	ND	.02	.0013
Molybdenum	ND	.08	.0144
Potassium	ND	5	.466
Sodium	.402	.3	.05
Thallium	ND	.4	.0632
Vanadium	ND	.08	.0029
Zinc	ND	.02	.0039

SW3005A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/20/96 15:00
Sample ID	: CR-A154007	DaTime Analyzd :	11/23/96 20:50
Lab Cnt NO.:	K097-27	Dilutn Factor :	1
Lab File ID:	I31K020	Matrix :	WATER
Ext Btch ID:	IPK020W	% Moisture :	NA
Calib. Ref.:	I31K020	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/L)	PQL (mg/L)	MDL (mg/L)
Arsenic	ND	.005	.0049
Cadmium	.000502F	.001	.00046
Lead	.00269F	.005	.0016

SW3005A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/18/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/20/96 15:00
Sample ID	: CR-A154407	DaTime Analyzd :	12/18/96 19:17
Lab Cnt NO.:	K097-43	Dilutn Factor :	1
Lab File ID:	I07L008	Matrix :	WATER
Ext Btch ID:	IPK020W	% Moisture :	NA
Calib. Ref.:	I07L008	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/L)	PQL (mg/L)	MDL (mg/L)
Aluminum	ND	.5	.0122
Barium	ND	.02	.001
Beryllium	ND	.003	.0003
Calcium	ND	.1	.0222
Chromium	ND	.07	.0053
Cobalt	ND	.07	.0089
Copper	ND	.06	.0008
Iron	.00533F	.07	.0035
Magnesium	ND	.3	.0342
Manganese	ND	.02	.0013
Molybdenum	ND	.08	.0144
Potassium	ND	5	.466
Sodium	.402	.3	.05
Thallium	ND	.4	.0632
Vanadium	ND	.08	.0029
Zinc	ND	.02	.0039

SW3005A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/18/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/20/96 15:00
Sample ID	: CR-A154407	DaTime Analyzd :	11/23/96 20:54
Lab Cnt NO.:	K097-43	Dilutn Factor :	1
Lab File ID:	I31K020	Matrix :	WATER
Ext Btch ID:	IPK020W	% Moisture :	NA
Calib. Ref.:	I31K020	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/L)	PQL (mg/L)	MDL (mg/L)
Arsenic	ND	.005	.0049
Cadmium	ND	.001	.00046
Lead	ND	.005	.0016

SW3005A/6010A
METALS BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	NA
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/20/96
Batch No.	: 96K097	DaTime Extrctd :	11/20/96 15:00
Sample ID	: MBLK1W	DaTime Analyzd :	12/18/96 19:01
Lab Cnt NO.:	IPK020WB	Dilutn Factor :	1
Lab File ID:	I07L008	Matrix :	WATER
Ext Btch ID:	IPK020W	% Moisture :	NA
Calib. Ref.:	I07L008	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/L)	PQL (mg/L)	MDL (mg/L)
Aluminum	.0127F	.5	.0122
Barium	ND	.02	.001
Beryllium	ND	.003	.0003
Calcium	ND	.1	.0222
Chromium	ND	.07	.0053
Cobalt	ND	.07	.0089
Copper	ND	.06	.0008
Iron	.00938F	.07	.0035
Magnesium	ND	.3	.0342
Manganese	ND	.02	.0013
Molybdenum	ND	.08	.0144
Potassium	ND	5	.466
Sodium	.402	.3	.05
Thallium	ND	.4	.0632
Vanadium	ND	.08	.0029
Zinc	ND	.02	.0039

SW3005A/6010A
TRACE BY ICP

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	NA
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/20/96
Batch No.	: 96K097	DaTime Extrctd :	11/20/96 15:00
Sample ID	: MBLK1W	DaTime Analyzd :	11/23/96 20:37
Lab Cnt NO.:	IPK020WB	Dilutn Factor :	1
Lab File ID:	I31K020	Matrix :	WATER
Ext Btch ID:	IPK020W	% Moisture :	NA
Calib. Ref.:	I31K020	Instrument ID :	EMAXTI07

PARAMETERS	RESULTS (mg/L)	PQL (mg/L)	MDL (mg/L)
Arsenic	ND	.005	.0049
Cadmium	ND	.001	.00046
Lead	ND	.005	.0016

RECEIVED
DEC 24 1996
JE e Denver

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

ANTIMONY BY GFAA

SDG#: 96K097

DECEMBER 20, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K097

ANTIMONY BY GFAA

Eighteen (18) soil and two (2) water samples were received on 11/19/96 to be analyzed for Antimony by GFAA method 7041 in accordance with USEPA SW846 (1994,9).

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   Preparation blanks were free of contamination.

3. **Matrix Spike/Matrix Spike Duplicate**

   Recoveries in spiked sample for soil were out of QC limits, no corrective action since LCS/LCSD were within.

4. **Lab Control Sample/Lab Control Sample Duplicate**

   All lab control results were within the QC limits.

5. **Calibration**

   All initial and continuing calibration results were within QC criteria.

6. **Sample Analyses**

   Sample analyses met QC requirements.

EPA 3050A/7041
ANTIMONY BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K097
Matrix : SOIL

Date Collcted : 11/16/96
DaTime Received: 11/19/96
Instrument ID : EMAXTI03

SAMPLE ID	CONTROL NO	RESULTS (mg/kg)	DLF	MOIST	PQL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A153602	K097-02	ND	1	16.9	.602	.241	12/10/9621:46	11/27/9609:00	G03L017015	G03L017010	IPK031S
CR-A153604	K097-04	ND	1	11.6	.566	.226	12/10/9621:57	11/27/9609:00	G03L017018	G03L017010	IPK031S
CR-A153702	K097-06	ND	1	16.1	.596	.238	12/10/9622:01	11/27/9609:00	G03L017019	G03L017010	IPK031S
CR-A153704	K097-08	ND	1	13.8	.58	.232	12/10/9622:04	11/27/9609:00	G03L017020	G03L017010	IPK031S
CR-A153706	K097-10	ND	1	12.0	.568	.227	12/10/9622:08	11/27/9609:00	G03L017021	G03L017010	IPK031S
CR-A153708	K097-12	ND	1	13.9	.581	.232	12/10/9622:19	11/27/9609:00	G03L017024	G03L017022	IPK031S
CR-A153802	K097-14	ND	1	16.3	.597	.239	12/10/9622:23	11/27/9609:00	G03L017025	G03L017022	IPK031S
CR-A153804	K097-16	ND	1	17.0	.602	.241	12/10/9622:26	11/27/9609:00	G03L017026	G03L017022	IPK031S
CR-A153902	K097-18	ND	1	21.5	.637	.255	12/10/9622:30	11/27/9609:00	G03L017027	G03L017022	IPK031S
CR-A153904	K097-20	ND	1	13.8	.58	.232	12/10/9622:34	11/27/9609:00	G03L017028	G03L017022	IPK031S
CR-A153904MS	K097-20M	.724	1	13.8	.58	.232	12/10/9622:37	11/27/9609:00	G03L017029	G03L017022	IPK031S
CR-A153904MSD	K097-20S	.559F	1	13.8	.58	.232	12/10/9622:41	11/27/9609:00	G03L017030	G03L017022	IPK031S
CR-A154002	K097-22	ND	1	17.1	.603	.241	12/10/9622:45	11/27/9609:00	G03L017031	G03L017022	IPK031S
CR-A154004	K097-24	ND	1	10.3	.557	.223	12/10/9622:49	11/27/9609:00	G03L017032	G03L017022	IPK031S
CR-A154102*	K097-30	ND	1	18.6	.614	.246	12/10/9622:52	11/27/9609:00	G03L017033	G03L017022	IPK031S
CR-A154104*	K097-32	.509F	1	11.2	.563	.225	12/10/9623:04	11/27/9609:00	G03L017036	G03L017034	IPK031S
CR-A154202*	K097-34	ND	1	19.5	.621	.248	12/10/9623:08	11/27/9609:00	G03L017037	G03L017034	IPK031S
CR-A154204*	K097-36	ND	1	9.2	.551	.22	12/10/9623:11	11/27/9609:00	G03L017038	G03L017034	IPK031S
CR-A154304*	K097-38	.712	1	10.0	.556	.222	12/10/9623:30	11/27/9609:00	G03L017042	G03L017034	IPK031S
CR-A154404*	K097-40	ND	1	12.7	.573	.229	12/10/9623:49	11/27/9609:00	G03L017048	G03L017046	IPK031S
MBLK1S	IPK031SB	ND	1	NA	.5	.2	12/10/9623:15	11/27/9609:00	G03L017039	G03L017034	IPK031S
LCS1S	IPK032SL	1.87	1	NA	.5	.2	12/10/9623:19	11/27/9609:00	G03L017040	G03L017034	IPK031S
LCD1S	IPK032SC	1.91	1	NA	.5	.2	12/10/9623:23	11/27/9609:00	G03L017041	G03L017034	IPK031S

PQL: Practical Quantitation Limit
* DATE COLLECTED : 11/18/96

EPA 3005A/7041
ANTIMONY BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K097
Matrix : WATER

Date Collcted : 11/16/96
DaTime Received: 11/19/96
Instrument ID : EMAXT106

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PQL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A154007	K097-27	ND	1	NA	.005	.002	12/02/9620:31	11/20/9615:00	G06L001042	G06L001034	IPK020W
CR-A154407*	K097-43	ND	1	NA	.005	.002	12/02/9620:42	11/20/9615:00	G06L001045	G06L001034	IPK020W
MBLK1W	IPK020WB	ND	1	NA	.005	.002	12/02/9620:20	11/20/9615:00	G06L001039	G06L001034	IPK020W
LCS1W	IPK021WL	.0234	1	NA	.005	.002	12/02/9620:24	11/20/9615:00	G06L001040	G06L001034	IPK020W
LCD1W	IPK021WC	.0238	1	NA	.005	.002	12/02/9620:27	11/20/9615:00	G06L001041	G06L001034	IPK020W

PQL: Practical Quantitation Limit
* DATE COLLECTED : 11/18/96

RECEIVED
DEC 24 1996
JE • Denver

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

MERCURY BY COLD VAPOR

SDG#: 96K097

DECEMBER 20, 1996

EPA 7471A
MERCURY BY COLD VAPOR

CLIENT:	JACOBS ENGINEERING GROUP	DATE COLLECTED:	11/16/96
PROJECT:	CARSWELL AFB / 05G47900	DATE RECEIVED:	11/19/96
BATCH NO.:	96K097	DATE EXTRACTED:	11/26/96 10:00
MATRIX:	SOIL	INSTRUMENT ID:	I23
CAL REF:	M96K016-7	PREP BATCH:	HGK019S

SAMPLE ID	CONTROL NO	RESULT (mg/kg)	DL FACTOR	MOIST (%)	PQL (mg/kg)	MDL (mg/kg)	ANALYZED DATETIME
CR-A153602	K097-02	ND	1	16.9	.12	.035	11/26/96 21:55
CR-A153604	K097-04	ND	1	11.6	.11	.033	11/26/96 21:58
CR-A153702	K097-06	ND	1	16.1	.12	.035	11/26/96 22:01
CR-A153704	K097-08	ND	1	13.8	.12	.034	11/26/96 22:05
CR-A153706	K097-10	ND	1	12.0	.11	.033	11/26/96 22:08
CR-A153708	K097-12	ND	1	13.9	.12	.034	11/26/96 22:11
CR-A153802	K097-14	ND	1	16.3	.12	.035	11/26/96 22:33
CR-A153804	K097-16	ND	1	17.0	.12	.035	11/26/96 22:26
CR-A153902	K097-18	ND	1	21.5	.13	.037	11/26/96 22:30
CR-A153904	K097-20	ND	1	13.8	.12	.034	11/26/96 22:33
CR-A153904MS	K097-20M	2.40	1	13.8	.12	.034	11/26/96 22:36
CR-A153904MSD	K097-20S	2.44	1	13.8	.12	.034	11/26/96 22:39
CR-A154002	K097-22	ND	1	17.1	.12	.035	11/26/96 22:42
CR-A154004	K097-24	ND	1	10.3	.11	.032	11/26/96 22:45
CR-A154102	K097-30	ND	1	18.6	.12	.036	11/26/96 22:48
CR-A154104	K097-32	ND	1	11.2	.11	.033	11/26/96 23:01
CR-A154202	K097-34	ND	1	19.5	.12	.036	11/26/96 23:04
CR-A154204	K097-36	ND	1	9.2	.11	.032	11/26/96 23:07
CR-A154304	K097-38	ND	1	10.0	.11	.032	11/26/96 23:11
CR-A154404	K097-40	ND	1	12.7	.11	.033	11/26/96 23:14
MBLK1S	HGK019SB	ND	1	NA	.1	.029	11/26/96 21:46
LCS1S	GFK019SL	2.12	1	NA	.1	.029	11/26/96 21:49
LCD1S	HGK019SC	2.00	1	NA	.1	.029	11/29/96 21:52

PQL: Practical Quantitation Limit
CAL REF: M96K016-19, for K097-14 to 30, 20M and 20S
M96K016-31, for K097-32 to 40
AFCEE Ver. 1.1

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K097

MERCURY BY COLD VAPOR

Eighteen (18) soil and two (2) water samples were received on 11/19/96 for Mercury by Method 7470A/7471A in accordance with SW846 (1994).

1. **Holding Time**

   Extraction and analysis met holding time.

2. **Matrix Spike/Matrix Spike Duplicate**

   Recoveries and RPD were within QC limits for soil. No MS/MSD was designated for water.

3. **Blank**

   Preparation blanks were free of contamination.

4. Lab Control Sample/Lab Control Sample Duplicate

   Lab control sample results and RPD were within the control limits.

5. **Sample Analyses**

   Sample analyses were performed within the QC requirements.

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EPA 7470A
MERCURY BY COLD VAPOR

CLIENT:	JACOBS ENGINEERING GROUP	DATE COLLECTED:	11/16/96
PROJECT:	CARSWELL AFB / 05G47900	DATE RECEIVED:	11/19/96
BATCH NO.:	96K097	DATE EXTRACTED:	11/25/96 09:00
MATRIX:	WATER	INSTRUMENT ID:	I23
CAL REF:	M96K015-19	PREP BATCH:	HGK018W

SAMPLE ID	CONTROL NO	RESULT (mg/L)	DILUTION FACTOR	PQL (mg/L)	MDL (mg/L)	ANALYZED DATETIME
CR-A154007	K097-27	ND	1	.001	.0001	11/25/96 22:09
CR-A154407	K097-43	ND	1	.001	.0001	11/25/96 22:12
MBLK1W	HGK018WB	ND	1	.001	.0001	11/25/96 21:53
LCS1W	HGK018WL	0.0044	1	.001	.0001	11/25/96 21:56
LCD1W	HGK018WC	0.0043	1	.001	.0001	11/25/96 21:59

PQL: Practical Quantitation Limit
AFCEE Ver. 1.1

RECEIVED
DEC 24 1996
JE • Denver

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

NICKEL BY GFAA

SDG#: 96K097

DECEMBER 20, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K097

NICKEL BY GFAA

Eighteen (18) soil and two (2) water samples were received on 11/19/96 to be analyzed for Nickel by GFAA method 7520 in accordance with USEPA SW846 (1994,9).

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   Preparation blanks were free of contamination.

3. **Matrix Spike/Matrix Spike Duplicate**

   MSD and %RPD recoveries for soil were out of QC limits, no corrective action since LCS/LCSD were within.

4. **Lab Control Sample/Lab Control Sample Duplicate**

   All lab control results were within the QC limits.

5. **Calibration**

   All initial and continuing calibration results were within QC criteria.

6. **Sample Analyses**

   Sample analyses met QC requirements.

12/04/1996 10:16

LAB CHRONICLE
Metals

Nickel

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K097
MATRIX: Soil

SAMPLE ID	CONTROL NO	%H2O	PREPARATION BATCH/DATE/TIME	ANALYTICAL BATCH/DATE/TIME	CALIB REF	FILE ID
CR-A153602	K097-02	16.9	11/27	12/7		
CR-A153604	K097-04	11.6				
CR-A153702	K097-06	16.1				
CR-A153704	K097-08	13.8				
CR-A153706	K097-10	12.0				
CR-A153708	K097-12	13.9				
CR-A153802	K097-14	16.3				
CR-A153804	K097-16	17.0				
CR-A153902	K097-18	21.5				
CR-A153904	K097-20	13.8				
CR-A153904MS	K097-20M	13.8				
CR-A153904DUP	K097-20D	13.8				
CR-A154002	K097-22	17.1				
CR-A154004	K097-24	10.3				
CR-A154102	K097-30	18.6				
CR-A154104	K097-32	11.2				
CR-A154202	K097-34	19.5				
CR-A154204	K097-36	9.2				
CR-A154304	K097-38	10.0				
CR-A154404	K097-40	12.7				

12/04/1996 10:16

LAB CHRONICLE
Metals
Nickel

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K097
MATRIX: Water

SAMPLE ID	CONTROL NO	%H2O	PREPARATION BATCH/DATE/TIME	ANALYTICAL BATCH/DATE/TIME	CALIB REF	FILE ID
CR-A154007	K097-27	NA	11/20	1214		
CR-A154407	K097-43	NA	11/20	1214		

EPA 3050A/7520
NICKEL BY GFAA

004

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K097
Matrix : SOIL

Date Collcted : 11/16/96
DaTime Received: 11/19/96
Instrument ID : EMAXTI06

SAMPLE ID	CONTROL NO	RESULTS (mg/kg)	DLF	MOIST	PQL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A153602	K097-02	7.1	4	16.9	4.81	.963	12/07/9620:09	11/27/9609:00	G06L008019	G06L008009	GFK011S
CR-A153604	K097-04	9.39	4	11.6	4.52	.905	12/07/9620:13	11/27/9609:00	G06L008020	G06L008009	GFK011S
CR-A153702	K097-06	6.23	4	16.1	4.77	.954	12/07/9620:26	11/27/9609:00	G06L008023	G06L008021	GFK011S
CR-A153704	K097-08	4.48F	4	13.8	4.64	.928	12/07/9620:30	11/27/9609:00	G06L008024	G06L008021	GFK011S
CR-A153706	K097-10	5.22	4	12.0	4.55	.909	12/07/9620:34	11/27/9609:00	G06L008025	G06L008021	GFK011S
CR-A153708	K097-12	3.93F	4	13.9	4.65	.929	12/07/9620:38	11/27/9609:00	G06L008026	G06L008021	GFK011S
CR-A153802	K097-14	11.9	4	16.3	4.78	.956	12/07/9620:42	11/27/9609:00	G06L008027	G06L008021	GFK011S
CR-A153804	K097-16	10.2	4	17.0	4.82	.964	12/07/9620:46	11/27/9609:00	G06L008028	G06L008021	GFK011S
CR-A153902	K097-18	11.3	4	21.5	5.1	1.02	12/07/9620:51	11/27/9609:00	G06L008029	G06L008021	GFK011S
CR-A153904	K097-20	10.8	5	13.8	5.8	1.16	12/07/9619:48	11/27/9609:00	G06L008014	G06L008009	GFK011S
CR-A153904MS	K097-20M	12.1	5	13.8	5.8	1.16	12/07/9620:01	11/27/9609:00	G06L008017	G06L008009	GFK011S
CR-A153904MSD	K097-20S	10.6	5	13.8	5.8	1.16	12/07/9620:05	11/27/9609:00	G06L008018	G06L008009	GFK011S
CR-A154002	K097-22	8.26	4	17.1	4.83	.965	12/07/9620:55	11/27/9609:00	G06L008030	G06L008021	GFK011S
CR-A154004	K097-24	7.99	4	10.3	4.46	.892	12/07/9620:59	11/27/9609:00	G06L008031	G06L008021	GFK011S
CR-A154102*	K097-30	7.44	4	18.6	4.91	.983	12/07/9621:03	11/27/9609:00	G06L008032	G06L008021	GFK011S
CR-A154202*	K097-34	10.4	4	19.5	4.97	.994	12/07/9621:16	11/27/9609:00	G06L008035	G06L008033	GFK011S
CR-A154204*	K097-36	7.36	4	9.2	4.41	.881	12/07/9621:21	11/27/9609:00	G06L008036	G06L008033	GFK011S
CR-A154304*	K097-38	6.21	4	10.0	4.44	.889	12/07/9621:25	11/27/9609:00	G06L008037	G06L008033	GFK011S
CR-A154404*	K097-40	8.76	4	12.7	4.58	.916	12/07/9621:29	11/27/9609:00	G06L008038	G06L008033	GFK011S
MBLK1S	GFK011S	ND	1	NA	1	.2	12/07/9619:36	11/27/9609:00	G06L008011	G06L008009	GFK011S
LCS1S	GFK011SL	.978F	1	NA	1	.2	12/07/9619:40	11/27/9609:00	G06L008012	G06L008009	GFK011S
LCD1S	GFK011SC	.948F	1	NA	1	.2	12/07/9619:44	11/27/9609:00	G06L008013	G06L008009	GFK011S

PQL: Practical Quantitation Limit
* DATE COLLECTED : 11/18/96

EPA 3020A/7520
NICKEL BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K097
Matrix : WATER

Date Collcted : 11/16/96
DaTime Received: 11/19/96
Instrument ID : EMAXTI06

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PQL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A154007	K097-27	.00278F	1	NA	.01	.002	12/04/9620:08	11/20/9613:00	G06L003025	G06L003021	GFK007W
CR-A154407*	K097-43	ND	1	NA	.01	.002	12/04/9620:12	11/20/9613:00	G06L003026	G06L003021	GFK007W
MBLK1W	GFK007WB	ND	1	NA	.01	.002	12/04/9619:10	11/20/9613:00	G06L003011	G06L003009	GFK007W
LCS1W	GFK007WL	.00976F	1	NA	.01	.002	12/04/9619:14	11/20/9613:00	G06L003012	G06L003009	GFK007W
LCD1W	GFK007WC	.00986F	1	NA	.01	.002	12/04/9619:18	11/20/9613:00	G06L003013	G06L003009	GFK007W

PQL: Practical Quantitation Limit
* DATE COLLECTED : 11/18/96

RECEIVED
DEC 2 4 1996
JE • Denver

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

SELENIUM BY GFAA

SDG#: 96K097

DECEMBER 20, 1996

EPA 3050A/7740
SELENIUM BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K097
Matrix : SOIL

Date Collcted : 11/16/96
DaTime Received: 11/19/96
Instrument ID : EMAXTI03

SAMPLE ID	CONTROL NO	RESULTS (mg/kg)	DLF	MOIST	PQL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A153602	K097-02	.277F	1	16.9	.602	.132	12/10/9614:07	11/27/9609:00	G03L016015	G03L016010	GFK011S
CR-A153604	K097-04	.249F	1	11.6	.566	.124	12/10/9614:19	11/27/9609:00	G03L016018	G03L016010	GFK011S
CR-A153702	K097-06	.179F	1	16.1	.596	.131	12/10/9614:22	11/27/9609:00	G03L016019	G03L016010	GFK011S
CR-A153704	K097-08	ND	1	13.8	.58	.128	12/10/9614:26	11/27/9609:00	G03L016020	G03L016010	GFK011S
CR-A153706	K097-10	.33F	1	12.0	.568	.125	12/10/9614:30	11/27/9609:00	G03L016021	G03L016010	GFK011S
CR-A153708	K097-12	ND	1	13.9	.581	.128	12/10/9614:41	11/27/9609:00	G03L016024	G03L016022	GFK011S
CR-A153802	K097-14	.585F	1	16.3	.597	.131	12/10/9614:45	11/27/9609:00	G03L016025	G03L016022	GFK011S
CR-A153804	K097-16	ND	1	17.0	.602	.133	12/10/9614:48	11/27/9609:00	G03L016026	G03L016022	GFK011S
CR-A153902	K097-18	.637	1	21.5	.637	.14	12/10/9614:52	11/27/9609:00	G03L016027	G03L016022	GFK011S
CR-A153904	K097-20	.313F	1	13.8	.58	.128	12/10/9614:56	11/27/9609:00	G03L016028	G03L016022	GFK011S
CR-A153904MS	K097-20M	1.64	1	13.8	.58	.128	12/10/9615:00	11/27/9609:00	G03L016029	G03L016022	GFK011S
CR-A153904MSD	K097-20S	1.73	1	13.8	.58	.128	12/10/9615:04	11/27/9609:00	G03L016030	G03L016022	GFK011S
CR-A154002	K097-22	.495F	1	17.1	.603	.133	12/10/9615:07	11/27/9609:00	G03L016031	G03L016022	GFK011S
CR-A154004	K097-24	.178F	1	10.3	.557	.123	12/10/9615:11	11/27/9609:00	G03L016032	G03L016022	GFK011S
CR-A154102*	K097-30	.283F	1	18.6	.614	.135	12/10/9615:15	11/27/9609:00	G03L016033	G03L016022	GFK011S
CR-A154104*	K097-32	ND	1	11.2	.563	.124	12/10/9615:27	11/27/9609:00	G03L016036	G03L016034	GFK011S
CR-A154202*	K097-34	.298F	1	19.5	.621	.137	12/10/9615:31	11/27/9609:00	G03L016037	G03L016034	GFK011S
CR-A154204*	K097-36	ND	1	9.2	.551	.121	12/10/9615:35	11/27/9609:00	G03L016038	G03L016034	GFK011S
CR-A154304*	K097-38	.189F	1	10.0	.556	.122	12/10/9615:39	11/27/9609:00	G03L016039	G03L016034	GFK011S
CR-A154404*	K097-40	.126F	1	12.7	.573	.126	12/10/9615:43	11/27/9609:00	G03L016040	G03L016034	GFK011S
MBLK1S	GFK011SB	.15F	1	NA	.5	.11	12/10/9613:56	11/27/9609:00	G03L016012	G03L016010	GFK011S
LCS1S	GFK011SL	1.9	1	NA	.5	.11	12/10/9614:00	11/27/9609:00	G03L016013	G03L016010	GFK011S
LCD1S	GFK011SC	1.95	1	NA	.5	.11	12/10/9614:04	11/27/9609:00	G03L016014	G03L016010	GFK011S

PQL: Practical Quantitation Limit
* DATE COLLECTED : 11/18/96
AFCEE Ver. 1.1

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K097

SELENIUM BY GFAA

Eighteen (18) soil and two (2) water samples were received on 11/19/96 to be analyzed for Selenium by GFAA method 7740 in accordance with USEPA SW846 (1994,9).

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   Preparation blanks were free of contamination at PQL level.

3. **Matrix Spike/Matrix Spike Duplicate**

   Recoveries in spiked sample for soil were out of QC limits, no corrective action since LCS/LCSD were within.

4. **Lab Control Sample/Lab Control Sample Duplicate**

   All lab control results were within the QC limits.

5. **Calibration**

   All initial and continuing calibration results were within QC criteria.

6. **Sample Analyses**

   Sample analyses met QC requirements.

EPA 3020A/7740
SELENIUM BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K097
Matrix : WATER

Date Collcted : 11/16/96
DaTime Received: 11/19/96
Instrument ID : EMAXTI06

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PQL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A154007	K097-27	ND	1	NA	.005	.0011	12/06/9614:17	11/20/9613:00	G06L005027	G06L005022	GFK007W
CR-A154407*	K097-43	ND	1	NA	.005	.0011	12/06/9614:21	11/20/9613:00	G06L005028	G06L005022	GFK007W
MBLK1W	GFK007WB	ND	1	NA	.005	.0011	12/06/9613:20	11/20/9613:00	G06L005012	G06L005010	GFK007W
LCS1W	GFK007WL	.0229	1	NA	.005	.0011	12/06/9613:24	11/20/9613:00	G06L005013	G06L005010	GFK007W
LCD1W	GFK007WC	.0234	1	NA	.005	.0011	12/06/9613:28	11/20/9613:00	G06L005014	G06L005010	GFK007W

PQL: Practical Quantitation Limit
* DATE COLLECTED : 11/18/96
AFCEE Ver. 1.1

RECEIVED
DEC 2 4 1996
JE - Denver

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

SILVER BY GFAA

SDG#: 96K097

DECEMBER 20, 1996

EPA 3050A/7760
SILVER BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K097
Matrix : SOIL

Date Collcted : 11/16/96
DaTime Received: 11/19/96
Instrument ID : EMAXTI03

SAMPLE ID	CONTROL NO	RESULTS (mg/kg)	DLF	MOIST	PQL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A153602	K097-02	.0686F	1	16.9	.12	.0241	12/06/9618:13	11/27/9609:00	G03L010019	G03L010009	GFK011S
CR-A153604	K097-04	.0928F	1	11.6	.113	.0226	12/06/9618:16	11/27/9609:00	G03L010020	G03L010009	GFK011S
CR-A153702	K097-06	.0608F	1	16.1	.119	.0238	12/06/9618:25	11/27/9609:00	G03L010023	G03L010021	GFK011S
CR-A153704	K097-08	.0348F	1	13.8	.116	.0232	12/06/9618:29	11/27/9609:00	G03L010024	G03L010021	GFK011S
CR-A153706	K097-10	.0545F	1	12.0	.114	.0227	12/06/9618:32	11/27/9609:00	G03L010025	G03L010021	GFK011S
CR-A153708	K097-12	.0325F	1	13.9	.116	.0232	12/06/9618:35	11/27/9609:00	G03L010026	G03L010021	GFK011S
CR-A153802	K097-14	.0621F	1	16.3	.119	.0239	12/06/9618:38	11/27/9609:00	G03L010027	G03L010021	GFK011S
CR-A153804	K097-16	.0265F	1	17.0	.12	.0241	12/06/9618:41	11/27/9609:00	G03L010028	G03L010021	GFK011S
CR-A153902	K097-18	.0624F	1	21.5	.127	.0255	12/06/9618:45	11/27/9609:00	G03L010029	G03L010021	GFK011S
CR-A153904	K097-20	.0626F	1	13.8	.116	.0232	12/06/9617:57	11/27/9609:00	G03L010014	G03L010009	GFK011S
CR-A153904MS	K097-20M	.317	1	13.8	.116	.0232	12/06/9618:06	11/27/9609:00	G03L010017	G03L010009	GFK011S
CR-A153904MSD	K097-20S	.289	1	13.8	.116	.0232	12/06/9618:10	11/27/9609:00	G03L010018	G03L010009	GFK011S
CR-A154002	K097-22	.0543F	1	17.1	.121	.0241	12/06/9618:48	11/27/9609:00	G03L010030	G03L010021	GFK011S
CR-A154004	K097-24	.0245F	1	10.3	.111	.0223	12/06/9618:51	11/27/9609:00	G03L010031	G03L010021	GFK011S
CR-A154102*	K097-30	.0553F	1	18.6	.123	.0246	12/06/9618:55	11/27/9609:00	G03L010032	G03L010021	GFK011S
CR-A154202*	K097-34	.072F	1	19.5	.124	.0248	12/06/9619:05	11/27/9609:00	G03L010035	G03L010033	GFK011S
CR-A154204*	K097-36	.0396F	1	9.2	.11	.022	12/06/9619:08	11/27/9609:00	G03L010036	G03L010033	GFK011S
CR-A154304*	K097-38	.0356F	1	10.0	.111	.0222	12/06/9619:11	11/27/9609:00	G03L010037	G03L010033	GFK011S
CR-A154404*	K097-40	.0412F	1	12.7	.115	.0229	12/06/9619:15	11/27/9609:00	G03L010038	G03L010033	GFK011S
MBLK1S	GFK011SB	.033F	1	NA	.1	.02	12/06/9617:47	11/27/9609:00	G03L010011	G03L010009	GFK011S
LCS1S	GFK011SL	.236	1	NA	.1	.02	12/06/9617:51	11/27/9609:00	G03L010012	G03L010009	GFK011S
LCD1S	GFK011SC	.237	1	NA	.1	.02	12/06/9617:54	11/27/9609:00	G03L010013	G03L010009	GFK011S

PQL: Practical quantitation Limit
* DATE COLLECTED : 11/18/96
AFCEE Ver. 1.1

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP, INC.

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K097

SILVER BY GFAA

Eighteen (18) soil and two (2) water samples were received on 11/19/96 to be analyzed for Silver by GFAA method 7760 in accordance with USEPA SW846 (1994,9).

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   Preparation blanks were free of contamination.

3. **Matrix Spike/Matrix Spike Duplicate**

   Recoveries in soil were within QC limits.

4. **Lab Control Sample/Lab Control Sample Duplicate**

   All lab control results were within the QC limits.

5. **Calibration**

   All initial and continuing calibration results were within QC criteria.

6. **Sample Analyses**

   Sample analyses met QC requirements.

EPA 3020A/7760
SILVER BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K097
Matrix : WATER

Date Collcted : 11/16/96
DaTime Received: 11/19/96
Instrument ID : EMAXTI03

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	DLF	MOIST	PQL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
CR-A154007	K097-27	ND	1	NA	.001	.0002	12/04/9619:15	11/20/9613:00	G03L006026	G03L006022	GFK007W
CR-A154407*	K097-43	ND	1	NA	.001	.0002	12/04/9619:19	11/20/9613:00	G03L006027	G03L006022	GFK007W
MBLK1W	GFK007WB	.00042F	1	NA	.001	.0002	12/04/9618:31	11/20/9613:00	G03L006012	G03L006010	GFK007W
LCS1W	GFK007WL	.00219	1	NA	.001	.0002	12/04/9618:34	11/20/9613:00	G03L006013	G03L006010	GFK007W
LCD1W	GFK007WC	.00224	1	NA	.001	.0002	12/04/9618:37	11/20/9613:00	G03L006014	G03L006010	GFK007W

PQL: Practical Quantitation Limit
* DATE COLLECTED : 11/18/96
AFCEE Ver. 1.1

RECEIVED
DEC 24 1996
JE • Denver

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

VOLATILES

SDG#: 96K097

DECEMBER 19, 1996

CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP

PROJECT: CARSWELL AFB / 05G47900

SDG: 96K097

SW 5030A/8240B
VOLATILES

Eighteen (18) soil and three (3) water samples were received on 11/19/96 to be analyzed for volatile organics by Method 8240B in accordance with USEPA SW846 (1994,9).

1. Holding Time

   Analytical holding time was met.

2. Surrogate Recovery

   Recoveries were within limits except Bromofluorobenzene and Toluene-d8 in K097-01. Sample was reanalyzed and similar results were found. Toluene-d8 in VOK2402C was 1% lower than QC limit. Since all analytes were within Qc limits, no corrective action.

3. Matrix Spike/Matrix Spike Duplicate

   All recoveries were within QC limits.

4. Laboratory Control Sample/Laboratory Control Sample Duplicate

   All recoveries and RPDs were within QC limits.

5. Method Blank

   Method blanks were free of contamination.

6. Tuning and Calibration

   Tuning and calibration were carried out at 12 hour interval. All QC requirements were met.

7. Sample Analysis

   All sample analyses met QC requirements.

12/04/1996 10:16

LAB CHRONICLE
EPA 8240

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K097
MATRIX: Soil

SAMPLE ID	CONTROL NO	%H2O	PREPARATION BATCH/DATE/TIME	ANALYTICAL BATCH/DATE/TIME	CALIB REF	FILE ID
CR-A153601	K097-01	14.9	Vok 2302 11/27/96	18.47	KP 434	KP 439
CR-A153603	K097-03	11.2		19.17		KP 440
CR-A153701	K097-05	10.5		19.45		KP 441
CR-A153703	K097-07	14.5		20.15		KP 442
CR-A153705	K097-09	15.5		20.48		KP 443
CR-A153707	K097-11	12.2		21.12		KP 444
CR-A153801	K097-13	12.7	Vok 2502 11/29/96	14.49	KP 487	KP 493
CR-A153803	K097-15	15.7	Vok 2302 11/27/96	22.08	KP 434	KP 4[illegible]
CR-A153901	K097-17	20.1	Vok 2502 11/29/96	15.17	KP 487	KP 4[illegible]
CR-A153903	K097-19	11.9	Vok 2302 11/27/96	23.05	KP 438	KP 448
CR-A154001	K097-21	14.4		23.34		KP 449
CR-A154003	K097-23	6.7		00.03		KP 450
CR-A154101	K097-29	19.8		00.30		KP 451
CR-A154103	K097-31	12.4		00.58		KP 452
CR-A154201	K097-33	21.1		01.27		KP 453
CR-A154203	K097-35	10.8		01.56		KP 454
CR-A154303	K097-37	9.4		02.23		KP 455
CR-A154403	K097-39	9.7		02.51		KP 456
CR-A153601	K097-01R	14.9	Vok2502 11/29/96	14.21	KP487	KP 492
VBLK01	Vok2302B		Vok 2302 11/27/96	16.54	KP 434	KP 435
LCS01	Vok2302L			17.23		KP 436
LCSD01	Vok2302C			17.21		KP 4[illegible]
VBLK02	Vok2502B		Vok2502 11/29/96	12.29	KP487	KP 488
LCS02	Vok2502L			12.57		KP 489
LCSD02	Vok2502C			13.25		KP 490

12/04/1996 10:16

LAB CHRONICLE
EPA 8240

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K097
MATRIX: Water

SAMPLE ID	CONTROL NO	%H2O	PREPARATION BATCH/DATE/TIME		ANALYTICAL BATCH/DATE/TIME	CALIB REF	FILE ID
CR-A154005	K097-25	NA	V0K2402	11/28/96	16.57	KP969	KP486
CR-A154008	K097-28	NA			17.25		KP481
CR-A154405	K097-41	NA			~~15.03~~ 17.52		KP482
VBLK01	V0K2402B				~~15.03~~ 15.03		KP476
VLCS01	V0K2402C				15:32		KP477
LCSD01	V0K2402C				16:00		KP478

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 18:47
Sample ID	: CR-A153601	DaTime Analyzd :	11/27/96 18:47
Lab Cnt NO.:	K097-01	Dilutn Factor :	1
Lab File ID:	RKP439	Matrix :	SOIL
Ext Btch ID:	VOK2302	% Moisture :	14.9
Calib. Ref.:	RKP434	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.88	.626
1,1,2,2-Tetrachloroethane	ND	5.88	.975
1,1,2-Trichloroethane	ND	5.88	.993
1,1-Dichloroethane	ND	5.88	.498
1,1-Dichloroethene	ND	5.88	.613
1,2,3-Trichloropropane	ND	58.8	1.79
1,2-Dichloroethane	ND	5.88	.349*
1,2-Dichloropropane	ND	5.88	1.13
2-Butanone	ND	118	2.66
2-Chloroethyl Vinyl Ether	ND	11.8	1.17
2-Hexanone	ND	58.8	1.55
4-Methyl-2-Pentanone	ND	58.8	1.83
Acetone	ND	118	5.27
Benzene	ND	5.88	.477
Bromodichloromethane	ND	5.88	.451
Bromoform	ND	5.88	.6[illegible]
Bromomethane	ND	11.8	1.[illegible]
Carbon Disulfide	ND	5.88	.578
Carbon Tetrachloride	ND	5.88	.463
Chlorobenzene	ND	5.88	.515
Chloroethane	ND	11.8	1.08
Chloroform	ND	5.88	.533
Chloromethane	ND	11.8	1.1
Cis-1,2-Dichloroethene	ND	5.88	.549
Cis-1,3-Dichloropropene	ND	5.88	.47
Dibromochloromethane	ND	5.88	.454
Ethylbenzene	ND	5.88	.635
Methylene Chloride	3.77F	5.88	2.93
m/p-Xylenes	ND	11.8	.811
o-Xylene	ND	5.88	.448
Styrene	ND	5.88	.561
Tetrachloroethylene	ND	5.88	.368
Toluene	ND	5.88	.475
Trans-1,2-Dichloroethene	ND	5.88	.448
Trans-1,3-Dichloropropene	ND	5.88	.41
Trichloroethene	ND	5.88	.552
Vinyl Acetate	ND	58.8	.96
Vinyl Chloride	ND	11.8	1.48

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	99	79-118
Bromofluorobenzene	78*	86-115
Toluene-d8	117*	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/29/96 14:21
Sample ID	: CR-A153601	DaTime Analyzd :	11/29/96 14:21
Lab Cnt NO.	: K097-01R	Dilutn Factor :	1
Lab File ID	: RKP492	Matrix :	SOIL
Ext Btch ID	: VOK2502	% Moisture :	14.9
Calib. Ref.	: RKP487	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.88	.626
1,1,2,2-Tetrachloroethane	ND	5.88	.975
1,1,2-Trichloroethane	ND	5.88	.993
1,1-Dichloroethane	ND	5.88	.498
1,1-Dichloroethene	ND	5.88	.613
1,2,3-Trichloropropane	ND	58.8	1.79
1,2-Dichloroethane	ND	5.88	.349
1,2-Dichloropropane	ND	5.88	1.13
2-Butanone	ND	118	2.66
2-Chloroethyl Vinyl Ether	ND	11.8	1.17
2-Hexanone	ND	58.8	1.55
4-Methyl-2-Pentanone	ND	58.8	1.83
Acetone	ND	118	5.27
Benzene	ND	5.88	.477
Bromodichloromethane	ND	5.88	.451
Bromoform	ND	5.88	.673
Bromomethane	ND	11.8	1.44
Carbon Disulfide	ND	5.88	.578
Carbon Tetrachloride	ND	5.88	.463
Chlorobenzene	ND	5.88	.515
Chloroethane	ND	11.8	1.08
Chloroform	ND	5.88	.533
Chloromethane	ND	11.8	1.1
Cis-1,2-Dichloroethene	ND	5.88	.549
Cis-1,3-Dichloropropene	ND	5.88	.47
Dibromochloromethane	ND	5.88	.454
Ethylbenzene	ND	5.88	.635
Methylene Chloride	ND	5.88	2.93
m/p-Xylenes	ND	11.8	.811
o-Xylene	ND	5.88	.448
Styrene	ND	5.88	.561
Tetrachloroethylene	ND	5.88	.368
Toluene	ND	5.88	.475
Trans-1,2-Dichloroethene	ND	5.88	.448
Trans-1,3-Dichloropropene	ND	5.88	.41
Trichloroethene	ND	5.88	.552
Vinyl Acetate	ND	58.8	.96
Vinyl Chloride	ND	11.8	1.48

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	97	79-118
Bromofluorobenzene	83*	86-115
Toluene-d8	116*	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 19:17
Sample ID	: CR-A153603	DaTime Analyzd :	11/27/96 19:17
Lab Cnt NO.	: K097-03	Dilutn Factor :	1
Lab File ID	: RKP440	Matrix :	SOIL
Ext Btch ID	: VOK2302	% Moisture :	11.2
Calib. Ref.	: RKP434	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.63	.6
1,1,2,2-Tetrachloroethane	ND	5.63	.935
1,1,2-Trichloroethane	ND	5.63	.952
1,1-Dichloroethane	ND	5.63	.477
1,1-Dichloroethene	ND	5.63	.588
1,2,3-Trichloropropane	ND	56.3	1.71
1,2-Dichloroethane	ND	5.63	.334
1,2-Dichloropropane	ND	5.63	1.08
2-Butanone	ND	113	2.55
2-Chloroethyl Vinyl Ether	ND	11.3	1.12
2-Hexanone	ND	56.3	1.49
4-Methyl-2-Pentanone	ND	56.3	1.76
Acetone	5.19F	113	5.05
Benzene	ND	5.63	.457
Bromodichloromethane	ND	5.63	.432
Bromoform	ND	5.63	.6[illegible]
Bromomethane	ND	11.3	1.[illegible]
Carbon Disulfide	ND	5.63	.554
Carbon Tetrachloride	ND	5.63	.444
Chlorobenzene	ND	5.63	.493
Chloroethane	ND	11.3	1.03
Chloroform	ND	5.63	.511
Chloromethane	ND	11.3	1.05
Cis-1,2-Dichloroethene	ND	5.63	.526
Cis-1,3-Dichloropropene	ND	5.63	.45
Dibromochloromethane	ND	5.63	.435
Ethylbenzene	ND	5.63	.608
Methylene Chloride	3.14F	5.63	2.8
m/p-Xylenes	ND	11.3	.777
o-Xylene	ND	5.63	.429
Styrene	ND	5.63	.537
Tetrachloroethylene	ND	5.63	.352
Toluene	ND	5.63	.455
Trans-1,2-Dichloroethene	ND	5.63	.429
Trans-1,3-Dichloropropene	ND	5.63	.393
Trichloroethene	ND	5.63	.529
Vinyl Acetate	ND	56.3	.92
Vinyl Chloride	ND	11.3	1.42

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	101	79-118
Bromofluorobenzene	98	86-115
Toluene-d8	99	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 19:45
Sample ID	: CR-A153701	DaTime Analyzd :	11/27/96 19:45
Lab Cnt NO.	: K097-05	Dilutn Factor :	1
Lab File ID	: RKP441	Matrix :	SOIL
Ext Btch ID	: VOK2302	% Moisture :	10.5
Calib. Ref.	: RKP434	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.59	.596
1,1,2,2-Tetrachloroethane	ND	5.59	.927
1,1,2-Trichloroethane	ND	5.59	.944
1,1-Dichloroethane	ND	5.59	.474
1,1-Dichloroethene	ND	5.59	.583
1,2,3-Trichloropropane	ND	55.9	1.72
1,2-Dichloroethane	ND	5.59	.332
1,2-Dichloropropane	ND	5.59	1.07
2-Butanone	ND	112	2.53
2-Chloroethyl Vinyl Ether	ND	11.2	1.11
2-Hexanone	ND	55.9	1.48
4-Methyl-2-Pentanone	ND	55.9	1.74
Acetone	ND	112	5.01
Benzene	ND	5.59	.454
Bromodichloromethane	ND	5.59	.429
Bromoform	ND	5.59	.64
Bromomethane	ND	11.2	1.37
Carbon Disulfide	ND	5.59	.55
Carbon Tetrachloride	ND	5.59	.44
Chlorobenzene	ND	5.59	.489
Chloroethane	ND	11.2	1.03
Chloroform	ND	5.59	.507
Chloromethane	ND	11.2	1.04
Cis-1,2-Dichloroethene	ND	5.59	.522
Cis-1,3-Dichloropropene	ND	5.59	.447
Dibromochloromethane	ND	5.59	.431
Ethylbenzene	ND	5.59	.603
Methylene Chloride	3.21F	5.59	2.78
m/p-Xylenes	ND	11.2	.771
o-Xylene	ND	5.59	.426
Styrene	ND	5.59	.533
Tetrachloroethylene	ND	5.59	.35
Toluene	ND	5.59	.451
Trans-1,2-Dichloroethene	ND	5.59	.426
Trans-1,3-Dichloropropene	ND	5.59	.39
Trichloroethene	ND	5.59	.525
Vinyl Acetate	ND	55.9	.913
Vinyl Chloride	ND	11.2	1.41

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	101	79-118
Bromofluorobenzene	103	86-115
Toluene-d8	105	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 20:15
Sample ID	: CR-A153703	DaTime Analyzd :	11/27/96 20:15
Lab Cnt NO.	: K097-07	Dilutn Factor :	1
Lab File ID	: RKP442	Matrix :	SOIL
Ext Btch ID	: VOK2302	% Moisture :	14.5
Calib. Ref.	: RKP434	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.85	.623
1,1,2,2-Tetrachloroethane	ND	5.85	.971
1,1,2-Trichloroethane	ND	5.85	.988
1,1-Dichloroethane	ND	5.85	.496
1,1-Dichloroethene	ND	5.85	.611
1,2,3-Trichloropropane	ND	58.5	1.78
1,2-Dichloroethane	ND	5.85	.347
1,2-Dichloropropane	ND	5.85	1.12
2-Butanone	ND	117	2.65
2-Chloroethyl Vinyl Ether	ND	11.7	1.16
2-Hexanone	ND	58.5	1.55
4-Methyl-2-Pentanone	ND	58.5	1.83
Acetone	ND	117	5.24
Benzene	ND	5.85	.475
Bromodichloromethane	ND	5.85	.449
Bromoform	ND	5.85	[illegible]
Bromomethane	ND	11.7	1.[illegible]
Carbon Disulfide	ND	5.85	.575
Carbon Tetrachloride	ND	5.85	.461
Chlorobenzene	ND	5.85	.512
Chloroethane	ND	11.7	1.07
Chloroform	ND	5.85	.531
Chloromethane	ND	11.7	1.09
Cis-1,2-Dichloroethene	ND	5.85	.546
Cis-1,3-Dichloropropene	ND	5.85	.468
Dibromochloromethane	ND	5.85	.451
Ethylbenzene	ND	5.85	.632
Methylene Chloride	3.28F	5.85	2.91
m/p-Xylenes	ND	11.7	.807
o-Xylene	ND	5.85	.446
Styrene	ND	5.85	.558
Tetrachloroethylene	ND	5.85	.366
Toluene	ND	5.85	.473
Trans-1,2-Dichloroethene	ND	5.85	.446
Trans-1,3-Dichloropropene	ND	5.85	.408
Trichloroethene	ND	5.85	.55
Vinyl Acetate	ND	58.5	.956
Vinyl Chloride	ND	11.7	1.48

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	100	79-118
Bromofluorobenzene	96	86-115
Toluene-d8	98	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 20:43
Sample ID	: CR-A153705	DaTime Analyzd :	11/27/96 20:43
Lab Cnt NO.	: K097-09	Dilutn Factor :	1
Lab File ID	: RKP443	Matrix :	SOIL
Ext Btch ID	: VOK2302	% Moisture :	15.5
Calib. Ref.	: RKP434	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.92	.631
1,1,2,2-Tetrachloroethane	ND	5.92	.982
1,1,2-Trichloroethane	ND	5.92	1
1,1-Dichloroethane	ND	5.92	.502
1,1-Dichloroethene	ND	5.92	.618
1,2,3-Trichloropropane	ND	59.2	1.8
1,2-Dichloroethane	ND	5.92	.351
1,2-Dichloropropane	ND	5.92	1.14
2-Butanone	ND	118	2.68
2-Chloroethyl Vinyl Ether	ND	11.8	1.18
2-Hexanone	ND	59.2	1.56
4-Methyl-2-Pentanone	ND	59.2	1.85
Acetone	ND	118	5.31
Benzene	ND	5.92	.48
Bromodichloromethane	ND	5.92	.454
Bromoform	ND	5.92	.678
Bromomethane	ND	11.8	1.45
Carbon Disulfide	ND	5.92	.582
Carbon Tetrachloride	ND	5.92	.466
Chlorobenzene	ND	5.92	.518
Chloroethane	ND	11.8	1.09
Chloroform	ND	5.92	.537
Chloromethane	ND	11.8	1.1
Cis-1,2-Dichloroethene	ND	5.92	.553
Cis-1,3-Dichloropropene	ND	5.92	.473
Dibromochloromethane	ND	5.92	.457
Ethylbenzene	ND	5.92	.639
Methylene Chloride	3.23F	5.92	2.95
m/p-Xylenes	ND	11.8	.817
o-Xylene	ND	5.92	.451
Styrene	ND	5.92	.564
Tetrachloroethylene	ND	5.92	.37
Toluene	ND	5.92	.478
Trans-1,2-Dichloroethene	ND	5.92	.451
Trans-1,3-Dichloropropene	ND	5.92	.413
Trichloroethene	ND	5.92	.556
Vinyl Acetate	ND	59.2	.967
Vinyl Chloride	ND	11.8	1.49

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	99	79-118
Bromofluorobenzene	95	86-115
Toluene-d8	102	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 21:12
Sample ID	: CR-A153707	DaTime Analyzd :	11/27/96 21:12
Lab Cnt NO.:	K097-11	Dilutn Factor :	1
Lab File ID:	RKP444	Matrix :	SOIL
Ext Btch ID:	VOK2302	% Moisture :	12.2
Calib. Ref.:	RKP434	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.69	.607
1,1,2,2-Tetrachloroethane	ND	5.69	.945
1,1,2-Trichloroethane	ND	5.69	.962
1,1-Dichloroethane	ND	5.69	.483
1,1-Dichloroethene	ND	5.69	.595
1,2,3-Trichloropropane	ND	56.9	1.73
1,2-Dichloroethane	ND	5.69	.338
1,2-Dichloropropane	ND	5.69	1.09
2-Butanone	ND	114	2.58
2-Chloroethyl Vinyl Ether	ND	11.4	1.13
2-Hexanone	ND	56.9	1.51
4-Methyl-2-Pentanone	ND	56.9	1.78
Acetone	ND	114	5.11
Benzene	ND	5.69	.462
Bromodichloromethane	ND	5.69	.437
Bromoform	ND	5.69	.6[illegible]
Bromomethane	ND	11.4	1[illegible]
Carbon Disulfide	ND	5.69	.56
Carbon Tetrachloride	ND	5.69	.449
Chlorobenzene	ND	5.69	.499
Chloroethane	ND	11.4	1.05
Chloroform	ND	5.69	.517
Chloromethane	ND	11.4	1.06
Cis-1,2-Dichloroethene	ND	5.69	.532
Cis-1,3-Dichloropropene	ND	5.69	.456
Dibromochloromethane	ND	5.69	.44
Ethylbenzene	ND	5.69	.615
Methylene Chloride	3.55F	5.69	2.84
m/p-Xylenes	ND	11.4	.786
o-Xylene	ND	5.69	.434
Styrene	ND	5.69	.543
Tetrachloroethylene	ND	5.69	.356
Toluene	ND	5.69	.46
Trans-1,2-Dichloroethene	ND	5.69	.434
Trans-1,3-Dichloropropene	ND	5.69	.397
Trichloroethene	ND	5.69	.535
Vinyl Acetate	ND	56.9	.931
Vinyl Chloride	ND	11.4	1.44

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	100	79-118
Bromofluorobenzene	98	86-115
Toluene-d8	98	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/29/96 14:49
Sample ID	: CR-A153801	DaTime Analyzd :	11/29/96 14:49
Lab Cnt NO.	: K097-13	Dilutn Factor :	1
Lab File ID	: RKP493	Matrix :	SOIL
Ext Btch ID	: VOK2502	% Moisture :	12.7
Calib. Ref.	: RKP487	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.73	.611
1,1,2,2-Tetrachloroethane	ND	5.73	.951
1,1,2-Trichloroethane	ND	5.73	.968
1,1-Dichloroethane	ND	5.73	.486
1,1-Dichloroethene	ND	5.73	.598
1,2,3-Trichloropropane	ND	57.3	1.74
1,2-Dichloroethane	ND	5.73	.34
1,2-Dichloropropane	ND	5.73	1.1
2-Butanone	ND	115	2.59
2-Chloroethyl Vinyl Ether	ND	11.5	1.14
2-Hexanone	ND	57.3	1.51
4-Methyl-2-Pentanone	ND	57.3	1.79
Acetone	ND	115	5.14
Benzene	ND	5.73	.465
Bromodichloromethane	ND	5.73	.44
Bromoform	ND	5.73	.656
Bromomethane	ND	11.5	1.41
Carbon Disulfide	ND	5.73	.564
Carbon Tetrachloride	ND	5.73	.451
Chlorobenzene	ND	5.73	.502
Chloroethane	ND	11.5	1.05
Chloroform	ND	5.73	.52
Chloromethane	ND	11.5	1.07
Cis-1,2-Dichloroethene	ND	5.73	.535
Cis-1,3-Dichloropropene	ND	5.73	.458
Dibromochloromethane	ND	5.73	.442
Ethylbenzene	ND	5.73	.619
Methylene Chloride	ND	5.73	2.85
m/p-Xylenes	ND	11.5	.79
o-Xylene	ND	5.73	.436
Styrene	ND	5.73	.546
Tetrachloroethylene	ND	5.73	.359
Toluene	ND	5.73	.463
Trans-1,2-Dichloroethene	ND	5.73	.436
Trans-1,3-Dichloropropene	ND	5.73	.4
Trichloroethene	ND	5.73	.538
Vinyl Acetate	ND	57.3	.936
Vinyl Chloride	ND	11.5	1.45

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	102	79-118
Bromofluorobenzene	91	86-115
Toluene-d8	110	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96

SW 5030A/8240B
VOLATILE ORGANICS BY GC/MS

Client	: JACOBS ENGINEERING GROUP	DaTime Collcted:	11/16/96
Project	: CARSWELL AFB / 05G47900	DaTime Received:	11/19/96
Batch No.	: 96K097	DaTime Extrctd :	11/27/96 22:08
Sample ID	: CR-A153803	DaTime Analyzd :	11/27/96 22:08
Lab Cnt NO.:	K097-15	Dilutn Factor :	1
Lab File ID:	RKP446	Matrix :	SOIL
Ext Btch ID:	VOK2302	% Moisture :	15.7
Calib. Ref.:	RKP434	Instrument ID :	MSVOA2

PARAMETERS	RESULTS (ug/kg)	PQL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane	ND	5.93	.632
1,1,2,2-Tetrachloroethane	ND	5.93	.985
1,1,2-Trichloroethane	ND	5.93	1
1,1-Dichloroethane	ND	5.93	.503
1,1-Dichloroethene	ND	5.93	.619
1,2,3-Trichloropropane	ND	59.3	1.81
1,2-Dichloroethane	ND	5.93	.352
1,2-Dichloropropane	ND	5.93	1.14
2-Butanone	ND	119	2.68
2-Chloroethyl Vinyl Ether	ND	11.9	1.18
2-Hexanone	ND	59.3	1.57
4-Methyl-2-Pentanone	ND	59.3	1.85
Acetone	ND	119	5.32
Benzene	ND	5.93	.482
Bromodichloromethane	ND	5.93	.456
Bromoform	ND	5.93	[illegible]
Bromomethane	ND	11.9	1.[illegible]
Carbon Disulfide	ND	5.93	.584
Carbon Tetrachloride	ND	5.93	.467
Chlorobenzene	ND	5.93	.52
Chloroethane	ND	11.9	1.09
Chloroform	ND	5.93	.539
Chloromethane	ND	11.9	1.11
Cis-1,2-Dichloroethene	ND	5.93	.554
Cis-1,3-Dichloropropene	ND	5.93	.474
Dibromochloromethane	ND	5.93	.458
Ethylbenzene	ND	5.93	.641
Methylene Chloride	ND	5.93	2.95
m/p-Xylenes	ND	11.9	.819
o-Xylene	ND	5.93	.452
Styrene	ND	5.93	.566
Tetrachloroethylene	ND	5.93	.371
Toluene	ND	5.93	.479
Trans-1,2-Dichloroethene	ND	5.93	.452
Trans-1,3-Dichloropropene	ND	5.93	.414
Trichloroethene	ND	5.93	.558
Vinyl Acetate	ND	59.3	.969
Vinyl Chloride	ND	11.9	1.5

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	100	79-118
Bromofluorobenzene	105	86-115
Toluene-d8	98	88-110

PQL: Practical Quantitation Limit
JACWHTG/JACWHTS: Revision 0, 18-NOV-96