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NAS FORT WORTH
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# FINAL BASEWIDE BACKGROUND STUDY VOLUME 2 PART 1 APPENDICES A THROUGH G NAS FORT WORTH TX

1/1/1998

JACOBS ENGINEERING

File: 17G
A.F.

# NAVAL AIR STATION
# FORT WORTH JRB
# CARSWELL FIELD
# TEXAS

# ADMINISTRATIVE RECORD
# COVER SHEET

**AR File Number** 410

410 1

File: 171-76
A.F. 410

# United States Air Force
# Air Force Base
# Conversion Agency

FINAL

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

BASEWIDE BACKGROUND STUDY
VOLUME II
APPENDICES A THROUGH G

JANUARY 1998

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# APPENDIX A

## Preliminary Analytical Results

## Naval Air Station, Fort Worth Background Study Report
## January 1998

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

| CONTROL NO | LOCATION | SAMPLE ID | BATCH | METHOD(S) | FIELD QC |
|---|---|---|---|---|---|
| CR-A151901 | BJETA501 | BJETA501-A | 96K042 | SW8240 | |
| CR-A151902 | BJETA501 | BJETA501-A | 96K042 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A151903 | BJETA501 | BJETA501-B | 96K042 | SW8240 | |
| CR-A151904 | BJETA501 | BJETA501-B | 96K042 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A152001 | BJETA502 | BJETA502-A | 96K042 | SW8240 | |
| CR-A152002 | BJETA502 | BJETA502-A | 96K042 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A152003 | BJETA502 | BJETA502-B | 96K042 | SW8240 | |
| CR-A152004 | BJETA502 | BJETA502-B | 96K042 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A152101 | BJETA503 | BJETA503-A | 96K042 | SW8240 | |
| CR-A152102 | BJETA503 | BJETA503-A | 96K042 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A152103 | BJETA503 | BJETA503-B | 96K042 | SW8240 | |
| CR-A152104 | BJETA503 | BJETA503-B | 96K042 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A152201 | BJETA504 | BJETA504-A | 96K042 | SW8240 | |
| CR-A152202 | BJETA504 | BJETA504-A | 96K042 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A152203 | BJETA504 | BJETA504-B | 96K042 | SW8240 | |
| CR-A152204 | BJETA504 | BJETA504-B | 96K042 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A152301 | BJETA505 | BJETA505-A | 96K042 | SW8240 | |
| CR-A152302 | BJETA505 | BJETA505-A | 96K042 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A152303 | BJETA505 | BJETA505-B | 96K042 | SW8240 | |
| CR-A152304 | BJETA505 | BJETA505-B | 96K042 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A152305 | FIELDQC | EB961108 | 96K042 | SW8240 | Equipment Blank |
| CR-A152306 | FIELDQC | EB961108 | 96K042 | SW8270 | Equipment Blank |
| CR-A152307 | FIELDQC | EB961108 | 96K042 | SW6010, 7041, 7470, 7520, 7740, 7761 | Equipment Blank |
| CR-A152308 | FIELDQC | TB961108 | 96K042 | SW8240 | Trip Blank |
| CR-A152401 | BJETA506 | BJETA506-A | 96K042 | SW8240 | |
| CR-A152402 | BJETA506 | BJETA506-A | 96K042 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A152403 | BJETA506 | BJETA506-B | 96K042 | SW8240 | |
| CR-A152404 | BJETA506 | BJETA506-B | 96K042 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A152501 | BJETA507 | BJETA507-A | 96K047 | SW8240 | |
| CR-A152502 | BJETA507 | BJETA507-A | 96K047 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A152503 | BJETA507 | BJETA507-B | 96K047 | SW8240 | |
| CR-A152504 | BJETA507 | BJETA507-B | 96K047 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A152601 | BJETA508 | BJETA508-A | 96K047 | SW8240 | |
| CR-A152602 | BJETA508 | BJETA508-A | 96K047 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A152604 | FIELDQC | EB961109 | 96K047 | SW8240 | Equipment Blank |
| CR-A152605 | FIELDQC | EB961109 | 96K047 | SW8270 | Equipment Blank |
| CR-A152607 | FIELDQC | EB961109 | 96K047 | SW6010, 7041, 7470, 7520, 7740, 7761 | Equipment Blank |
| CR-A152701 | BJETA509 | BJETA509-A | 96K047 | SW8240 | |
| CR-A152702 | BJETA509 | BJETA509-A | 96K047 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A152703 | BJETA509 | BJETA509-B | 96K047 | SW8240 | |
| CR-A152704 | BJETA509 | BJETA509-B | 96K047 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A152801 | BJETA510 | BJETA510-A | 96K047 | SW8240 | |
| CR-A152802 | BJETA510 | BJETA510-A | 96K047 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A152803 | BJETA510 | BJETA510-B | 96K047 | SW8240 | |
| CR-A152804 | BJETA510 | BJETA510-B | 96K047 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A152805 | BJETA510 | BJETA510-AFD | 96K047 | SW8240 | Field Duplicate |
| CR-A152806 | BJETA510 | BJETA510-AFD | 96K047 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | Field Duplicate |
| CR-A152807 | FIELDQC | TB961111 | 96K047 | SW8240 | Trip Blank |
| CR-A152901 | BJETA511 | BJETA511-A | 96K047 | SW8240 | |
| CR-A152902 | BJETA511 | BJETA511-A | 96K047 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A152903 | BJETA511 | BJETA511-B | 96K047 | SW8240 | |
| CR-A152904 | BJETA511 | BJETA511-B | 96K047 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A152905 | BJETA511 | BJETA511-AFD | 96K047 | SW8240 | Field Duplicate |
| CR-A152906 | BJETA511 | BJETA511-AFD | 96K047 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | Field Duplicate |
| CR-A152907 | BJETA511 | BJETA511-BFD | 96K047 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | Field Duplicate |
| CR-A152908 | BJETA511 | BJETA511-BFD | 96K047 | SW8240 | Field Duplicate |
| CR-A153001 | BJETA512 | BJETA512-A | 96K047 | SW8240 | |
| CR-A153002 | BJETA512 | BJETA512-A | 96K047 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A153003 | BJETA512 | BJETA512-B | 96K047 | SW8240 | |

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

| CONTROL NO | LOCATION | SAMPLE ID | BATCH | METHOD(S) | FIELD QC |
|---|---|---|---|---|---|
| CR-A153004 | BJETA512 | BJETA512-B | 96K047 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A153006 | BJETA512 | BJETA512-AFD | 96K047 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | Field Duplicate |
| CR-A153007 | BJETA512 | BJETA512-AFD | 96K047 | SW8240 | Field Duplicate |
| CR-A153008 | BJETA512 | BJETA512-BFD | 96K047 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | Field Duplicate |
| CR-A153009 | BJETA512 | BJETA512-BFD | 96K047 | SW8240 | Field Duplicate |
| CR-A153103 | BJETA513 | BJETA513-B | 96K047 | SW8240 | |
| CR-A153104 | BJETA513 | BJETA513-B | 96K047 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A153201 | BJETA514 | BJETA514-A | 96K047 | SW8240 | |
| CR-A153202 | BJETA514 | BJETA514-A | 96K047 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A153203 | BJETA514 | BJETA514-B | 96K047 | SW8240 | |
| CR-A153204 | BJETA514 | BJETA514-B | 96K047 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A153205 | FIELDQC | EB961110 | 96K047 | SW8240 | Equipment Blank |
| CR-A153206 | FIELDQC | EB961110 | 96K047 | SW8270 | Equipment Blank |
| CR-A153207 | FIELDQC | EB961110 | 96K047 | SW6010, 7041, 7470, 7520, 7740, 7761 | Equipment Blank |
| CR-A153303 | BJETA515 | BJETA515-B | 96K088 | SW8240 | |
| CR-A153304 | BJETA515 | BJETA515-B | 96K088 | SW6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A153401 | BJETA516 | BJETA516-A | 96K088 | SW8240 | |
| CR-A153402 | BJETA516 | BJETA516-A | 96K088 | SW6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A153501 | BJETA517 | BJETA517-A | 96K088 | SW8240 | |
| CR-A153502 | BJETA517 | BJETA517-A | 96K088 | SW6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A153503 | BJETA517 | BJETA517-B | 96K088 | SW8240 | |
| CR-A153504 | BJETA517 | BJETA517-B | 96K088 | SW6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A153505 | FIELDQC | EB961115 | 96K088 | SW8240 | Equipment Blank |
| CR-A153506 | FIELDQC | EB961115 | 96K088 | SW8270 | Equipment Blank |
| CR-A153507 | FIELDQC | EB961115 | 96K088 | SW6010, 7041, 7470, 7520, 7740, 7761 | Equipment Blank |
| CR-A153508 | FIELDQC | TB961115 | 96K088 | SW8240 | Trip Blank |
| CR-A153601 | BJETA518 | BJETA518-A | 96K097 | SW8240 | |
| CR-A153602 | BJETA518 | BJETA518-A | 96K097 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A153603 | BJETA518 | BJETA518-B | 96K097 | SW8240 | |
| CR-A153604 | BJETA518 | BJETA518-B | 96K097 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A153701 | BJETA519 | BJETA519-A | 96K097 | SW8240 | |
| CR-A153702 | BJETA519 | BJETA519-A | 96K097 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A153703 | BJETA519 | BJETA519-B | 96K097 | SW8240 | |
| CR-A153704 | BJETA519 | BJETA519-B | 96K097 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A153705 | BJETA519 | BJETA519-AFD | 96K097 | SW8240 | Field Duplicate |
| CR-A153706 | BJETA519 | BJETA519-AFD | 96K097 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | Field Duplicate |
| CR-A153707 | BJETA519 | BJETA519-BFD | 96K097 | SW8240 | Field Duplicate |
| CR-A153708 | BJETA519 | BJETA519-BFD | 96K097 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | Field Duplicate |
| CR-A153801 | BJETA520 | BJETA520-A | 96K097 | SW8240 | |
| CR-A153802 | BJETA520 | BJETA520-A | 96K097 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A153803 | BJETA520 | BJETA520-B | 96K097 | SW8240 | |
| CR-A153804 | BJETA520 | BJETA520-B | 96K097 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A153901 | BJETA521 | BJETA521-A | 96K097 | SW8240 | |
| CR-A153902 | BJETA521 | BJETA521-A | 96K097 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A153903 | BJETA521 | BJETA521-B | 96K097 | SW8240 | |
| CR-A153904 | BJETA521 | BJETA521-B | 96K097 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A154001 | BJETA522 | BJETA522-A | 96K097 | SW8240 | |
| CR-A154002 | BJETA522 | BJETA522-A | 96K097 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A154003 | BJETA522 | BJETA522-B | 96K097 | SW8240 | |
| CR-A154004 | BJETA522 | BJETA522-B | 96K097 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A154005 | FIELDQC | EB961116 | 96K097 | SW8240 | Equipment Blank |
| CR-A154006 | FIELDQC | EB961116 | 96K097 | SW8270 | Equipment Blank |
| CR-A154007 | FIELDQC | EB961116 | 96K097 | SW6010, 7041, 7470, 7520, 7740, 7761 | Equipment Blank |
| CR-A154008 | FIELDQC | TB961116 | 96K097 | SW8240 | Trip Blank |
| CR-A154101 | BJETA523 | BJETA523-A | 96K097 | SW8240 | |
| CR-A154102 | BJETA523 | BJETA523-A | 96K097 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A154103 | BJETA523 | BJETA523-B | 96K097 | SW8240 | |
| CR-A154104 | BJETA523 | BJETA523-B | 96K097 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A154201 | BJETA524 | BJETA524-A | 96K097 | SW8240 | |

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

| CONTROL NO | LOCATION | SAMPLE ID | BATCH | METHOD(S) | FIELD QC |
|---|---|---|---|---|---|
| CR-A154202 | BJETA524 | BJETA524-A | 96K097 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A154203 | BJETA524 | BJETA524-B | 96K097 | SW8240 | |
| CR-A154204 | BJETA524 | BJETA524-B | 96K097 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A154303 | BJETA525 | BJETA525-B | 96K097 | SW8240 | |
| CR-A154304 | BJETA525 | BJETA525-B | 96K097 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A154403 | BJETA526 | BJETA526-B | 96K097 | SW8240 | |
| CR-A154404 | BJETA526 | BJETA526-B | 96K097 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A154405 | FIELDQC | EB961118 | 96K097 | SW8240 | Equipment Blank |
| CR-A154406 | FIELDQC | EB961118 | 96K097 | SW8270 | Equipment Blank |
| CR-A154407 | FIELDQC | EB961118 | 96K097 | SW6010, 7041, 7470, 7520, 7740, 7761 | Equipment Blank |
| CR-A154501 | BJETA527 | BJETA527-A | 96L039 | SW8240 | |
| CR-A154502 | BJETA527 | BJETA527-A | 96L039 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A154503 | BJETA527 | BJETA527-B | 96L039 | SW8240 | |
| CR-A154504 | BJETA527 | BJETA527-B | 96L039 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A154601 | BJETA528 | BJETA528-A | 96L039 | SW8240 | |
| CR-A154602 | BJETA528 | BJETA528-A | 96L039 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A154603 | BJETA528 | BJETA528-B | 96L039 | SW8240 | |
| CR-A154604 | BJETA528 | BJETA528-B | 96L039 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A154703 | BJETA529 | BJETA529-B | 96L039 | SW8240 | |
| CR-A154704 | BJETA529 | BJETA529-B | 96L039 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A154801 | BJETA530 | BJETA530-A | 96L039 | SW8240 | |
| CR-A154802 | BJETA530 | BJETA530-A | 96L039 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A154803 | BJETA530 | BJETA530-B | 96L039 | SW8240 | |
| CR-A154804 | BJETA530 | BJETA530-B | 96L039 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A154901 | BJETA531 | BJETA531-A | 96L039 | SW8240 | |
| CR-A154902 | BJETA531 | BJETA531-A | 96L039 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A154903 | BJETA531 | BJETA531-B | 96L039 | SW8240 | |
| CR-A154904 | BJETA531 | BJETA531-B | 96L039 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A156201 | BJETA532 | BJETA532-A | 96L039 | SW8240 | |
| CR-A156202 | BJETA532 | BJETA532-A | 96L039 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A156203 | BJETA532 | BJETA532-B | 96L039 | SW8240 | |
| CR-A156204 | BJETA532 | BJETA532-B | 96L039 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A156205 | FIELDQC | EB961210 | 96L039 | SW8240 | Equipment Blank |
| CR-A156206 | FIELDQC | EB961210 | 96L039 | SW8270 | Equipment Blank |
| CR-A156207 | FIELDQC | EB961210 | 96L039 | SW6010, 7041, 7470, 7520, 7740, 7761 | Equipment Blank |
| CR-A156301 | BJETA533 | BJETA533-A | 96L039 | SW8240 | |
| CR-A156302 | BJETA533 | BJETA533-A | 96L039 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A156401 | BJETA534 | BJETA534-A | 96L039 | SW8240 | |
| CR-A156402 | BJETA534 | BJETA534-A | 96L039 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A156501 | BJETA535 | BJETA535-A | 96L039 | SW8240 | |
| CR-A156502 | BJETA535 | BJETA535-A | 96L039 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A159201 | JEFB001 | JEFB001-SW | 96K120 | SW8240 | |
| CR-A159202 | JEFB001 | JEFB001-SW | 96K120 | SW8270 | |
| CR-A159203 | JEFB001 | JEFB001-SW | 96K120 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A159204 | JEFB001 | JEFB001-SE | 96K120 | SW8240 | |
| CR-A159205 | JEFB001 | JEFB001-SE | 96K120 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A159301 | JEFB002 | JEFB002-SW | 96K120 | SW8240 | |
| CR-A159302 | JEFB002 | JEFB002-SW | 96K120 | SW8270 | |
| CR-A159303 | JEFB002 | JEFB002-SW | 96K120 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A159304 | JEFB002 | JEFB002-SE | 96K120 | SW8240 | |
| CR-A159305 | JEFB002 | JEFB002-SE | 96K120 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A159401 | JEFB003 | JEFB003-SW | 96K120 | SW8240 | |
| CR-A159402 | JEFB003 | JEFB003-SW | 96K120 | SW8270 | |
| CR-A159403 | JEFB003 | JEFB003-SW | 96K120 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A159404 | JEFB003 | JEFB003-SE | 96K120 | SW8240 | |
| CR-A159405 | JEFB003 | JEFB003-SE | 96K120 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A159406 | JEFB003 | JEFB003-SWFD | 96K120 | SW8240 | Field Duplicate |
| CR-A159407 | JEFB003 | JEFB003-SWFD | 96K120 | SW8270 | Field Duplicate |
| CR-A159408 | JEFB003 | JEFB003-SWFD | 96K120 | SW6010, 7041, 7470, 7520, 7740, 7761 | Field Duplicate |

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

| CONTROL NO | LOCATION | SAMPLE ID | BATCH | METHOD(S) | FIELD QC |
|---|---|---|---|---|---|
| CR-A159501 | JEFB004 | JEFB004-SW | 96K120 | SW8240 | |
| CR-A159502 | JEFB004 | JEFB004-SW | 96K120 | SW8270 | |
| CR-A159503 | JEFB004 | JEFB004-SW | 96K120 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A159504 | JEFB004 | JEFB004-SE | 96K120 | SW8240 | |
| CR-A159505 | JEFB004 | JEFB004-SE | 96K120 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A159506 | JEFB003 | JEFB003-SEFD | 96K120 | SW8240 | Field Duplicate |
| CR-A159507 | JEFB003 | JEFB003-SEFD | 96K120 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | Field Duplicate |
| CR-A159601 | JEFB005 | JEFB005-SW | 96K120 | SW8240 | |
| CR-A159602 | JEFB005 | JEFB005-SW | 96K120 | SW8270 | |
| CR-A159603 | JEFB005 | JEFB005-SW | 96K120 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A159604 | JEFB005 | JEFB005-SE | 96K120 | SW8240 | |
| CR-A159605 | JEFB005 | JEFB005-SE | 96K120 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A159701 | JEFB006 | JEFB006-SW | 96K120 | SW8240 | |
| CR-A159702 | JEFB006 | JEFB006-SW | 96K120 | SW8270 | |
| CR-A159703 | JEFB006 | JEFB006-SW | 96K120 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A159704 | JEFB006 | JEFB006-SE | 96K120 | SW8240 | |
| CR-A159705 | JEFB006 | JEFB006-SE | 96K120 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A159801 | JEFB007 | JEFB007-SW | 96K120 | SW8240 | |
| CR-A159802 | JEFB007 | JEFB007-SW | 96K120 | SW8270 | |
| CR-A159803 | JEFB007 | JEFB007-SW | 96K120 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A159804 | JEFB007 | JEFB007-SE | 96K120 | SW8240 | |
| CR-A159805 | JEFB007 | JEFB007-SE | 96K120 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A159901 | JEFB008 | JEFB008-SW | 96K120 | SW8240 | |
| CR-A159902 | JEFB008 | JEFB008-SW | 96K120 | SW8270 | |
| CR-A159903 | JEFB008 | JEFB008-SW | 96K120 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A159904 | JEFB008 | JEFB008-SE | 96K120 | SW8240 | |
| CR-A159905 | JEFB008 | JEFB008-SE | 96K120 | SW8270, 6010, 7041, 7471, 7520, 7740, 7761 | |
| CR-A159906 | FIELDQC | EB112096 | 96K120 | SW8240 | Equipment Blank |
| CR-A159908 | FIELDQC | EB112096 | 96K120 | SW6010, 7041, 7470, 7520, 7740, 7761 | Equipment Blank |
| CR-A159909 | FIELDQC | TB112196 | 96K120 | SW8240 | Trip Blank |
| CR-A160001 | WJETA530 | WJETA530-01 | 96L051 | SW8240 | |
| CR-A160002 | WJETA530 | WJETA530-01 | 96L051 | SW8270 | |
| CR-A160003 | WJETA530 | WJETA530-01 | 96L051 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A160004 | WJETA530 | WJETA530-01M | 96L051 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A160005 | FIELDQC | TB961214 | 96L051 | SW8240 | Trip Blank |
| CR-A160101 | WJETA531 | WJETA531 | 96L032 | SW8240 | |
| CR-A160102 | WJETA531 | WJETA531 | 96L032 | SW8270 | |
| CR-A160103 | WJETA531 | WJETA531 | 96L032 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A160104 | WJETA531 | WJETA531-M | 96L032 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A160105 | WJETA531 | WJETA531-01D | 96L032 | SW8240 | Field Duplicate |
| CR-A160106 | WJETA531 | WJETA531-01D | 96L032 | SW8270 | Field Duplicate |
| CR-A160107 | WJETA531 | WJETA531-01D | 96L032 | SW6010, 7041, 7470, 7520, 7740, 7761 | Field Duplicate |
| CR-A160108 | WJETA531 | WJETA531-01MD | 96L032 | SW6010, 7041, 7470, 7520, 7740, 7761 | Field Duplicate |
| CR-A160201 | WJETA534 | WJETA534-01 | 96L051 | SW8240 | |
| CR-A160202 | WJETA534 | WJETA534-01 | 96L051 | SW8270 | |
| CR-A160203 | WJETA534 | WJETA534-01 | 96L051 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A160204 | WJETA534 | WJETA534-01M | 96L051 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A160205 | FIELDQC | EB961214 | 96L051 | SW8240 | Equipment Blank |
| CR-A160206 | FIELDQC | EB961214 | 96L051 | SW8270 | Equipment Blank |
| CR-A160207 | FIELDQC | EB961214 | 96L051 | SW6010, 7041, 7470, 7520, 7740, 7761 | Equipment Blank |
| CR-A160301 | WJETA535 | WJETA535-01 | 96L051 | SW8240 | |
| CR-A160302 | WJETA535 | WJETA535-01 | 96L051 | SW8270 | |
| CR-A160303 | WJETA535 | WJETA535-01 | 96L051 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A160304 | WJETA535 | WJETA535-01M | 96L051 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A160305 | FIELDQC | AB961214 | 96L051 | SW8240 | Ambient Blank |
| CR-A160401 | USGS01T | USGS01T | 96L032 | SW8240 | |
| CR-A160402 | USGS01T | USGS01T | 96L032 | SW8270 | |
| CR-A160403 | USGS01T | USGS01T | 96L032 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A160404 | USGS01T | USGS01T-M | 96L032 | 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 | BATCH | METHOD(S) | FIELD QC |
|---|---|---|---|---|---|
| CR-A160501 | USGS02T | USGS02T | 96L032 | SW8240 | |
| CR-A160502 | USGS02T | USGS02T | 96L032 | SW8270 | |
| CR-A160503 | USGS02T | USGS02T | 96L032 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A160504 | USGS02T | USGS02T-M | 96L032 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A160505 | FIELDQC | EB961209 | 96L032 | SW8240 | Equipment Blank |
| CR-A160506 | FIELDQC | EB961209 | 96L032 | SW8270 | Equipment Blank |
| CR-A160507 | FIELDQC | EB961209 | 96L032 | SW6010, 7041, 7470, 7520, 7740, 7761 | Equipment Blank |
| CR-A160508 | FIELDQC | TB961209 | 96L032 | SW8240 | Trip Blank |
| CR-A160601 | HM-120 | HM120-01 | 96L032 | SW8240 | |
| CR-A160602 | HM-120 | HM120-01 | 96L032 | SW8270 | |
| CR-A160603 | HM-120 | HM120-01 | 96L032 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A160604 | HM-120 | HM120-01M | 96L032 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A160701 | HM-127 | HM127-01 | 96L051 | SW8240 | |
| CR-A160702 | HM-127 | HM127-01 | 96L051 | SW8270 | |
| CR-A160703 | HM-127 | HM127-01 | 96L051 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A160704 | HM-127 | HM127-01M | 96L051 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A160705 | HM-127 | HM127-01FD | 96L051 | SW8240 | Field Duplicate |
| CR-A160706 | HM-127 | HM127-01FD | 96L051 | SW8270 | Field Duplicate |
| CR-A160707 | HM-127 | HM127-01FD | 96L051 | SW6010, 7041, 7470, 7520, 7740, 7761 | Field Duplicate |
| CR-A160801 | LF03-3D | LF033D-01 | 96L051 | SW8240 | |
| CR-A160802 | LF03-3D | LF033D-01 | 96L051 | SW8270 | |
| CR-A160803 | LF03-3D | LF033D-01 | 96L051 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A160804 | LF03-3D | LF033D-01M | 96L051 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A160805 | FIELDQC | EB961212 | 96L051 | SW8240 | Equipment Blank |
| CR-A160806 | FIELDQC | EB961212 | 96L051 | SW8270 | Equipment Blank |
| CR-A160807 | FIELDQC | EB961212 | 96L051 | SW6010, 7041, 7470, 7520, 7740, 7761 | Equipment Blank |
| CR-A160901 | LF04-4A | LF044A-01 | 96L051 | SW8240 | |
| CR-A160902 | LF04-4A | LF044A-01 | 96L051 | SW8270 | |
| CR-A160903 | LF04-4A | LF044A-01 | 96L051 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A160904 | LF04-4A | LF044A-01M | 96L051 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A160905 | FIELDQC | EB961207 | 96L051 | SW8240 | Equipment Blank |
| CR-A160906 | FIELDQC | EB961207 | 96L051 | SW8270 | Equipment Blank |
| CR-A160907 | FIELDQC | EB961207 | 96L051 | SW6010, 7041, 7470, 7520, 7740, 7761 | Equipment Blank |
| CR-A161001 | LF04-4B | LF044B-01 | 96L051 | SW8240 | |
| CR-A161002 | LF04-4B | LF044B-01 | 96L051 | SW8270 | |
| CR-A161003 | LF04-4B | LF044B-01 | 96L051 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A161004 | LF04-4B | LF044B-01M | 96L051 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A161005 | FIELDQC | EB961208 | 96L051 | SW8240 | Equipment Blank |
| CR-A161006 | FIELDQC | EB961208 | 96L051 | SW8270 | Equipment Blank |
| CR-A161007 | FIELDQC | EB961208 | 96L051 | SW6010, 7041, 7470, 7520, 7740, 7761 | Equipment Blank |
| CR-A161101 | MWMTAC001 | MWMTAC001-01 | 96L051 | SW8240 | |
| CR-A161102 | MWMTAC001 | MWMTAC001-01 | 96L051 | SW8270 | |
| CR-A161103 | MWMTAC001 | MWMTAC001-01 | 96L051 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A161104 | MWMTAC001 | MWMTAC001-01M | 96L051 | SW6010, 7041, 7470, 7520, 7740, 7761 | |
| CR-A161108 | FIELDQC | TB961213 | 96L051 | SW8240 | Trip Blank |
| CR-A161201 | BJETA515 | BJETA515-BRS | 96L039 | SW8270 | |
| CR-A161202 | BJETA516 | BJETA516-ARS | 96L039 | SW8270 | |
| CR-A161203 | BJETA517 | BJETA517-ARS | 96L039 | SW8240 | |
| CR-A161204 | BJETA517 | BJETA517-BRS | 96L039 | SW8270 | |
| CR-A161205 | FIELDQC | TB961211 | 96L039 | SW8240 | Trip Blank |
| CR-A161206 | FIELDQC | EB961211 | 96L039 | SW8240 | Equipment Blank |
| CR-A161207 | FIELDQC | EB961211 | 96L039 | SW8270 | Equipment Blank |
| CR-A161208 | FIELDQC | EB961211 | 96L039 | SW6010, 7041, 7470, 7520, 7740, 7761 | Equipment Blank |

# TAB

EMAx Batch No. 96K042

410 11

# LABORATORY REPORT FOR

# JACOBS ENGINEERING GROUP

# CARSWELL AFB (D.O. 21)

RECEIVED
FEB 1 [illegible]
JE [illegible]

## METALS

## RESUBMITTAL REVISED REPORT (SOIL)

SDG#: 96K042

FEBRUARY 7, 1997

REVISED REPORT

001

DATE: February 7, 1997

SUBJECT: Case Narrative for Revised Thallium Results - SDG 97K042

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Thallium in twelve soil samples SDG 96K042 was originally analyzed by regular-ICP and results in all soil samples were reported at above ICP-MDL level (> 10 mg/kg). However, thallium results analyzed by Trace-ICP in all soil samples were less than 10 mg/kg. The high bias results from regular-ICP analysis were found to be from background interferences. The report with revised thallium results from Trace-ICP for all soil samples were resubmitted on February 7, 1997. TRACE-ICP MDL (1 mg/kg) was used in the revised report with PQL at 40 mg/kg.

REVISED REPORT

002

# 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 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. Results 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.

RESUBMITTAL

NOTE: Thallium in soil samples was originally analyzed by regular-ICP. However, there might be some potential bias results for thallium analysis which probably due to background interferences. The reports for thallium in soil samples and all associated QC results were revised using results analyzed by TRACE-ICP. The thallium MDL in the revised report was from TRACE-ICP MDL.

LAB CHRONICLE 410 15 11-13-199612:07:0

Method: Metals
Client: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900
Sample 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 | 11/25/96/I07K035 | * |
| 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. Dup | K042-28S | | | | | |
| Mat Sp | K042-28M | | | | | |
| MBLK1S | IPK008SB | | | | | |
| LCS | ↓ | | SL | | | |
| LCSD | ↓ | | SC | | | |

* - As, Pb, Tl, 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, Tl, 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 01/18/97

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* | 2.06F | 51.5 | 1.29 |
| Vanadium | 30.4 | 10.3 | .502 |
| Zinc | 124 | 2.57 | .219 |

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

SW3050A/6010A
METALS BY ICP

410 17

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/08/96 |
| ect | : 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 |
| um | 53200 | 34.1 | 2.28 |
| lium* | 1.29F | 45.5 | 1.14 |
| Vanadium | 30.6 | 9.1 | .444 |
| Zinc | 26.4 | 2.28 | .193 |

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

REVISED REPORT

005

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-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 |
| Sodium | 25800 | 38.5 | 2.57 |
| Thallium* | 1.78F | 51.3 | 1.28 |
| Vanadium | 48.5 | 10.3 | .501 |
| Zinc | 37.8 | 2.57 | .218 |

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



REVISED REPORT

SW3050A/6010A
METALS BY ICP

410 19

| | | | |
|---|---|---|---|
| 'ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/08/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/09/96 |
| Batch 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** | 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 |
| ium | 2970 | 33.8 | 2.25 |
| llium* | ND | 45.1 | 1.13 |
| 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.



LIMSED REPORT

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-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* | 1.27F | 49.6 | 1.24 |
| Vanadium | 40.8 | 9.93 | .484 |
| Zinc | 29.5 | 2.48 | .211 |

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

REVISED REPORT 008

SW3050A/6010A
METALS BY ICP

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| | | | |
|---|---|---|---|
| 'ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/08/96 |
| ject | : 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 |
| 'um | 19900 | 31.4 | 2.09 |
| llium* | ND | 41.8 | 1.05 |
| Vanadium | 16.5 | 8.37 | .408 |
| Zinc | 7.69 | 2.09 | .178 |

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

REVISED REPORT

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* | 1.62F | 50.4 | 1.26 |
| 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

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| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/08/96 |
| ject | : 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 |
| um | 12300 | 32.2 | 2.15 |
| allium* | 1.50F | 43 | 1.07 |
| Vanadium | 16.7 | 8.59 | .419 |
| Zinc | 16.7 | 2.15 | .183 |

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

REVISED REF 011

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* | 1.49F | 50.3 | 1.26 |
| Vanadium | 31 | 10.1 | .491 |
| Zinc | 28 | 2.52 | .214 |

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

REVISED REPORT 012

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-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 |
| Sodium | 34000 | 32.8 | 2.19 |
| Thallium* | 1.10F | 43.8 | 1.09 |
| Vanadium | 17.5 | 8.75 | .427 |
| Zinc | 16.6 | 2.19 | .186 |

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

REVISED REPORT

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* | ND | 50.5 | 1.26 |
| Vanadium | 29.4 | 10.1 | .492 |
| Zinc | 31.5 | 2.53 | .215 |

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

REVISED REPORT 014

SW3050A/6010A
METALS BY ICP

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| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/08/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/09/96 |
| Batch 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 |
| ium | 1720 | 33.2 | 2.21 |
| allium* | 1.13F | 44.3 | 1.10 |
| Vanadium | 16.6 | 8.86 | .432 |
| Zinc | 19.8 | 2.21 | .188 |

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

REVISED REPORT 015

SW3050A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | NA |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/13/96 |
| Batch No. | : 96K042 | DaTime Extrctd : | 11/13/96 11:00 |
| Sample ID | : MBLK1S | DaTime Analyzd : | 11/25/96 17:07 |
| Lab Cnt NO.: | IPK008SB | Dilutn Factor : | 1 |
| Lab File ID: | I07K035 | Matrix : | SOIL |
| Ext Btch ID: | IPK008S | % Moisture : | NA |
| Calib. Ref.: | I07K035 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Aluminum | 3.59F | 50 | 1.01 |
| Arsenic* | ND | .5 | .46 |
| Barium | .0547F | 2 | .04 |
| Beryllium | ND | .3 | .01 |
| Cadmium* | .228F | .1 | .1 |
| Calcium | ND | 10 | 2.25 |
| Chromium | ND | 7 | .55 |
| Cobalt | ND | 7 | .84 |
| Copper | ND | 6 | .14 |
| Iron | 1.44F | 7 | .58 |
| Lead* | ND | .5 | .14 |
| Magnesium | ND | 30 | 5.53 |
| Manganese | ND | 2 | .12 |
| Molybdenum | ND | 8 | .61 |
| Potassium | ND | 500 | 52.2 |
| Sodium | 5.65F | 30 | 2 |
| Thallium* | ND | 40 | 1.0 |
| Vanadium | ND | 8 | .39 |
| Zinc | .295F | 2 | .17 |

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

REVISED REPORT 016

# 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 (%) | PQL (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 |

PQL: 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

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002

PA 3005A/7041
ITIMONY BY GFAA

900

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 96K042
MATRIX: WATER
CAL REF: G06L001-10

DATE COLLECTED: 11/08/96
DATE RECEIVED: 11/09/96
DATE EXTRACTED: 11/13/96 18:00
INSTRUMENT ID: G06
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

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# 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
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 96K042
MATRIX: SOIL
CAL REF: M96K014-7

DATE COLLECTED: 11/08/96
DATE RECEIVED: 11/09/96
DATE EXTRACTED: 11/22/96 10:00
INSTRUMENT ID: I23
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
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 96K042
MATRIX: SOIL
CAL REF: G06L003-33

DATE COLLECTED: 11/08/96
DATE RECEIVED: 11/09/96
DATE EXTRACTED: 11/20/96 18:00
INSTRUMENT ID: GFAA #6
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 | 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 |

PQL: 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

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002

PA 3020A/7740
LENIUM BY GFAA

900

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 96K042
MATRIX: WATER
CAL REF: G06L005-10

DATE COLLECTED: 11/08/96
DATE RECEIVED: 11/09/96
DATE EXTRACTED: 11/20/96 19:00
INSTRUMENT ID: GFAA #6
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 | .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 |

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

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# 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 |

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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

002

PA 3020A/7760
ILVER BY GFAA

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 96K042
MATRIX: WATER
CAL REF: G03L006-9

DATE COLLECTED: 11/08/96
DATE RECEIVED: 11/09/96
DATE EXTRACTED: 11/20/96 19:00
INSTRUMENT ID: GFAA #3
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 | 255 | 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
ECT: Carswell AFB / 05G47900
Batch No.: 96K042
rix: Water

| AMPLE ID | CONT NO | %H2O | FILE ID | EXT DATE/BATCH | ANL DATE/BATCH | REMARKS |
|---|---|---|---|---|---|---|
| CR-A152305 | K042-21 | NA | KP 211 | | 11/12 | |
| R-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 |
| 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 |
| Chloroform | ND | 6.27 | .5 |
| 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

| | | | |
|---|---|---|---|
| lient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/08/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/09/96 |
| h No. | : 96K042 | DaTime Extrctd : | 11/19/96 17:24 |
| ple ID | : CR-A151901RE | DaTime Analyzd : | 11/19/96 17:24 |
| ab Cnt NO. | : K042-01R | Dilutn Factor : | 1 |
| ab 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-Trichloroethane | ND | 6.27 | .669 |
| 1,2,2-Tetrachloroethane | ND | 6.27 | 1.04 |
| 1,1,2-Trichloroethane | ND | 6.27 | 1.06 |
| 1-Dichloroethane | ND | 6.27 | .532 |
| 1-Dichloroethene | ND | 6.27 | .655 |
| 2,3-Trichloropropane | ND | 62.7 | 1.91 |
| 1,2-Dichloroethane | ND | 6.27 | .373 |
| 2-Dichloropropane | ND | 6.27 | 1.2 |
| Butanone | ND | 125 | 2.84 |
| Chloroethyl Vinyl Ether | ND | 12.5 | 1.25 |
| 2-Hexanone | ND | 62.7 | 1.66 |
| 4-Methyl-2-Pentanone | ND | 62.7 | 1.96 |
| etone | ND | 125 | 5.62 |
| nzene | ND | 6.27 | .509 |
| Bromodichloromethane | ND | 6.27 | .482 |
| Bromoform | ND | 6.27 | .719 |
| omomethane | ND | 12.5 | 1.54 |
| rbon Disulfide | ND | 6.27 | .617 |
| rbon Tetrachloride | ND | 6.27 | .494 |
| lorobenzene | ND | 6.27 | .55 |
| oethane | ND | 12.5 | 1.15 |
| oform | ND | 6.27 | .57 |
| romomethane | ND | 12.5 | 1.17 |
| is-1,2-Dichloroethene | ND | 6.27 | .586 |
| is-1,3-Dichloropropene | ND | 6.27 | .502 |
| bromochloromethane | ND | 6.27 | .484 |
| ylbenzene | ND | 6.27 | .678 |
| thylene Chloride | ND | 6.27 | 3.12 |
| p-Xylenes | ND | 12.5 | .866 |
| ylene | ND | 6.27 | .478 |
| rene | ND | 6.27 | .598 |
| trachloroethylene | ND | 6.27 | .393 |
| oluene | ND | 6.27 | .507 |
| ans-1,2-Dichloroethene | ND | 6.27 | .478 |
| ns-1,3-Dichloropropene | ND | 6.27 | .438 |
| chloroethene | ND | 6.27 | .59 |
| inyl Acetate | ND | 62.7 | 1.03 |
| yl Chloride | ND | 12.5 | 1.58 |

| ROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| -Dichloroethane-d4 | 99 | 79-118 |
| mofluorobenzene | 89 | 86-115 |
| uene-d8 | 115* | 88-110 |

: Practical Quantitation Limit
WHTG/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 |
| 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 |
| 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[illegible] |
| 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) | POL (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 | .6 |
| Methylene Chloride | ND | 6.17 | 3 |
| m/p-Xylenes | ND | 12.3 | .6 |
| 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 410 59

| | | | |
|---|---|---|---|
| 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 |
| 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 |
| Chloroform | ND | 6.14 | .556 |
| 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 410 61

| | | | |
|---|---|---|---|
| lient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/08/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/09/96 |
| h No. | : 96K042 | DaTime Extrctd : | 11/19/96 14:57 |
| ple ID | : CR-A152203 | DaTime Analyzd : | 11/19/96 14:57 |
| ab Cnt NO. | : K042-15 | Dilutn Factor : | 1 |
| ab 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-Trichloroethane | ND | 5.63 | .6 |
| 1,2,2-Tetrachloroethane | ND | 5.63 | .935 |
| 1,1,2-Trichloroethane | ND | 5.63 | .952 |
| 1-Dichloroethane | ND | 5.63 | .477 |
| 1-Dichloroethene | ND | 5.63 | .588 |
| 2,3-Trichloropropane | ND | 56.3 | 1.71 |
| 1,2-Dichloroethane | ND | 5.63 | .334 |
| 2-Dichloropropane | ND | 5.63 | 1.08 |
| Butanone | ND | 113 | 2.55 |
| Chloroethyl Vinyl Ether | ND | 11.3 | 1.12 |
| 2-Hexanone | ND | 56.3 | 1.49 |
| 4-Methyl-2-Pentanone | ND | 56.3 | 1.76 |
| etone | ND | 113 | 5.05 |
| nzene | ND | 5.63 | .457 |
| Bromodichloromethane | ND | 5.63 | .432 |
| Bromoform | ND | 5.63 | .645 |
| omomethane | ND | 11.3 | 1.38 |
| rbon Disulfide | ND | 5.63 | .554 |
| rbon Tetrachloride | ND | 5.63 | .444 |
| hlorobenzene | ND | 5.63 | .493 |
| oethane | ND | 11.3 | 1.03 |
| oform | ND | 5.63 | .511 |
| romomethane | ND | 11.3 | 1.05 |
| is-1,2-Dichloroethene | ND | 5.63 | .526 |
| is-1,3-Dichloropropene | ND | 5.63 | .45 |
| bromochloromethane | ND | 5.63 | .435 |
| ylbenzene | ND | 5.63 | .608 |
| thylene Chloride | ND | 5.63 | 2.8 |
| o-Xylenes | ND | 11.3 | .777 |
| ylene | ND | 5.63 | .429 |
| rene | ND | 5.63 | .537 |
| trachloroethylene | ND | 5.63 | .352 |
| oluene | ND | 5.63 | .455 |
| ns-1,2-Dichloroethene | ND | 5.63 | .429 |
| ns-1,3-Dichloropropene | ND | 5.63 | .393 |
| chloroethene | ND | 5.63 | .529 |
| nyl Acetate | ND | 56.3 | .92 |
| yl Chloride | ND | 11.3 | 1.42 |

| ROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| -Dichloroethane-d4 | 99 | 79-118 |
| mofluorobenzene | 93 | 86-115 |
| uene-d8 | 102 | 88-110 |

Practical Quantitation Limit
WHTG/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 | .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 | .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 |
| Batch 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) | 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 | .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 |

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 16:5[illegible] |
| 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 | .49[illegible] |
| Chloroethane | ND | 11.2 | 1.0[illegible] |
| Chloroform | ND | 5.62 | .51[illegible] |
| 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 |
| Batch 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 |
| 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 / SVK0043 | 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 | | | |
| MBLK1S | SVK004SB | | 016 | | 12/03/96 / RLS015 | |
| LCS1S | SVK004SL | | 017 | | | |
| LCD1S | SVK004SC | | 018 | | | |

LAB CHRONICLE 11-13-199612:07:0

Method: EPA 8270
Client: Jacobs Engineering Group
TECT: Carswell AFB / 05G47900
/Batch No.: 96K042
atrix: Water

| AMPLE 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 | |
| BLK1W | 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 |
| 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) |
|---|---|---|---|
| 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 |

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) |
|---|---|---|---|
| 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 |
| Fxt 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 | 12[illegible] |
| 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 |
| 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) |
|---|---|---|---|
| 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 | 10[illegible] |
| 2-Nitroaniline | ND | 3720 | 99 |
| 2-Nitrophenol | ND | 338 | 11[illegible] |
| 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 |
| 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) |
|---|---|---|---|
| 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 14:30 |
| 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) |
|---|---|---|---|
| 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 410 82

| | | | |
|---|---|---|---|
| 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-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 | 1[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 |
| 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) |
|---|---|---|---|
| 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 |
| 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) |
|---|---|---|---|
| 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. |
| 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 |
| 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) |
|---|---|---|---|
| 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



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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-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 |
| 2-Nitrophenol | ND | 377 | 1 |
| 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 |

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-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

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 |



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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) |
|---|---|---|---|
| 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

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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 17:00 |
| 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

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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-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 |
| 2-Nitrophenol | ND | 379 | 1 |
| 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 |



092

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 |
| achlorocyclopentadiene | ND | 775 | 128 |
| achloroethane | 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

# TAB

EMAx Batch No. 96K047

410 100

# LABORATORY REPORT FOR

# JACOBS ENGINEERING GROUP

# CARSWELL AFB (D.O. 21)

## METALS

## RESUBMITTAL REVISED REPORT (SOIL)

SDG#: 96K047

FEBRUARY 7, 1997

REVISED REPORT

001

DATE: February 7, 1997

SUBJECT: Case Narrative for Revised Thallium Results - SDG 97K047

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Thallium in nineteen soil samples SDG 96K047 was originally analyzed by regular-ICP and results in all soil samples were reported at above ICP-MDL level (> 10 mg/kg). However, thallium results analyzed by Trace-ICP in all soil samples were less than 10 mg/kg. The high bias results from regular-ICP analysis were found to be from background interferences. The report with revised thallium results from Trace-ICP for all soil samples were resubmitted on February 7, 1997. TRACE-ICP MDL (1 mg/kg) was used in the revised report with PQL at 40 mg/kg.

REVISED REPORT

002

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

| 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 | | | | |
| 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/IPK023S | 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/IPK023S | 12/17/96/IC7L005 | |
| CR-A153204 | K047-43 | 8.6 | | | | |
| CR-A153104DUP | K047-39D | 12.1 | | 11/26/96/IPK023S | 12/16/96/IC7L002 | |
| MBLK13 | IPK023SB | | | | | |
| LCS1 | | SL | | | | |
| LCD1 | | SC | | | | |
| | | | | 11/26/96/IPK023S | 12/17/96/IC7L005 | |
| MBLK23 | IPK023SB | | | | | |
| LCS2 | | SL | | | | REVISED REPORT |
| LCD2 | | SC | | | | |

* As, Pb, Tl, and Cd were analyzed by Trace-ICP

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 |
| Vanadium | 21.2 | 9.58 | .467 |
| Zinc | 19.9 | 2.4 | .204 |

REVISED REPORT
004

SW3050A/6010A
TRACE BY ICP

410 104

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/09/96 |
| oject | : 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 |
| Thallium | ND | 47.9 | 1.2 |

REVISED REPORT
005

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 |
| Vanadium | 17.7 | 9.06 | .442 |
| Zinc | 24.4 | 2.27 | .193 |



REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/09/96 |
| oject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/12/96 |
| Batch No. | : 96K047 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : CR-A152504 | DaTime Analyzd : | 12/05/96 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 |
| Thallium | ND | 45.3 | 1.13 |



REVISED REPORT

410 107

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 |
| Vanadium | 35.9 | 10.1 | .492 |
| Zinc | 38.8 | 2.52 | .214 |

008

REVISED REPORT

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 |
| Thallium | ND | 50.4 | 1.26 |



REVISED REPORT

410 103

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 |
| Vanadium | 29.9 | 10.1 | .493 |
| Zinc | 25.1 | 2.53 | .215 |

010

REVISED REPORT

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-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 |
| Thallium | ND | 50.6 | 1.26 |



REVISED REPORT

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 |
| Vanadium | 33.7 | 9.26 | .451 |
| Zinc | 26.3 | 2.31 | .197 |



REVISED REPORT

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 |
| Thallium | ND | 46.3 | 1.16 |



REVISED REPORT

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 |
| Vanadium | 31.1 | 9.86 | .481 |
| Zinc | 25.6 | 2.47 | .21 |



REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : 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 : | 12/05/96 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 |
| Thallium | ND | 49.3 | 1.23 |



REVISED REPORT

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 |
| Vanadium | 25.4 | 9.1 | .444 |
| Zinc | 15.3 | 2.28 | .193 |



REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/10/96 |
| roject | : 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 |
| Thallium | ND | 45.5 | 1.14 |



REVISED REPORT

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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 |
| Vanadium | 28.8 | 9.73 | .474 |
| Zinc | 23.5 | 2.43 | .207 |



REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/10/96 |
| ojject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/12/96 |
| Batch No. | : 96K047 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : CR-A152806 | DaTime Analyzd : | 12/05/96 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 |
| Thallium | ND | 48.7 | 1.22 |



REVISED REPORT

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-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 |
| Vanadium | 23.9 | 9.76 | .476 |
| Zinc | 24 | 2.44 | .207 |



REVISED REPORT

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 |
| Thallium | ND | 48.8 | 1.22 |



REVISED REPORT

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 |
| Vanadium | 24.5 | 9.42 | .459 |
| Zinc | 31 | 2.36 | .2 |



REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : 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 |
| Thallium | 1.30F | 47.1 | 1.18 |



REVISED REPORT

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 |
| Vanadium | 19.7 | 10.1 | .494 |
| Zinc | 23 | 2.53 | .215 |



REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| .ent | : 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 |
| Thallium | ND | 50.7 | 1.27 |



REVISED REPORT

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 |
| Vanadium | 24.6 | 9.51 | .464 |
| Zinc | 29.1 | 2.38 | .202 |

SW3050A/6010A
TRACE BY ICP

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| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/10/96 |
| roject | : 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 |
| Thallium | ND | 47.6 | 1.19 |

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REVISED REPORT

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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 |
| Vanadium | 23.6 | 9.95 | .485 |
| Zinc | 21.8 | 2.49 | .211 |

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REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : 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 |
| Thallium | ND | 49.8 | 1.24 |



REVISED REPORT

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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 |
| Vanadium | 18.4 | 8.82 | .43 |
| Zinc | 17.7 | 2.21 | .187 |

03

REVISED REPORT

SW3050A/6010A
TRACE BY ICP

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| | | | |
|---|---|---|---|
| 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 : | 12/05/96 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 |
| Thallium | ND | 44.1 | 1.10 |



REVISED REPORT

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 |
| Vanadium | 22.6 | 9.9 | .483 |
| Zinc | 21.2 | 2.48 | .21 |



REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/10/96 |
| ojject | : 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 |
| Thallium | ND | 49.5 | 1.24 |



REVISED REPORT

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 |
| Vanadium | 18.2 | 8.82 | .43 |
| Zinc | 19.3 | 2.21 | .187 |



REVISED REPORT

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 |
| Thallium | ND | 44.1 | 1.10 |



REVISED REPORT

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 |
| Vanadium | 21 | 9.1 | .444 |
| Zinc | 18.5 | 2.28 | .193 |



REVISED REPORT

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 |
| Thallium | ND | 45.5 | 1.14 |



REVISED REPORT

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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 |
| Vanadium | 18 | 8.75 | .427 |
| Zinc | 17 | 2.19 | .186 |



REVISED REPORT

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 |
| Thallium | ND | 43.8 | 1.09 |



REVISED REPORT

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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 |
| Vanadium | 20.7 | 9.65 | .47 |
| Zinc | 22.3 | 2.41 | .205 |

040

REVISED REPORT

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 |
| Thallium | ND | 48.3 | 1.21 |



REVISED REPORT

SW3050A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | NA |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/26/96 |
| Batch No. | : 96K047 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : MBLK1S | DaTime Analyzd : | 12/16/96 20:08 |
| Lab Cnt NO. | : IPK023SB | Dilutn Factor : | 1 |
| Lab File ID | : I07L002 | Matrix : | SOIL |
| Ext Btch ID | : IPK023S | % Moisture : | NA |
| Calib. Ref. | : I07L002 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Aluminum | ND | 50 | 1.01 |
| Barium | ND | 2 | .04 |
| Beryllium | ND | .3 | .01 |
| Calcium | ND | 10 | 2.25 |
| Chromium | ND | 7 | .55 |
| Cobalt | ND | 7 | .84 |
| Copper | ND | 6 | .14 |
| Iron | ND | 7 | .58 |
| Magnesium | ND | 30 | 5.53 |
| Manganese | ND | 2 | .12 |
| Molybdenum | ND | 8 | .61 |
| Potassium | ND | 500 | 52.2 |
| Sodium | 83.4 | 30 | 2 |
| Vanadium | ND | 8 | .39 |
| Zinc | ND | 2 | .17 |



REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | NA |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/26/96 |
| Batch No. | : 96K047 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : MBLK1S | DaTime Analyzd : | 12/05/96 17:04 |
| Lab Cnt NO.: | IPK023SB | Dilutn Factor : | 1 |
| Lab File ID: | I31L005 | Matrix : | SOIL |
| Ext Btch ID: | IPK023S | % Moisture : | NA |
| Calib. Ref.: | I31L005 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Arsenic | ND | .5 | .46 |
| Cadmium | ND | .1 | .1 |
| Lead | .331F | .5 | .14 |
| Thallium | ND | 40 | 1 |



REVISED REPORT

SW3050A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | NA |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/26/96 |
| Batch No. | : 96K047 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : MBLK2S | DaTime Analyzd : | 12/17/96 15:43 |
| Lab Cnt NO.: | IPK025SB | Dilutn Factor : | 1 |
| Lab File ID: | I07L005 | Matrix : | SOIL |
| Ext Btch ID: | IPK025S | % Moisture : | NA |
| Calib. Ref.: | I07L005 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Aluminum | ND | 50 | 1.01 |
| Barium | .151F | 2 | .04 |
| Beryllium | .135F | .3 | .01 |
| Calcium | ND | 10 | 2.25 |
| Chromium | ND | 7 | .55 |
| Cobalt | ND | 7 | .84 |
| Copper | .203F | 6 | .14 |
| Iron | 1.83F | 7 | .58 |
| Magnesium | ND | 30 | 5.53 |
| Manganese | .216F | 2 | .12 |
| Molybdenum | .615F | 8 | .61 |
| Potassium | ND | 500 | 52.2 |
| Sodium | 33.7 | 30 | 2 |
| Vanadium | ND | 8 | .39 |
| Zinc | ND | 2 | .17 |



REVISED REPORT

# 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

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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/HgK015S | 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 | | | | |
| MBLK15 | HgK015SB | | | | | |
| LCS15 | HgK015SL | | | | | |
| LCD15 | HgK015SC | | | | | |

02

LAB CHRONICLE

11-18-199616:45:1

Method: Mercury
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 | | 11/13/96/HgK008W | 11/14/96/M96K003 | |
| CR-A153207 | K047-46 | NA | | | | |
| MBLK1W | HgK008WB | | | | | |
| LCS1W | HgK008WL | | | | | |
| LCSD1W | HgK008WC | | | | | |

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 ) )A
MERCURY BY . LD 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 | 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

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | NA |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/26/96 |
| Batch No. | : 96K047 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : MBLK2S | DaTime Analyzd : | 12/06/96 18:17 |
| Lab Cnt NO.: | IPK025SB | Dilutn Factor : | 1 |
| Lab File ID: | I31L008 | Matrix : | SOIL |
| Ext Btch ID: | IPK025S | % Moisture : | NA |
| Calib. Ref.: | I31L008 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Arsenic | ND | .5 | .46 |
| Cadmium | ND | .1 | .1 |
| Lead | .306F | .5 | .14 |
| Thallium | ND | 40 | 1 |



REVISED REPORT

# 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.



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

410 154

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
atrix: Water

| SAMPLE ID | CONT NO | %H2O | FILE ID | EXT DATE/BATCH | ANL DATE/BATCH | REMARKS |
|---|---|---|---|---|---|---|
| R-A152604 | K047-07 | NA | KP213 | 11/18 | | |
| R-A152807 | K047-21 | NA | KP214 | 11/18 | | |
| R-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 |
| Batch 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 |
| Batch 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 |
| Dibromobenzene | 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 |
| Batch 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 |
| Btch 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 |
| Mixed 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 |
| Batch 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

| | | | |
|---|---|---|---|
| lient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/10/96 |
| ect | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/12/96 |
| n No. | : 96K047 | DaTime Extrctd : | 11/20/96 16:52 |
| le ID | : CR-A152905 | DaTime Analyzd : | 11/20/96 16:52 |
| ab Cnt NO. | : K047-26 | Dilutn Factor : | 1 |
| ab File ID | : RKP268 | Matrix : | SOIL |
| xt Btch ID | : VOK1302 | % Moisture : | 14.7 |
| Calib. Ref. | : RKP251 | Instrument ID : | MSVOA2 |

| ARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5.86 | .625 |
| ,1,2,2-Tetrachloroethane | ND | 5.86 | .973 |
| ,1,2-Trichloroethane | ND | 5.86 | .991 |
| ,1-Dichloroethane | ND | 5.86 | .497 |
| 1,1-Dichloroethene | ND | 5.86 | .612 |
| 1,2,3-Trichloropropane | ND | 58.6 | 1.78 |
| ,2-Dichloroethane | ND | 5.86 | .348 |
| ,2-Dichloropropane | ND | 5.86 | 1.13 |
| -Butanone | ND | 117 | 2.65 |
| 2-Chloroethyl Vinyl Ether | ND | 11.7 | 1.17 |
| 2-Hexanone | ND | 58.6 | 1.55 |
| -Methyl-2-Pentanone | ND | 58.6 | 1.83 |
| etone | ND | 117 | 5.26 |
| enzene | ND | 5.86 | .476 |
| Bromodichloromethane | ND | 5.86 | .45 |
| Bromoform | ND | 5.86 | .672 |
| romomethane | ND | 11.7 | 1.44 |
| rbon Disulfide | ND | 5.86 | .577 |
| rbon Tetrachloride | ND | 5.86 | .462 |
| Chlorobenzene | ND | 5.86 | .513 |
| Chloroethane | ND | 11.7 | 1.08 |
| loroform | ND | 5.86 | .532 |
| loromethane | ND | 11.7 | 1.09 |
| s-1,2-Dichloroethene | ND | 5.86 | .547 |
| Cis-1,3-Dichloropropene | ND | 5.86 | .469 |
| omochloromethane | ND | 5.86 | .453 |
| benzene | ND | 5.86 | .633 |
| lene Chloride | ND | 5.86 | 2.92 |
| p-Xylenes | ND | 11.7 | .809 |
| o-Xylene | ND | 5.86 | .447 |
| yrene | ND | 5.86 | .559 |
| trachloroethylene | ND | 5.86 | .367 |
| luene | ND | 5.86 | .474 |
| rans-1,2-Dichloroethene | ND | 5.86 | .447 |
| rans-1,3-Dichloropropene | ND | 5.86 | .409 |
| richloroethene | ND | 5.86 | .551 |
| nyl Acetate | ND | 58.6 | .958 |
| nyl Chloride | ND | 11.7 | 1.48 |

| URROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2-Dichloroethane-d4 | 95 | 79-118 |
| omofluorobenzene | 88 | 86-115 |
| luene-d8 | 106 | 88-110 |

QL: Practical Quantitation Limit
CWHTG/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 |
| Batch 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

410 171

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 |
| Batch 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 |
| Lab 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 |
| ch No. | : 96K047 | DaTime Extrctd : | 11/20/96 19:38 |
| ple 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 |

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

410 180

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 |
| 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 | 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

410 182

# 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 analyzeo. 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.



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

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 | | | |
| LCD2S | SVK011SC | | RLS039 | | | |

LAB CHRONICLE

11-18-199612:17:1

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

| SAMPLE ID | CONT NO | %H2O | FILE ID | EXT DATE/BATCH | ANL DATE/BATCH | REMARKS |
|---|---|---|---|---|---|---|
| R-A152605 | K047-08 | NA | RKB 123 | 11/13/96 / SVK006W | 11/27/96 / RKB 119 | |
| CR-A153206 | K047-45 | NA | 124 | | | |
| 15LK1W | SVK006WB | | 120 | | | |
| 05IW | SVK007WL | | 121 | | | |
| 0DIW | 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 12:0 |
| 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 |
| 2-Nitrophenol | ND | 359 | 1 |
| 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

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/09/96 |
| oject | : 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) |
|---|---|---|---|
| is(2-Chloroethyl)ether | ND | 838 | 80.2 |
| is(2-Chloroisopropyl)ether | ND | 838 | 108 |
| bis(2-Ethylhexyl)phthalate | ND | 838 | 117 |
| utylbenzylphthalate | ND | 838 | 243 |
| hrysene | ND | 838 | 120 |
| i-n-butylphthalate | ND | 838 | 133 |
| Di-n-octylphthalate | ND | 838 | 108 |
| ibenzo(a,h)anthracene | ND | 838 | 115 |
| ibenzofuran | ND | 838 | 120 |
| iethylphthalate | ND | 838 | 116 |
| imethylphthalate | ND | 838 | 128 |
| luoranthene | ND | 838 | 123 |
| luorene | ND | 838 | 104 |
| Hexachlorobenzene | ND | 838 | 134 |
| chlorobutadiene | ND | 838 | 125 |
| chlorocyclopentadiene | ND | 838 | 139 |
| exachloroethane | ND | 838 | 105 |
| Indeno(1,2,3-cd)pyrene | ND | 838 | 114 |
| sophorone | ND | 838 | 111 |
| -Nitroso-di-n-propylamine | ND | 838 | 137 |
| -Nitrosodiphenylamine (2) | ND | 838 | 121 |
| Naphthalene | ND | 838 | 116 |
| itrobenzene | ND | 838 | 93.4 |
| entachlorophenol | ND | 3950 | 35.9 |
| henanthrene | ND | 838 | 121 |
| henol | ND | 359 | 93.4 |
| yrene | ND | 838 | 115 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 4,6-Tribromophenol | 83 | 25-144 |
| -Fluorobiphenyl | 74 | 34-135 |
| -Fluorophenol | 71 | 25-135 |
| itrobenzene-d5 | 71 | 25-135 |
| henol-d5 | 68 | 25-135 |
| erphenyl-d14 | 75 | 32-136 |

QL: Practical Quantitation Limit
1): Cannot be separated from 3-Methylphenol
2): Cannot be separated from Diphenylamine
AKWHTG/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 | 10[illegible] |
| 2-Nitroaniline | ND | 3740 | 99[illegible] |
| 2-Nitrophenol | ND | 340 | 1[illegible] |
| 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

410 189

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/09/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/12/96 |
| atch No. | : 96K047 | DaTime Extrctd : | 11/15/96 12:00 |
| ample 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) |
|---|---|---|---|
| is(2-Chloroethyl)ether | ND | 793 | 75.9 |
| is(2-Chloroisopropyl)ether | ND | 793 | 102 |
| is(2-Ethylhexyl)phthalate | ND | 793 | 111 |
| utylbenzylphthalate | ND | 793 | 230 |
| rysene | ND | 793 | 113 |
| -n-butylphthalate | ND | 793 | 126 |
| -n-octylphthalate | ND | 793 | 102 |
| ibenzo(a,h)anthracene | ND | 793 | 109 |
| ibenzofuran | ND | 793 | 113 |
| iethylphthalate | ND | 793 | 110 |
| imethylphthalate | ND | 793 | 121 |
| luoranthene | ND | 793 | 117 |
| luorene | ND | 793 | 98.5 |
| exachlorobenzene | ND | 793 | 127 |
| chlorobutadiene | ND | 793 | 118 |
| chlorocyclopentadiene | ND | 793 | 131 |
| xachloroethane | ND | 793 | 99.7 |
| ndeno(1,2,3-cd)pyrene | ND | 793 | 108 |
| sophorone | ND | 793 | 105 |
| -Nitroso-di-n-propylamine | ND | 793 | 129 |
| -Nitrosodiphenylamine (2) | ND | 793 | 114 |
| aphthalene | ND | 793 | 110 |
| itrobenzene | ND | 793 | 88.3 |
| entachlorophenol | ND | 3740 | 34 |
| henanthrene | ND | 793 | 114 |
| henol | ND | 340 | 88.3 |
| yrene | ND | 793 | 109 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| ,4,6-Tribromophenol | 76 | 25-144 |
| -Fluorobiphenyl | 68 | 34-135 |
| -Fluorophenol | 72 | 25-135 |
| itrobenzene-d5 | 76 | 25-135 |
| henol-d5 | 76 | 25-135 |
| erphenyl-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



| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/09/96 |
| roject | : 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) |
|---|---|---|---|
| is(2-Chloroethyl)ether | ND | 883 | 84.5 |
| is(2-Chloroisopropyl)ether | ND | 883 | 113 |
| bis(2-Ethylhexyl)phthalate | ND | 883 | 124 |
| utylbenzylphthalate | 365F | 883 | 256 |
| hrysene | ND | 883 | 126 |
| Di-n-butylphthalate | ND | 883 | 140 |
| Di-n-octylphthalate | ND | 883 | 113 |
| ibenzo(a,h)anthracene | ND | 883 | 121 |
| ibenzofuran | ND | 883 | 126 |
| Diethylphthalate | ND | 883 | 122 |
| imethylphthalate | ND | 883 | 135 |
| luoranthene | ND | 883 | 130 |
| luorene | ND | 883 | 110 |
| Hexachlorobenzene | ND | 883 | 141 |
| chlorobutadiene | ND | 883 | 131 |
| achlorocyclopentadiene | ND | 883 | 146 |
| Hexachloroethane | ND | 883 | 111 |
| Indeno(1,2,3-cd)pyrene | ND | 883 | 120 |
| sophorone | ND | 883 | 117 |
| -Nitroso-di-n-propylamine | ND | 883 | 144 |
| n-Nitrosodiphenylamine (2) | ND | 883 | 127 |
| aphthalene | ND | 883 | 122 |
| itrobenzene | ND | 883 | 98.4 |
| Pentachlorophenol | ND | 4160 | 37.8 |
| Phenanthrene | ND | 883 | 127 |
| henol | ND | 378 | 98.4 |
| yrene | 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 |
| 2-Nitroaniline | ND | 4170 | 1 |
| 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 | 1[illegible] |
| 2-Nitroaniline | ND | 3820 | 1[illegible] |
| 2-Nitrophenol | ND | 347 | 115 |
| 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

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/10/96 |
| ojject | : 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 |

| ARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| is(2-Chloroethyl)ether | ND | 810 | 77.5 |
| is(2-Chloroisopropyl)ether | ND | 810 | 104 |
| is(2-Ethylhexyl)phthalate | ND | 810 | 113 |
| Butylbenzylphthalate | ND | 810 | 235 |
| hrysene | ND | 810 | 116 |
| i-n-butylphthalate | ND | 810 | 128 |
| Di-n-octylphthalate | ND | 810 | 104 |
| ibenzo(a,h)anthracene | ND | 810 | 111 |
| ibenzofuran | ND | 810 | 116 |
| iethylphthalate | ND | 810 | 112 |
| Dimethylphthalate | ND | 810 | 124 |
| luoranthene | ND | 810 | 119 |
| luorene | ND | 810 | 101 |
| Hexachlorobenzene | ND | 810 | 130 |
| achlorobutadiene | ND | 810 | 120 |
| chlorocyclopentadiene | ND | 810 | 134 |
| achloroethane | ND | 810 | 102 |
| Indeno(1,2,3-cd)pyrene | ND | 810 | 110 |
| sophorone | ND | 810 | 108 |
| -Nitroso-di-n-propylamine | ND | 810 | 132 |
| -Nitrosodiphenylamine (2) | ND | 810 | 117 |
| Naphthalene | ND | 810 | 112 |
| itrobenzene | ND | 810 | 90.3 |
| entachlorophenol | ND | 3820 | 34.7 |
| Phenanthrene | ND | 810 | 117 |
| Phenol | ND | 347 | 90.3 |
| yrene | ND | 810 | 111 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 4,6-Tribromophenol | 76 | 25-144 |
| -Fluorobiphenyl | 66 | 34-135 |
| 2-Fluorophenol | 68 | 25-135 |
| itrobenzene-d5 | 66 | 25-135 |
| henol-d5 | 66 | 25-135 |
| erphenyl-d14 | 65 | 32-136 |

QL: Practical Quantitation Limit
): Cannot be separated from 3-Methylphenol
2): Cannot be separated from Diphenylamine
KWHTG/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 | 1[illegible] |
| 2-Nitroaniline | ND | 4070 | 1[illegible] |
| 2-Nitrophenol | ND | 370 | 127 |
| 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

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/10/96 |
| ojject | : 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) |
|---|---|---|---|
| is(2-Chloroethyl)ether | ND | 863 | 82.6 |
| is(2-Chloroisopropyl)ether | ND | 863 | 111 |
| Bis(2-Ethylhexyl)phthalate | ND | 863 | 121 |
| Butylbenzylphthalate | ND | 863 | 250 |
| hrysene | ND | 863 | 123 |
| i-n-butylphthalate | ND | 863 | 137 |
| Di-n-octylphthalate | ND | 863 | 111 |
| ibenzo(a,h)anthracene | ND | 863 | 118 |
| ibenzofuran | ND | 863 | 123 |
| Diethylphthalate | ND | 863 | 120 |
| Dimethylphthalate | ND | 863 | 132 |
| luoranthene | ND | 863 | 127 |
| luorene | ND | 863 | 107 |
| Hexachlorobenzene | ND | 863 | 138 |
| achlorobutadiene | ND | 863 | 128 |
| chlorocyclopentadiene | ND | 863 | 143 |
| exachloroethane | ND | 863 | 109 |
| Indeno(1,2,3-cd)pyrene | ND | 863 | 117 |
| sophorone | ND | 863 | 115 |
| -Nitroso-di-n-propylamine | ND | 863 | 141 |
| N-Nitrosodiphenylamine (2) | ND | 863 | 125 |
| Naphthalene | ND | 863 | 120 |
| itrobenzene | ND | 863 | 96.2 |
| entachlorophenol | ND | 4070 | 37 |
| Phenanthrene | ND | 863 | 125 |
| henol | ND | 370 | 96.2 |
| yrene | ND | 863 | 118 |

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

QL: Practical Quantitation Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
AKWHTG/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 19:3 |
| Sample ID | : CR-A152804 | DaTime Analyzd : | 12/04/96 19:1 |
| 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 |
| achlorocyclopentadiene | ND | 796 | 132 |
| achloroethane | ND | 796 | 100 |
| Indeno(1,2,3-cd)pyrene | ND | 796 | 108 |
| Isophorone | ND | 796 | 106 |
| -Nitroso-di-n-propylamine | ND | 796 | 130 |
| -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 |
|---|---|---|
| ,4,6-Tribromophenol | 98 | 25-144 |
| -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 19:3 |
| 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 19:3 |
| Sample ID | : CR-A152902 | DaTime Analyzd : | 12/04/96 20:0 |
| 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 | 1[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

| | | | |
|---|---|---|---|
| ient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/10/96 |
| oject | : 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) |
|---|---|---|---|
| is(2-Chloroethyl)ether | ND | 854 | 81.7 |
| is(2-Chloroisopropyl)ether | ND | 854 | 110 |
| is(2-Ethylhexyl)phthalate | ND | 854 | 120 |
| Butylbenzylphthalate | ND | 854 | 248 |
| hrysene | ND | 854 | 122 |
| i-n-butylphthalate | 702F | 854 | 135 |
| i-n-octylphthalate | ND | 854 | 110 |
| ibenzo(a,h)anthracene | ND | 854 | 117 |
| ibenzofuran | ND | 854 | 122 |
| iethylphthalate | ND | 854 | 118 |
| Dimethylphthalate | ND | 854 | 130 |
| luoranthene | ND | 854 | 126 |
| luorene | ND | 854 | 106 |
| exachlorobenzene | ND | 854 | 137 |
| xachlorobutadiene | ND | 854 | 127 |
| chlorocyclopentadiene | ND | 854 | 141 |
| achloroethane | ND | 854 | 107 |
| ndeno(1,2,3-cd)pyrene | ND | 854 | 116 |
| sophorone | ND | 854 | 113 |
| -Nitroso-di-n-propylamine | ND | 854 | 139 |
| -Nitrosodiphenylamine (2) | ND | 854 | 123 |
| Naphthalene | ND | 854 | 118 |
| itrobenzene | ND | 854 | 95.1 |
| entachlorophenol | ND | 4020 | 36.6 |
| henanthrene | ND | 854 | 123 |
| henol | ND | 366 | 95.1 |
| yrene | ND | 854 | 117 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 4,6-Tribromophenol | 82 | 25-144 |
| -Fluorobiphenyl | 72 | 34-135 |
| -Fluorophenol | 78 | 25-135 |
| trobenzene-d5 | 82 | 25-135 |
| enol-d5 | 81 | 25-135 |
| erphenyl-d14 | 66 | 32-136 |

L: Practical Quantitation Limit
): Cannot be separated from 3-Methylphenol
2): Cannot be separated from Diphenylamine
KWHTG/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 19:3 |
| Sample ID | : CR-A152904 | DaTime Analyzd : | 12/04/96 20:5 |
| 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 | 66 |
| 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 | 1[illegible] |
| 2-Nitroaniline | ND | 3890 | 1[illegible] |
| 2-Nitrophenol | ND | 353 | 121 |
| 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 |
| 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 | [illegible] |
| 2-Nitrophenol | ND | 380 | [illegible] |
| 3,3'-Dichlorobenzidine | ND | 1650 | [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

410 209

| | | | |
|---|---|---|---|
| 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

410 210

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 |
| 2-Nitrophenol | ND | 373 | 1. |
| 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

410 211

| | | | |
|---|---|---|---|
| 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 19:5 |
| Sample ID | : CR-A153004 | DaTime Analyzd : | 12/04/96 23:1 |
| 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 | |
| 2-Nitrophenol | ND | 331 | 1 |
| 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

410 213

| | | | |
|---|---|---|---|
| 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

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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 | |
| 2-Nitrophenol | ND | 331 | 114 |
| 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

410 219

| | | | |
|---|---|---|---|
| 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 19:30 |
| 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) |
|---|---|---|---|
| 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 | 11[illegible] |
| 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 | 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

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| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/09/96 |
| ject | : 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.[illegible] |
| 2-Methylphenol | ND | 10 | [illegible] |
| 2-Nitroaniline | ND | 50 | 3.[illegible] |
| 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 410 227

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/10/96 |
| ject | : 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 |
| xachlorobutadiene | ND | 10 | 2.2 |
| achlorocyclopentadiene | ND | 10 | 1.6 |
| xachloroethane | ND | 10 | 2 |
| Indeno(1,2,3-cd)pyrene | ND | 10 | 3.2 |
| Isophorone | ND | 10 | 3 |
| -Nitroso-di-n-propylamine | ND | 10 | 3.7 |
| -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 |
|---|---|---|
| ,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

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# TAB

EMAX Batch No. 96K088

# LABORATORY REPORT FOR

# JACOBS ENGINEERING GROUP

# CARSWELL AFB (D.O. 21)

## METALS

## RESUBMITTAL REVISED REPORT (SOIL)

SDG#: 96K088

FEBRUARY 7, 1997

REVISED REPORT

DATE: February 7, 1997

SUBJECT: Case Narrative for Revised Thallium Results - SDG 97K088

---

Thallium in four soil samples SDG 96K088 was originally analyzed by regular-ICP and results in all soil samples were reported at above ICP-MDL level (> 10 mg/kg). However, thallium results analyzed by Trace-ICP in all soil samples were less than 10 mg/kg. The high bias results from regular-ICP analysis were found to be from background interferences. The report with revised thallium results from Trace-ICP for all soil samples were resubmitted on February 7, 1997. TRACE-ICP MDL (1 mg/kg) was used in the revised report with PQL at 40 mg/kg.

REVISED REPORT

002

11/27/1996 09:40

# LAB CHRONICLE
## Metals

LIENT: Jacobs Engineering Group
ROJECT: Carswell AFB / 05G47900

DG/BATCH NO.: 96K088
ATRIX: Soil

| AMPLE ID | CONTROL NO | %H2O | PREPARATION BATCH/DATE/TIME | ANALYTICAL BATCH/DATE/TIME | CALIB REF | FILE ID |
|---|---|---|---|---|---|---|
| R-A153304 | K088-02 | 13.7 | IPK025S/09.00 | I07L005/12/17/96 | | * |
| R-A153402 | K088-04 | 17.9 | | | | |
| R-A153502 | K088-06 | 18.9 | | | | |
| R-A153504 | K088-08 | 14.0 | | | | |
| MBLKIS | IPK025SB | | | | | |
| LCS | | SL | | | | |
| SD | | SC | | | | |

* As Cd, Pb and Tl were analyzed 12/06/96
File I31L008



REVISED REPORT

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 |
| Vanadium | 37.8 | 9.27 | .452 |
| Zinc | 21.3 | 2.32 | .197 |



REVISED REPORT

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 |
| Vanadium | 36.1 | 9.74 | .475 |
| Zinc | 28.4 | 2.44 | .207 |



REVISED REPORT

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 |
| Vanadium | 27.9 | 9.86 | .481 |
| Zinc | 25.2 | 2.47 | .21 |



REVISED REPORT

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 |
| Vanadium | 26.7 | 9.3 | .453 |
| Zinc | 24.5 | 2.33 | .198 |



REVISED REPORT

SW3050A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | NA |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/26/96 |
| Batch No. | : 96K088 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : MBLK1S | DaTime Analyzd : | 12/17/96 15:43 |
| Lab Cnt NO.: | IPK025SB | Dilutn Factor : | 1 |
| Lab File ID: | I07L005 | Matrix : | SOIL |
| Ext Btch ID: | IPK025S | % Moisture : | NA |
| Calib. Ref.: | I07L005 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Aluminum | ND | 50 | 1.01 |
| Barium | .151F | 2 | .04 |
| Beryllium | .135F | .3 | .01 |
| Calcium | ND | 10 | 2.25 |
| Chromium | ND | 7 | .55 |
| Cobalt | ND | 7 | .84 |
| Copper | .203F | 6 | .14 |
| Iron | 1.83F | 7 | .58 |
| Magnesium | ND | 30 | 5.53 |
| Manganese | .216F | 2 | .12 |
| Molybdenum | .615F | 8 | .61 |
| Potassium | ND | 500 | 52.2 |
| Sodium | 33.7 | 30 | 2 |
| Vanadium | ND | 8 | .39 |
| Zinc | ND | 2 | .17 |



REVISED REPOR

EMAX QUALITY C ROL DATA
LCS/LCD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 96K088
METHOD: SW 3050A/6010A

| | | | | | |
|---|---|---|---|---|---|
| MATRIX: | SOIL | | | % MOISTURE: | NA |
| DILTN FACTR: | 1 | 1 | 1 | | |
| SAMPLE ID: | MBLK1S | | | | |
| CONTROL NO.: | IPK025SB | IPK025SL | IPK025SC | | |
| LAB FILE ID: | I07L005 | I07L005 | I07L005 | | |
| DATIME EXTRCTD: | 11/26/9609:00 | 11/26/9609:00 | 11/26/9609:00 | DATE COLLECTED: | NA |
| DATIME ANALYZD: | 12/17/9615:43 | 12/17/9615:46 | 12/17/9615:50 | DATE RECEIVED: | 11/26/96 |
| PREP. BATCH: | IPK025S | IPK025S | IPK025S | | |
| CALIB. REF: | I07L005 | I07L005 | I07L005 | | |

ACCESSION:

| PARAMETER | BLNK RSLT (mg/kg) | SPIKE AMT (mg/kg) | BS RSLT (mg/kg) | BS % REC | SPIKE AMT (mg/kg) | BSD RSLT (mg/kg) | BSD % REC | RPD % | QC LIMIT % | MAX RPD % |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | ND | 1000.000 | 957.000 | 96 | 1000.000 | 970.000 | 97 | 1 | 80-120 | 25 |
| Barium | .151F | 100.000 | 97.500 | 97 | 100.000 | 98.000 | 98 | 1 | 80-120 | 25 |
| Beryllium | .135F | 100.000 | 91.900 | 92 | 100.000 | 92.200 | 92 | 0 | 80-120 | 25 |
| Calcium | ND | 5000.000 | 4310.000 | 86 | 5000.000 | 4270.000 | 85 | 1 | 80-120 | 25 |
| Chromium | ND | 100.000 | 90.600 | 90 | 100.000 | 90.700 | 90 | 0 | 80-120 | 25 |
| Cobalt | ND | 100.000 | 90.000 | 90 | 100.000 | 90.100 | 90 | 0 | 80-120 | 25 |
| Copper | .203F | 100.000 | 102.000 | 102 | 100.000 | 102.000 | 102 | 0 | 80-120 | 25 |
| Iron | 1.830F | 1000.000 | 939.000 | 94 | 1000.000 | 944.000 | 94 | 1 | 80-120 | 25 |
| Magnesium | ND | 5000.000 | 4410.000 | 88 | 5000.000 | 4310.000 | 86 | 2 | 80-120 | 25 |
| Manganese | .216F | 100.000 | 88.700 | 89 | 100.000 | 88.900 | 89 | 0 | 80-120 | 25 |
| Molybdenum | .615F | 100.000 | 92.500 | 92 | 100.000 | 90.100 | 89 | 3 | 80-120 | 25 |
| Potassium | ND | 5000.000 | 4970.000 | 99 | 5000.000 | 5000.000 | 100 | 1 | 80-120 | 25 |
| Sodium | 33.700 | 5000.000 | 5080.000 | 101 | 5000.000 | 5050.000 | 100 | 1 | 80-120 | 25 |
| Vanadium | ND | 100.000 | 94.400 | 94 | 100.000 | 95.200 | 95 | 1 | 80-120 | 25 |
| Zinc | ND | 100.000 | 94.200 | 94 | 100.000 | 94.600 | 95 | 0 | 80-120 | 25 |

REVISED REPORT

009

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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 |
| Thallium | ND | 46.3 | 1.16 |

010

REVISED REPORT

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 |
| Thallium | ND | 48.7 | 1.22 |



REVISED REPORT

410 210

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 |
| Thallium | ND | 49.3 | 1.23 |



REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/15/96 |
| oject | : 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 |
| Thallium | ND | 46.5 | 1.16 |



REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | NA |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/26/96 |
| Batch No. | : 96K088 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : MBLK1S | DaTime Analyzd : | 12/06/96 18:17 |
| Lab Cnt NO.: | IPK025SB | Dilutn Factor : | 1 |
| Lab File ID: | I31L008 | Matrix : | SOIL |
| Ext Btch ID: | IPK025S | % Moisture : | NA |
| Calib. Ref.: | I31L008 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Arsenic | ND | .5 | .46 |
| Cadmium | ND | .1 | .1 |
| Lead | .306F | .5 | .14 |
| Thallium | ND | 40 | 1 |



REVISED REPORT

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 96K088
METHOD: SW 3050A/6010A

| | | | | | |
|---|---|---|---|---|---|
| MATRIX: | SOIL | | | % MOISTURE: | NA |
| DILTN FACTR: | 1 | 1 | 1 | | |
| SAMPLE ID: | MBLK1S | | | | |
| CONTROL NO.: | IPK025SB | IPK025SL | IPK025SC | | |
| LAB FILE ID: | 131L008 | 131L008 | 131L008 | | |
| DATIME EXTRCTD: | 11/26/9609:00 | 11/26/9609:00 | 11/26/9609:00 | DATE COLLECTED: | NA |
| DATIME ANALYZD: | 12/06/9618:17 | 12/06/9618:24 | 12/06/9618:28 | DATE RECEIVED: | 11/26/96 |
| PREP. BATCH: | IPK025S | IPK025S | IPK025S | | |
| CALIB. REF: | 131L008 | 131L008 | 131L008 | | |

ACCESSION:

| PARAMETER | BLNK RSLT (mg/kg) | SPIKE AMT (mg/kg) | BS RSLT (mg/kg) | BS % REC | SPIKE AMT (mg/kg) | BSD RSLT (mg/kg) | BSD % REC | RPD % | QC LIMIT % | MAX RPD % |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ND | 100.000 | 86.700 | 87 | 100.000 | 86.800 | 87 | 0 | 80-120 | 25 |
| Cadmium | ND | 100.000 | 87.500 | 87 | 100.000 | 88.300 | 88 | 1 | 80-120 | 25 |
| Lead | .306F | 100.000 | 85.500 | 85 | 100.000 | 86.200 | 86 | 1 | 80-120 | 25 |
| Thallium | ND | 200.000 | 198.300 | 99 | 200.000 | 201.100 | 101 | 2 | 80-120 | 25 |

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# 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 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 | 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 : 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 | 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

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# 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.



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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
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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 |

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# 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.

Project : CARSWELL AFB / 05667200
Batch No. : 96K008
Matrix : SOIL

Date 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

Matrix R

| 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 |

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# 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 : [illegible]
Batch No. : 96[illegible]
Matrix : SOIL

Datime 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 |

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Batch No. [illegible]
Matrix [illegible]R

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 | 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 |

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# 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

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 : 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 | .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
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| 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 | U0K1502 11/21/96 | 19.22 | >K/290 | >K/298 |
| CR-A153401 | K088-03 | 16.6 | | 19.49 | | >K/299 |
| CR-A153501 | K088-05 | 17.0 | | 20.16 | | >K/300 |
| CR-A153503 | K088-07 | 14.2 | | 20.44 | | >K/301 |
| CR-A153501 | K088-05R | 17.0 | U0K2302 11/27/96 | 18:20 | >K/434 | >K/438 |
| UBLK01 | U0K1502B | | U0K1502 11/21/96 | 16.02 | >K/290 | >K/291 |
| LCS01 | U0K1502C | | | 16.35 | | >K/292 |
| LCSD01 | U0K1502C | | | 17.03 | | >K/2 |
| UBLK02 | U0K2302B | | U0K2302 11/27/96 | 16.54 | >K/434 | >K/435 |
| LCS02 | U0K2302C | | | 17.23 | | >K/436 |
| LCSD02 | U0K2302C | | | 17.51 | | >K/437 |

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 | >KP246 |
| CR-A153508 | K088-12 | NA | | 21:47 | | >KP218 |
| VBLK01 | VOK1102B | | | 17:18 | | >KP209 |
| LCS01 | VOK1102L | | | 17:57 | | >KP219 |
| 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 |
| 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 |
| 2-Butanone | ND | 115 | 2.6 |
| 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 | .4[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 | 1.2 |
| 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 | .4[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

410 271

| | | | |
|---|---|---|---|
| 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

032

# 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 | .4 |
| Bromoform | ND | 5.83 | .6 |
| Bromomethane | ND | 11.7 | 1.45 |
| 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 |
| Toluene-d8 | 103 | 88-110 |

039

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

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# 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 21:4 |
| Sample ID | : CR-A153508 | DaTime Analyzd | : 11/18/96 21:4 |
| 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 | .4 |
| Bromoform | ND | 5 | .2 |
| Bromomethane | ND | 10 | .72 |
| 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 |
| Bromofluorobenzene | 115 | 86-115 |
| Toluene-d8 | 101 | 88-110 |

043

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

410 275
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# 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 [illegible] 1-22-97

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.



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 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 10:0 |
| Sample ID | : CR-A153506 | DaTime Analyzd : | 12/06/96 00:5 |
| 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 |
| Hexachlorocyclopentadiene | ND | 10 | 1 |
| Hexachloroethane | ND | 10 | [illegible] |
| 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

# TAB

EMAX Batch No. 96K097

410 281

# LABORATORY REPORT FOR

# JACOBS ENGINEERING GROUP

# CARSWELL AFB (D.O. 21)

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## METALS

## RESUBMITTAL REVISED REPORT (SOIL)

SDG#: 96K097

FEBRUARY 7, 1997

REVISED REPORT

001

410 282

DATE: February 7, 1997

SUBJECT: Case Narrative for Revised Thallium Results - SDG 97K097

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Thallium in twenty soil samples SDG 96K097 was originally analyzed by regular-ICP and results in all soil samples were reported at above ICP-MDL level (> 10 mg/kg). However, thallium results analyzed by Trace-ICP in all soil samples were less than 10 mg/kg. The high bias results from regular-ICP analysis were found to be from background interferences. The report with revised thallium results from Trace-ICP for all soil samples were resubmitted on February 7, 1997. TRACE-ICP MDL (1 mg/kg) was used in the revised report with PQL at 40 mg/kg.

REVISED REPORT

002

12/04/1996 10:16

# LAB CHRONICLE
## Metals

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K097
MATRIX: Soil

* As, Pb, Cd, Tl were analyzed by Trace ICP

| SAMPLE ID | CONTROL NO | %H2O | PREPARATION BATCH/DATE/TIME | ANALYTICAL BATCH/DATE/TIME | CALIB REF | FILE ID |
|---|---|---|---|---|---|---|
| CR-A153602 | K097-02 | 16.9 | IPK0293/9.00 11/27/96 | IC7L012/12/19/96 | | * |
| 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 | IPK0315/9.00/11/27/96 | IC7LC08/12/18/96 | | |
| CR-A154404 | K097-40 | 12.7 | | | | |
| MBLK1S | IPK0293B | | IPK0293/9.00/11/27/96 | IC7LC2/12/19/96 | | |
| LCS1 | | SL | | | | |
| LCS1D | | SC | T | | | |
| MBLK2S | IPK0315B | | IPK0293/9.00/11/27/96 | IC7LC08/12/18/96 | | |
| LCS2 | | SL | | | | |
| LCS2D | | SC | | | | |

REVISED REPORT
CC3

410 284

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 |
| Vanadium | 24.3 | 9.63 | .469 |
| Zinc | 24.6 | 2.41 | .205 |

REVISED REPORT

004

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/16/96 |
| oject | : 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 |
| Thallium | ND | 48.1 | 1.20 |

REVISED REPORT.
005

410 286

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 |
| Vanadium | 23.6 | 9.05 | .441 |
| Zinc | 20.3 | 2.26 | .192 |

REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : 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 |
| Thallium | ND | 45.2 | 1.13 |

REVISED REPORT

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 |
| Vanadium | 18.7 | 9.54 | .465 |
| Zinc | 21.9 | 2.38 | .203 |

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : 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 |
| Thallium | ND | 47.7 | 1.19 |

REVISED REPORT

410 290

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 |
| Vanadium | 14.1 | 9.28 | .452 |
| Zinc | 7.1 | 2.32 | .197 |

REVISED REPORT
010

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 |
| Thallium | ND | 46.4 | 1.16 |

REVISED REPORT

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 |
| Vanadium | 13.3 | 9.09 | .443 |
| Zinc | 23.3 | 2.27 | .193 |

REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : 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 |
| Thallium | ND | 45.5 | 1.14 |

REVISED REPORT

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 |
| Vanadium | 16.6 | 9.29 | .453 |
| Zinc | 8.41 | 2.32 | .197 |

REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : 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 |
| Thallium | ND | 46.5 | 1.16 |

REVISED REPORT

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 |
| Vanadium | 26.5 | 9.56 | .466 |
| Zinc | 22.2 | 2.39 | .203 |

REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/16/96 |
| oject | : 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 |
| Thallium | ND | 47.8 | 1.19 |

REVISED REPORT

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 |
| Vanadium | 16.4 | 9.64 | .47 |
| Zinc | 23.2 | 2.41 | .205 |

REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/16/96 |
| roject | : 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 |
| Thallium | ND | 48.2 | 1.20 |

REVISED REPORT

410 300

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 |
| Vanadium | 28.5 | 10.2 | .497 |
| Zinc | 25.8 | 2.55 | .217 |

REVISED REPORT

020

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : 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 |
| Thallium | ND | 51 | 1.27 |

REVISED REPORT

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 |
| Vanadium | 20.5 | 9.28 | .452 |
| Zinc | 19 | 2.32 | .197 |



REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/16/96 |
| roject | : 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 |
| Thallium | ND | 46.4 | 1.16 |



REVISED REPORT

410 304

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 |
| Vanadium | 23 | 9.65 | .47 |
| Zinc | 21.2 | 2.41 | .205 |



REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/16/96 |
| oject | : 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 |
| Thallium | ND | 48.3 | 1.21 |



REVISED REPORT

410 306

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 |
| Vanadium | 18 | 8.92 | .435 |
| Zinc | 23.5 | 2.23 | .19 |

REVISED REPORT
026

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/16/96 |
| oject | : 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 |
| Thallium | ND | 44.6 | 1.11 |



REVISED REPORT

410 308

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 |
| Vanadium | 19.1 | 9.83 | .479 |
| Zinc | 18.5 | 2.46 | .209 |

REVISED REPORT

0 028

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/18/96 |
| ojject | : 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 |
| Thallium | ND | 49.1 | 1.23 |

REVISED REPORT

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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 |
| Vanadium | 22.2 | 9.01 | .439 |
| Zinc | 19.4 | 2.25 | .191 |



REVISED REPORT

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 |
| Thallium | ND | 45.0 | 1.13 |



REVISED REPORT

410 312

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 |
| Vanadium | 21.1 | 9.94 | .484 |
| Zinc | 30.1 | 2.48 | .211 |

REVISED REPORT.

032

SW3050A/6010A
TRACE BY ICP



| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/18/96 |
| oject | : 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 |
| Thallium | ND | 49.7 | 1.24 |

REVISED REPORT

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 | 2.4B |
| 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 |
| Vanadium | 18.9 | 8.81 | .43 |
| Zinc | 16.6 | 2.2 | .187 |



REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/18/96 |
| ...bject | : 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 |
| Thallium | ND | 44.1 | 1.10 |



REVISED REPORT

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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 |
| Vanadium | 26.9 | 8.89 | .433 |
| Zinc | 22.9 | 2.22 | .189 |



REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/18/96 |
| oject | : 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 |
| Thallium | ND | 44.4 | 1.11 |



REVISED REPORT

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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 |
| Vanadium | 23.1 | 9.16 | .447 |
| Zinc | 18.7 | 2.29 | .195 |



REVISED REPORT

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 |
| Thallium | ND | 45.8 | 1.15 |



REVISED REPORT

SW3050A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | NA |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/27/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/27/96 09:00 |
| Sample ID | : MBLK1S | DaTime Analyzd : | 12/19/96 16:09 |
| Lab Cnt NO.: | IPK029SB | Dilutn Factor : | 1 |
| Lab File ID: | I07L012 | Matrix : | SOIL |
| Ext Btch ID: | IPK029S | % Moisture : | NA |
| Calib. Ref.: | I07L012 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Aluminum | 17.5F | 50 | 1.01 |
| Barium | .0468F | 2 | .04 |
| Beryllium | ND | .3 | .01 |
| Calcium | 2.54F | 10 | 2.25 |
| Chromium | ND | 7 | .55 |
| Cobalt | ND | 7 | .84 |
| Copper | .146F | 6 | .14 |
| Iron | .959F | 7 | .58 |
| Magnesium | ND | 30 | 5.53 |
| Manganese | ND | 2 | .12 |
| Molybdenum | ND | 8 | .61 |
| Potassium | ND | 500 | 52.2 |
| Sodium | 29.2F | 30 | 2 |
| Vanadium | ND | 8 | .39 |
| Zinc | ND | 2 | .17 |



REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | NA |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/27/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/27/96 09:00 |
| Sample ID | : MBLK1S | DaTime Analyzd : | 12/11/96 18:22 |
| Lab Cnt NO. | : IPK029SB | Dilutn Factor : | 1 |
| Lab File ID | : I31L013 | Matrix : | SOIL |
| Ext Btch ID | : IPK029S | % Moisture : | NA |
| Calib. Ref. | : I31L013 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Arsenic | ND | .5 | .46 |
| Cadmium | ND | .1 | .1 |
| Lead | ND | .5 | .14 |
| Thallium | ND | 40 | 1 |

REVISED REPORT

SW3050A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | NA |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/27/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/27/96 09:00 |
| Sample ID | : MBLK2S | DaTime Analyzd : | 12/18/96 20:21 |
| Lab Cnt NO.: | IPK031SB | Dilutn Factor : | 1 |
| Lab File ID: | I07L008 | Matrix : | SOIL |
| Ext Btch ID: | IPK031S | % Moisture : | NA |
| Calib. Ref.: | I07L008 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Aluminum | 17.8F | 50 | 1.01 |
| Barium | ND | 2 | .04 |
| Beryllium | ND | .3 | .01 |
| Calcium | ND | 10 | 2.25 |
| Chromium | ND | 7 | .55 |
| Cobalt | ND | 7 | .84 |
| Copper | ND | 6 | .14 |
| Iron | ND | 7 | .58 |
| Magnesium | ND | 30 | 5.53 |
| Manganese | ND | 2 | .12 |
| Molybdenum | .611F | 8 | .61 |
| Potassium | 74.6F | 500 | 52.2 |
| Sodium | ND | 30 | 2 |
| Vanadium | ND | 8 | .39 |
| Zinc | ND | 2 | .17 |

REVISED REPORT

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | NA |
| ojject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/27/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/27/96 09:00 |
| Sample ID | : MBLK2S | DaTime Analyzd : | 12/11/96 19:11 |
| Lab Cnt NO. | : IPK031SB | Dilutn Factor : | 1 |
| Lab File ID | : I31L016 | Matrix : | SOIL |
| Ext Btch ID | : IPK031S | % Moisture : | NA |
| Calib. Ref. | : I31L016 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Arsenic | ND | .5 | .46 |
| Cadmium | ND | .1 | .1 |
| Lead | .172F | .5 | .14 |
| Thallium | ND | 40 | 1 |

REVISED REPORT

410 324
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DEC 24 1996
JE 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 : 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-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

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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

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# LABORATORY REPORT FOR

# JACOBS ENGINEERING GROUP, INC.

# CARSWELL AFB / 05G47900

# MERCURY BY COLD VAPOR

SDG#: 96K097

DECEMBER 20, 1996

# 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 7471A
MERCURY BY COLD VAPOR

200

410 330

| | | | |
|---|---|---|---|
| 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

EPA 7470A
MERCURY BY COLD VAPOR

CLIENT: JACOBS ENGINEERING GROUP
PROJECT: CARSWELL AFB / 05G47900
BATCH NO.: 96K097
MATRIX: WATER
CAL REF: M96K015-19

DATE COLLECTED: 11/16/96
DATE RECEIVED: 11/19/96
DATE EXTRACTED: 11/25/96 09:00
INSTRUMENT ID: I23
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

410 332
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# 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.

410 334

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

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

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# LABORATORY REPORT FOR

# JACOBS ENGINEERING GROUP, INC.

# CARSWELL AFB / 05G47900

## SELENIUM BY GFAA

SDG#: 96K097

DECEMBER 20, 1996

# 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 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 : 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-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

200

410 310

EPA 3020A/7740
SELENIUM BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K097
Matrix : WATER

Date Collcted : 11/16/96
Daltime 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 | .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

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# LABORATORY REPORT FOR

# JACOBS ENGINEERING GROUP, INC.

# CARSWELL AFB / 05G47900

## SILVER BY GFAA

SDG#: 96K097

DECEMBER 20, 1996

# 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 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 : 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-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

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 : 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-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

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# 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.

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# 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 | | | 20.43 | | | 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 | | KP487 | KP 493 |
| CR-A153803 | K097-15 | 15.7 | Vok 2302 | 11/27/96 | 22.08 | | KP 434 | KP 4 |
| CR-A153901 | K097-17 | 20.1 | Vok 2502 | 11/29/96 | 15.17 | | KP487 | KP 494 |
| 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 | 16.58 | | KP434 | KP 438 |
| LCS01 | Vok2302L | | | | 17.23 | | | KP 436 |
| LCSD01 | Vok2302C | | | | 17.21 | | | KP |
| VBLK02 | Vok2502B | | Vok2502 | 11/29/96 | 12.29 | | KP487 | KP 488 |
| LCS02 | Vok2502L | | | | 12.57 | | | KP 489 |
| LCSD02 | Vok2502C | | | | 13.25 | | | KP 490 |

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# 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 | KP469 | KP480 |
| 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 |
| VBS01 | V0K2402C | | | 15:32 | | KP477 |
| LCSD01 | V0K2402C | | | 16:00 | | KP478 |

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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 | .45[illegible] |
| Bromoform | ND | 5.88 | .[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 | .4[illegible] |
| Bromoform | ND | 5.63 | [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 | 1.7 |
| 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 | 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 | |
| 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

410 355

| | | | |
|---|---|---|---|
| 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 | [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

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

410 359

| | | | |
|---|---|---|---|
| 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 15:17 |
| Sample ID | : CR-A153901 | DaTime Analyzd : | 11/29/96 15:17 |
| Lab Cnt NO. | : K097-17 | Dilutn Factor : | 1 |
| Lab File ID | : RKP494 | Matrix : | SOIL |
| Ext Btch ID | : VOK2502 | % Moisture : | 20.1 |
| Calib. Ref. | : RKP487 | Instrument ID : | MSVOA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 6.26 | .667 |
| 1,1,2,2-Tetrachloroethane | ND | 6.26 | 1.04 |
| 1,1,2-Trichloroethane | ND | 6.26 | 1.06 |
| 1,1-Dichloroethane | ND | 6.26 | .531 |
| 1,1-Dichloroethene | ND | 6.26 | .653 |
| 1,2,3-Trichloropropane | ND | 62.6 | 1.9 |
| 1,2-Dichloroethane | ND | 6.26 | .372 |
| 1,2-Dichloropropane | ND | 6.26 | 1.2 |
| 2-Butanone | ND | 125 | 2.83 |
| 2-Chloroethyl Vinyl Ether | ND | 12.5 | 1.24 |
| 2-Hexanone | ND | 62.6 | 1.65 |
| 4-Methyl-2-Pentanone | ND | 62.6 | 1.95 |
| Acetone | ND | 125 | 5.61 |
| Benzene | ND | 6.26 | .508 |
| Bromodichloromethane | ND | 6.26 | .481 |
| Bromoform | ND | 6.26 | .717 |
| Bromomethane | ND | 12.5 | 1.54 |
| Carbon Disulfide | ND | 6.26 | .616 |
| Carbon Tetrachloride | ND | 6.26 | .493 |
| Chlorobenzene | ND | 6.26 | .548 |
| Chloroethane | ND | 12.5 | 1.15 |
| Chloroform | ND | 6.26 | .568 |
| Chloromethane | ND | 12.5 | 1.17 |
| Cis-1,2-Dichloroethene | ND | 6.26 | .584 |
| Cis-1,3-Dichloropropene | ND | 6.26 | .501 |
| Dibromochloromethane | ND | 6.26 | .483 |
| Ethylbenzene | ND | 6.26 | .676 |
| Methylene Chloride | ND | 6.26 | 3.12 |
| m/p-Xylenes | ND | 12.5 | .864 |
| o-Xylene | ND | 6.26 | .477 |
| Styrene | ND | 6.26 | .597 |
| Tetrachloroethylene | ND | 6.26 | .392 |
| Toluene | ND | 6.26 | .506 |
| Trans-1,2-Dichloroethene | ND | 6.26 | .477 |
| Trans-1,3-Dichloropropene | ND | 6.26 | .437 |
| Trichloroethene | ND | 6.26 | .588 |
| Vinyl Acetate | ND | 62.6 | 1.02 |
| Vinyl Chloride | ND | 12.5 | 1.58 |

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

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

055

410 300

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 23:05 |
| Sample ID | : CR-A153903 | DaTime Analyzd : | 11/27/96 23:05 |
| Lab Cnt NO. | : K097-19 | Dilutn Factor : | 1 |
| Lab File ID | : RKP448 | Matrix : | SOIL |
| Ext Btch ID | : VOK2302 | % Moisture : | 11.9 |
| Calib. Ref. | : RKP434 | Instrument ID : | MSVOA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5.68 | .605 |
| 1,1,2,2-Tetrachloroethane | ND | 5.68 | .942 |
| 1,1,2-Trichloroethane | ND | 5.68 | .959 |
| 1,1-Dichloroethane | ND | 5.68 | .481 |
| 1,1-Dichloroethene | ND | 5.68 | .593 |
| 1,2,3-Trichloropropane | ND | 56.8 | 1.73 |
| 1,2-Dichloroethane | ND | 5.68 | .337 |
| 1,2-Dichloropropane | ND | 5.68 | 1.09 |
| 2-Butanone | ND | 114 | 2.57 |
| 2-Chloroethyl Vinyl Ether | ND | 11.4 | 1.13 |
| 2-Hexanone | ND | 56.8 | 1.5 |
| 4-Methyl-2-Pentanone | ND | 56.8 | 1.77 |
| Acetone | 6.34F | 114 | 5.09 |
| Benzene | ND | 5.68 | .461 |
| Bromodichloromethane | ND | 5.68 | .43[illegible] |
| Bromoform | ND | 5.68 | [illegible] |
| Bromomethane | ND | 11.4 | 1.[illegible] |
| Carbon Disulfide | ND | 5.68 | .558 |
| Carbon Tetrachloride | ND | 5.68 | .447 |
| Chlorobenzene | ND | 5.68 | .497 |
| Chloroethane | ND | 11.4 | 1.04 |
| Chloroform | ND | 5.68 | .515 |
| Chloromethane | ND | 11.4 | 1.06 |
| Cis-1,2-Dichloroethene | ND | 5.68 | .53 |
| Cis-1,3-Dichloropropene | ND | 5.68 | .454 |
| Dibromochloromethane | ND | 5.68 | .438 |
| Ethylbenzene | ND | 5.68 | .613 |
| Methylene Chloride | 2.84F | 5.68 | 2.83 |
| m/p-Xylenes | ND | 11.4 | .783 |
| o-Xylene | ND | 5.68 | .432 |
| Styrene | ND | 5.68 | .541 |
| Tetrachloroethylene | ND | 5.68 | .355 |
| Toluene | ND | 5.68 | .459 |
| Trans-1,2-Dichloroethene | ND | 5.68 | .432 |
| Trans-1,3-Dichloropropene | ND | 5.68 | .396 |
| Trichloroethene | ND | 5.68 | .533 |
| Vinyl Acetate | ND | 56.8 | .927 |
| Vinyl Chloride | ND | 11.4 | 1.43 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | 79-118 |
| Bromofluorobenzene | 93 | 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: | 11/16/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/27/96 23:34 |
| Sample ID | : CR-A154001 | DaTime Analyzd : | 11/27/96 23:34 |
| Lab Cnt NO. | : K097-21 | Dilutn Factor : | 1 |
| Lab File ID | : RKP449 | Matrix : | SOIL |
| Ext Btch ID | : VOK2302 | % Moisture : | 14.4 |
| Calib. Ref. | : RKP434 | Instrument ID : | MSVOA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5.84 | .623 |
| 1,1,2,2-Tetrachloroethane | ND | 5.84 | .97 |
| 1,1,2-Trichloroethane | ND | 5.84 | .987 |
| 1,1-Dichloroethane | ND | 5.84 | .495 |
| 1,1-Dichloroethene | ND | 5.84 | .61 |
| 1,2,3-Trichloropropane | ND | 58.4 | 1.78 |
| 1,2-Dichloroethane | ND | 5.84 | .347 |
| 1,2-Dichloropropane | ND | 5.84 | 1.12 |
| 2-Butanone | ND | 117 | 2.64 |
| 2-Chloroethyl Vinyl Ether | ND | 11.7 | 1.16 |
| 2-Hexanone | ND | 58.4 | 1.54 |
| 4-Methyl-2-Pentanone | ND | 58.4 | 1.82 |
| Acetone | ND | 117 | 5.24 |
| Benzene | ND | 5.84 | .474 |
| Bromodichloromethane | ND | 5.84 | .449 |
| moform | ND | 5.84 | .669 |
| omomethane | ND | 11.7 | 1.43 |
| Carbon Disulfide | ND | 5.84 | .575 |
| Carbon Tetrachloride | ND | 5.84 | .46 |
| Chlorobenzene | ND | 5.84 | .512 |
| Chloroethane | ND | 11.7 | 1.07 |
| Chloroform | ND | 5.84 | .53 |
| Chloromethane | ND | 11.7 | 1.09 |
| Cis-1,2-Dichloroethene | ND | 5.84 | .546 |
| Cis-1,3-Dichloropropene | ND | 5.84 | .467 |
| Dibromochloromethane | ND | 5.84 | .451 |
| Ethylbenzene | ND | 5.84 | .631 |
| Methylene Chloride | 3.65F | 5.84 | 2.91 |
| m/p-Xylenes | ND | 11.7 | .806 |
| o-Xylene | ND | 5.84 | .445 |
| Styrene | ND | 5.84 | .557 |
| Tetrachloroethylene | ND | 5.84 | .366 |
| Toluene | ND | 5.84 | .472 |
| Trans-1,2-Dichloroethene | ND | 5.84 | .445 |
| Trans-1,3-Dichloropropene | ND | 5.84 | .408 |
| Trichloroethene | ND | 5.84 | .549 |
| Vinyl Acetate | ND | 58.4 | .954 |
| Vinyl Chloride | ND | 11.7 | 1.48 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | 79-118 |
| omofluorobenzene | 93 | 86-115 |
| uene-d8 | 98 | 88-110 |

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

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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 : | 11/28/96 00:03 |
| Sample ID | : CR-A154003 | DaTime Analyzd : | 11/28/96 00:03 |
| Lab Cnt NO. | : K097-23 | Dilutn Factor : | 1 |
| Lab File ID | : RKP450 | Matrix : | SOIL |
| Ext Btch ID | : VOK2302 | % Moisture : | 6.7 |
| Calib. Ref. | : RKP434 | Instrument ID : | MSVOA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5.36 | .571 |
| 1,1,2,2-Tetrachloroethane | ND | 5.36 | .89 |
| 1,1,2-Trichloroethane | ND | 5.36 | .906 |
| 1,1-Dichloroethane | ND | 5.36 | .454 |
| 1,1-Dichloroethene | ND | 5.36 | .559 |
| 1,2,3-Trichloropropane | ND | 53.6 | 1.63 |
| 1,2-Dichloroethane | ND | 5.36 | .318 |
| 1,2-Dichloropropane | ND | 5.36 | 1.03 |
| 2-Butanone | ND | 107 | 2.42 |
| 2-Chloroethyl Vinyl Ether | ND | 10.7 | 1.07 |
| 2-Hexanone | ND | 53.6 | 1.42 |
| 4-Methyl-2-Pentanone | ND | 53.6 | 1.67 |
| Acetone | ND | 107 | 4.8 |
| Benzene | ND | 5.36 | .435 |
| Bromodichloromethane | ND | 5.36 | .41[illegible] |
| Bromoform | ND | 5.36 | .[illegible] |
| Bromomethane | ND | 10.7 | 1.[illegible] |
| Carbon Disulfide | ND | 5.36 | .527 |
| Carbon Tetrachloride | ND | 5.36 | .422 |
| Chlorobenzene | ND | 5.36 | .469 |
| Chloroethane | ND | 10.7 | .985 |
| Chloroform | ND | 5.36 | .487 |
| Chloromethane | ND | 10.7 | 1 |
| Cis-1,2-Dichloroethene | ND | 5.36 | .501 |
| Cis-1,3-Dichloropropene | ND | 5.36 | .429 |
| Dibromochloromethane | ND | 5.36 | .414 |
| Ethylbenzene | ND | 5.36 | .579 |
| Methylene Chloride | 3.62F | 5.36 | 2.67 |
| m/p-Xylenes | ND | 10.7 | .74 |
| o-Xylene | ND | 5.36 | .408 |
| Styrene | ND | 5.36 | .511 |
| Tetrachloroethylene | ND | 5.36 | .335 |
| Toluene | ND | 5.36 | .433 |
| Trans-1,2-Dichloroethene | ND | 5.36 | .408 |
| Trans-1,3-Dichloropropene | ND | 5.36 | .374 |
| Trichloroethene | ND | 5.36 | .504 |
| Vinyl Acetate | ND | 53.6 | .876 |
| Vinyl Chloride | ND | 10.7 | 1.35 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | 79-118 |
| Bromofluorobenzene | 95 | 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: | 11/16/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/28/96 16:57 |
| Sample ID | : CR-A154005 | DaTime Analyzd : | 11/28/96 16:57 |
| Lab Cnt NO. | : K097-25 | Dilutn Factor : | 1 |
| Lab File ID | : RKP480 | Matrix : | WATER |
| Ext Btch ID | : VOK2402 | % Moisture : | NA |
| Calib. Ref. | : RKP469 | 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 | 7.4 | 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 | 96 | 79-118 |
| Bromofluorobenzene | 94 | 86-115 |
| Toluene-d8 | 92 | 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 : | 11/28/96 17:2 |
| Sample ID | : CR-A154008 | DaTime Analyzd : | 11/28/96 17:2 |
| Lab Cnt NO.: | K097-28 | Dilutn Factor : | 1 |
| Lab File ID: | RKP481 | Matrix : | WATER |
| Ext Btch ID: | VOK2402 | % Moisture : | NA |
| Calib. Ref.: | RKP469 | 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 | .4[illegible] |
| Bromoform | ND | 5 | .[illegible] |
| Bromomethane | ND | 10 | .7[illegible] |
| 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 | ND | 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 | 97 | 79-118 |
| Bromofluorobenzene | 98 | 86-115 |
| Toluene-d8 | 94 | 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: | 11/18/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/28/96 00:30 |
| Sample ID | : CR-A154101 | DaTime Analyzd : | 11/28/96 00:30 |
| Lab Cnt NO. | : K097-29 | Dilutn Factor : | 1 |
| Lab File ID | : RKP451 | Matrix : | SOIL |
| Ext Btch ID | : VOK2302 | % Moisture : | 19.8 |
| Calib. Ref. | : RKP434 | Instrument ID : | MSVOA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 6.23 | .665 |
| 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 | .529 |
| 1,1-Dichloroethene | ND | 6.23 | .651 |
| 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 | 1.95 |
| Acetone | ND | 125 | 5.59 |
| Benzene | ND | 6.23 | .506 |
| Bromodichloromethane | ND | 6.23 | .479 |
| 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 | .546 |
| Chloroethane | ND | 12.5 | 1.15 |
| Chloroform | ND | 6.23 | .566 |
| Chloromethane | ND | 12.5 | 1.16 |
| Cis-1,2-Dichloroethene | ND | 6.23 | .582 |
| Cis-1,3-Dichloropropene | ND | 6.23 | .499 |
| Dibromochloromethane | ND | 6.23 | .481 |
| Ethylbenzene | ND | 6.23 | .673 |
| Methylene Chloride | 6.45 | 6.23 | 3.1 |
| m/p-Xylenes | ND | 12.5 | .86 |
| o-Xylene | ND | 6.23 | .475 |
| Styrene | ND | 6.23 | .595 |
| Tetrachloroethylene | ND | 6.23 | .39 |
| Toluene | ND | 6.23 | .504 |
| Trans-1,2-Dichloroethene | ND | 6.23 | .475 |
| Trans-1,3-Dichloropropene | ND | 6.23 | .435 |
| Trichloroethene | ND | 6.23 | .586 |
| 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 | 91 | 86-115 |
| Toluene-d8 | 106 | 88-110 |

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

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/18/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/28/96 00:58 |
| Sample ID | : CR-A154103 | DaTime Analyzd : | 11/28/96 00:58 |
| Lab Cnt NO. | : K097-31 | Dilutn Factor : | 1 |
| Lab File ID | : RKP452 | Matrix : | SOIL |
| Ext Btch ID | : VOK2302 | % Moisture : | 12.4 |
| Calib. Ref. | : RKP434 | Instrument ID : | MSVOA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5.71 | .608 |
| 1,1,2,2-Tetrachloroethane | ND | 5.71 | .947 |
| 1,1,2-Trichloroethane | ND | 5.71 | .965 |
| 1,1-Dichloroethane | ND | 5.71 | .484 |
| 1,1-Dichloroethene | ND | 5.71 | .596 |
| 1,2,3-Trichloropropane | ND | 57.1 | 1.74 |
| 1,2-Dichloroethane | ND | 5.71 | .339 |
| 1,2-Dichloropropane | ND | 5.71 | 1.1 |
| 2-Butanone | ND | 114 | 2.58 |
| 2-Chloroethyl Vinyl Ether | ND | 11.4 | 1.13 |
| 2-Hexanone | ND | 57.1 | 1.51 |
| 4-Methyl-2-Pentanone | ND | 57.1 | 1.78 |
| Acetone | ND | 114 | 5.12 |
| Benzene | ND | 5.71 | .463 |
| Bromodichloromethane | ND | 5.71 | .438 |
| Bromoform | ND | 5.71 | [illegible] |
| Bromomethane | ND | 11.4 | 1.[illegible] |
| Carbon Disulfide | ND | 5.71 | .562 |
| Carbon Tetrachloride | ND | 5.71 | .45 |
| Chlorobenzene | ND | 5.71 | .5 |
| Chloroethane | ND | 11.4 | 1.05 |
| Chloroform | ND | 5.71 | .518 |
| Chloromethane | ND | 11.4 | 1.07 |
| Cis-1,2-Dichloroethene | ND | 5.71 | .533 |
| Cis-1,3-Dichloropropene | ND | 5.71 | .457 |
| Dibromochloromethane | ND | 5.71 | .441 |
| Ethylbenzene | ND | 5.71 | .616 |
| Methylene Chloride | 5.62F | 5.71 | 2.84 |
| m/p-Xylenes | ND | 11.4 | .788 |
| o-Xylene | ND | 5.71 | .435 |
| Styrene | ND | 5.71 | .545 |
| Tetrachloroethylene | ND | 5.71 | .357 |
| Toluene | ND | 5.71 | .461 |
| Trans-1,2-Dichloroethene | ND | 5.71 | .435 |
| Trans-1,3-Dichloropropene | ND | 5.71 | .398 |
| Trichloroethene | ND | 5.71 | .537 |
| Vinyl Acetate | ND | 57.1 | .933 |
| Vinyl Chloride | ND | 11.4 | 1.44 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | 79-118 |
| Bromofluorobenzene | 95 | 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

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| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/18/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/28/96 01:27 |
| Sample ID | : CR-A154201 | DaTime Analyzd : | 11/28/96 01:27 |
| Lab Cnt NO. | : K097-33 | Dilutn Factor : | 1 |
| Lab File ID | : RKP453 | Matrix : | SOIL |
| Ext Btch ID | : VOK2302 | % Moisture : | 21.1 |
| Calib. Ref. | : RKP434 | Instrument ID : | MSVOA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 6.34 | .676 |
| 1,1,2,2-Tetrachloroethane | ND | 6.34 | 1.05 |
| 1,1,2-Trichloroethane | ND | 6.34 | 1.07 |
| 1,1-Dichloroethane | ND | 6.34 | .537 |
| 1,1-Dichloroethene | ND | 6.34 | .662 |
| 1,2,3-Trichloropropane | ND | 63.4 | 1.93 |
| 1,2-Dichloroethane | ND | 6.34 | .376 |
| 1,2-Dichloropropane | ND | 6.34 | 1.22 |
| 2-Butanone | ND | 127 | 2.87 |
| 2-Chloroethyl Vinyl Ether | ND | 12.7 | 1.26 |
| 2-Hexanone | ND | 63.4 | 1.68 |
| 4-Methyl-2-Pentanone | ND | 63.4 | 1.98 |
| Acetone | ND | 127 | 5.68 |
| Benzene | ND | 6.34 | .515 |
| Bromodichloromethane | ND | 6.34 | .487 |
| Bromoform | ND | 6.34 | .726 |
| Bromomethane | ND | 12.7 | 1.56 |
| Carbon Disulfide | ND | 6.34 | .624 |
| Carbon Tetrachloride | ND | 6.34 | .499 |
| Chlorobenzene | ND | 6.34 | .555 |
| Chloroethane | ND | 12.7 | 1.16 |
| Chloroform | ND | 6.34 | .575 |
| Chloromethane | ND | 12.7 | 1.18 |
| Cis-1,2-Dichloroethene | ND | 6.34 | .592 |
| Cis-1,3-Dichloropropene | ND | 6.34 | .507 |
| Dibromochloromethane | ND | 6.34 | .489 |
| Ethylbenzene | ND | 6.34 | .684 |
| Methylene Chloride | 5.15F | 6.34 | 3.16 |
| m/p-Xylenes | ND | 12.7 | .875 |
| o-Xylene | ND | 6.34 | .483 |
| Styrene | ND | 6.34 | .605 |
| Tetrachloroethylene | ND | 6.34 | .397 |
| Toluene | ND | 6.34 | .512 |
| Trans-1,2-Dichloroethene | ND | 6.34 | .483 |
| Trans-1,3-Dichloropropene | ND | 6.34 | .442 |
| Trichloroethene | ND | 6.34 | .596 |
| Vinyl Acetate | ND | 63.4 | 1.04 |
| Vinyl Chloride | ND | 12.7 | 1.6 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | 79-118 |
| Bromofluorobenzene | 86 | 86-115 |
| Toluene-d8 | 106 | 88-110 |

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

410 368

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/18/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/28/96 01:56 |
| Sample ID | : CR-A154203 | DaTime Analyzd : | 11/28/96 01:56 |
| Lab Cnt NO. | : K097-35 | Dilutn Factor : | 1 |
| Lab File ID | : RKP454 | Matrix : | SOIL |
| Ext Btch ID | : VOK2302 | % Moisture : | 10.8 |
| Calib. Ref. | : RKP434 | Instrument ID : | MSVOA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5.61 | .598 |
| 1,1,2,2-Tetrachloroethane | ND | 5.61 | .93 |
| 1,1,2-Trichloroethane | ND | 5.61 | .947 |
| 1,1-Dichloroethane | ND | 5.61 | .475 |
| 1,1-Dichloroethene | ND | 5.61 | .585 |
| 1,2,3-Trichloropropane | ND | 56.1 | 1.71 |
| 1,2-Dichloroethane | ND | 5.61 | .333 |
| 1,2-Dichloropropane | ND | 5.61 | 1.08 |
| 2-Butanone | ND | 112 | 2.54 |
| 2-Chloroethyl Vinyl Ether | ND | 11.2 | 1.11 |
| 2-Hexanone | ND | 56.1 | 1.48 |
| 4-Methyl-2-Pentanone | ND | 56.1 | 1.75 |
| Acetone | ND | 112 | 5.03 |
| Benzene | ND | 5.61 | .455 |
| Bromodichloromethane | ND | 5.61 | .43 |
| Bromoform | ND | 5.61 | .6[illegible] |
| Bromomethane | ND | 11.2 | 1.[illegible] |
| Carbon Disulfide | ND | 5.61 | .552 |
| Carbon Tetrachloride | ND | 5.61 | .442 |
| Chlorobenzene | ND | 5.61 | .491 |
| Chloroethane | ND | 11.2 | 1.03 |
| Chloroform | ND | 5.61 | .509 |
| Chloromethane | ND | 11.2 | 1.05 |
| Cis-1,2-Dichloroethene | ND | 5.61 | .524 |
| Cis-1,3-Dichloropropene | ND | 5.61 | .448 |
| Dibromochloromethane | ND | 5.61 | .433 |
| Ethylbenzene | ND | 5.61 | .605 |
| Methylene Chloride | 5.42F | 5.61 | 2.79 |
| m/p-Xylenes | ND | 11.2 | .774 |
| o-Xylene | ND | 5.61 | .427 |
| Styrene | ND | 5.61 | .535 |
| Tetrachloroethylene | ND | 5.61 | .351 |
| Toluene | ND | 5.61 | .453 |
| Trans-1,2-Dichloroethene | ND | 5.61 | .427 |
| Trans-1,3-Dichloropropene | ND | 5.61 | .391 |
| Trichloroethene | ND | 5.61 | .527 |
| Vinyl Acetate | ND | 56.1 | .916 |
| Vinyl Chloride | ND | 11.2 | 1.42 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | 79-118 |
| Bromofluorobenzene | 93 | 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: | 11/18/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Btch No. | : 96K097 | DaTime Extrctd : | 11/28/96 02:23 |
| Sample ID | : CR-A154303 | DaTime Analyzd : | 11/28/96 02:23 |
| Lab Cnt NO. | : K097-37 | Dilutn Factor : | 1 |
| Lab File ID | : RKP455 | Matrix : | SOIL |
| Ext Btch ID | : VOK2302 | % Moisture : | 9.4 |
| Calib. Ref. | : RKP434 | Instrument ID : | MSVOA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 5.52 | .588 |
| 1,1,2,2-Tetrachloroethane | ND | 5.52 | .916 |
| 1,1,2-Trichloroethane | ND | 5.52 | .933 |
| 1,1-Dichloroethane | ND | 5.52 | .468 |
| 1,1-Dichloroethene | ND | 5.52 | .576 |
| 1,2,3-Trichloropropane | ND | 55.2 | 1.68 |
| 1,2-Dichloroethane | ND | 5.52 | .328 |
| 1,2-Dichloropropane | ND | 5.52 | 1.06 |
| 2-Butanone | ND | 110 | 2.5 |
| 2-Chloroethyl Vinyl Ether | ND | 11 | 1.1 |
| 2-Hexanone | ND | 55.2 | 1.46 |
| 4-Methyl-2-Pentanone | ND | 55.2 | 1.72 |
| Acetone | 5.75F | 110 | 4.95 |
| Benzene | ND | 5.52 | .448 |
| Bromodichloromethane | ND | 5.52 | .424 |
| Bromoform | ND | 5.52 | .632 |
| Bromomethane | ND | 11 | 1.35 |
| Carbon Disulfide | ND | 5.52 | .543 |
| Carbon Tetrachloride | ND | 5.52 | .435 |
| Chlorobenzene | ND | 5.52 | .483 |
| Chloroethane | ND | 11 | 1.01 |
| Chloroform | ND | 5.52 | .501 |
| Chloromethane | ND | 11 | 1.03 |
| Cis-1,2-Dichloroethene | ND | 5.52 | .515 |
| Cis-1,3-Dichloropropene | ND | 5.52 | .442 |
| Dibromochloromethane | ND | 5.52 | .426 |
| Ethylbenzene | ND | 5.52 | .596 |
| Methylene Chloride | 6.06 | 5.52 | 2.75 |
| m/p-Xylenes | ND | 11 | .762 |
| o-Xylene | ND | 5.52 | .421 |
| Styrene | ND | 5.52 | .526 |
| Tetrachloroethylene | ND | 5.52 | .345 |
| Toluene | ND | 5.52 | .446 |
| Trans-1,2-Dichloroethene | ND | 5.52 | .421 |
| Trans-1,3-Dichloropropene | ND | 5.52 | .385 |
| Trichloroethene | ND | 5.52 | .519 |
| Vinyl Acetate | ND | 55.2 | .902 |
| Vinyl Chloride | ND | 11 | 1.39 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | 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: | 11/18/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/28/96 02:51 |
| Sample ID | : CR-A154403 | DaTime Analyzd : | 11/28/96 02:51 |
| Lab Cnt NO. | : K097-39 | Dilutn Factor : | 1 |
| Lab File ID | : RKP456 | Matrix : | SOIL |
| Ext Btch ID | : VOK2302 | % Moisture : | 9.7 |
| Calib. Ref. | : RKP434 | 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 | 8.06F | 111 | 4.96 |
| Benzene | ND | 5.54 | .45 |
| Bromodichloromethane | ND | 5.54 | .4[illegible] |
| Bromoform | ND | 5.54 | .6[illegible] |
| Bromomethane | ND | 11.1 | 1.[illegible] |
| 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 | 5.93 | 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 | 100 | 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: | 11/18/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/28/96 17:52 |
| Sample ID | : CR-A154405 | DaTime Analyzd : | 11/28/96 17:52 |
| Lab Cnt NO. | : K097-41 | Dilutn Factor : | 1 |
| Lab File ID | : RKP482 | Matrix : | WATER |
| Ext Btch ID | : VOK2402 | % Moisture : | NA |
| Calib. Ref. | : RKP469 | 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 | 7.32 | 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 | 93 | 79-118 |
| Bromofluorobenzene | 87 | 86-115 |
| Toluene-d8 | 92 | 88-110 |

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

410 372

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# LABORATORY REPORT FOR

# JACOBS ENGINEERING GROUP, INC.

# CARSWELL AFB / 05G47900

## SEMIVOLATILES

SDG#: 96K097

DECEMBER 19, 1996

# CASE NARRATIVE

**CLIENT:** JACOBS ENGINEERING GROUP, INC.

**PROJECT:** CARSWELL AFB / 05G47900

**SDG:** 96K097

## SEMIVOLATILES

Eighteen (18) soil and two (2) water samples were received on 11/19/96 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

   All recoveries and RPDs were within QC limits except low recoveries of Benzoic acid in K097-20M and 20S.

4. Lab Control Sample/Lab Control Sample Duplicate

   All recoveries were within QC limits except low recoveries of Benzoic acid in SVK010WL and Hexachlorocyclopentadiene in SVK010WL and SVK010WC.

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

12/04/1996 10:16

# LAB CHRONICLE
## EPA 8270

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 | SVK015S / 11/26/96 / 10:30 | RLS107 / 12/07/96 / 13:42 | RLS107 | RLS117 |
| CR-A153604 | K097-04 | 11.6 | | RLS087 / 12/06/96 / 23:36 | RLS087 | RLS096 |
| CR-A153702 | K097-06 | 16.1 | | RLS107 / 12/07/96 / 12:00 | RLS107 | RLS115 |
| CR-A153704 | K097-08 | 13.8 | | RLS087 / 12/07/96 / 00:24 | RLS087 | RLS097 |
| CR-A153706 | K097-10 | 12.0 | | RLS107 / 12/07/96 / 12:48 | RLS107 | RLS116 |
| CR-A153708 | K097-12 | 13.9 | | RLS087 / 12/07/96 / 01:11 | RLS087 | RLS098 |
| CR-A153802 | K097-14 | 16.3 | | RLS107 / 12/07/96 / 14:30 | RLS107 | RLS118 |
| CR-A153804 | K097-16 | 17.0 | | RLS107 / 12/07/96 / 15:17 | | RLS[illegible] |
| CR-A153902 | K097-18 | 21.5 | | RLS107 / 12/07/96 / 16:05 | | RL[illegible] |
| CR-A153904 | K097-20 | 13.8 | | RLS087 / 12/07/96 / 01:58 | RLS087 | RLS099 |
| CR-A153904MS | K097-20M | 13.8 | | RLS087 / 12/07/96 / 02:46 | | RLS100 |
| CR-A153904MSD | K097-20S | 13.8 | | RLS087 / 12/07/96 / 03:33 | | RLS101 |
| CR-A154002 | K097-22 | 17.1 | | RLS107 / 12/07/96 / 16:53 | RLS107 | RLS121 |
| CR-A154004 | K097-24 | 10.3 | | RLS107 / 12/07/96 / 06:29 | | RLS106 |
| CR-A154102 | K097-30 | 18.6 | | RLS107 / 12/07/96 / 07:16 | | RLS109 |
| CR-A154104 | K097-32 | 11.2 | | RLS107 / 12/07/96 / 08:03 | | RLS110 |
| CR-A154202 | K097-34 | 19.5 | | RLS107 / 12/07/96 / 08:50 | | RLS111 |
| CR-A154204 | K097-36 | 9.2 | | RLS107 / 12/07/96 / 09:37 | | RLS112 |
| CR-A154304 | K097-38 | 10.0 | | RLS107 / 12/07/96 / 10:25 | | RLS113 |
| CR-A154404 | K097-40 | 12.7 | | RLS107 / 12/07/96 / 11:12 | | RLS114 |
| MBLK1S | SVK015SB | | | RLS087 / 12/06/96 / 21:13 | RLS087 | RLS093 |
| LCS1S | SVK015SL | | | RLS087 / 12/06/96 / 22:01 | | RLS[illegible] |
| LCD1S | SVK015SC | | | RLS087 / 12/06/96 / 22:49 | | RLS[illegible] |

12/04/1996 10:16

# LAB CHRONICLE
## EPA 8270

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-A154006 | K097-26 | NA | SVK010W / 11/20/96 / 18:00 | RLS087 / 12/06/96 / 19:38 | RLS087 | RLS091 |
| CR-A154406 | K097-42 | NA | | RLS087 / 12/06/96 / 20:26 | | RLS092 |
| MBLK1W | SVK010WB | | | RLS087 / 12/06/96 / 17:14 | | RLS088 |
| LCS1W | SVK010WL | | | RLS087 / 12/06/96 / 18:03 | | RLS089 |
| LCD1W | SVK010WC | | | RLS087 / 12/06/96 / 18:50 | | RLS090 |

SW 3550A/8270B
SEMI 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 : | 11/26/96 10:3 |
| Sample ID | : CR-A153602 | DaTime Analyzd : | 12/07/96 13:4 |
| Lab Cnt NO. | : K097-02 | Dilutn Factor : | 1 |
| Lab File ID | : RLS117 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 16.9 |
| Calib. Ref. | : RLS107 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 842 | 124 |
| 1,2-Dichlorobenzene | ND | 842 | 132 |
| 1,3-Dichlorobenzene | ND | 842 | 96.3 |
| 1,4-Dichlorobenzene | ND | 842 | 117 |
| 2,4,5-Trichlorophenol | ND | 3970 | 119 |
| 2,4,6-Trichlorophenol | ND | 361 | 138 |
| 2,4-Dichlorophenol | ND | 361 | 91.5 |
| 2,4-Dimethylphenol | ND | 361 | 107 |
| 2,4-Dinitrophenol | ND | 3970 | 67.4 |
| 2,4-Dinitrotoluene | ND | 842 | 138 |
| 2,6-Dinitrotoluene | ND | 842 | 118 |
| 2-Chloronaphthalene | ND | 842 | 112 |
| 2-Chlorophenol | ND | 361 | 81.8 |
| 2-Methylnaphthalene | ND | 842 | 123 |
| 2-Methylphenol | ND | 361 | 11[illegible] |
| 2-Nitroaniline | ND | 3970 | [illegible] |
| 2-Nitrophenol | ND | 361 | 1[illegible] |
| 3,3'-Dichlorobenzidine | ND | 1560 | 165 |
| 3-Nitroaniline | ND | 3970 | 101 |
| 4,6-Dinitro-2-methylphenol | ND | 3970 | 87.8 |
| 4-Bromophenyl phenyl ether | ND | 842 | 125 |
| 4-Chloro-3-methylphenol | ND | 1560 | 141 |
| 4-Chloroaniline | ND | 1560 | 74.6 |
| 4-Chlorophenyl phenyl ether | ND | 842 | 126 |
| 4-Methylphenol (1) | ND | 361 | 81.8 |
| 4-Nitroaniline | ND | 3970 | 105 |
| 4-Nitrophenol | ND | 1930 | 6.74 |
| Acenaphthene | ND | 842 | 112 |
| Acenaphthylene | ND | 842 | 106 |
| Anthracene | ND | 842 | 124 |
| Benzo(a)anthracene | ND | 842 | 103 |
| Benzo(a)pyrene | ND | 842 | 110 |
| Benzo(b)fluoranthene | ND | 842 | 129 |
| Benzo(k)fluoranthene | ND | 842 | 120 |
| Benzo(g,h,i)perylene | ND | 842 | 112 |
| Benzoic Acid | ND | 1930 | 129 |
| Benzyl alcohol | ND | 1560 | 97.5 |
| bis(2-Chloroethoxy)methane | ND | 842 | 123 |

SW 3550A/8270B
SEMI 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 : | 11/26/96 10:30 |
| Sample ID | : CR-A153602 | DaTime Analyzd : | 12/07/96 13:42 |
| Lab Cnt NO. | : K097-02 | Dilutn Factor : | 1 |
| Lab File ID | : RLS117 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 16.9 |
| Calib. Ref. | : RLS107 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 842 | 80.6 |
| bis(2-Chloroisopropyl)ether | ND | 842 | 108 |
| bis(2-Ethylhexyl)phthalate | ND | 842 | 118 |
| Butylbenzylphthalate | ND | 842 | 244 |
| Chrysene | ND | 842 | 120 |
| Di-n-butylphthalate | ND | 842 | 134 |
| Di-n-octylphthalate | ND | 842 | 108 |
| Dibenzo(a,h)anthracene | ND | 842 | 116 |
| Dibenzofuran | ND | 842 | 120 |
| Diethylphthalate | ND | 842 | 117 |
| Dimethylphthalate | ND | 842 | 129 |
| Fluoranthene | ND | 842 | 124 |
| Fluorene | ND | 842 | 105 |
| Hexachlorobenzene | ND | 842 | 135 |
| Hexachlorobutadiene | ND | 842 | 125 |
| Hexachlorocyclopentadiene | ND | 842 | 140 |
| Hexachloroethane | ND | 842 | 106 |
| Indeno(1,2,3-cd)pyrene | ND | 842 | 114 |
| Isophorone | ND | 842 | 112 |
| n-Nitroso-di-n-propylamine | ND | 842 | 137 |
| n-Nitrosodiphenylamine (2) | ND | 842 | 122 |
| Naphthalene | ND | 842 | 117 |
| Nitrobenzene | ND | 842 | 93.9 |
| Pentachlorophenol | ND | 3970 | 36.1 |
| Phenanthrene | ND | 842 | 122 |
| Phenol | ND | 361 | 93.9 |
| Pyrene | ND | 842 | 116 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 91 | 25-144 |
| 2-Fluorobiphenyl | 72 | 34-135 |
| 2-Fluorophenol | 77 | 25-135 |
| Nitrobenzene-d5 | 76 | 25-135 |
| Phenol-d5 | 77 | 25-135 |
| Terphenyl-d14 | 71 | 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: | 11/16/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/26/96 10:3 |
| Sample ID | : CR-A153604 | DaTime Analyzd : | 12/06/96 23:3 |
| Lab Cnt NO. | : K097-04 | Dilutn Factor : | 1 |
| Lab File ID | : RLS096 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 11.6 |
| Calib. Ref. | : RLS087 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 792 | 117 |
| 1,2-Dichlorobenzene | ND | 792 | 124 |
| 1,3-Dichlorobenzene | ND | 792 | 90.5 |
| 1,4-Dichlorobenzene | ND | 792 | 110 |
| 2,4,5-Trichlorophenol | ND | 3730 | 112 |
| 2,4,6-Trichlorophenol | ND | 339 | 130 |
| 2,4-Dichlorophenol | ND | 339 | 86 |
| 2,4-Dimethylphenol | ND | 339 | 101 |
| 2,4-Dinitrophenol | ND | 3730 | 63.3 |
| 2,4-Dinitrotoluene | ND | 792 | 130 |
| 2,6-Dinitrotoluene | ND | 792 | 111 |
| 2-Chloronaphthalene | ND | 792 | 105 |
| 2-Chlorophenol | ND | 339 | 76.9 |
| 2-Methylnaphthalene | ND | 792 | 115 |
| 2-Methylphenol | ND | 339 | 1[illegible] |
| 2-Nitroaniline | ND | 3730 | 9[illegible] |
| 2-Nitrophenol | ND | 339 | 1[illegible] |
| 3,3'-Dichlorobenzidine | ND | 1470 | 155 |
| 3-Nitroaniline | ND | 3730 | 95 |
| 4,6-Dinitro-2-methylphenol | ND | 3730 | 82.6 |
| 4-Bromophenyl phenyl ether | ND | 792 | 118 |
| 4-Chloro-3-methylphenol | ND | 1470 | 132 |
| 4-Chloroaniline | ND | 1470 | 70.1 |
| 4-Chlorophenyl phenyl ether | ND | 792 | 119 |
| 4-Methylphenol (1) | ND | 339 | 76.9 |
| 4-Nitroaniline | ND | 3730 | 98.4 |
| 4-Nitrophenol | ND | 1810 | 6.33 |
| Acenaphthene | ND | 792 | 105 |
| Acenaphthylene | ND | 792 | 99.5 |
| Anthracene | ND | 792 | 117 |
| Benzo(a)anthracene | ND | 792 | 97.3 |
| Benzo(a)pyrene | ND | 792 | 103 |
| Benzo(b)fluoranthene | ND | 792 | 121 |
| Benzo(k)fluoranthene | ND | 792 | 113 |
| Benzo(g,h,i)perylene | ND | 792 | 105 |
| Benzoic Acid | ND | 1810 | 121 |
| Benzyl alcohol | ND | 1470 | 91.6 |
| bis(2-Chloroethoxy)methane | ND | 792 | 115 |

SW 3550A/8270B
SEMI 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 : | 11/26/96 10:30 |
| Sample ID | : CR-A153604 | DaTime Analyzd : | 12/06/96 23:36 |
| Lab Cnt NO. | : K097-04 | Dilutn Factor : | 1 |
| Lab File ID | : RLS096 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 11.6 |
| Calib. Ref. | : RLS087 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 792 | 75.8 |
| bis(2-Chloroisopropyl)ether | ND | 792 | 102 |
| bis(2-Ethylhexyl)phthalate | ND | 792 | 111 |
| Butylbenzylphthalate | ND | 792 | 230 |
| Chrysene | ND | 792 | 113 |
| Di-n-butylphthalate | ND | 792 | 126 |
| Di-n-octylphthalate | ND | 792 | 102 |
| Dibenzo(a,h)anthracene | ND | 792 | 109 |
| Dibenzofuran | ND | 792 | 113 |
| Diethylphthalate | ND | 792 | 110 |
| Dimethylphthalate | ND | 792 | 121 |
| Fluoranthene | ND | 792 | 117 |
| Fluorene | ND | 792 | 98.4 |
| Hexachlorobenzene | ND | 792 | 127 |
| Hexachlorobutadiene | ND | 792 | 118 |
| Hexachlorocyclopentadiene | ND | 792 | 131 |
| Hexachloroethane | ND | 792 | 99.5 |
| Indeno(1,2,3-cd)pyrene | ND | 792 | 107 |
| Isophorone | ND | 792 | 105 |
| n-Nitroso-di-n-propylamine | ND | 792 | 129 |
| n-Nitrosodiphenylamine (2) | ND | 792 | 114 |
| Naphthalene | ND | 792 | 110 |
| Nitrobenzene | ND | 792 | 88.2 |
| Pentachlorophenol | ND | 3730 | 33.9 |
| Phenanthrene | ND | 792 | 114 |
| Phenol | ND | 339 | 88.2 |
| Pyrene | ND | 792 | 109 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 89 | 25-144 |
| 2-Fluorobiphenyl | 72 | 34-135 |
| 2-Fluorophenol | 69 | 25-135 |
| Nitrobenzene-d5 | 74 | 25-135 |
| Phenol-d5 | 71 | 25-135 |
| Terphenyl-d14 | 70 | 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: | 11/16/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/26/96 10:3 |
| Sample ID | : CR-A153702 | DaTime Analyzd : | 12/07/96 12:0 |
| Lab Cnt NO. | : K097-06 | Dilutn Factor : | 1 |
| Lab File ID | : RLS115 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 16.1 |
| Calib. Ref. | : RLS107 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 834 | 123 |
| 1,2-Dichlorobenzene | ND | 834 | 131 |
| 1,3-Dichlorobenzene | ND | 834 | 95.4 |
| 1,4-Dichlorobenzene | ND | 834 | 116 |
| 2,4,5-Trichlorophenol | ND | 3930 | 118 |
| 2,4,6-Trichlorophenol | ND | 358 | 137 |
| 2,4-Dichlorophenol | ND | 358 | 90.6 |
| 2,4-Dimethylphenol | ND | 358 | 106 |
| 2,4-Dinitrophenol | ND | 3930 | 66.7 |
| 2,4-Dinitrotoluene | ND | 834 | 137 |
| 2,6-Dinitrotoluene | ND | 834 | 117 |
| 2-Chloronaphthalene | ND | 834 | 111 |
| 2-Chlorophenol | ND | 358 | 81 |
| 2-Methylnaphthalene | ND | 834 | 122 |
| 2-Methylphenol | ND | 358 | 114 |
| 2-Nitroaniline | ND | 3930 | [illegible] |
| 2-Nitrophenol | ND | 358 | [illegible] |
| 3,3'-Dichlorobenzidine | ND | 1550 | 163 |
| 3-Nitroaniline | ND | 3930 | 100 |
| 4,6-Dinitro-2-methylphenol | ND | 3930 | 87 |
| 4-Bromophenyl phenyl ether | ND | 834 | 124 |
| 4-Chloro-3-methylphenol | ND | 1550 | 139 |
| 4-Chloroaniline | ND | 1550 | 73.9 |
| 4-Chlorophenyl phenyl ether | ND | 834 | 125 |
| 4-Methylphenol (1) | ND | 358 | 81 |
| 4-Nitroaniline | ND | 3930 | 104 |
| 4-Nitrophenol | ND | 1910 | 6.67 |
| Acenaphthene | ND | 834 | 111 |
| Acenaphthylene | ND | 834 | 105 |
| Anthracene | ND | 834 | 123 |
| Benzo(a)anthracene | ND | 834 | 103 |
| Benzo(a)pyrene | ND | 834 | 108 |
| Benzo(b)fluoranthene | ND | 834 | 128 |
| Benzo(k)fluoranthene | ND | 834 | 119 |
| Benzo(g,h,i)perylene | ND | 834 | 111 |
| Benzoic Acid | ND | 1910 | 128 |
| Benzyl alcohol | ND | 1550 | 96.5 |
| bis(2-Chloroethoxy)methane | ND | 834 | 122 |

SW 3550A/8270B
SEMI 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 : | 11/26/96 10:30 |
| Sample ID | : CR-A153702 | DaTime Analyzd : | 12/07/96 12:00 |
| Lab Cnt NO. | : K097-06 | Dilutn Factor : | 1 |
| Lab File ID | : RLS115 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 16.1 |
| Calib. Ref. | : RLS107 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 834 | 79.9 |
| bis(2-Chloroisopropyl)ether | ND | 834 | 107 |
| bis(2-Ethylhexyl)phthalate | ND | 834 | 117 |
| Butylbenzylphthalate | ND | 834 | 242 |
| Chrysene | ND | 834 | 119 |
| Di-n-butylphthalate | ND | 834 | 132 |
| Di-n-octylphthalate | ND | 834 | 107 |
| Dibenzo(a,h)anthracene | ND | 834 | 114 |
| Dibenzofuran | ND | 834 | 119 |
| Diethylphthalate | ND | 834 | 116 |
| Dimethylphthalate | ND | 834 | 128 |
| Fluoranthene | ND | 834 | 123 |
| Fluorene | ND | 834 | 104 |
| Hexachlorobenzene | ND | 834 | 133 |
| Hexachlorobutadiene | ND | 834 | 124 |
| Hexachlorocyclopentadiene | ND | 834 | 138 |
| Hexachloroethane | ND | 834 | 105 |
| Indeno(1,2,3-cd)pyrene | ND | 834 | 113 |
| Isophorone | ND | 834 | 111 |
| n-Nitroso-di-n-propylamine | ND | 834 | 136 |
| n-Nitrosodiphenylamine (2) | ND | 834 | 120 |
| Naphthalene | ND | 834 | 116 |
| Nitrobenzene | ND | 834 | 93 |
| Pentachlorophenol | ND | 3930 | 35.8 |
| Phenanthrene | ND | 834 | 120 |
| Phenol | ND | 358 | 93 |
| Pyrene | ND | 834 | 114 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 97 | 25-144 |
| 2-Fluorobiphenyl | 70 | 34-135 |
| 2-Fluorophenol | 68 | 25-135 |
| Nitrobenzene-d5 | 73 | 25-135 |
| Phenol-d5 | 74 | 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: | 11/16/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/26/96 10:3 |
| Sample ID | : CR-A153704 | DaTime Analyzd : | 12/07/96 00:2 |
| Lab Cnt NO. | : K097-08 | Dilutn Factor : | 1 |
| Lab File ID | : RLS097 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 13.8 |
| Calib. Ref. | : RLS087 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 812 | 119 |
| 1,2-Dichlorobenzene | ND | 812 | 128 |
| 1,3-Dichlorobenzene | ND | 812 | 92.8 |
| 1,4-Dichlorobenzene | ND | 812 | 113 |
| 2,4,5-Trichlorophenol | ND | 3830 | 115 |
| 2,4,6-Trichlorophenol | ND | 348 | 133 |
| 2,4-Dichlorophenol | ND | 348 | 88.2 |
| 2,4-Dimethylphenol | ND | 348 | 103 |
| 2,4-Dinitrophenol | ND | 3830 | 65 |
| 2,4-Dinitrotoluene | ND | 812 | 133 |
| 2,6-Dinitrotoluene | ND | 812 | 114 |
| 2-Chloronaphthalene | ND | 812 | 108 |
| 2-Chlorophenol | ND | 348 | 78.9 |
| 2-Methylnaphthalene | ND | 812 | 118 |
| 2-Methylphenol | ND | 348 | 1[illegible] |
| 2-Nitroaniline | ND | 3830 | [illegible] |
| 2-Nitrophenol | ND | 348 | 1[illegible] |
| 3,3'-Dichlorobenzidine | ND | 1510 | 159 |
| 3-Nitroaniline | ND | 3830 | 97.4 |
| 4,6-Dinitro-2-methylphenol | ND | 3830 | 84.7 |
| 4-Bromophenyl phenyl ether | ND | 812 | 121 |
| 4-Chloro-3-methylphenol | ND | 1510 | 136 |
| 4-Chloroaniline | ND | 1510 | 71.9 |
| 4-Chlorophenyl phenyl ether | ND | 812 | 122 |
| 4-Methylphenol (1) | ND | 348 | 78.9 |
| 4-Nitroaniline | ND | 3830 | 101 |
| 4-Nitrophenol | ND | 1860 | 6.5 |
| Acenaphthene | ND | 812 | 108 |
| Acenaphthylene | ND | 812 | 102 |
| Anthracene | ND | 812 | 119 |
| Benzo(a)anthracene | ND | 812 | 99.8 |
| Benzo(a)pyrene | ND | 812 | 106 |
| Benzo(b)fluoranthene | ND | 812 | 124 |
| Benzo(k)fluoranthene | ND | 812 | 116 |
| Benzo(g,h,i)perylene | ND | 812 | 108 |
| Benzoic Acid | ND | 1860 | 124 |
| Benzyl alcohol | ND | 1510 | 94 |
| bis(2-Chloroethoxy)methane | ND | 812 | 118 |

SW 3550A/8270B
SEMI 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 : | 11/26/96 10:30 |
| Sample ID | : CR-A153704 | DaTime Analyzd : | 12/07/96 00:24 |
| Lab Cnt NO. | : K097-08 | Dilutn Factor : | 1 |
| Lab File ID | : RLS097 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 13.8 |
| Calib. Ref. | : RLS087 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 812 | 77.7 |
| bis(2-Chloroisopropyl)ether | ND | 812 | 104 |
| bis(2-Ethylhexyl)phthalate | ND | 812 | 114 |
| Butylbenzylphthalate | ND | 812 | 235 |
| Chrysene | ND | 812 | 116 |
| Di-n-butylphthalate | ND | 812 | 129 |
| Di-n-octylphthalate | ND | 812 | 104 |
| Dibenzo(a,h)anthracene | ND | 812 | 111 |
| Dibenzofuran | ND | 812 | 116 |
| Diethylphthalate | ND | 812 | 113 |
| Dimethylphthalate | ND | 812 | 124 |
| Fluoranthene | ND | 812 | 119 |
| Fluorene | ND | 812 | 101 |
| Hexachlorobenzene | ND | 812 | 130 |
| Hexachlorobutadiene | ND | 812 | 121 |
| Hexachlorocyclopentadiene | ND | 812 | 135 |
| Hexachloroethane | ND | 812 | 102 |
| Indeno(1,2,3-cd)pyrene | ND | 812 | 110 |
| Isophorone | ND | 812 | 108 |
| n-Nitroso-di-n-propylamine | ND | 812 | 132 |
| n-Nitrosodiphenylamine (2) | ND | 812 | 117 |
| Naphthalene | ND | 812 | 113 |
| Nitrobenzene | ND | 812 | 90.5 |
| Pentachlorophenol | ND | 3830 | 34.8 |
| Phenanthrene | ND | 812 | 117 |
| Phenol | ND | 348 | 90.5 |
| Pyrene | ND | 812 | 111 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 94 | 25-144 |
| 2-Fluorobiphenyl | 75 | 34-135 |
| 2-Fluorophenol | 73 | 25-135 |
| Nitrobenzene-d5 | 76 | 25-135 |
| Phenol-d5 | 76 | 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: | 11/16/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/26/96 10:3 |
| Sample ID | : CR-A153706 | DaTime Analyzd : | 12/07/96 12:4 |
| Lab Cnt NO. | : K097-10 | Dilutn Factor : | 1 |
| Lab File ID | : RLS116 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 12.0 |
| Calib. Ref. | : RLS107 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 795 | 117 |
| 1,2-Dichlorobenzene | ND | 795 | 125 |
| 1,3-Dichlorobenzene | ND | 795 | 90.9 |
| 1,4-Dichlorobenzene | ND | 795 | 110 |
| 2,4,5-Trichlorophenol | ND | 3750 | 112 |
| 2,4,6-Trichlorophenol | ND | 341 | 131 |
| 2,4-Dichlorophenol | ND | 341 | 86.4 |
| 2,4-Dimethylphenol | ND | 341 | 101 |
| 2,4-Dinitrophenol | ND | 3750 | 63.6 |
| 2,4-Dinitrotoluene | ND | 795 | 131 |
| 2,6-Dinitrotoluene | ND | 795 | 111 |
| 2-Chloronaphthalene | ND | 795 | 106 |
| 2-Chlorophenol | ND | 341 | 77.3 |
| 2-Methylnaphthalene | ND | 795 | 116 |
| 2-Methylphenol | ND | 341 | 109 |
| 2-Nitroaniline | ND | 3750 | [illegible] |
| 2-Nitrophenol | ND | 341 | [illegible] |
| 3,3'-Dichlorobenzidine | ND | 1480 | 156 |
| 3-Nitroaniline | ND | 3750 | 95.5 |
| 4,6-Dinitro-2-methylphenol | ND | 3750 | 83 |
| 4-Bromophenyl phenyl ether | ND | 795 | 118 |
| 4-Chloro-3-methylphenol | ND | 1480 | 133 |
| 4-Chloroaniline | ND | 1480 | 70.5 |
| 4-Chlorophenyl phenyl ether | ND | 795 | 119 |
| 4-Methylphenol (1) | ND | 341 | 77.3 |
| 4-Nitroaniline | ND | 3750 | 98.9 |
| 4-Nitrophenol | ND | 1820 | 6.36 |
| Acenaphthene | ND | 795 | 106 |
| Acenaphthylene | ND | 795 | 100 |
| Anthracene | ND | 795 | 117 |
| Benzo(a)anthracene | ND | 795 | 97.7 |
| Benzo(a)pyrene | ND | 795 | 103 |
| Benzo(b)fluoranthene | ND | 795 | 122 |
| Benzo(k)fluoranthene | ND | 795 | 114 |
| Benzo(g,h,i)perylene | ND | 795 | 106 |
| Benzoic Acid | ND | 1820 | 122 |
| Benzyl alcohol | ND | 1480 | 92 |
| bis(2-Chloroethoxy)methane | ND | 795 | 116 |

SW 3550A/8270B
SEMI 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 : | 11/26/96 10:30 |
| Sample ID | : CR-A153706 | DaTime Analyzd : | 12/07/96 12:48 |
| Lab Cnt NO. | : K097-10 | Dilutn Factor : | 1 |
| Lab File ID | : RLS116 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 12.0 |
| Calib. Ref. | : RLS107 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 795 | 76.1 |
| bis(2-Chloroisopropyl)ether | ND | 795 | 102 |
| bis(2-Ethylhexyl)phthalate | ND | 795 | 111 |
| Butylbenzylphthalate | ND | 795 | 231 |
| Chrysene | ND | 795 | 114 |
| Di-n-butylphthalate | ND | 795 | 126 |
| Di-n-octylphthalate | ND | 795 | 102 |
| Dibenzo(a,h)anthracene | ND | 795 | 109 |
| Dibenzofuran | ND | 795 | 114 |
| Diethylphthalate | ND | 795 | 110 |
| Dimethylphthalate | ND | 795 | 122 |
| Fluoranthene | ND | 795 | 117 |
| Fluorene | ND | 795 | 98.9 |
| Hexachlorobenzene | ND | 795 | 127 |
| Hexachlorobutadiene | ND | 795 | 118 |
| Hexachlorocyclopentadiene | ND | 795 | 132 |
| Hexachloroethane | ND | 795 | 100 |
| Indeno(1,2,3-cd)pyrene | ND | 795 | 108 |
| Isophorone | ND | 795 | 106 |
| n-Nitroso-di-n-propylamine | ND | 795 | 130 |
| n-Nitrosodiphenylamine (2) | ND | 795 | 115 |
| Naphthalene | ND | 795 | 110 |
| Nitrobenzene | ND | 795 | 88.6 |
| Pentachlorophenol | ND | 3750 | 34.1 |
| Phenanthrene | ND | 795 | 115 |
| Phenol | ND | 341 | 88.6 |
| Pyrene | ND | 795 | 109 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 93 | 25-144 |
| 2-Fluorobiphenyl | 70 | 34-135 |
| 2-Fluorophenol | 70 | 25-135 |
| Nitrobenzene-d5 | 74 | 25-135 |
| Phenol-d5 | 75 | 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: | 11/16/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/26/96 10:3 |
| Sample ID | : CR-A153708 | DaTime Analyzd : | 12/07/96 01:1 |
| Lab Cnt NO. | : K097-12 | Dilutn Factor : | 1 |
| Lab File ID | : RLS098 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 13.9 |
| Calib. Ref. | : RLS087 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 813 | 120 |
| 1,2-Dichlorobenzene | ND | 813 | 128 |
| 1,3-Dichlorobenzene | ND | 813 | 92.9 |
| 1,4-Dichlorobenzene | ND | 813 | 113 |
| 2,4,5-Trichlorophenol | ND | 3830 | 115 |
| 2,4,6-Trichlorophenol | ND | 348 | 134 |
| 2,4-Dichlorophenol | ND | 348 | 88.3 |
| 2,4-Dimethylphenol | ND | 348 | 103 |
| 2,4-Dinitrophenol | ND | 3830 | 65 |
| 2,4-Dinitrotoluene | ND | 813 | 134 |
| 2,6-Dinitrotoluene | ND | 813 | 114 |
| 2-Chloronaphthalene | ND | 813 | 108 |
| 2-Chlorophenol | ND | 348 | 79 |
| 2-Methylnaphthalene | ND | 813 | 118 |
| 2-Methylphenol | ND | 348 | 111 |
| 2-Nitroaniline | ND | 3830 | [illegible] |
| 2-Nitrophenol | ND | 348 | 1[illegible] |
| 3,3'-Dichlorobenzidine | ND | 1510 | 159 |
| 3-Nitroaniline | ND | 3830 | 97.6 |
| 4,6-Dinitro-2-methylphenol | ND | 3830 | 84.8 |
| 4-Bromophenyl phenyl ether | ND | 813 | 121 |
| 4-Chloro-3-methylphenol | ND | 1510 | 136 |
| 4-Chloroaniline | ND | 1510 | 72 |
| 4-Chlorophenyl phenyl ether | ND | 813 | 122 |
| 4-Methylphenol (1) | ND | 348 | 79 |
| 4-Nitroaniline | ND | 3830 | 101 |
| 4-Nitrophenol | ND | 1860 | 6.5 |
| Acenaphthene | ND | 813 | 108 |
| Acenaphthylene | ND | 813 | 102 |
| Anthracene | ND | 813 | 120 |
| Benzo(a)anthracene | ND | 813 | 99.9 |
| Benzo(a)pyrene | ND | 813 | 106 |
| Benzo(b)fluoranthene | ND | 813 | 124 |
| Benzo(k)fluoranthene | ND | 813 | 116 |
| Benzo(g,h,i)perylene | ND | 813 | 108 |
| Benzoic Acid | ND | 1860 | 124 |
| Benzyl alcohol | ND | 1510 | 94.1 |
| bis(2-Chloroethoxy)methane | ND | 813 | 118 |

SW 3550A/8270B
SEMI 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 : | 11/26/96 10:30 |
| Sample ID | : CR-A153708 | DaTime Analyzd : | 12/07/96 01:11 |
| Lab Cnt NO. | : K097-12 | Dilutn Factor : | 1 |
| Lab File ID | : RLS098 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 13.9 |
| Calib. Ref. | : RLS087 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 813 | 77.8 |
| bis(2-Chloroisopropyl)ether | ND | 813 | 105 |
| bis(2-Ethylhexyl)phthalate | ND | 813 | 114 |
| Butylbenzylphthalate | ND | 813 | 236 |
| Chrysene | ND | 813 | 116 |
| Di-n-butylphthalate | ND | 813 | 129 |
| Di-n-octylphthalate | ND | 813 | 105 |
| Dibenzo(a,h)anthracene | ND | 813 | 111 |
| Dibenzofuran | ND | 813 | 116 |
| Diethylphthalate | ND | 813 | 113 |
| Dimethylphthalate | ND | 813 | 124 |
| Fluoranthene | ND | 813 | 120 |
| Fluorene | ND | 813 | 101 |
| Hexachlorobenzene | ND | 813 | 130 |
| Hexachlorobutadiene | ND | 813 | 121 |
| [illegible]achlorocyclopentadiene | ND | 813 | 135 |
| [illegible]achloroethane | ND | 813 | 102 |
| Indeno(1,2,3-cd)pyrene | ND | 813 | 110 |
| Isophorone | ND | 813 | 108 |
| n-Nitroso-di-n-propylamine | ND | 813 | 132 |
| n-Nitrosodiphenylamine (2) | ND | 813 | 117 |
| Naphthalene | ND | 813 | 113 |
| Nitrobenzene | ND | 813 | 90.6 |
| Pentachlorophenol | ND | 3830 | 34.8 |
| Phenanthrene | ND | 813 | 117 |
| Phenol | ND | 348 | 90.6 |
| Pyrene | ND | 813 | 111 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 93 | 25-144 |
| 2-Fluorobiphenyl | 77 | 34-135 |
| 2-Fluorophenol | 81 | 25-135 |
| Nitrobenzene-d5 | 84 | 25-135 |
| Phenol-d5 | 82 | 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 | : 11/16/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received | : 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd | : 11/26/96 10:3[illegible] |
| Sample ID | : CR-A153802 | DaTime Analyzd | : 12/07/96 14:3[illegible] |
| Lab Cnt NO. | : K097-14 | Dilutn Factor | : 1 |
| Lab File ID | : RLS118 | Matrix | : SOIL |
| Ext Btch ID | : SVK015S | % Moisture | : 16.3 |
| Calib. Ref. | : RLS107 | Instrument ID | : MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 836 | 123 |
| 1,2-Dichlorobenzene | ND | 836 | 131 |
| 1,3-Dichlorobenzene | ND | 836 | 95.6 |
| 1,4-Dichlorobenzene | ND | 836 | 116 |
| 2,4,5-Trichlorophenol | ND | 3940 | 118 |
| 2,4,6-Trichlorophenol | ND | 358 | 137 |
| 2,4-Dichlorophenol | ND | 358 | 90.8 |
| 2,4-Dimethylphenol | ND | 358 | 106 |
| 2,4-Dinitrophenol | ND | 3940 | 66.9 |
| 2,4-Dinitrotoluene | ND | 836 | 137 |
| 2,6-Dinitrotoluene | ND | 836 | 117 |
| 2-Chloronaphthalene | ND | 836 | 111 |
| 2-Chlorophenol | ND | 358 | 81.2 |
| 2-Methylnaphthalene | ND | 836 | 122 |
| 2-Methylphenol | ND | 358 | 11[illegible] |
| 2-Nitroaniline | ND | 3940 | 1[illegible] |
| 2-Nitrophenol | ND | 358 | 1[illegible] |
| 3,3'-Dichlorobenzidine | ND | 1550 | 164 |
| 3-Nitroaniline | ND | 3940 | 100 |
| 4,6-Dinitro-2-methylphenol | ND | 3940 | 87.2 |
| 4-Bromophenyl phenyl ether | ND | 836 | 124 |
| 4-Chloro-3-methylphenol | ND | 1550 | 140 |
| 4-Chloroaniline | ND | 1550 | 74.1 |
| 4-Chlorophenyl phenyl ether | ND | 836 | 125 |
| 4-Methylphenol (1) | ND | 358 | 81.2 |
| 4-Nitroaniline | ND | 3940 | 104 |
| 4-Nitrophenol | ND | 1910 | 6.69 |
| Acenaphthene | ND | 836 | 111 |
| Acenaphthylene | ND | 836 | 105 |
| Anthracene | ND | 836 | 123 |
| Benzo(a)anthracene | ND | 836 | 103 |
| Benzo(a)pyrene | ND | 836 | 109 |
| Benzo(b)fluoranthene | ND | 836 | 128 |
| Benzo(k)fluoranthene | ND | 836 | 119 |
| Benzo(g,h,i)perylene | ND | 836 | 111 |
| Benzoic Acid | ND | 1910 | 128 |
| Benzyl alcohol | ND | 1550 | 96.8 |
| bis(2-Chloroethoxy)methane | ND | 836 | 122 |

SW 3550A/8270B
SEMI 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 : | 11/26/96 10:30 |
| Sample ID | : CR-A153802 | DaTime Analyzd : | 12/07/96 14:30 |
| Lab Cnt NO. | : K097-14 | Dilutn Factor : | 1 |
| Lab File ID | : RLS118 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 16.3 |
| Calib. Ref. | : RLS107 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 836 | 80 |
| bis(2-Chloroisopropyl)ether | ND | 836 | 108 |
| bis(2-Ethylhexyl)phthalate | ND | 836 | 117 |
| Butylbenzylphthalate | ND | 836 | 243 |
| Chrysene | ND | 836 | 119 |
| Di-n-butylphthalate | ND | 836 | 133 |
| Di-n-octylphthalate | ND | 836 | 108 |
| Dibenzo(a,h)anthracene | ND | 836 | 115 |
| Dibenzofuran | ND | 836 | 119 |
| Diethylphthalate | ND | 836 | 116 |
| Dimethylphthalate | ND | 836 | 128 |
| Fluoranthene | ND | 836 | 123 |
| Fluorene | ND | 836 | 104 |
| Hexachlorobenzene | ND | 836 | 134 |
| Hexachlorobutadiene | ND | 836 | 124 |
| achlorocyclopentadiene | ND | 836 | 139 |
| achloroethane | ND | 836 | 105 |
| Indeno(1,2,3-cd)pyrene | ND | 836 | 114 |
| Isophorone | ND | 836 | 111 |
| n-Nitroso-di-n-propylamine | ND | 836 | 136 |
| n-Nitrosodiphenylamine (2) | ND | 836 | 121 |
| Naphthalene | ND | 836 | 116 |
| Nitrobenzene | ND | 836 | 93.2 |
| Pentachlorophenol | ND | 3940 | 35.8 |
| Phenanthrene | ND | 836 | 121 |
| Phenol | ND | 358 | 93.2 |
| Pyrene | ND | 836 | 115 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 91 | 25-144 |
| -Fluorobiphenyl | 70 | 34-135 |
| 2-Fluorophenol | 67 | 25-135 |
| Nitrobenzene-d5 | 75 | 25-135 |
| Phenol-d5 | 71 | 25-135 |
| Terphenyl-d14 | 70 | 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 | : 11/16/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received | : 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd | : 11/26/96 10:3 |
| Sample ID | : CR-A153804 | DaTime Analyzd | : 12/07/96 15:1 |
| Lab Cnt NO. | : K097-16 | Dilutn Factor | : 1 |
| Lab File ID | : RLS119 | Matrix | : SOIL |
| Ext Btch ID | : SVK015S | % Moisture | : 17.0 |
| Calib. Ref. | : RLS107 | Instrument ID | : MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 843 | 124 |
| 1,2-Dichlorobenzene | ND | 843 | 133 |
| 1,3-Dichlorobenzene | ND | 843 | 96.4 |
| 1,4-Dichlorobenzene | ND | 843 | 117 |
| 2,4,5-Trichlorophenol | ND | 3980 | 119 |
| 2,4,6-Trichlorophenol | ND | 361 | 139 |
| 2,4-Dichlorophenol | ND | 361 | 91.6 |
| 2,4-Dimethylphenol | ND | 361 | 107 |
| 2,4-Dinitrophenol | ND | 3980 | 67.5 |
| 2,4-Dinitrotoluene | ND | 843 | 139 |
| 2,6-Dinitrotoluene | ND | 843 | 118 |
| 2-Chloronaphthalene | ND | 843 | 112 |
| 2-Chlorophenol | ND | 361 | 81.9 |
| 2-Methylnaphthalene | ND | 843 | 123 |
| 2-Methylphenol | ND | 361 | [illegible] |
| 2-Nitroaniline | ND | 3980 | [illegible] |
| 2-Nitrophenol | ND | 361 | [illegible] |
| 3,3'-Dichlorobenzidine | ND | 1570 | 165 |
| 3-Nitroaniline | ND | 3980 | 101 |
| 4,6-Dinitro-2-methylphenol | ND | 3980 | 88 |
| 4-Bromophenyl phenyl ether | ND | 843 | 125 |
| 4-Chloro-3-methylphenol | ND | 1570 | 141 |
| 4-Chloroaniline | ND | 1570 | 74.7 |
| 4-Chlorophenyl phenyl ether | ND | 843 | 127 |
| 4-Methylphenol (1) | ND | 361 | 81.9 |
| 4-Nitroaniline | ND | 3980 | 105 |
| 4-Nitrophenol | ND | 1930 | 6.75 |
| Acenaphthene | ND | 843 | 112 |
| Acenaphthylene | ND | 843 | 106 |
| Anthracene | ND | 843 | 124 |
| Benzo(a)anthracene | ND | 843 | 104 |
| Benzo(a)pyrene | ND | 843 | 110 |
| Benzo(b)fluoranthene | ND | 843 | 129 |
| Benzo(k)fluoranthene | ND | 843 | 120 |
| Benzo(g,h,i)perylene | ND | 843 | 112 |
| Benzoic Acid | ND | 1930 | 129 |
| Benzyl alcohol | ND | 1570 | 97.6 |
| bis(2-Chloroethoxy)methane | ND | 843 | 123 |

SW 3550A/8270B
SEMI 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 : | 11/26/96 10:30 |
| Sample ID | : CR-A153804 | DaTime Analyzd : | 12/07/96 15:17 |
| Lab Cnt NO. | : K097-16 | Dilutn Factor : | 1 |
| Lab File ID | : RLS119 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 17.0 |
| Calib. Ref. | : RLS107 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 843 | 80.7 |
| bis(2-Chloroisopropyl)ether | ND | 843 | 108 |
| bis(2-Ethylhexyl)phthalate | ND | 843 | 118 |
| Butylbenzylphthalate | ND | 843 | 245 |
| Chrysene | ND | 843 | 120 |
| Di-n-butylphthalate | ND | 843 | 134 |
| Di-n-octylphthalate | ND | 843 | 108 |
| Dibenzo(a,h)anthracene | ND | 843 | 116 |
| Dibenzofuran | ND | 843 | 120 |
| Diethylphthalate | ND | 843 | 117 |
| Dimethylphthalate | ND | 843 | 129 |
| Fluoranthene | ND | 843 | 124 |
| Fluorene | ND | 843 | 105 |
| Hexachlorobenzene | ND | 843 | 135 |
| Hexachlorobutadiene | ND | 843 | 125 |
| Hexachlorocyclopentadiene | ND | 843 | 140 |
| Hexachloroethane | ND | 843 | 106 |
| Indeno(1,2,3-cd)pyrene | ND | 843 | 114 |
| Isophorone | ND | 843 | 112 |
| n-Nitroso-di-n-propylamine | ND | 843 | 137 |
| n-Nitrosodiphenylamine (2) | ND | 843 | 122 |
| Naphthalene | ND | 843 | 117 |
| Nitrobenzene | ND | 843 | 94 |
| Pentachlorophenol | ND | 3980 | 36.1 |
| Phenanthrene | ND | 843 | 122 |
| Phenol | ND | 361 | 94 |
| Pyrene | ND | 843 | 116 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 89 | 25-144 |
| 2-Fluorobiphenyl | 71 | 34-135 |
| 2-Fluorophenol | 71 | 25-135 |
| Nitrobenzene-d5 | 77 | 25-135 |
| Phenol-d5 | 75 | 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: | 11/16/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/26/96 10:3 |
| Sample ID | : CR-A153902 | DaTime Analyzd : | 12/07/96 16:0 |
| Lab Cnt NO. | : K097-18 | Dilutn Factor : | 1 |
| Lab File ID | : RLS120 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 21.5 |
| Calib. Ref. | : RLS107 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 892 | 131 |
| 1,2-Dichlorobenzene | ND | 892 | 140 |
| 1,3-Dichlorobenzene | ND | 892 | 102 |
| 1,4-Dichlorobenzene | ND | 892 | 124 |
| 2,4,5-Trichlorophenol | ND | 4200 | 126 |
| 2,4,6-Trichlorophenol | ND | 382 | 146 |
| 2,4-Dichlorophenol | ND | 382 | 96.8 |
| 2,4-Dimethylphenol | ND | 382 | 113 |
| 2,4-Dinitrophenol | ND | 4200 | 71.3 |
| 2,4-Dinitrotoluene | ND | 892 | 146 |
| 2,6-Dinitrotoluene | ND | 892 | 125 |
| 2-Chloronaphthalene | ND | 892 | 118 |
| 2-Chlorophenol | ND | 382 | 86.6 |
| 2-Methylnaphthalene | ND | 892 | 130 |
| 2-Methylphenol | ND | 382 | 12[illegible] |
| 2-Nitroaniline | ND | 4200 | 1[illegible] |
| 2-Nitrophenol | ND | 382 | 1[illegible] |
| 3,3'-Dichlorobenzidine | ND | 1660 | 175 |
| 3-Nitroaniline | ND | 4200 | 107 |
| 4,6-Dinitro-2-methylphenol | ND | 4200 | 93 |
| 4-Bromophenyl phenyl ether | ND | 892 | 132 |
| 4-Chloro-3-methylphenol | ND | 1660 | 149 |
| 4-Chloroaniline | ND | 1660 | 79 |
| 4-Chlorophenyl phenyl ether | ND | 892 | 134 |
| 4-Methylphenol (1) | ND | 382 | 86.6 |
| 4-Nitroaniline | ND | 4200 | 111 |
| 4-Nitrophenol | ND | 2040 | 7.13 |
| Acenaphthene | ND | 892 | 118 |
| Acenaphthylene | ND | 892 | 112 |
| Anthracene | ND | 892 | 131 |
| Benzo(a)anthracene | ND | 892 | 110 |
| Benzo(a)pyrene | ND | 892 | 116 |
| Benzo(b)fluoranthene | ND | 892 | 136 |
| Benzo(k)fluoranthene | ND | 892 | 127 |
| Benzo(g,h,i)perylene | ND | 892 | 118 |
| Benzoic Acid | ND | 2040 | 136 |
| Benzyl alcohol | ND | 1660 | 103 |
| bis(2-Chloroethoxy)methane | ND | 892 | 130 |

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

410 393

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/16/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/26/96 10:30 |
| Sample ID | : CR-A153902 | DaTime Analyzd : | 12/07/96 16:05 |
| Lab Cnt NO. | : K097-18 | Dilutn Factor : | 1 |
| Lab File ID | : RLS120 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 21.5 |
| Calib. Ref. | : RLS107 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 892 | 85.4 |
| bis(2-Chloroisopropyl)ether | ND | 892 | 115 |
| bis(2-Ethylhexyl)phthalate | ND | 892 | 125 |
| Butylbenzylphthalate | ND | 892 | 259 |
| Chrysene | ND | 892 | 127 |
| Di-n-butylphthalate | ND | 892 | 141 |
| Di-n-octylphthalate | ND | 892 | 115 |
| Dibenzo(a,h)anthracene | ND | 892 | 122 |
| Dibenzofuran | ND | 892 | 127 |
| Diethylphthalate | ND | 892 | 124 |
| Dimethylphthalate | ND | 892 | 136 |
| Fluoranthene | ND | 892 | 131 |
| Fluorene | ND | 892 | 111 |
| Hexachlorobenzene | ND | 892 | 143 |
| Hexachlorobutadiene | ND | 892 | 132 |
| Hexachlorocyclopentadiene | ND | 892 | 148 |
| Hexachloroethane | ND | 892 | 112 |
| Indeno(1,2,3-cd)pyrene | ND | 892 | 121 |
| Isophorone | ND | 892 | 118 |
| n-Nitroso-di-n-propylamine | ND | 892 | 145 |
| n-Nitrosodiphenylamine (2) | ND | 892 | 129 |
| Naphthalene | ND | 892 | 124 |
| Nitrobenzene | ND | 892 | 99.4 |
| Pentachlorophenol | ND | 4200 | 38.2 |
| Phenanthrene | ND | 892 | 129 |
| Phenol | ND | 382 | 99.4 |
| Pyrene | ND | 892 | 122 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 86 | 25-144 |
| 2-Fluorobiphenyl | 68 | 34-135 |
| 2-Fluorophenol | 69 | 25-135 |
| Nitrobenzene-d5 | 71 | 25-135 |
| Phenol-d5 | 70 | 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: | 11/16/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/26/96 10:3 |
| Sample ID | : CR-A153904 | DaTime Analyzd : | 12/07/96 01:5 |
| Lab Cnt NO. | : K097-20 | Dilutn Factor : | 1 |
| Lab File ID | : RLS099 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 13.8 |
| Calib. Ref. | : RLS087 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 812 | 119 |
| 1,2-Dichlorobenzene | ND | 812 | 128 |
| 1,3-Dichlorobenzene | ND | 812 | 92.8 |
| 1,4-Dichlorobenzene | ND | 812 | 113 |
| 2,4,5-Trichlorophenol | ND | 3830 | 115 |
| 2,4,6-Trichlorophenol | ND | 348 | 133 |
| 2,4-Dichlorophenol | ND | 348 | 88.2 |
| 2,4-Dimethylphenol | ND | 348 | 103 |
| 2,4-Dinitrophenol | ND | 3830 | 65 |
| 2,4-Dinitrotoluene | ND | 812 | 133 |
| 2,6-Dinitrotoluene | ND | 812 | 114 |
| 2-Chloronaphthalene | ND | 812 | 108 |
| 2-Chlorophenol | ND | 348 | 78.9 |
| 2-Methylnaphthalene | ND | 812 | 118 |
| 2-Methylphenol | ND | 348 | [illegible] |
| 2-Nitroaniline | ND | 3830 | [illegible] |
| 2-Nitrophenol | ND | 348 | 119 |
| 3,3'-Dichlorobenzidine | ND | 1510 | 159 |
| 3-Nitroaniline | ND | 3830 | 97.4 |
| 4,6-Dinitro-2-methylphenol | ND | 3830 | 84.7 |
| 4-Bromophenyl phenyl ether | ND | 812 | 121 |
| 4-Chloro-3-methylphenol | ND | 1510 | 136 |
| 4-Chloroaniline | ND | 1510 | 71.9 |
| 4-Chlorophenyl phenyl ether | ND | 812 | 122 |
| 4-Methylphenol (1) | ND | 348 | 78.9 |
| 4-Nitroaniline | ND | 3830 | 101 |
| 4-Nitrophenol | ND | 1860 | 6.5 |
| Acenaphthene | ND | 812 | 108 |
| Acenaphthylene | ND | 812 | 102 |
| Anthracene | ND | 812 | 119 |
| Benzo(a)anthracene | ND | 812 | 99.8 |
| Benzo(a)pyrene | ND | 812 | 106 |
| Benzo(b)fluoranthene | ND | 812 | 124 |
| Benzo(k)fluoranthene | ND | 812 | 116 |
| Benzo(g,h,i)perylene | ND | 812 | 108 |
| Benzoic Acid | ND | 1860 | 124 |
| Benzyl alcohol | ND | 1510 | 94 |
| bis(2-Chloroethoxy)methane | ND | 812 | 118 |

SW 3550A/8270B
SEMI 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 : | 11/26/96 10:30 |
| Sample ID | : CR-A153904 | DaTime Analyzd : | 12/07/96 01:58 |
| Lab Cnt NO. | : K097-20 | Dilutn Factor : | 1 |
| Lab File ID | : RLS099 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 13.8 |
| Calib. Ref. | : RLS087 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 812 | 77.7 |
| bis(2-Chloroisopropyl)ether | ND | 812 | 104 |
| bis(2-Ethylhexyl)phthalate | ND | 812 | 114 |
| Butylbenzylphthalate | ND | 812 | 235 |
| Chrysene | ND | 812 | 116 |
| Di-n-butylphthalate | ND | 812 | 129 |
| Di-n-octylphthalate | ND | 812 | 104 |
| Dibenzo(a,h)anthracene | ND | 812 | 111 |
| Dibenzofuran | ND | 812 | 116 |
| Diethylphthalate | ND | 812 | 113 |
| Dimethylphthalate | ND | 812 | 124 |
| Fluoranthene | ND | 812 | 119 |
| Fluorene | ND | 812 | 101 |
| Hexachlorobenzene | ND | 812 | 130 |
| Hexachlorobutadiene | ND | 812 | 121 |
| Hexachlorocyclopentadiene | ND | 812 | 135 |
| Hexachloroethane | ND | 812 | 102 |
| Indeno(1,2,3-cd)pyrene | ND | 812 | 110 |
| Isophorone | ND | 812 | 108 |
| n-Nitroso-di-n-propylamine | ND | 812 | 132 |
| n-Nitrosodiphenylamine (2) | ND | 812 | 117 |
| Naphthalene | ND | 812 | 113 |
| Nitrobenzene | ND | 812 | 90.5 |
| Pentachlorophenol | ND | 3830 | 34.8 |
| Phenanthrene | ND | 812 | 117 |
| Phenol | ND | 348 | 90.5 |
| Pyrene | ND | 812 | 111 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 86 | 25-144 |
| 2-Fluorobiphenyl | 72 | 34-135 |
| 2-Fluorophenol | 75 | 25-135 |
| Nitrobenzene-d5 | 76 | 25-135 |
| Phenol-d5 | 76 | 25-135 |
| Terphenyl-d14 | 71 | 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: | 11/16/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/26/96 10:3 |
| Sample ID | : CR-A154002 | DaTime Analyzd : | 12/07/96 16:5 |
| Lab Cnt NO. | : K097-22 | Dilutn Factor : | 1 |
| Lab File ID | : RLS121 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 17.1 |
| Calib. Ref. | : RLS107 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDI (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 | 11[illegible] |
| 2-Nitroaniline | ND | 3980 | |
| 2-Nitrophenol | ND | 362 | [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: | 11/16/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/26/96 10:30 |
| Sample ID | : CR-A154002 | DaTime Analyzd : | 12/07/96 16:53 |
| Lab Cnt NO. | : K097-22 | Dilutn Factor : | 1 |
| Lab File ID | : RLS121 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 17.1 |
| Calib. Ref. | : RLS107 | 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 | ND | 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 | 93 | 25-144 |
| 2-Fluorobiphenyl | 76 | 34-135 |
| 2-Fluorophenol | 79 | 25-135 |
| Nitrobenzene-d5 | 81 | 25-135 |
| Phenol-d5 | 83 | 25-135 |
| Terphenyl-d14 | 77 | 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: | 11/16/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/26/96 10:3 |
| Sample ID | : CR-A154004 | DaTime Analyzd : | 12/07/96 06:2 |
| Lab Cnt NO. | : K097-24 | Dilutn Factor : | 1 |
| Lab File ID | : RLS108 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 10.3 |
| Calib. Ref. | : RLS107 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 780 | 115 |
| 1,2-Dichlorobenzene | ND | 780 | 123 |
| 1,3-Dichlorobenzene | ND | 780 | 89.2 |
| 1,4-Dichlorobenzene | ND | 780 | 108 |
| 2,4,5-Trichlorophenol | ND | 3680 | 110 |
| 2,4,6-Trichlorophenol | ND | 334 | 128 |
| 2,4-Dichlorophenol | ND | 334 | 84.7 |
| 2,4-Dimethylphenol | ND | 334 | 99.2 |
| 2,4-Dinitrophenol | ND | 3680 | 62.4 |
| 2,4-Dinitrotoluene | ND | 780 | 128 |
| 2,6-Dinitrotoluene | ND | 780 | 109 |
| 2-Chloronaphthalene | ND | 780 | 104 |
| 2-Chlorophenol | ND | 334 | 75.8 |
| 2-Methylnaphthalene | ND | 780 | 114 |
| 2-Methylphenol | ND | 334 | 10[illegible] |
| 2-Nitroaniline | ND | 3680 | 98[illegible] |
| 2-Nitrophenol | ND | 334 | 1[illegible] |
| 3,3'-Dichlorobenzidine | ND | 1450 | 153 |
| 3-Nitroaniline | ND | 3680 | 93.6 |
| 4,6-Dinitro-2-methylphenol | ND | 3680 | 81.4 |
| 4-Bromophenyl phenyl ether | ND | 780 | 116 |
| 4-Chloro-3-methylphenol | ND | 1450 | 130 |
| 4-Chloroaniline | ND | 1450 | 69.1 |
| 4-Chlorophenyl phenyl ether | ND | 780 | 117 |
| 4-Methylphenol (1) | ND | 334 | 75.8 |
| 4-Nitroaniline | ND | 3680 | 97 |
| 4-Nitrophenol | ND | 1780 | 6.24 |
| Acenaphthene | ND | 780 | 104 |
| Acenaphthylene | ND | 780 | 98.1 |
| Anthracene | ND | 780 | 115 |
| Benzo(a)anthracene | ND | 780 | 95.9 |
| Benzo(a)pyrene | ND | 780 | 101 |
| Benzo(b)fluoranthene | ND | 780 | 119 |
| Benzo(k)fluoranthene | ND | 780 | 111 |
| Benzo(g,h,i)perylene | ND | 780 | 104 |
| Benzoic Acid | ND | 1780 | 119 |
| Benzyl alcohol | ND | 1450 | 90.3 |
| bis(2-Chloroethoxy)methane | ND | 780 | 114 |

SW 3550A/8270B
SEMI 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 : | 11/26/96 10:30 |
| Sample ID | : CR-A154004 | DaTime Analyzd : | 12/07/96 06:29 |
| Lab Cnt NO. | : K097-24 | Dilutn Factor : | 1 |
| Lab File ID | : RLS108 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 10.3 |
| Calib. Ref. | : RLS107 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 780 | 74.7 |
| bis(2-Chloroisopropyl)ether | ND | 780 | 100 |
| bis(2-Ethylhexyl)phthalate | ND | 780 | 109 |
| Butylbenzylphthalate | ND | 780 | 226 |
| Chrysene | ND | 780 | 111 |
| Di-n-butylphthalate | ND | 780 | 124 |
| Di-n-octylphthalate | ND | 780 | 100 |
| Dibenzo(a,h)anthracene | ND | 780 | 107 |
| Dibenzofuran | ND | 780 | 111 |
| Diethylphthalate | ND | 780 | 108 |
| Dimethylphthalate | ND | 780 | 119 |
| Fluoranthene | ND | 780 | 115 |
| Fluorene | ND | 780 | 97 |
| Hexachlorobenzene | ND | 780 | 125 |
| Hexachlorobutadiene | ND | 780 | 116 |
| Hexachlorocyclopentadiene | ND | 780 | 129 |
| Hexachloroethane | ND | 780 | 98.1 |
| Indeno(1,2,3-cd)pyrene | ND | 780 | 106 |
| Isophorone | ND | 780 | 104 |
| n-Nitroso-di-n-propylamine | ND | 780 | 127 |
| n-Nitrosodiphenylamine (2) | ND | 780 | 113 |
| Naphthalene | ND | 780 | 108 |
| Nitrobenzene | ND | 780 | 87 |
| Pentachlorophenol | ND | 3680 | 33.4 |
| Phenanthrene | ND | 780 | 113 |
| Phenol | ND | 334 | 87 |
| Pyrene | ND | 780 | 107 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 84 | 25-144 |
| 2-Fluorobiphenyl | 64 | 34-135 |
| 2-Fluorophenol | 66 | 25-135 |
| Nitrobenzene-d5 | 70 | 25-135 |
| Phenol-d5 | 71 | 25-135 |
| Terphenyl-d14 | 67 | 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

410 400

SW 3520B/8270B
SEMI 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 : | 11/20/96 18:00 |
| Sample ID | : CR-A154006 | DaTime Analyzd : | 12/06/96 19:38 |
| Lab Cnt NO. | : K097-26 | Dilutn Factor : | 1 |
| Lab File ID | : RLS091 | Matrix : | WATER |
| Ext Btch ID | : SVK010W | % Moisture : | NA |
| Calib. Ref. | : RLS087 | 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 |
| 2-Nitroaniline | ND | 50 | [illegible] |
| 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: | 11/16/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/20/96 18:00 |
| Sample ID | : CR-A154006 | DaTime Analyzd : | 12/06/96 19:38 |
| Lab Cnt NO. | : K097-26 | Dilutn Factor : | 1 |
| Lab File ID | : RLS091 | Matrix : | WATER |
| Ext Btch ID | : SVK010W | % Moisture : | NA |
| Calib. Ref. | : RLS087 | 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 | 100 | 25-134 |
| 2-Fluorobiphenyl | 81 | 43-125 |
| 2-Fluorophenol | 90 | 25-125 |
| Nitrobenzene-d5 | 90 | 32-125 |
| Phenol-d5 | 92 | 25-125 |
| Terphenyl-d14 | 73 | 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 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/18/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/26/96 10:3 |
| Sample ID | : CR-A154102 | DaTime Analyzd : | 12/07/96 07:1 |
| Lab Cnt NO. | : K097-30 | Dilutn Factor : | 1 |
| Lab File ID | : RLS109 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 18.6 |
| Calib. Ref. | : RLS107 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 860 | 127 |
| 1,2-Dichlorobenzene | ND | 860 | 135 |
| 1,3-Dichlorobenzene | ND | 860 | 98.3 |
| 1,4-Dichlorobenzene | ND | 860 | 119 |
| 2,4,5-Trichlorophenol | ND | 4050 | 122 |
| 2,4,6-Trichlorophenol | ND | 369 | 141 |
| 2,4-Dichlorophenol | ND | 369 | 93.4 |
| 2,4-Dimethylphenol | ND | 369 | 109 |
| 2,4-Dinitrophenol | ND | 4050 | 68.8 |
| 2,4-Dinitrotoluene | ND | 860 | 141 |
| 2,6-Dinitrotoluene | ND | 860 | 120 |
| 2-Chloronaphthalene | ND | 860 | 114 |
| 2-Chlorophenol | ND | 369 | 83.5 |
| 2-Methylnaphthalene | ND | 860 | 125 |
| 2-Methylphenol | ND | 369 | 1[illegible] |
| 2-Nitroaniline | ND | 4050 | [illegible] |
| 2-Nitrophenol | ND | 369 | 1[illegible] |
| 3,3'-Dichlorobenzidine | ND | 1600 | 168 |
| 3-Nitroaniline | ND | 4050 | 103 |
| 4,6-Dinitro-2-methylphenol | ND | 4050 | 89.7 |
| 4-Bromophenyl phenyl ether | ND | 860 | 128 |
| 4-Chloro-3-methylphenol | ND | 1600 | 144 |
| 4-Chloroaniline | ND | 1600 | 76.2 |
| 4-Chlorophenyl phenyl ether | ND | 860 | 129 |
| 4-Methylphenol (1) | ND | 369 | 83.5 |
| 4-Nitroaniline | ND | 4050 | 107 |
| 4-Nitrophenol | ND | 1970 | 6.88 |
| Acenaphthene | ND | 860 | 114 |
| Acenaphthylene | ND | 860 | 108 |
| Anthracene | ND | 860 | 127 |
| Benzo(a)anthracene | ND | 860 | 106 |
| Benzo(a)pyrene | ND | 860 | 112 |
| Benzo(b)fluoranthene | ND | 860 | 131 |
| Benzo(k)fluoranthene | ND | 860 | 123 |
| Benzo(g,h,i)perylene | ND | 860 | 114 |
| Benzoic Acid | ND | 1970 | 131 |
| Benzyl alcohol | ND | 1600 | 99.5 |
| bis(2-Chloroethoxy)methane | ND | 860 | 125 |

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted | : 11/18/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received | : 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd | : 11/26/96 10:30 |
| Sample ID | : CR-A154102 | DaTime Analyzd | : 12/07/96 07:16 |
| Lab Cnt NO. | : K097-30 | Dilutn Factor | : 1 |
| Lab File ID | : RLS109 | Matrix | : SOIL |
| Ext Btch ID | : SVK015S | % Moisture | : 18.6 |
| Calib. Ref. | : RLS107 | Instrument ID | : MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 860 | 82.3 |
| bis(2-Chloroisopropyl)ether | ND | 860 | 111 |
| bis(2-Ethylhexyl)phthalate | ND | 860 | 120 |
| Butylbenzylphthalate | ND | 860 | 249 |
| Chrysene | ND | 860 | 123 |
| Di-n-butylphthalate | ND | 860 | 136 |
| Di-n-octylphthalate | ND | 860 | 111 |
| Dibenzo(a,h)anthracene | ND | 860 | 118 |
| Dibenzofuran | ND | 860 | 123 |
| Diethylphthalate | ND | 860 | 119 |
| Dimethylphthalate | ND | 860 | 131 |
| Fluoranthene | ND | 860 | 127 |
| Fluorene | ND | 860 | 107 |
| Hexachlorobenzene | ND | 860 | 138 |
| Hexachlorobutadiene | ND | 860 | 128 |
| Hexachlorocyclopentadiene | ND | 860 | 143 |
| Hexachloroethane | ND | 860 | 108 |
| Indeno(1,2,3-cd)pyrene | ND | 860 | 117 |
| Isophorone | ND | 860 | 114 |
| n-Nitroso-di-n-propylamine | ND | 860 | 140 |
| n-Nitrosodiphenylamine (2) | ND | 860 | 124 |
| Naphthalene | ND | 860 | 119 |
| Nitrobenzene | ND | 860 | 95.8 |
| Pentachlorophenol | ND | 4050 | 36.9 |
| Phenanthrene | ND | 860 | 124 |
| Phenol | ND | 369 | 95.8 |
| Pyrene | ND | 860 | 118 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 92 | 25-144 |
| 2-Fluorobiphenyl | 71 | 34-135 |
| 2-Fluorophenol | 75 | 25-135 |
| Nitrobenzene-d5 | 81 | 25-135 |
| Phenol-d5 | 78 | 25-135 |
| Terphenyl-d14 | 67 | 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 | : 11/18/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received | : 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd | : 11/26/96 10:3 |
| Sample ID | : CR-A154104 | DaTime Analyzd | : 12/07/96 08:0 |
| Lab Cnt NO. | : K097-32 | Dilutn Factor | : 1 |
| Lab File ID | : RLS110 | Matrix | : SOIL |
| Ext Btch ID | : SVK015S | % Moisture | : 11.2 |
| Calib. Ref. | : RLS107 | Instrument ID | : MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 788 | 116 |
| 1,2-Dichlorobenzene | ND | 788 | 124 |
| 1,3-Dichlorobenzene | ND | 788 | 90.1 |
| 1,4-Dichlorobenzene | ND | 788 | 109 |
| 2,4,5-Trichlorophenol | ND | 3720 | 111 |
| 2,4,6-Trichlorophenol | ND | 338 | 130 |
| 2,4-Dichlorophenol | ND | 338 | 85.6 |
| 2,4-Dimethylphenol | ND | 338 | 100 |
| 2,4-Dinitrophenol | ND | 3720 | 63.1 |
| 2,4-Dinitrotoluene | ND | 788 | 130 |
| 2,6-Dinitrotoluene | ND | 788 | 110 |
| 2-Chloronaphthalene | ND | 788 | 105 |
| 2-Chlorophenol | ND | 338 | 76.6 |
| 2-Methylnaphthalene | ND | 788 | 115 |
| 2-Methylphenol | ND | 338 | 108 |
| 2-Nitroaniline | ND | 3720 | 9 |
| 2-Nitrophenol | ND | 338 | [illegible] |
| 3,3'-Dichlorobenzidine | ND | 1460 | 154 |
| 3-Nitroaniline | ND | 3720 | 94.6 |
| 4,6-Dinitro-2-methylphenol | ND | 3720 | 82.2 |
| 4-Bromophenyl phenyl ether | ND | 788 | 117 |
| 4-Chloro-3-methylphenol | ND | 1460 | 132 |
| 4-Chloroaniline | ND | 1460 | 69.8 |
| 4-Chlorophenyl phenyl ether | ND | 788 | 118 |
| 4-Methylphenol (1) | ND | 338 | 76.6 |
| 4-Nitroaniline | ND | 3720 | 98 |
| 4-Nitrophenol | ND | 1800 | 6.31 |
| Acenaphthene | ND | 788 | 105 |
| Acenaphthylene | ND | 788 | 99.1 |
| Anthracene | ND | 788 | 116 |
| Benzo(a)anthracene | ND | 788 | 96.8 |
| Benzo(a)pyrene | ND | 788 | 102 |
| Benzo(b)fluoranthene | ND | 788 | 120 |
| Benzo(k)fluoranthene | ND | 788 | 113 |
| Benzo(g,h,i)perylene | ND | 788 | 105 |
| Benzoic Acid | ND | 1800 | 120 |
| Benzyl alcohol | ND | 1460 | 91.2 |
| bis(2-Chloroethoxy)methane | ND | 788 | 115 |

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted | : 11/18/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received | : 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd | : 11/26/96 10:30 |
| Sample ID | : CR-A154104 | DaTime Analyzd | : 12/07/96 08:03 |
| Lab Cnt NO. | : K097-32 | Dilutn Factor | : 1 |
| Lab File ID | : RLS110 | Matrix | : SOIL |
| Ext Btch ID | : SVK015S | % Moisture | : 11.2 |
| Calib. Ref. | : RLS107 | Instrument ID | : MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 788 | 75.5 |
| bis(2-Chloroisopropyl)ether | ND | 788 | 101 |
| bis(2-Ethylhexyl)phthalate | ND | 788 | 110 |
| Butylbenzylphthalate | ND | 788 | 229 |
| Chrysene | ND | 788 | 113 |
| Di-n-butylphthalate | ND | 788 | 125 |
| Di-n-octylphthalate | ND | 788 | 101 |
| Dibenzo(a,h)anthracene | ND | 788 | 108 |
| Dibenzofuran | ND | 788 | 113 |
| Diethylphthalate | ND | 788 | 109 |
| Dimethylphthalate | ND | 788 | 120 |
| Fluoranthene | ND | 788 | 116 |
| Fluorene | ND | 788 | 98 |
| Hexachlorobenzene | ND | 788 | 126 |
| Hexachlorobutadiene | ND | 788 | 117 |
| Hexachlorocyclopentadiene | ND | 788 | 131 |
| Hexachloroethane | ND | 788 | 99.1 |
| Indeno(1,2,3-cd)pyrene | ND | 788 | 107 |
| Isophorone | ND | 788 | 105 |
| n-Nitroso-di-n-propylamine | ND | 788 | 128 |
| n-Nitrosodiphenylamine (2) | ND | 788 | 114 |
| Naphthalene | ND | 788 | 109 |
| Nitrobenzene | ND | 788 | 87.8 |
| Pentachlorophenol | ND | 3720 | 33.8 |
| Phenanthrene | ND | 788 | 114 |
| Phenol | ND | 338 | 87.8 |
| Pyrene | ND | 788 | 108 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 94 | 25-144 |
| 2-Fluorobiphenyl | 74 | 34-135 |
| 2-Fluorophenol | 77 | 25-135 |
| Nitrobenzene-d5 | 83 | 25-135 |
| Phenol-d5 | 80 | 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

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/18/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/26/96 10:3( |
| Sample ID | : CR-A154202 | DaTime Analyzd : | 12/07/96 08:5( |
| Lab Cnt NO. | : K097-34 | Dilutn Factor : | 1 |
| Lab File ID | : RLS111 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 19.5 |
| Calib. Ref. | : RLS107 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 870 | 128 |
| 1,2-Dichlorobenzene | ND | 870 | 137 |
| 1,3-Dichlorobenzene | ND | 870 | 99.4 |
| 1,4-Dichlorobenzene | ND | 870 | 120 |
| 2,4,5-Trichlorophenol | ND | 4100 | 123 |
| 2,4,6-Trichlorophenol | ND | 373 | 143 |
| 2,4-Dichlorophenol | ND | 373 | 94.4 |
| 2,4-Dimethylphenol | ND | 373 | 111 |
| 2,4-Dinitrophenol | ND | 4100 | 69.6 |
| 2,4-Dinitrotoluene | ND | 870 | 143 |
| 2,6-Dinitrotoluene | ND | 870 | 122 |
| 2-Chloronaphthalene | ND | 870 | 116 |
| 2-Chlorophenol | ND | 373 | 84.5 |
| 2-Methylnaphthalene | ND | 870 | 127 |
| 2-Methylphenol | ND | 373 | 1[illegible] |
| 2-Nitroaniline | ND | 4100 | 1[illegible] |
| 2-Nitrophenol | ND | 373 | 12[illegible] |
| 3,3'-Dichlorobenzidine | ND | 1610 | 170 |
| 3-Nitroaniline | ND | 4100 | 104 |
| 4,6-Dinitro-2-methylphenol | ND | 4100 | 90.7 |
| 4-Bromophenyl phenyl ether | ND | 870 | 129 |
| 4-Chloro-3-methylphenol | ND | 1610 | 145 |
| 4-Chloroaniline | ND | 1610 | 77 |
| 4-Chlorophenyl phenyl ether | ND | 870 | 130 |
| 4-Methylphenol (1) | ND | 373 | 84.5 |
| 4-Nitroaniline | ND | 4100 | 108 |
| 4-Nitrophenol | ND | 1990 | 6.96 |
| Acenaphthene | ND | 870 | 116 |
| Acenaphthylene | ND | 870 | 109 |
| Anthracene | ND | 870 | 128 |
| Benzo(a)anthracene | ND | 870 | 107 |
| Benzo(a)pyrene | ND | 870 | 113 |
| Benzo(b)fluoranthene | ND | 870 | 133 |
| Benzo(k)fluoranthene | ND | 870 | 124 |
| Benzo(g,h,i)perylene | ND | 870 | 116 |
| Benzoic Acid | ND | 1990 | 133 |
| Benzyl alcohol | ND | 1610 | 101 |
| bis(2-Chloroethoxy)methane | ND | 870 | 127 |

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/18/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/26/96 10:30 |
| Sample ID | : CR-A154202 | DaTime Analyzd : | 12/07/96 08:50 |
| Lab Cnt NO. | : K097-34 | Dilutn Factor : | 1 |
| Lab File ID | : RLS111 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 19.5 |
| Calib. Ref. | : RLS107 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 870 | 83.2 |
| bis(2-Chloroisopropyl)ether | ND | 870 | 112 |
| bis(2-Ethylhexyl)phthalate | ND | 870 | 122 |
| Butylbenzylphthalate | ND | 870 | 252 |
| Chrysene | ND | 870 | 124 |
| Di-n-butylphthalate | ND | 870 | 138 |
| Di-n-octylphthalate | ND | 870 | 112 |
| Dibenzo(a,h)anthracene | ND | 870 | 119 |
| Dibenzofuran | ND | 870 | 124 |
| Diethylphthalate | ND | 870 | 120 |
| Dimethylphthalate | ND | 870 | 133 |
| Fluoranthene | ND | 870 | 128 |
| Fluorene | ND | 870 | 108 |
| Hexachlorobenzene | ND | 870 | 139 |
| Hexachlorobutadiene | ND | 870 | 129 |
| Hexachlorocyclopentadiene | ND | 870 | 144 |
| Hexachloroethane | ND | 870 | 109 |
| Indeno(1,2,3-cd)pyrene | ND | 870 | 118 |
| Isophorone | ND | 870 | 116 |
| n-Nitroso-di-n-propylamine | ND | 870 | 142 |
| n-Nitrosodiphenylamine (2) | ND | 870 | 125 |
| Naphthalene | ND | 870 | 120 |
| Nitrobenzene | ND | 870 | 96.9 |
| Pentachlorophenol | ND | 4100 | 37.3 |
| Phenanthrene | ND | 870 | 125 |
| Phenol | ND | 373 | 96.9 |
| Pyrene | ND | 870 | 119 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 90 | 25-144 |
| 2-Fluorobiphenyl | 74 | 34-135 |
| 2-Fluorophenol | 74 | 25-135 |
| Nitrobenzene-d5 | 79 | 25-135 |
| Phenol-d5 | 77 | 25-135 |
| Terphenyl-d14 | 76 | 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 | : 11/18/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received | : 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd | : 11/26/96 10:3 |
| Sample ID | : CR-A154204 | DaTime Analyzd | : 12/07/96 09:3 |
| Lab Cnt NO. | : K097-36 | Dilutn Factor | : 1 |
| Lab File ID | : RLS112 | Matrix | : SOIL |
| Ext Btch ID | : SVK015S | % Moisture | : 9.2 |
| Calib. Ref. | : RLS107 | Instrument ID | : MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 771 | 113 |
| 1,2-Dichlorobenzene | ND | 771 | 121 |
| 1,3-Dichlorobenzene | ND | 771 | 88.1 |
| 1,4-Dichlorobenzene | ND | 771 | 107 |
| 2,4,5-Trichlorophenol | ND | 3630 | 109 |
| 2,4,6-Trichlorophenol | ND | 330 | 127 |
| 2,4-Dichlorophenol | ND | 330 | 83.7 |
| 2,4-Dimethylphenol | ND | 330 | 98 |
| 2,4-Dinitrophenol | ND | 3630 | 61.7 |
| 2,4-Dinitrotoluene | ND | 771 | 127 |
| 2,6-Dinitrotoluene | ND | 771 | 108 |
| 2-Chloronaphthalene | ND | 771 | 102 |
| 2-Chlorophenol | ND | 330 | 74.9 |
| 2-Methylnaphthalene | ND | 771 | 112 |
| 2-Methylphenol | ND | 330 | 106 |
| 2-Nitroaniline | ND | 3630 | 9[illegible] |
| 2-Nitrophenol | ND | 330 | [illegible] |
| 3,3'-Dichlorobenzidine | ND | 1430 | 151 |
| 3-Nitroaniline | ND | 3630 | 92.5 |
| 4,6-Dinitro-2-methylphenol | ND | 3630 | 80.4 |
| 4-Bromophenyl phenyl ether | ND | 771 | 115 |
| 4-Chloro-3-methylphenol | ND | 1430 | 129 |
| 4-Chloroaniline | ND | 1430 | 68.3 |
| 4-Chlorophenyl phenyl ether | ND | 771 | 116 |
| 4-Methylphenol (1) | ND | 330 | 74.9 |
| 4-Nitroaniline | ND | 3630 | 95.8 |
| 4-Nitrophenol | ND | 1760 | 6.17 |
| Acenaphthene | ND | 771 | 102 |
| Acenaphthylene | ND | 771 | 96.9 |
| Anthracene | ND | 771 | 113 |
| Benzo(a)anthracene | ND | 771 | 94.7 |
| Benzo(a)pyrene | ND | 771 | 100 |
| Benzo(b)fluoranthene | ND | 771 | 118 |
| Benzo(k)fluoranthene | ND | 771 | 110 |
| Benzo(g,h,i)perylene | ND | 771 | 102 |
| Benzoic Acid | ND | 1760 | 118 |
| Benzyl alcohol | ND | 1430 | 89.2 |
| bis(2-Chloroethoxy)methane | ND | 771 | 112 |

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/18/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/26/96 10:30 |
| Sample ID | : CR-A154204 | DaTime Analyzd : | 12/07/96 09:37 |
| Lab Cnt NO. | : K097-36 | Dilutn Factor : | 1 |
| Lab File ID | : RLS112 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 9.2 |
| Calib. Ref. | : RLS107 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 771 | 73.8 |
| bis(2-Chloroisopropyl)ether | ND | 771 | 99.1 |
| bis(2-Ethylhexyl)phthalate | ND | 771 | 108 |
| Butylbenzylphthalate | ND | 771 | 224 |
| Chrysene | ND | 771 | 110 |
| Di-n-butylphthalate | ND | 771 | 122 |
| Di-n-octylphthalate | ND | 771 | 99.1 |
| Dibenzo(a,h)anthracene | ND | 771 | 106 |
| Dibenzofuran | ND | 771 | 110 |
| Diethylphthalate | ND | 771 | 107 |
| Dimethylphthalate | ND | 771 | 118 |
| Fluoranthene | ND | 771 | 113 |
| Fluorene | ND | 771 | 95.8 |
| Hexachlorobenzene | ND | 771 | 123 |
| Hexachlorobutadiene | ND | 771 | 115 |
| [illegible]achlorocyclopentadiene | ND | 771 | 128 |
| [illegible]achloroethane | ND | 771 | 96.9 |
| Indeno(1,2,3-cd)pyrene | ND | 771 | 105 |
| Isophorone | ND | 771 | 102 |
| n-Nitroso-di-n-propylamine | ND | 771 | 126 |
| n-Nitrosodiphenylamine (2) | ND | 771 | 111 |
| Naphthalene | ND | 771 | 107 |
| Nitrobenzene | ND | 771 | 85.9 |
| Pentachlorophenol | ND | 3630 | 33 |
| Phenanthrene | ND | 771 | 111 |
| Phenol | ND | 330 | 85.9 |
| Pyrene | ND | 771 | 106 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 91 | 25-144 |
| 2-Fluorobiphenyl | 72 | 34-135 |
| 2-Fluorophenol | 70 | 25-135 |
| Nitrobenzene-d5 | 73 | 25-135 |
| Phenol-d5 | 74 | 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

410 410

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/18/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/26/96 10:3 |
| Sample ID | : CR-A154304 | DaTime Analyzd : | 12/07/96 10:2 |
| Lab Cnt NO. | : K097-38 | Dilutn Factor : | 1 |
| Lab File ID | : RLS113 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 10.0 |
| Calib. Ref. | : RLS107 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 778 | 114 |
| 1,2-Dichlorobenzene | ND | 778 | 122 |
| 1,3-Dichlorobenzene | ND | 778 | 88.9 |
| 1,4-Dichlorobenzene | ND | 778 | 108 |
| 2,4,5-Trichlorophenol | ND | 3670 | 110 |
| 2,4,6-Trichlorophenol | ND | 333 | 128 |
| 2,4-Dichlorophenol | ND | 333 | 84.4 |
| 2,4-Dimethylphenol | ND | 333 | 98.9 |
| 2,4-Dinitrophenol | ND | 3670 | 62.2 |
| 2,4-Dinitrotoluene | ND | 778 | 128 |
| 2,6-Dinitrotoluene | ND | 778 | 109 |
| 2-Chloronaphthalene | ND | 778 | 103 |
| 2-Chlorophenol | ND | 333 | 75.6 |
| 2-Methylnaphthalene | ND | 778 | 113 |
| 2-Methylphenol | ND | 333 | 107 |
| 2-Nitroaniline | ND | 3670 | 97 |
| 2-Nitrophenol | ND | 333 | 1 |
| 3,3'-Dichlorobenzidine | ND | 1440 | 152 |
| 3-Nitroaniline | ND | 3670 | 93.3 |
| 4,6-Dinitro-2-methylphenol | ND | 3670 | 81.1 |
| 4-Bromophenyl phenyl ether | ND | 778 | 116 |
| 4-Chloro-3-methylphenol | ND | 1440 | 130 |
| 4-Chloroaniline | ND | 1440 | 68.9 |
| 4-Chlorophenyl phenyl ether | ND | 778 | 117 |
| 4-Methylphenol (1) | ND | 333 | 75.6 |
| 4-Nitroaniline | ND | 3670 | 96.7 |
| 4-Nitrophenol | ND | 1780 | 6.22 |
| Acenaphthene | ND | 778 | 103 |
| Acenaphthylene | ND | 778 | 97.8 |
| Anthracene | ND | 778 | 114 |
| Benzo(a)anthracene | ND | 778 | 95.6 |
| Benzo(a)pyrene | ND | 778 | 101 |
| Benzo(b)fluoranthene | ND | 778 | 119 |
| Benzo(k)fluoranthene | ND | 778 | 111 |
| Benzo(g,h,i)perylene | ND | 778 | 103 |
| Benzoic Acid | ND | 1780 | 119 |
| Benzyl alcohol | ND | 1440 | 90 |
| bis(2-Chloroethoxy)methane | ND | 778 | 113 |

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/18/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/26/96 10:30 |
| Sample ID | : CR-A154304 | DaTime Analyzd : | 12/07/96 10:25 |
| Lab Cnt NO. | : K097-38 | Dilutn Factor : | 1 |
| Lab File ID | : RLS113 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 10.0 |
| Calib. Ref. | : RLS107 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 778 | 74.4 |
| bis(2-Chloroisopropyl)ether | ND | 778 | 100 |
| bis(2-Ethylhexyl)phthalate | ND | 778 | 109 |
| Butylbenzylphthalate | ND | 778 | 226 |
| Chrysene | ND | 778 | 111 |
| Di-n-butylphthalate | ND | 778 | 123 |
| Di-n-octylphthalate | ND | 778 | 100 |
| Dibenzo(a,h)anthracene | ND | 778 | 107 |
| Dibenzofuran | ND | 778 | 111 |
| Diethylphthalate | ND | 778 | 108 |
| Dimethylphthalate | ND | 778 | 119 |
| Fluoranthene | ND | 778 | 114 |
| Fluorene | ND | 778 | 96.7 |
| Hexachlorobenzene | ND | 778 | 124 |
| Hexachlorobutadiene | ND | 778 | 116 |
| Hexachlorocyclopentadiene | ND | 778 | 129 |
| Hexachloroethane | ND | 778 | 97.8 |
| Indeno(1,2,3-cd)pyrene | ND | 778 | 106 |
| Isophorone | ND | 778 | 103 |
| n-Nitroso-di-n-propylamine | ND | 778 | 127 |
| n-Nitrosodiphenylamine (2) | ND | 778 | 112 |
| Naphthalene | ND | 778 | 108 |
| Nitrobenzene | ND | 778 | 86.7 |
| Pentachlorophenol | ND | 3670 | 33.3 |
| Phenanthrene | ND | 778 | 112 |
| Phenol | ND | 333 | 86.7 |
| Pyrene | ND | 778 | 107 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 88 | 25-144 |
| 2-Fluorobiphenyl | 73 | 34-135 |
| 2-Fluorophenol | 68 | 25-135 |
| Nitrobenzene-d5 | 77 | 25-135 |
| Phenol-d5 | 71 | 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: | 11/18/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/26/96 10:3 |
| Sample ID | : CR-A154404 | DaTime Analyzd : | 12/07/96 11:1 |
| Lab Cnt NO. | : K097-40 | Dilutn Factor : | 1 |
| Lab File ID | : RLS114 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 12.7 |
| Calib. Ref. | : RLS107 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 802 | 118 |
| 1,2-Dichlorobenzene | ND | 802 | 126 |
| 1,3-Dichlorobenzene | ND | 802 | 91.6 |
| 1,4-Dichlorobenzene | ND | 802 | 111 |
| 2,4,5-Trichlorophenol | ND | 3780 | 113 |
| 2,4,6-Trichlorophenol | ND | 344 | 132 |
| 2,4-Dichlorophenol | ND | 344 | 87.1 |
| 2,4-Dimethylphenol | ND | 344 | 102 |
| 2,4-Dinitrophenol | ND | 3780 | 64.1 |
| 2,4-Dinitrotoluene | ND | 802 | 132 |
| 2,6-Dinitrotoluene | ND | 802 | 112 |
| 2-Chloronaphthalene | ND | 802 | 107 |
| 2-Chlorophenol | ND | 344 | 77.9 |
| 2-Methylnaphthalene | ND | 802 | 117 |
| 2-Methylphenol | ND | 344 | 110 |
| 2-Nitroaniline | ND | 3780 | [illegible] |
| 2-Nitrophenol | ND | 344 | [illegible] |
| 3,3'-Dichlorobenzidine | ND | 1490 | 157 |
| 3-Nitroaniline | ND | 3780 | 96.2 |
| 4,6-Dinitro-2-methylphenol | ND | 3780 | 83.6 |
| 4-Bromophenyl phenyl ether | ND | 802 | 119 |
| 4-Chloro-3-methylphenol | ND | 1490 | 134 |
| 4-Chloroaniline | ND | 1490 | 71 |
| 4-Chlorophenyl phenyl ether | ND | 802 | 120 |
| 4-Methylphenol (1) | ND | 344 | 77.9 |
| 4-Nitroaniline | ND | 3780 | 99.7 |
| 4-Nitrophenol | ND | 1830 | 6.41 |
| Acenaphthene | ND | 802 | 107 |
| Acenaphthylene | ND | 802 | 101 |
| Anthracene | ND | 802 | 118 |
| Benzo(a)anthracene | ND | 802 | 98.5 |
| Benzo(a)pyrene | ND | 802 | 104 |
| Benzo(b)fluoranthene | ND | 802 | 123 |
| Benzo(k)fluoranthene | ND | 802 | 115 |
| Benzo(g,h,i)perylene | ND | 802 | 107 |
| Benzoic Acid | ND | 1830 | 123 |
| Benzyl alcohol | ND | 1490 | 92.8 |
| bis(2-Chloroethoxy)methane | ND | 802 | 117 |

SW 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS 410 413

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/18/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/26/96 10:30 |
| Sample ID | : CR-A154404 | DaTime Analyzd : | 12/07/96 11:12 |
| Lab Cnt NO. | : K097-40 | Dilutn Factor : | 1 |
| Lab File ID | : RLS114 | Matrix : | SOIL |
| Ext Btch ID | : SVK015S | % Moisture : | 12.7 |
| Calib. Ref. | : RLS107 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 802 | 76.7 |
| bis(2-Chloroisopropyl)ether | ND | 802 | 103 |
| bis(2-Ethylhexyl)phthalate | ND | 802 | 112 |
| Butylbenzylphthalate | ND | 802 | 233 |
| Chrysene | ND | 802 | 115 |
| Di-n-butylphthalate | ND | 802 | 127 |
| Di-n-octylphthalate | ND | 802 | 103 |
| Dibenzo(a,h)anthracene | ND | 802 | 110 |
| Dibenzofuran | ND | 802 | 115 |
| Diethylphthalate | ND | 802 | 111 |
| Dimethylphthalate | ND | 802 | 123 |
| Fluoranthene | ND | 802 | 118 |
| Fluorene | ND | 802 | 99.7 |
| Hexachlorobenzene | ND | 802 | 128 |
| Hexachlorobutadiene | ND | 802 | 119 |
| xachlorocyclopentadiene | ND | 802 | 133 |
| xachloroethane | ND | 802 | 101 |
| Indeno(1,2,3-cd)pyrene | ND | 802 | 109 |
| Isophorone | ND | 802 | 107 |
| n-Nitroso-di-n-propylamine | ND | 802 | 131 |
| n-Nitrosodiphenylamine (2) | ND | 802 | 116 |
| Naphthalene | ND | 802 | 111 |
| Nitrobenzene | ND | 802 | 89.3 |
| Pentachlorophenol | ND | 3780 | 34.4 |
| Phenanthrene | ND | 802 | 116 |
| Phenol | ND | 344 | 89.3 |
| Pyrene | ND | 802 | 110 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 92 | 25-144 |
| 2-Fluorobiphenyl | 72 | 34-135 |
| 2-Fluorophenol | 68 | 25-135 |
| Nitrobenzene-d5 | 75 | 25-135 |
| Phenol-d5 | 72 | 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 3520B/8270B
# SEMI VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| 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 18:00 |
| Sample ID | : CR-A154406 | DaTime Analyzd : | 12/06/96 20:26 |
| Lab Cnt NO. | : K097-42 | Dilutn Factor : | 1 |
| Lab File ID | : RLS092 | Matrix : | WATER |
| Ext Btch ID | : SVK010W | % Moisture : | NA |
| Calib. Ref. | : RLS087 | 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 |
| 2-Nitroaniline | ND | 50 | |
| 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 | 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: | 11/18/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/19/96 |
| Batch No. | : 96K097 | DaTime Extrctd : | 11/20/96 18:00 |
| Sample ID | : CR-A154406 | DaTime Analyzd : | 12/06/96 20:26 |
| Lab Cnt NO. | : K097-42 | Dilutn Factor : | 1 |
| Lab File ID | : RLS092 | Matrix : | WATER |
| Ext Btch ID | : SVK010W | % Moisture : | NA |
| Calib. Ref. | : RLS087 | 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 | 12 | 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 |
| achlorocyclopentadiene | ND | 10 | 1.6 |
| xachloroethane | 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 | 96 | 25-134 |
| 2-Fluorobiphenyl | 77 | 43-125 |
| 2-Fluorophenol | 86 | 25-125 |
| Nitrobenzene-d5 | 85 | 32-125 |
| Phenol-d5 | 87 | 25-125 |
| Terphenyl-d14 | 72 | 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

# TAB

EMAX Batch No. 96K120

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

RECEIVED
JAN 02 1997
JE - Denver

Date: 12-31-1996
EMAX Batch No.: 96K120

Attn: Lynn Schuetter

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

Subject: Laboratory Report
Project: Carswell AFB / 05G47900

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Enclosed is the Laboratory report for samples received on 11/22/96. The data reported include :

| Sample ID | Control # | Col Date | Matrix | Analysis |
|---|---|---|---|---|
| CR-A159201 | K120-01 | 11/20/96 | Water | EPA 8240 |
| CR-A159202 | K120-02 | 11/20/96 | Water | EPA 8270 |
| CR-A159203 | K120-03 | 11/20/96 | Water | Metals<br>Mercury |
| CR-A159204 | K120-04 | 11/20/96 | Soil | EPA 8240 |
| CR-A159205 | K120-05 | 11/20/96 | Soil | Metals<br>Mercury<br>EPA 8270 |
| CR-A159301 | K120-06 | 11/20/96 | Water | EPA 8240 |
| CR-A159302 | K120-07 | 11/20/96 | Water | EPA 8270 |
| CR-A159303 | K120-08 | 11/20/96 | Water | Metals<br>Mercury |
| CR-A159304 | K120-09 | 11/20/96 | Soil | EPA 8240 |
| CR-A159305 | K120-10 | 11/20/96 | Soil | Metals<br>Mercury<br>EPA 8270 |
| CR-A159401 | K120-11 | 11/20/96 | Water | EPA 8240 |
| CR-A159402 | K120-12 | 11/20/96 | Water | EPA 8270 |
| CR-A159403 | K120-13 | 11/20/96 | Water | Metals |

| Sample ID | Control # | Col Date | Matrix | Analysis |
|---|---|---|---|---|
| | | | | Mercury |
| CR-A159404 | K120-14 | 11/20/96 | Soil | EPA 8240 |
| CR-A159405 | K120-15 | 11/20/96 | Soil | Metals |
| | | | | Mercury |
| | | | | EPA 8270 |
| CR-A159406 | K120-16 | 11/20/96 | Water | EPA 8240 |
| CR-A159407 | K120-17 | 11/20/96 | Water | EPA 8270 |
| CR-A159408 | K120-18 | 11/20/96 | Water | Metals |
| | | | | Mercury |
| CR-A159501 | K120-19 | 11/20/96 | Water | EPA 8240 |
| CR-A159502 | K120-20 | 11/20/96 | Water | EPA 8270 |
| CR-A159503 | K120-21 | 11/20/96 | Water | Metals |
| | | | | Mercury |
| CR-A159504 | K120-22 | 11/20/96 | Soil | EPA 8240 |
| CR-A159505 | K120-23 | 11/20/96 | Soil | Metals |
| | | | | Mercury |
| | | | | EPA 8270 |
| CR-A159506 | K120-24 | 11/20/96 | Soil | EPA 8240 |
| CR-A159507 | K120-25 | 11/20/96 | Soil | Metals |
| | | | | Mercury |
| | | | | EPA 8270 |
| CR-A159601 | K120-26 | 11/20/96 | Water | EPA 8240 |
| CR-A159602 | K120-27 | 11/20/96 | Water | EPA 8270 |
| CR-A159603 | K120-28 | 11/20/96 | Water | Metals |
| | | | | Mercury |
| CR-A159604 | K120-29 | 11/20/96 | Soil | EPA 8240 |
| CR-A159605 | K120-30 | 11/20/96 | Soil | Metals |
| | | | | Mercury |
| | | | | EPA 8270 |
| CR-A159701 | K120-31 | 11/20/96 | Water | EPA 8240 |
| CR-A159702 | K120-32 | 11/20/96 | Water | EPA 8270 |
| CR-A159703 | K120-33 | 11/20/96 | Water | Metals |
| | | | | Mercury |
| CR-A159704 | K120-34 | 11/20/96 | Soil | EPA 8240 |
| CR-A159705 | K120-35 | 11/20/96 | Soil | Metals |
| | | | | Mercury |
| | | | | EPA 8270 |
| CR-A159801 | K120-36 | 11/20/96 | Water | EPA 8240 |
| CR-A159802 | K120-37 | 11/20/96 | Water | EPA 8270 |
| CR-A159803 | K120-38 | 11/20/96 | Water | Metals |
| | | | | Mercury |

| Sample ID | Control # | Col Date | Matrix | Analysis |
|---|---|---|---|---|
| CR-A159804 | K120-39 | 11/20/96 | Soil | EPA 8240 |
| CR-A159805 | K120-40 | 11/20/96 | Soil | Metals<br>Mercury<br>EPA 8270 |
| CR-A159901 | K120-41 | 11/20/96 | Water | EPA 8240 |
| CR-A159901MS | K120-41M | 11/20/96 | Water | EPA 8240 |
| CR-A159901MSD | K120-41S | 11/20/96 | Water | EPA 8240 |
| CR-A159902 | K120-42 | 11/20/96 | Water | EPA 8270 |
| CR-A159902MS | K120-42M | 11/20/96 | Water | EPA 8270 |
| CR-A159902MSD | K120-42S | 11/20/96 | Water | EPA 8270 |
| CR-A159903 | K120-43 | 11/20/96 | Water | Metals<br>Mercury |
| CR-A159903MS | K120-43M | 11/20/96 | Water | Metals<br>Mercury |
| CR-A159903DUP | K120-43D | 11/20/96 | Water | Metals<br>Mercury |
| CR-A159904 | K120-44 | 11/20/96 | Soil | EPA 8240 |
| CR-A159904MS | K120-44M | 11/20/96 | Soil | EPA 8240 |
| CR-A159904MSD | K120-44S | 11/20/96 | Soil | EPA 8240 |
| CR-A159905 | K120-45 | 11/20/96 | Soil | Metals<br>Mercury<br>EPA 8270 |
| CR-A159905MS | K120-45M | 11/20/96 | Soil | Metals<br>Mercury<br>EPA 8270 |
| CR-A159905MSD | K120-45S | 11/20/96 | Soil | EPA 8270 |
| CR-A159905DUP | K120-45D | 11/20/96 | Soil | Metals<br>Mercury |
| CR-A159906 | K120-46 | 11/20/96 | Water | EPA 8240 |
| CR-A159907 | K120-47 | 11/20/96 | Water | EPA 8270 |
| CR-A159908 | K120-48 | 11/20/96 | Water | Metals<br>Mercury |
| CR-A159909 | K120-49 | 11/21/96 | Water | 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 Pang

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.

410 420

# SAMPLE RECEIPT FORM

| | |
|---|---|
| ONTROL NO. | 96K 120 |
| LIENT | JACOBS ENG |
| ROJECT | CARSWELL AFB D021 |

| | |
|---|---|
| DATE | 11- 22 -96 |
| TIME | 9:45 AM |
| RECIPIENT | I. PATEL |

| AMPLE TRANSPORTATION TO EMAX LABORATORY: | | BY | ON(DATE) | AT(TIME) | FROM(SITE/CO.) | COMMENTS |
|---|---|---|---|---|---|---|
| ICKED-UP BY EMAX COURIER | | | | | | |
| ELIVERED BY CLIENT ✓ | | | | | | |
| HIPPED/AIRBILL NO: | FEDEX APTN: | | | | | |

| AMPLE BATCH PACKAGING/SEALING UPON RECEIPT: | | | ✓ INTACT | ___ DAMAGED | ✓ SEALED | ___ NOT SEALED | ___ NO CONTAINER |
|---|---|---|---|---|---|---|---|
| ONTAINER: | INSIDE TEMPERATURE ( 4°C ± 2°C ) | 3° °C | | CUSTODY SEAL | | LOCATION | NUMBER |
| ✓ COOLER | PACKAGING | TYPE | SUFFICIENCY | ✓ INTACT | ___ DAMAGED | FRONT CLOSURE | 1 |
| ___ BOX | INSULATION: | | OK | NAME: | SEE COC | REAR CLOSURE | 1 |
| ___ OTHER: | ICE/COOLANT: | REGULAR | | DATE: | | | |
| _____ | PACKING MATERIAL: | STYRO. | | TIME: | | | |

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

| AMPLE LOG-IN: | CRITERIA | COMMENTS | DISCREPANCY |
|---|---|---|---|
| AMPLE CUSTODY SEAL | EVERY SAMPLE | NONE | |
| ONTAINER TYPE/MATERIAL | APPROPRIATE | OK | |
| AMPLE AMOUNT | ENOUGH | | |
| OLDING TIME | SUFFICENT | | |
| AMPLE PRESERVATION (For appropriate preservative see GP-0001 Appendix I) | NaOH preserved samples pH ≥ 12<br>$HNO_3$ / $H_2SO_4$ preserved samples pH ≤ 2 | | |
| EADSPACE/BUBBLES | ZERO/NONE | | |
| AMPLE LABEL INFORMATION | SUFFICIENT | | |
| HAIN-OF-CUSTODY INFORMATION | SUFFICIENT | | |

| AMPLE INFO.: | SAMPLE ID ✓ | DATE ✓ | TIME ✓ | SIGNATURE ✓ | ANALYSES ✓ | PRESERVATIVE ✓ | CONTAINER ✓ |
|---|---|---|---|---|---|---|---|

| IDIVIDUAL SAMPLE CONTAINER: | ___ NONE | ✓ SEALED PLASTIC BAG | ___ CAN | ___ OTHER(SPECIFY) _____ |
|---|---|---|---|---|

| SAMPLE NUMBER | CLIENT ID | DISCREPANCY | ACTION |
|---|---|---|---|
| | | | |

| IENT SERVICES COPY ... IVED BY | [signature] 11/25/96 | DATE | | TIME | |
|---|---|---|---|---|---|

410 421

RECEIVED
JAN 0 [illegible]
JE - Denver

LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP

CARSWELL AFB / 05G47900

METALS

SDG#: 96K120

DECEMBER 31, 1996

# CASE NARRATIVE

**CLIENT:** JACOBS ENGINEERING GROUP

**PROJECT:** CARSWELL

**SDG:** 96K120

## METALS

Nine (9) soil and ten (10) water samples were received on 11/22/96 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 blank: barium, beryllium, copper, iron, manganese, molybdenum, lead, and sodium. All detected levels were below PQL except sodium was slightly above PQL.

   Trace amount of aluminum, iron, lead, and sodium were found in water blank. Iron and aluminum levels were 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 recoveries in MS and beryllium, cobalt, molybdenum, thallium, cadmium, arsenic, and lead recoveries in MSD. 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 except thallium recovery in soil LCS but was within the limit in LCSD.

5. **Calibration**

   All initial and continuing calibration results were within QC criteria.

## 6. Sample Analysis

Arsenic, lead, and cadmium were analyzed by Trace-ICP, all others metals by ICP. Some calibration blanks associated with sodium analysis were slightly above PQL.

Several serial dilution were out of QC limits, post analytical spike of all failed serial dilutions were within QC limits except calcium and lead in soil matrix.

11/29/1996 14:59

# LAB CHRONICLE
## Metals

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K120
MATRIX: Soil

| SAMPLE ID | CONTROL NO | %H2O | PREPARATION BATCH/DATE/TIME | ANALYTICAL BATCH/DATE/TIME | CALIB REF | FILE ID |
|---|---|---|---|---|---|---|
| CR-A159205 | K120-05 | 18.0 | IPK025S/11/26/96/09.00 | I07L005/12/17/96 | * | |
| CR-A159305 | K120-10 | 20.8 | | | | |
| CR-A159405 | K120-15 | 30.0 | | | | |
| CR-A159505 | K120-23 | 25.8 | | | | |
| CR-A159507 | K120-25 | 30.5 | | | | |
| CR-A159605 | K120-30 | 29.2 | | | | |
| CR-A159705 | K120-35 | 22.8 | | | | |
| CR-A159805 | K120-40 | 28.9 | | | | |
| CR-A159905 | K120-45 | 25.1 | | | | |
| CR-A159905MS | K120-45M | 25.1 | | | | |
| CR-A159905DUP | K120-45D | 25.1 | | | | |
| MBLK1S | IPK025SB | | | | | |
| LCS | SL | | | | | |
| LCSD | SC | | | | | |

* - As, Cd, Pb were analyzed on 12/08/96 File I31L008
- Tl was analyzed on 12/16/96 File I07L002

11/29/1996 14:59

# LAB CHRONICLE
## Metals

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K120
MATRIX: Water

| SAMPLE ID | CONTROL NO | %H2O | PREPARATION BATCH/DATE/TIME | ANALYTICAL BATCH/DATE/TIME | CALIB REF | FILE ID |
|---|---|---|---|---|---|---|
| CR-A159203 | K120-03 | NA | I PK027W/11/26/96/10:00 | I07L019/12/23/96 | * | |
| CR-A159303 | K120-08 | NA | | | | |
| CR-A159403 | K120-13 | NA | | | | |
| CR-A159408 | K120-18 | NA | | | | |
| CR-A159503 | K120-21 | NA | | | | |
| CR-A159603 | K120-28 | NA | | | | |
| CR-A159703 | K120-33 | NA | | | | |
| CR-A159803 | K120-38 | NA | | | | |
| CR-A159903 | K120-43 | NA | | | | |
| CR-A159903MS | K120-43M | NA | | | | |
| CR-A159903DUP | K120-43D | NA | | | | |
| CR-A159908 | K120-48 | NA | | | | |
| MBLK1W | 1 PK027WB | | | | | |
| LCS | ↓ | WL | | | | |
| LCSD | ↓ | WC | ↓ | ↓ | ↓ | |

* As, Pb, Cd were analyzed on 12/11/96 File I31L013

SW3050A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Btch No. | : 96K120 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : CR-A159205 | DaTime Analyzd : | 12/17/96 16:22 |
| Lab Cnt NO.: | K120-05 | Dilutn Factor : | 1 |
| Lab File ID: | I07L005 | Matrix : | SOIL |
| Ext Btch ID: | IPK025S | % Moisture : | 18.0 |
| Calib. Ref.: | I07L005 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Aluminum | 2300 | 61 | 1.23 |
| Barium | 35.9 | 2.44 | .0488 |
| Beryllium | .245F | .366 | .0122 |
| Calcium | 174000 | 12.2 | 2.74 |
| Chromium | 4.81F | 8.54 | .671 |
| Cobalt | 3.39F | 8.54 | 1.02 |
| Copper | 5.78F | 7.32 | .171 |
| Iron | 7930 | 8.54 | .707 |
| Magnesium | 1740 | 36.6 | 6.74 |
| Manganese | 362 | 2.44 | .146 |
| Molybdenum | 1.36F | 9.76 | .744 |
| Potassium | 386F | 610 | 63.7 |
| Sodium | ND | 36.6 | 2.44 |
| Thallium* | 43.4F | 48.8 | 11.2 |
| Vanadium | 23.4 | 9.76 | .476 |
| Zinc | 25.2 | 2.44 | .207 |

*Analyzed on 12/16/96, Cal. Ref. I07L002

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : CR-A159205 | DaTime Analyzd : | 12/09/96 18:46 |
| Lab Cnt NO.: | K120-05 | Dilutn Factor : | 1 |
| Lab File ID: | I31L008 | Matrix : | SOIL |
| Ext Btch ID: | IPK025S | % Moisture : | 18.0 |
| Calib. Ref.: | I31L008 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Arsenic | 5.27 | .61 | .561 |
| Cadmium | .292 | .122 | .122 |
| Lead | 6.26 | .61 | .171 |

SW3050A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : CR-A159305 | DaTime Analyzd : | 12/17/96 16:26 |
| Lab Cnt NO. | : K120-10 | Dilutn Factor : | 1 |
| Lab File ID | : I07L005 | Matrix : | SOIL |
| Ext Btch ID | : IPK025S | % Moisture : | 20.8 |
| Calib. Ref. | : I07L005 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Aluminum | 4740 | 63.1 | 1.28 |
| Barium | 31.3 | 2.53 | .0505 |
| Beryllium | .29F | .379 | .0126 |
| Calcium | 131000 | 12.6 | 2.84 |
| Chromium | 6.01F | 8.84 | .694 |
| Cobalt | 1.59F | 8.84 | 1.06 |
| Copper | 8.58 | 7.58 | .177 |
| Iron | 7120 | 8.84 | .732 |
| Magnesium | 1800 | 37.9 | 6.98 |
| Manganese | 143 | 2.53 | .152 |
| Molybdenum | 2.68F | 10.1 | .77 |
| Potassium | 760 | 631 | 66 |
| Sodium | ND | 37.9 | 2.53 |
| Thallium* | 36.2F | 50.5 | 11.6 |
| Vanadium | 15.4 | 10.1 | .492 |
| Zinc | 24.3 | 2.53 | .215 |

Analyzed on 12/16/96, Cal. Ref. I07L002

410 420

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : CR-A159305 | DaTime Analyzd : | 12/09/96 18:50 |
| Lab Cnt NO.: | K120-10 | Dilutn Factor : | 1 |
| Lab File ID: | I31L008 | Matrix : | SOIL |
| Ext Btch ID: | IPK025S | % Moisture : | 20.8 |
| Calib. Ref.: | I31L008 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Arsenic | 2.85 | .631 | .581 |
| Cadmium | .152 | .126 | .126 |
| Lead | 7.4 | .631 | .177 |

SW3050A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : CR-A159405 | DaTime Analyzd : | 12/17/96 16:30 |
| Lab Cnt NO. | : K120-15 | Dilutn Factor : | 1 |
| Lab File ID | : I07L005 | Matrix : | SOIL |
| Ext Btch ID | : IPK025S | % Moisture : | 30.0 |
| Calib. Ref. | : I07L005 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Aluminum | 8210 | 71.4 | 1.44 |
| Barium | 58.9 | 2.86 | .0571 |
| Beryllium | .451 | .429 | .0143 |
| Calcium | 125000 | 14.3 | 3.21 |
| Chromium | 9.59F | 10 | .786 |
| Cobalt | 2.28F | 10 | 1.2 |
| Copper | 11.7 | 8.57 | .2 |
| Iron | 8080 | 10 | .829 |
| Magnesium | 2140 | 42.9 | 7.9 |
| Manganese | 164 | 2.86 | .171 |
| Molybdenum | ND | 11.4 | .871 |
| Potassium | 1300 | 714 | 74.6 |
| Sodium | ND | 42.9 | 2.86 |
| Thallium* | 39.1F | 57.1 | 13.2 |
| Vanadium | 18 | 11.4 | .557 |
| [illegible] | 53.9 | 2.86 | .243 |

*: Analyzed on 12/16/96, Cal. Ref. I07L002

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : CR-A159405 | DaTime Analyzd : | 12/09/96 18:54 |
| Lab Cnt NO.: | K120-15 | Dilutn Factor : | 1 |
| Lab File ID: | I31L008 | Matrix : | SOIL |
| Ext Btch ID: | IPK025S | % Moisture : | 30.0 |
| Calib. Ref.: | I31L008 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Arsenic | 2.96 | .714 | .657 |
| Cadmium | .267 | .143 | .143 |
| Lead | 26.9 | .714 | .2 |

SW3050A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| ient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| ›ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| atch No. | : 96K120 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : CR-A159505 | DaTime Analyzd : | 12/17/96 16:33 |
| Lab Cnt NO.: | K120-23 | Dilutn Factor : | 1 |
| Lab File ID: | I07L005 | Matrix : | SOIL |
| Ext Btch ID: | IPK025S | % Moisture : | 25.8 |
| Calib. Ref.: | I07L005 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Aluminum | 2280 | 67.4 | 1.36 |
| Barium | 21.9 | 2.7 | .0539 |
| Beryllium | .194F | .404 | .0135 |
| Calcium | 189000 | 13.5 | 3.03 |
| Chromium | 9.02F | 9.43 | .741 |
| Cobalt | 1.97F | 9.43 | 1.13 |
| Copper | 4.28F | 8.09 | .189 |
| Iron | 5030 | 9.43 | .782 |
| Magnesium | 1890 | 40.4 | 7.45 |
| Manganese | 228 | 2.7 | .162 |
| Molybdenum | 2.04F | 10.8 | .822 |
| Potassium | 392F | 674 | 70.4 |
| Sodium | ND | 40.4 | 2.7 |
| Thallium* | 22.2F | 53.9 | 12.4 |
| Vanadium | 15.4 | 10.8 | .526 |
| nc | 17.3 | 2.7 | .229 |

Analyzed on 12/16/96, Cal. Ref. I07L002

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : CR-A159505 | DaTime Analyzd : | 12/09/96 19:09 |
| Lab Cnt NO.: | K120-23 | Dilutn Factor : | 1 |
| Lab File ID: | I31L008 | Matrix : | SOIL |
| Ext Btch ID: | IPK025S | % Moisture : | 25.8 |
| Calib. Ref.: | I31L008 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Arsenic | 4 | .674 | .62 |
| Cadmium | .282 | .135 | .135 |
| Lead | 15 | .674 | .189 |

SW3050A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| ient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| ›ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| atch No. | : 96K120 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : CR-A159507 | DaTime Analyzd : | 12/17/96 16:37 |
| Lab Cnt NO.: | K120-25 | Dilutn Factor : | 1 |
| Lab File ID: | I07L005 | Matrix : | SOIL |
| Ext Btch ID: | IPK025S | % Moisture : | 30.5 |
| Calib. Ref.: | I07L005 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Aluminum | 8880 | 71.9 | 1.45 |
| Barium | 66.7 | 2.88 | .0576 |
| Beryllium | .494 | .432 | .0144 |
| Calcium | 119000 | 14.4 | 3.24 |
| Chromium | 10.6 | 10.1 | .791 |
| Cobalt | 2.95F | 10.1 | 1.21 |
| Copper | 11.7 | 8.63 | .201 |
| Iron | 9190 | 10.1 | .835 |
| Magnesium | 2090 | 43.2 | 7.96 |
| Manganese | 170 | 2.88 | .173 |
| Molybdenum | 1.13F | 11.5 | .878 |
| Potassium | 1380 | 719 | 75.2 |
| Sodium | ND | 43.2 | 2.88 |
| Thallium* | 37.9F | 57.6 | 13.3 |
| Vanadium | 20.2 | 11.5 | .561 |
| Zinc | 59.8 | 2.88 | .245 |

Analyzed on 12/16/96, Cal. Ref. I07L002

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : CR-A159507 | DaTime Analyzd : | 12/09/96 19:13 |
| Lab Cnt NO.: | K120-25 | Dilutn Factor : | 1 |
| Lab File ID: | I31L008 | Matrix : | SOIL |
| Ext Btch ID: | IPK025S | % Moisture : | 30.5 |
| Calib. Ref.: | I31L008 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Arsenic | 3.54 | .719 | .662 |
| Cadmium | .308 | .144 | .144 |
| Lead | 32.3 | .719 | .201 |

SW3050A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : CR-A159605 | DaTime Analyzd : | 12/17/96 16:41 |
| Lab Cnt NO.: | K120-30 | Dilutn Factor : | 1 |
| Lab File ID: | I07L005 | Matrix : | SOIL |
| Ext Btch ID: | IPK025S | % Moisture : | 29.2 |
| Calib. Ref.: | I07L005 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Aluminum | 7230 | 70.6 | 1.43 |
| Barium | 76.8 | 2.82 | .0565 |
| Beryllium | .492 | .424 | .0141 |
| Calcium | 75100 | 14.1 | 3.18 |
| Chromium | 8.3F | 9.89 | .777 |
| Cobalt | 3.29F | 9.89 | 1.19 |
| Copper | 10.2 | 8.47 | .198 |
| Iron | 7060 | 9.89 | .819 |
| Magnesium | 1450 | 42.4 | 7.81 |
| Manganese | 173 | 2.82 | .169 |
| Molybdenum | 1.84F | 11.3 | .862 |
| Potassium | 1130 | 706 | 73.8 |
| Sodium | 6.07F | 42.4 | 2.82 |
| Thallium* | 28.9F | 56.5 | 13 |
| Vanadium | 19.3 | 11.3 | .551 |
| Zinc | 32.8 | 2.82 | .24 |

* Analyzed on 12/16/96, Cal. Ref. I07L002

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : CR-A159605 | DaTime Analyzd : | 12/09/96 19:17 |
| Lab Cnt NO.: | K120-30 | Dilutn Factor : | 1 |
| Lab File ID: | I31L008 | Matrix : | SOIL |
| Ext Btch ID: | IPK025S | % Moisture : | 29.2 |
| Calib. Ref.: | I31L008 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Arsenic | 3.19 | .706 | .65 |
| Cadmium | .212 | .141 | .141 |
| Lead | 9.12 | .706 | .198 |

SW3050A/6010A
METALS BY ICP



| | | | |
|---|---|---|---|
| ient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| ch No. | : 96K120 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : CR-A159705 | DaTime Analyzd : | 12/17/96 16:44 |
| Lab Cnt NO.: | K120-35 | Dilutn Factor : | 1 |
| Lab File ID: | I07L005 | Matrix : | SOIL |
| Ext Btch ID: | IPK025S | % Moisture : | 22.8 |
| Calib. Ref.: | I07L005 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Aluminum | 3660 | 64.8 | 1.31 |
| Barium | 34 | 2.59 | .0518 |
| Beryllium | .291F | .389 | .013 |
| Calcium | 166000 | 13 | 2.91 |
| Chromium | 5.49F | 9.07 | .712 |
| Cobalt | 1.62F | 9.07 | 1.09 |
| Copper | 4.57F | 7.77 | .181 |
| Iron | 5240 | 9.07 | .751 |
| Magnesium | 1870 | 38.9 | 7.16 |
| Manganese | 189 | 2.59 | .155 |
| Molybdenum | 1F | 10.4 | .79 |
| Potassium | 508F | 648 | 67.7 |
| Sodium | ND | 38.9 | 2.59 |
| Thallium* | 24.5F | 51.8 | 11.9 |
| Vanadium | 19.2 | 10.4 | .505 |
| Zinc | 11.3 | 2.59 | .22 |

Analyzed on 12/16/96, Cal. Ref. I07L002

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SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : CR-A159705 | DaTime Analyzd : | 12/09/96 19:21 |
| Lab Cnt NO.: | K120-35 | Dilutn Factor : | 1 |
| Lab File ID: | I31L008 | Matrix : | SOIL |
| Ext Btch ID: | IPK025S | % Moisture : | 22.8 |
| Calib. Ref.: | I31L008 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Arsenic | 4.18 | .648 | .596 |
| Cadmium | .215 | .13 | .13 |
| Lead | 2.21 | .648 | .181 |

SW3050A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Btch No. | : 96K120 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : CR-A159805 | DaTime Analyzd : | 12/17/96 16:48 |
| Lab Cnt NO.: | K120-40 | Dilutn Factor : | 1 |
| Lab File ID: | I07L005 | Matrix : | SOIL |
| Ext Btch ID: | IPK025S | % Moisture : | 28.9 |
| Calib. Ref.: | I07L005 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Aluminum | 9240 | 70.3 | 1.42 |
| Barium | 64.4 | 2.81 | .0563 |
| Beryllium | .557 | .422 | .0141 |
| Calcium | 127000 | 14.1 | 3.16 |
| Chromium | 9.12F | 9.85 | .774 |
| Cobalt | 2.51F | 9.85 | 1.18 |
| Copper | 7.4F | 8.44 | .197 |
| Iron | 7910 | 9.85 | .816 |
| Magnesium | 2080 | 42.2 | 7.78 |
| Manganese | 149 | 2.81 | .169 |
| Molybdenum | 2.56F | 11.3 | .858 |
| Potassium | 921 | 703 | 73.5 |
| Sodium | 4.06F | 42.2 | 2.81 |
| Thallium* | 37.8F | 56.3 | 13 |
| Vanadium | 24.1 | 11.3 | .549 |
| Zinc | 20.3 | 2.81 | .239 |

*Analyzed on 12/16/96, Cal. Ref. I07L002

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : CR-A159805 | DaTime Analyzd : | 12/09/96 19:25 |
| Lab Cnt NO.: | K120-40 | Dilutn Factor : | 1 |
| Lab File ID: | I31L008 | Matrix : | SOIL |
| Ext Btch ID: | IPK025S | % Moisture : | 28.9 |
| Calib. Ref.: | I31L008 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Arsenic | 3.72 | .703 | .647 |
| Cadmium | .153 | .141 | .141 |
| Lead | 2.68 | .703 | .197 |

SW3050A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| oject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| :ch No. | : 96K120 | DaTime Extrctd : | 11/26/96 09:00 |
| ample ID | : CR-A159905 | DaTime Analyzd : | 12/17/96 16:52 |
| Lab Cnt NO.: | K120-45 | Dilutn Factor : | 1 |
| Lab File ID: | I07L005 | Matrix : | SOIL |
| Ext Btch ID: | IPK025S | % Moisture : | 25.1 |
| Calib. Ref.: | I07L005 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Aluminum | 6660 | 66.8 | 1.35 |
| Barium | 61 | 2.67 | .0534 |
| Beryllium | .467 | .401 | .0134 |
| Calcium | 132000 | 13.4 | 3 |
| Chromium | 8.03F | 9.35 | .734 |
| Cobalt | 3.43F | 9.35 | 1.12 |
| Copper | 6.91F | 8.01 | .187 |
| Iron | 7010 | 9.35 | .774 |
| Magnesium | 2040 | 40.1 | 7.38 |
| Manganese | 179 | 2.67 | .16 |
| Molybdenum | 1.36F | 10.7 | .814 |
| Potassium | 910 | 668 | 69.7 |
| Sodium | ND | 40.1 | 2.67 |
| Thallium* | 35.2F | 53.4 | 12.3 |
| Vanadium | 19.3 | 10.7 | .521 |
| Zinc | 18.7 | 2.67 | .227 |

* nalyzed on 12/16/96, Cal. Ref. I07L002

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : CR-A159905 | DaTime Analyzd : | 12/09/96 19:29 |
| Lab Cnt NO.: | K120-45 | Dilutn Factor : | 1 |
| Lab File ID: | I31L008 | Matrix : | SOIL |
| Ext Btch ID: | IPK025S | % Moisture : | 25.1 |
| Calib. Ref.: | I31L008 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Arsenic | 3.82 | .668 | .614 |
| Cadmium | .158 | .134 | .134 |
| Lead | 3.23 | .668 | .187 |

SW3050A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | NA |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/26/96 |
| Btch No. | : 96K120 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : MBLK1S | DaTime Analyzd : | 12/17/96 15:43 |
| Lab Cnt NO.: | IPK025SB | Dilutn Factor : | 1 |
| Lab File ID: | I07L005 | Matrix : | SOIL |
| Ext Btch ID: | IPK025S | % Moisture : | NA |
| Calib. Ref.: | I07L005 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Aluminum | ND | 50 | 1.01 |
| Barium | .151F | 2 | .04 |
| Beryllium | .135F | .3 | .01 |
| Calcium | ND | 10 | 2.25 |
| Chromium | ND | 7 | .55 |
| Cobalt | ND | 7 | .84 |
| Copper | .203F | 6 | .14 |
| Iron | 1.83F | 7 | .58 |
| Magnesium | ND | 30 | 5.53 |
| Manganese | .216F | 2 | .12 |
| Molybdenum | .615F | 8 | .61 |
| Potassium | ND | 500 | 52.2 |
| Sodium | 33.7 | 30 | 2 |
| Thallium* | ND | 40 | 9.22 |
| Vanadium | ND | 8 | .39 |
| Zinc | ND | 2 | .17 |

*Analyzed on 12/16/96, Cal. Ref. I07L002

410 445

SW3050A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | NA |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/26/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 09:00 |
| Sample ID | : MBLK1S | DaTime Analyzd : | 12/09/96 18:17 |
| Lab Cnt NO. | : IPK025SB | Dilutn Factor : | 1 |
| Lab File ID | : I31L008 | Matrix : | SOIL |
| Ext Btch ID | : IPK025S | % Moisture : | NA |
| Calib. Ref. | : I31L008 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/kg) | PQL (mg/kg) | MDL (mg/kg) |
|---|---|---|---|
| Arsenic | ND | .5 | .46 |
| Cadmium | ND | .1 | .1 |
| Lead | .306F | .5 | .14 |

SW3005A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| ient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : CR-A159203 | DaTime Analyzd : | 12/23/96 19:09 |
| Lab Cnt NO.: | K120-03 | Dilutn Factor : | 1 |
| Lab File ID: | I07L019 | Matrix : | WATER |
| Ext Btch ID: | IPK027W | % Moisture : | NA |
| Calib. Ref.: | I07L019 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | .0509F | .5 | .0122 |
| Barium | .0877 | .02 | .001 |
| Beryllium | ND | .003 | .0003 |
| Calcium | 88.7 | .1 | .0222 |
| Chromium | .00744F | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | .0101F | .06 | .0008 |
| Iron | .223 | .07 | .0035 |
| Magnesium | 3 | .3 | .0342 |
| Manganese | .0281 | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | 3.38F | 5 | .466 |
| Sodium | 25.1 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | ND | .08 | .0029 |
| c | .00874F | .02 | .0039 |

SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : CR-A159203 | DaTime Analyzd : | 12/11/96 16:40 |
| Lab Cnt NO.: | K120-03 | Dilutn Factor : | 1 |
| Lab File ID: | I31L013 | Matrix : | WATER |
| Ext Btch ID: | IPK027W | % Moisture : | NA |
| Calib. Ref.: | I31L013 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Arsenic | ND | .005 | .0049 |
| Cadmium | .000534F | .001 | .00046 |
| Lead | ND | .005 | .0016 |

SW3005A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| lent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : CR-A159303 | DaTime Analyzd : | 12/23/96 19:13 |
| Lab Cnt NO.: | K120-08 | Dilutn Factor : | 1 |
| Lab File ID: | I07L019 | Matrix : | WATER |
| Ext Btch ID: | IPK027W | % Moisture : | NA |
| Calib. Ref.: | I07L019 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | .0677F | .5 | .0122 |
| Barium | .0759 | .02 | .001 |
| Beryllium | ND | .003 | .0003 |
| Calcium | 84.1 | .1 | .0222 |
| Chromium | ND | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | .00461F | .06 | .0008 |
| Iron | .0978 | .07 | .0035 |
| Magnesium | 2.58 | .3 | .0342 |
| Manganese | .0262 | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | 2.64F | 5 | .466 |
| Sodium | 19.3 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | .00398F | .08 | .0029 |
| [illegible] | ND | .02 | .0039 |

SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : CR-A159303 | DaTime Analyzd : | 12/11/96 16:44 |
| Lab Cnt NO.: | K120-08 | Dilutn Factor : | 1 |
| Lab File ID: | I31L013 | Matrix : | WATER |
| Ext Btch ID: | IPK027W | % Moisture : | NA |
| Calib. Ref.: | I31L013 | 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

| | | | |
|---|---|---|---|
| 'ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : CR-A159403 | DaTime Analyzd : | 12/23/96 19:17 |
| Lab Cnt NO.: | K120-13 | Dilutn Factor : | 1 |
| Lab File ID: | I07L019 | Matrix : | WATER |
| Ext Btch ID: | IPK027W | % Moisture : | NA |
| Calib. Ref.: | I07L019 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | .104F | .5 | .0122 |
| Barium | .0941 | .02 | .001 |
| Beryllium | ND | .003 | .0003 |
| Calcium | 91.6 | .1 | .0222 |
| Chromium | ND | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | .00289F | .06 | .0008 |
| Iron | .0773 | .07 | .0035 |
| Magnesium | 3.85 | .3 | .0342 |
| Manganese | .0193F | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | 3.16F | 5 | .466 |
| Sodium | 31.7 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | .00312F | .08 | .0029 |
| [illegible] | ND | .02 | .0039 |

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SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : CR-A159403 | DaTime Analyzd : | 12/11/96 16:48 |
| Lab Cnt NO.: | K120-13 | Dilutn Factor : | 1 |
| Lab File ID: | I31L013 | Matrix : | WATER |
| Ext Btch ID: | IPK027W | % Moisture : | NA |
| Calib. Ref.: | I31L013 | 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: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : CR-A159408 | DaTime Analyzd : | 12/23/96 19:20 |
| Lab Cnt NO. | : K120-18 | Dilutn Factor : | 1 |
| Lab File ID | : I07L019 | Matrix : | WATER |
| Ext Btch ID | : IPK027W | % Moisture : | NA |
| Calib. Ref. | : I07L019 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | .0835F | .5 | .0122 |
| Barium | .0963 | .02 | .001 |
| Beryllium | ND | .003 | .0003 |
| Calcium | 94 | .1 | .0222 |
| Chromium | ND | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | .00288F | .06 | .0008 |
| Iron | .0719 | .07 | .0035 |
| Magnesium | 3.93 | .3 | .0342 |
| Manganese | .0201 | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | 3.46F | 5 | .466 |
| Sodium | 32 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | ND | .08 | .0029 |
| [illegible] | ND | .02 | .0039 |

SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : CR-A159408 | DaTime Analyzd : | 12/11/96 16:52 |
| Lab Cnt NO.: | K120-18 | Dilutn Factor : | 1 |
| Lab File ID: | I31L013 | Matrix : | WATER |
| Ext Btch ID: | IPK027W | % Moisture : | NA |
| Calib. Ref.: | I31L013 | 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



| | | | |
|---|---|---|---|
| ient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| ɔject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| atch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : CR-A159503 | DaTime Analyzd : | 12/23/96 19:24 |
| Lab Cnt NO.: | K120-21 | Dilutn Factor : | 1 |
| Lab File ID: | I07L019 | Matrix : | WATER |
| Ext Btch ID: | IPK027W | % Moisture : | NA |
| Calib. Ref.: | I07L019 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | .0653F | .5 | .0122 |
| Barium | .0962 | .02 | .001 |
| Beryllium | ND | .003 | .0003 |
| Calcium | 93.1 | .1 | .0222 |
| Chromium | ND | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | ND | .06 | .0008 |
| Iron | .166 | .07 | .0035 |
| Magnesium | 3.7 | .3 | .0342 |
| Manganese | .0129F | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | 2.06F | 5 | .466 |
| Sodium | 27.9 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | ND | .08 | .0029 |
| :c | ND | .02 | .0039 |

SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : CR-A159503 | DaTime Analyzd : | 12/11/96 16:56 |
| Lab Cnt NO.: | K120-21 | Dilutn Factor : | 1 |
| Lab File ID: | I31L013 | Matrix : | WATER |
| Ext Btch ID: | IPK027W | % Moisture : | NA |
| Calib. Ref.: | I31L013 | 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

| | | | |
|---|---|---|---|
| ient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| bject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| atch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : CR-A159603 | DaTime Analyzd : | 12/23/96 19:28 |
| Lab Cnt NO.: | K120-28 | Dilutn Factor : | 1 |
| Lab File ID: | I07L019 | Matrix : | WATER |
| Ext Btch ID: | IPK027W | % Moisture : | NA |
| Calib. Ref.: | I07L019 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | .0669F | .5 | .0122 |
| Barium | .0868 | .02 | .001 |
| Beryllium | ND | .003 | .0003 |
| Calcium | 91.9 | .1 | .0222 |
| Chromium | ND | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | .00204F | .06 | .0008 |
| Iron | .117 | .07 | .0035 |
| Magnesium | 3.28 | .3 | .0342 |
| Manganese | .0345 | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | 3.17F | 5 | .466 |
| Sodium | 24.2 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | .00361F | .08 | .0029 |
| ic | ND | .02 | .0039 |

SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : CR-A159603 | DaTime Analyzd : | 12/11/96 17:00 |
| Lab Cnt NO.: | K120-28 | Dilutn Factor : | 1 |
| Lab File ID: | I31L013 | Matrix : | WATER |
| Ext Btch ID: | IPK027W | % Moisture : | NA |
| Calib. Ref.: | I31L013 | 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

| | | | |
|---|---|---|---|
| ient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| tch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : CR-A159703 | DaTime Analyzd : | 12/23/96 19:31 |
| Lab Cnt NO.: | K120-33 | Dilutn Factor : | 1 |
| Lab File ID: | I07L019 | Matrix : | WATER |
| Ext Btch ID: | IPK027W | % Moisture : | NA |
| Calib. Ref.: | I07L019 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | .178F | .5 | .0122 |
| Barium | .107 | .02 | .001 |
| Beryllium | ND | .003 | .0003 |
| Calcium | 118 | .1 | .0222 |
| Chromium | .00614F | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | .00719F | .06 | .0008 |
| Iron | .138 | .07 | .0035 |
| Magnesium | 5.52 | .3 | .0342 |
| Manganese | .0716 | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | 3.93F | 5 | .466 |
| Sodium | 22.2 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | .00575F | .08 | .0029 |
| [illegible] | .0122F | .02 | .0039 |

SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : CR-A159703 | DaTime Analyzd : | 12/11/96 17:13 |
| Lab Cnt NO.: | K120-33 | Dilutn Factor : | 1 |
| Lab File ID: | I31L013 | Matrix : | WATER |
| Ext Btch ID: | IPK027W | % Moisture : | NA |
| Calib. Ref.: | I31L013 | 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



| | | | |
|---|---|---|---|
| ient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : CR-A159803 | DaTime Analyzd : | 12/23/96 19:46 |
| Lab Cnt NO.: | K120-38 | Dilutn Factor : | 1 |
| Lab File ID: | I07L019 | Matrix : | WATER |
| Ext Btch ID: | IPK027W | % Moisture : | NA |
| Calib. Ref.: | I07L019 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | .0786F | .5 | .0122 |
| Barium | .0909 | .02 | .001 |
| Beryllium | ND | .003 | .0003 |
| Calcium | 96.7 | .1 | .0222 |
| Chromium | ND | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | .002F | .06 | .0008 |
| Iron | .0221F | .07 | .0035 |
| Magnesium | 2.07 | .3 | .0342 |
| Manganese | .00384F | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | 2.08F | 5 | .466 |
| Sodium | 22.6 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | .00499F | .08 | .0029 |
| c | ND | .02 | .0039 |

SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : CR-A159803 | DaTime Analyzd : | 12/11/96 17:20 |
| Lab Cnt NO.: | K120-38 | Dilutn Factor : | 1 |
| Lab File ID: | I31L013 | Matrix : | WATER |
| Ext Btch ID: | IPK027W | % Moisture : | NA |
| Calib. Ref.: | I31L013 | 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

| | | | |
|---|---|---|---|
| ient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| ›ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| atch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : CR-A159903 | DaTime Analyzd : | 12/23/96 19:49 |
| Lab Cnt NO.: | K120-43 | Dilutn Factor : | 1 |
| Lab File ID: | I07L019 | Matrix : | WATER |
| Ext Btch ID: | IPK027W | % Moisture : | NA |
| Calib. Ref.: | I07L019 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | .062F | .5 | .0122 |
| Barium | .124 | .02 | .001 |
| Beryllium | ND | .003 | .0003 |
| Calcium | 104 | .1 | .0222 |
| Chromium | .00775F | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | ND | .06 | .0008 |
| Iron | .0611F | .07 | .0035 |
| Magnesium | 4.64 | .3 | .0342 |
| Manganese | .00465F | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | 3.59F | 5 | .466 |
| Sodium | 32.9 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | .00309F | .08 | .0029 |
| c | ND | .02 | .0039 |

SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : CR-A159903 | DaTime Analyzd : | 12/11/96 17:24 |
| Lab Cnt NO.: | K120-43 | Dilutn Factor : | 1 |
| Lab File ID: | I31L013 | Matrix : | WATER |
| Ext Btch ID: | IPK027W | % Moisture : | NA |
| Calib. Ref.: | I31L013 | 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: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : CR-A159908 | DaTime Analyzd : | 12/23/96 20:11 |
| Lab Cnt NO.: | K120-48 | Dilutn Factor : | 1 |
| Lab File ID: | I07L019 | Matrix : | WATER |
| Ext Btch ID: | IPK027W | % Moisture : | NA |
| Calib. Ref.: | I07L019 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | .0212F | .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 | .0101F | .07 | .0035 |
| Magnesium | ND | .3 | .0342 |
| Manganese | ND | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | ND | 5 | .466 |
| Sodium | .499 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | ND | .08 | .0029 |
| c | .00671F | .02 | .0039 |

SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : CR-A159908 | DaTime Analyzd : | 12/11/96 17:47 |
| Lab Cnt NO.: | K120-48 | Dilutn Factor : | 1 |
| Lab File ID: | I31L013 | Matrix : | WATER |
| Ext Btch ID: | IPK027W | % Moisture : | NA |
| Calib. Ref.: | I31L013 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Arsenic | ND | .005 | .0049 |
| Cadmium | .000676F | .001 | .00046 |
| Lead | ND | .005 | .0016 |

SW3005A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | NA |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/26/96 |
| Btch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : MBLK1W | DaTime Analyzd : | 12/23/96 18:56 |
| Lab Cnt NO. | : IPK027WB | Dilutn Factor : | 1 |
| Lab File ID | : I07L019 | Matrix : | WATER |
| Ext Btch ID | : IPK027W | % Moisture : | NA |
| Calib. Ref. | : I07L019 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | .0474F | .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 | .00815F | .07 | .0035 |
| Magnesium | ND | .3 | .0342 |
| Manganese | ND | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | ND | 5 | .466 |
| Sodium | .499 | .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: | 11/26/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/26/96 10:00 |
| Sample ID | : MBLK1W | DaTime Analyzd : | 12/11/96 16:08 |
| Lab Cnt NO. | : IPK027WB | Dilutn Factor : | 1 |
| Lab File ID | : I31L013 | Matrix : | WATER |
| Ext Btch ID | : IPK027W | % Moisture : | NA |
| Calib. Ref. | : I31L013 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Arsenic | ND | .005 | .0049 |
| Cadmium | ND | .001 | .00046 |
| Lead | .00177F | .005 | .0016 |

410 468

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LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP

CARSWELL AFB / 05G47900

EPA 3050A/7041
ANTIMONY BY GFAA

SDG#: 96K120

DECEMBER 31, 1996

# CASE NARRATIVE

**CLIENT:** JACOBS ENGINEERING GROUP

**PROJECT:** CARSWELL AFB / 05G47900

**SDG:** 96K120

## EPA 3050A/7041
## ANTIMONY BY GFAA

Nine (9) soil and ten (10) water samples were received on 11/22/96 for Antimony analysis in accordance with USEPA SW846.

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   All preparation blanks were free of contamination.

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

   MS/MSD recoveries for water matrix were within QC limit. MS/MSD recoveries for soil matrix were out of QC limit.

4. **Laboratory Control Sample/Laboratory Control Sample Duplicate**

   All lab control results and RPDs were within the control limits.

5. **Sample Analysis**

   All sample analyses were within QC requirements.



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

410 470

11/29/1996 14:59

LAB CHRONICLE
Metals (Antimony)

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K120
MATRIX: Soil

| SAMPLE ID | CONTROL NO | %H2O | PREPARATION BATCH/DATE/TIME | ANALYTICAL BATCH/DATE/TIME | CALIB REF | FILE ID |
|---|---|---|---|---|---|---|
| CR-A159205 | K120-05 | 18.0 | IPK025S 11/26/96/09:00 | G03L004/12/3/96 20:29 | G03L004 | 10/-22 |
| CR-A159305 | K120-10 | 20.8 | | :33 | | 21 |
| CR-A159405 | K120-15 | 30.0 | | :44 | G03L004-22/ | 24 |
| CR-A159505 | K120-23 | 25.8 | | :48 | | 25 |
| CR-A159507 | K120-25 | 30.5 | | :51 | | 26 |
| CR-A159605 | K120-30 | 29.2 | | :55 | | 27 |
| CR-A159705 | K120-35 | 22.8 | | :59 | | 28 |
| CR-A159805 | K120-40 | 28.9 | | 21:02 | | 2[illegible] |
| CR-A159905 | K120-45 | 25.1 | | :06 | | 3[illegible] |
| CR-A159905MS | K120-45M | 25.1 | | :10 | | 31 |
| CR-A159905DUP | K120-45S | 25.1 | | :14 | | 32 |
| MBLK1S | IPK025SB | | | 20:00 | G03L004-10/12 | |
| LCS1 | 26SL | | | :04 | | 13 |
| LCD1 | 26SC | | | :08 | | 14 |

11/29/1996 14:59

LAB CHRONICLE
Metals (Antimony)

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K120
MATRIX: Water

| AMPLE ID | CONTROL NO | %H2O | PREPARATION BATCH/DATE/TIME | ANALYTICAL BATCH/DATE/TIME | CALIB REF | FILE ID |
|---|---|---|---|---|---|---|
| R-A159203 | K120-03 | NA | IPK027W/11/26/96/10:00 | G03L018/12/11/96 15:37 | G03L018-10/15 | |
| CR-A159303 | K120-08 | NA | | :47 | | 18 |
| R-A159403 | K120-13 | NA | | :51 | | 19 |
| CR-A159408 | K120-18 | NA | | :55 | | 20 |
| R-A159503 | K120-21 | NA | | :58 | | 21 |
| CR-A159603 | K120-28 | NA | | 16:09 | G03L018-22/24 | |
| R-A159703 | K120-33 | NA | | :13 | | 25 |
| CR-A159803 | K120-38 | NA | | :16 | | 26 |
| A159903 | K120-43 | NA | | :20 | | 27 |
| CR-A159903MS | K120-43M | NA | | :24 | | 28 |
| R-A159903DUP | K120-43D | NA | | :28 | | 29 |
| CR-A159908 | K120-48 | NA | | 16:31 | | 30 |
| B-K1W | IPK027WB | | | 15:25 | G03L018-12/13 | |
| CS1 | 25WL | | | :29 | | 13 |
| CD1 | 25WC | | | 15:33 | | |

EPA 3050A/7041
ANTIMONY BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K120
Matrix : SOIL

Date Collcted : 11/20/96
DaTime Received: 11/22/96
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-A159205 | K120-05 | ND | 1 | 18.0 | .61 | .244 | 12/03/9620:29 | 11/26/9609:00 | G03L004020 | G03L004010 | IPK025S |
| CR-A159305 | K120-10 | ND | 1 | 20.8 | .631 | .253 | 12/03/9620:33 | 11/26/9609:00 | G03L004021 | G03L004010 | IPK025S |
| CR-A159405 | K120-15 | .326F | 1 | 30.0 | .714 | .286 | 12/03/9620:44 | 11/26/9609:00 | G03L004024 | G03L004022 | IPK025S |
| CR-A159505 | K120-23 | ND | 1 | 25.8 | .674 | .27 | 12/03/9620:48 | 11/26/9609:00 | G03L004025 | G03L004022 | IPK025S |
| CR-A159507 | K120-25 | ND | 1 | 30.5 | .719 | .288 | 12/03/9620:51 | 11/26/9609:00 | G03L004026 | G03L004022 | IPK025S |
| CR-A159605 | K120-30 | ND | 1 | 29.2 | .706 | .282 | 12/03/9620:55 | 11/26/9609:00 | G03L004027 | G03L004022 | IPK025S |
| CR-A159705 | K120-35 | ND | 1 | 22.8 | .648 | .259 | 12/03/9620:59 | 11/26/9609:00 | G03L004028 | G03L004022 | IPK025S |
| CR-A159805 | K120-40 | ND | 1 | 28.9 | .703 | .281 | 12/03/9621:02 | 11/26/9609:00 | G03L004029 | G03L004022 | IPK025S |
| CR-A159905 | K120-45 | ND | 1 | 25.1 | .668 | .267 | 12/03/9621:06 | 11/26/9609:00 | G03L004030 | G03L004022 | IPK025S |
| CR-A159905MS | K120-45M | .709 | 1 | 25.1 | .668 | .267 | 12/03/9621:10 | 11/26/9609:00 | G03L004031 | G03L004022 | IPK025S |
| CR-A159905MSD | K120-45S | .818 | 1 | 25.1 | .668 | .267 | 12/03/9621:14 | 11/26/9609:00 | G03L004032 | G03L004022 | 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

410 472

EPA 3005A/7041
ANTIMONY BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K120
Matrix : WATER

Date Collcted : 11/20/96
DaTime Received: 11/22/96
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-A159203 | K120-03 | ND | 1 | NA | .005 | .002 | 12/11/9615:37 | 11/26/9610:00 | G03L018015 | G03L018010 | IPK027W |
| CR-A159303 | K120-08 | .0031F | 1 | NA | .005 | .002 | 12/11/9615:47 | 11/26/9610:00 | G03L018018 | G03L018010 | IPK027W |
| CR-A159403 | K120-13 | ND | 1 | NA | .005 | .002 | 12/11/9615:51 | 11/26/9610:00 | G03L018019 | G03L018010 | IPK027W |
| CR-A159408 | K120-18 | ND | 1 | NA | .005 | .002 | 12/11/9615:55 | 11/26/9610:00 | G03L018020 | G03L018010 | IPK027W |
| CR-A159503 | K120-21 | ND | 1 | NA | .005 | .002 | 12/11/9615:58 | 11/26/9610:00 | G03L018021 | G03L018010 | IPK027W |
| CR-A159603 | K120-28 | ND | 1 | NA | .005 | .002 | 12/11/9616:09 | 11/26/9610:00 | G03L018024 | G03L018022 | IPK027W |
| CR-A159703 | K120-33 | ND | 1 | NA | .005 | .002 | 12/11/9616:13 | 11/26/9610:00 | G03L018025 | G03L018022 | IPK027W |
| CR-A159803 | K120-38 | ND | 1 | NA | .005 | .002 | 12/11/9616:16 | 11/26/9610:00 | G03L018026 | G03L018022 | IPK027W |
| CR-A159903 | K120-43 | .00212F | 1 | NA | .005 | .002 | 12/11/9616:20 | 11/26/9610:00 | G03L018027 | G03L018022 | IPK027W |
| CR-A159903MS | K120-43M | .0225 | 1 | NA | .005 | .002 | 12/11/9616:24 | 11/26/9610:00 | G03L018028 | G03L018022 | IPK027W |
| CR-A159903MSD | K120-43S | .0231 | 1 | NA | .005 | .002 | 12/11/9616:28 | 11/26/9610:00 | G03L018029 | G03L018022 | IPK027W |
| CR-A159908 | K120-48 | ND | 1 | NA | .005 | .002 | 12/11/9616:31 | 11/26/9610:00 | G03L018030 | G03L018022 | IPK027W |
| MBLK1W | IPK027WB | ND | 1 | NA | .005 | .002 | 12/11/9615:25 | 11/26/9610:00 | G03L018012 | G03L018022 | IPK027W |
| LCS1W | IPK028WL | .0239 | 1 | NA | .005 | .002 | 12/11/9615:29 | 11/26/9610:00 | G03L018013 | G03L018022 | IPK027W |
| LCD1W | IPK028WC | .0228 | 1 | NA | .005 | .002 | 12/11/9615:33 | 11/26/9610:00 | G03L018014 | G03L018022 | IPK027W |

PQL: Practical Quantitation Limit

410 474

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# LABORATORY REPORT FOR

# JACOBS ENGINEERING GROUP

# CARSWELL / 05G47900

# MERCURY

SDG# 96K120

DECEMBER 27, 1996

# CASE NARRATIVE

**CLIENT:** JACOBS ENGINEERING GROUP

**PROJECT:** CARSWELL / 05G47900

**SDG:** 96K120

## MERCURY

Nine (9) soil and ten (10) water samples were received on 11/22/96 for Mercury analysis in accordance with SW 846 method.

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   All preparation blanks were free of contamination.

3. **Matrix Spike/Matrix Spike duplicate**

   All MS/MSD recoveries were within QC limit except in soil 96K120-45MS recovery.

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

   All lab control results and RPDs were within the control limits.

5. **Sample Analyses**

   Analysis was performed within the QC requirements.

# LAB CHRONICLE
## Mercury

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K120
MATRIX: Soil

| SAMPLE ID | CONTROL NO | %H20 | PREPARATION BATCH/DATE/TIME | ANALYTICAL BATCH/DATE/TIME | CALIB REF | FILE ID |
|---|---|---|---|---|---|---|
| CR-A159205 | K120-05 | 18.0 | Hg K0205/11/27/96/11.00 | M96K017/11/27/96/ | -19:16 | M96K017-19 |
| CR-A159305 | K120-10 | 20.8 | | | 19:19 | |
| CR-A159405 | K120-15 | 30.0 | | | 19:22 | |
| CR-A159505 | K120-23 | 25.8 | | | 19:25 | |
| CR-A159507 | K120-25 | 30.5 | | | 19:28 | |
| CR-A159605 | K120-30 | 29.2 | | | 19.31 | |
| CR-A159705 | K120-35 | 22.8 | | | 19.44 | |
| CR-A159805 | K120-40 | 28.9 | | | 19.47 | |
| CR-A159905 | K120-45 | 25.1 | | | 19:50 | |
| CR-A159905MS | K120-45M | 25.1 | | | 19:53 | |
| CR-A159905DUP | K120-45D | 25.1 | | | 19:56 | ↓ |
| MBLK1S | Hg K0203B | | | | 19:06 | M96K017-7 |
| LCS | ↓ | SL | | | 19:10 | |
| LCSD | ↓ | SC | ↓ | ↓ | 19:13 | ↓ |

# LAB CHRONICLE
## Mercury

410 477

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K120
MATRIX: Water

| SAMPLE ID | CONTROL NO | %H2O | PREPARATION BATCH/DATE/TIME | ANALYTICAL BATCH/DATE/TIME | CALIB REF | FILE ID |
|---|---|---|---|---|---|---|
| CR-A159203 | K120-03 | NA | Hg L019W 12/10/96/10:00 | M96L009/12/10/96 | 18.55 | M96L009-7 |
| CR-A159303 | K120-08 | NA | | | 18.59 | |
| CR-A159403 | K120-13 | NA | | | 19.02 | |
| CR-A159408 | K120-18 | NA | | | 19.05 | |
| CR-A159503 | K120-21 | NA | | | 19.08 | |
| CR-A159603 | K120-28 | NA | | | 19.11 | |
| CR-A159703 | K120-33 | NA | | | 19.24 | M96L009-19 |
| CR-A159803 | K120-38 | NA | | | 19.27 | |
| A159903 | K120-43 | NA | | | 19.30 | |
| CR-A159903MS | K120-43M | NA | | | 19.33 | |
| CR-A159903DUP | K120-43D | NA | | | 19.36 | |
| CR-A159908 | K120-48 | NA | | | 19.39 | |
| M BLK1W | Hg LC19WB | | | | 18.46 | M96L009-7 |
| LCS | | WL | | | 18.49 | |
| LCSD | | WC | | | 18.52 | |

EPA 7471A
MERCURY BY COLD VAPOR

| | | | |
|---|---|---|---|
| CLIENT: | JACOBS ENGINEERING GROUP | DATE COLLECTED: | 11/20/96 |
| PROJECT: | CARSWELL AFB / 05G47900 | DATE RECEIVED: | 11/22/96 |
| BATCH NO.: | 96K120 | DATE EXTRACTED: | 11/27/96 11:00 |
| MATRIX: | SOIL | INSTRUMENT ID: | I123 |
| CAL REF: | M96K017-7 | PREP BATCH: | HGK020S |

| SAMPLE ID | CONTROL NO | RESULT (mg/kg) | DL FACTOR | MOIST (%) | PQL (mg/kg) | MDL (mg/kg) | ANALYZED DATETIME |
|---|---|---|---|---|---|---|---|
| CR-A159205 | K120-05 | 0.036F | 1 | 18.0 | .12 | .035 | 11/27/96 19:16 |
| CR-A159305 | K120-10 | ND | 1 | 20.8 | .13 | .037 | 11/27/96 19:19 |
| CR-A159405 | K120-15 | ND | 1 | 30.0 | .14 | .041 | 11/27/96 19:22 |
| CR-A159505 | K120-23 | ND | 1 | 25.8 | .13 | .039 | 11/27/96 19:25 |
| CR-A159507 | K120-25 | 0.047F | 1 | 30.5 | .14 | .042 | 11/27/96 19:28 |
| CR-A159605 | K120-30 | ND | 1 | 29.2 | .14 | .041 | 11/27/96 19:31 |
| CR-A159705 | K120-35 | ND | 1 | 22.8 | .13 | .038 | 11/27/96 19:44 |
| CR-A159805 | K120-40 | ND | 1 | 28.9 | .14 | .041 | 11/27/96 19:47 |
| CR-A159905 | K120-45 | ND | 1 | 25.1 | .13 | .039 | 11/27/96 19:50 |
| CR-A159905MS | K120-45M | 1.98 | 1 | 25.1 | .13 | .039 | 11/27/96 19:53 |
| CR-A159905MSD | K120-45S | 2.66 | 1 | 25.1 | .13 | .039 | 11/27/96 19:56 |
| MBLK1S | HGK020SB | ND | 1 | NA | .1 | .029 | 11/27/96 19:06 |
| LCS1S | HGK020SL | 1.85 | 1 | NA | .1 | .029 | 11/27/96 19:10 |
| LCD1S | HGK020SC | 1.97 | 1 | NA | .1 | .029 | 11/27/96 19:13 |

PQL: Practical Quantitation Limit
AFCEE Ver. 1.1

F: The QC limit does not apply since analyte contration was more than 4X the spike concentraion.

410 473

EPA 7470A
MERCURY BY COLD VAPOR

| | | | |
|---|---|---|---|
| CLIENT: | JACOBS ENGINEERING GROUP | DATE COLLECTED: | 11/20/96 |
| PROJECT: | CARSWELL AFB / 05G47900 | DATE RECEIVED: | 11/22/96 |
| BATCH NO.: | 96K120 | DATE EXTRACTED: | 12/10/96 10:00 |
| MATRIX: | WATER | INSTRUMENT ID: | I123 |
| CAL REF: | M96L009-7 | PREP BATCH: | HGL019W |

| SAMPLE ID | CONTROL NO | RESULT (mg/L) | DILUTION FACTOR | PQL (mg/L) | MDL (mg/L) | ANALYZED DATETIME |
|---|---|---|---|---|---|---|
| CR-A159203 | K120-03 | ND | 1 | .001 | .0001 | 12/10/96 18:55 |
| CR-A159303 | K120-08 | ND | 1 | .001 | .0001 | 12/10/96 18:59 |
| CR-A159403 | K120-13 | ND | 1 | .001 | .0001 | 12/10/96 19:02 |
| CR-A159408 | K120-18 | ND | 1 | .001 | .0001 | 12/10/96 19:05 |
| CR-A159503 | K120-21 | 0.00012F | 1 | .001 | .0001 | 12/10/96 19:08 |
| CR-A159603 | K120-28 | ND | 1 | .001 | .0001 | 12/10/96 19:11 |
| CR-A159703 | K120-33 | ND | 1 | .001 | .0001 | 12/10/96 19:24 |
| CR-A159803 | K120-38 | ND | 1 | .001 | .0001 | 12/10/96 19:27 |
| CR-A159903 | K120-43 | ND | 1 | .001 | .0001 | 12/10/96 19:30 |
| CR-A159903MS | K120-43M | 0.00443 | 1 | .001 | .0001 | 12/10/96 19:33 |
| CR-A159903MSD | K120-43S | 0.0043 | 1 | .001 | .0001 | 12/10/96 19:36 |
| CR-A159908 | K120-48 | ND | 1 | .001 | .0001 | 12/10/96 19:39 |
| MBLK1W | HGL019WB | ND | 1 | .001 | .0001 | 12/10/96 18:46 |
| LCS1W | HGL019WL | 0.00423 | 1 | .001 | .0001 | 12/10/96 18:49 |
| LCD1W | HGL019WC | 0.00429 | 1 | .001 | .0001 | 12/10/96 18:52 |

PQL: Practical Quantitation Limit
AFCEE Ver. 1.1

F: The QC limit does not apply since analyte concentraion was more than 4X the spike concentration.

410 479

410 480
RECEIVED
JAN 0 9 1997
JE - Denver

# LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP

CARSWELL AFB / 05G47900

EPA 3050A/7520
NICKEL BY GFAA

SDG#: 96K120

DECEMBER 31, 1996

# CASE NARRATIVE

**CLIENT:** JACOBS ENGINEERING GROUP

**PROJECT:** CARSWELL AFB / 05G47900

**SDG:** 96K120

## EPA 3050A/7520
## NICKEL BY GFAA

Nine (9) soil and ten (10) water samples were received on 11/22/96 for Nickel analysis in accordance with USEPA SW846.

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   All preparation blanks were free of contamination.

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

   All MS/MSD recoveries were out of QC limit due to matrix effect.

4. **Laboratory Control Sample/Laboratory Control Sample Duplicate**

   All lab control results and RPDs were within the control limits.

5. **Sample Analysis**

   All sample analyses were within QC requirements.



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

410 482

11/29/1996 14:59

# LAB CHRONICLE
## Metals (Nickel)

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K120
MATRIX: Soil

| SAMPLE ID | CONTROL NO | %H2O | PREPARATION BATCH/DATE/TIME | ANALYTICAL BATCH/DATE/TIME | CALIB REF | FILE ID |
|---|---|---|---|---|---|---|
| CR-A159205 | K120-05 | 18.0 | GFL001S/12/03/96/07:00 | G6L012/12/11/96/16:43 | G6L012- | 33/37 |
| CR-A159305 | K120-10 | 20.8 | GFL001S/12/03/96/07:00 | 16:47 | | 38 |
| CR-A159405 | K120-15 | 30.0 | | 16:52 | | 39 |
| CR-A159505 | K120-23 | 25.8 | | 16:56 | | 40 |
| CR-A159507 | K120-25 | 30.5 | | 17:00 | | 41 |
| CR-A159605 | K120-30 | 29.2 | | 17:04 | | 42 |
| CR-A159705 | K120-35 | 22.8 | | 17:09 | | 43 |
| CR-A159805 | K120-40 | 28.9 | | 17:13 | | 1 |
| CR-A159905 | K120-45 | 25.1 | | 16:17 | G6L012-21/3 | |
| CR-A159905MS | K120-45M | 25.1 | | 16:22 | G6L012-33/35 | |
| CR-A159905DUP | K120-45D | 25.1 | | 16:34 | | 36 |
| MBLK1S | GFL001SB | | | [illegible] | G6L012-21/23 | |
| LCS1S | GFL001SL | | | [illegible] | | 24 |
| LCD1S | SC | | | [illegible] | | 30 |

11/29/1996 14:59

# LAB CHRONICLE
## Metals (Nickel)

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K120
MATRIX: Water

| SAMPLE ID | CONTROL NO | %H2O | PREPARATION BATCH/DATE/TIME | ANALYTICAL BATCH/DATE/TIME | CALIB REF | FILE ID |
|---|---|---|---|---|---|---|
| CR-A159203 | K120-03 | NA | GFK015W/11/29/96/09:00 | G06L011/12/10/96 20:11 | G06L011 | -9/14 |
| CR-A159303 | K120-08 | NA | ↓ | 20:23 | ↓ | -9/17 |
| CR-A159403 | K120-13 | NA | GFK016W/11/29/96/09:00 | 12/11/96 15:27 | G06L012 | -9/19 |
| CR-A159408 | K120-18 | NA | | 15:31 | | -9/20 |
| CR-A159503 | K120-21 | NA | | 15:44 | G06L012 | -21/23 |
| CR-A159603 | K120-28 | NA | | 15:48 | | /24 |
| CR-A159703 | K120-33 | NA | | 15:52 | | 25 |
| CR-A159803 | K120-38 | NA | | 15:56 | | 26 |
| CR-A159903 | K120-43 | NA | | 15:[illegible] | G06L012 | -9/[illegible] |
| CR-A159903MS | K120-43M | NA | | 15:19 | | 9/[illegible] |
| CR-A159903DUP | K120-43D | NA | | 15:23 | | 9/18 |
| CR-A159908 | K120-48 | NA | | 15:[illegible] | G06L012 | -21/[illegible] |
| MBLK1W | GFK016WB | | | 14:57 | G06L012 | -9/11 |
| LCS1W | WL | | | 14:58 | | 12 |
| LCD1W | WC | | ↓ | 15:02 | | 13 |
| MBLK2W | GFK015WB | | GFK015W/11/29/96/09:00 | 12/10/96 [illegible] | G06L011 | -9/[illegible] |
| LCS2W | WL | | | 20:02 | | 12 |
| LCD2W | WC | | ↓ | 20:06 | | 13 |

EPA 3050A/7520
NICKEL BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K120
Matrix : SOIL

Date Collcted : 11/20/96
DaTime Received: 11/22/96
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-A159205 | K120-05 | 8.03 | 4 | 18.0 | 4.88 | .976 | 12/11/9616:43 | 12/03/9607:00 | G06L012037 | G06L012033 | GFL001S |
| CR-A159305 | K120-10 | 8.01 | 4 | 20.8 | 5.05 | 1.01 | 12/11/9616:47 | 12/03/9607:00 | G06L012038 | G06L012033 | GFL001S |
| CR-A159405 | K120-15 | 10.9 | 4 | 30.0 | 5.71 | 1.14 | 12/11/9616:52 | 12/03/9607:00 | G06L012039 | G06L012033 | GFL001S |
| CR-A159505 | K120-23 | 5.55 | 4 | 25.8 | 5.39 | 1.08 | 12/11/9616:56 | 12/03/9607:00 | G06L012040 | G06L012033 | GFL001S |
| CR-A159507 | K120-25 | 10.9 | 4 | 30.5 | 5.76 | 1.15 | 12/11/9617:00 | 12/03/9607:00 | G06L012041 | G06L012033 | GFL001S |
| CR-A159605 | K120-30 | 10 | 4 | 29.2 | 5.65 | 1.13 | 12/11/9617:04 | 12/03/9607:00 | G06L012042 | G06L012033 | GFL001S |
| CR-A159705 | K120-35 | 7.39 | 4 | 22.8 | 5.18 | 1.04 | 12/11/9617:09 | 12/03/9607:00 | G06L012043 | G06L012033 | GFL001S |
| CR-A159805 | K120-40 | 12 | 4 | 28.9 | 5.63 | 1.13 | 12/11/9617:13 | 12/03/9607:00 | G06L012044 | G06L012033 | GFL001S |
| CR-A159905 | K120-45 | 10.5F | 10 | 25.1 | 13.4 | 2.67 | 12/11/9616:17 | 12/03/9607:00 | G06L012031 | G06L012021 | GFL001S |
| CR-A159905MS | K120-45M | 11.5F | 10 | 25.1 | 13.4 | 2.67 | 12/11/9616:34 | 12/03/9607:00 | G06L012035 | G06L012033 | GFL001S |
| CR-A159905MSD | K120-45S | 14.2 | 10 | 25.1 | 13.4 | 2.67 | 12/11/9616:39 | 12/03/9607:00 | G06L012036 | G06L012033 | GFL001S |
| MBLK1S | GFL001SB | ND | 1 | NA | 1 | .2 | 12/11/9616:04 | 12/03/9607:00 | G06L012028 | G06L012021 | GFL001S |
| LCS1S | GFL001SL | 1.16 | 1 | NA | 1 | .2 | 12/11/9616:09 | 12/03/9607:00 | G06L012029 | G06L012021 | GFL001S |
| LCD1S | GFL001SC | 1.12 | 1 | NA | 1 | .2 | 12/11/9616:13 | 12/03/9607:00 | G06L012030 | G06L012021 | GFL001S |

PQL: Practical Quantitation Limit

EPA 3020A/7520
NICKEL BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K120
Matrix : WATER

Date Collcted : 11/20/96
DaTime Received: 11/22/96
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-A159203 | K120-03 | ND | 1 | NA | .01 | .002 | 12/10/9620:11 | 11/29/9609:00 | G06L011014 | G06L011009 | GFK015W |
| CR-A159303 | K120-08 | .002F | 1 | NA | .01 | .002 | 12/10/9620:23 | 11/29/9609:00 | G06L011017 | G06L011009 | GFK015W |
| CR-A159403 | K120-13 | ND | 1 | NA | .01 | .002 | 12/11/9615:27 | 11/29/9609:00 | G06L012019 | G06L012009 | GFK016W |
| CR-A159408 | K120-18 | ND | 1 | NA | .01 | .002 | 12/11/9615:31 | 11/29/9609:00 | G06L012020 | G06L012009 | GFK016W |
| CR-A159503 | K120-21 | ND | 1 | NA | .01 | .002 | 12/11/9615:44 | 11/29/9609:00 | G06L012023 | G06L012021 | GFK016W |
| CR-A159603 | K120-28 | ND | 1 | NA | .01 | .002 | 12/11/9615:48 | 11/29/9609:00 | G06L012024 | G06L012021 | GFK016W |
| CR-A159703 | K120-33 | ND | 1 | NA | .01 | .002 | 12/11/9615:52 | 11/29/9609:00 | G06L012025 | G06L012021 | GFK016W |
| CR-A159803 | K120-38 | ND | 1 | NA | .01 | .002 | 12/11/9615:56 | 11/29/9609:00 | G06L012026 | G06L012021 | GFK016W |
| CR-A159903 | K120-43 | ND | 1 | NA | .01 | .002 | 12/11/9615:06 | 11/29/9609:00 | G06L012014 | G06L012009 | GFK016W |
| CR-A159903MS | K120-43M | .0133 | 1 | NA | .01 | .002 | 12/11/9615:19 | 11/29/9609:00 | G06L012017 | G06L012009 | GFK016W |
| CR-A159903MSD | K120-43S | .0135 | 1 | NA | .01 | .002 | 12/11/9615:23 | 11/29/9609:00 | G06L012018 | G06L012009 | GFK016W |
| CR-A159908 | K120-48 | ND | 1 | NA | .01 | .002 | 12/11/9616:00 | 11/29/9609:00 | G06L012027 | G06L012021 | GFK016W |
| MBLK1W | GFK016WB | ND | 1 | NA | .01 | .002 | 12/11/9614:54 | 11/29/9609:00 | G06L012011 | G06L012009 | GFK016W |
| LCS1W | GFK016WL | .0111 | 1 | NA | .01 | .002 | 12/11/9614:58 | 11/29/9609:00 | G06L012012 | G06L012009 | GFK016W |
| LCD1W | GFK016WC | .0103 | 1 | NA | .01 | .002 | 12/11/9615:02 | 11/29/9609:00 | G06L012013 | G06L012009 | GFK016W |
| MBLK2W | GFK015WB | ND | 1 | NA | .01 | .002 | 12/10/9619:58 | 11/29/9609:00 | G06L011011 | G06L011009 | GFK015W |
| LCS2W | GFK015WL | .00926F | 1 | NA | .01 | .002 | 12/10/9620:02 | 11/29/9609:00 | G06L011012 | G06L011009 | GFK015W |
| LCD2W | GFK015WC | .01 | 1 | NA | .01 | .002 | 12/10/9620:06 | 11/29/9609:00 | G06L011013 | G06L011009 | GFK015W |

PQL: Practical Quantitation Limit

410 486
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LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP

CARSWELL AFB / 05G47900

EPA 3050A/7740
SELENIUM BY GFAA

SDG#: 96K120

DECEMBER 31, 1996

# CASE NARRATIVE

**CLIENT:** JACOBS ENGINEERING GROUP

**PROJECT:** CARSWELL AFB / 05G47900

**SDG:** 96K120

## EPA 3050A/7740
## SELENIUM BY GFAA

Nine (9) soil and ten (10) water samples were received on 11/22/96 for Selenium analysis in accordance with USEPA SW846.

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   All preparation blanks were free of contamination.

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

   All MS recoveries were within QC limits.

4. **Laboratory Control Sample/Laboratory Control Sample Duplicate**

   All lab control results and RPDs were within the control limits.

5. **Sample Analysis**

   All samples were analyzed by MSA method due to failed analytical spike recovery.

410 488

11/29/1996 14:59

LAB CHRONICLE
Metals (Selenium)

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K120
MATRIX: Soil

| SAMPLE ID | CONTROL NO | %H2O | PREPARATION BATCH/DATE/TIME | ANALYTICAL BATCH/DATE/TIME | CALIB REF | FILE ID |
|---|---|---|---|---|---|---|
| CR-A159205 | K120-05 | 18.0 | GFL001S/12/03/96/07:00 | G03L021/12/17/96/16:12 | G03L021-010 | /12 |
| CR-A159305 | K120-10 | 20.8 | | :20 | ↓ | 16 |
| CR-A159405 | K120-15 | 30.0 | | :31 | G03L021-020 | /22 |
| CR-A159505 | K120-23 | 25.8 | | :39 | ↓ | 26 |
| CR-A159507 | K120-25 | 30.5 | | 20:10 | G03L022-10 | /12 |
| CR-A159605 | K120-30 | 29.2 | | 20:18 | ↓ | /16 |
| CR-A159705 | K120-35 | 22.8 | | :29 | G03L022-20 | /22 |
| CR-A159805 | K120-40 | 28.9 | | 17:18 | G03L021-40 | /4 |
| CR-A159905 | K120-45 | 25.1 | | :30 | G03L021-50 | /52 |
| CR-A159905MS | K120-45M | 25.1 | | :37 | ↓ | 56 |
| CR-A159905DUP | K120-45D | 25.1 | | :49 | G03L021-60 | /62 |
| MBLK1S | GFL001SB | | | 18:30 | G03L019-10 | /12 |
| LCS | SL | | | :34 | | 13 |
| LCSD | SC | | | 20:02 | | 36 |

11/29/1996 14:59

# LAB CHRONICLE
## Metals (Selenium)

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K120
MATRIX: Water

| SAMPLE ID | CONTROL NO | %H2O | PREPARATION BATCH/DATE/TIME | ANALYTICAL BATCH/DATE/TIME | CALIB REF | FILE ID |
|---|---|---|---|---|---|---|
| CR-A159203 | K120-03 | NA | GFK015W/12/29/96/09.00 | G03L013/12/7/96/20:34 | G03L013-34 | /39 |
| CR-A159303 | K120-08 | NA | ↓ | ↓ :45 | ↓ | 42 |
| CR-A159403 | K120-13 | NA | GFK016W/12/29/96/09:00 | G03L020/12/16/96/18:40 | G03L020-10 | /20 |
| CR-A159408 | K120-18 | NA | | :43 | ↓ | 21 |
| CR-A159503 | K120-21 | NA | | :55 | G03L020-22 | /24 |
| CR-A159603 | K120-28 | NA | | :58 | | /25 |
| CR-A159703 | K120-33 | NA | | 19:02 | | /26 |
| CR-A159803 | K120-38 | NA | | :06 | ↓ | /27 |
| CR-A159903 | K120-43 | NA | | 18:21 | G03L020-10 | /15 |
| CR-A159903MS | K120-43M | NA | | :32 | | /18 |
| CR-A159903DUP | K120-43D | NA | | :36 | ↓ | /19 |
| CR-A159908 | K120-48 | NA | | 19:10 | G03L020-22 | /28 |
| MBLK1W | GFK016WB | | | 18:10 | | /12 |
| LCS1 | ↓ WL | | | 14 | | /13 |
| LCS1D | ↓ WC | | ↓ | ↓ 17 | ↓ | /14 |
| MBLK2W | GFK015WB | | GFK015W/12/29/96/09.00 | G03L013/12/7/96/20:22 | G03L013-34 | /36 |
| LCS2 | ↓ WL | | ↓ | ↓ 26 | ↓ | /37 |
| LCS2D | ↓ WC | | ↓ | ↓ 30 | ↓ | /38 |

410 400

EPA 3050A/7740
SELENIUM BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K120
Matrix : SOIL

Date Collcted : 11/20/96
DaTime Received: 11/22/96
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-A159205 | K120-05 | ND | 1 | 18.0 | .61 | .134 | 12/17/9616:12 | 12/03/9607:00 | G03L021012 | G03L021010 | GFL001S |
| CR-A159305 | K120-10 | ND | 1 | 20.8 | .631 | .139 | 12/17/9616:20 | 12/03/9607:00 | G03L021016 | G03L021010 | GFL001S |
| CR-A159405 | K120-15 | ND | 1 | 30.0 | .714 | .157 | 12/17/9616:31 | 12/03/9607:00 | G03L021022 | G03L021020 | GFL001S |
| CR-A159505 | K120-23 | ND | 1 | 25.8 | .674 | .148 | 12/17/9616:39 | 12/03/9607:00 | G03L021026 | G03L021020 | GFL001S |
| CR-A159507 | K120-25 | ND | 1 | 30.5 | .719 | .158 | 12/17/9620:10 | 12/03/9607:00 | G03L022012 | G03L022010 | GFL001S |
| CR-A159605 | K120-30 | 0.214F | 1 | 29.2 | .706 | .155 | 12/17/9620:18 | 12/03/9607:00 | G03L022016 | G03L022010 | GFL001S |
| CR-A159705 | K120-35 | ND | 1 | 22.8 | .648 | .142 | 12/17/9620:29 | 12/03/9607:00 | G03L022022 | G03L022020 | GFL001S |
| CR-A159805 | K120-40 | ND | 1 | 28.9 | .703 | .155 | 12/17/9617:18 | 12/03/9607:00 | G03L021046 | G03L021040 | GFL001S |
| CR-A159905 | K120-45 | ND | 1 | 25.1 | .668 | .147 | 12/17/9617:30 | 12/03/9607:00 | G03L021052 | G03L021050 | GFL001S |
| CR-A159905MS | K120-45M | 2.17 | 1 | 25.1 | .668 | .147 | 12/17/9617:37 | 12/03/9607:00 | G03L021050 | G03L021050 | GFL001S |
| CR-A159905MSD | K120-45S | 2.43 | 1 | 25.1 | .668 | .147 | 12/17/9617:49 | 12/03/9607:00 | G03L021062 | G03L021050 | GFL001S |
| MBLK1S | GFL001SB | ND | 1 | NA | .5 | .11 | 12/11/9618:30 | 12/03/9607:00 | G03L019012 | G03L019010 | GFL001S |
| LCS1S | GFL001SL | 2.24 | 1 | NA | .5 | .11 | 12/11/9618:34 | 12/03/9607:00 | G03L019013 | G03L019010 | GFL001S |
| LCD1S | GFL001SC | 2.16 | 1 | NA | .5 | .11 | 12/11/9620:02 | 12/03/9607:00 | G03L019036 | G03L019034 | GFL001S |

PQL: Practical Quantitation Limit
Note: Samples were analyzed by MSA due to failed analytical spike

005

EPA 3020A/7740
SELENIUM BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K120
Matrix : WATER

Date Collcted : 11/20/96
DaTime Received: 11/22/96
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-A159203 | K120-03 | .002F | 1 | NA | .005 | .0011 | 12/07/9620:34 | 11/29/9609:00 | G03L013039 | G03L013034 | GFK015W |
| CR-A159303 | K120-08 | .0023F | 1 | NA | .005 | .0011 | 12/07/9620:45 | 11/29/9609:00 | G03L013042 | G03L013034 | GFK015W |
| CR-A159403 | K120-13 | .0019F | 1 | NA | .005 | .0011 | 12/16/9618:40 | 11/29/9609:00 | G03L020020 | G03L020010 | GFK016W |
| CR-A159408 | K120-18 | ND | 1 | NA | .005 | .0011 | 12/16/9618:43 | 11/29/9609:00 | G03L020021 | G03L020010 | GFK016W |
| CR-A159503 | K120-21 | ND | 1 | NA | .005 | .0011 | 12/16/9618:55 | 11/29/9609:00 | G03L020024 | G03L020022 | GFK016W |
| CR-A159603 | K120-28 | .0025F | 1 | NA | .005 | .0011 | 12/16/9618:58 | 11/29/9609:00 | G03L020025 | G03L020022 | GFK016W |
| CR-A159703 | K120-33 | .0022F | 1 | NA | .005 | .0011 | 12/16/9619:02 | 11/29/9609:00 | G03L020026 | G03L020022 | GFK016W |
| CR-A159803 | K120-38 | .002F | 1 | NA | .005 | .0011 | 12/16/9619:06 | 11/29/9609:00 | G03L020027 | G03L020022 | GFK016W |
| CR-A159903 | K120-43 | ND | 1 | NA | .005 | .0011 | 12/16/9618:21 | 11/29/9609:00 | G03L020015 | G03L020010 | GFK016W |
| CR-A159903MS | K120-43M | .0213 | 1 | NA | .005 | .0011 | 12/16/9618:32 | 11/29/9609:00 | G03L020018 | G03L020010 | GFK016W |
| CR-A159903MSD | K120-43S | .0219 | 1 | NA | .005 | .0011 | 12/16/9618:36 | 11/29/9609:00 | G03L020019 | G03L020010 | GFK016W |
| CR-A159908 | K120-48 | .0022F | 1 | NA | .005 | .0011 | 12/16/9619:10 | 11/29/9609:00 | G03L020028 | G03L020022 | GFK016W |
| MBLK1W | GFK016WB | .0019F | 1 | NA | .005 | .0011 | 12/16/9618:10 | 11/29/9609:00 | G03L020012 | G03L020022 | GFK016W |
| LCS1W | GFK016WL | .022 | 1 | NA | .005 | .0011 | 12/16/9618:14 | 11/29/9609:00 | G03L020013 | G03L020022 | GFK016W |
| LCD1W | GFK016WC | .021 | 1 | NA | .005 | .0011 | 12/16/9618:17 | 11/29/9609:00 | G03L020014 | G03L020022 | GFK016W |
| MBLK2W | GFK015WB | .0014F | 1 | NA | .005 | .0011 | 12/07/9620:22 | 11/29/9609:00 | G03L013036 | G03L013034 | GFK015W |
| LCS2W | GFK015WL | .0244 | 1 | NA | .005 | .0011 | 12/07/9620:26 | 11/29/9609:00 | G03L013037 | G03L013034 | GFK015W |
| LCD2W | GFK015WC | .0216 | 1 | NA | .005 | .0011 | 12/07/9620:30 | 11/29/9609:00 | G03L013038 | G03L013034 | GFK015W |

PQL: Practical Quantitation Limit

410 492

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LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP

CARSWELL AFB / 05G47900

EPA 3050A/7760
SILVER BY GFAA

SDG#: 96K120

DECEMBER 31, 1996

# CASE NARRATIVE

**CLIENT:** JACOBS ENGINEERING GROUP

**PROJECT:** CARSWELL AFB / 05G47900

**SDG:** 96K120

## EPA 3050A/7760
## SILVER BY GFAA

Nine (9) soil and ten (10) water samples were received on 11/22/96 for Silver analysis in accordance with USEPA SW846.

1. **Holding Time**

   Digestion and analysis met holding time criteria.

2. **Blank**

   A preparation blank was free of contamination.

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

   All MS/MSD recoveries were within QC limits.

4. **Laboratory Control Sample/Laboratory Control Sample Duplicate**

   All lab control results and RPDs were within the control limits.

5. **Sample Analysis**

   All sample analyses were within QC requirements.



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11/29/1996 14:59

# LAB CHRONICLE
## Metals

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K120
MATRIX: Water

| SAMPLE ID | CONTROL NO | %H2O | PREPARATION BATCH/DATE/TIME | ANALYTICAL BATCH/DATE/TIME | CALIB REF | FILE ID |
|---|---|---|---|---|---|---|
| CR-A159203 | K120-03 | NA | GFK015W/11/29/96/1.00 | G03L011/12/6/96 | G03L011-45/ | 5 |
| CR-A159303 | K120-08 | NA | ↓ | ↓ | ↓ | 54 |
| CR-A159403 | K120-13 | NA | GFK016W/11/29/96/09.00 | | G03L011-33/ | 3 |
| R-A159408 | K120-18 | NA | | | | 4 |
| CR-A159503 | K120-21 | NA | | | | 4 |
| CR-A159603 | K120-28 | NA | | | | 4 |
| CR-A159703 | K120-33 | NA | | | | 4 3 |
| CR-A159803 | K120-38 | NA | | | ↓ | |
| CR-A159903 | K120-43 | NA | | | G03L011-21/ | -3 |
| CR-A159903MS | K120-43M | NA | | | G03L011-32/3 | |
| CR-A159903DUP | K120-43D | NA | | | ↓ | 38 |
| CR-A159908 | K120-48 | NA | | | G03L011-45/ | |
| MBLK1W | GFK016WB | | | | G03L011-21/ | -2 |
| LCS1 | ↓ | WL | | | ↓ | 3 |
| LCS1D | ↓ | WC | ↓ | | ↓ | 3 |
| MBLK2W | GFK015WB | | GFK015W/11/29/96/09.00 | | G03L011-45/ | 4 |
| LCS2 | ↓ | WL | ↓ | | ↓ | 49 |
| LCS2D | ↓ | WC | ↓ | ↓ | ↓ | 50 |

11/29/1996 14:59

# LAB CHRONICLE
## Metals (Silver)

LIENT: Jacobs Engineering Group
ROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K120
ATRIX: Soil

| AMPLE ID | CONTROL NO | %H2O | PREPARATION BATCH/DATE/TIME | ANALYTICAL BATCH/DATE/TIME | CALIB REF | FILE ID |
|---|---|---|---|---|---|---|
| CR-A159205 | K120-05 | 18.0 | GFL001F/12/3/96/07.00 | G03L011/12/6/96 | G03L011-9/-19 | |
| R-A159305 | K120-10 | 20.8 | | | ↓ | 20 |
| R-A159405 | K120-15 | 30.0 | | | G03L011-21/-23 | |
| CR-A159505 | K120-23 | 25.8 | | | | 24 |
| R-A159507 | K120-25 | 30.5 | | | | 25 |
| CR-A159605 | K120-30 | 29.2 | | | | 26 |
| R-A159705 | K120-35 | 22.8 | | | | 27 |
| CR-A159805 | K120-40 | 28.9 | | | ↓ | 28 |
| 159905 | K120-45 | 25.1 | | | G03L011-9/-14 | |
| CR-A159905MS | K120-45M | 25.1 | | | | 17 |
| R-A159905DUP | K120-45D | 25.1 | | | | 18 |
| MBLK15 | GFL001SB | | | | | -11 |
| LCS | ↓ SL | | | | | 12 |
| LCSD | ↓ SC | | ↓ | ↓ | ↓ | 13 |

EPA 3050A/7760
SILVER BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K120
Matrix : SOIL

Date Collcted : 11/20/96
Daltime Received: 11/22/96
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-A159205 | K120-05 | .0598F | 1 | 18.0 | .122 | .0244 | 12/06/9620:54 | 12/03/9607:00 | G03L011019 | G03L011009 | GFL001S |
| CR-A159305 | K120-10 | .0593F | 1 | 20.8 | .126 | .0253 | 12/06/9620:57 | 12/03/9607:00 | G03L011020 | G03L011009 | GFL001S |
| CR-A159405 | K120-15 | .0929F | 1 | 30.0 | .143 | .0286 | 12/06/9621:07 | 12/03/9607:00 | G03L011023 | G03L011021 | GFL001S |
| CR-A159505 | K120-23 | .0404F | 1 | 25.8 | .135 | .027 | 12/06/9621:10 | 12/03/9607:00 | G03L011024 | G03L011021 | GFL001S |
| CR-A159507 | K120-25 | .0691F | 1 | 30.5 | .144 | .0288 | 12/06/9621:13 | 12/03/9607:00 | G03L011025 | G03L011021 | GFL001S |
| CR-A159605 | K120-30 | .041F | 1 | 29.2 | .141 | .0282 | 12/06/9621:16 | 12/03/9607:00 | G03L011026 | G03L011021 | GFL001S |
| CR-A159705 | K120-35 | .0311F | 1 | 22.8 | .13 | .0259 | 12/06/9621:19 | 12/03/9607:00 | G03L011027 | G03L011021 | GFL001S |
| CR-A159805 | K120-40 | .0492F | 1 | 28.9 | .141 | .0281 | 12/06/9621:23 | 12/03/9607:00 | G03L011028 | G03L011021 | GFL001S |
| CR-A159905 | K120-45 | .0521F | 1 | 25.1 | .134 | .0267 | 12/06/9620:38 | 12/03/9607:00 | G03L011014 | G03L011009 | GFL001S |
| CR-A159905MS | K120-45M | .351 | 1 | 25.1 | .134 | .0267 | 12/06/9620:48 | 12/03/9607:00 | G03L011017 | G03L011009 | GFL001S |
| CR-A159905MSD | K120-45S | .32 | 1 | 25.1 | .134 | .0267 | 12/06/9620:51 | 12/03/9607:00 | G03L011018 | G03L011009 | GFL001S |
| MBLK1S | GFL001SB | .02F | 1 | NA | .1 | .02 | 12/06/9620:28 | 12/03/9607:00 | G03L011011 | G03L011009 | GFL001S |
| LCS1S | GFL001SL | .227 | 1 | NA | .1 | .02 | 12/06/9620:32 | 12/03/9607:00 | G03L011012 | G03L011009 | GFL001S |
| LCD1S | GFL001SC | .222 | 1 | NA | .1 | .02 | 12/06/9620:35 | 12/03/9607:00 | G03L011013 | G03L011009 | GFL001S |

PQL: Practical Quantitation Limit
AFCEE Ver. 1.1

410 496

EPA 3020A/7760
SILVER BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96K120
Matrix : WATER

Date Collcted : 11/20/96
DaTime Received: 11/22/96
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-A159203 | K120-03 | ND | 1 | NA | .001 | .0002 | 12/06/9622:37 | 11/29/9609:00 | G03L011051 | G03L011045 | GFK015W |
| CR-A159303 | K120-08 | .00026F | 1 | NA | .001 | .0002 | 12/06/9622:47 | 11/29/9609:00 | G03L011054 | G03L011045 | GFK015W |
| CR-A159403 | K120-13 | .0002F | 1 | NA | .001 | .0002 | 12/06/9621:59 | 11/29/9609:00 | G03L011039 | G03L011033 | GFK016W |
| CR-A159408 | K120-18 | ND | 1 | NA | .001 | .0002 | 12/06/9622:02 | 11/29/9609:00 | G03L011040 | G03L011033 | GFK016W |
| CR-A159503 | K120-21 | ND | 1 | NA | .001 | .0002 | 12/06/9622:06 | 11/29/9609:00 | G03L011041 | G03L011033 | GFK016W |
| CR-A159603 | K120-28 | ND | 1 | NA | .001 | .0002 | 12/06/9622:09 | 11/29/9609:00 | G03L011042 | G03L011033 | GFK016W |
| CR-A159703 | K120-33 | ND | 1 | NA | .001 | .0002 | 12/06/9622:12 | 11/29/9609:00 | G03L011043 | G03L011033 | GFK016W |
| CR-A159803 | K120-38 | ND | 1 | NA | .001 | .0002 | 12/06/9622:15 | 11/29/9609:00 | G03L011044 | G03L011033 | GFK016W |
| CR-A159903 | K120-43 | ND | 1 | NA | .001 | .0002 | 12/06/9621:36 | 11/29/9609:00 | G03L011032 | G03L011021 | GFK016W |
| CR-A159903MS | K120-43M | .00211 | 1 | NA | .001 | .0002 | 12/06/9621:52 | 11/29/9609:00 | G03L011037 | G03L011033 | GFK016W |
| CR-A159903MSD | K120-43S | .00199 | 1 | NA | .001 | .0002 | 12/06/9621:56 | 11/29/9609:00 | G03L011038 | G03L011033 | GFK016W |
| CR-A159908 | K120-48 | ND | 1 | NA | .001 | .0002 | 12/06/9622:25 | 11/29/9609:00 | G03L011047 | G03L011045 | GFK016W |
| MBLK1W | GFK016WB | ND | 1 | NA | .001 | .0002 | 12/06/9621:26 | 11/29/9609:00 | G03L011029 | G03L011021 | GFK016W |
| LCS1W | GFK016WL | .00179 | 1 | NA | .001 | .0002 | 12/06/9621:29 | 11/29/9609:00 | G03L011030 | G03L011021 | GFK016W |
| LCD1W | GFK016WC | .00176 | 1 | NA | .001 | .0002 | 12/06/9621:32 | 11/29/9609:00 | G03L011031 | G03L011021 | GFK016W |
| MBLK2W | GFK015WB | ND | 1 | NA | .001 | .0002 | 12/06/9622:28 | 11/29/9609:00 | G03L011048 | G03L011045 | GFK015W |
| LCS2W | GFK015WL | .00174 | 1 | NA | .001 | .0002 | 12/06/9622:31 | 11/29/9609:00 | G03L011049 | G03L011045 | GFK015W |
| LCD2W | GFK015WC | .00196 | 1 | NA | .001 | .0002 | 12/06/9622:34 | 11/29/9609:00 | G03L011050 | G03L011045 | GFK015W |

PQL: Practical Quantitation Limit
AFCEE Ver. 1.1

410 498

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# LABORATORY REPORT FOR

# JACOBS ENGINEERING GROUP, INC.

# CARSWELL AFB / 05G47900

## VOLATILES

SDG#: 96K120

DECEMBER 26, 1996

# CASE NARRATIVE

**CLIENT:** JACOBS ENGINEERING GROUP, INC.

**PROJECT:** CARSWELL AFB / 05G47900

**SDG:** 96K120

## VOLATILES

Nine (9) soil and eleven (11) water samples were received on 11/22/96 to be analyzed for volatile organics by EPA Method 8240B in accordance with SW846.

1. Holding Time

   Analytical holding time was met.

2. Surrogate Recovery

   All surrogate recoveries were within the QC limits.

3. Matrix Spike/Matrix Spike Duplicate

   All recoveries were within the QC limits. The recovery for Vinyl Acetate was out of QC limit. On the water QC, no 2-Chloroethyl Vinyl Ether was found due to the sample being acid preserved.

4. Lab Control Sample/Lab Control Sample Duplicate

   All recoveries and RPDs were within the QC limits.

5. Method Blanks

   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 done within QC requirements.



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

11/29/1996 14:59

# LAB CHRONICLE
## EPA 8240

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K120
MATRIX: Soil

| SAMPLE ID | CONTROL NO | %H2O | PREPARATION BATCH/DATE/TIME | ANALYTICAL BATCH/DATE/TIME | | CALIB REF | FILE ID |
|---|---|---|---|---|---|---|---|
| CR-A159204 | K120-04 | 20.3 | | | | | |
| | | | VOK2502 | 11/29/96 | 16.14 | KP488 | KP496 |
| CR-A159304 | K120-09 | 26.7 | | | | | |
| | | | | | 16.47 | | KP497 |
| CR-A159404 | K120-14 | 28.6 | | | | | |
| | | | | | 17.11 | | KP49[illegible] |
| CR-A159504 | K120-22 | 20.2 | | | | | |
| | | | | | 17.39 | | KP49[illegible] |
| CR-A159506 | K120-24 | 32.6 | | | | | |
| | | | VOL0302 | 12/3/96 | 19.46 | LP054 | LP058 |
| CR-A159604 | K120-29 | 22.8 | | | | | |
| | | | VOK2502 | 11/29/96 | 18.36 | KP488 | KP50[illegible] |
| CR-A159704 | K120-34 | 22.0 | | | | | |
| | | | | | 19.03 | | KP50[illegible] |
| CR-A159804 | K120-39 | 26.4 | | | | | |
| | | | | | 19.32 | | [illegible] |
| CR-A159904 | K120-44 | 23.5 | | | | | |
| | | | | | 20.00 | | KP50[illegible] |
| CR-A159904MS | K120-44M | 23.5 | | | | | |
| | | | | | 20.29 | | KP50[illegible] |
| CR-A159904MSD | K120-44S | 23.5 | | | | | |
| | | | | | 20.55 | | KP506 |
| VBLK01 | VOK2502B | | | | 17.29 | | KP[illegible] |
| LCS01 | VOK2502L | | | | 12.57 | | KP489 |
| LCS001 | VOK2502C | | | | 13.29 | | KP4[illegible] |
| VBLK02 | VOL0302B | | VOL0302 | 12/3/96 | 13.22 | LP054 | LP055 |
| LCS02 | VOL0302L | | | | 13.50 | | LP056 |
| LCS002 | VOL0302C | | | | 14.12 | | LP057 |

11/29/1996 14:59

# LAB CHRONICLE
## EPA 8240

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K120
MATRIX: Water

| SAMPLE ID | CONTROL NO | %H2O | PREPARATION BATCH/DATE/TIME | ANALYTICAL BATCH/DATE/TIME | | CALIB REF | FILE ID |
|---|---|---|---|---|---|---|---|
| CR-A159201 | K120-01 | NA | V0L0402 | 12/3/96 | 20.24 | LP063 | LP070 |
| CR-A159301 | K120-06 | NA | | | 20.52 | | LP071 |
| CR-A159401 | K120-11 | NA | V0L0502 | 12/4/96 | 12.04 | LP490 | LP095 |
| CR-A159406 | K120-16 | NA | V0L0402 | 12/3/96 | 21.48 | LP063 | LP073 |
| CR-A159501 | K120-19 | NA | | | 22.16 | | LP07[illegible] |
| CR-A159601 | K120-26 | NA | | | 22.45 | | LP07[illegible] |
| CR-A159701 | K120-31 | NA | | | 23.13 | | LP076 |
| CR-A159801 | K120-36 | NA | | | 23.40 | | LP077 |
| CR-A159901 | K120-41 | NA | V0L0502 | 12/4/96 | 12.32 | LP490 | LP096 |
| CR-A159901MS | K120-41M | NA | V0L0402 | 12/3/96 | 19.29 | | LP068 |
| CR-A159901MSD | K120-41S | NA | | | 19.52 | | LP069 |
| CR-A159906 | K120-46 | NA | | | 00.08 | | LP078 |
| CR-A159909 | K120-49 | NA | | | 00.37 | | LP079 |
| VBlk01 | V0L0402B | | | | 17.34 | | LP064 |
| LCS01 | V0L0402C | | | | 18.02 | | LP065 |
| LCS001 | V0L0402C | | | | 18.32 | | LP066 |
| VBlk07 | V0L0502B | V0L0502 | 12/4/96 | | 9.55 | LP490 | LP491 |
| LCS02 | V0L0502C | | | | 10.35 | | LP492 |
| LCS007 | V0L0502C | | | | 11.35 | | LP490 |

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/03/96 20:24 |
| Sample ID | : CR-A159201 | DaTime Analyzd : | 12/03/96 20:24 |
| Lab Cnt NO. | : K120-01 | Dilutn Factor : | 1 |
| Lab File ID | : RLP070 | Matrix : | WATER |
| Ext Btch ID | : VOL0402 | % Moisture : | NA |
| Calib. Ref. | : RLP063 | 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 | .2 |
| Bromomethane | ND | 10 | [illegible] |
| 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 | 1.89F | 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 | 92 | 79-118 |
| Bromofluorobenzene | 89 | 86-115 |
| Toluene-d8 | 93 | 88-110 |

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

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

| | | | |
|---|---|---|---|
| ient | : JACOBS ENGINEERING GROUP | DaTime Collcted | : 11/20/96 |
| oject | : CARSWELL AFB / 05G47900 | DaTime Received | : 11/22/96 |
| atch No. | : 96K120 | DaTime Extrctd | : 12/03/96 20:52 |
| Sample ID | : CR-A159301 | DaTime Analyzd | : 12/03/96 20:52 |
| Lab Cnt NO. | : K120-06 | Dilutn Factor | : 1 |
| Lab File ID | : RLP071 | Matrix | : WATER |
| Ext Btch ID | : VOL0402 | % Moisture | : NA |
| Calib. Ref. | : RLP063 | 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 |
| omoform | ND | 5 | .299 |
| omomethane | ND | 10 | .721 |
| rbon 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 | ND | 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 | 96 | 79-118 |
| Bromofluorobenzene | 98 | 86-115 |
| luene-d8 | 90 | 88-110 |

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

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/04/96 12:04 |
| Sample ID | : CR-A159401 | DaTime Analyzd : | 12/04/96 12:04 |
| Lab Cnt NO. | : K120-11 | Dilutn Factor : | 1 |
| Lab File ID | : RLP095 | Matrix : | WATER |
| Ext Btch ID | : VOL0502 | % Moisture : | NA |
| Calib. Ref. | : RLP090 | 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 | .2 |
| Bromomethane | ND | 10 | .7 |
| 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 | 3.29F | 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 | 90 | 79-118 |
| Bromofluorobenzene | 93 | 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

410 505

| | | | |
|---|---|---|---|
| ient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| ɔject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/03/96 21:48 |
| Sample ID | : CR-A159406 | DaTime Analyzd : | 12/03/96 21:48 |
| Lab Cnt NO. | : K120-16 | Dilutn Factor : | 1 |
| Lab File ID | : RLP073 | Matrix : | WATER |
| Ext Btch ID | : VOL0402 | % Moisture : | NA |
| Calib. Ref. | : RLP063 | 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 |
| ɔmoform | ND | 5 | .299 |
| ɔmomethane | 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 | ND | 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 | 92 | 79-118 |
| Bromofluorobenzene | 93 | 86-115 |
| luene-d8 | 94 | 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: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/03/96 22:16 |
| Sample ID | : CR-A159501 | DaTime Analyzd : | 12/03/96 22:16 |
| Lab Cnt NO. | : K120-19 | Dilutn Factor : | 1 |
| Lab File ID | : RLP074 | Matrix : | WATER |
| Ext Btch ID | : VOL0402 | % Moisture : | NA |
| Calib. Ref. | : RLP063 | 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 | 1.5[illegible] |
| 1,2-Dichloroethane | ND | 5 | .32[illegible] |
| 1,2-Dichloropropane | ND | 5 | .822 |
| 2-Butanone | ND | 100 | 1.3 |
| 2-Chloroethyl Vinyl Ether | ND | 10 | .387 |
| 2-Hexanone | ND | 50 | .96[illegible] |
| 4-Methyl-2-Pentanone | ND | 50 | 1.8[illegible] |
| Acetone | ND | 100 | 2.18 |
| Benzene | ND | 5 | .7 |
| Bromodichloromethane | ND | 5 | .406 |
| Bromoform | ND | 5 | [illegible] |
| Bromomethane | ND | 10 | [illegible] |
| 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 | ND | 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 | 95 | 79-118 |
| Bromofluorobenzene | 99 | 86-115 |
| Toluene-d8 | 90 | 88-110 |

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

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

410 507

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/03/96 22:45 |
| Sample ID | : CR-A159601 | DaTime Analyzd : | 12/03/96 22:45 |
| Lab Cnt NO. | : K120-26 | Dilutn Factor : | 1 |
| Lab File ID | : RLP075 | Matrix : | WATER |
| Ext Btch ID | : VOL0402 | % Moisture : | NA |
| Calib. Ref. | : RLP063 | 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 | ND | 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 | 93 | 79-118 |
| Bromofluorobenzene | 90 | 86-115 |
| Toluene-d8 | 91 | 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: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/03/96 23:13 |
| Sample ID | : CR-A159701 | DaTime Analyzd : | 12/03/96 23:13 |
| Lab Cnt NO. | : K120-31 | Dilutn Factor : | 1 |
| Lab File ID | : RLP076 | Matrix : | WATER |
| Ext Btch ID | : VOL0402 | % Moisture : | NA |
| Calib. Ref. | : RLP063 | 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 | .2 |
| Bromomethane | ND | 10 | .7 |
| 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 | ND | 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 | 94 | 79-118 |
| Bromofluorobenzene | 91 | 86-115 |
| Toluene-d8 | 89 | 88-110 |

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

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

410 500

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/03/96 23:40 |
| Sample ID | : CR-A159801 | DaTime Analyzd : | 12/03/96 23:40 |
| Lab Cnt NO. | : K120-36 | Dilutn Factor : | 1 |
| Lab File ID | : RLP077 | Matrix : | WATER |
| Ext Btch ID | : VOL0402 | % Moisture : | NA |
| Calib. Ref. | : RLP063 | 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 | 2.2F | 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 | 91 | 79-118 |
| Bromofluorobenzene | 92 | 86-115 |
| Toluene-d8 | 90 | 88-110 |

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

410 510

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/04/96 12:32 |
| Sample ID | : CR-A159901 | DaTime Analyzd : | 12/04/96 12:32 |
| Lab Cnt NO. | : K120-41 | Dilutn Factor : | 1 |
| Lab File ID | : RLP096 | Matrix : | WATER |
| Ext Btch ID | : VOL0502 | % Moisture : | NA |
| Calib. Ref. | : RLP090 | 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 | .2[illegible] |
| Bromomethane | ND | 10 | .7[illegible] |
| Carbon Disulfide | ND | 5 | .4[illegible] |
| 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 | .32[illegible] |
| Dibromochloromethane | ND | 5 | .31[illegible] |
| Ethylbenzene | ND | 5 | .428 |
| Methylene Chloride | 3.06F | 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 | 94 | 79-118 |
| Bromofluorobenzene | 96 | 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

410 511

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/04/96 00:08 |
| Sample ID | : CR-A159906 | DaTime Analyzd : | 12/04/96 00:08 |
| Lab Cnt NO. | : K120-46 | Dilutn Factor : | 1 |
| Lab File ID | : RLP078 | Matrix : | WATER |
| Ext Btch ID | : VOL0402 | % Moisture : | NA |
| Calib. Ref. | : RLP063 | 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 | 5.13 | 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 | 93 | 79-118 |
| Bromofluorobenzene | 98 | 86-115 |
| Toluene-d8 | 91 | 88-110 |

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

410 512

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/21/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/04/96 00:37 |
| Sample ID | : CR-A159909 | DaTime Analyzd : | 12/04/96 00:37 |
| Lab Cnt NO. | : K120-49 | Dilutn Factor : | 1 |
| Lab File ID | : RLP079 | Matrix : | WATER |
| Ext Btch ID | : VOL0402 | % Moisture : | NA |
| Calib. Ref. | : RLP063 | 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 | .2 |
| Bromomethane | ND | 10 | .7 |
| 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 | 2.09F | 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 | 92 | 79-118 |
| Bromofluorobenzene | 98 | 86-115 |
| Toluene-d8 | 91 | 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: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/29/96 16:14 |
| Sample ID | : CR-A159204 | DaTime Analyzd : | 11/29/96 16:14 |
| Lab Cnt NO. | : K120-04 | Dilutn Factor : | 1 |
| Lab File ID | : RKP496 | Matrix : | SOIL |
| Ext Btch ID | : VOK2502 | % Moisture : | 20.3 |
| Calib. Ref. | : RKP487 | 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 | 105 | 79-118 |
| Bromofluorobenzene | 97 | 86-115 |
| Toluene-d8 | 105 | 88-110 |

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

410 511

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/29/96 16:4 |
| Sample ID | : CR-A159304 | DaTime Analyzd : | 11/29/96 16:4 |
| Lab Cnt NO. | : K120-09 | Dilutn Factor : | 1 |
| Lab File ID | : RKP497 | Matrix : | SOIL |
| Ext Btch ID | : VOK2502 | % Moisture : | 26.7 |
| Calib. Ref. | : RKP487 | Instrument ID : | MSVOA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 6.82 | .727 |
| 1,1,2,2-Tetrachloroethane | ND | 6.82 | 1.13 |
| 1,1,2-Trichloroethane | ND | 6.82 | 1.15 |
| 1,1-Dichloroethane | ND | 6.82 | .578 |
| 1,1-Dichloroethene | ND | 6.82 | .712 |
| 1,2,3-Trichloropropane | ND | 68.2 | 2.08 |
| 1,2-Dichloroethane | ND | 6.82 | .405 |
| 1,2-Dichloropropane | ND | 6.82 | 1.31 |
| 2-Butanone | ND | 136 | 3.09 |
| 2-Chloroethyl Vinyl Ether | ND | 13.6 | 1.36 |
| 2-Hexanone | ND | 68.2 | 1.8 |
| 4-Methyl-2-Pentanone | ND | 68.2 | 2.13 |
| Acetone | ND | 136 | 6.12 |
| Benzene | ND | 6.82 | .554 |
| Bromodichloromethane | ND | 6.82 | .524 |
| Bromoform | ND | 6.82 | .7 |
| Bromomethane | ND | 13.6 | 1. |
| Carbon Disulfide | ND | 6.82 | .671 |
| Carbon Tetrachloride | ND | 6.82 | .538 |
| Chlorobenzene | ND | 6.82 | .598 |
| Chloroethane | ND | 13.6 | 1.25 |
| Chloroform | ND | 6.82 | .619 |
| Chloromethane | ND | 13.6 | 1.27 |
| Cis-1,2-Dichloroethene | ND | 6.82 | .637 |
| Cis-1,3-Dichloropropene | ND | 6.82 | .546 |
| Dibromochloromethane | ND | 6.82 | .527 |
| Ethylbenzene | ND | 6.82 | .737 |
| Methylene Chloride | ND | 6.82 | 3.4 |
| m/p-Xylenes | ND | 13.6 | .941 |
| o-Xylene | ND | 6.82 | .52 |
| Styrene | ND | 6.82 | .651 |
| Tetrachloroethylene | ND | 6.82 | .427 |
| Toluene | ND | 6.82 | .551 |
| Trans-1,2-Dichloroethene | ND | 6.82 | .52 |
| Trans-1,3-Dichloropropene | ND | 6.82 | .476 |
| Trichloroethene | ND | 6.82 | .641 |
| Vinyl Acetate | ND | 68.2 | 1.11 |
| Vinyl Chloride | ND | 13.6 | 1.72 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | 79-118 |
| Bromofluorobenzene | 95 | 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

410 515

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/29/96 17:11 |
| Sample ID | : CR-A159404 | DaTime Analyzd : | 11/29/96 17:11 |
| Lab Cnt NO. | : K120-14 | Dilutn Factor : | 1 |
| Lab File ID | : RKP498 | Matrix : | SOIL |
| Ext Btch ID | : VOK2502 | % Moisture : | 28.6 |
| Calib. Ref. | : RKP487 | Instrument ID : | MSVOA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 7 | .746 |
| 1,1,2,2-Tetrachloroethane | ND | 7 | 1.16 |
| 1,1,2-Trichloroethane | ND | 7 | 1.18 |
| 1,1-Dichloroethane | ND | 7 | .594 |
| 1,1-Dichloroethene | ND | 7 | .731 |
| 1,2,3-Trichloropropane | ND | 70 | 2.13 |
| 1,2-Dichloroethane | ND | 7 | .416 |
| 1,2-Dichloropropane | ND | 7 | 1.34 |
| 2-Butanone | ND | 140 | 3.17 |
| 2-Chloroethyl Vinyl Ether | ND | 14 | 1.39 |
| 2-Hexanone | ND | 70 | 1.85 |
| 4-Methyl-2-Pentanone | ND | 70 | 2.19 |
| Acetone | ND | 140 | 6.28 |
| Benzene | ND | 7 | .569 |
| Bromodichloromethane | ND | 7 | .538 |
| Bromoform | ND | 7 | .803 |
| Bromomethane | ND | 14 | 1.72 |
| Carbon Disulfide | ND | 7 | .689 |
| Carbon Tetrachloride | ND | 7 | .552 |
| Chlorobenzene | ND | 7 | .613 |
| Chloroethane | ND | 14 | 1.29 |
| Chloroform | ND | 7 | .636 |
| Chloromethane | ND | 14 | 1.31 |
| Cis-1,2-Dichloroethene | ND | 7 | .654 |
| Cis-1,3-Dichloropropene | ND | 7 | .56 |
| Dibromochloromethane | ND | 7 | .541 |
| Ethylbenzene | ND | 7 | .756 |
| Methylene Chloride | ND | 7 | 3.49 |
| m/p-Xylenes | ND | 14 | .966 |
| o-Xylene | ND | 7 | .534 |
| Styrene | ND | 7 | .668 |
| Tetrachloroethylene | ND | 7 | .438 |
| Toluene | ND | 7 | .566 |
| Trans-1,2-Dichloroethene | ND | 7 | .534 |
| Trans-1,3-Dichloropropene | ND | 7 | .489 |
| Trichloroethene | ND | 7 | .658 |
| Vinyl Acetate | ND | 70 | 1.14 |
| Vinyl Chloride | ND | 14 | 1.77 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | 79-118 |
| Bromofluorobenzene | 89 | 86-115 |
| Toluene-d8 | 104 | 88-110 |

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

410 516

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted | : 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received | : 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd | : 11/29/96 17:3 |
| Sample ID | : CR-A159504 | DaTime Analyzd | : 11/29/96 17:3 |
| Lab Cnt NO. | : K120-22 | Dilutn Factor | : 1 |
| Lab File ID | : RKP499 | Matrix | : SOIL |
| Ext Btch ID | : VOK2502 | % Moisture | : 20.2 |
| Calib. Ref. | : RKP487 | Instrument ID | : MSVOA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 6.27 | .668 |
| 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 | .531 |
| 1,1-Dichloroethene | ND | 6.27 | .654 |
| 1,2,3-Trichloropropane | ND | 62.7 | 1.91 |
| 1,2-Dichloroethane | ND | 6.27 | .372 |
| 1,2-Dichloropropane | ND | 6.27 | 1.2 |
| 2-Butanone | ND | 125 | 2.83 |
| 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 | .481 |
| Bromoform | ND | 6.27 | .7 |
| Bromomethane | ND | 12.5 | 1. |
| Carbon Disulfide | ND | 6.27 | .617 |
| Carbon Tetrachloride | ND | 6.27 | .494 |
| Chlorobenzene | ND | 6.27 | .549 |
| Chloroethane | ND | 12.5 | 1.15 |
| Chloroform | ND | 6.27 | .569 |
| Chloromethane | ND | 12.5 | 1.17 |
| Cis-1,2-Dichloroethene | ND | 6.27 | .585 |
| Cis-1,3-Dichloropropene | ND | 6.27 | .501 |
| Dibromochloromethane | ND | 6.27 | .484 |
| Ethylbenzene | ND | 6.27 | .677 |
| Methylene Chloride | ND | 6.27 | 3.12 |
| m/p-Xylenes | ND | 12.5 | .865 |
| o-Xylene | ND | 6.27 | .477 |
| Styrene | ND | 6.27 | .598 |
| Tetrachloroethylene | ND | 6.27 | .392 |
| Toluene | ND | 6.27 | .506 |
| Trans-1,2-Dichloroethene | ND | 6.27 | .477 |
| Trans-1,3-Dichloropropene | ND | 6.27 | .437 |
| Trichloroethene | ND | 6.27 | .589 |
| Vinyl Acetate | ND | 62.7 | 1.02 |
| Vinyl Chloride | ND | 12.5 | 1.58 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | 79-118 |
| Bromofluorobenzene | 95 | 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

410 517

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/03/96 14:46 |
| Sample ID | : CR-A159506 | DaTime Analyzd : | 12/03/96 14:46 |
| Lab Cnt NO. | : K120-24 | Dilutn Factor : | 1 |
| Lab File ID | : RLP058 | Matrix : | SOIL |
| Ext Btch ID | : VOL0302 | % Moisture : | 32.6 |
| Calib. Ref. | : RLP054 | Instrument ID : | MSVOA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 7.42 | .791 |
| 1,1,2,2-Tetrachloroethane | ND | 7.42 | 1.23 |
| 1,1,2-Trichloroethane | ND | 7.42 | 1.25 |
| 1,1-Dichloroethane | ND | 7.42 | .629 |
| 1,1-Dichloroethene | ND | 7.42 | .774 |
| 1,2,3-Trichloropropane | ND | 74.2 | 2.26 |
| 1,2-Dichloroethane | ND | 7.42 | .441 |
| 1,2-Dichloropropane | ND | 7.42 | 1.42 |
| 2-Butanone | ND | 148 | 3.36 |
| 2-Chloroethyl Vinyl Ether | ND | 14.8 | 1.47 |
| 2-Hexanone | ND | 74.2 | 1.96 |
| 4-Methyl-2-Pentanone | ND | 74.2 | 2.32 |
| Acetone | ND | 148 | 6.65 |
| Benzene | ND | 7.42 | .602 |
| Bromodichloromethane | ND | 7.42 | .57 |
| Bromoform | ND | 7.42 | .85 |
| Bromomethane | ND | 14.8 | 1.82 |
| Carbon Disulfide | ND | 7.42 | .73 |
| Carbon Tetrachloride | ND | 7.42 | .585 |
| Chlorobenzene | ND | 7.42 | .65 |
| Chloroethane | ND | 14.8 | 1.36 |
| Chloroform | ND | 7.42 | .674 |
| Chloromethane | ND | 14.8 | 1.38 |
| Cis-1,2-Dichloroethene | ND | 7.42 | .693 |
| Cis-1,3-Dichloropropene | ND | 7.42 | .593 |
| Dibromochloromethane | ND | 7.42 | .573 |
| Ethylbenzene | ND | 7.42 | .801 |
| Methylene Chloride | ND | 7.42 | 3.69 |
| m/p-Xylenes | ND | 14.8 | 1.02 |
| o-Xylene | ND | 7.42 | .565 |
| Styrene | ND | 7.42 | .708 |
| Tetrachloroethylene | ND | 7.42 | .464 |
| Toluene | ND | 7.42 | .599 |
| Trans-1,2-Dichloroethene | ND | 7.42 | .565 |
| Trans-1,3-Dichloropropene | ND | 7.42 | .518 |
| Trichloroethene | ND | 7.42 | .697 |
| Vinyl Acetate | ND | 74.2 | 1.21 |
| Vinyl Chloride | ND | 14.8 | 1.87 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | 79-118 |
| Bromofluorobenzene | 91 | 86-115 |
| Toluene-d8 | 107 | 88-110 |

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

410 518

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/29/96 18:3 |
| Sample ID | : CR-A159604 | DaTime Analyzd : | 11/29/96 18:3 |
| Lab Cnt NO. | : K120-29 | Dilutn Factor : | 1 |
| Lab File ID | : RKP501 | Matrix : | SOIL |
| Ext Btch ID | : VOK2502 | % Moisture : | 22.8 |
| Calib. Ref. | : RKP487 | Instrument ID : | MSVOA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 6.48 | .69 |
| 1,1,2,2-Tetrachloroethane | ND | 6.48 | 1.08 |
| 1,1,2-Trichloroethane | ND | 6.48 | 1.09 |
| 1,1-Dichloroethane | ND | 6.48 | .549 |
| 1,1-Dichloroethene | ND | 6.48 | .676 |
| 1,2,3-Trichloropropane | ND | 64.8 | 1.97 |
| 1,2-Dichloroethane | ND | 6.48 | .385 |
| 1,2-Dichloropropane | ND | 6.48 | 1.24 |
| 2-Butanone | ND | 130 | 2.93 |
| 2-Chloroethyl Vinyl Ether | ND | 13 | 1.29 |
| 2-Hexanone | ND | 64.8 | 1.71 |
| 4-Methyl-2-Pentanone | ND | 64.8 | 2.02 |
| Acetone | ND | 130 | 5.81 |
| Benzene | ND | 6.48 | .526 |
| Bromodichloromethane | ND | 6.48 | .497 |
| Bromoform | ND | 6.48 | .7 |
| Bromomethane | ND | 13 | 1. |
| Carbon Disulfide | ND | 6.48 | .637 |
| Carbon Tetrachloride | ND | 6.48 | .51 |
| Chlorobenzene | ND | 6.48 | .567 |
| Chloroethane | ND | 13 | 1.19 |
| Chloroform | ND | 6.48 | .588 |
| Chloromethane | ND | 13 | 1.21 |
| Cis-1,2-Dichloroethene | ND | 6.48 | .605 |
| Cis-1,3-Dichloropropene | ND | 6.48 | .518 |
| Dibromochloromethane | ND | 6.48 | .5 |
| Ethylbenzene | ND | 6.48 | .699 |
| Methylene Chloride | ND | 6.48 | 3.23 |
| m/p-Xylenes | ND | 13 | .894 |
| o-Xylene | ND | 6.48 | .494 |
| Styrene | ND | 6.48 | .618 |
| Tetrachloroethylene | ND | 6.48 | .405 |
| Toluene | ND | 6.48 | .523 |
| Trans-1,2-Dichloroethene | ND | 6.48 | .494 |
| Trans-1,3-Dichloropropene | ND | 6.48 | .452 |
| Trichloroethene | ND | 6.48 | .609 |
| Vinyl Acetate | ND | 64.8 | 1.06 |
| Vinyl Chloride | ND | 13 | 1.64 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | 79-118 |
| Bromofluorobenzene | 94 | 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 | : 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received | : 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd | : 11/29/96 19:03 |
| Sample ID | : CR-A159704 | DaTime Analyzd | : 11/29/96 19:03 |
| Lab Cnt NO. | : K120-34 | Dilutn Factor | : 1 |
| Lab File ID | : RKP502 | Matrix | : SOIL |
| Ext Btch ID | : VOK2502 | % Moisture | : 22.0 |
| Calib. Ref. | : RKP487 | 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 | ND | 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 | 103 | 79-118 |
| Bromofluorobenzene | 95 | 86-115 |
| Toluene-d8 | 100 | 88-110 |

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

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/29/96 19:3 |
| Sample ID | : CR-A159804 | DaTime Analyzd : | 11/29/96 19:3 |
| Lab Cnt NO. | : K120-39 | Dilutn Factor : | 1 |
| Lab File ID | : RKP503 | Matrix : | SOIL |
| Ext Btch ID | : VOK2502 | % Moisture : | 26.4 |
| Calib. Ref. | : RKP487 | Instrument ID : | MSVOA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 6.79 | .724 |
| 1,1,2,2-Tetrachloroethane | ND | 6.79 | 1.13 |
| 1,1,2-Trichloroethane | ND | 6.79 | 1.15 |
| 1,1-Dichloroethane | ND | 6.79 | .576 |
| 1,1-Dichloroethene | ND | 6.79 | .709 |
| 1,2,3-Trichloropropane | ND | 67.9 | 2.07 |
| 1,2-Dichloroethane | ND | 6.79 | .404 |
| 1,2-Dichloropropane | ND | 6.79 | 1.3 |
| 2-Butanone | ND | 136 | 3.07 |
| 2-Chloroethyl Vinyl Ether | ND | 13.6 | 1.35 |
| 2-Hexanone | ND | 67.9 | 1.8 |
| 4-Methyl-2-Pentanone | ND | 67.9 | 2.12 |
| Acetone | ND | 136 | 6.09 |
| Benzene | ND | 6.79 | .552 |
| Bromodichloromethane | ND | 6.79 | .522 |
| Bromoform | ND | 6.79 | [illegible] |
| Bromomethane | ND | 13.6 | 1.[illegible] |
| Carbon Disulfide | ND | 6.79 | .668 |
| Carbon Tetrachloride | ND | 6.79 | .535 |
| Chlorobenzene | ND | 6.79 | .595 |
| Chloroethane | ND | 13.6 | 1.25 |
| Chloroform | ND | 6.79 | .617 |
| Chloromethane | ND | 13.6 | 1.27 |
| Cis-1,2-Dichloroethene | ND | 6.79 | .635 |
| Cis-1,3-Dichloropropene | ND | 6.79 | .543 |
| Dibromochloromethane | ND | 6.79 | .524 |
| Ethylbenzene | ND | 6.79 | .734 |
| Methylene Chloride | ND | 6.79 | 3.3[illegible] |
| m/p-Xylenes | ND | 13.6 | .938 |
| o-Xylene | ND | 6.79 | .518 |
| Styrene | ND | 6.79 | .648 |
| Tetrachloroethylene | ND | 6.79 | .425 |
| Toluene | ND | 6.79 | .549 |
| Trans-1,2-Dichloroethene | ND | 6.79 | .518 |
| Trans-1,3-Dichloropropene | ND | 6.79 | .474 |
| Trichloroethene | ND | 6.79 | .639 |
| Vinyl Acetate | ND | 67.9 | 1.11 |
| Vinyl Chloride | ND | 13.6 | 1.72 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | 79-118 |
| Bromofluorobenzene | 94 | 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

410 521

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/29/96 20:00 |
| Sample ID | : CR-A159904 | DaTime Analyzd : | 11/29/96 20:00 |
| Lab Cnt NO. | : K120-44 | Dilutn Factor : | 1 |
| Lab File ID | : RKP504 | Matrix : | SOIL |
| Ext Btch ID | : VOK2502 | % Moisture : | 23.5 |
| Calib. Ref. | : RKP487 | Instrument ID : | MSVOA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 6.54 | .697 |
| 1,1,2,2-Tetrachloroethane | ND | 6.54 | 1.08 |
| 1,1,2-Trichloroethane | ND | 6.54 | 1.1 |
| 1,1-Dichloroethane | ND | 6.54 | .554 |
| 1,1-Dichloroethene | ND | 6.54 | .682 |
| 1,2,3-Trichloropropane | ND | 65.4 | 1.99 |
| 1,2-Dichloroethane | ND | 6.54 | .388 |
| 1,2-Dichloropropane | ND | 6.54 | 1.25 |
| 2-Butanone | ND | 131 | 2.96 |
| 2-Chloroethyl Vinyl Ether | ND | 13.1 | 1.3 |
| 2-Hexanone | ND | 65.4 | 1.73 |
| 4-Methyl-2-Pentanone | ND | 65.4 | 2.04 |
| Acetone | ND | 131 | 5.86 |
| Benzene | ND | 6.54 | .531 |
| Bromodichloromethane | ND | 6.54 | .502 |
| Bromoform | ND | 6.54 | .749 |
| Bromomethane | ND | 13.1 | 1.6 |
| Carbon Disulfide | ND | 6.54 | .643 |
| Carbon Tetrachloride | ND | 6.54 | .515 |
| Chlorobenzene | ND | 6.54 | .573 |
| Chloroethane | ND | 13.1 | 1.2 |
| Chloroform | ND | 6.54 | .593 |
| Chloromethane | ND | 13.1 | 1.22 |
| Cis-1,2-Dichloroethene | ND | 6.54 | .61 |
| Cis-1,3-Dichloropropene | ND | 6.54 | .523 |
| Dibromochloromethane | ND | 6.54 | .505 |
| Ethylbenzene | ND | 6.54 | .706 |
| Methylene Chloride | ND | 6.54 | 3.25 |
| m/p-Xylenes | ND | 13.1 | .902 |
| o-Xylene | ND | 6.54 | .498 |
| Styrene | ND | 6.54 | .624 |
| Tetrachloroethylene | ND | 6.54 | .409 |
| Toluene | ND | 6.54 | .528 |
| Trans-1,2-Dichloroethene | ND | 6.54 | .498 |
| Trans-1,3-Dichloropropene | ND | 6.54 | .456 |
| Trichloroethene | ND | 6.54 | .614 |
| Vinyl Acetate | ND | 65.4 | 1.07 |
| Vinyl Chloride | ND | 13.1 | 1.65 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | 79-118 |
| Bromofluorobenzene | 95 | 86-115 |
| Toluene-d8 | 98 | 88-110 |

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

410 522

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LABORATORY REPORT FOR

JACOBS ENGINEERING GROUP, INC.

CARSWELL AFB / 05G47900

SEMIVOLATILES

SDG#: 96K120

DECEMBER 23, 1996

# CASE NARRATIVE

**CLIENT:** JACOBS ENGINEERING GROUP, INC.

**PROJECT:** CARSWELL AFB / 05G47900

**SDG:** 96K120

## SEMIVOLATILES

Nine (9) soil and ten (10) water samples were received on 11/22/96 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

   One (1) set of MS/MSD was designated for each soil and water samples. Low recoveries of 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 2-Chloronapthalene, 3,3'-Dichlorobenzidine and Naphthalene were found in K120-42M and Hexachlorocyclopentadiene in K120-42M and 42S. Low recovery of Benzoic acid was found in K120-45M and 45S.

4. Lab Control Sample/Lab Control Sample Duplicate

   Low recoveries of Benzoic acid and Hexachlorocyclopentadiene were found in SVK012WL and SVK012WC. Benzoic acid had low recovery in SVL002SL.

5. Method Blank

   Method blanks were free of contamination.

6. Tuning and Calibration

   Tuning and calibration were carried out at 12 hour interval.

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

11/29/1996 14:59

# LAB CHRONICLE
## EPA 8270

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K120
MATRIX: Soil

| SAMPLE ID | CONTROL NO | %H2O | PREPARATION BATCH/DATE/TIME | ANALYTICAL BATCH/DATE/TIME | CALIB REF | FILE ID |
|---|---|---|---|---|---|---|
| CR-A159205 | K120-05 | 18.0 | SVL002S / 12/02/96 / 09:00 | RLS151 / 12/8/96 / 00:24 | RLS151 | RLS161 |
| CR-A159305 | K120-10 | 20.8 | | 03:34 | | RLS165 |
| CR-A159405 | K120-15 | 30.0 | | 01:11 | | RLS162 |
| CR-A159505 | K120-23 | 25.8 | | 01:59 | | RLS163 |
| CR-A159507 | K120-25 | 30.5 | | 02:47 | | RLS164 |
| CR-A159605 | K120-30 | 29.2 | | RLS151 / 12/12/96 / 23:36 | | RLS160 |
| CR-A159705 | K120-35 | 22.8 | | 19:37 | | RLS155 |
| CR-A159805 | K120-40 | 28.9 | | 20:25 | | RLS15[illegible] |
| CR-A159905 | K120-45 | 25.1 | | 21:12 | | RLS157 |
| CR-A159905MS | K120-45M | 25.1 | | 22:00 | | RLS158 |
| CR-A159905MSD | K120-45S | 25.1 | | 22:48 | | RLS159 |
| MBLKIS | SVL002SB | | | 17:13 | | RLS152 |
| LCSIS | SVL002SL | | | 18:01 | | RLS153 |
| LCDIS | SVL002SC | | | 18:49 | | RLS154 |

11/29/1996 14:59

# LAB CHRONICLE
## EPA 8270

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96K120
MATRIX: Water

| SAMPLE ID | CONTROL NO | %H2O | PREPARATION BATCH/DATE/TIME | ANALYTICAL BATCH/DATE/TIME | CALIB REF | FILE ID |
|---|---|---|---|---|---|---|
| CR-A159202 | K120-02 | NA | SVK012W / 11/24/96 / 12:00 | RLB072 / 12/11/96 / 18:00 | RLB072 | RLB076 |
| CR-A159302 | K120-07 | NA | | / 18:49 | | RLB077 |
| CR-A159402 | K120-12 | NA | | ↓ / 19:38 | ↓ | RLB078 |
| CR-A159407 | K120-17 | NA | | RLB091 / 12/12/96 / 04:11 | RLB091 | RLB092 |
| CR-A159502 | K120-20 | NA | | RLB072 / 12/11/96 / 20:26 | RLB072 | RLB079 |
| CR-A159602 | K120-27 | NA | | / 21:14 | | RLB080 |
| CR-A159702 | K120-32 | NA | | / 22:02 | | RLB081 |
| CR-A159802 | K120-37 | NA | | / 22:50 | | RLB082 |
| A159902 | K120-42 | NA | | ↓ / 23:38 | | RLB083 |
| CR-A159902MS | K120-42M | NA | | RLB072 / 12/12/96 / 00:26 | | RLB084 |
| CR-A159902MSD | K120-42S | NA | | ↓ / 01:14 | ↓ | RLB085 |
| CR-A159907 | K120-47 | NA | | RLB091 / 12/12/96 / 04:59 | RLB091 | RLB093 |
| BLKIW | SVK012WB | | | RLB072 / 12/11/96 / 15:36 | RLB072 | RLB073 |
| SIW | SVK012WL | | | / 16:24 | | RLB074 |
| DIW | SVK012WC | | ↓ | ↓ / 17:12 | ↓ | RLB075 |

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/24/96 18:00 |
| Sample ID | : CR-A159202 | DaTime Analyzd : | 12/11/96 18:00 |
| Lab Cnt NO. | : K120-02 | Dilutn Factor : | 1 |
| Lab File ID | : RLB076 | Matrix : | WATER |
| Ext Btch ID | : SVK012W | % Moisture : | NA |
| Calib. Ref. | : RLB072 | 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 | 3.1 |
| 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 | 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: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/24/96 18:00 |
| Sample ID | : CR-A159202 | DaTime Analyzd : | 12/11/96 18:00 |
| Lab Cnt NO. | : K120-02 | Dilutn Factor : | 1 |
| Lab File ID | : RLB076 | Matrix : | WATER |
| Ext Btch ID | : SVK012W | % Moisture : | NA |
| Calib. Ref. | : RLB072 | 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 | 60.1 | 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 | 49 | 43-125 |
| 2-Fluorophenol | 44 | 25-125 |
| Nitrobenzene-d5 | 45 | 32-125 |
| Phenol-d5 | 49 | 25-125 |
| Terphenyl-d14 | 78 | 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 3550A/8270B
# SEMI VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/02/96 09:0 |
| Sample ID | : CR-A159205 | DaTime Analyzd : | 12/13/96 00:2 |
| Lab Cnt NO. | : K120-05 | Dilutn Factor : | 1 |
| Lab File ID | : RLS161 | Matrix : | SOIL |
| Ext Btch ID | : SVL002S | % Moisture : | 18.0 |
| Calib. Ref. | : RLS151 | 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 | 1[illegible] |
| 2-Nitroaniline | ND | 4020 | 1[illegible] |
| 2-Nitrophenol | ND | 366 | 126 |
| 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

410 523

| | | | |
|---|---|---|---|
| lient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| roject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/02/96 09:00 |
| Sample ID | : CR-A159205 | DaTime Analyzd : | 12/13/96 00:24 |
| Lab Cnt NO. | : K120-05 | Dilutn Factor : | 1 |
| Lab File ID | : RLS161 | Matrix : | SOIL |
| Ext Btch ID | : SVL002S | % Moisture : | 18.0 |
| Calib. Ref. | : RLS151 | 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 | ND | 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 | 207F | 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 | 131F | 854 | 117 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 73 | 25-144 |
| 2-Fluorobiphenyl | 50 | 34-135 |
| 2-Fluorophenol | 42 | 25-135 |
| Nitrobenzene-d5 | 49 | 25-135 |
| Phenol-d5 | 50 | 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

QUANT REPORT



Operator ID: SYLVIA
Output File: ^LS161::D0
Data File: >LS161::D0
Name: 96K120-05
Misc: 12-12-96

Quant Rev: 7
Quant Time: 961213 01:04
Injected at: 961213 00:24
Dilution Factor: 1.00000
Instrument ID: MSBNA2
BTL#12

ID File: IDBNA::SC
Title: SVOA by GC/MS
Last Calibration: 961206 10:53
Last Qcal Time: 961203 13:00

| | Compound | R.T. | Q ion | Area | Conc | Units | q |
|---|---|---|---|---|---|---|---|
| 1) | *1,4-Dichlorobenzene-d4 | 7.72 | 152.0 | 32460 | 40.00 | ng | 88 |
| 4) | 2-Fluorophenol | 5.06 | 112.0 | 60564 | 62.62 | ng | 77 |
| 7) | Phenol-d5 | 6.95 | 99.0 | 99858 | 75.25 | ng | 100 |
| 9) | 2-Chlorophenol-d4 | 7.21 | 132.0 | 77958 | 78.59 | ng | 93 |
| 14) | 1,2-Dichlorobenzene-d4 | 8.05 | 152.0 | 29313 | 45.99 | ng | 87 |
| 21) | *Naphthalene-d8 | 10.71 | 136.0 | 118696 | 40.00 | ng | 87 |
| 22) | Nitrobenzene-d5 | 9.00 | 82.0 | 68056 | 48.50 | ng | 97 |
| 37) | *Acenaphthene-d10 | 15.17 | 164.0 | 83227 | 40.00 | ng | 93 |
| 41) | 2-Fluorobiphenyl | 13.48 | 172.0 | 112349 | 50.30 | ng | 98 |
| 59) | 2,4,6-Tribromophenol | 17.26 | 329.5 | 73484 | 110.09 | ng | 97 |
| 60) | *Phenanthrene-d10 | 19.46 | 188.0 | 139702 | 40.00 | ng | 89 |
| 67) | Phenanthrene | 19.52 | 178.0 | 6800 | 1.97 | ng | 88 |
| 71) | Fluoranthene | 23.77 | 202.0 | 21102 | 5.10 | ng | 95 |
| 72) | *Chrysene-d12 | 27.37 | 240.0 | 169266 | 40.00 | ng | 98 |
| 74) | Pyrene | 24.42 | 202.0 | 17496 | 3.23 | ng | 88 |
| 76) | Terphenyl-d14 | 24.97 | 244.0 | 227139 | 57.63 | ng | 97 |
| 78) | Benzo(a)anthracene | 27.33 | 228.0 | 8635 | 2.12 | ng | 93 |
| 80) | Chrysene | 27.41 | 228.0 | 10396 | 2.30 | ng | 94 |
| 81) | bis(2-Ethylhexyl)phthalate | 27.47 | 149.0 | 7035 | 1.37 | ng | 85 |
| 83) | *Perylene-d12 | 31.08 | 264.0 | 178426 | 40.00 | ng | 98 |
| 84) | Benzo(b)fluoranthene | 29.92 | 252.0 | 13508 | 3.16 | ng | 99 |
| 85) | Benzo(k)fluoranthene | 30.00 | 252.0 | 3818M | 1.02 | ng | |
| 86) | benzo(a)pyrene | 30.90 | 252.0 | 7187 | 1.91 | ng | 97 |
| 87) | Indeno(1,2,3-cd)pyrene | 35.28 | 276.0 | 4148 | 1.04 | ng | 95 |
| 88) | Benzo(g,h,i)perylene | 36.57 | 276.0 | 3301 | 1.05 | ng | 83 |

* Compound is ISTD

12/16/96

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

410 531

| | | | |
|---|---|---|---|
| ient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| ojject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/24/96 18:00 |
| Sample ID | : CR-A159302 | DaTime Analyzd : | 12/11/96 18:49 |
| Lab Cnt NO.: | K120-07 | Dilutn Factor : | 1 |
| Lab File ID: | RLB077 | Matrix : | WATER |
| Ext Btch ID: | SVK012W | % Moisture : | NA |
| Calib. Ref.: | RLB072 | 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 | 3.1 |
| 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: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/24/96 18:00 |
| Sample ID | : CR-A159302 | DaTime Analyzd : | 12/11/96 18:49 |
| Lab Cnt NO. | : K120-07 | Dilutn Factor : | 1 |
| Lab File ID | : RLB077 | Matrix : | WATER |
| Ext Btch ID | : SVK012W | % Moisture : | NA |
| Calib. Ref. | : RLB072 | 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 |
| Hexachlorocyclopentadiene | ND | 10 | 1 |
| 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 | 65 | 43-125 |
| 2-Fluorophenol | 62 | 25-125 |
| Nitrobenzene-d5 | 64 | 32-125 |
| Phenol-d5 | 66 | 25-125 |
| Terphenyl-d14 | 73 | 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 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| lient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| roject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| atch No. | : 96K120 | DaTime Extrctd : | 12/02/96 09:00 |
| Sample ID | : CR-A159305 | DaTime Analyzd : | 12/13/96 03:34 |
| Lab Cnt NO. | : K120-10 | Dilutn Factor : | 1 |
| Lab File ID | : RLS165 | Matrix : | SOIL |
| Ext Btch ID | : SVL002S | % Moisture : | 20.8 |
| Calib. Ref. | : RLS151 | 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 |
| Methylphenol | ND | 379 | 121 |
| itroaniline | ND | 4170 | 111 |
| itrophenol | ND | 379 | 130 |
| 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 | : 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received | : 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd | : 12/02/96 09:0[illegible] |
| Sample ID | : CR-A159305 | DaTime Analyzd | : 12/13/96 03:34 |
| Lab Cnt NO. | : K120-10 | Dilutn Factor | : 1 |
| Lab File ID | : RLS165 | Matrix | : SOIL |
| Ext Btch ID | : SVL002S | % Moisture | : 20.8 |
| Calib. Ref. | : RLS151 | 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 | 207F | 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 | 1[illegible] |
| Hexachlorocyclopentadiene | ND | 884 | 1[illegible] |
| Hexachloroethane | ND | 884 | 11[illegible] |
| 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 | 69 | 25-144 |
| 2-Fluorobiphenyl | 39 | 34-135 |
| 2-Fluorophenol | 32 | 25-135 |
| Nitrobenzene-d5 | 34 | 25-135 |
| Phenol-d5 | 36 | 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

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

410 535

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/24/96 18:00 |
| Sample ID | : CR-A159402 | DaTime Analyzd : | 12/11/96 19:38 |
| Lab Cnt NO. | : K120-12 | Dilutn Factor : | 1 |
| Lab File ID | : RLB078 | Matrix : | WATER |
| Ext Btch ID | : SVK012W | % Moisture : | NA |
| Calib. Ref. | : RLB072 | 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 | 3.1 |
| Nitroaniline | ND | 50 | 3.1 |
| 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: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/24/96 18:00 |
| Sample ID | : CR-A159402 | DaTime Analyzd : | 12/11/96 19:38 |
| Lab Cnt NO. | : K120-12 | Dilutn Factor : | 1 |
| Lab File ID | : RLB078 | Matrix : | WATER |
| Ext Btch ID | : SVK012W | % Moisture : | NA |
| Calib. Ref. | : RLB072 | 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 |
| Hexachlorocyclopentadiene | ND | 10 | 1 |
| 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 | 75 | 25-134 |
| 2-Fluorobiphenyl | 67 | 43-125 |
| 2-Fluorophenol | 68 | 25-125 |
| Nitrobenzene-d5 | 69 | 32-125 |
| Phenol-d5 | 69 | 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

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/02/96 09:00 |
| Sample ID | : CR-A159405 | DaTime Analyzd : | 12/13/96 01:11 |
| Lab Cnt NO. | : K120-15 | Dilutn Factor : | 1 |
| Lab File ID | : RLS162 | Matrix : | SOIL |
| Ext Btch ID | : SVL002S | % Moisture : | 30.0 |
| Calib. Ref. | : RLS151 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 1000 | 147 |
| 1,2-Dichlorobenzene | ND | 1000 | 157 |
| 1,3-Dichlorobenzene | ND | 1000 | 114 |
| 1,4-Dichlorobenzene | ND | 1000 | 139 |
| 2,4,5-Trichlorophenol | ND | 4710 | 141 |
| 2,4,6-Trichlorophenol | ND | 429 | 164 |
| 2,4-Dichlorophenol | ND | 429 | 109 |
| 2,4-Dimethylphenol | ND | 429 | 127 |
| 2,4-Dinitrophenol | ND | 4710 | 80 |
| 2,4-Dinitrotoluene | ND | 1000 | 164 |
| 2,6-Dinitrotoluene | ND | 1000 | 140 |
| 2-Chloronaphthalene | ND | 1000 | 133 |
| 2-Chlorophenol | ND | 429 | 97.1 |
| 2-Methylnaphthalene | ND | 1000 | 146 |
| Methylphenol | ND | 429 | 137 |
| Nitroaniline | ND | 4710 | 126 |
| Nitrophenol | ND | 429 | 147 |
| 3,3'-Dichlorobenzidine | ND | 1860 | 196 |
| 3-Nitroaniline | ND | 4710 | 120 |
| 4,6-Dinitro-2-methylphenol | ND | 4710 | 104 |
| 4-Bromophenyl phenyl ether | ND | 1000 | 149 |
| 4-Chloro-3-methylphenol | ND | 1860 | 167 |
| 4-Chloroaniline | ND | 1860 | 88.6 |
| 4-Chlorophenyl phenyl ether | ND | 1000 | 150 |
| 4-Methylphenol (1) | ND | 429 | 97.1 |
| 4-Nitroaniline | ND | 4710 | 124 |
| 4-Nitrophenol | ND | 2290 | 8 |
| Acenaphthene | ND | 1000 | 133 |
| Acenaphthylene | ND | 1000 | 126 |
| Anthracene | ND | 1000 | 147 |
| Benzo(a)anthracene | ND | 1000 | 123 |
| Benzo(a)pyrene | ND | 1000 | 130 |
| Benzo(b)fluoranthene | ND | 1000 | 153 |
| Benzo(k)fluoranthene | ND | 1000 | 143 |
| Benzo(g,h,i)perylene | ND | 1000 | 133 |
| Benzoic Acid | ND | 2290 | 153 |
| Benzyl alcohol | ND | 1860 | 116 |
| bis(2-Chloroethoxy)methane | ND | 1000 | 146 |

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/02/96 09:0 |
| Sample ID | : CR-A159405 | DaTime Analyzd : | 12/13/96 01:1 |
| Lab Cnt NO. | : K120-15 | Dilutn Factor : | 1 |
| Lab File ID | : RLS162 | Matrix : | SOIL |
| Ext Btch ID | : SVL002S | % Moisture : | 30.0 |
| Calib. Ref. | : RLS151 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 1000 | 95.7 |
| bis(2-Chloroisopropyl)ether | ND | 1000 | 129 |
| bis(2-Ethylhexyl)phthalate | 175F | 1000 | 140 |
| Butylbenzylphthalate | ND | 1000 | 290 |
| Chrysene | ND | 1000 | 143 |
| Di-n-butylphthalate | ND | 1000 | 159 |
| Di-n-octylphthalate | ND | 1000 | 129 |
| Dibenzo(a,h)anthracene | ND | 1000 | 137 |
| Dibenzofuran | ND | 1000 | 143 |
| Diethylphthalate | ND | 1000 | 139 |
| Dimethylphthalate | ND | 1000 | 153 |
| Fluoranthene | ND | 1000 | 147 |
| Fluorene | ND | 1000 | 124 |
| Hexachlorobenzene | ND | 1000 | 160 |
| Hexachlorobutadiene | ND | 1000 | 149 |
| Hexachlorocyclopentadiene | ND | 1000 | [illegible] |
| Hexachloroethane | ND | 1000 | [illegible] |
| Indeno(1,2,3-cd)pyrene | ND | 1000 | 136 |
| Isophorone | ND | 1000 | 133 |
| n-Nitroso-di-n-propylamine | ND | 1000 | 163 |
| n-Nitrosodiphenylamine (2) | ND | 1000 | 144 |
| Naphthalene | ND | 1000 | 139 |
| Nitrobenzene | ND | 1000 | 111 |
| Pentachlorophenol | ND | 4710 | 42.9 |
| Phenanthrene | ND | 1000 | 144 |
| Phenol | ND | 429 | 111 |
| Pyrene | ND | 1000 | 137 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 71 | 25-144 |
| 2-Fluorobiphenyl | 39 | 34-135 |
| 2-Fluorophenol | 29 | 25-135 |
| Nitrobenzene-d5 | 31 | 25-135 |
| Phenol-d5 | 38 | 25-135 |
| Terphenyl-d14 | 60 | 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

| | | | |
|---|---|---|---|
| ient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| oject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/24/96 18:00 |
| Sample ID | : CR-A159407 | DaTime Analyzd : | 12/12/96 04:11 |
| Lab Cnt NO. | : K120-17 | Dilutn Factor : | 1 |
| Lab File ID | : RLB092 | Matrix : | WATER |
| Ext Btch ID | : SVK012W | % Moisture : | NA |
| Calib. Ref. | : RLB091 | 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 | 3.1 |
| 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 |

410 510

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/24/96 18:00 |
| Sample ID | : CR-A159407 | DaTime Analyzd : | 12/12/96 04:11 |
| Lab Cnt NO. | : K120-17 | Dilutn Factor : | 1 |
| Lab File ID | : RLB092 | Matrix : | WATER |
| Ext Btch ID | : SVK012W | % Moisture : | NA |
| Calib. Ref. | : RLB091 | 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 [illegible] |
| Hexachlorocyclopentadiene | ND | 10 | [illegible] |
| Hexachloroethane | ND | 10 | [illegible] |
| 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 | 88 | 25-134 |
| 2-Fluorobiphenyl | 69 | 43-125 |
| 2-Fluorophenol | 70 | 25-125 |
| Nitrobenzene-d5 | 76 | 32-125 |
| Phenol-d5 | 73 | 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

SW 3520B/8270B
SEMI VOLATILE ORGANICS BY GC/MS 410 541

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Btch No. | : 96K120 | DaTime Extrctd : | 11/24/96 18:00 |
| Sample ID | : CR-A159502 | DaTime Analyzd : | 12/11/96 20:26 |
| Lab Cnt NO. | : K120-20 | Dilutn Factor : | 1 |
| Lab File ID | : RLB079 | Matrix : | WATER |
| Ext Btch ID | : SVK012W | % Moisture : | NA |
| Calib. Ref. | : RLB072 | 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 | 3.1 |
| Nitroaniline | ND | 50 | 3.1 |
| itrophenol | ND | 10 | 3 |
| 3'-Dichlorobenzidine | ND | 20 | 3.5 |
| 3-Nitroaniline | ND | 50 | 3 |
| ,6-Dinitro-2-methylphenol | ND | 50 | 1.8 |
| -Bromophenyl phenyl ether | ND | 10 | 4.2 |
| -Chloro-3-methylphenol | ND | 20 | 3.1 |
| 4-Chloroaniline | ND | 20 | 3.1 |
| -Chlorophenyl phenyl ether | ND | 10 | 3.8 |
| -Methylphenol (1) | ND | 10 | 3.2 |
| 4-Nitroaniline | ND | 50 | 2.3 |
| -Nitrophenol | ND | 50 | .91 |
| cenaphthene | ND | 10 | 3.2 |
| cenaphthylene | ND | 10 | 3.3 |
| Anthracene | ND | 10 | 2.8 |
| enzo(a)anthracene | ND | 10 | 2.4 |
| enzo(a)pyrene | ND | 10 | 2.8 |
| Benzo(b)fluoranthene | ND | 10 | 2.8 |
| Benzo(k)fluoranthene | ND | 10 | 3.3 |
| enzo(g,h,i)perylene | ND | 10 | 3.3 |
| enzoic Acid | ND | 50 | 2.6 |
| Benzyl alcohol | ND | 20 | 2.7 |
| is(2-Chloroethoxy)methane | ND | 10 | 3 |

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/24/96 18:00 |
| Sample ID | : CR-A159502 | DaTime Analyzd : | 12/11/96 20:26 |
| Lab Cnt NO. | : K120-20 | Dilutn Factor : | 1 |
| Lab File ID | : RLB079 | Matrix : | WATER |
| Ext Btch ID | : SVK012W | % Moisture : | NA |
| Calib. Ref. | : RLB072 | 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 |
| Hexachlorocyclopentadiene | ND | 10 | 1 |
| 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 | 71 | 25-134 |
| 2-Fluorobiphenyl | 55 | 43-125 |
| 2-Fluorophenol | 54 | 25-125 |
| Nitrobenzene-d5 | 56 | 32-125 |
| Phenol-d5 | 56 | 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

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

410 543

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/02/96 09:00 |
| Sample ID | : CR-A159505 | DaTime Analyzd : | 12/13/96 01:59 |
| Lab Cnt NO. | : K120-23 | Dilutn Factor : | 1 |
| Lab File ID | : RLS163 | Matrix : | SOIL |
| Ext Btch ID | : SVL002S | % Moisture : | 25.8 |
| Calib. Ref. | : RLS151 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 943 | 139 |
| 1,2-Dichlorobenzene | ND | 943 | 148 |
| 1,3-Dichlorobenzene | ND | 943 | 108 |
| 1,4-Dichlorobenzene | ND | 943 | 131 |
| 2,4,5-Trichlorophenol | ND | 4450 | 133 |
| 2,4,6-Trichlorophenol | ND | 404 | 155 |
| 2,4-Dichlorophenol | ND | 404 | 102 |
| 2,4-Dimethylphenol | ND | 404 | 120 |
| 2,4-Dinitrophenol | ND | 4450 | 75.5 |
| 2,4-Dinitrotoluene | ND | 943 | 155 |
| 2,6-Dinitrotoluene | ND | 943 | 132 |
| 2-Chloronaphthalene | ND | 943 | 125 |
| 2-Chlorophenol | ND | 404 | 91.6 |
| 2-Methylnaphthalene | ND | 943 | 137 |
| 2-Methylphenol | ND | 404 | 129 |
| Nitroaniline | ND | 4450 | 119 |
| Nitrophenol | ND | 404 | 139 |
| 3,3'-Dichlorobenzidine | ND | 1750 | 185 |
| 3-Nitroaniline | ND | 4450 | 113 |
| 4,6-Dinitro-2-methylphenol | ND | 4450 | 98.4 |
| 4-Bromophenyl phenyl ether | ND | 943 | 140 |
| 4-Chloro-3-methylphenol | ND | 1750 | 158 |
| 4-Chloroaniline | ND | 1750 | 83.6 |
| 4-Chlorophenyl phenyl ether | ND | 943 | 142 |
| 4-Methylphenol (1) | ND | 404 | 91.6 |
| 4-Nitroaniline | ND | 4450 | 117 |
| 4-Nitrophenol | ND | 2160 | 7.55 |
| Acenaphthene | ND | 943 | 125 |
| Acenaphthylene | ND | 943 | 119 |
| Anthracene | ND | 943 | 139 |
| Benzo(a)anthracene | ND | 943 | 116 |
| Benzo(a)pyrene | ND | 943 | 123 |
| Benzo(b)fluoranthene | 146F | 943 | 144 |
| Benzo(k)fluoranthene | ND | 943 | 135 |
| Benzo(g,h,i)perylene | ND | 943 | 125 |
| Benzoic Acid | ND | 2160 | 144 |
| Benzyl alcohol | ND | 1750 | 109 |
| bis(2-Chloroethoxy)methane | ND | 943 | 137 |

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/02/96 09:0 |
| Sample ID | : CR-A159505 | DaTime Analyzd : | 12/13/96 01:5 |
| Lab Cnt NO. | : K120-23 | Dilutn Factor : | 1 |
| Lab File ID | : RLS163 | Matrix : | SOIL |
| Ext Btch ID | : SVL002S | % Moisture : | 25.8 |
| Calib. Ref. | : RLS151 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 943 | 90.3 |
| bis(2-Chloroisopropyl)ether | ND | 943 | 121 |
| bis(2-Ethylhexyl)phthalate | 138F | 943 | 132 |
| Butylbenzylphthalate | ND | 943 | 274 |
| Chrysene | ND | 943 | 135 |
| Di-n-butylphthalate | ND | 943 | 150 |
| Di-n-octylphthalate | ND | 943 | 121 |
| Dibenzo(a,h)anthracene | ND | 943 | 129 |
| Dibenzofuran | ND | 943 | 135 |
| Diethylphthalate | ND | 943 | 131 |
| Dimethylphthalate | ND | 943 | 144 |
| Fluoranthene | 174F | 943 | 139 |
| Fluorene | ND | 943 | 117 |
| Hexachlorobenzene | ND | 943 | 151 |
| Hexachlorobutadiene | ND | 943 | 140 |
| Hexachlorocyclopentadiene | ND | 943 | 1 |
| Hexachloroethane | ND | 943 | 1 |
| Indeno(1,2,3-cd)pyrene | ND | 943 | 128 |
| Isophorone | ND | 943 | 125 |
| n-Nitroso-di-n-propylamine | ND | 943 | 154 |
| n-Nitrosodiphenylamine (2) | ND | 943 | 136 |
| Naphthalene | ND | 943 | 131 |
| Nitrobenzene | ND | 943 | 105 |
| Pentachlorophenol | ND | 4450 | 40.4 |
| Phenanthrene | ND | 943 | 136 |
| Phenol | ND | 404 | 105 |
| Pyrene | ND | 943 | 129 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 73 | 25-144 |
| 2-Fluorobiphenyl | 50 | 34-135 |
| 2-Fluorophenol | 40 | 25-135 |
| Nitrobenzene-d5 | 46 | 25-135 |
| Phenol-d5 | 48 | 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

410 545

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted | : 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received | : 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd | : 12/02/96 09:00 |
| Sample ID | : CR-A159507 | DaTime Analyzd | : 12/13/96 02:47 |
| Lab Cnt NO. | : K120-25 | Dilutn Factor | : 1 |
| Lab File ID | : RLS164 | Matrix | : SOIL |
| Ext Btch ID | : SVL002S | % Moisture | : 30.5 |
| Calib. Ref. | : RLS151 | Instrument ID | : MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 1010 | 148 |
| 1,2-Dichlorobenzene | ND | 1010 | 158 |
| 1,3-Dichlorobenzene | ND | 1010 | 115 |
| 1,4-Dichlorobenzene | ND | 1010 | 140 |
| 2,4,5-Trichlorophenol | ND | 4750 | 142 |
| 2,4,6-Trichlorophenol | ND | 432 | 165 |
| 2,4-Dichlorophenol | ND | 432 | 109 |
| 2,4-Dimethylphenol | ND | 432 | 128 |
| 2,4-Dinitrophenol | ND | 4750 | 80.6 |
| 2,4-Dinitrotoluene | ND | 1010 | 165 |
| 2,6-Dinitrotoluene | ND | 1010 | 141 |
| 2-Chloronaphthalene | ND | 1010 | 134 |
| 2-Chlorophenol | ND | 432 | 97.8 |
| 2-Methylnaphthalene | ND | 1010 | 147 |
| 2-Methylphenol | ND | 432 | 138 |
| 2-Nitroaniline | ND | 4750 | 127 |
| 2-Nitrophenol | ND | 432 | 148 |
| 3,3'-Dichlorobenzidine | ND | 1870 | 197 |
| 3-Nitroaniline | ND | 4750 | 121 |
| 4,6-Dinitro-2-methylphenol | ND | 4750 | 105 |
| 4-Bromophenyl phenyl ether | ND | 1010 | 150 |
| 4-Chloro-3-methylphenol | ND | 1870 | 168 |
| 4-Chloroaniline | ND | 1870 | 89.2 |
| 4-Chlorophenyl phenyl ether | ND | 1010 | 151 |
| 4-Methylphenol (1) | ND | 432 | 97.8 |
| 4-Nitroaniline | ND | 4750 | 125 |
| 4-Nitrophenol | ND | 2300 | 8.06 |
| Acenaphthene | ND | 1010 | 134 |
| Acenaphthylene | ND | 1010 | 127 |
| Anthracene | ND | 1010 | 148 |
| Benzo(a)anthracene | ND | 1010 | 124 |
| Benzo(a)pyrene | ND | 1010 | 131 |
| Benzo(b)fluoranthene | ND | 1010 | 154 |
| Benzo(k)fluoranthene | ND | 1010 | 144 |
| Benzo(g,h,i)perylene | ND | 1010 | 134 |
| Benzoic Acid | ND | 2300 | 154 |
| Benzyl alcohol | ND | 1870 | 117 |
| Bis(2-Chloroethoxy)methane | ND | 1010 | 147 |

410 546

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/02/96 09:0 |
| Sample ID | : CR-A159507- | DaTime Analyzd : | 12/13/96 02:4 |
| Lab Cnt NO. | : K120-25 | Dilutn Factor : | 1 |
| Lab File ID | : RLS164 | Matrix : | SOIL |
| Ext Btch ID | : SVL002S | % Moisture : | 30.5 |
| Calib. Ref. | : RLS151 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 1010 | 96.4 |
| bis(2-Chloroisopropyl)ether | ND | 1010 | 129 |
| bis(2-Ethylhexyl)phthalate | 302F | 1010 | 141 |
| Butylbenzylphthalate | ND | 1010 | 292 |
| Chrysene | ND | 1010 | 144 |
| Di-n-butylphthalate | ND | 1010 | 160 |
| Di-n-octylphthalate | ND | 1010 | 129 |
| Dibenzo(a,h)anthracene | ND | 1010 | 138 |
| Dibenzofuran | ND | 1010 | 144 |
| Diethylphthalate | ND | 1010 | 140 |
| Dimethylphthalate | ND | 1010 | 154 |
| Fluoranthene | ND | 1010 | 148 |
| Fluorene | ND | 1010 | 125 |
| Hexachlorobenzene | ND | 1010 | 161 |
| Hexachlorobutadiene | ND | 1010 | 15[illegible] |
| Hexachlorocyclopentadiene | ND | 1010 | 1[illegible] |
| Hexachloroethane | ND | 1010 | 12[illegible] |
| Indeno(1,2,3-cd)pyrene | ND | 1010 | 137 |
| Isophorone | ND | 1010 | 134 |
| n-Nitroso-di-n-propylamine | ND | 1010 | 164 |
| n-Nitrosodiphenylamine (2) | ND | 1010 | 145 |
| Naphthalene | ND | 1010 | 140 |
| Nitrobenzene | ND | 1010 | 112 |
| Pentachlorophenol | ND | 4750 | 43.2 |
| Phenanthrene | ND | 1010 | 145 |
| Phenol | ND | 432 | 112 |
| Pyrene | ND | 1010 | 138 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 82 | 25-144 |
| 2-Fluorobiphenyl | 45 | 34-135 |
| 2-Fluorophenol | 33 | 25-135 |
| Nitrobenzene-d5 | 37 | 25-135 |
| Phenol-d5 | 45 | 25-135 |
| Terphenyl-d14 | 67 | 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: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/24/96 18:00 |
| Sample ID | : CR-A159602 | DaTime Analyzd : | 12/11/96 21:14 |
| Lab Cnt NO. | : K120-27 | Dilutn Factor : | 1 |
| Lab File ID | : RLB080 | Matrix : | WATER |
| Ext Btch ID | : SVK012W | % Moisture : | NA |
| Calib. Ref. | : RLB072 | 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 | 3.1 |
| 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: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/24/96 18:00 |
| Sample ID | : CR-A159602 | DaTime Analyzd : | 12/11/96 21:14 |
| Lab Cnt NO. | : K120-27 | Dilutn Factor : | 1 |
| Lab File ID | : RLB080 | Matrix : | WATER |
| Ext Btch ID | : SVK012W | % Moisture : | NA |
| Calib. Ref. | : RLB072 | 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.[illegible] |
| Hexachlorocyclopentadiene | ND | 10 | 1.[illegible] |
| Hexachloroethane | ND | 10 | [illegible] |
| 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 | 77 | 25-134 |
| 2-Fluorobiphenyl | 61 | 43-125 |
| 2-Fluorophenol | 60 | 25-125 |
| Nitrobenzene-d5 | 63 | 32-125 |
| Phenol-d5 | 62 | 25-125 |
| Terphenyl-d14 | 71 | 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 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/02/96 09:00 |
| Sample ID | : CR-A159605 | DaTime Analyzd : | 12/12/96 23:36 |
| Lab Cnt NO. | : K120-30 | Dilutn Factor : | 1 |
| Lab File ID | : RLS160 | Matrix : | SOIL |
| Ext Btch ID | : SVL002S | % Moisture : | 29.2 |
| Calib. Ref. | : RLS151 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 989 | 145 |
| 1,2-Dichlorobenzene | ND | 989 | 155 |
| 1,3-Dichlorobenzene | ND | 989 | 113 |
| 1,4-Dichlorobenzene | ND | 989 | 137 |
| 2,4,5-Trichlorophenol | ND | 4660 | 140 |
| 2,4,6-Trichlorophenol | ND | 424 | 162 |
| 2,4-Dichlorophenol | ND | 424 | 107 |
| 2,4-Dimethylphenol | ND | 424 | 126 |
| 2,4-Dinitrophenol | ND | 4660 | 79.1 |
| 2,4-Dinitrotoluene | ND | 989 | 162 |
| 2,6-Dinitrotoluene | ND | 989 | 138 |
| 2-Chloronaphthalene | ND | 989 | 131 |
| 2-Chlorophenol | ND | 424 | 96 |
| 2-Methylnaphthalene | ND | 989 | 144 |
| Methylphenol | ND | 424 | 136 |
| Nitroaniline | ND | 4660 | 124 |
| Nitrophenol | ND | 424 | 145 |
| 3,3'-Dichlorobenzidine | ND | 1840 | 194 |
| 3-Nitroaniline | ND | 4660 | 119 |
| 4,6-Dinitro-2-methylphenol | ND | 4660 | 103 |
| 4-Bromophenyl phenyl ether | ND | 989 | 147 |
| 4-Chloro-3-methylphenol | ND | 1840 | 165 |
| 4-Chloroaniline | ND | 1840 | 87.6 |
| 4-Chlorophenyl phenyl ether | ND | 989 | 148 |
| 4-Methylphenol (1) | ND | 424 | 96 |
| 4-Nitroaniline | ND | 4660 | 123 |
| 4-Nitrophenol | ND | 2260 | 7.91 |
| Acenaphthene | ND | 989 | 131 |
| Acenaphthylene | ND | 989 | 124 |
| Anthracene | ND | 989 | 145 |
| Benzo(a)anthracene | ND | 989 | 121 |
| Benzo(a)pyrene | ND | 989 | 129 |
| Benzo(b)fluoranthene | ND | 989 | 151 |
| Benzo(k)fluoranthene | ND | 989 | 141 |
| Benzo(g,h,i)perylene | ND | 989 | 131 |
| Benzoic Acid | ND | 2260 | 151 |
| Benzyl alcohol | ND | 1840 | 114 |
| bis(2-Chloroethoxy)methane | ND | 989 | 144 |

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/02/96 09:0 |
| Sample ID | : CR-A159605 | DaTime Analyzd : | 12/12/96 23:3 |
| Lab Cnt NO. | : K120-30 | Dilutn Factor : | 1 |
| Lab File ID | : RLS160 | Matrix : | SOIL |
| Ext Btch ID | : SVL002S | % Moisture : | 29.2 |
| Calib. Ref. | : RLS151 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 989 | 94.6 |
| bis(2-Chloroisopropyl)ether | ND | 989 | 127 |
| bis(2-Ethylhexyl)phthalate | 157F | 989 | 138 |
| Butylbenzylphthalate | ND | 989 | 287 |
| Chrysene | ND | 989 | 141 |
| Di-n-butylphthalate | ND | 989 | 157 |
| Di-n-octylphthalate | ND | 989 | 127 |
| Dibenzo(a,h)anthracene | ND | 989 | 136 |
| Dibenzofuran | ND | 989 | 141 |
| Diethylphthalate | ND | 989 | 137 |
| Dimethylphthalate | ND | 989 | 151 |
| Fluoranthene | ND | 989 | 145 |
| Fluorene | ND | 989 | 123 |
| Hexachlorobenzene | ND | 989 | 158 |
| Hexachlorobutadiene | ND | 989 | 1[illegible] |
| Hexachlorocyclopentadiene | ND | 989 | 1[illegible] |
| Hexachloroethane | ND | 989 | 12[illegible] |
| Indeno(1,2,3-cd)pyrene | ND | 989 | 134 |
| Isophorone | ND | 989 | 131 |
| n-Nitroso-di-n-propylamine | ND | 989 | 161 |
| n-Nitrosodiphenylamine (2) | ND | 989 | 143 |
| Naphthalene | ND | 989 | 137 |
| Nitrobenzene | ND | 989 | 110 |
| Pentachlorophenol | ND | 4660 | 42.4 |
| Phenanthrene | ND | 989 | 143 |
| Phenol | ND | 424 | 110 |
| Pyrene | ND | 989 | 136 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 70 | 25-144 |
| 2-Fluorobiphenyl | 43 | 34-135 |
| 2-Fluorophenol | 34 | 25-135 |
| Nitrobenzene-d5 | 36 | 25-135 |
| Phenol-d5 | 39 | 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 3520B/8270B
SEMI VOLATILE ORGANICS BY GC/MS

410 551

| | | | |
|---|---|---|---|
| ient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/24/96 18:00 |
| Sample ID | : CR-A159702 | DaTime Analyzd : | 12/11/96 22:02 |
| Lab Cnt NO.: | K120-32 | Dilutn Factor : | 1 |
| Lab File ID: | RLB081 | Matrix : | WATER |
| Ext Btch ID: | SVK012W | % Moisture : | NA |
| Calib. Ref.: | RLB072 | 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 |
| Methylphenol | ND | 10 | 3.1 |
| itroaniline | ND | 50 | 3.1 |
| 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 |
| -Chloroaniline | ND | 20 | 3.1 |
| -Chlorophenyl phenyl ether | ND | 10 | 3.8 |
| 4-Methylphenol (1) | ND | 10 | 3.2 |
| 4-Nitroaniline | ND | 50 | 2.3 |
| -Nitrophenol | ND | 50 | .91 |
| cenaphthene | ND | 10 | 3.2 |
| Acenaphthylene | ND | 10 | 3.3 |
| nthracene | ND | 10 | 2.8 |
| enzo(a)anthracene | ND | 10 | 2.4 |
| Benzo(a)pyrene | ND | 10 | 2.8 |
| Benzo(b)fluoranthene | ND | 10 | 2.8 |
| enzo(k)fluoranthene | ND | 10 | 3.3 |
| enzo(g,h,i)perylene | ND | 10 | 3.3 |
| Benzoic Acid | ND | 50 | 2.6 |
| Benzyl alcohol | ND | 20 | 2.7 |
| is(2-Chloroethoxy)methane | ND | 10 | 3 |

410 552

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/24/96 18:00 |
| Sample ID | : CR-A159702 | DaTime Analyzd : | 12/11/96 22:02 |
| Lab Cnt NO. | : K120-32 | Dilutn Factor : | 1 |
| Lab File ID | : RLB081 | Matrix : | WATER |
| Ext Btch ID | : SVK012W | % Moisture : | NA |
| Calib. Ref. | : RLB072 | 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 | 38.5 | 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 |
| Hexachlorocyclopentadiene | ND | 10 | 1 |
| 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 | 63 | 25-134 |
| 2-Fluorobiphenyl | 48 | 43-125 |
| 2-Fluorophenol | 44 | 25-125 |
| Nitrobenzene-d5 | 49 | 32-125 |
| Phenol-d5 | 47 | 25-125 |
| Terphenyl-d14 | 64 | 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 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted | : 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received | : 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd | : 12/02/96 09:00 |
| Sample ID | : CR-A159705 | DaTime Analyzd | : 12/12/96 19:37 |
| Lab Cnt NO. | : K120-35 | Dilutn Factor | : 1 |
| Lab File ID | : RLS155 | Matrix | : SOIL |
| Ext Btch ID | : SVL002S | % Moisture | : 22.8 |
| Calib. Ref. | : RLS151 | Instrument ID | : MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 907 | 133 |
| 1,2-Dichlorobenzene | ND | 907 | 142 |
| 1,3-Dichlorobenzene | ND | 907 | 104 |
| 1,4-Dichlorobenzene | ND | 907 | 126 |
| 2,4,5-Trichlorophenol | ND | 4270 | 128 |
| 2,4,6-Trichlorophenol | ND | 389 | 149 |
| 2,4-Dichlorophenol | ND | 389 | 98.4 |
| 2,4-Dimethylphenol | ND | 389 | 115 |
| 2,4-Dinitrophenol | ND | 4270 | 72.5 |
| 2,4-Dinitrotoluene | ND | 907 | 149 |
| 2,6-Dinitrotoluene | ND | 907 | 127 |
| 2-Chloronaphthalene | ND | 907 | 120 |
| 2-Chlorophenol | ND | 389 | 88.1 |
| 2-Methylnaphthalene | ND | 907 | 132 |
| 2-Methylphenol | ND | 389 | 124 |
| 2-Nitroaniline | ND | 4270 | 114 |
| 2-Nitrophenol | ND | 389 | 133 |
| 3,3'-Dichlorobenzidine | ND | 1680 | 177 |
| 3-Nitroaniline | ND | 4270 | 109 |
| 4,6-Dinitro-2-methylphenol | ND | 4270 | 94.6 |
| 4-Bromophenyl phenyl ether | ND | 907 | 135 |
| 4-Chloro-3-methylphenol | ND | 1680 | 152 |
| 4-Chloroaniline | ND | 1680 | 80.3 |
| 4-Chlorophenyl phenyl ether | ND | 907 | 136 |
| 4-Methylphenol (1) | ND | 389 | 88.1 |
| 4-Nitroaniline | ND | 4270 | 113 |
| 4-Nitrophenol | ND | 2070 | 7.25 |
| Acenaphthene | ND | 907 | 120 |
| Acenaphthylene | ND | 907 | 114 |
| Anthracene | ND | 907 | 133 |
| Benzo(a)anthracene | ND | 907 | 111 |
| Benzo(a)pyrene | ND | 907 | 118 |
| Benzo(b)fluoranthene | ND | 907 | 139 |
| Benzo(k)fluoranthene | ND | 907 | 130 |
| Benzo(g,h,i)perylene | ND | 907 | 120 |
| Benzoic Acid | ND | 2070 | 139 |
| Benzyl alcohol | ND | 1680 | 105 |
| bis(2-Chloroethoxy)methane | ND | 907 | 132 |

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/02/96 09:0 |
| Sample ID | : CR-A159705 | DaTime Analyzd : | 12/12/96 19:3 |
| Lab Cnt NO. | : K120-35 | Dilutn Factor : | 1 |
| Lab File ID | : RLS155 | Matrix : | SOIL |
| Ext Btch ID | : SVL002S | % Moisture : | 22.8 |
| Calib. Ref. | : RLS151 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 907 | 86.8 |
| bis(2-Chloroisopropyl)ether | ND | 907 | 117 |
| bis(2-Ethylhexyl)phthalate | ND | 907 | 127 |
| Butylbenzylphthalate | ND | 907 | 263 |
| Chrysene | ND | 907 | 130 |
| Di-n-butylphthalate | ND | 907 | 144 |
| Di-n-octylphthalate | ND | 907 | 117 |
| Dibenzo(a,h)anthracene | ND | 907 | 124 |
| Dibenzofuran | ND | 907 | 130 |
| Diethylphthalate | ND | 907 | 126 |
| Dimethylphthalate | ND | 907 | 139 |
| Fluoranthene | ND | 907 | 133 |
| Fluorene | ND | 907 | 113 |
| Hexachlorobenzene | ND | 907 | 145 |
| Hexachlorobutadiene | ND | 907 | [illegible] |
| Hexachlorocyclopentadiene | ND | 907 | [illegible] |
| Hexachloroethane | ND | 907 | [illegible] |
| Indeno(1,2,3-cd)pyrene | ND | 907 | 123 |
| Isophorone | ND | 907 | 120 |
| n-Nitroso-di-n-propylamine | ND | 907 | 148 |
| n-Nitrosodiphenylamine (2) | ND | 907 | 131 |
| Naphthalene | ND | 907 | 126 |
| Nitrobenzene | ND | 907 | 101 |
| Pentachlorophenol | ND | 4270 | 38.9 |
| Phenanthrene | ND | 907 | 131 |
| Phenol | ND | 389 | 101 |
| Pyrene | ND | 907 | 124 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 79 | 25-144 |
| 2-Fluorobiphenyl | 69 | 34-135 |
| 2-Fluorophenol | 74 | 25-135 |
| Nitrobenzene-d5 | 77 | 25-135 |
| Phenol-d5 | 77 | 25-135 |
| Terphenyl-d14 | 67 | 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

| | | | |
|---|---|---|---|
| ient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| oject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/24/96 18:00 |
| Sample ID | : CR-A159802 | DaTime Analyzd : | 12/11/96 22:50 |
| Lab Cnt NO. | : K120-37 | Dilutn Factor : | 1 |
| Lab File ID | : RLB082 | Matrix : | WATER |
| Ext Btch ID | : SVK012W | % Moisture : | NA |
| Calib. Ref. | : RLB072 | 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 | 3.1 |
| 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 | : 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received | : 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd | : 11/24/96 18:00 |
| Sample ID | : CR-A159802 | DaTime Analyzd | : 12/11/96 22:50 |
| Lab Cnt NO. | : K120-37 | Dilutn Factor | : 1 |
| Lab File ID | : RLB082 | Matrix | : WATER |
| Ext Btch ID | : SVK012W | % Moisture | : NA |
| Calib. Ref. | : RLB072 | 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 |
| Hexachlorocyclopentadiene | ND | 10 | 1 |
| 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 | 78 | 25-134 |
| 2-Fluorobiphenyl | 65 | 43-125 |
| 2-Fluorophenol | 61 | 25-125 |
| Nitrobenzene-d5 | 65 | 32-125 |
| Phenol-d5 | 63 | 25-125 |
| Terphenyl-d14 | 76 | 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 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/02/96 09:00 |
| Sample ID | : CR-A159805 | DaTime Analyzd : | 12/12/96 20:25 |
| Lab Cnt NO. | : K120-40 | Dilutn Factor : | 1 |
| Lab File ID | : RLS156 | Matrix : | SOIL |
| Ext Btch ID | : SVL002S | % Moisture : | 28.9 |
| Calib. Ref. | : RLS151 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 985 | 145 |
| 1,2-Dichlorobenzene | ND | 985 | 155 |
| 1,3-Dichlorobenzene | ND | 985 | 113 |
| 1,4-Dichlorobenzene | ND | 985 | 136 |
| 2,4,5-Trichlorophenol | ND | 4640 | 139 |
| 2,4,6-Trichlorophenol | ND | 422 | 162 |
| 2,4-Dichlorophenol | ND | 422 | 107 |
| 2,4-Dimethylphenol | ND | 422 | 125 |
| 2,4-Dinitrophenol | ND | 4640 | 78.8 |
| 2,4-Dinitrotoluene | ND | 985 | 162 |
| 2,6-Dinitrotoluene | ND | 985 | 138 |
| 2-Chloronaphthalene | ND | 985 | 131 |
| 2-Chlorophenol | ND | 422 | 95.6 |
| 2-Methylnaphthalene | ND | 985 | 143 |
| 2-Methylphenol | ND | 422 | 135 |
| Nitroaniline | ND | 4640 | 124 |
| Nitrophenol | ND | 422 | 145 |
| 3,3'-Dichlorobenzidine | ND | 1830 | 193 |
| 3-Nitroaniline | ND | 4640 | 118 |
| 4,6-Dinitro-2-methylphenol | ND | 4640 | 103 |
| 4-Bromophenyl phenyl ether | ND | 985 | 146 |
| 4-Chloro-3-methylphenol | ND | 1830 | 165 |
| 4-Chloroaniline | ND | 1830 | 87.2 |
| 4-Chlorophenyl phenyl ether | ND | 985 | 148 |
| 4-Methylphenol (1) | ND | 422 | 95.6 |
| 4-Nitroaniline | ND | 4640 | 122 |
| 4-Nitrophenol | ND | 2250 | 7.88 |
| Acenaphthene | ND | 985 | 131 |
| Acenaphthylene | ND | 985 | 124 |
| Anthracene | ND | 985 | 145 |
| Benzo(a)anthracene | ND | 985 | 121 |
| Benzo(a)pyrene | ND | 985 | 128 |
| Benzo(b)fluoranthene | ND | 985 | 150 |
| Benzo(k)fluoranthene | ND | 985 | 141 |
| Benzo(g,h,i)perylene | ND | 985 | 131 |
| Benzoic Acid | ND | 2250 | 150 |
| Benzyl alcohol | ND | 1830 | 114 |
| bis(2-Chloroethoxy)methane | ND | 985 | 143 |

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/02/96 09:0C |
| Sample ID | : CR-A159805 | DaTime Analyzd : | 12/12/96 20:25 |
| Lab Cnt NO. | : K120-40 | Dilutn Factor : | 1 |
| Lab File ID | : RLS156 | Matrix : | SOIL |
| Ext Btch ID | : SVL002S | % Moisture : | 28.9 |
| Calib. Ref. | : RLS151 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 985 | 94.2 |
| bis(2-Chloroisopropyl)ether | ND | 985 | 127 |
| bis(2-Ethylhexyl)phthalate | 179F | 985 | 138 |
| Butylbenzylphthalate | ND | 985 | 286 |
| Chrysene | ND | 985 | 141 |
| Di-n-butylphthalate | ND | 985 | 156 |
| Di-n-octylphthalate | ND | 985 | 127 |
| Dibenzo(a,h)anthracene | ND | 985 | 135 |
| Dibenzofuran | ND | 985 | 141 |
| Diethylphthalate | ND | 985 | 136 |
| Dimethylphthalate | ND | 985 | 150 |
| Fluoranthene | ND | 985 | 145 |
| Fluorene | ND | 985 | 122 |
| Hexachlorobenzene | ND | 985 | 158 |
| Hexachlorobutadiene | ND | 985 | 1[illegible] |
| Hexachlorocyclopentadiene | ND | 985 | 1[illegible] |
| Hexachloroethane | ND | 985 | 124 |
| Indeno(1,2,3-cd)pyrene | ND | 985 | 134 |
| Isophorone | ND | 985 | 131 |
| n-Nitroso-di-n-propylamine | ND | 985 | 160 |
| n-Nitrosodiphenylamine (2) | ND | 985 | 142 |
| Naphthalene | ND | 985 | 136 |
| Nitrobenzene | ND | 985 | 110 |
| Pentachlorophenol | ND | 4640 | 42.2 |
| Phenanthrene | ND | 985 | 142 |
| Phenol | ND | 422 | 110 |
| Pyrene | ND | 985 | 135 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 93 | 25-144 |
| 2-Fluorobiphenyl | 74 | 34-135 |
| 2-Fluorophenol | 75 | 25-135 |
| Nitrobenzene-d5 | 76 | 25-135 |
| Phenol-d5 | 78 | 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 3520B/8270B
SEMI VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| ient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| oject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/24/96 18:00 |
| Sample ID | : CR-A159902 | DaTime Analyzd : | 12/11/96 23:38 |
| Lab Cnt NO. | : K120-42 | Dilutn Factor : | 1 |
| Lab File ID | : RLB083 | Matrix : | WATER |
| Ext Btch ID | : SVK012W | % Moisture : | NA |
| Calib. Ref. | : RLB072 | 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 | 3.1 |
| 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: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/24/96 18:00 |
| Sample ID | : CR-A159902 | DaTime Analyzd : | 12/11/96 23:38 |
| Lab Cnt NO. | : K120-42 | Dilutn Factor : | 1 |
| Lab File ID | : RLB083 | Matrix : | WATER |
| Ext Btch ID | : SVK012W | % Moisture : | NA |
| Calib. Ref. | : RLB072 | 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 | 2.93F | 10 | 2.8 |
| Chrysene | ND | 10 | 3 |
| Di-n-butylphthalate | 35.3 | 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 |
| Hexachlorocyclopentadiene | ND | 10 | 1 |
| 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 | 77 | 25-134 |
| 2-Fluorobiphenyl | 44 | 43-125 |
| 2-Fluorophenol | 40 | 25-125 |
| Nitrobenzene-d5 | 42 | 32-125 |
| Phenol-d5 | 44 | 25-125 |
| Terphenyl-d14 | 81 | 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 3550A/8270B
SEMI VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/02/96 09:00 |
| Sample ID | : CR-A159905 | DaTime Analyzd : | 12/12/96 21:12 |
| Lab Cnt NO. | : K120-45 | Dilutn Factor : | 1 |
| Lab File ID | : RLS157 | Matrix : | SOIL |
| Ext Btch ID | : SVL002S | % Moisture : | 25.1 |
| Calib. Ref. | : RLS151 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | 935 | 138 |
| 1,2-Dichlorobenzene | ND | 935 | 147 |
| 1,3-Dichlorobenzene | ND | 935 | 107 |
| 1,4-Dichlorobenzene | ND | 935 | 130 |
| 2,4,5-Trichlorophenol | ND | 4410 | 132 |
| 2,4,6-Trichlorophenol | ND | 401 | 154 |
| 2,4-Dichlorophenol | ND | 401 | 101 |
| 2,4-Dimethylphenol | ND | 401 | 119 |
| 2,4-Dinitrophenol | ND | 4410 | 74.8 |
| 2,4-Dinitrotoluene | ND | 935 | 154 |
| 2,6-Dinitrotoluene | ND | 935 | 131 |
| 2-Chloronaphthalene | ND | 935 | 124 |
| 2-Chlorophenol | ND | 401 | 90.8 |
| 2-Methylnaphthalene | ND | 935 | 136 |
| 2-Methylphenol | ND | 401 | 128 |
| 2-Nitroaniline | ND | 4410 | 117 |
| 2-Nitrophenol | ND | 401 | 138 |
| 3,3'-Dichlorobenzidine | ND | 1740 | 183 |
| 3-Nitroaniline | ND | 4410 | 112 |
| 4,6-Dinitro-2-methylphenol | ND | 4410 | 97.5 |
| 4-Bromophenyl phenyl ether | ND | 935 | 139 |
| 4-Chloro-3-methylphenol | ND | 1740 | 156 |
| 4-Chloroaniline | ND | 1740 | 82.8 |
| 4-Chlorophenyl phenyl ether | ND | 935 | 140 |
| 4-Methylphenol (1) | ND | 401 | 90.8 |
| 4-Nitroaniline | ND | 4410 | 116 |
| 4-Nitrophenol | ND | 2140 | 7.48 |
| Acenaphthene | ND | 935 | 124 |
| Acenaphthylene | ND | 935 | 117 |
| Anthracene | ND | 935 | 138 |
| Benzo(a)anthracene | ND | 935 | 115 |
| Benzo(a)pyrene | ND | 935 | 121 |
| Benzo(b)fluoranthene | ND | 935 | 143 |
| Benzo(k)fluoranthene | ND | 935 | 134 |
| Benzo(g,h,i)perylene | ND | 935 | 124 |
| Benzoic Acid | ND | 2140 | 143 |
| Benzyl alcohol | ND | 1740 | 108 |
| bis(2-Chloroethoxy)methane | ND | 935 | 136 |

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

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 12/02/96 09:00 |
| Sample ID | : CR-A159905 | DaTime Analyzd : | 12/12/96 21:12 |
| Lab Cnt NO. | : K120-45 | Dilutn Factor : | 1 |
| Lab File ID | : RLS157 | Matrix : | SOIL |
| Ext Btch ID | : SVL002S | % Moisture : | 25.1 |
| Calib. Ref. | : RLS151 | Instrument ID : | MSBNA2 |

| PARAMETERS | RESULTS (ug/kg) | PQL (ug/kg) | MDL (ug/kg) |
|---|---|---|---|
| bis(2-Chloroethyl)ether | ND | 935 | 89.5 |
| bis(2-Chloroisopropyl)ether | ND | 935 | 120 |
| bis(2-Ethylhexyl)phthalate | ND | 935 | 131 |
| Butylbenzylphthalate | ND | 935 | 271 |
| Chrysene | ND | 935 | 134 |
| Di-n-butylphthalate | ND | 935 | 148 |
| Di-n-octylphthalate | ND | 935 | 120 |
| Dibenzo(a,h)anthracene | ND | 935 | 128 |
| Dibenzofuran | ND | 935 | 134 |
| Diethylphthalate | ND | 935 | 130 |
| Dimethylphthalate | ND | 935 | 143 |
| Fluoranthene | ND | 935 | 138 |
| Fluorene | ND | 935 | 116 |
| Hexachlorobenzene | ND | 935 | 150 |
| Hexachlorobutadiene | ND | 935 | 1[illegible] |
| Hexachlorocyclopentadiene | ND | 935 | 1[illegible] |
| Hexachloroethane | ND | 935 | 117 |
| Indeno(1,2,3-cd)pyrene | ND | 935 | 127 |
| Isophorone | ND | 935 | 124 |
| n-Nitroso-di-n-propylamine | ND | 935 | 152 |
| n-Nitrosodiphenylamine (2) | ND | 935 | 135 |
| Naphthalene | ND | 935 | 130 |
| Nitrobenzene | ND | 935 | 104 |
| Pentachlorophenol | ND | 4410 | 40.1 |
| Phenanthrene | ND | 935 | 135 |
| Phenol | ND | 401 | 104 |
| Pyrene | ND | 935 | 128 |

| SURROGATE PARAMETERS | % RECOVERY | QC LIMIT |
|---|---|---|
| 2,4,6-Tribromophenol | 84 | 25-144 |
| 2-Fluorobiphenyl | 66 | 34-135 |
| 2-Fluorophenol | 68 | 25-135 |
| Nitrobenzene-d5 | 68 | 25-135 |
| Phenol-d5 | 71 | 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 3520B/8270B
SEMI VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| ient | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 11/20/96 |
| oject | : CARSWELL AFB / 05G47900 | DaTime Received: | 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd : | 11/24/96 18:00 |
| Sample ID | : CR-A159907 | DaTime Analyzd : | 12/12/96 04:59 |
| Lab Cnt NO. | : K120-47 | Dilutn Factor : | 1 |
| Lab File ID | : RLB093 | Matrix : | WATER |
| Ext Btch ID | : SVK012W | % Moisture : | NA |
| Calib. Ref. | : RLB091 | 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 |
| -Methylphenol | ND | 10 | 3.1 |
| Nitroaniline | ND | 50 | 3.1 |
| -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 | : 11/20/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received | : 11/22/96 |
| Batch No. | : 96K120 | DaTime Extrctd | : 11/24/96 18:00 |
| Sample ID | : CR-A159907 | DaTime Analyzd | : 12/12/96 04:59 |
| Lab Cnt NO. | : K120-47 | Dilutn Factor | : 1 |
| Lab File ID | : RLB093 | Matrix | : WATER |
| Ext Btch ID | : SVK012W | % Moisture | : NA |
| Calib. Ref. | : RLB091 | 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 |
| Hexachlorocyclopentadiene | ND | 10 | 1 |
| 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 | 70 | 25-134 |
| 2-Fluorobiphenyl | 59 | 43-125 |
| 2-Fluorophenol | 59 | 25-125 |
| Nitrobenzene-d5 | 63 | 32-125 |
| Phenol-d5 | 58 | 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

410 565

# TAB

EMAX Batch No. 96L032

410 566

EMAX
ANALYTICAL LABORATORIES INC.

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

RECEIVED
JAN 1 0 1997
JE Denve

Date: 01-09-1997
EMAX Batch No.: 96L032

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 12/10/96. The data reported include :

| Sample ID | Control # | Col Date | Matrix | Analysis |
|---|---|---|---|---|
| CR-A160101 | L032-01 | 12/08/96 | Water | EPA 8240 |
| CR-A160102 | L032-02 | 12/08/96 | Water | EPA 8270 |
| CR-A160103 | L032-03 | 12/08/96 | Water | Metals |
| | | | | Mercury |
| | | | | Antimony |
| | | | | Nickel |
| | | | | Silver |
| | | | | Selenium |
| CR-A160104 | L032-04 | 12/08/96 | Water | Metals |
| | | | | Mercury |
| | | | | Antimony |
| | | | | Nickel |
| | | | | Silver |
| | | | | Selenium |
| CR-A160105 | L032-05 | 12/08/96 | Water | EPA 8240 |
| CR-A160106 | L032-06 | 12/08/96 | Water | EPA 8270 |
| CR-A160107 | L032-07 | 12/08/96 | Water | Metals |
| | | | | Mercury |
| | | | | Antimony |

| Sample ID | Control # | Col Date | Matrix | Analysis |
|---|---|---|---|---|
| | | | | Nickel |
| | | | | Silver |
| | | | | Selenium |
| CR-A160108 | L032-08 | 12/08/96 | Water | Metals |
| | | | | Mercury |
| | | | | Antimony |
| | | | | Nickel |
| | | | | Silver |
| | | | | Selenium |
| CR-A160401 | L032-09 | 12/09/96 | Water | EPA 8240 |
| CR-A160402 | L032-10 | 12/09/96 | Water | EPA 8270 |
| CR-A160403 | L032-11 | 12/09/96 | Water | Metals |
| | | | | Mercury |
| | | | | Antimony |
| | | | | Nickel |
| | | | | Silver |
| | | | | Selenium |
| CR-A160404 | L032-12 | 12/09/96 | Water | Metals |
| | | | | Mercury |
| | | | | Antimony |
| | | | | Nickel |
| | | | | Silver |
| | | | | Selenium |
| CR-A160501 | L032-13 | 12/09/96 | Water | EPA 8240 |
| CR-A160502 | L032-14 | 12/09/96 | Water | EPA 8270 |
| CR-A160503 | L032-15 | 12/09/96 | Water | Metals |
| | | | | Mercury |
| | | | | Antimony |
| | | | | Nickel |
| | | | | Silver |
| | | | | Selenium |
| CR-A160504 | L032-16 | 12/09/96 | Water | Metals |
| | | | | Mercury |
| | | | | Antimony |
| | | | | Nickel |
| | | | | Silver |
| | | | | Selenium |
| CR-A160505 | L032-17 | 12/09/96 | Water | EPA 8240 |
| CR-A160506 | L032-18 | 12/09/96 | Water | EPA 8270 |
| CR-A160507 | L032-19 | 12/09/96 | Water | Metals |
| | | | | Mercury |

| Sample ID | Control # | Col Date | Matrix | Analysis |
|---|---|---|---|---|
| | | | | Antimony |
| | | | | Nickel |
| | | | | Silver |
| | | | | Selenium |
| CR-A160508 | L032-20 | 12/09/96 | Water | EPA 8240 |
| CR-A160601 | L032-21 | 12/08/96 | Water | EPA 8240 |
| CR-A160601MS | L032-21M | 12/08/96 | Water | EPA 8240 |
| CR-A160601MSD | L032-21S | 12/08/96 | Water | EPA 8240 |
| CR-A160602 | L032-22 | 12/08/96 | Water | EPA 8270 |
| CR-A160602MS | L032-22M | 12/08/96 | Water | EPA 8270 |
| CR-A160602MSD | L032-22S | 12/08/96 | Water | EPA 8270 |
| CR-A160603 | L032-23 | 12/08/96 | Water | Metals |
| | | | | Mercury |
| | | | | Antimony |
| | | | | Nickel |
| | | | | Silver |
| | | | | Selenium |
| CR-A160603MS | L032-23M | 12/08/96 | Water | Metals |
| | | | | Mercury |
| | | | | Antimony |
| | | | | Nickel |
| | | | | Silver |
| | | | | Selenium |
| CR-A160603DUP | L032-23D | 12/08/96 | Water | Metals |
| | | | | Mercury |
| | | | | Antimony |
| | | | | Nickel |
| | | | | Silver |
| | | | | Selenium |
| CR-A160604 | L032-24 | 12/08/96 | Water | Metals |
| | | | | Mercury |
| | | | | Antimony |
| | | | | Nickel |
| | | | | Silver |
| | | | | Selenium |
| CR-A160901 | L032-25 | 12/07/96 | Water | EPA 8240 |
| CR-A160902 | L032-26 | 12/07/96 | Water | EPA 8270 |
| CR-A160903 | L032-27 | 12/07/96 | Water | Metals |
| | | | | Mercury |
| | | | | Antimony |
| | | | | Nickel |

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| Sample ID | Control # | Col Date | Matrix | Analysis |
|---|---|---|---|---|
| | | | | Silver<br>Selenium |
| CR-A160904 | L032-28 | 12/07/96 | Water | Metals<br>Mercury<br>Antimony<br>Nickel<br>Silver<br>Selenium |
| CR-A160905 | L032-29 | 12/07/96 | Water | EPA 8240 |
| CR-A160906 | L032-30 | 12/07/96 | Water | EPA 8270 |
| CR-A160907 | L032-31 | 12/07/96 | Water | Metals<br>Mercury<br>Antimony<br>Nickel<br>Silver<br>Selenium |
| CR-A161001 | L032-32 | 12/07/96 | Water | EPA 8240 |
| CR-A161002 | L032-33 | 12/07/96 | Water | EPA 8270 |
| CR-A161003 | L032-34 | 12/07/96 | Water | Metals<br>Mercury<br>Antimony<br>Nickel<br>Silver<br>Selenium |
| CR-A161004 | L032-35 | 12/07/96 | Water | Metals<br>Mercury<br>Antimony<br>Nickel<br>Silver<br>Selenium |
| CR-A161005 | L032-36 | 12/08/96 | Water | EPA 8240 |
| CR-A161006 | L032-37 | 12/08/96 | Water | EPA 8270 |
| CR-A161007 | L032-38 | 12/08/96 | Water | Metals<br>Mercury<br>Antimony<br>Nickel<br>Silver<br>Selenium |

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.

3 Coolers

# FedEx USA Airbill

Tracking Number 2963020841

961032
12-10-96
10 AM

Recipient's Copy

**1 From**

Date 12/9/96 MPS 989 6954 462

Sender's Name DAN SCHULTZ MPS 989 6954 471 239-1768

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 LABORATORIES

Address 630 MAPLE AVE.

(No 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 in all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

For Saturday Delivery check here

- [ ] (If this Charge Not available in 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 (Shipper's Declaration required)
- [ ] Yes (Shipper's Declaration not required)
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ___ x ___ kg 904 (Dangerous Goods Shipper's Declaration not required)
- [ ] CA Cargo Aircraft Only

**7 Payment**

Bill to:

- [X] Sender (Account no. on section will be billed)
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check
- [ ] Obtain Recipient FedEx Account No.

(Enter FedEx account no. or Credit Card no. below)

| Total Packages | Total Weight | Total Declared Value | Total Charges |
|---|---|---|---|
| 3 | 194 | $ 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**

You 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)

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Rev. Date 5/96
PRINTED IN U.S.A.

410 570

# SAMPLE RECEIPT FORM

| | |
|---|---|
| CONTROL NO | 96L0 32 |
| CLIENT | JA Cobs Engineering |
| PROJECT | Cars Well AFB (PC21) |

| | |
|---|---|
| DATE | 12- 10 -96 |
| TIME | 10:00 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: | Fed Ex 2963020841 | See the receipt | | | | |

| 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 | Front closure | 3 |
| ___ BOX | INSULATION: | | OK | NAME: | See COC | | |
| ___ OTHER: | ICE/COOLANT: | Regular ice | | DATE: | | | |
| | PACKING MATERIAL: | | | 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<br>$HNO_3$ / $H_2SO_4$ preserved samples pH ≤ 2 | ↓ | |
| HEADSPACE/BUBBLES | | ZERO/NONE | see below | |
| SAMPLE LABEL INFORMATION | | SUFFICIENT | OK | |
| 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 |
|---|---|---|---|
| -5 | CR-A160105 | REC'D (2) VIALS w/ Bubble | |
| -7, -3 | CR-A160103 | METAL SAMPLE - PH IS 6, PRES/HNO3 | |

| CLIENT SERV[illegible] COPY RECEIVED BY | [illegible] 12/96 | DATE | | TIME |
|---|---|---|---|---|

410 571

410 572

# LABORATORY REPORT FOR

# JACOBS ENGINEERING GROUP

# CARSWELL AFB / 05G47900

## METALS

SDG#: 96L032

JANUARY 09, 1997

# CASE NARRATIVE

**CLIENT:** JACOBS ENGINEERING GROUP

**PROJECT:** CARSWELL AFB / 05G47900

**SDG:** 96L032

## METALS

Eighteen (18) water samples were received on 12/10/96 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 Iron, sodium, and sodium were found in water blank but at below PQL.

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

   All recoveries were within QC limits except asrsenic, cadmium, and lead in both MS/MSD and calcium in MS.

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 except absolute value of magnesium CCB3 in file I07L036 (associated with samples L032-3, 4, ,7, 8, 11, and 12) was higher than PQL and recovery of sodium in CCV6 file I07L036 was at 88% recovery (associated with samples L032-24, 27, 28, 31, 34, 35, and 38).

6. **Sample Analysis**

   Arsenic, lead, and cadmium were analyzed by Trace-ICP, antimony, nickel, silver, and selenium by GFAA, and all others metals by ICP. Iron and sodium in serial dilution were out of QC limits but post analytical spike recoveries were within QC limits.

410 574

12/12/1996 10:50

# LAB CHRONICLE
## Metals

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96L032
MATRIX: Water

| SAMPLE ID | CONTROL NO | %H2O | PREPARATION BATCH/DATE/TIME | ANALYTICAL BATCH/DATE/TIME | CALIB REF | FILE ID |
|---|---|---|---|---|---|---|
| CR-A160103 | L032-03 | NA | IPL012WB/12/14/96/9.00 | IC7L036/12/30/96 | | * |
| CR-A160104 | L032-04 | NA | | | | |
| CR-A160107 | L032-07 | NA | | | | |
| CR-A160108 | L032-08 | NA | | | | |
| CR-A160403 | L032-11 | NA | | | | |
| CR-A160404 | L032-12 | NA | | | | |
| CR-A160503 | L032-15 | NA | | | | |
| CR-A160504 | L032-16 | NA | | | | |
| CR-A160507 | L032-19 | NA | | | | |
| CR-A160603 | L032-23 | NA | | | | |
| CR-A160603MS | L032-23M | NA | | | | |
| CR-A160603DUP | L032-23D | NA | | | | |
| CR-A160604 | L032-24 | NA | | | | |
| CR-A160903 | L032-27 | NA | | | | |
| CR-A160904 | L032-28 | NA | | | | |
| CR-A160907 | L032-31 | NA | | | | |
| CR-A161003 | L032-34 | NA | | | | |
| CR-A161004 | L032-35 | NA | | | | |
| CR-A161007 | L032-38 | NA | | | | |
| MBLKIW | IPL012WB | | | | | |
| LCS | WL | | | | | |
| LCSD | WC | | | | | |

* Ag, Pb, Cd were analyzed on I31A011 file I31A011

002

*

SW3005A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/08/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160103 | DaTime Analyzd : | 12/30/96 18:57 |
| Lab Cnt NO. | : L032-03 | Dilutn Factor : | 1 |
| Lab File ID | : I07L036 | Matrix : | WATER |
| Ext Btch ID | : IPL012W | % Moisture : | NA |
| Calib. Ref. | : I07L036 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | .0942F | .5 | .0122 |
| Barium | .187 | .02 | .001 |
| Beryllium | .00094F | .003 | .0003 |
| Calcium | 881 | .1 | .0222 |
| Chromium | ND | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | .00091F | .06 | .0008 |
| Iron | .922 | .07 | .0035 |
| Magnesium | 10.6 | .3 | .0342 |
| Manganese | .392 | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | ND | 5 | .466 |
| Sodium | 7.78 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | .00934F | .08 | .0029 |
| [illegible] | ND | .02 | .0039 |

SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/08/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160103 | DaTime Analyzd : | 01/07/97 12:20 |
| Lab Cnt NO.: | L032-03 | Dilutn Factor : | 1 |
| Lab File ID: | I31A011 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I31A011 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Arsenic | ND | .005 | .0049 |
| Cadmium | .000499F | .001 | .00046 |
| Lead | ND | .005 | .0016 |

SW3005A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| nt | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/08/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| atch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| ample ID | : CR-A160104 | DaTime Analyzd : | 12/30/96 19:01 |
| Lab Cnt NO.: | L032-04 | Dilutn Factor : | 1 |
| ab File ID: | I07L036 | Matrix : | WATER |
| xt Btch ID: | IPL012W | % Moisture : | NA |
| alib. Ref.: | I07L036 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| luminum | ND | .5 | .0122 |
| arium | .13 | .02 | .001 |
| Beryllium | ND | .003 | .0003 |
| alcium | 171 | .1 | .0222 |
| hromium | ND | .07 | .0053 |
| obalt | ND | .07 | .0089 |
| Copper | ND | .06 | .0008 |
| ron | .00493F | .07 | .0035 |
| agnesium | 5.39 | .3 | .0342 |
| Manganese | .00872F | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| otassium | ND | 5 | .466 |
| odium | 8.81 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| adium | ND | .08 | .0029 |
| | ND | .02 | .0039 |

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SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/08/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160104 | DaTime Analyzd : | 01/07/97 12:23 |
| Lab Cnt NO.: | L032-04 | Dilutn Factor : | 1 |
| Lab File ID: | I31A011 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I31A011 | 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

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/08/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| atch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| ample ID | : CR-A160107 | DaTime Analyzd : | 12/30/96 19:04 |
| Lab Cnt NO.: | L032-07 | Dilutn Factor : | 1 |
| Lab File ID: | I07L036 | Matrix : | WATER |
| xt Btch ID: | IPL012W | % Moisture : | NA |
| alib. Ref.: | I07L036 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| luminum | .138F | .5 | .0122 |
| arium | .17 | .02 | .001 |
| Beryllium | .00041F | .003 | .0003 |
| Calcium | 816 | .1 | .0222 |
| hromium | ND | .07 | .0053 |
| obalt | ND | .07 | .0089 |
| Copper | .00118F | .06 | .0008 |
| ron | .892 | .07 | .0035 |
| agnesium | 9.53 | .3 | .0342 |
| anganese | .365 | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| otassium | ND | 5 | .466 |
| odium | 6.58 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | .0107F | .08 | .0029 |
| | .00601F | .02 | .0039 |

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SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/08/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160107 | DaTime Analyzd : | 01/07/97 12:27 |
| Lab Cnt NO.: | L032-07 | Dilutn Factor : | 1 |
| Lab File ID: | I31A011 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I31A011 | 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

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/08/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160108 | DaTime Analyzd : | 12/30/96 19:09 |
| Lab Cnt NO.: | L032-08 | Dilutn Factor : | 1 |
| Lab File ID: | I07L036 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I07L036 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | .0654F | .5 | .0122 |
| Barium | .128 | .02 | .001 |
| Beryllium | ND | .003 | .0003 |
| Calcium | 168 | .1 | .0222 |
| Chromium | ND | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | .00248F | .06 | .0008 |
| Iron | .0124F | .07 | .0035 |
| Magnesium | 5.39 | .3 | .0342 |
| Manganese | .00873F | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | ND | 5 | .466 |
| Sodium | 8.78 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | .00426F | .08 | .0029 |
| c | .00758F | .02 | .0039 |

SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/08/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160108 | DaTime Analyzd : | 01/07/97 12:31 |
| Lab Cnt NO. | : L032-08 | Dilutn Factor : | 1 |
| Lab File ID | : I31A011 | Matrix : | WATER |
| Ext Btch ID | : IPL012W | % Moisture : | NA |
| Calib. Ref. | : I31A011 | 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: | 12/09/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160403 | DaTime Analyzd : | 12/30/96 19:13 |
| Lab Cnt NO. | : L032-11 | Dilutn Factor : | 1 |
| Lab File ID | : I07L036 | Matrix : | WATER |
| Ext Btch ID | : IPL012W | % Moisture : | NA |
| Calib. Ref. | : I07L036 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | 2.45 | .5 | .0122 |
| Barium | .367 | .02 | .001 |
| Beryllium | .00191F | .003 | .0003 |
| Calcium | 398 | .1 | .0222 |
| Chromium | ND | .07 | .0053 |
| Cobalt | .00997F | .07 | .0089 |
| Copper | .00685F | .06 | .0008 |
| Iron | 1.39 | .07 | .0035 |
| Magnesium | 31.4 | .3 | .0342 |
| Manganese | 1.7 | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | 3.9F | 5 | .466 |
| Sodium | 23.9 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | .0247F | .08 | .0029 |
| Zinc | .0307 | .02 | .0039 |

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SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/09/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160403 | DaTime Analyzd : | 01/07/97 12:35 |
| Lab Cnt NO.: | L032-11 | Dilutn Factor : | 1 |
| Lab File ID: | I31A011 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I31A011 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Arsenic | .00672 | .005 | .0049 |
| Cadmium | .0012 | .001 | .00046 |
| Lead | ND | .005 | .0016 |

SW3005A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| 'ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/09/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160404 | DaTime Analyzd : | 12/30/96 19:17 |
| Lab Cnt NO.: | L032-12 | Dilutn Factor : | 1 |
| Lab File ID: | I07L036 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I07L036 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | .0642F | .5 | .0122 |
| Barium | .191 | .02 | .001 |
| Beryllium | ND | .003 | .0003 |
| Calcium | 96.5 | .1 | .0222 |
| Chromium | ND | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | ND | .06 | .0008 |
| Iron | .072 | .07 | .0035 |
| Magnesium | 25.7 | .3 | .0342 |
| Manganese | .175 | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | 3.36F | 5 | .466 |
| Sodium | 22.8 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | .00735F | .08 | .0029 |
| c | .00608F | .02 | .0039 |

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SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/09/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160404 | DaTime Analyzd : | 01/07/97 12:39 |
| Lab Cnt No.: | L032-12 | Dilutn Factor : | 1 |
| Lab File ID: | I31A011 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I31A011 | 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: | 12/09/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160503 | DaTime Analyzd : | 12/30/96 19:31 |
| Lab Cnt NO. | : L032-15 | Dilutn Factor : | 1 |
| Lab File ID | : I07L036 | Matrix : | WATER |
| Ext Btch ID | : IPL012W | % Moisture : | NA |
| Calib. Ref. | : I07L036 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | .285F | .5 | .0122 |
| Barium | .513 | .02 | .001 |
| Beryllium | ND | .003 | .0003 |
| Calcium | 150 | .1 | .0222 |
| Chromium | .00589F | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | .00153F | .06 | .0008 |
| Iron | .369 | .07 | .0035 |
| Magnesium | 3.79 | .3 | .0342 |
| Manganese | 2.17 | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | ND | 5 | .466 |
| Sodium | 1.96 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | ND | .08 | .0029 |
| Zinc | .00725F | .02 | .0039 |

SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/09/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160503 | DaTime Analyzd : | 01/07/97 13:04 |
| Lab Cnt NO.: | L032-15 | Dilutn Factor : | 1 |
| Lab File ID: | I31A011 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I31A011 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Arsenic | ND | .005 | .0049 |
| Cadmium | .00163 | .001 | .00046 |
| Lead | ND | .005 | .0016 |

SW3005A/6010A
METALS BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/09/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160504 | DaTime Analyzd : | 12/30/96 19:38 |
| Lab Cnt NO.: | L032-16 | Dilutn Factor : | 1 |
| Lab File ID: | I07L036 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I07L036 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | .0183F | .5 | .0122 |
| Barium | .472 | .02 | .001 |
| Beryllium | ND | .003 | .0003 |
| Calcium | 56.5 | .1 | .0222 |
| Chromium | ND | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | ND | .06 | .0008 |
| Iron | .0293F | .07 | .0035 |
| Magnesium | 9.47 | .3 | .0342 |
| Manganese | 2.86 | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | 5.55 | 5 | .466 |
| Sodium | 30.3 | .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: | 12/09/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160504 | DaTime Analyzd : | 01/07/97 13:08 |
| Lab Cnt NO.: | L032-16 | Dilutn Factor : | 1 |
| Lab File ID: | I31A011 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I31A011 | 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: | 12/09/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160507 | DaTime Analyzd : | 12/30/96 19:42 |
| Lab Cnt NO.: | L032-19 | Dilutn Factor : | 1 |
| Lab File ID: | I07L036 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I07L036 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | .0778F | .5 | .0122 |
| Barium | ND | .02 | .001 |
| Beryllium | ND | .003 | .0003 |
| Calcium | ND | .1 | .0222 |
| Chromium | ND | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | .00302F | .06 | .0008 |
| Iron | .00765F | .07 | .0035 |
| Magnesium | ND | .3 | .0342 |
| Manganese | .0057F | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | ND | 5 | .466 |
| Sodium | ND | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | ND | .08 | .0029 |
| [illegible] | .0119F | .02 | .0039 |

SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/09/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160507 | DaTime Analyzd : | 01/07/97 13:12 |
| Lab Cnt NO.: | L032-19 | Dilutn Factor : | 1 |
| Lab File ID: | I31A011 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I31A011 | 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: | 12/08/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160603 | DaTime Analyzd : | 12/30/96 19:46 |
| Lab Cnt NO.: | L032-23 | Dilutn Factor : | 1 |
| Lab File ID: | I07L036 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I07L036 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | .0699F | .5 | .0122 |
| Barium | .0358 | .02 | .001 |
| Beryllium | ND | .003 | .0003 |
| Calcium | 166 | .1 | .0222 |
| Chromium | ND | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | .00086F | .06 | .0008 |
| Iron | .0768 | .07 | .0035 |
| Magnesium | 35.6 | .3 | .0342 |
| Manganese | .682 | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | ND | 5 | .466 |
| Sodium | 91.5 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | .00391F | .08 | .0029 |
| Zinc | .00789F | .02 | .0039 |

410 594

SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/08/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160603 | DaTime Analyzd : | 01/07/97 13:16 |
| Lab Cnt NO.: | L032-23 | Dilutn Factor : | 1 |
| Lab File ID: | I31A011 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I31A011 | 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: | 12/08/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160604 | DaTime Analyzd : | 12/30/96 20:17 |
| Lab Cnt NO.: | L032-24 | Dilutn Factor : | 1 |
| Lab File ID: | I07L036 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I07L036 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | .0406F | .5 | .0122 |
| Barium | .052 | .02 | .001 |
| Beryllium | .0003 | .003 | .0003 |
| Calcium | 193 | .1 | .0222 |
| Chromium | ND | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | .00275F | .06 | .0008 |
| Iron | .00616F | .07 | .0035 |
| Magnesium | 37.8 | .3 | .0342 |
| Manganese | .163 | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | 1.1F | 5 | .466 |
| Sodium | 144 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | .00393F | .08 | .0029 |
| Zinc | .015F | .02 | .0039 |

SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/08/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160604 | DaTime Analyzd : | 01/07/97 13:34 |
| Lab Cnt NO.: | L032-24 | Dilutn Factor : | 1 |
| Lab File ID: | I31A011 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I31A011 | 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: | 12/07/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Btch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160903 | DaTime Analyzd : | 12/30/96 20:20 |
| Lab Cnt NO.: | L032-27 | Dilutn Factor : | 1 |
| Lab File ID: | I07L036 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I07L036 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | 2.35 | .5 | .0122 |
| Barium | .291 | .02 | .001 |
| Beryllium | .00109F | .003 | .0003 |
| Calcium | 187 | .1 | .0222 |
| Chromium | ND | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | .00985F | .06 | .0008 |
| Iron | .711 | .07 | .0035 |
| Magnesium | 5.65 | .3 | .0342 |
| Manganese | 1.08 | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | ND | 5 | .466 |
| Sodium | 25.5 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | .0169F | .08 | .0029 |
| Zinc | .0196F | .02 | .0039 |

SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/07/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160903 | DaTime Analyzd : | 01/07/97 13:56 |
| Lab Cnt NO.: | L032-27 | Dilutn Factor : | 1 |
| Lab File ID: | I31A011 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I31A011 | 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



| | | | |
|---|---|---|---|
| 'ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/07/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160904 | DaTime Analyzd : | 12/30/96 20:24 |
| Lab Cnt NO.: | L032-28 | Dilutn Factor : | 1 |
| Lab File ID: | I07L036 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I07L036 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | ND | .5 | .0122 |
| Barium | .103 | .02 | .001 |
| Beryllium | ND | .003 | .0003 |
| Calcium | 128 | .1 | .0222 |
| Chromium | ND | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | ND | .06 | .0008 |
| Iron | .00655F | .07 | .0035 |
| Magnesium | 5.04 | .3 | .0342 |
| Manganese | .00393F | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | ND | 5 | .466 |
| Sodium | 29.7 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | .00338F | .08 | .0029 |
| c | ND | .02 | .0039 |

410 600

SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/07/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160904 | DaTime Analyzd : | 01/07/97 14:00 |
| Lab Cnt NO.: | L032-28 | Dilutn Factor : | 1 |
| Lab File ID: | I31A011 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I31A011 | 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



| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/07/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160907 | DaTime Analyzd : | 12/30/96 20:28 |
| Lab Cnt NO.: | L032-31 | Dilutn Factor : | 1 |
| Lab File ID: | I07L036 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I07L036 | 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 | .00661F | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | ND | .06 | .0008 |
| Iron | .00571F | .07 | .0035 |
| Magnesium | ND | .3 | .0342 |
| Manganese | .00222F | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | ND | 5 | .466 |
| Sodium | ND | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | .00327F | .08 | .0029 |
| c | ND | .02 | .0039 |

410 602

SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/07/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A160907 | DaTime Analyzd : | 01/07/97 14:04 |
| Lab Cnt NO.: | L032-31 | Dilutn Factor : | 1 |
| Lab File ID: | I31A011 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I31A011 | 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: | 12/07/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A161003 | DaTime Analyzd : | 12/30/96 20:31 |
| Lab Cnt NO. | : L032-34 | Dilutn Factor : | 1 |
| Lab File ID | : I07L036 | Matrix : | WATER |
| Ext Btch ID | : IPL012W | % Moisture : | NA |
| Calib. Ref. | : I07L036 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | 1.66 | .5 | .0122 |
| Barium | .12 | .02 | .001 |
| Beryllium | .00036F | .003 | .0003 |
| Calcium | 195 | .1 | .0222 |
| Chromium | .00693F | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | .0101F | .06 | .0008 |
| Iron | 2.64 | .07 | .0035 |
| Magnesium | 4.31 | .3 | .0342 |
| Manganese | .456 | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | 1F | 5 | .466 |
| Sodium | 5.48 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | .0114F | .08 | .0029 |
| Zinc | .0166F | .02 | .0039 |

410 604

SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/07/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A161003 | DaTime Analyzd : | 01/07/97 14:07 |
| Lab Cnt NO.: | L032-34 | Dilutn Factor : | 1 |
| Lab File ID: | I31A011 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I31A011 | 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

| | | | |
|---|---|---|---|
| 'ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/07/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A161004 | DaTime Analyzd : | 12/30/96 20:35 |
| Lab Cnt NO.: | L032-35 | Dilutn Factor : | 1 |
| Lab File ID: | I07L036 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I07L036 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | ND | .5 | .0122 |
| Barium | .0575 | .02 | .001 |
| Beryllium | ND | .003 | .0003 |
| Calcium | 78.4 | .1 | .0222 |
| Chromium | ND | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | ND | .06 | .0008 |
| Iron | .00516F | .07 | .0035 |
| Magnesium | 2.76 | .3 | .0342 |
| Manganese | .00253F | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | ND | 5 | .466 |
| Sodium | 6.17 | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | .00332F | .08 | .0029 |
| [illegible] | ND | .02 | .0039 |

SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/07/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A161004 | DaTime Analyzd : | 01/07/97 14:11 |
| Lab Cnt NO.: | L032-35 | Dilutn Factor : | 1 |
| Lab File ID: | I31A011 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I31A011 | 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

| | | | |
|---|---|---|---|
| ent | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/08/96 |
| ject | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A161007 | DaTime Analyzd : | 12/30/96 20:39 |
| Lab Cnt NO.: | L032-38 | Dilutn Factor : | 1 |
| Lab File ID: | I07L036 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I07L036 | Instrument ID : | EMAXTI07 |

| PARAMETERS | RESULTS (mg/L) | PQL (mg/L) | MDL (mg/L) |
|---|---|---|---|
| Aluminum | .0552F | .5 | .0122 |
| Barium | ND | .02 | .001 |
| Beryllium | ND | .003 | .0003 |
| Calcium | ND | .1 | .0222 |
| Chromium | .00697F | .07 | .0053 |
| Cobalt | ND | .07 | .0089 |
| Copper | .00275F | .06 | .0008 |
| Iron | ND | .07 | .0035 |
| Magnesium | ND | .3 | .0342 |
| Manganese | .00192F | .02 | .0013 |
| Molybdenum | ND | .08 | .0144 |
| Potassium | ND | 5 | .466 |
| Sodium | ND | .3 | .05 |
| Thallium | ND | .4 | .0632 |
| Vanadium | ND | .08 | .0029 |
| [illegible] | ND | .02 | .0039 |

SW3005A/6010A
TRACE BY ICP

| | | | |
|---|---|---|---|
| Client | : JACOBS ENGINEERING GROUP | DaTime Collcted: | 12/08/96 |
| Project | : CARSWELL AFB / 05G47900 | DaTime Received: | 12/10/96 |
| Batch No. | : 96L032 | DaTime Extrctd : | 12/14/96 09:00 |
| Sample ID | : CR-A161007 | DaTime Analyzd : | 01/07/97 14:15 |
| Lab Cnt NO.: | L032-38 | Dilutn Factor : | 1 |
| Lab File ID: | I31A011 | Matrix : | WATER |
| Ext Btch ID: | IPL012W | % Moisture : | NA |
| Calib. Ref.: | I31A011 | 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

# CARSWELL AFB / 05G47900

## ANTIMONY BY GFAA

SDG#: 96L032

JANUARY 09, 1997

# CASE NARRATIVE

**CLIENT:** JACOBS ENGINEERING GROUP, INC.

**PROJECT:** CARSWELL AFB / 05G47900

**SDG:** 96L032

## ANTIMONY BY GFAA

Seventeen (17) water samples were received on 12/10/96 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 blank was free of contamination.

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

   MS recovery was within QC limits but was out of QC limit in MSD.

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

12/31/1996 10:57

# LAB CHRONICLE
## Antimony

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96L032
MATRIX: Water

| SAMPLE ID | CONTROL NO | %H2O | PREPARATION BATCH/DATE/TIME | ANALYTICAL BATCH/DATE/TIME | CALIB REF | FILE ID |
|---|---|---|---|---|---|---|
| CR-A160103 | L032-03 | NA | IPL012/12/14/96/9:00 | G06L015/12/17/96/13:30 | G06L015-10/20 | |
| CR-A160104 | L032-04 | NA | | :34 | | 21 |
| CR-A160107 | L032-07 | NA | | :45 | G06L015-22/24 | |
| CR-A160108 | L032-08 | NA | | :49 | | 25 |
| CR-A160403 | L032-11 | NA | | :52 | | 26 |
| CR-A160404 | L032-12 | NA | | :56 | | 27 |
| CR-A160503 | L032-15 | NA | | 14:00 | | 28 |
| CR-A160504 | L032-16 | NA | | :03 | | [illegible] |
| CR-A160507 | L032-19 | NA | | :07 | | 30 |
| CR-A160603 | L032-23 | NA | | 13:12 | G06L015-10/15 | |
| CR-A160603MS | L032-23M | NA | | :23 | | 18 |
| CR-A160603DUP | L032-23D | NA | | :27 | | 19 |
| CR-A160604 | L032-24 | NA | | 14:11 | G06L015-22/31 | |
| CR-A160903 | L032-27 | NA | | :15 | | 32 |
| CR-A160904 | L032-28 | NA | | :18 | | 33 |
| CR-A160907 | L032-31 | NA | | :30 | G06L015-34/36 | |
| CR-A161003 | L032-34 | NA | | :34 | | 37 |
| CR-A161004 | L032-35 | NA | | :37 | | 38 |
| CR-A161007 | L032-38 | NA | | :41 | | 39 |
| MBLK1W | IPL012WB | | | 13:01 | G06L015-10/12 | |
| LCS1 | IPL013 | WL | | :05 | | 13 |
| LCD1 | | WC | | :09 | | |

EPA 3005A/7041
ANTIMONY BY GFAA

Client : JACOBS ENGINEERING GROUP
Project : CARSWELL AFB / 05G47900
Batch No. : 96L032
Matrix : WATER

Date Collcted : 12/08/96
DaTime Received: 12/10/96
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-A160103 | L032-03 | ND | 1 | NA | .005 | .002 | 12/17/9613:30 | 12/14/9609:00 | G06L015020 | G06L015010 | IPL012W |
| CR-A160104 | L032-04 | ND | 1 | NA | .005 | .002 | 12/17/9613:34 | 12/14/9609:00 | G06L015021 | G06L015010 | IPL012W |
| CR-A160107 | L032-07 | ND | 1 | NA | .005 | .002 | 12/17/9613:45 | 12/14/9609:00 | G06L015024 | G06L015022 | IPL012W |
| CR-A160108 | L032-08 | ND | 1 | NA | .005 | .002 | 12/17/9613:49 | 12/14/9609:00 | G06L015025 | G06L015022 | IPL012W |
| CR-A160403* | L032-11 | ND | 1 | NA | .005 | .002 | 12/17/9613:52 | 12/14/9609:00 | G06L015026 | G06L015022 | IPL012W |
| CR-A160404* | L032-12 | ND | 1 | NA | .005 | .002 | 12/17/9613:56 | 12/14/9609:00 | G06L015027 | G06L015022 | IPL012W |
| CR-A160503* | L032-15 | ND | 1 | NA | .005 | .002 | 12/17/9614:00 | 12/14/9609:00 | G06L015028 | G06L015022 | IPL012W |
| CR-A160504* | L032-16 | ND | 1 | NA | .005 | .002 | 12/17/9614:03 | 12/14/9609:00 | G06L015029 | G06L015022 | IPL012W |
| CR-A160507* | L032-19 | ND | 1 | NA | .005 | .002 | 12/17/9614:07 | 12/14/9609:00 | G06L015030 | G06L015022 | IPL012W |
| CR-A160603 | L032-23 | ND | 1 | NA | .005 | .002 | 12/17/9613:12 | 12/14/9609:00 | G06L015015 | G06L015010 | IPL012W |
| CR-A160603MS | L032-23M | .0162 | 1 | NA | .005 | .002 | 12/17/9613:23 | 12/14/9609:00 | G06L015018 | G06L015010 | IPL012W |
| CR-A160603MSD | L032-23S | .0148 | 1 | NA | .005 | .002 | 12/17/9613:27 | 12/14/9609:00 | G06L015019 | G06L015010 | IPL012W |
| CR-A160604 | L032-24 | ND | 1 | NA | .005 | .002 | 12/17/9614:11 | 12/14/9609:00 | G06L015031 | G06L015022 | IPL012W |
| CR-A160903** | L032-27 | ND | 1 | NA | .005 | .002 | 12/17/9614:15 | 12/14/9609:00 | G06L015032 | G06L015022 | IPL012W |
| CR-A160904** | L032-28 | ND | 1 | NA | .005 | .002 | 12/17/9614:18 | 12/14/9609:00 | G06L015033 | G06L015022 | IPL012W |
| CR-A160907** | L032-31 | ND | 1 | NA | .005 | .002 | 12/17/9614:30 | 12/14/9609:00 | G06L015036 | G06L015034 | IPL012W |
| CR-A161003** | L032-34 | ND | 1 | NA | .005 | .002 | 12/17/9614:34 | 12/14/9609:00 | G06L015037 | G06L015034 | IPL012W |
| CR-A161004** | L032-35 | ND | 1 | NA | .005 | .002 | 12/17/9614:37 | 12/14/9609:00 | G06L015038 | G06L015034 | IPL012W |
| CR-A161007 | L032-38 | ND | 1 | NA | .005 | .002 | 12/17/9614:41 | 12/14/9609:00 | G06L015039 | G06L015034 | IPL012W |
| MBLK1W | IPL012WB | ND | 1 | NA | .005 | .002 | 12/17/9613:01 | 12/14/9609:00 | G06L015012 | G06L015010 | IPL012W |
| LCS1W | IPL013WL | .0224 | 1 | NA | .005 | .002 | 12/17/9613:05 | 12/14/9609:00 | G06L015013 | G06L015010 | IPL012W |
| LCD1W | IPL013WC | .0223 | 1 | NA | .005 | .002 | 12/17/9613:09 | 12/14/9609:00 | G06L015014 | G06L015010 | IPL012W |

PQL: Practical Quantitation Limit
* DATE COLLECTED : 12/09/96
** DATE COLLECTED : 12/07/96

410 613

# LABORATORY REPORT FOR

# JACOBS ENGINEERING GROUP

# CARSWELL AFB / 05G47900

# MERCURY BY COLD VAPOR

SDG#: 96L032

JANUARY 09, 1997

# CASE NARRATIVE

CLIENT: JACOBS ENGINEERING GROUP

PROJECT: CARSWELL AFB / 05G47900

SDG: 96L032

## EPA 7470A
## MERCURY BY COLD VAPOR

Seventeen (17) water samples were received on 12/10/96 for Mercury by Method 7470A 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 control 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

410 615

12/12/1996 10:50

LAB CHRONICLE
Mercury

CLIENT: Jacobs Engineering Group
PROJECT: Carswell AFB / 05G47900

SDG/BATCH NO.: 96L032
MATRIX: Water

| SAMPLE ID | CONTROL NO | %H2O | PREPARATION BATCH/DATE/TIME | ANALYTICAL BATCH/DATE/TIME | CALIB REF | FILE ID |
|---|---|---|---|---|---|---|
| CR-A160103 | L032-03 | NA | Hg L017W/12/18/96/10.00 | M96L017/12/18/96/22.07 | M96L017-7 | 12 |
| CR-A160104 | L032-04 | NA | | 10 | | 13 |
| CR-A160107 | L032-07 | NA | | 14 | | 14 |
| CR-A160108 | L032-08 | NA | | 17 | | 15 |
| CR-A160403 | L032-11 | NA | | 20 | | 16 |
| CR-A160404 | L032-12 | NA | | 23 | | 17 |
| CR-A160503 | L032-15 | NA | | 36 | M96L017-19 | 21 |
| CR-A160504 | L032-16 | NA | | 39 | | 22 |
| CR-A160507 | L032-19 | NA | | 42 | | 23 |
| CR-A160603 | L032-23 | NA | | 45 | | 24 |
| CR-A160603MS | L032-23M | NA | | 48 | | 25 |
| CR-A160603DUP | L032-23D | NA | | 51 | | 26 |
| CR-A160604 | L032-24 | NA | | 54 | | 27 |
| CR-A160903 | L032-27 | NA | | 22.57 | | 28 |
| CR-A160904 | L032-28 | NA | | 23.01 | | 29 |
| CR-A160907 | L032-31 | NA | | .13 | M96L017-31 | 33 |
| CR-A161003 | L032-34 | NA | | 16 | | 34 |
| CR-A161004 | L032-35 | NA | | .19 | | 35 |
| CR-A161007 | L032-38 | NA | | .23 | | 36 |
| MBLK1W | HgL017WB | | | 21:58 | M96L017-7 | 9 |
| LCS1 | WL | | | 22.01 | | 10 |
| LCD1 | WC | | | 22.04 | | 11 |

EPA 7470A
MERCURY BY COLD VAPOR

| | | | |
|---|---|---|---|
| CLIENT: | JACOBS ENGINEERING GROUP | DATE COLLECTED: | 12/08/96 |
| PROJECT: | CARSWELL AFB / 05G47900 | DATE RECEIVED: | 12/10/96 |
| BATCH NO.: | 96L032 | DATE EXTRACTED: | 12/18/96 10:00 |
| MATRIX: | WATER | INSTRUMENT ID: | I23 |
| CAL REF: | M96L017-7 | PREP BATCH: | HGL017W |

| SAMPLE ID | CONTROL NO | RESULT (mg/L) | DILUTION FACTOR | PQL (mg/L) | MDL (mg/L) | ANALYZED DATETIME |
|---|---|---|---|---|---|---|
| CR-A160103 | L032-03 | ND | 1 | .001 | .0001 | 12/18/96 22:07 |
| CR-A160104 | L032-04 | ND | 1 | .001 | .0001 | 12/18/96 22:10 |
| CR-A160107 | L032-07 | ND | 1 | .001 | .0001 | 12/18/96 22:14 |
| CR-A160108 | L032-08 | ND | 1 | .001 | .0001 | 12/18/96 22:17 |
| CR-A160403 | L032-11 | ND | 1 | .001 | .0001 | 12/18/96 22:20 |
| CR-A160404 | L032-12 | ND | 1 | .001 | .0001 | 12/18/96 22:23 |
| CR-A160503 | L032-15 | ND | 1 | .001 | .0001 | 12/18/96 22:36 |
| CR-A160504 | L032-16 | ND | 1 | .001 | .0001 | 12/18/96 22:39 |
| CR-A160507 | L032-19 | ND | 1 | .001 | .0001 | 12/18/96 22:42 |
| CR-A160603 | L032-23 | ND | 1 | .001 | .0001 | 12/18/96 22:45 |
| CR-A160603MS | L032-23M | .00472 | 1 | .001 | .0001 | 12/18/96 22:48 |
| CR-A160603MSD | L032-23S | .00414 | 1 | .001 | .0001 | 12/18/96 22:51 |
| CR-A160604 | L032-24 | ND | 1 | .001 | .0001 | 12/18/96 22:54 |
| CR-A160903 | L032-27 | ND | 1 | .001 | .0001 | 12/18/96 22:57 |
| CR-A160904 | L032-28 | ND | 1 | .001 | .0001 | 12/18/96 23:01 |
| CR-A160907 | L032-31 | ND | 1 | .001 | .0001 | 12/18/96 23:13 |
| CR-A161003 | L032-34 | ND | 1 | .001 | .0001 | 12/18/96 23:16 |
| CR-A161004 | L032-35 | ND | 1 | .001 | .0001 | 12/18/96 23:19 |
| CR-A161007 | L032-38 | ND | 1 | .001 | .0001 | 12/18/96 23:23 |
| MBLK1W | HGL017WB | ND | 1 | .001 | .0001 | 12/18/96 21:58 |
| LCS1W | HGL017WL | .00498 | 1 | .001 | .0001 | 12/18/96 22:01 |
| LCD1W | HGL017WC | .00501 | 1 | .001 | .0001 | 12/18/96 22:04 |

PQL: Practical Quantitation Limit
CAL REF: M96L017-19, for L032-15 to 28, 23M and 23S
M96L017-31, for L032-31 to 38
AFCEE Ver. 1.1