SFIM-AEC-RP-CR-97006




**U.S. ARMY ENVIRONMENTAL CENTER**

# Tooele Army Depot

# Revised Final Remedial Investigation Addendum Report for Operable Units 4, 8, and 9

## Volume III
## (Appendices I through J)

PART II

February 1997

Rust Environment and Infrastructure
Grand Junction, Colorado 81506

Prepared for
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AEC Form 45, 1 May 97, replaces AEC Form 45, 1 Feb 93 which is obsolete.

| Lot | | Test Name | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **ANIONS** | | | | | | | |
| IHJ | BR | BROMIDE | LT | 8.83000 | µg/g | | |
| IHG | BR | BROMIDE | LT | 8.83000 | µg/g | | |
| IHI | BR | BROMIDE | LT | 8.83000 | µg/g | | |
| IHL | BR | BROMIDE | LT | 8.83000 | µg/g | | |
| IHO | BR | BROMIDE | LT | 8.83000 | µg/g | | |
| IHM | BR | BROMIDE | LT | 8.83000 | µg/g | | |
| IHX | BR | BROMIDE | LT | 8.83000 | µg/g | | |
| IHW | BR | BROMIDE | LT | 50.00000 | µg/l | | |
| IHV | BR | BROMIDE | LT | 8.83000 | µg/g | | |
| IHU | BR | BROMIDE | LT | 50.00000 | µg/l | | |
| IHS | BR | BROMIDE | LT | 8.83000 | µg/g | | |
| IHR | BR | BROMIDE | | 16.60000 | µg/g | | |
| IHQ | BR | BROMIDE | LT | 8.83000 | µg/g | | |
| IHP | BR | BROMIDE | LT | 8.83000 | µg/g | | |
| IHK | BR | BROMIDE | LT | 8.83000 | µg/g | | |
| IHH | BR | BROMIDE | LT | 50.00000 | µg/l | | |
| IHF | BR | BROMIDE | LT | 8.83000 | µg/g | | |
| IHD | BR | BROMIDE | LT | 8.83000 | µg/g | | |
| IHJ | CL | CHLORIDE | LT | 39.60000 | µg/g | | |
| IHF | CL | CHLORIDE | LT | 39.60000 | µg/g | | |
| IHG | CL | CHLORIDE | LT | 39.60000 | µg/g | | |
| IHD | CL | CHLORIDE | LT | 39.60000 | µg/g | | |
| IHH | CL | CHLORIDE | LT | 273.00000 | µg/l | | |
| IHK | CL | CHLORIDE | LT | 39.60000 | µg/g | | |
| IHM | CL | CHLORIDE | LT | 39.60000 | µg/g | | |
| IHP | CL | CHLORIDE | LT | 39.60000 | µg/g | | |
| IHO | CL | CHLORIDE | LT | 39.60000 | µg/g | | |
| IHX | CL | CHLORIDE | LT | 39.60000 | µg/g | | |
| IHW | CL | CHLORIDE | LT | 273.00000 | µg/l | | |
| IHV | CL | CHLORIDE | LT | 39.60000 | µg/g | | |
| IHU | CL | CHLORIDE | LT | 273.00000 | µg/l | | |
| IHS | CL | CHLORIDE | LT | 39.60000 | µg/g | | |
| IHR | CL | CHLORIDE | GT | 200.00000 | µg/g | | |
| IHQ | CL | CHLORIDE | LT | 39.60000 | µg/g | | |
| IHL | CL | CHLORIDE | LT | 39.60000 | µg/g | | |
| IHI | CL | CHLORIDE | LT | 39.60000 | µg/g | | |
| IHJ | F | FLUORIDE | LT | 19.20000 | µg/g | | |
| IHD | F | FLUORIDE | LT | 19.20000 | µg/g | | |
| IHF | F | FLUORIDE | LT | 19.20000 | µg/g | | |
| IHG | F | FLUORIDE | LT | 19.20000 | µg/g | | |
| IHH | F | FLUORIDE | LT | 71.00000 | µg/l | | |
| IHI | F | FLUORIDE | LT | 19.20000 | µg/g | | |
| IHK | F | FLUORIDE | LT | 19.20000 | µg/g | | |
| IHL | F | FLUORIDE | LT | 19.20000 | µg/g | | |
| IHM | F | FLUORIDE | LT | 19.20000 | µg/g | | |
| IHO | F | FLUORIDE | LT | 19.20000 | µg/g | | |
| IHP | F | FLUORIDE | LT | 19.20000 | µg/g | | |
| IHQ | F | FLUORIDE | LT | 19.20000 | µg/g | | |
| IHR | F | FLUORIDE | LT | 19.20000 | µg/g | | |
| IHS | F | FLUORIDE | LT | 19.20000 | µg/g | | |
| IHU | F | FLUORIDE | LT | 71.00000 | µg/l | | |
| IHV | F | FLUORIDE | LT | 19.20000 | µg/g | | |



1997 12 16 006

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | | Test Name | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **ANIONS** | | | | | | | |
| IHW | F | FLUORIDE | LT | 71.00000 | µg/l | | |
| IHX | F | FLUORIDE | LT | 19.20000 | µg/g | | |
| IHJ | NO2 | NITRITE | LT | 3.16000 | µg/g | | |
| IHD | NO2 | NITRITE | LT | 3.16000 | µg/g | | |
| IHE | NO2 | NITRITE | LT | 28.30000 | µg/l | | |
| IHF | NO2 | NITRITE | LT | 3.16000 | µg/g | | |
| IHG | NO2 | NITRITE | LT | 3.16000 | µg/g | | |
| IHI | NO2 | NITRITE | LT | 3.16000 | µg/g | | |
| IHK | NO2 | NITRITE | LT | 3.16000 | µg/g | | |
| IHL | NO2 | NITRITE | LT | 3.16000 | µg/g | | |
| IHM | NO2 | NITRITE | LT | 3.16000 | µg/g | | |
| IHO | NO2 | NITRITE | LT | 3.16000 | µg/g | | |
| IHP | NO2 | NITRITE | LT | 3.16000 | µg/g | | |
| IHQ | NO2 | NITRITE | LT | 3.16000 | µg/g | | |
| IHR | NO2 | NITRITE | LT | 3.16000 | µg/g | | |
| IHS | NO2 | NITRITE | LT | 3.16000 | µg/g | | |
| IHU | NO2 | NITRITE | LT | 28.30000 | µg/l | | |
| IHV | NO2 | NITRITE | LT | 3.16000 | µg/g | | |
| IHW | NO2 | NITRITE | LT | 28.30000 | µg/l | | |
| IHX | NO2 | NITRITE | LT | 3.16000 | µg/g | | |
| IHJ | NO3 | NITRATE | LT | 3.36000 | µg/g | | |
| IHD | NO3 | NITRATE | LT | 3.36000 | µg/g | | |
| IHE | NO3 | NITRATE | LT | 24.30000 | µg/l | | |
| IHF | NO3 | NITRATE | LT | 3.36000 | µg/g | | |
| IHG | NO3 | NITRATE | LT | 3.36000 | µg/g | | |
| IHI | NO3 | NITRATE | LT | 3.36000 | µg/g | | |
| IHK | NO3 | NITRATE | | 2.67000 | µg/g | P | |
| IHL | NO3 | NITRATE | | 2.82000 | µg/g | P | |
| IHM | NO3 | NITRATE | LT | 3.36000 | µg/g | | |
| IHO | NO3 | NITRATE | LT | 3.36000 | µg/g | | |
| IHP | NO3 | NITRATE | LT | 3.36000 | µg/g | | |
| IHQ | NO3 | NITRATE | LT | 3.36000 | µg/g | | |
| IHR | NO3 | NITRATE | | 4.65000 | µg/g | | |
| IHS | NO3 | NITRATE | LT | 3.36000 | µg/g | | |
| IHU | NO3 | NITRATE | LT | 24.30000 | µg/l | | |
| IHV | NO3 | NITRATE | | 3.43000 | µg/g | | |
| IHW | NO3 | NITRATE | LT | 24.30000 | µg/l | | |
| IHX | NO3 | NITRATE | LT | 3.36000 | µg/g | | |
| IHJ | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHJ | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHJ | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHJ | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHD | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHD | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHD | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHD | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHE | PO4 | PHOSPHATE | LT | 33.00000 | µg/l | | |
| IHF | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHF | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHF | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHF | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHG | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHG | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | | Test Name | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **ANIONS** | | | | | | | |
| IHG | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHG | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHI | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHI | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHI | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHI | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHK | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHK | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHK | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHK | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHL | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHL | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHL | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHL | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHM | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHM | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHM | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHM | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHO | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHO | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHO | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHO | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHP | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHP | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHP | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHP | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHQ | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHQ | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHQ | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHQ | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHR | PO4 | PHOSPHATE | | 9.56000 | µg/g | T | |
| IHR | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHR | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHR | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHS | PO4 | PHOSPHATE | | 10.60000 | µg/g | T | |
| IHS | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHS | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHS | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHU | PO4 | PHOSPHATE | LT | 33.00000 | µg/l | | |
| IHV | PO4 | PHOSPHATE | | 7.28000 | µg/g | T | |
| IHV | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHV | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHV | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHW | PO4 | PHOSPHATE | LT | 33.00000 | µg/l | | |
| IHX | PO4 | PHOSPHATE | | 5.69000 | µg/g | T | |
| IHX | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHX | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHX | PO4 | PHOSPHATE | ND | 5.00000 | µg/g | T | |
| IHJ | SO4 | SULFATE | | 26.50000 | µg/g | | |
| IHD | SO4 | SULFATE | | 27.00000 | µg/g | | |
| IHF | SO4 | SULFATE | | 31.90000 | µg/g | | |
| IHG | SO4 | SULFATE | | 25.00000 | µg/g | | |
| IHH | SO4 | SULFATE | LT | 137.00000 | µg/l | | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | | Test Name | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **ANIONS** | | | | | | | |
| IHI | SO4 | SULFATE | | 24.20000 | µg/g | | |
| IHK | SO4 | SULFATE | | 27.40000 | µg/g | | |
| IHL | SO4 | SULFATE | | 25.60000 | µg/g | | |
| IHM | SO4 | SULFATE | | 26.40000 | µg/g | | |
| IHO | SO4 | SULFATE | | 27.90000 | µg/g | | |
| IHP | SO4 | SULFATE | | 26.50000 | µg/g | | |
| IHQ | SO4 | SULFATE | | 26.10000 | µg/g | | |
| IHR | SO4 | SULFATE | GT | 500.00000 | µg/g | | |
| IHS | SO4 | SULFATE | | 59.30000 | µg/g | | |
| IHU | SO4 | SULFATE | LT | 137.00000 | µg/l | | |
| IHV | SO4 | SULFATE | | 59.70000 | µg/g | | |
| IHW | SO4 | SULFATE | LT | 137.00000 | µg/l | | |
| IHX | SO4 | SULFATE | | 57.20000 | µg/g | | |
| *Chemical Class:* **CYANIDE** | | | | | | | |
| ZTY | CYN | CYANIDE | LT | 5.00000 | µg/g | | |
| ZUD | CYN | CYANIDE | LT | 5.00000 | µg/l | | |
| ZUG | CYN | CYANIDE | LT | 5.00000 | µg/g | | |
| ZUK | CYN | CYANIDE | LT | 5.00000 | µg/g | | |
| ZUJ | CYN | CYANIDE | LT | 5.00000 | µg/g | | |
| ZUQ | CYN | CYANIDE | LT | 5.00000 | µg/g | | |
| ZUP | CYN | CYANIDE | LT | 5.00000 | µg/l | | |
| ZUO | CYN | CYANIDE | LT | 5.00000 | µg/g | | |
| ZUN | CYN | CYANIDE | LT | 5.00000 | µg/g | | |
| ZUM | CYN | CYANIDE | LT | 5.00000 | µg/g | | |
| ZUF | CYN | CYANIDE | LT | 5.00000 | µg/g | | |
| ZUC | CYN | CYANIDE | LT | 5.00000 | µg/g | | |
| ZUA | CYN | CYANIDE | LT | 5.00000 | µg/g | | |
| ZUB | CYN | CYANIDE | LT | 5.00000 | µg/g | | |
| *Chemical Class:* **DIOXINS** | | | | | | | |
| ZUH | OCDD | OCTACHLORODIBENZODIOXIN | | 0.00003 | µg/g | | |
| ZUI | OCDD | OCTACHLORODIBENZODIOXIN | | 0.00100 | µg/l | | |
| ZUT | OCDD | OCTACHLORODIBENZODIOXIN | | 0.00004 | µg/g | | |
| ZUU | OCDD | OCTACHLORODIBENZODIOXIN | | 0.00040 | µg/l | | |
| ZUH | OCDF | OCTACHLORODIBENZOFURAN | ND | 0.00000 | µg/g | R | |
| ZUI | OCDF | OCTACHLORODIBENZOFURAN | ND | 0.00001 | µg/l | R | |
| ZUT | OCDF | OCTACHLORODIBENZOFURAN | ND | 0.00000 | µg/g | R | |
| ZUU | OCDF | OCTACHLORODIBENZOFURAN | ND | 0.00003 | µg/l | R | |
| ZUH | TCDD | 2,3,7,8 TETRACHLORODIBENZODIOXIN | ND | 0.00000 | µg/g | R | |
| ZUI | TCDD | 2,3,7,8 TETRACHLORODIBENZODIOXIN | ND | 0.00000 | µg/l | R | |
| ZUT | TCDD | 2,3,7,8 TETRACHLORODIBENZODIOXIN | ND | 0.00000 | µg/g | R | |
| ZUU | TCDD | 2,3,7,8 TETRACHLORODIBENZODIOXIN | ND | 0.00000 | µg/l | R | |
| ZUH | TCDF | 2,3,7,8 TETRACHLORODIBENZOFURAN | ND | 0.00000 | µg/g | R | |
| ZUI | TCDF | 2,3,7,8 TETRACHLORODIBENZOFURAN | ND | 0.00000 | µg/l | R | |
| ZUT | TCDF | 2,3,7,8 TETRACHLORODIBENZOFURAN | | 0.00000 | µg/g | | |
| ZUU | TCDF | 2,3,7,8 TETRACHLORODIBENZOFURAN | ND | 0.00000 | µg/l | R | |
| ZUH | THCDD | TOTAL HEXACHLORODIBENZO-P-DIOXINS | ND | 0.00000 | µg/g | R | |
| ZUI | THCDD | TOTAL HEXACHLORODIBENZO-P-DIOXINS | ND | 0.00000 | µg/l | R | |
| ZUT | THCDD | TOTAL HEXACHLORODIBENZO-P-DIOXINS | ND | 0.00000 | µg/g | R | |
| ZUU | THCDD | TOTAL HEXACHLORODIBENZO-P-DIOXINS | ND | 0.00001 | µg/l | R | |
| ZUH | THCDF | TOTAL HEXACHLORODIBENZOFURANS | ND | 0.00000 | µg/g | R | |

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **DIOXINS** | | | | | | | |
| ZUI | THCDF | TOTAL HEXACHLORODIBENZOFURANS | ND | 0.00000 | µg/l | R | |
| ZUT | THCDF | TOTAL HEXACHLORODIBENZOFURANS | | 0.00000 | µg/g | | |
| ZUU | THCDF | TOTAL HEXACHLORODIBENZOFURANS | ND | 0.00001 | µg/l | R | |
| ZUH | THPCD | TOTAL HEPTACHLORODIBENZO-P-DIOXIN | | 0.00000 | µg/g | | |
| ZUI | THPCD | TOTAL HEPTACHLORODIBENZO-P-DIOXIN | ND | 0.00005 | µg/l | R | |
| ZUT | THPCD | TOTAL HEPTACHLORODIBENZO-P-DIOXIN | | 0.00000 | µg/g | | |
| ZUU | THPCD | TOTAL HEPTACHLORODIBENZO-P-DIOXIN | ND | 0.00005 | µg/l | R | |
| ZUH | THPCDF | TOTAL HEPTACHLORODIBENZOFURANS | ND | 0.00000 | µg/g | R | |
| ZUI | THPCDF | TOTAL HEPTACHLORODIBENZOFURANS | ND | 0.00000 | µg/l | R | |
| ZUT | THPCDF | TOTAL HEPTACHLORODIBENZOFURANS | ND | 0.00000 | µg/g | R | |
| ZUU | THPCDF | TOTAL HEPTACHLORODIBENZOFURANS | ND | 0.00001 | µg/l | R | |
| ZUH | TPCDD | TOTAL PENTACHLORODIBENZO-P-DIOXIN | ND | 0.00000 | µg/g | R | |
| ZUI | TPCDD | TOTAL PENTACHLORODIBENZO-P-DIOXIN | ND | 0.00001 | µg/l | R | |
| ZUT | TPCDD | TOTAL PENTACHLORODIBENZO-P-DIOXIN | ND | 0.00000 | µg/g | R | |
| ZUU | TPCDD | TOTAL PENTACHLORODIBENZO-P-DIOXIN | ND | 0.00001 | µg/l | R | |
| ZUH | TPCDF | TOTAL PENTACHLORODIBENZOFURANS | ND | 0.00000 | µg/g | R | |
| ZUI | TPCDF | TOTAL PENTACHLORODIBENZOFURANS | ND | 0.00000 | µg/l | R | |
| ZUT | TPCDF | TOTAL PENTACHLORODIBENZOFURANS | | 0.00000 | µg/g | | |
| ZUU | TPCDF | TOTAL PENTACHLORODIBENZOFURANS | ND | 0.00001 | µg/l | R | |
| ZUH | TTCDD | TOTAL TETRACHLORODIBENZO-P-DIOXINS | ND | 0.00000 | µg/g | R | |
| ZUI | TTCDD | TOTAL TETRACHLORODIBENZO-P-DIOXINS | ND | 0.00000 | µg/l | R | |
| ZUT | TTCDD | TOTAL TETRACHLORODIBENZO-P-DIOXINS | ND | 0.00000 | µg/g | R | |
| ZUU | TTCDD | TOTAL TETRACHLORODIBENZO-P-DIOXINS | ND | 0.00000 | µg/l | R | |
| ZUH | TTCDF | TOTAL TETRACHLORODIBENZOFURANS | ND | 0.00000 | µg/g | R | |
| ZUI | TTCDF | TOTAL TETRACHLORODIBENZOFURANS | ND | 0.00000 | µg/l | R | |
| ZUT | TTCDF | TOTAL TETRACHLORODIBENZOFURANS | | 0.00000 | µg/g | | |
| ZUU | TTCDF | TOTAL TETRACHLORODIBENZOFURANS | ND | 0.00000 | µg/l | R | |
| *Chemical Class:* **EXPLOSIVES** | | | | | | | |
| EGV | 135TNB | 1,3,5-TRINITROBENZENE | LT | 0.35200 | µg/g | | |
| EGU | 135TNB | 1,3,5-TRINITROBENZENE | LT | 0.38800 | µg/l | | |
| EGT | 135TNB | 1,3,5-TRINITROBENZENE | LT | 0.35200 | µg/g | | |
| EGP | 135TNB | 1,3,5-TRINITROBENZENE | LT | 0.35200 | µg/g | | |
| EGL | 135TNB | 1,3,5-TRINITROBENZENE | LT | 0.38800 | µg/l | | |
| EGK | 135TNB | 1,3,5-TRINITROBENZENE | LT | 0.35200 | µg/g | | |
| EGJ | 135TNB | 1,3,5-TRINITROBENZENE | LT | 0.35200 | µg/g | | |
| EGI | 135TNB | 1,3,5-TRINITROBENZENE | LT | 0.35200 | µg/g | | |
| EGH | 135TNB | 1,3,5-TRINITROBENZENE | LT | 0.35200 | µg/g | | |
| EGG | 135TNB | 1,3,5-TRINITROBENZENE | LT | 0.35200 | µg/g | | |
| EGF | 135TNB | 1,3,5-TRINITROBENZENE | LT | 0.35200 | µg/g | | |
| EGE | 135TNB | 1,3,5-TRINITROBENZENE | LT | 0.35200 | µg/g | | |
| EGL | 13DNB | 1,3-DINITROBENZENE | LT | 0.27000 | µg/l | | |
| EGK | 13DNB | 1,3-DINITROBENZENE | LT | 0.30400 | µg/g | | |
| EGJ | 13DNB | 1,3-DINITROBENZENE | LT | 0.30400 | µg/g | | |
| EGI | 13DNB | 1,3-DINITROBENZENE | LT | 0.30400 | µg/g | | |
| EGH | 13DNB | 1,3-DINITROBENZENE | LT | 0.30400 | µg/g | | |
| EGG | 13DNB | 1,3-DINITROBENZENE | LT | 0.30400 | µg/g | | |
| EGF | 13DNB | 1,3-DINITROBENZENE | LT | 0.30400 | µg/g | | |
| EGE | 13DNB | 1,3-DINITROBENZENE | LT | 0.30400 | µg/g | | |
| EGV | 13DNB | 1,3-DINITROBENZENE | LT | 0.30400 | µg/g | | |
| EGU | 13DNB | 1,3-DINITROBENZENE | LT | 0.27000 | µg/l | | |
| EGT | 13DNB | 1,3-DINITROBENZENE | LT | 0.30400 | µg/g | | |
| EGP | 13DNB | 1,3-DINITROBENZENE | LT | 0.30400 | µg/g | | |

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **EXPLOSIVES** | | | | | | | |
| EGV | 246TNT | 2,4,6-TRINITROTOLUENE | LT | 0.93100 | µg/g | | |
| EGU | 246TNT | 2,4,6-TRINITROTOLUENE | LT | 0.76700 | µg/l | | |
| EGT | 246TNT | 2,4,6-TRINITROTOLUENE | LT | 0.93100 | µg/g | | |
| EGP | 246TNT | 2,4,6-TRINITROTOLUENE | LT | 0.93100 | µg/g | | |
| EGL | 246TNT | 2,4,6-TRINITROTOLUENE | LT | 0.76700 | µg/l | | |
| EGK | 246TNT | 2,4,6-TRINITROTOLUENE | LT | 0.93100 | µg/g | | |
| EGJ | 246TNT | 2,4,6-TRINITROTOLUENE | LT | 0.93100 | µg/g | | |
| EGI | 246TNT | 2,4,6-TRINITROTOLUENE | LT | 0.93100 | µg/g | | |
| EGH | 246TNT | 2,4,6-TRINITROTOLUENE | LT | 0.93100 | µg/g | | |
| EGG | 246TNT | 2,4,6-TRINITROTOLUENE | LT | 0.93100 | µg/g | | |
| EGF | 246TNT | 2,4,6-TRINITROTOLUENE | LT | 0.93100 | µg/g | | |
| EGE | 246TNT | 2,4,6-TRINITROTOLUENE | LT | 0.93100 | µg/g | | |
| EGL | 24DNT | 2,4-DINITROTOLUENE | LT | 1.16000 | µg/l | | |
| EGK | 24DNT | 2,4-DINITROTOLUENE | LT | 0.74400 | µg/g | | |
| EGJ | 24DNT | 2,4-DINITROTOLUENE | LT | 0.74400 | µg/g | | |
| EGI | 24DNT | 2,4-DINITROTOLUENE | LT | 0.74400 | µg/g | | |
| EGH | 24DNT | 2,4-DINITROTOLUENE | LT | 0.74400 | µg/g | | |
| EGG | 24DNT | 2,4-DINITROTOLUENE | LT | 0.74400 | µg/g | | |
| EGF | 24DNT | 2,4-DINITROTOLUENE | LT | 0.74400 | µg/g | | |
| EGE | 24DNT | 2,4-DINITROTOLUENE | LT | 0.74400 | µg/g | | |
| EGV | 24DNT | 2,4-DINITROTOLUENE | LT | 0.74400 | µg/g | | |
| EGU | 24DNT | 2,4-DINITROTOLUENE | LT | 1.16000 | µg/l | | |
| EGT | 24DNT | 2,4-DINITROTOLUENE | LT | 0.74400 | µg/g | | |
| EGP | 24DNT | 2,4-DINITROTOLUENE | LT | 0.74400 | µg/g | | |
| EGH | 26DNT | 2,6-DINITROTOLUENE | LT | 0.83000 | µg/g | | |
| EGG | 26DNT | 2,6-DINITROTOLUENE | LT | 0.83000 | µg/g | | |
| EGF | 26DNT | 2,6-DINITROTOLUENE | LT | 0.83000 | µg/g | | |
| EGE | 26DNT | 2,6-DINITROTOLUENE | LT | 0.83000 | µg/g | | |
| EGV | 26DNT | 2,6-DINITROTOLUENE | LT | 0.83000 | µg/g | | |
| EGU | 26DNT | 2,6-DINITROTOLUENE | LT | 1.11000 | µg/l | | |
| EGT | 26DNT | 2,6-DINITROTOLUENE | LT | 0.83000 | µg/g | | |
| EGP | 26DNT | 2,6-DINITROTOLUENE | LT | 0.83000 | µg/g | | |
| EGL | 26DNT | 2,6-DINITROTOLUENE | LT | 1.11000 | µg/l | | |
| EGK | 26DNT | 2,6-DINITROTOLUENE | LT | 0.83000 | µg/g | | |
| EGJ | 26DNT | 2,6-DINITROTOLUENE | LT | 0.83000 | µg/g | | |
| EGI | 26DNT | 2,6-DINITROTOLUENE | LT | 0.83000 | µg/g | | |
| EGE | 2NT | 2-NITROTOLUENE | LT | 1.59000 | µg/g | | |
| EGH | 2NT | 2-NITROTOLUENE | LT | 1.59000 | µg/g | | |
| EGI | 2NT | 2-NITROTOLUENE | LT | 1.59000 | µg/g | | |
| EGG | 2NT | 2-NITROTOLUENE | LT | 1.59000 | µg/g | | |
| EGF | 2NT | 2-NITROTOLUENE | LT | 1.59000 | µg/g | | |
| EGJ | 2NT | 2-NITROTOLUENE | LT | 1.59000 | µg/g | | |
| EGP | 2NT | 2-NITROTOLUENE | LT | 1.59000 | µg/g | | |
| EGK | 2NT | 2-NITROTOLUENE | LT | 1.59000 | µg/g | | |
| EGV | 2NT | 2-NITROTOLUENE | LT | 1.59000 | µg/g | | |
| EGT | 2NT | 2-NITROTOLUENE | LT | 1.59000 | µg/g | | |
| EGE | HMX | CYCLOTETRAMETHYLENETETRANITRAMINE | LT | 0.75500 | µg/g | | |
| EGF | HMX | CYCLOTETRAMETHYLENETETRANITRAMINE | LT | 0.75500 | µg/g | | |
| EGG | HMX | CYCLOTETRAMETHYLENETETRANITRAMINE | LT | 0.75500 | µg/g | | |
| EGH | HMX | CYCLOTETRAMETHYLENETETRANITRAMINE | LT | 0.75500 | µg/g | | |
| EGI | HMX | CYCLOTETRAMETHYLENETETRANITRAMINE | LT | 0.75500 | µg/g | | |
| EGJ | HMX | CYCLOTETRAMETHYLENETETRANITRAMINE | LT | 0.75500 | µg/g | | |
| EGK | HMX | CYCLOTETRAMETHYLENETETRANITRAMINE | LT | 0.75500 | µg/g | | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | | Test Name | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **EXPLOSIVES** | | | | | | | |
| EGL | HMX | CYCLOTETRAMETHYLENETETRANITRAMINE | LT | 0.86900 | µg/l | | |
| EGP | HMX | CYCLOTETRAMETHYLENETETRANITRAMINE | LT | 0.75500 | µg/g | | |
| EGT | HMX | CYCLOTETRAMETHYLENETETRANITRAMINE | LT | 0.75500 | µg/g | | |
| EGU | HMX | CYCLOTETRAMETHYLENETETRANITRAMINE | LT | 0.86900 | µg/l | | |
| EGV | HMX | CYCLOTETRAMETHYLENETETRANITRAMINE | LT | 0.75500 | µg/g | | |
| EGE | NB | NITROBENZENE | LT | 1.04000 | µg/g | | |
| EGF | NB | NITROBENZENE | LT | 1.04000 | µg/g | | |
| EGG | NB | NITROBENZENE | LT | 1.04000 | µg/g | | |
| EGH | NB | NITROBENZENE | LT | 1.04000 | µg/g | | |
| EGI | NB | NITROBENZENE | LT | 1.04000 | µg/g | | |
| EGJ | NB | NITROBENZENE | LT | 1.04000 | µg/g | | |
| EGK | NB | NITROBENZENE | LT | 1.04000 | µg/g | | |
| EGL | NB | NITROBENZENE | LT | 1.54000 | µg/l | | |
| EGP | NB | NITROBENZENE | LT | 1.04000 | µg/g | | |
| EGT | NB | NITROBENZENE | LT | 1.04000 | µg/g | | |
| EGU | NB | NITROBENZENE | LT | 1.54000 | µg/l | | |
| EGV | NB | NITROBENZENE | LT | 1.04000 | µg/g | | |
| SKM | NB | NITROBENZENE | ND | 0.33000 | µg/g | R | |
| SKN | NB | NITROBENZENE | ND | 0.33000 | µg/g | R | |
| EGE | RDX | CYCLOTRIMETHYLENETRINITRAMINE | LT | 0.44500 | µg/g | | |
| EGF | RDX | CYCLOTRIMETHYLENETRINITRAMINE | LT | 0.44500 | µg/g | | |
| EGG | RDX | CYCLOTRIMETHYLENETRINITRAMINE | LT | 0.44500 | µg/g | | |
| EGH | RDX | CYCLOTRIMETHYLENETRINITRAMINE | LT | 0.44500 | µg/g | | |
| EGI | RDX | CYCLOTRIMETHYLENETRINITRAMINE | LT | 0.44500 | µg/g | | |
| EGJ | RDX | CYCLOTRIMETHYLENETRINITRAMINE | LT | 0.44500 | µg/g | | |
| EGK | RDX | CYCLOTRIMETHYLENETRINITRAMINE | LT | 0.44500 | µg/g | | |
| EGL | RDX | CYCLOTRIMETHYLENETRINITRAMINE | LT | 0.61700 | µg/l | | |
| EGP | RDX | CYCLOTRIMETHYLENETRINITRAMINE | LT | 0.44500 | µg/g | | |
| EGT | RDX | CYCLOTRIMETHYLENETRINITRAMINE | LT | 0.44500 | µg/g | | |
| EGU | RDX | CYCLOTRIMETHYLENETRINITRAMINE | LT | 0.61700 | µg/l | | |
| EGV | RDX | CYCLOTRIMETHYLENETRINITRAMINE | LT | 0.44500 | µg/g | | |
| EGE | TETRYL | N-METHYL-N2,4,6-TETRANITROANILINE | LT | 1.04000 | µg/g | | |
| EGF | TETRYL | N-METHYL-N2,4,6-TETRANITROANILINE | LT | 1.04000 | µg/g | | |
| EGG | TETRYL | N-METHYL-N2,4,6-TETRANITROANILINE | LT | 1.04000 | µg/g | | |
| EGH | TETRYL | N-METHYL-N2,4,6-TETRANITROANILINE | LT | 1.04000 | µg/g | | |
| EGI | TETRYL | N-METHYL-N2,4,6-TETRANITROANILINE | LT | 1.04000 | µg/g | | |
| EGJ | TETRYL | N-METHYL-N2,4,6-TETRANITROANILINE | LT | 1.04000 | µg/g | | |
| EGK | TETRYL | N-METHYL-N2,4,6-TETRANITROANILINE | LT | 1.04000 | µg/g | | |
| EGL | TETRYL | N-METHYL-N2,4,6-TETRANITROANILINE | LT | 0.19100 | µg/l | | |
| EGP | TETRYL | N-METHYL-N2,4,6-TETRANITROANILINE | LT | 1.04000 | µg/g | | |
| EGT | TETRYL | N-METHYL-N2,4,6-TETRANITROANILINE | LT | 1.04000 | µg/g | | |
| EGU | TETRYL | N-METHYL-N2,4,6-TETRANITROANILINE | LT | 0.19100 | µg/l | | |
| EGV | TETRYL | N-METHYL-N2,4,6-TETRANITROANILINE | LT | 1.04000 | µg/g | | |
| *Chemical Class:* **METALS** | | | | | | | |
| FOB | AG | SILVER | LT | 0.01500 | µg/g | | |
| FOG | AG | SILVER | LT | 0.01500 | µg/g | | |
| FPE | AG | SILVER | LT | 0.01500 | µg/g | | |
| FPI | AG | SILVER | LT | 0.01500 | µg/g | | |
| MFV | AG | SILVER | LT | 32.00000 | µg/l | | |
| FPK | AG | SILVER | LT | 0.31600 | µg/l | | |
| MFW | AG | SILVER | LT | 32.00000 | µg/l | | |
| FPG | AG | SILVER | LT | 0.01500 | µg/g | | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | | Test Name | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **METALS** | | | | | | | |
| FPA | AG | SILVER | LT | 0.01500 | µg/g | | |
| MFW | AS | ARSENIC | LT | 43.80000 | µg/l | | |
| MFV | AS | ARSENIC | LT | 43.80000 | µg/l | | |
| MFU | AS | ARSENIC | LT | 24.00000 | µg/g | | |
| MFT | AS | ARSENIC | LT | 24.00000 | µg/g | | |
| MFS | AS | ARSENIC | LT | 24.00000 | µg/g | | |
| MFR | AS | ARSENIC | LT | 24.00000 | µg/g | | |
| MFP | AS | ARSENIC | LT | 24.00000 | µg/g | | |
| MFQ | AS | ARSENIC | LT | 24.00000 | µg/g | | |
| MFK | AS | ARSENIC | LT | 24.00000 | µg/g | | |
| MFK | BA | BARIUM | LT | 2.61000 | µg/g | | |
| MFQ | BA | BARIUM | LT | 2.61000 | µg/g | | |
| MFS | BA | BARIUM | LT | 2.61000 | µg/g | | |
| MFT | BA | BARIUM | LT | 2.61000 | µg/g | | |
| MFR | BA | BARIUM | LT | 2.61000 | µg/g | | |
| MFP | BA | BARIUM | LT | 2.61000 | µg/g | | |
| MFU | BA | BARIUM | LT | 2.61000 | µg/g | | |
| MFW | BA | BARIUM | LT | 1.52000 | µg/l | | |
| MFV | BA | BARIUM | LT | 1.52000 | µg/l | | |
| MFQ | BE | BERYLLIUM | LT | 0.07800 | µg/g | | |
| MFP | BE | BERYLLIUM | LT | 0.07800 | µg/g | | |
| MFR | BE | BERYLLIUM | LT | 0.07800 | µg/g | | |
| MFT | BE | BERYLLIUM | LT | 0.07800 | µg/g | | |
| MFV | BE | BERYLLIUM | LT | 0.34100 | µg/l | | |
| MFU | BE | BERYLLIUM | LT | 0.07800 | µg/g | | |
| MFS | BE | BERYLLIUM | LT | 0.07800 | µg/g | | |
| MFK | BE | BERYLLIUM | LT | 0.07800 | µg/g | | |
| MFK | CD | CADMIUM | LT | 0.42400 | µg/g | | |
| MFQ | CD | CADMIUM | LT | 0.42400 | µg/g | | |
| MFP | CD | CADMIUM | LT | 0.42400 | µg/g | | |
| MFR | CD | CADMIUM | LT | 0.42400 | µg/g | | |
| MFT | CD | CADMIUM | LT | 0.42400 | µg/g | | |
| MFS | CD | CADMIUM | LT | 0.42400 | µg/g | | |
| MFW | CD | CADMIUM | LT | 2.67000 | µg/l | | |
| MFV | CD | CADMIUM | LT | 2.67000 | µg/l | | |
| MFU | CD | CADMIUM | LT | 0.42400 | µg/g | | |
| MFQ | CR | CHROMIUM | LT | 3.90000 | µg/g | | |
| MFU | CR | CHROMIUM | LT | 3.90000 | µg/g | | |
| MFW | CR | CHROMIUM | LT | 4.47000 | µg/l | | |
| MFV | CR | CHROMIUM | LT | 4.47000 | µg/l | | |
| MFT | CR | CHROMIUM | LT | 3.90000 | µg/g | | |
| MFP | CR | CHROMIUM | LT | 3.90000 | µg/g | | |
| MFR | CR | CHROMIUM | LT | 3.90000 | µg/g | | |
| MFS | CR | CHROMIUM | LT | 3.90000 | µg/g | | |
| MFK | CR | CHROMIUM | LT | 3.90000 | µg/g | | |
| MFK | CU | COPPER | LT | 1.95000 | µg/g | | |
| MFQ | CU | COPPER | LT | 1.95000 | µg/g | | |
| MFV | CU | COPPER | LT | 4.29000 | µg/l | | |
| MFU | CU | COPPER | LT | 1.95000 | µg/g | | |
| MFP | CU | COPPER | LT | 1.95000 | µg/g | | |
| MFR | CU | COPPER | LT | 1.95000 | µg/g | | |
| MFS | CU | COPPER | LT | 1.95000 | µg/g | | |
| MFT | CU | COPPER | LT | 1.95000 | µg/g | | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | | Test Name | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **METALS** | | | | | | | |
| MFP | FE | IRON | LT | 1.89000 | µg/g | | |
| MFR | FE | IRON | | 3.58000 | µg/g | | |
| MFS | FE | IRON | LT | 1.89000 | µg/g | | |
| MFT | FE | IRON | LT | 1.89000 | µg/g | | |
| MFU | FE | IRON | LT | 1.89000 | µg/g | | |
| MFV | FE | IRON | LT | 24.60000 | µg/l | | |
| MFQ | FE | IRON | LT | 1.89000 | µg/g | | |
| MFK | FE | IRON | LT | 1.89000 | µg/g | | |
| DEL | HG | MERCURY | LT | 0.02600 | µg/g | | |
| DEM | HG | MERCURY | | 0.68200 | µg/l | | |
| DEN | HG | MERCURY | LT | 0.56600 | µg/l | | |
| DEO | HG | MERCURY | LT | 0.02600 | µg/g | | |
| DEP | HG | MERCURY | LT | 0.02600 | µg/g | | |
| DEQ | HG | MERCURY | LT | 0.02600 | µg/g | | |
| DET | HG | MERCURY | LT | 0.02600 | µg/g | | |
| DEU | HG | MERCURY | LT | 0.56600 | µg/l | | |
| DEV | HG | MERCURY | LT | 0.02600 | µg/g | | |
| MFP | NI | NICKEL | LT | 2.46000 | µg/g | | |
| MFR | NI | NICKEL | LT | 2.46000 | µg/g | | |
| MFS | NI | NICKEL | LT | 2.46000 | µg/g | | |
| MFT | NI | NICKEL | LT | 2.46000 | µg/g | | |
| MFU | NI | NICKEL | LT | 2.46000 | µg/g | | |
| MFV | NI | NICKEL | LT | 8.76000 | µg/l | | |
| MFQ | NI | NICKEL | LT | 2.46000 | µg/g | | |
| MFK | NI | NICKEL | LT | 2.46000 | µg/g | | |
| FNZ | PB | LEAD | LT | 0.31900 | µg/g | | |
| FOH | PB | LEAD | LT | 0.31900 | µg/g | | |
| FPB | PB | LEAD | LT | 0.31900 | µg/g | | |
| FPD | PB | LEAD | LT | 4.74000 | µg/l | | |
| FPF | PB | LEAD | LT | 0.31900 | µg/g | | |
| FPL | PB | LEAD | LT | 0.31900 | µg/g | | |
| MFV | PB | LEAD | LT | 40.60000 | µg/l | | |
| MFW | PB | LEAD | LT | 40.60000 | µg/l | | |
| MFQ | SB | ANTIMONY | LT | 3.42000 | µg/g | | |
| MFP | SB | ANTIMONY | LT | 3.42000 | µg/g | | |
| MFR | SB | ANTIMONY | LT | 3.42000 | µg/g | | |
| MFS | SB | ANTIMONY | LT | 3.42000 | µg/g | | |
| MFT | SB | ANTIMONY | LT | 3.42000 | µg/g | | |
| MFU | SB | ANTIMONY | LT | 3.42000 | µg/g | | |
| MFV | SB | ANTIMONY | LT | 51.20000 | µg/l | | |
| MFK | SB | ANTIMONY | LT | 3.42000 | µg/g | | |
| MFK | SE | SELENIUM | LT | 50.70000 | µg/g | | |
| MFP | SE | SELENIUM | LT | 50.70000 | µg/g | | |
| MFR | SE | SELENIUM | LT | 50.70000 | µg/g | | |
| MFS | SE | SELENIUM | LT | 50.70000 | µg/g | | |
| MFT | SE | SELENIUM | LT | 50.70000 | µg/g | | |
| MFU | SE | SELENIUM | LT | 50.70000 | µg/g | | |
| MFV | SE | SELENIUM | LT | 104.00000 | µg/l | | |
| MFW | SE | SELENIUM | LT | 104.00000 | µg/l | | |
| MFQ | SE | SELENIUM | LT | 50.70000 | µg/g | | |
| MFP | TL | THALLIUM | LT | 16.60000 | µg/g | | |
| MFR | TL | THALLIUM | LT | 16.60000 | µg/g | | |
| MFS | TL | THALLIUM | LT | 16.60000 | µg/g | | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | | Test Name | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **METALS** | | | | | | | |
| MFT | TL | THALLIUM | LT | 16.60000 | µg/g | | |
| MFU | TL | THALLIUM | LT | 16.60000 | µg/g | | |
| MFV | TL | THALLIUM | LT | 114.00000 | µg/l | | |
| MFQ | TL | THALLIUM | LT | 16.60000 | µg/g | | |
| MFK | TL | THALLIUM | LT | 16.60000 | µg/g | | |
| MFP | ZN | ZINC | LT | 7.96000 | µg/g | | |
| MFR | ZN | ZINC | LT | 7.96000 | µg/g | | |
| MFS | ZN | ZINC | LT | 7.96000 | µg/g | | |
| MFT | ZN | ZINC | LT | 7.96000 | µg/g | | |
| MFU | ZN | ZINC | LT | 7.96000 | µg/g | | |
| MFV | ZN | ZINC | LT | 19.40000 | µg/l | | |
| MFQ | ZN | ZINC | LT | 7.96000 | µg/g | | |
| MFK | ZN | ZINC | LT | 7.96000 | µg/g | | |
| *Chemical Class:* **PESTICIDES** | | | | | | | |
| CDX | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.00500 | µg/g | | |
| CDX | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.00500 | µg/g | | |
| CDY | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.00600 | µg/l | | |
| CEE | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.00500 | µg/g | | |
| CEF | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.00600 | µg/l | | |
| CEF | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.00600 | µg/l | | |
| SKN | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.46000 | µg/g | | |
| SKM | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.46000 | µg/g | | |
| CEE | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.00500 | µg/g | | |
| CDY | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.00600 | µg/l | | |
| CEF | ACLDA | ALPHA CHLORDANE | LT | 0.00200 | µg/l | | |
| CEE | ACLDA | ALPHA CHLORDANE | LT | 0.00200 | µg/g | | |
| SKN | ACLDA | ALPHA CHLORDANE | ND | 1.00000 | µg/g | R | |
| SKM | ACLDA | ALPHA CHLORDANE | ND | 1.00000 | µg/g | R | |
| CDX | ACLDA | ALPHA CHLORDANE | LT | 0.00200 | µg/g | | |
| CDY | ACLDA | ALPHA CHLORDANE | LT | 0.00200 | µg/l | | |
| CEE | ACLDA | ALPHA CHLORDANE | LT | 0.00200 | µg/g | | |
| CDX | ACLDA | ALPHA CHLORDANE | LT | 0.00200 | µg/g | | |
| CEF | AENSLF | ALPHA-ENDOSULFAN | ND | 0.05000 | µg/l | T | |
| CEF | AENSLF | ALPHA-ENDOSULFAN | ND | 0.05000 | µg/l | T | |
| CEE | AENSLF | ALPHA-ENDOSULFAN | ND | 0.00800 | µg/g | T | |
| CEE | AENSLF | ALPHA-ENDOSULFAN | ND | 0.00800 | µg/g | T | |
| CDY | AENSLF | ALPHA-ENDOSULFAN | ND | 0.05000 | µg/l | T | |
| CDY | AENSLF | ALPHA-ENDOSULFAN | ND | 0.05000 | µg/l | T | |
| SKN | AENSLF | ALPHA-ENDOSULFAN | ND | 1.00000 | µg/g | R | |
| SKM | AENSLF | ALPHA-ENDOSULFAN | ND | 1.00000 | µg/g | R | |
| CDX | AENSLF | ALPHA-ENDOSULFAN | LT | 0.00800 | µg/g | | |
| CDX | AENSLF | ALPHA-ENDOSULFAN | LT | 0.00800 | µg/g | | |
| CDY | ALDRN | ALDRIN | ND | 0.05000 | µg/l | T | |
| CEE | ALDRN | ALDRIN | LT | 0.00800 | µg/g | | |
| CEF | ALDRN | ALDRIN | ND | 0.05000 | µg/l | T | |
| SKN | ALDRN | ALDRIN | LT | 0.29000 | µg/g | | |
| SKM | ALDRN | ALDRIN | LT | 0.29000 | µg/g | | |
| CEF | ALDRN | ALDRIN | ND | 0.05000 | µg/l | T | |
| CDY | ALDRN | ALDRIN | ND | 0.05000 | µg/l | T | |
| CDX | ALDRN | ALDRIN | LT | 0.00800 | µg/g | | |
| CDX | BBHC | BETA-BENZENEHEXACHLORIDE | LT | 0.00800 | µg/g | | |
| CDX | BBHC | BETA-BENZENEHEXACHLORIDE | LT | 0.00800 | µg/g | | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | | Test Name | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **PESTICIDES** | | | | | | | |
| CDY | BBHC | BETA-BENZENEHEXACHLORIDE | ND | 0.05000 | µg/l | T | |
| CEE | BBHC | BETA-BENZENEHEXACHLORIDE | ND | 0.00800 | µg/g | T | |
| CEF | BBHC | BETA-BENZENEHEXACHLORIDE | ND | 0.05000 | µg/l | T | |
| CEF | BBHC | BETA-BENZENEHEXACHLORIDE | ND | 0.05000 | µg/l | T | |
| SKN | BBHC | BETA-BENZENEHEXACHLORIDE | LT | 0.36000 | µg/g | | |
| SKM | BBHC | BETA-BENZENEHEXACHLORIDE | LT | 0.36000 | µg/g | | |
| CEE | BBHC | BETA-BENZENEHEXACHLORIDE | ND | 0.00800 | µg/g | T | |
| CDY | BBHC | BETA-BENZENEHEXACHLORIDE | ND | 0.05000 | µg/l | T | |
| CDX | BENSLF | BETA-ENDOSULFAN | LT | 0.01600 | µg/g | | |
| CDY | BENSLF | BETA-ENDOSULFAN | ND | 0.10000 | µg/l | T | |
| CEE | BENSLF | BETA-ENDOSULFAN | ND | 0.01600 | µg/g | T | |
| CEF | BENSLF | BETA-ENDOSULFAN | ND | 0.10000 | µg/l | T | |
| SKN | BENSLF | BETA-ENDOSULFAN | ND | 0.20000 | µg/g | R | |
| SKM | BENSLF | BETA-ENDOSULFAN | ND | 0.20000 | µg/g | R | |
| CEF | BENSLF | BETA-ENDOSULFAN | ND | 0.10000 | µg/l | T | |
| CEE | BENSLF | BETA-ENDOSULFAN | ND | 0.01600 | µg/g | T | |
| CDY | BENSLF | BETA-ENDOSULFAN | ND | 0.10000 | µg/l | T | |
| CDX | BENSLF | BETA-ENDOSULFAN | LT | 0.01600 | µg/g | | |
| CDY | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.03700 | µg/l | | |
| CDY | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.03700 | µg/l | | |
| CEE | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.00500 | µg/g | | |
| CEE | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.00500 | µg/g | | |
| CEF | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.03700 | µg/l | | |
| CEF | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.03700 | µg/l | | |
| CDX | DLDRN | DIELDRIN | LT | 0.00500 | µg/g | | |
| CDY | DLDRN | DIELDRIN | LT | 0.02200 | µg/l | | |
| CEE | DLDRN | DIELDRIN | LT | 0.00500 | µg/g | | |
| CEF | DLDRN | DIELDRIN | LT | 0.02200 | µg/l | | |
| SKM | DLDRN | DIELDRIN | LT | 0.30000 | µg/g | | |
| SKN | DLDRN | DIELDRIN | LT | 0.30000 | µg/g | | |
| CDX | ENDRN | ENDRIN | LT | 0.00800 | µg/g | | |
| CDY | ENDRN | ENDRIN | LT | 0.00800 | µg/l | | |
| CEE | ENDRN | ENDRIN | LT | 0.00800 | µg/g | | |
| CEF | ENDRN | ENDRIN | LT | 0.00800 | µg/l | | |
| SKM | ENDRN | ENDRIN | LT | 0.41000 | µg/g | | |
| SKN | ENDRN | ENDRIN | LT | 0.41000 | µg/g | | |
| CDX | ENDRN | ENDRIN ALDEHYDE | LT | 0.01600 | µg/g | | |
| CDX | ENDRN | ENDRIN ALDEHYDE | LT | 0.01600 | µg/g | | |
| CDY | ENDRN | ENDRIN ALDEHYDE | ND | 0.10000 | µg/l | T | |
| CDY | ENDRN | ENDRIN ALDEHYDE | ND | 0.10000 | µg/l | T | |
| CEE | ENDRN | ENDRIN ALDEHYDE | ND | 0.01600 | µg/g | T | |
| CEE | ENDRN | ENDRIN ALDEHYDE | ND | 0.01600 | µg/g | T | |
| CEF | ENDRN | ENDRIN ALDEHYDE | ND | 0.10000 | µg/l | T | |
| CEF | ENDRN | ENDRIN ALDEHYDE | ND | 0.10000 | µg/l | T | |
| CDY | ENDRN | ENDRIN KETONE | ND | 0.10000 | µg/l | T | |
| CDY | ENDRN | ENDRIN KETONE | ND | 0.10000 | µg/l | T | |
| CEE | ENDRN | ENDRIN KETONE | ND | 0.01600 | µg/g | T | |
| CEE | ENDRN | ENDRIN KETONE | ND | 0.01600 | µg/g | T | |
| CEF | ENDRN | ENDRIN KETONE | ND | 0.10000 | µg/l | T | |
| CEF | ENDRN | ENDRIN KETONE | ND | 0.10000 | µg/l | T | |
| CDX | ESFSO4 | ENDOSULFAN SULFATE | LT | 0.01600 | µg/g | | |
| CDX | ESFSO4 | ENDOSULFAN SULFATE | LT | 0.01600 | µg/g | | |
| CDY | ESFSO4 | ENDOSULFAN SULFATE | ND | 0.10000 | µg/l | T | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **PESTICIDES** | | | | | | | |
| CDY | ESFSO4 | ENDOSULFAN SULFATE | ND | 0.10000 | µg/l | T | |
| CEE | ESFSO4 | ENDOSULFAN SULFATE | ND | 0.01600 | µg/g | T | |
| CEE | ESFSO4 | ENDOSULFAN SULFATE | ND | 0.01600 | µg/g | T | |
| CEF | ESFSO4 | ENDOSULFAN SULFATE | ND | 0.10000 | µg/l | T | |
| CEF | ESFSO4 | ENDOSULFAN SULFATE | ND | 0.10000 | µg/l | T | |
| SKM | ESFSO4 | ENDOSULFAN SULFATE | ND | 0.20000 | µg/g | R | |
| SKN | ESFSO4 | ENDOSULFAN SULFATE | ND | 0.20000 | µg/g | R | |
| CDX | GCLDA | GAMMA-CHLORDANE | LT | 0.00400 | µg/g | | |
| CDY | GCLDA | GAMMA-CHLORDANE | LT | 0.03100 | µg/l | | |
| CDY | GCLDA | GAMMA-CHLORDANE | LT | 0.03100 | µg/l | | |
| CEE | GCLDA | GAMMA-CHLORDANE | LT | 0.00400 | µg/g | | |
| CEF | GCLDA | GAMMA-CHLORDANE | LT | 0.03100 | µg/l | | |
| CEF | GCLDA | GAMMA-CHLORDANE | LT | 0.03100 | µg/l | | |
| SKM | GCLDA | GAMMA-CHLORDANE | ND | 5.00000 | µg/g | R | |
| SKN | GCLDA | GAMMA-CHLORDANE | ND | 5.00000 | µg/g | R | |
| CDX | HPCL | HEPTACHLOR | | 0.00200 | µg/g | U | |
| CDY | HPCL | HEPTACHLOR | LT | 0.00800 | µg/l | | |
| CEE | HPCL | HEPTACHLOR | LT | 0.00100 | µg/g | | |
| CEF | HPCL | HEPTACHLOR | LT | 0.00800 | µg/l | | |
| SKM | HPCL | HEPTACHLOR | LT | 0.28000 | µg/g | | |
| SKN | HPCL | HEPTACHLOR | LT | 0.28000 | µg/g | | |
| CDX | HPCLE | HEPTACHLOREPOXIDE | LT | 0.00400 | µg/g | | |
| CDX | HPCLE | HEPTACHLOREPOXIDE | LT | 0.00400 | µg/g | | |
| CDY | HPCLE | HEPTACHLOREPOXIDE | LT | 0.06100 | µg/l | | |
| CDY | HPCLE | HEPTACHLOREPOXIDE | LT | 0.06100 | µg/l | | |
| CEE | HPCLE | HEPTACHLOREPOXIDE | LT | 0.00400 | µg/g | | |
| CEE | HPCLE | HEPTACHLOREPOXIDE | LT | 0.00400 | µg/g | | |
| CEF | HPCLE | HEPTACHLOREPOXIDE | LT | 0.06100 | µg/l | | |
| CEF | HPCLE | HEPTACHLOREPOXIDE | LT | 0.06100 | µg/l | | |
| SKM | HPCLE | HEPTACHLOREPOXIDE | LT | 0.36000 | µg/g | | |
| SKN | HPCLE | HEPTACHLOREPOXIDE | LT | 0.36000 | µg/g | | |
| CDX | ISODR | ISODRIN | LT | 0.00800 | µg/g | | |
| CDX | ISODR | ISODRIN | LT | 0.00800 | µg/g | | |
| CDY | ISODR | ISODRIN | LT | 0.13400 | µg/l | | |
| CDY | ISODR | ISODRIN | LT | 0.13400 | µg/l | | |
| CEE | ISODR | ISODRIN | LT | 0.00800 | µg/g | | |
| CEE | ISODR | ISODRIN | LT | 0.00800 | µg/g | | |
| CEF | ISODR | ISODRIN | LT | 0.13400 | µg/l | | |
| CEF | ISODR | ISODRIN | LT | 0.13400 | µg/l | | |
| CDX | LIN | LINDANE | LT | 0.00500 | µg/g | | |
| CDY | LIN | LINDANE | LT | 0.03300 | µg/l | | |
| CEE | LIN | LINDANE | LT | 0.00500 | µg/g | | |
| CEF | LIN | LINDANE | LT | 0.03300 | µg/l | | |
| SKM | LIN | LINDANE | LT | 0.43000 | µg/g | | |
| SKN | LIN | LINDANE | LT | 0.43000 | µg/g | | |
| CDX | MEXCL | METHOXYCHLOR | LT | 0.08000 | µg/g | | |
| CDX | MEXCL | METHOXYCHLOR | LT | 0.08000 | µg/g | | |
| CDY | MEXCL | METHOXYCHLOR | ND | 0.50000 | µg/l | T | |
| CDY | MEXCL | METHOXYCHLOR | ND | 0.50000 | µg/l | T | |
| CEE | MEXCL | METHOXYCHLOR | ND | 0.08000 | µg/g | T | |
| CEE | MEXCL | METHOXYCHLOR | ND | 0.08000 | µg/g | T | |
| CEF | MEXCL | METHOXYCHLOR | ND | 0.50000 | µg/l | T | |
| CEF | MEXCL | METHOXYCHLOR | ND | 0.50000 | µg/l | T | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **PESTICIDES** | | | | | | | |
| SKM | MEXCL | METHOXYCHLOR | ND | 1.00000 | µg/g | R | |
| SKN | MEXCL | METHOXYCHLOR | ND | 1.00000 | µg/g | R | |
| CDY | PCB016 | PCB 1016 | LT | 0.06800 | µg/l | | |
| CEE | PCB016 | PCB 1016 | LT | 0.07000 | µg/g | | |
| CEF | PCB016 | PCB 1016 | LT | 0.06800 | µg/l | | |
| CDY | PCB260 | PCB 1260 | LT | 0.07500 | µg/l | | |
| CEE | PCB260 | PCB 1260 | LT | 0.05400 | µg/g | | |
| CEF | PCB260 | PCB 1260 | LT | 0.07500 | µg/l | | |
| CDX | PPDDD | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE | LT | 0.01000 | µg/g | | |
| CDY | PPDDD | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE | LT | 0.02000 | µg/l | | |
| CEE | PPDDD | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE | LT | 0.01000 | µg/g | | |
| CEF | PPDDD | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE | LT | 0.02000 | µg/l | | |
| SKM | PPDDD | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE | LT | 0.18000 | µg/g | | |
| SKN | PPDDD | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE | LT | 0.18000 | µg/g | | |
| CDX | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.00400 | µg/g | | |
| CDX | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.00400 | µg/g | | |
| CDY | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.08800 | µg/l | | |
| CDY | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.08800 | µg/l | | |
| CEE | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.00400 | µg/g | | |
| CEE | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.00400 | µg/g | | |
| CEF | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.08800 | µg/l | | |
| CEF | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.08800 | µg/l | | |
| SKM | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.22000 | µg/g | | |
| SKN | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.22000 | µg/g | | |
| CDX | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | | 0.12100 | µg/g | U | |
| CDX | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | | 0.15100 | µg/g | U | |
| CDY | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | ND | 0.10000 | µg/l | T | |
| CDY | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | ND | 0.10000 | µg/l | T | |
| CEE | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | ND | 0.01600 | µg/g | T | |
| CEE | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | ND | 0.01600 | µg/g | T | |
| CEF | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | ND | 0.10000 | µg/l | T | |
| CEF | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | ND | 0.10000 | µg/l | T | |
| SKM | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | LT | 0.41000 | µg/g | | |
| SKN | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | LT | 0.41000 | µg/g | | |
| CDY | TXPHE | TOXAPHENE | ND | 1.00000 | µg/l | T | |
| CDY | TXPHE | TOXAPHENE | ND | 1.00000 | µg/l | T | |
| CEE | TXPHE | TOXAPHENE | ND | 0.16000 | µg/g | T | |
| CEE | TXPHE | TOXAPHENE | ND | 0.16000 | µg/g | T | |
| CEF | TXPHE | TOXAPHENE | ND | 1.00000 | µg/l | T | |
| CEF | TXPHE | TOXAPHENE | ND | 1.00000 | µg/l | T | |
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SJV | 123TCB | 1,2,3-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SJX | 123TCB | 1,2,3-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SKB | 123TCB | 1,2,3-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SJZ | 123TCB | 1,2,3-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SKP | 123TCB | 1,2,3-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SKO | 123TCB | 1,2,3-TRICHLOROBENZENE | LT | 3.60000 | µg/l | | |
| SKN | 123TCB | 1,2,3-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SKM | 123TCB | 1,2,3-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SKK | 123TCB | 1,2,3-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SKJ | 123TCB | 1,2,3-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SKF | 123TCB | 1,2,3-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SKE | 123TCB | 1,2,3-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SKD | 123TCB | 1,2,3-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SKC | 123TCB | 1,2,3-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SJW | 123TCB | 1,2,3-TRICHLOROBENZENE | LT | 3.60000 | µg/l | | |
| SJU | 123TCB | 1,2,3-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SJT | 123TCB | 1,2,3-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SJW | 124TCB | 1,2,4-TRICHLOROBENZENE | LT | 2.80000 | µg/l | | |
| SJZ | 124TCB | 1,2,4-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SKC | 124TCB | 1,2,4-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SKB | 124TCB | 1,2,4-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SKP | 124TCB | 1,2,4-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SKO | 124TCB | 1,2,4-TRICHLOROBENZENE | LT | 2.80000 | µg/l | | |
| SKN | 124TCB | 1,2,4-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SKM | 124TCB | 1,2,4-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SKK | 124TCB | 1,2,4-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SKJ | 124TCB | 1,2,4-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SKF | 124TCB | 1,2,4-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SKE | 124TCB | 1,2,4-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SKD | 124TCB | 1,2,4-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SJX | 124TCB | 1,2,4-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SJV | 124TCB | 1,2,4-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SJT | 124TCB | 1,2,4-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SJU | 124TCB | 1,2,4-TRICHLOROBENZENE | LT | 0.29000 | µg/g | | |
| SKN | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SKM | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SKK | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SKJ | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SKF | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SKE | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SKD | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SKC | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SKP | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SKO | 12DCLB | 1,2-DICHLOROBENZENE | LT | 10.00000 | µg/l | | |
| SKB | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SJZ | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SJX | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SJW | 12DCLB | 1,2-DICHLOROBENZENE | LT | 10.00000 | µg/l | | |
| SJV | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SJU | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SJT | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SJW | 13DCLB | 1,3-DICHLOROBENZENE | LT | 8.50000 | µg/l | | |
| SJZ | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SKC | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SKB | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SKP | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SKO | 13DCLB | 1,3-DICHLOROBENZENE | LT | 8.50000 | µg/l | | |
| SKN | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SKM | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SKK | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SKJ | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SKF | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SKE | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SKD | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SJX | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SJV | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SJT | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SJU | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.33000 | µg/g | | |
| SJU | 14DCLB | 1,4-DICHLOROBENZENE | LT | 0.32000 | µg/g | | |
| SJW | 14DCLB | 1,4-DICHLOROBENZENE | LT | 4.40000 | µg/l | | |
| SJZ | 14DCLB | 1,4-DICHLOROBENZENE | LT | 0.32000 | µg/g | | |
| SKC | 14DCLB | 1,4-DICHLOROBENZENE | LT | 0.32000 | µg/g | | |
| SKE | 14DCLB | 1,4-DICHLOROBENZENE | LT | 0.32000 | µg/g | | |
| SKJ | 14DCLB | 1,4-DICHLOROBENZENE | LT | 0.32000 | µg/g | | |
| SKF | 14DCLB | 1,4-DICHLOROBENZENE | LT | 0.32000 | µg/g | | |
| SKP | 14DCLB | 1,4-DICHLOROBENZENE | LT | 0.32000 | µg/g | | |
| SKO | 14DCLB | 1,4-DICHLOROBENZENE | LT | 4.40000 | µg/l | | |
| SKN | 14DCLB | 1,4-DICHLOROBENZENE | LT | 0.32000 | µg/g | | |
| SKM | 14DCLB | 1,4-DICHLOROBENZENE | LT | 0.32000 | µg/g | | |
| SKK | 14DCLB | 1,4-DICHLOROBENZENE | LT | 0.32000 | µg/g | | |
| SKD | 14DCLB | 1,4-DICHLOROBENZENE | LT | 0.32000 | µg/g | | |
| SKB | 14DCLB | 1,4-DICHLOROBENZENE | LT | 0.32000 | µg/g | | |
| SJX | 14DCLB | 1,4-DICHLOROBENZENE | LT | 0.32000 | µg/g | | |
| SJV | 14DCLB | 1,4-DICHLOROBENZENE | LT | 0.32000 | µg/g | | |
| SJT | 14DCLB | 1,4-DICHLOROBENZENE | LT | 0.32000 | µg/g | | |
| SKJ | 245TCP | 2,4,5-TRICHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SKF | 245TCP | 2,4,5-TRICHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SKE | 245TCP | 2,4,5-TRICHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SKD | 245TCP | 2,4,5-TRICHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SKC | 245TCP | 2,4,5-TRICHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SKB | 245TCP | 2,4,5-TRICHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SJZ | 245TCP | 2,4,5-TRICHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SJX | 245TCP | 2,4,5-TRICHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SKP | 245TCP | 2,4,5-TRICHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SKO | 245TCP | 2,4,5-TRICHLOROPHENOL | ND | 50.00000 | µg/l | R | |
| SKN | 245TCP | 2,4,5-TRICHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SKM | 245TCP | 2,4,5-TRICHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SKK | 245TCP | 2,4,5-TRICHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SJW | 245TCP | 2,4,5-TRICHLOROPHENOL | ND | 50.00000 | µg/l | R | |
| SJV | 245TCP | 2,4,5-TRICHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SJU | 245TCP | 2,4,5-TRICHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SJT | 245TCP | 2,4,5-TRICHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SJV | 246TCP | 2,4,6-TRICHLOROPHENOL | ND | 0.30000 | µg/g | R | |
| SJX | 246TCP | 2,4,6-TRICHLOROPHENOL | ND | 0.30000 | µg/g | R | |
| SKB | 246TCP | 2,4,6-TRICHLOROPHENOL | ND | 0.30000 | µg/g | R | |
| SKD | 246TCP | 2,4,6-TRICHLOROPHENOL | ND | 0.30000 | µg/g | R | |
| SKF | 246TCP | 2,4,6-TRICHLOROPHENOL | ND | 0.30000 | µg/g | R | |
| SKE | 246TCP | 2,4,6-TRICHLOROPHENOL | ND | 0.30000 | µg/g | R | |
| SKP | 246TCP | 2,4,6-TRICHLOROPHENOL | ND | 0.30000 | µg/g | R | |
| SKO | 246TCP | 2,4,6-TRICHLOROPHENOL | ND | 10.00000 | µg/l | R | |
| SKN | 246TCP | 2,4,6-TRICHLOROPHENOL | ND | 0.30000 | µg/g | R | |
| SKM | 246TCP | 2,4,6-TRICHLOROPHENOL | ND | 0.30000 | µg/g | R | |
| SKK | 246TCP | 2,4,6-TRICHLOROPHENOL | ND | 0.30000 | µg/g | R | |
| SKJ | 246TCP | 2,4,6-TRICHLOROPHENOL | ND | 0.30000 | µg/g | R | |
| SKC | 246TCP | 2,4,6-TRICHLOROPHENOL | ND | 0.30000 | µg/g | R | |
| SJZ | 246TCP | 2,4,6-TRICHLOROPHENOL | ND | 0.30000 | µg/g | R | |
| SJW | 246TCP | 2,4,6-TRICHLOROPHENOL | ND | 10.00000 | µg/l | R | |

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SJU | 246TCP | 2,4,6-TRICHLOROPHENOL | ND | 0.30000 | µg/g | R | |
| SJT | 246TCP | 2,4,6-TRICHLOROPHENOL | ND | 0.30000 | µg/g | R | |
| SKC | 24DCLP | 2,4-DICHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SKB | 24DCLP | 2,4-DICHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SKP | 24DCLP | 2,4-DICHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SKO | 24DCLP | 2,4-DICHLOROPHENOL | ND | 10.00000 | µg/l | R | |
| SKN | 24DCLP | 2,4-DICHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SKM | 24DCLP | 2,4-DICHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SKK | 24DCLP | 2,4-DICHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SKJ | 24DCLP | 2,4-DICHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SKF | 24DCLP | 2,4-DICHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SKE | 24DCLP | 2,4-DICHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SKD | 24DCLP | 2,4-DICHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SJU | 24DCLP | 2,4-DICHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SJW | 24DCLP | 2,4-DICHLOROPHENOL | ND | 10.00000 | µg/l | R | |
| SJX | 24DCLP | 2,4-DICHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SJZ | 24DCLP | 2,4-DICHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SJV | 24DCLP | 2,4-DICHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SJT | 24DCLP | 2,4-DICHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SKJ | 24DMP | 2,4-DIMETHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKF | 24DMP | 2,4-DIMETHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKE | 24DMP | 2,4-DIMETHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKD | 24DMP | 2,4-DIMETHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKC | 24DMP | 2,4-DIMETHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKB | 24DMP | 2,4-DIMETHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SJZ | 24DMP | 2,4-DIMETHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SJX | 24DMP | 2,4-DIMETHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKP | 24DMP | 2,4-DIMETHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKO | 24DMP | 2,4-DIMETHYLPHENOL | ND | 10.00000 | µg/l | R | |
| SKN | 24DMP | 2,4-DIMETHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKM | 24DMP | 2,4-DIMETHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKK | 24DMP | 2,4-DIMETHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SJW | 24DMP | 2,4-DIMETHYLPHENOL | ND | 10.00000 | µg/l | R | |
| SJV | 24DMP | 2,4-DIMETHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SJU | 24DMP | 2,4-DIMETHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SJT | 24DMP | 2,4-DIMETHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SJT | 24DNP | 2,4-DINITROPHENOL | ND | 1.70000 | µg/g | R | |
| SJV | 24DNP | 2,4-DINITROPHENOL | ND | 1.70000 | µg/g | R | |
| SJX | 24DNP | 2,4-DINITROPHENOL | ND | 1.70000 | µg/g | R | |
| SKB | 24DNP | 2,4-DINITROPHENOL | ND | 1.70000 | µg/g | R | |
| SKD | 24DNP | 2,4-DINITROPHENOL | ND | 1.70000 | µg/g | R | |
| SKF | 24DNP | 2,4-DINITROPHENOL | ND | 1.70000 | µg/g | R | |
| SKE | 24DNP | 2,4-DINITROPHENOL | ND | 1.70000 | µg/g | R | |
| SKP | 24DNP | 2,4-DINITROPHENOL | ND | 1.70000 | µg/g | R | |
| SKO | 24DNP | 2,4-DINITROPHENOL | ND | 50.00000 | µg/l | R | |
| SKN | 24DNP | 2,4-DINITROPHENOL | ND | 1.70000 | µg/g | R | |
| SKM | 24DNP | 2,4-DINITROPHENOL | ND | 1.70000 | µg/g | R | |
| SKK | 24DNP | 2,4-DINITROPHENOL | ND | 1.70000 | µg/g | R | |
| SKJ | 24DNP | 2,4-DINITROPHENOL | ND | 1.70000 | µg/g | R | |
| SKC | 24DNP | 2,4-DINITROPHENOL | ND | 1.70000 | µg/g | R | |
| SJZ | 24DNP | 2,4-DINITROPHENOL | ND | 1.70000 | µg/g | R | |
| SJW | 24DNP | 2,4-DINITROPHENOL | ND | 50.00000 | µg/l | R | |
| SJU | 24DNP | 2,4-DINITROPHENOL | ND | 1.70000 | µg/g | R | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SKP | 24DNT | 2,4-DINITROTOLUENE | LT | 0.39000 | µg/g | | |
| SKO | 24DNT | 2,4-DINITROTOLUENE | LT | 5.50000 | µg/l | | |
| SKN | 24DNT | 2,4-DINITROTOLUENE | LT | 0.39000 | µg/g | | |
| SKM | 24DNT | 2,4-DINITROTOLUENE | LT | 0.39000 | µg/g | | |
| SKK | 24DNT | 2,4-DINITROTOLUENE | LT | 0.39000 | µg/g | | |
| SKJ | 24DNT | 2,4-DINITROTOLUENE | LT | 0.39000 | µg/g | | |
| SKF | 24DNT | 2,4-DINITROTOLUENE | LT | 0.39000 | µg/g | | |
| SKE | 24DNT | 2,4-DINITROTOLUENE | LT | 0.39000 | µg/g | | |
| SKD | 24DNT | 2,4-DINITROTOLUENE | LT | 0.39000 | µg/g | | |
| SKC | 24DNT | 2,4-DINITROTOLUENE | LT | 0.39000 | µg/g | | |
| SKB | 24DNT | 2,4-DINITROTOLUENE | LT | 0.39000 | µg/g | | |
| SJZ | 24DNT | 2,4-DINITROTOLUENE | LT | 0.39000 | µg/g | | |
| SJX | 24DNT | 2,4-DINITROTOLUENE | LT | 0.39000 | µg/g | | |
| SJW | 24DNT | 2,4-DINITROTOLUENE | LT | 5.50000 | µg/l | | |
| SJV | 24DNT | 2,4-DINITROTOLUENE | LT | 0.39000 | µg/g | | |
| SJU | 24DNT | 2,4-DINITROTOLUENE | LT | 0.39000 | µg/g | | |
| SJT | 24DNT | 2,4-DINITROTOLUENE | LT | 0.39000 | µg/g | | |
| SKC | 26DNT | 2,6-DINITROTOLUENE | LT | 0.53000 | µg/g | | |
| SKB | 26DNT | 2,6-DINITROTOLUENE | LT | 0.53000 | µg/g | | |
| SJZ | 26DNT | 2,6-DINITROTOLUENE | LT | 0.53000 | µg/g | | |
| SJX | 26DNT | 2,6-DINITROTOLUENE | LT | 0.53000 | µg/g | | |
| SJW | 26DNT | 2,6-DINITROTOLUENE | LT | 6.60000 | µg/l | | |
| SJV | 26DNT | 2,6-DINITROTOLUENE | LT | 0.53000 | µg/g | | |
| SJU | 26DNT | 2,6-DINITROTOLUENE | LT | 0.53000 | µg/g | | |
| SJT | 26DNT | 2,6-DINITROTOLUENE | LT | 0.53000 | µg/g | | |
| SKP | 26DNT | 2,6-DINITROTOLUENE | LT | 0.53000 | µg/g | | |
| SKO | 26DNT | 2,6-DINITROTOLUENE | LT | 6.60000 | µg/l | | |
| SKN | 26DNT | 2,6-DINITROTOLUENE | LT | 0.53000 | µg/g | | |
| SKM | 26DNT | 2,6-DINITROTOLUENE | LT | 0.53000 | µg/g | | |
| SKK | 26DNT | 2,6-DINITROTOLUENE | LT | 0.53000 | µg/g | | |
| SKJ | 26DNT | 2,6-DINITROTOLUENE | LT | 0.53000 | µg/g | | |
| SKF | 26DNT | 2,6-DINITROTOLUENE | LT | 0.53000 | µg/g | | |
| SKE | 26DNT | 2,6-DINITROTOLUENE | LT | 0.53000 | µg/g | | |
| SKD | 26DNT | 2,6-DINITROTOLUENE | LT | 0.53000 | µg/g | | |
| SKP | 2CLP | 2-CHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SKO | 2CLP | 2-CHLOROPHENOL | ND | 10.00000 | µg/l | R | |
| SKN | 2CLP | 2-CHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SKM | 2CLP | 2-CHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SKK | 2CLP | 2-CHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SKJ | 2CLP | 2-CHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SKF | 2CLP | 2-CHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SKE | 2CLP | 2-CHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SKD | 2CLP | 2-CHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SKC | 2CLP | 2-CHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SKB | 2CLP | 2-CHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SJU | 2CLP | 2-CHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SJV | 2CLP | 2-CHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SJW | 2CLP | 2-CHLOROPHENOL | ND | 10.00000 | µg/l | R | |
| SJZ | 2CLP | 2-CHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SJX | 2CLP | 2-CHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SJT | 2CLP | 2-CHLOROPHENOL | ND | 0.33000 | µg/g | R | |
| SKM | 2CNAP | 2-CHLORONAPHTHALENE | LT | 0.32000 | µg/g | | |
| SKK | 2CNAP | 2-CHLORONAPHTHALENE | LT | 0.32000 | µg/g | | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SKJ | 2CNAP | 2-CHLORONAPHTHALENE | LT | 0.32000 | µg/g | | |
| SKF | 2CNAP | 2-CHLORONAPHTHALENE | LT | 0.32000 | µg/g | | |
| SKE | 2CNAP | 2-CHLORONAPHTHALENE | LT | 0.32000 | µg/g | | |
| SKD | 2CNAP | 2-CHLORONAPHTHALENE | LT | 0.32000 | µg/g | | |
| SKC | 2CNAP | 2-CHLORONAPHTHALENE | LT | 0.32000 | µg/g | | |
| SKB | 2CNAP | 2-CHLORONAPHTHALENE | LT | 0.32000 | µg/g | | |
| SKP | 2CNAP | 2-CHLORONAPHTHALENE | LT | 0.32000 | µg/g | | |
| SKO | 2CNAP | 2-CHLORONAPHTHALENE | LT | 9.60000 | µg/l | | |
| SKN | 2CNAP | 2-CHLORONAPHTHALENE | LT | 0.32000 | µg/g | | |
| SJZ | 2CNAP | 2-CHLORONAPHTHALENE | LT | 0.32000 | µg/g | | |
| SJX | 2CNAP | 2-CHLORONAPHTHALENE | LT | 0.32000 | µg/g | | |
| SJW | 2CNAP | 2-CHLORONAPHTHALENE | LT | 9.60000 | µg/l | | |
| SJV | 2CNAP | 2-CHLORONAPHTHALENE | LT | 0.32000 | µg/g | | |
| SJU | 2CNAP | 2-CHLORONAPHTHALENE | LT | 0.32000 | µg/g | | |
| SJT | 2CNAP | 2-CHLORONAPHTHALENE | LT | 0.32000 | µg/g | | |
| SJT | 2MNAP | 2-METHYLNAPHTHALENE | ND | 0.33000 | µg/g | R | |
| SJU | 2MNAP | 2-METHYLNAPHTHALENE | ND | 0.33000 | µg/g | R | |
| SJW | 2MNAP | 2-METHYLNAPHTHALENE | ND | 10.00000 | µg/l | R | |
| SKB | 2MNAP | 2-METHYLNAPHTHALENE | ND | 0.33000 | µg/g | R | |
| SKD | 2MNAP | 2-METHYLNAPHTHALENE | ND | 0.33000 | µg/g | R | |
| SKF | 2MNAP | 2-METHYLNAPHTHALENE | ND | 0.33000 | µg/g | R | |
| SKK | 2MNAP | 2-METHYLNAPHTHALENE | ND | 0.33000 | µg/g | R | |
| SKN | 2MNAP | 2-METHYLNAPHTHALENE | ND | 0.33000 | µg/g | R | |
| SKM | 2MNAP | 2-METHYLNAPHTHALENE | ND | 0.33000 | µg/g | R | |
| SKP | 2MNAP | 2-METHYLNAPHTHALENE | ND | 0.33000 | µg/g | R | |
| SKO | 2MNAP | 2-METHYLNAPHTHALENE | ND | 10.00000 | µg/l | R | |
| SKJ | 2MNAP | 2-METHYLNAPHTHALENE | ND | 0.33000 | µg/g | R | |
| SKE | 2MNAP | 2-METHYLNAPHTHALENE | ND | 0.33000 | µg/g | R | |
| SJZ | 2MNAP | 2-METHYLNAPHTHALENE | ND | 0.33000 | µg/g | R | |
| SJX | 2MNAP | 2-METHYLNAPHTHALENE | ND | 0.33000 | µg/g | R | |
| SJV | 2MNAP | 2-METHYLNAPHTHALENE | ND | 0.33000 | µg/g | R | |
| SKC | 2MNAP | 2-METHYLNAPHTHALENE | ND | 0.33000 | µg/g | R | |
| SKD | 2MP | 2-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKC | 2MP | 2-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKB | 2MP | 2-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SJZ | 2MP | 2-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SJX | 2MP | 2-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SJW | 2MP | 2-METHYLPHENOL | ND | 10.00000 | µg/l | R | |
| SJV | 2MP | 2-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SJU | 2MP | 2-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKP | 2MP | 2-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKO | 2MP | 2-METHYLPHENOL | ND | 10.00000 | µg/l | R | |
| SKN | 2MP | 2-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKM | 2MP | 2-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKK | 2MP | 2-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKJ | 2MP | 2-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKF | 2MP | 2-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKE | 2MP | 2-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SJT | 2MP | 2-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SJT | 2NANIL | 2-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SJW | 2NANIL | 2-NITROANILINE | ND | 50.00000 | µg/l | R | |
| SJX | 2NANIL | 2-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SJV | 2NANIL | 2-NITROANILINE | ND | 1.70000 | µg/g | R | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SJU | 2NANIL | 2-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SJZ | 2NANIL | 2-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKC | 2NANIL | 2-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKB | 2NANIL | 2-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKP | 2NANIL | 2-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKO | 2NANIL | 2-NITROANILINE | ND | 50.00000 | µg/l | R | |
| SKN | 2NANIL | 2-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKM | 2NANIL | 2-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKK | 2NANIL | 2-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKJ | 2NANIL | 2-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKF | 2NANIL | 2-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKE | 2NANIL | 2-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKD | 2NANIL | 2-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SJT | 2NP | 2-NITROPHENOL | ND | 0.33000 | µg/g | R | |
| SJW | 2NP | 2-NITROPHENOL | ND | 10.00000 | µg/l | R | |
| SJX | 2NP | 2-NITROPHENOL | ND | 0.33000 | µg/g | R | |
| SJV | 2NP | 2-NITROPHENOL | ND | 0.33000 | µg/g | R | |
| SJU | 2NP | 2-NITROPHENOL | ND | 0.33000 | µg/g | R | |
| SJZ | 2NP | 2-NITROPHENOL | ND | 0.33000 | µg/g | R | |
| SKC | 2NP | 2-NITROPHENOL | ND | 0.33000 | µg/g | R | |
| SKB | 2NP | 2-NITROPHENOL | ND | 0.33000 | µg/g | R | |
| SKP | 2NP | 2-NITROPHENOL | ND | 0.33000 | µg/g | R | |
| SKO | 2NP | 2-NITROPHENOL | ND | 10.00000 | µg/l | R | |
| SKN | 2NP | 2-NITROPHENOL | ND | 0.33000 | µg/g | R | |
| SKM | 2NP | 2-NITROPHENOL | ND | 0.33000 | µg/g | R | |
| SKK | 2NP | 2-NITROPHENOL | ND | 0.33000 | µg/g | R | |
| SKJ | 2NP | 2-NITROPHENOL | ND | 0.33000 | µg/g | R | |
| SKF | 2NP | 2-NITROPHENOL | ND | 0.33000 | µg/g | R | |
| SKE | 2NP | 2-NITROPHENOL | ND | 0.33000 | µg/g | R | |
| SKD | 2NP | 2-NITROPHENOL | ND | 0.33000 | µg/g | R | |
| SJT | 33DCBD | 3,3-CICHLOROBENZIDINE | ND | 0.70000 | µg/g | R | |
| SJW | 33DCBD | 3,3-CICHLOROBENZIDINE | ND | 6.00000 | µg/l | R | |
| SJU | 33DCBD | 3,3-CICHLOROBENZIDINE | ND | 0.70000 | µg/g | R | |
| SJV | 33DCBD | 3,3-CICHLOROBENZIDINE | ND | 0.70000 | µg/g | R | |
| SJX | 33DCBD | 3,3-CICHLOROBENZIDINE | ND | 0.70000 | µg/g | R | |
| SKB | 33DCBD | 3,3-CICHLOROBENZIDINE | ND | 0.70000 | µg/g | R | |
| SJZ | 33DCBD | 3,3-CICHLOROBENZIDINE | ND | 0.70000 | µg/g | R | |
| SKO | 33DCBD | 3,3-CICHLOROBENZIDINE | ND | 20.00000 | µg/l | R | |
| SKN | 33DCBD | 3,3-CICHLOROBENZIDINE | ND | 0.70000 | µg/g | R | |
| SKM | 33DCBD | 3,3-CICHLOROBENZIDINE | ND | 0.70000 | µg/g | R | |
| SKK | 33DCBD | 3,3-CICHLOROBENZIDINE | ND | 0.70000 | µg/g | R | |
| SKJ | 33DCBD | 3,3-CICHLOROBENZIDINE | ND | 0.70000 | µg/g | R | |
| SKF | 33DCBD | 3,3-CICHLOROBENZIDINE | ND | 0.70000 | µg/g | R | |
| SKE | 33DCBD | 3,3-CICHLOROBENZIDINE | ND | 0.70000 | µg/g | R | |
| SKD | 33DCBD | 3,3-CICHLOROBENZIDINE | ND | 0.70000 | µg/g | R | |
| SKP | 33DCBD | 3,3-CICHLOROBENZIDINE | ND | 0.70000 | µg/g | R | |
| SKC | 33DCBD | 3,3-CICHLOROBENZIDINE | ND | 0.70000 | µg/g | R | |
| SJT | 3NANIL | 3-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SJW | 3NANIL | 3-NITROANILINE | ND | 50.00000 | µg/l | R | |
| SJU | 3NANIL | 3-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SJV | 3NANIL | 3-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SJX | 3NANIL | 3-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKB | 3NANIL | 3-NITROANILINE | ND | 1.70000 | µg/g | R | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SJZ | 3NANIL | 3-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKO | 3NANIL | 3-NITROANILINE | ND | 50.00000 | µg/l | R | |
| SKN | 3NANIL | 3-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKM | 3NANIL | 3-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKK | 3NANIL | 3-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKJ | 3NANIL | 3-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKF | 3NANIL | 3-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKE | 3NANIL | 3-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKD | 3NANIL | 3-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKP | 3NANIL | 3-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKC | 3NANIL | 3-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SJT | 46DN2C | 4,6-DINITRO-2-CRESOL | ND | 1.70000 | µg/g | R | |
| SJW | 46DN2C | 4,6-DINITRO-2-CRESOL | ND | 50.00000 | µg/l | R | |
| SJU | 46DN2C | 4,6-DINITRO-2-CRESOL | ND | 1.70000 | µg/g | R | |
| SJV | 46DN2C | 4,6-DINITRO-2-CRESOL | ND | 1.70000 | µg/g | R | |
| SJX | 46DN2C | 4,6-DINITRO-2-CRESOL | ND | 1.70000 | µg/g | R | |
| SKB | 46DN2C | 4,6-DINITRO-2-CRESOL | ND | 1.70000 | µg/g | R | |
| SJZ | 46DN2C | 4,6-DINITRO-2-CRESOL | ND | 1.70000 | µg/g | R | |
| SKP | 46DN2C | 4,6-DINITRO-2-CRESOL | ND | 1.70000 | µg/g | R | |
| SKO | 46DN2C | 4,6-DINITRO-2-CRESOL | ND | 50.00000 | µg/l | R | |
| SKN | 46DN2C | 4,6-DINITRO-2-CRESOL | ND | 1.70000 | µg/g | R | |
| SKM | 46DN2C | 4,6-DINITRO-2-CRESOL | ND | 1.70000 | µg/g | R | |
| SKK | 46DN2C | 4,6-DINITRO-2-CRESOL | ND | 1.70000 | µg/g | R | |
| SKJ | 46DN2C | 4,6-DINITRO-2-CRESOL | ND | 1.70000 | µg/g | R | |
| SKF | 46DN2C | 4,6-DINITRO-2-CRESOL | ND | 1.70000 | µg/g | R | |
| SKE | 46DN2C | 4,6-DINITRO-2-CRESOL | ND | 1.70000 | µg/g | R | |
| SKD | 46DN2C | 4,6-DINITRO-2-CRESOL | ND | 1.70000 | µg/g | R | |
| SKC | 46DN2C | 4,6-DINITRO-2-CRESOL | ND | 1.70000 | µg/g | R | |
| SJT | 4BRPPE | 4-BROMOPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SJW | 4BRPPE | 4-BROMOPHENYLPHENYL ETHER | ND | 10.00000 | µg/l | R | |
| SJX | 4BRPPE | 4-BROMOPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SJV | 4BRPPE | 4-BROMOPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SJU | 4BRPPE | 4-BROMOPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SJZ | 4BRPPE | 4-BROMOPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SKC | 4BRPPE | 4-BROMOPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SKB | 4BRPPE | 4-BROMOPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SKP | 4BRPPE | 4-BROMOPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SKO | 4BRPPE | 4-BROMOPHENYLPHENYL ETHER | ND | 10.00000 | µg/l | R | |
| SKN | 4BRPPE | 4-BROMOPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SKM | 4BRPPE | 4-BROMOPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SKK | 4BRPPE | 4-BROMOPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SKJ | 4BRPPE | 4-BROMOPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SKF | 4BRPPE | 4-BROMOPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SKE | 4BRPPE | 4-BROMOPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SKD | 4BRPPE | 4-BROMOPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SJT | 4CANIL | 4-CHLOROANILINE | ND | 0.33000 | µg/g | R | |
| SJW | 4CANIL | 4-CHLOROANILINE | ND | 10.00000 | µg/l | R | |
| SJX | 4CANIL | 4-CHLOROANILINE | ND | 0.33000 | µg/g | R | |
| SJV | 4CANIL | 4-CHLOROANILINE | ND | 0.33000 | µg/g | R | |
| SJU | 4CANIL | 4-CHLOROANILINE | ND | 0.33000 | µg/g | R | |
| SJZ | 4CANIL | 4-CHLOROANILINE | ND | 0.33000 | µg/g | R | |
| SKC | 4CANIL | 4-CHLOROANILINE | ND | 0.33000 | µg/g | R | |
| SKB | 4CANIL | 4-CHLOROANILINE | ND | 0.33000 | µg/g | R | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SKP | 4CANIL | 4-CHLOROANILINE | ND | 0.33000 | µg/g | R | |
| SKO | 4CANIL | 4-CHLOROANILINE | ND | 10.00000 | µg/l | R | |
| SKN | 4CANIL | 4-CHLOROANILINE | ND | 0.33000 | µg/g | R | |
| SKM | 4CANIL | 4-CHLOROANILINE | ND | 0.33000 | µg/g | R | |
| SKK | 4CANIL | 4-CHLOROANILINE | ND | 0.33000 | µg/g | R | |
| SKJ | 4CANIL | 4-CHLOROANILINE | ND | 0.33000 | µg/g | R | |
| SKF | 4CANIL | 4-CHLOROANILINE | ND | 0.33000 | µg/g | R | |
| SKE | 4CANIL | 4-CHLOROANILINE | ND | 0.33000 | µg/g | R | |
| SKD | 4CANIL | 4-CHLOROANILINE | ND | 0.33000 | µg/g | R | |
| SJT | 4CL3C | 4-CHLORO-3-CRESOL | ND | 0.33000 | µg/g | R | |
| SJW | 4CL3C | 4-CHLORO-3-CRESOL | ND | 10.00000 | µg/l | R | |
| SJX | 4CL3C | 4-CHLORO-3-CRESOL | ND | 0.33000 | µg/g | R | |
| SJV | 4CL3C | 4-CHLORO-3-CRESOL | ND | 0.33000 | µg/g | R | |
| SJU | 4CL3C | 4-CHLORO-3-CRESOL | ND | 0.33000 | µg/g | R | |
| SJZ | 4CL3C | 4-CHLORO-3-CRESOL | ND | 0.33000 | µg/g | R | |
| SKC | 4CL3C | 4-CHLORO-3-CRESOL | ND | 0.33000 | µg/g | R | |
| SKB | 4CL3C | 4-CHLORO-3-CRESOL | ND | 0.33000 | µg/g | R | |
| SKP | 4CL3C | 4-CHLORO-3-CRESOL | ND | 0.33000 | µg/g | R | |
| SKO | 4CL3C | 4-CHLORO-3-CRESOL | ND | 10.00000 | µg/l | R | |
| SKN | 4CL3C | 4-CHLORO-3-CRESOL | ND | 0.33000 | µg/g | R | |
| SKM | 4CL3C | 4-CHLORO-3-CRESOL | ND | 0.33000 | µg/g | R | |
| SKK | 4CL3C | 4-CHLORO-3-CRESOL | ND | 0.33000 | µg/g | R | |
| SKJ | 4CL3C | 4-CHLORO-3-CRESOL | ND | 0.33000 | µg/g | R | |
| SKF | 4CL3C | 4-CHLORO-3-CRESOL | ND | 0.33000 | µg/g | R | |
| SKE | 4CL3C | 4-CHLORO-3-CRESOL | ND | 0.33000 | µg/g | R | |
| SKD | 4CL3C | 4-CHLORO-3-CRESOL | ND | 0.33000 | µg/g | R | |
| SJT | 4CLPPE | 4-CHLOROPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SJW | 4CLPPE | 4-CHLOROPHENYLPHENYL ETHER | ND | 10.00000 | µg/l | R | |
| SJX | 4CLPPE | 4-CHLOROPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SJV | 4CLPPE | 4-CHLOROPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SJU | 4CLPPE | 4-CHLOROPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SJZ | 4CLPPE | 4-CHLOROPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SKC | 4CLPPE | 4-CHLOROPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SKB | 4CLPPE | 4-CHLOROPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SKP | 4CLPPE | 4-CHLOROPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SKO | 4CLPPE | 4-CHLOROPHENYLPHENYL ETHER | ND | 10.00000 | µg/l | R | |
| SKN | 4CLPPE | 4-CHLOROPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SKM | 4CLPPE | 4-CHLOROPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SKK | 4CLPPE | 4-CHLOROPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SKJ | 4CLPPE | 4-CHLOROPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SKF | 4CLPPE | 4-CHLOROPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SKE | 4CLPPE | 4-CHLOROPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SKD | 4CLPPE | 4-CHLOROPHENYLPHENYL ETHER | ND | 0.33000 | µg/g | R | |
| SJT | 4MP | 4-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SJW | 4MP | 4-METHYLPHENOL | ND | 10.00000 | µg/l | R | |
| SJX | 4MP | 4-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SJV | 4MP | 4-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SJU | 4MP | 4-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SJZ | 4MP | 4-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKC | 4MP | 4-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKB | 4MP | 4-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKP | 4MP | 4-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKO | 4MP | 4-METHYLPHENOL | ND | 10.00000 | µg/l | R | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | | Test Name | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SKN | 4MP | 4-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKM | 4MP | 4-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKK | 4MP | 4-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKJ | 4MP | 4-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKF | 4MP | 4-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKE | 4MP | 4-METHYLPHENOL | ND | 0.33000 | µg/g | R | |
| SKD | 4MP | 4-METHYLPHENOL | | 0.04600 | µg/g | S | |
| SJT | 4NANIL | 4-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SJW | 4NANIL | 4-NITROANILINE | ND | 50.00000 | µg/l | R | |
| SJX | 4NANIL | 4-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SJV | 4NANIL | 4-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SJU | 4NANIL | 4-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SJZ | 4NANIL | 4-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKC | 4NANIL | 4-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKB | 4NANIL | 4-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKP | 4NANIL | 4-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKO | 4NANIL | 4-NITROANILINE | ND | 50.00000 | µg/l | R | |
| SKN | 4NANIL | 4-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKM | 4NANIL | 4-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKK | 4NANIL | 4-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKJ | 4NANIL | 4-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKF | 4NANIL | 4-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKE | 4NANIL | 4-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SKD | 4NANIL | 4-NITROANILINE | ND | 1.70000 | µg/g | R | |
| SJT | 4NP | 4-NITROPHENOL | ND | 1.70000 | µg/g | R | |
| SJW | 4NP | 4-NITROPHENOL | ND | 50.00000 | µg/l | R | |
| SJX | 4NP | 4-NITROPHENOL | ND | 1.70000 | µg/g | R | |
| SJV | 4NP | 4-NITROPHENOL | ND | 1.70000 | µg/g | R | |
| SJU | 4NP | 4-NITROPHENOL | ND | 1.70000 | µg/g | R | |
| SJZ | 4NP | 4-NITROPHENOL | ND | 1.70000 | µg/g | R | |
| SKC | 4NP | 4-NITROPHENOL | ND | 1.70000 | µg/g | R | |
| SKB | 4NP | 4-NITROPHENOL | ND | 1.70000 | µg/g | R | |
| SKP | 4NP | 4-NITROPHENOL | ND | 1.70000 | µg/g | R | |
| SKO | 4NP | 4-NITROPHENOL | ND | 50.00000 | µg/l | R | |
| SKN | 4NP | 4-NITROPHENOL | ND | 1.70000 | µg/g | R | |
| SKM | 4NP | 4-NITROPHENOL | ND | 1.70000 | µg/g | R | |
| SKK | 4NP | 4-NITROPHENOL | ND | 1.70000 | µg/g | R | |
| SKJ | 4NP | 4-NITROPHENOL | ND | 1.70000 | µg/g | R | |
| SKF | 4NP | 4-NITROPHENOL | ND | 1.70000 | µg/g | R | |
| SKE | 4NP | 4-NITROPHENOL | ND | 1.70000 | µg/g | R | |
| SKD | 4NP | 4-NITROPHENOL | ND | 1.70000 | µg/g | R | |
| SKP | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.46000 | µg/g | | |
| SKO | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 6.80000 | µg/l | | |
| SKK | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.46000 | µg/g | | |
| SKJ | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.46000 | µg/g | | |
| SKF | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.46000 | µg/g | | |
| SKE | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.46000 | µg/g | | |
| SKD | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.46000 | µg/g | | |
| SKC | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.46000 | µg/g | | |
| SKB | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.46000 | µg/g | | |
| SJZ | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.46000 | µg/g | | |
| SJX | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.46000 | µg/g | | |
| SJW | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 6.80000 | µg/l | | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SJV | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.46000 | µg/g | | |
| SJU | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.46000 | µg/g | | |
| SJT | ABHC | ALPHA-BENZENEHEXACHLORIDE | LT | 0.46000 | µg/g | | |
| SKD | ACLDA | ALPHA CHLORDANE | ND | 1.00000 | µg/g | R | |
| SKC | ACLDA | ALPHA CHLORDANE | ND | 1.00000 | µg/g | R | |
| SKB | ACLDA | ALPHA CHLORDANE | ND | 1.00000 | µg/g | R | |
| SJZ | ACLDA | ALPHA CHLORDANE | ND | 5.00000 | µg/g | R | |
| SJX | ACLDA | ALPHA CHLORDANE | ND | 1.00000 | µg/g | R | |
| SJW | ACLDA | ALPHA CHLORDANE | ND | 30.00000 | µg/l | R | |
| SJV | ACLDA | ALPHA CHLORDANE | ND | 1.00000 | µg/g | R | |
| SJU | ACLDA | ALPHA CHLORDANE | ND | 1.00000 | µg/g | R | |
| SKP | ACLDA | ALPHA CHLORDANE | ND | 1.00000 | µg/g | R | |
| SKO | ACLDA | ALPHA CHLORDANE | ND | 30.00000 | µg/l | R | |
| SKK | ACLDA | ALPHA CHLORDANE | ND | 1.00000 | µg/g | R | |
| SKJ | ACLDA | ALPHA CHLORDANE | ND | 1.00000 | µg/g | R | |
| SKF | ACLDA | ALPHA CHLORDANE | ND | 1.00000 | µg/g | R | |
| SKE | ACLDA | ALPHA CHLORDANE | ND | 1.00000 | µg/g | R | |
| SJT | ACLDA | ALPHA CHLORDANE | ND | 1.00000 | µg/g | R | |
| SJU | AENSLF | ALPHA-ENDOSULFAN | ND | 1.00000 | µg/g | R | |
| SJT | AENSLF | ALPHA-ENDOSULFAN | ND | 1.00000 | µg/g | R | |
| SKP | AENSLF | ALPHA-ENDOSULFAN | ND | 1.00000 | µg/g | R | |
| SKO | AENSLF | ALPHA-ENDOSULFAN | ND | 30.00000 | µg/l | R | |
| SKK | AENSLF | ALPHA-ENDOSULFAN | ND | 1.00000 | µg/g | R | |
| SKJ | AENSLF | ALPHA-ENDOSULFAN | ND | 1.00000 | µg/g | R | |
| SKF | AENSLF | ALPHA-ENDOSULFAN | ND | 1.00000 | µg/g | R | |
| SKE | AENSLF | ALPHA-ENDOSULFAN | ND | 1.00000 | µg/g | R | |
| SKD | AENSLF | ALPHA-ENDOSULFAN | ND | 1.00000 | µg/g | R | |
| SKC | AENSLF | ALPHA-ENDOSULFAN | ND | 1.00000 | µg/g | R | |
| SKB | AENSLF | ALPHA-ENDOSULFAN | ND | 1.00000 | µg/g | R | |
| SJZ | AENSLF | ALPHA-ENDOSULFAN | ND | 0.50000 | µg/g | R | |
| SJX | AENSLF | ALPHA-ENDOSULFAN | ND | 1.00000 | µg/g | R | |
| SJW | AENSLF | ALPHA-ENDOSULFAN | ND | 30.00000 | µg/l | R | |
| SJV | AENSLF | ALPHA-ENDOSULFAN | ND | 1.00000 | µg/g | R | |
| SJU | ALDRN | ALDRIN | LT | 0.29000 | µg/g | | |
| SJT | ALDRN | ALDRIN | LT | 0.29000 | µg/g | | |
| SKF | ALDRN | ALDRIN | LT | 0.29000 | µg/g | | |
| SKE | ALDRN | ALDRIN | LT | 0.29000 | µg/g | | |
| SKD | ALDRN | ALDRIN | LT | 0.29000 | µg/g | | |
| SKC | ALDRN | ALDRIN | LT | 0.29000 | µg/g | | |
| SKB | ALDRN | ALDRIN | LT | 0.29000 | µg/g | | |
| SJZ | ALDRN | ALDRIN | LT | 0.29000 | µg/g | | |
| SJX | ALDRN | ALDRIN | LT | 0.29000 | µg/g | | |
| SJW | ALDRN | ALDRIN | LT | 12.00000 | µg/l | | |
| SKP | ALDRN | ALDRIN | LT | 0.29000 | µg/g | | |
| SKO | ALDRN | ALDRIN | LT | 12.00000 | µg/l | | |
| SKK | ALDRN | ALDRIN | LT | 0.29000 | µg/g | | |
| SKJ | ALDRN | ALDRIN | LT | 0.29000 | µg/g | | |
| SJV | ALDRN | ALDRIN | LT | 0.29000 | µg/g | | |
| SJT | ANAPN | ACENEPHTHENE | LT | 0.41000 | µg/g | | |
| SJW | ANAPN | ACENEPHTHENE | LT | 14.00000 | µg/l | | |
| SJZ | ANAPN | ACENEPHTHENE | LT | 0.41000 | µg/g | | |
| SKC | ANAPN | ACENEPHTHENE | LT | 0.41000 | µg/g | | |
| SKE | ANAPN | ACENEPHTHENE | LT | 0.41000 | µg/g | | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | | Test Name | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SKD | ANAPN | ACENEPHTHENE | LT | 0.41000 | µg/g | | |
| SKP | ANAPN | ACENEPHTHENE | LT | 0.41000 | µg/g | | |
| SKO | ANAPN | ACENEPHTHENE | LT | 14.00000 | µg/l | | |
| SKN | ANAPN | ACENEPHTHENE | LT | 0.41000 | µg/g | | |
| SKM | ANAPN | ACENEPHTHENE | LT | 0.41000 | µg/g | | |
| SKK | ANAPN | ACENEPHTHENE | LT | 0.41000 | µg/g | | |
| SKJ | ANAPN | ACENEPHTHENE | LT | 0.41000 | µg/g | | |
| SKF | ANAPN | ACENEPHTHENE | LT | 0.41000 | µg/g | | |
| SKB | ANAPN | ACENEPHTHENE | LT | 0.41000 | µg/g | | |
| SJX | ANAPN | ACENEPHTHENE | LT | 0.41000 | µg/g | | |
| SJV | ANAPN | ACENEPHTHENE | LT | 0.41000 | µg/g | | |
| SJU | ANAPN | ACENEPHTHENE | LT | 0.41000 | µg/g | | |
| SJT | ANAPY | ACENAPHTHYLENE | LT | 0.46000 | µg/g | | |
| SJW | ANAPY | ACENAPHTHYLENE | LT | 19.00000 | µg/l | | |
| SJZ | ANAPY | ACENAPHTHYLENE | LT | 0.46000 | µg/g | | |
| SKC | ANAPY | ACENAPHTHYLENE | LT | 0.46000 | µg/g | | |
| SKE | ANAPY | ACENAPHTHYLENE | LT | 0.46000 | µg/g | | |
| SKD | ANAPY | ACENAPHTHYLENE | LT | 0.46000 | µg/g | | |
| SKP | ANAPY | ACENAPHTHYLENE | LT | 0.46000 | µg/g | | |
| SKO | ANAPY | ACENAPHTHYLENE | LT | 19.00000 | µg/l | | |
| SKN | ANAPY | ACENAPHTHYLENE | LT | 0.46000 | µg/g | | |
| SKM | ANAPY | ACENAPHTHYLENE | LT | 0.46000 | µg/g | | |
| SKK | ANAPY | ACENAPHTHYLENE | LT | 0.46000 | µg/g | | |
| SKJ | ANAPY | ACENAPHTHYLENE | LT | 0.46000 | µg/g | | |
| SKF | ANAPY | ACENAPHTHYLENE | LT | 0.46000 | µg/g | | |
| SKB | ANAPY | ACENAPHTHYLENE | LT | 0.46000 | µg/g | | |
| SJX | ANAPY | ACENAPHTHYLENE | LT | 0.46000 | µg/g | | |
| SJV | ANAPY | ACENAPHTHYLENE | LT | 0.46000 | µg/g | | |
| SJU | ANAPY | ACENAPHTHYLENE | LT | 0.46000 | µg/g | | |
| SJT | ANTRC | ANTHRACENE | LT | 0.54000 | µg/g | | |
| SJW | ANTRC | ANTHRACENE | LT | 20.00000 | µg/l | | |
| SJZ | ANTRC | ANTHRACENE | LT | 0.54000 | µg/g | | |
| SKC | ANTRC | ANTHRACENE | LT | 0.54000 | µg/g | | |
| SKE | ANTRC | ANTHRACENE | LT | 0.54000 | µg/g | | |
| SKD | ANTRC | ANTHRACENE | LT | 0.54000 | µg/g | | |
| SKP | ANTRC | ANTHRACENE | LT | 0.54000 | µg/g | | |
| SKO | ANTRC | ANTHRACENE | LT | 20.00000 | µg/l | | |
| SKN | ANTRC | ANTHRACENE | LT | 0.54000 | µg/g | | |
| SKM | ANTRC | ANTHRACENE | LT | 0.54000 | µg/g | | |
| SKK | ANTRC | ANTHRACENE | LT | 0.54000 | µg/g | | |
| SKJ | ANTRC | ANTHRACENE | LT | 0.54000 | µg/g | | |
| SKF | ANTRC | ANTHRACENE | LT | 0.54000 | µg/g | | |
| SKB | ANTRC | ANTHRACENE | LT | 0.54000 | µg/g | | |
| SJX | ANTRC | ANTHRACENE | LT | 0.54000 | µg/g | | |
| SJV | ANTRC | ANTHRACENE | LT | 0.54000 | µg/g | | |
| SJU | ANTRC | ANTHRACENE | LT | 0.54000 | µg/g | | |
| SJT | B2CEX | BIS (2-CHLOROETHOXY) METHANE | ND | 0.33000 | µg/g | R | |
| SJW | B2CEX | BIS (2-CHLOROETHOXY) METHANE | ND | 10.00000 | µg/l | R | |
| SJX | B2CEX | BIS (2-CHLOROETHOXY) METHANE | ND | 0.33000 | µg/g | R | |
| SJV | B2CEX | BIS (2-CHLOROETHOXY) METHANE | ND | 0.33000 | µg/g | R | |
| SJU | B2CEX | BIS (2-CHLOROETHOXY) METHANE | ND | 0.33000 | µg/g | R | |
| SJZ | B2CEX | BIS (2-CHLOROETHOXY) METHANE | ND | 0.33000 | µg/g | R | |
| SKC | B2CEX | BIS (2-CHLOROETHOXY) METHANE | ND | 0.33000 | µg/g | R | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SKB | B2CEX | BIS (2-CHLOROETHOXY) METHANE | ND | 0.33000 | µg/g | R | |
| SKP | B2CEX | BIS (2-CHLOROETHOXY) METHANE | ND | 0.33000 | µg/g | R | |
| SKO | B2CEX | BIS (2-CHLOROETHOXY) METHANE | ND | 10.00000 | µg/l | R | |
| SKN | B2CEX | BIS (2-CHLOROETHOXY) METHANE | ND | 0.33000 | µg/g | R | |
| SKM | B2CEX | BIS (2-CHLOROETHOXY) METHANE | ND | 0.33000 | µg/g | R | |
| SKK | B2CEX | BIS (2-CHLOROETHOXY) METHANE | ND | 0.33000 | µg/g | R | |
| SKJ | B2CEX | BIS (2-CHLOROETHOXY) METHANE | ND | 0.33000 | µg/g | R | |
| SKF | B2CEX | BIS (2-CHLOROETHOXY) METHANE | ND | 0.33000 | µg/g | R | |
| SKE | B2CEX | BIS (2-CHLOROETHOXY) METHANE | ND | 0.33000 | µg/g | R | |
| SKD | B2CEX | BIS (2-CHLOROETHOXY) METHANE | ND | 0.33000 | µg/g | R | |
| SJT | B2CIPE | BIS (2-CHLOROISOPROPYL)ETHER | ND | 0.33000 | µg/g | R | |
| SJW | B2CIPE | BIS (2-CHLOROISOPROPYL)ETHER | ND | 10.00000 | µg/l | R | |
| SJX | B2CIPE | BIS (2-CHLOROISOPROPYL)ETHER | ND | 0.33000 | µg/g | R | |
| SJV | B2CIPE | BIS (2-CHLOROISOPROPYL)ETHER | ND | 0.33000 | µg/g | R | |
| SJU | B2CIPE | BIS (2-CHLOROISOPROPYL)ETHER | ND | 0.33000 | µg/g | R | |
| SJZ | B2CIPE | BIS (2-CHLOROISOPROPYL)ETHER | ND | 0.33000 | µg/g | R | |
| SKC | B2CIPE | BIS (2-CHLOROISOPROPYL)ETHER | ND | 0.33000 | µg/g | R | |
| SKB | B2CIPE | BIS (2-CHLOROISOPROPYL)ETHER | ND | 0.33000 | µg/g | R | |
| SKP | B2CIPE | BIS (2-CHLOROISOPROPYL)ETHER | ND | 0.33000 | µg/g | R | |
| SKO | B2CIPE | BIS (2-CHLOROISOPROPYL)ETHER | ND | 10.00000 | µg/l | R | |
| SKN | B2CIPE | BIS (2-CHLOROISOPROPYL)ETHER | ND | 0.33000 | µg/g | R | |
| SKM | B2CIPE | BIS (2-CHLOROISOPROPYL)ETHER | ND | 0.33000 | µg/g | R | |
| SKK | B2CIPE | BIS (2-CHLOROISOPROPYL)ETHER | ND | 0.33000 | µg/g | R | |
| SKJ | B2CIPE | BIS (2-CHLOROISOPROPYL)ETHER | ND | 0.33000 | µg/g | R | |
| SKF | B2CIPE | BIS (2-CHLOROISOPROPYL)ETHER | ND | 0.33000 | µg/g | R | |
| SKE | B2CIPE | BIS (2-CHLOROISOPROPYL)ETHER | ND | 0.33000 | µg/g | R | |
| SKD | B2CIPE | BIS (2-CHLOROISOPROPYL)ETHER | ND | 0.33000 | µg/g | R | |
| SJT | B2CLEE | BIS (2-CHLOROETHYL)ETHER | LT | 0.33000 | µg/g | | |
| SJW | B2CLEE | BIS (2-CHLOROETHYL)ETHER | LT | 8.10000 | µg/l | | |
| SJX | B2CLEE | BIS (2-CHLOROETHYL)ETHER | LT | 0.33000 | µg/g | | |
| SJV | B2CLEE | BIS (2-CHLOROETHYL)ETHER | LT | 0.33000 | µg/g | | |
| SJU | B2CLEE | BIS (2-CHLOROETHYL)ETHER | LT | 0.33000 | µg/g | | |
| SJZ | B2CLEE | BIS (2-CHLOROETHYL)ETHER | LT | 0.33000 | µg/g | | |
| SKC | B2CLEE | BIS (2-CHLOROETHYL)ETHER | LT | 0.33000 | µg/g | | |
| SKB | B2CLEE | BIS (2-CHLOROETHYL)ETHER | LT | 0.33000 | µg/g | | |
| SKP | B2CLEE | BIS (2-CHLOROETHYL)ETHER | LT | 0.33000 | µg/g | | |
| SKO | B2CLEE | BIS (2-CHLOROETHYL)ETHER | LT | 8.10000 | µg/l | | |
| SKN | B2CLEE | BIS (2-CHLOROETHYL)ETHER | LT | 0.33000 | µg/g | | |
| SKM | B2CLEE | BIS (2-CHLOROETHYL)ETHER | LT | 0.33000 | µg/g | | |
| SKK | B2CLEE | BIS (2-CHLOROETHYL)ETHER | LT | 0.33000 | µg/g | | |
| SKJ | B2CLEE | BIS (2-CHLOROETHYL)ETHER | LT | 0.33000 | µg/g | | |
| SKF | B2CLEE | BIS (2-CHLOROETHYL)ETHER | LT | 0.33000 | µg/g | | |
| SKE | B2CLEE | BIS (2-CHLOROETHYL)ETHER | LT | 0.33000 | µg/g | | |
| SKD | B2CLEE | BIS (2-CHLOROETHYL)ETHER | LT | 0.33000 | µg/g | | |
| SJT | B2EHP | BIS (2-ETHYHEXYL) PHTHALATE | LT | 0.39000 | µg/g | | |
| SJW | B2EHP | BIS (2-ETHYHEXYL) PHTHALATE | LT | 32.00000 | µg/l | | |
| SJX | B2EHP | BIS (2-ETHYHEXYL) PHTHALATE | LT | 0.39000 | µg/g | | |
| SJV | B2EHP | BIS (2-ETHYHEXYL) PHTHALATE | LT | 0.39000 | µg/g | | |
| SJU | B2EHP | BIS (2-ETHYHEXYL) PHTHALATE | LT | 0.39000 | µg/g | | |
| SJZ | B2EHP | BIS (2-ETHYHEXYL) PHTHALATE | LT | 0.39000 | µg/g | | |
| SKC | B2EHP | BIS (2-ETHYHEXYL) PHTHALATE | LT | 0.39000 | µg/g | | |
| SKB | B2EHP | BIS (2-ETHYHEXYL) PHTHALATE | LT | 0.39000 | µg/g | | |
| SKP | B2EHP | BIS (2-ETHYHEXYL) PHTHALATE | LT | 0.39000 | µg/g | | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SKO | B2EHP | BIS (2-ETHYHEXYL) PHTHALATE | LT | 32.00000 | µg/l | | |
| SKN | B2EHP | BIS (2-ETHYHEXYL) PHTHALATE | LT | 0.39000 | µg/g | | |
| SKM | B2EHP | BIS (2-ETHYHEXYL) PHTHALATE | LT | 0.39000 | µg/g | | |
| SKK | B2EHP | BIS (2-ETHYHEXYL) PHTHALATE | LT | 0.39000 | µg/g | | |
| SKJ | B2EHP | BIS (2-ETHYHEXYL) PHTHALATE | LT | 0.39000 | µg/g | | |
| SKF | B2EHP | BIS (2-ETHYHEXYL) PHTHALATE | LT | 0.39000 | µg/g | | |
| SKE | B2EHP | BIS (2-ETHYHEXYL) PHTHALATE | LT | 0.39000 | µg/g | | |
| SKD | B2EHP | BIS (2-ETHYHEXYL) PHTHALATE | LT | 0.39000 | µg/g | | |
| SJT | BAANT | BENZO [A] ANTHRACENE | LT | 0.30000 | µg/g | | |
| SJU | BAANT | BENZO [A] ANTHRACENE | LT | 0.30000 | µg/g | | |
| SJX | BAANT | BENZO [A] ANTHRACENE | LT | 0.30000 | µg/g | | |
| SJZ | BAANT | BENZO [A] ANTHRACENE | LT | 0.30000 | µg/g | | |
| SJW | BAANT | BENZO [A] ANTHRACENE | LT | 14.00000 | µg/l | | |
| SJV | BAANT | BENZO [A] ANTHRACENE | LT | 0.30000 | µg/g | | |
| SKB | BAANT | BENZO [A] ANTHRACENE | LT | 0.30000 | µg/g | | |
| SKD | BAANT | BENZO [A] ANTHRACENE | LT | 0.30000 | µg/g | | |
| SKC | BAANT | BENZO [A] ANTHRACENE | LT | 0.30000 | µg/g | | |
| SKP | BAANT | BENZO [A] ANTHRACENE | LT | 0.30000 | µg/g | | |
| SKO | BAANT | BENZO [A] ANTHRACENE | LT | 14.00000 | µg/l | | |
| SKN | BAANT | BENZO [A] ANTHRACENE | LT | 0.30000 | µg/g | | |
| SKM | BAANT | BENZO [A] ANTHRACENE | LT | 0.30000 | µg/g | | |
| SKK | BAANT | BENZO [A] ANTHRACENE | LT | 0.30000 | µg/g | | |
| SKJ | BAANT | BENZO [A] ANTHRACENE | LT | 0.30000 | µg/g | | |
| SKF | BAANT | BENZO [A] ANTHRACENE | LT | 0.30000 | µg/g | | |
| SKE | BAANT | BENZO [A] ANTHRACENE | LT | 0.30000 | µg/g | | |
| SJT | BAPYR | BENZO [A] PYRENE | LT | 0.38000 | µg/g | | |
| SJU | BAPYR | BENZO [A] PYRENE | LT | 0.38000 | µg/g | | |
| SJX | BAPYR | BENZO [A] PYRENE | LT | 0.38000 | µg/g | | |
| SJZ | BAPYR | BENZO [A] PYRENE | LT | 0.38000 | µg/g | | |
| SJW | BAPYR | BENZO [A] PYRENE | LT | 10.00000 | µg/l | | |
| SJV | BAPYR | BENZO [A] PYRENE | LT | 0.38000 | µg/g | | |
| SKB | BAPYR | BENZO [A] PYRENE | LT | 0.38000 | µg/g | | |
| SKD | BAPYR | BENZO [A] PYRENE | LT | 0.38000 | µg/g | | |
| SKC | BAPYR | BENZO [A] PYRENE | LT | 0.38000 | µg/g | | |
| SKP | BAPYR | BENZO [A] PYRENE | LT | 0.38000 | µg/g | | |
| SKO | BAPYR | BENZO [A] PYRENE | LT | 10.00000 | µg/l | | |
| SKN | BAPYR | BENZO [A] PYRENE | LT | 0.38000 | µg/g | | |
| SKM | BAPYR | BENZO [A] PYRENE | LT | 0.38000 | µg/g | | |
| SKK | BAPYR | BENZO [A] PYRENE | LT | 0.38000 | µg/g | | |
| SKJ | BAPYR | BENZO [A] PYRENE | LT | 0.38000 | µg/g | | |
| SKF | BAPYR | BENZO [A] PYRENE | LT | 0.38000 | µg/g | | |
| SKE | BAPYR | BENZO [A] PYRENE | LT | 0.38000 | µg/g | | |
| SJT | BBFAN | BENZO [B] FLUORANTHENE | LT | 0.36000 | µg/g | | |
| SJU | BBFAN | BENZO [B] FLUORANTHENE | LT | 0.36000 | µg/g | | |
| SJX | BBFAN | BENZO [B] FLUORANTHENE | LT | 0.36000 | µg/g | | |
| SJZ | BBFAN | BENZO [B] FLUORANTHENE | LT | 0.36000 | µg/g | | |
| SJW | BBFAN | BENZO [B] FLUORANTHENE | LT | 23.00000 | µg/l | | |
| SJV | BBFAN | BENZO [B] FLUORANTHENE | LT | 0.36000 | µg/g | | |
| SKB | BBFAN | BENZO [B] FLUORANTHENE | LT | 0.36000 | µg/g | | |
| SKD | BBFAN | BENZO [B] FLUORANTHENE | LT | 0.36000 | µg/g | | |
| SKC | BBFAN | BENZO [B] FLUORANTHENE | LT | 0.36000 | µg/g | | |
| SKP | BBFAN | BENZO [B] FLUORANTHENE | LT | 0.36000 | µg/g | | |
| SKO | BBFAN | BENZO [B] FLUORANTHENE | LT | 23.00000 | µg/l | | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SKN | BBFAN | BENZO [B] FLUORANTHENE | LT | 0.36000 | µg/g | | |
| SKM | BBFAN | BENZO [B] FLUORANTHENE | LT | 0.36000 | µg/g | | |
| SKK | BBFAN | BENZO [B] FLUORANTHENE | LT | 0.36000 | µg/g | | |
| SKJ | BBFAN | BENZO [B] FLUORANTHENE | LT | 0.36000 | µg/g | | |
| SKF | BBFAN | BENZO [B] FLUORANTHENE | LT | 0.36000 | µg/g | | |
| SKE | BBFAN | BENZO [B] FLUORANTHENE | LT | 0.36000 | µg/g | | |
| SJT | BBHC | BETA-BENZENEHEXACHLORIDE | LT | 0.36000 | µg/g | | |
| SKE | BBHC | BETA-BENZENEHEXACHLORIDE | LT | 0.36000 | µg/g | | |
| SKD | BBHC | BETA-BENZENEHEXACHLORIDE | LT | 0.36000 | µg/g | | |
| SKC | BBHC | BETA-BENZENEHEXACHLORIDE | LT | 0.36000 | µg/g | | |
| SKB | BBHC | BETA-BENZENEHEXACHLORIDE | LT | 0.36000 | µg/g | | |
| SJZ | BBHC | BETA-BENZENEHEXACHLORIDE | LT | 0.36000 | µg/g | | |
| SJX | BBHC | BETA-BENZENEHEXACHLORIDE | LT | 0.36000 | µg/g | | |
| SJW | BBHC | BETA-BENZENEHEXACHLORIDE | LT | 4.90000 | µg/l | | |
| SJV | BBHC | BETA-BENZENEHEXACHLORIDE | LT | 0.36000 | µg/g | | |
| SKP | BBHC | BETA-BENZENEHEXACHLORIDE | LT | 0.36000 | µg/g | | |
| SKO | BBHC | BETA-BENZENEHEXACHLORIDE | LT | 4.90000 | µg/l | | |
| SKK | BBHC | BETA-BENZENEHEXACHLORIDE | LT | 0.36000 | µg/g | | |
| SKJ | BBHC | BETA-BENZENEHEXACHLORIDE | LT | 0.36000 | µg/g | | |
| SKF | BBHC | BETA-BENZENEHEXACHLORIDE | LT | 0.36000 | µg/g | | |
| SJU | BBHC | BETA-BENZENEHEXACHLORIDE | LT | 0.36000 | µg/g | | |
| SJT | BBZP | BUTYLBENZYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SJU | BBZP | BUTYLBENZYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SJV | BBZP | BUTYLBENZYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SJX | BBZP | BUTYLBENZYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKB | BBZP | BUTYLBENZYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKD | BBZP | BUTYLBENZYL PHTHALATE | | 0.09000 | µg/g | S | |
| SKC | BBZP | BUTYLBENZYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKP | BBZP | BUTYLBENZYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKO | BBZP | BUTYLBENZYL PHTHALATE | ND | 10.00000 | µg/l | R | |
| SKN | BBZP | BUTYLBENZYL PHTHALATE | | 0.26000 | µg/g | R | |
| SKM | BBZP | BUTYLBENZYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKK | BBZP | BUTYLBENZYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKJ | BBZP | BUTYLBENZYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKF | BBZP | BUTYLBENZYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKE | BBZP | BUTYLBENZYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SJZ | BBZP | BUTYLBENZYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SJW | BBZP | BUTYLBENZYL PHTHALATE | ND | 10.00000 | µg/l | R | |
| SJU | BENSLF | BETA-ENDOSULFAN | ND | 0.20000 | µg/g | R | |
| SJT | BENSLF | BETA-ENDOSULFAN | ND | 0.20000 | µg/g | R | |
| SKF | BENSLF | BETA-ENDOSULFAN | ND | 0.20000 | µg/g | R | |
| SKE | BENSLF | BETA-ENDOSULFAN | ND | 0.20000 | µg/g | R | |
| SKD | BENSLF | BETA-ENDOSULFAN | ND | 0.20000 | µg/g | R | |
| SKC | BENSLF | BETA-ENDOSULFAN | ND | 0.20000 | µg/g | R | |
| SKB | BENSLF | BETA-ENDOSULFAN | ND | 0.20000 | µg/g | R | |
| SJZ | BENSLF | BETA-ENDOSULFAN | ND | 1.00000 | µg/g | R | |
| SJX | BENSLF | BETA-ENDOSULFAN | ND | 0.20000 | µg/g | R | |
| SJW | BENSLF | BETA-ENDOSULFAN | ND | 6.00000 | µg/l | R | |
| SKP | BENSLF | BETA-ENDOSULFAN | ND | 0.20000 | µg/g | R | |
| SKO | BENSLF | BETA-ENDOSULFAN | ND | 6.00000 | µg/l | R | |
| SKK | BENSLF | BETA-ENDOSULFAN | ND | 0.20000 | µg/g | R | |
| SKJ | BENSLF | BETA-ENDOSULFAN | ND | 0.20000 | µg/g | R | |
| SJV | BENSLF | BETA-ENDOSULFAN | ND | 0.20000 | µg/g | R | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SJT | BENZO | BENZOIC ACID | ND | 1.70000 | µg/g | R | |
| SJW | BENZO | BENZOIC ACID | ND | 50.00000 | µg/l | R | |
| SJZ | BENZO | BENZOIC ACID | ND | 1.70000 | µg/g | R | |
| SKC | BENZO | BENZOIC ACID | ND | 1.70000 | µg/g | R | |
| SKE | BENZO | BENZOIC ACID | ND | 1.70000 | µg/g | R | |
| SKD | BENZO | BENZOIC ACID | ND | 1.70000 | µg/g | R | |
| SKP | BENZO | BENZOIC ACID | ND | 1.70000 | µg/g | R | |
| SKO | BENZO | BENZOIC ACID | ND | 50.00000 | µg/l | R | |
| SKN | BENZO | BENZOIC ACID | ND | 1.70000 | µg/g | R | |
| SKM | BENZO | BENZOIC ACID | ND | 1.70000 | µg/g | R | |
| SKK | BENZO | BENZOIC ACID | ND | 1.70000 | µg/g | R | |
| SKJ | BENZO | BENZOIC ACID | ND | 1.70000 | µg/g | R | |
| SKF | BENZO | BENZOIC ACID | ND | 1.70000 | µg/g | R | |
| SKB | BENZO | BENZOIC ACID | ND | 1.70000 | µg/g | R | |
| SJX | BENZO | BENZOIC ACID | ND | 1.70000 | µg/g | R | |
| SJV | BENZO | BENZOIC ACID | ND | 1.70000 | µg/g | R | |
| SJU | BENZO | BENZOIC ACID | ND | 1.70000 | µg/g | R | |
| SJT | BGHIPY | BENZO [G,H,I] PERYLENE | LT | 0.24000 | µg/g | | |
| SJW | BGHIPY | BENZO [G,H,I] PERYLENE | LT | 7.10000 | µg/l | | |
| SJZ | BGHIPY | BENZO [G,H,I] PERYLENE | LT | 0.24000 | µg/g | | |
| SKC | BGHIPY | BENZO [G,H,I] PERYLENE | LT | 0.24000 | µg/g | | |
| SKE | BGHIPY | BENZO [G,H,I] PERYLENE | LT | 0.24000 | µg/g | | |
| SKD | BGHIPY | BENZO [G,H,I] PERYLENE | LT | 0.24000 | µg/g | | |
| SKP | BGHIPY | BENZO [G,H,I] PERYLENE | LT | 0.24000 | µg/g | | |
| SKO | BGHIPY | BENZO [G,H,I] PERYLENE | LT | 7.10000 | µg/l | | |
| SKN | BGHIPY | BENZO [G,H,I] PERYLENE | LT | 0.24000 | µg/g | | |
| SKM | BGHIPY | BENZO [G,H,I] PERYLENE | LT | 0.24000 | µg/g | | |
| SKK | BGHIPY | BENZO [G,H,I] PERYLENE | LT | 0.24000 | µg/g | | |
| SKJ | BGHIPY | BENZO [G,H,I] PERYLENE | LT | 0.24000 | µg/g | | |
| SKF | BGHIPY | BENZO [G,H,I] PERYLENE | LT | 0.24000 | µg/g | | |
| SKB | BGHIPY | BENZO [G,H,I] PERYLENE | LT | 0.24000 | µg/g | | |
| SJX | BGHIPY | BENZO [G,H,I] PERYLENE | LT | 0.24000 | µg/g | | |
| SJV | BGHIPY | BENZO [G,H,I] PERYLENE | LT | 0.24000 | µg/g | | |
| SJU | BGHIPY | BENZO [G,H,I] PERYLENE | LT | 0.24000 | µg/g | | |
| SJT | BKFAN | BENZO [K] FLUORANTHENE | LT | 0.80000 | µg/g | | |
| SJW | BKFAN | BENZO [K] FLUORANTHENE | LT | 21.00000 | µg/l | | |
| SJZ | BKFAN | BENZO [K] FLUORANTHENE | LT | 0.80000 | µg/g | | |
| SKC | BKFAN | BENZO [K] FLUORANTHENE | LT | 0.80000 | µg/g | | |
| SKE | BKFAN | BENZO [K] FLUORANTHENE | LT | 0.80000 | µg/g | | |
| SKD | BKFAN | BENZO [K] FLUORANTHENE | LT | 0.80000 | µg/g | | |
| SKP | BKFAN | BENZO [K] FLUORANTHENE | LT | 0.80000 | µg/g | | |
| SKO | BKFAN | BENZO [K] FLUORANTHENE | LT | 21.00000 | µg/l | | |
| SKN | BKFAN | BENZO [K] FLUORANTHENE | LT | 0.80000 | µg/g | | |
| SKM | BKFAN | BENZO [K] FLUORANTHENE | LT | 0.80000 | µg/g | | |
| SKK | BKFAN | BENZO [K] FLUORANTHENE | LT | 0.80000 | µg/g | | |
| SKJ | BKFAN | BENZO [K] FLUORANTHENE | LT | 0.80000 | µg/g | | |
| SKF | BKFAN | BENZO [K] FLUORANTHENE | LT | 0.80000 | µg/g | | |
| SKB | BKFAN | BENZO [K] FLUORANTHENE | LT | 0.80000 | µg/g | | |
| SJX | BKFAN | BENZO [K] FLUORANTHENE | LT | 0.80000 | µg/g | | |
| SJV | BKFAN | BENZO [K] FLUORANTHENE | LT | 0.80000 | µg/g | | |
| SJU | BKFAN | BENZO [K] FLUORANTHENE | LT | 0.80000 | µg/g | | |
| SJT | BZALC | BENZYL ALCOHOL | ND | 0.33000 | µg/g | R | |
| SKP | BZALC | BENZYL ALCOHOL | ND | 0.33000 | µg/g | R | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SKO | BZALC | BENZYL ALCOHOL | ND | 10.00000 | µg/l | R | |
| SKN | BZALC | BENZYL ALCOHOL | ND | 0.33000 | µg/g | R | |
| SKM | BZALC | BENZYL ALCOHOL | ND | 0.33000 | µg/g | R | |
| SKK | BZALC | BENZYL ALCOHOL | ND | 0.33000 | µg/g | R | |
| SKJ | BZALC | BENZYL ALCOHOL | ND | 0.33000 | µg/g | R | |
| SKF | BZALC | BENZYL ALCOHOL | ND | 0.33000 | µg/g | R | |
| SKE | BZALC | BENZYL ALCOHOL | ND | 0.33000 | µg/g | R | |
| SKD | BZALC | BENZYL ALCOHOL | ND | 0.33000 | µg/g | R | |
| SKC | BZALC | BENZYL ALCOHOL | ND | 0.33000 | µg/g | R | |
| SJV | BZALC | BENZYL ALCOHOL | ND | 0.33000 | µg/g | R | |
| SJW | BZALC | BENZYL ALCOHOL | ND | 10.00000 | µg/l | R | |
| SJX | BZALC | BENZYL ALCOHOL | ND | 0.33000 | µg/g | R | |
| SKB | BZALC | BENZYL ALCOHOL | ND | 0.33000 | µg/g | R | |
| SJZ | BZALC | BENZYL ALCOHOL | ND | 0.33000 | µg/g | R | |
| SJU | BZALC | BENZYL ALCOHOL | ND | 0.33000 | µg/g | R | |
| SKD | C5A | | | 0.50000 | µg/g | S | |
| SJT | CHRY | CHRYSENE | LT | 0.45000 | µg/g | | |
| SJV | CHRY | CHRYSENE | LT | 0.45000 | µg/g | | |
| SJW | CHRY | CHRYSENE | LT | 15.00000 | µg/l | | |
| SJU | CHRY | CHRYSENE | | 0.27000 | µg/g | P | |
| SJX | CHRY | CHRYSENE | LT | 0.45000 | µg/g | | |
| SKB | CHRY | CHRYSENE | LT | 0.45000 | µg/g | | |
| SKD | CHRY | CHRYSENE | LT | 0.45000 | µg/g | | |
| SKF | CHRY | CHRYSENE | LT | 0.45000 | µg/g | | |
| SKE | CHRY | CHRYSENE | LT | 0.45000 | µg/g | | |
| SKP | CHRY | CHRYSENE | LT | 0.45000 | µg/g | | |
| SKO | CHRY | CHRYSENE | LT | 15.00000 | µg/l | | |
| SKN | CHRY | CHRYSENE | LT | 0.45000 | µg/g | | |
| SKM | CHRY | CHRYSENE | LT | 0.45000 | µg/g | | |
| SKK | CHRY | CHRYSENE | LT | 0.45000 | µg/g | | |
| SKJ | CHRY | CHRYSENE | LT | 0.45000 | µg/g | | |
| SKC | CHRY | CHRYSENE | LT | 0.45000 | µg/g | | |
| SJZ | CHRY | CHRYSENE | LT | 0.45000 | µg/g | | |
| SJT | CL6BZ | HEXACHLOROBENZENE | LT | 0.26000 | µg/g | | |
| SJV | CL6BZ | HEXACHLOROBENZENE | LT | 0.26000 | µg/g | | |
| SJU | CL6BZ | HEXACHLOROBENZENE | LT | 0.26000 | µg/g | | |
| SJW | CL6BZ | HEXACHLOROBENZENE | LT | 8.30000 | µg/l | | |
| SJZ | CL6BZ | HEXACHLOROBENZENE | LT | 0.26000 | µg/g | | |
| SKC | CL6BZ | HEXACHLOROBENZENE | LT | 0.26000 | µg/g | | |
| SKE | CL6BZ | HEXACHLOROBENZENE | LT | 0.26000 | µg/g | | |
| SKD | CL6BZ | HEXACHLOROBENZENE | LT | 0.26000 | µg/g | | |
| SKP | CL6BZ | HEXACHLOROBENZENE | LT | 0.26000 | µg/g | | |
| SKO | CL6BZ | HEXACHLOROBENZENE | LT | 8.30000 | µg/l | | |
| SKN | CL6BZ | HEXACHLOROBENZENE | LT | 0.26000 | µg/g | | |
| SKM | CL6BZ | HEXACHLOROBENZENE | LT | 0.26000 | µg/g | | |
| SKK | CL6BZ | HEXACHLOROBENZENE | LT | 0.26000 | µg/g | | |
| SKJ | CL6BZ | HEXACHLOROBENZENE | LT | 0.26000 | µg/g | | |
| SKF | CL6BZ | HEXACHLOROBENZENE | LT | 0.26000 | µg/g | | |
| SKB | CL6BZ | HEXACHLOROBENZENE | LT | 0.26000 | µg/g | | |
| SJX | CL6BZ | HEXACHLOROBENZENE | LT | 0.26000 | µg/g | | |
| SJT | CL6CP | HEXACHLOROCYCLOPENTADIENE | ND | 0.33000 | µg/g | R | |
| SJV | CL6CP | HEXACHLOROCYCLOPENTADIENE | ND | 0.33000 | µg/g | R | |
| SJU | CL6CP | HEXACHLOROCYCLOPENTADIENE | ND | 0.33000 | µg/g | R | |

| Lot | | Test Name | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SJW | CL6CP | HEXACHLOROCYCLOPENTADIENE | ND | 10.00000 | µg/l | R | |
| SJZ | CL6CP | HEXACHLOROCYCLOPENTADIENE | ND | 0.33000 | µg/g | R | |
| SKC | CL6CP | HEXACHLOROCYCLOPENTADIENE | ND | 0.33000 | µg/g | R | |
| SKE | CL6CP | HEXACHLOROCYCLOPENTADIENE | ND | 0.33000 | µg/g | R | |
| SKD | CL6CP | HEXACHLOROCYCLOPENTADIENE | ND | 0.33000 | µg/g | R | |
| SKP | CL6CP | HEXACHLOROCYCLOPENTADIENE | ND | 0.33000 | µg/g | R | |
| SKO | CL6CP | HEXACHLOROCYCLOPENTADIENE | ND | 10.00000 | µg/l | R | |
| SKN | CL6CP | HEXACHLOROCYCLOPENTADIENE | ND | 0.33000 | µg/g | R | |
| SKM | CL6CP | HEXACHLOROCYCLOPENTADIENE | ND | 0.33000 | µg/g | R | |
| SKK | CL6CP | HEXACHLOROCYCLOPENTADIENE | ND | 0.33000 | µg/g | R | |
| SKJ | CL6CP | HEXACHLOROCYCLOPENTADIENE | ND | 0.33000 | µg/g | R | |
| SKF | CL6CP | HEXACHLOROCYCLOPENTADIENE | ND | 0.33000 | µg/g | R | |
| SKB | CL6CP | HEXACHLOROCYCLOPENTADIENE | ND | 0.33000 | µg/g | R | |
| SJX | CL6CP | HEXACHLOROCYCLOPENTADIENE | ND | 0.33000 | µg/g | R | |
| SJT | CL6ET | HEXACHLOROETHANE | LT | 0.40000 | µg/g | | |
| SJV | CL6ET | HEXACHLOROETHANE | LT | 0.40000 | µg/g | | |
| SJU | CL6ET | HEXACHLOROETHANE | LT | 0.40000 | µg/g | | |
| SJW | CL6ET | HEXACHLOROETHANE | LT | 5.10000 | µg/l | | |
| SJZ | CL6ET | HEXACHLOROETHANE | LT | 0.40000 | µg/g | | |
| SKC | CL6ET | HEXACHLOROETHANE | LT | 0.40000 | µg/g | | |
| SKE | CL6ET | HEXACHLOROETHANE | LT | 0.40000 | µg/g | | |
| SKD | CL6ET | HEXACHLOROETHANE | LT | 0.40000 | µg/g | | |
| SKP | CL6ET | HEXACHLOROETHANE | LT | 0.40000 | µg/g | | |
| SKO | CL6ET | HEXACHLOROETHANE | LT | 5.10000 | µg/l | | |
| SKN | CL6ET | HEXACHLOROETHANE | LT | 0.40000 | µg/g | | |
| SKM | CL6ET | HEXACHLOROETHANE | LT | 0.40000 | µg/g | | |
| SKK | CL6ET | HEXACHLOROETHANE | LT | 0.40000 | µg/g | | |
| SKJ | CL6ET | HEXACHLOROETHANE | LT | 0.40000 | µg/g | | |
| SKF | CL6ET | HEXACHLOROETHANE | LT | 0.40000 | µg/g | | |
| SKB | CL6ET | HEXACHLOROETHANE | LT | 0.40000 | µg/g | | |
| SJX | CL6ET | HEXACHLOROETHANE | LT | 0.40000 | µg/g | | |
| SJW | CLDAN | CHLORDANE | ND | 30.00000 | µg/l | R | |
| SJT | CPMS | 4-CHLOROPHENYLMETHYL SULFIDE | LT | 0.37000 | µg/g | | |
| SKB | CPMS | 4-CHLOROPHENYLMETHYL SULFIDE | LT | 0.37000 | µg/g | | |
| SJZ | CPMS | 4-CHLOROPHENYLMETHYL SULFIDE | LT | 0.37000 | µg/g | | |
| SKP | CPMS | 4-CHLOROPHENYLMETHYL SULFIDE | LT | 0.37000 | µg/g | | |
| SKO | CPMS | 4-CHLOROPHENYLMETHYL SULFIDE | LT | 5.90000 | µg/l | | |
| SKN | CPMS | 4-CHLOROPHENYLMETHYL SULFIDE | LT | 0.37000 | µg/g | | |
| SKM | CPMS | 4-CHLOROPHENYLMETHYL SULFIDE | LT | 0.37000 | µg/g | | |
| SKK | CPMS | 4-CHLOROPHENYLMETHYL SULFIDE | LT | 0.37000 | µg/g | | |
| SKJ | CPMS | 4-CHLOROPHENYLMETHYL SULFIDE | LT | 0.37000 | µg/g | | |
| SKF | CPMS | 4-CHLOROPHENYLMETHYL SULFIDE | LT | 0.37000 | µg/g | | |
| SKE | CPMS | 4-CHLOROPHENYLMETHYL SULFIDE | LT | 0.37000 | µg/g | | |
| SKD | CPMS | 4-CHLOROPHENYLMETHYL SULFIDE | LT | 0.37000 | µg/g | | |
| SKC | CPMS | 4-CHLOROPHENYLMETHYL SULFIDE | LT | 0.37000 | µg/g | | |
| SJU | CPMS | 4-CHLOROPHENYLMETHYL SULFIDE | LT | 0.37000 | µg/g | | |
| SJV | CPMS | 4-CHLOROPHENYLMETHYL SULFIDE | LT | 0.37000 | µg/g | | |
| SJW | CPMS | 4-CHLOROPHENYLMETHYL SULFIDE | LT | 5.90000 | µg/l | | |
| SJX | CPMS | 4-CHLOROPHENYLMETHYL SULFIDE | LT | 0.37000 | µg/g | | |
| SJT | CPMSO | 4-CHLOROPHENYLMETHYL SULFOXIDE | LT | 0.27000 | µg/g | | |
| SJZ | CPMSO | 4-CHLOROPHENYLMETHYL SULFOXIDE | LT | 0.27000 | µg/g | | |
| SKC | CPMSO | 4-CHLOROPHENYLMETHYL SULFOXIDE | LT | 0.27000 | µg/g | | |
| SKB | CPMSO | 4-CHLOROPHENYLMETHYL SULFOXIDE | LT | 0.27000 | µg/g | | |

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SKP | CPMSO | 4-CHLOROPHENYLMETHYL SULFOXIDE | LT | 0.27000 | µg/g | | |
| SKO | CPMSO | 4-CHLOROPHENYLMETHYL SULFOXIDE | LT | 6.80000 | µg/l | | |
| SKN | CPMSO | 4-CHLOROPHENYLMETHYL SULFOXIDE | LT | 0.27000 | µg/g | | |
| SKM | CPMSO | 4-CHLOROPHENYLMETHYL SULFOXIDE | LT | 0.27000 | µg/g | | |
| SKK | CPMSO | 4-CHLOROPHENYLMETHYL SULFOXIDE | LT | 0.27000 | µg/g | | |
| SKJ | CPMSO | 4-CHLOROPHENYLMETHYL SULFOXIDE | LT | 0.27000 | µg/g | | |
| SKF | CPMSO | 4-CHLOROPHENYLMETHYL SULFOXIDE | LT | 0.27000 | µg/g | | |
| SKE | CPMSO | 4-CHLOROPHENYLMETHYL SULFOXIDE | LT | 0.27000 | µg/g | | |
| SKD | CPMSO | 4-CHLOROPHENYLMETHYL SULFOXIDE | LT | 0.27000 | µg/g | | |
| SJX | CPMSO | 4-CHLOROPHENYLMETHYL SULFOXIDE | LT | 0.27000 | µg/g | | |
| SJU | CPMSO | 4-CHLOROPHENYLMETHYL SULFOXIDE | LT | 0.27000 | µg/g | | |
| SJV | CPMSO | 4-CHLOROPHENYLMETHYL SULFOXIDE | LT | 0.27000 | µg/g | | |
| SJW | CPMSO | 4-CHLOROPHENYLMETHYL SULFOXIDE | LT | 6.80000 | µg/l | | |
| SJT | CPMSO2 | 4-CHLOROPHENYLMETHYL SULFONE | LT | 0.69000 | µg/g | | |
| SJZ | CPMSO2 | 4-CHLOROPHENYLMETHYL SULFONE | LT | 0.69000 | µg/g | | |
| SKC | CPMSO2 | 4-CHLOROPHENYLMETHYL SULFONE | LT | 0.69000 | µg/g | | |
| SKB | CPMSO2 | 4-CHLOROPHENYLMETHYL SULFONE | LT | 0.69000 | µg/g | | |
| SKP | CPMSO2 | 4-CHLOROPHENYLMETHYL SULFONE | LT | 0.69000 | µg/g | | |
| SKO | CPMSO2 | 4-CHLOROPHENYLMETHYL SULFONE | LT | 38.00000 | µg/l | | |
| SKN | CPMSO2 | 4-CHLOROPHENYLMETHYL SULFONE | LT | 0.69000 | µg/g | | |
| SKM | CPMSO2 | 4-CHLOROPHENYLMETHYL SULFONE | LT | 0.69000 | µg/g | | |
| SKK | CPMSO2 | 4-CHLOROPHENYLMETHYL SULFONE | LT | 0.69000 | µg/g | | |
| SKJ | CPMSO2 | 4-CHLOROPHENYLMETHYL SULFONE | LT | 0.69000 | µg/g | | |
| SKF | CPMSO2 | 4-CHLOROPHENYLMETHYL SULFONE | LT | 0.69000 | µg/g | | |
| SKE | CPMSO2 | 4-CHLOROPHENYLMETHYL SULFONE | LT | 0.69000 | µg/g | | |
| SKD | CPMSO2 | 4-CHLOROPHENYLMETHYL SULFONE | LT | 0.69000 | µg/g | | |
| SJX | CPMSO2 | 4-CHLOROPHENYLMETHYL SULFONE | LT | 0.69000 | µg/g | | |
| SJU | CPMSO2 | 4-CHLOROPHENYLMETHYL SULFONE | LT | 0.69000 | µg/g | | |
| SJV | CPMSO2 | 4-CHLOROPHENYLMETHYL SULFONE | LT | 0.69000 | µg/g | | |
| SJW | CPMSO2 | 4-CHLOROPHENYLMETHYL SULFONE | LT | 38.00000 | µg/l | | |
| SJT | DBAHA | DIBENZ [AH] ANTHRACENE | LT | 0.20000 | µg/g | | |
| SJU | DBAHA | DIBENZ [AH] ANTHRACENE | | 0.19000 | µg/g | P | |
| SJW | DBAHA | DIBENZ [AH] ANTHRACENE | LT | 7.50000 | µg/l | | |
| SJZ | DBAHA | DIBENZ [AH] ANTHRACENE | LT | 0.20000 | µg/g | | |
| SKC | DBAHA | DIBENZ [AH] ANTHRACENE | LT | 0.20000 | µg/g | | |
| SKE | DBAHA | DIBENZ [AH] ANTHRACENE | LT | 0.20000 | µg/g | | |
| SKJ | DBAHA | DIBENZ [AH] ANTHRACENE | LT | 0.20000 | µg/g | | |
| SKF | DBAHA | DIBENZ [AH] ANTHRACENE | LT | 0.20000 | µg/g | | |
| SKP | DBAHA | DIBENZ [AH] ANTHRACENE | LT | 0.20000 | µg/g | | |
| SKO | DBAHA | DIBENZ [AH] ANTHRACENE | LT | 7.50000 | µg/l | | |
| SKN | DBAHA | DIBENZ [AH] ANTHRACENE | LT | 0.20000 | µg/g | | |
| SKM | DBAHA | DIBENZ [AH] ANTHRACENE | LT | 0.20000 | µg/g | | |
| SKK | DBAHA | DIBENZ [AH] ANTHRACENE | LT | 0.20000 | µg/g | | |
| SKD | DBAHA | DIBENZ [AH] ANTHRACENE | LT | 0.20000 | µg/g | | |
| SKB | DBAHA | DIBENZ [AH] ANTHRACENE | LT | 0.20000 | µg/g | | |
| SJX | DBAHA | DIBENZ [AH] ANTHRACENE | LT | 0.20000 | µg/g | | |
| SJV | DBAHA | DIBENZ [AH] ANTHRACENE | LT | 0.20000 | µg/g | | |
| CDX | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.00500 | µg/g | | |
| CDX | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.00500 | µg/g | | |
| SJT | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.29000 | µg/g | | |
| SJU | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.29000 | µg/g | | |
| SJV | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.29000 | µg/g | | |
| SJW | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 6.40000 | µg/l | | |

| Lot | | Test Name | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SJX | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.29000 | µg/g | | |
| SJZ | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.29000 | µg/g | | |
| SKB | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.29000 | µg/g | | |
| SKC | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.29000 | µg/g | | |
| SKD | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.29000 | µg/g | | |
| SKE | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.29000 | µg/g | | |
| SKF | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.29000 | µg/g | | |
| SKJ | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.29000 | µg/g | | |
| SKK | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.29000 | µg/g | | |
| SKM | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.29000 | µg/g | | |
| SKN | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.29000 | µg/g | | |
| SKO | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 6.40000 | µg/l | | |
| SKP | DBHC | DELTA-BENZENEHEXACHLORIDE | LT | 0.29000 | µg/g | | |
| SJT | DBZFU | DIBENZOFURAN | ND | 0.33000 | µg/g | R | |
| SJU | DBZFU | DIBENZOFURAN | ND | 0.33000 | µg/g | R | |
| SJV | DBZFU | DIBENZOFURAN | ND | 0.33000 | µg/g | R | |
| SJW | DBZFU | DIBENZOFURAN | ND | 10.00000 | µg/l | R | |
| SJX | DBZFU | DIBENZOFURAN | ND | 0.33000 | µg/g | R | |
| SJZ | DBZFU | DIBENZOFURAN | ND | 0.33000 | µg/g | R | |
| SKB | DBZFU | DIBENZOFURAN | ND | 0.33000 | µg/g | R | |
| SKC | DBZFU | DIBENZOFURAN | ND | 0.33000 | µg/g | R | |
| SKD | DBZFU | DIBENZOFURAN | ND | 0.33000 | µg/g | R | |
| SKE | DBZFU | DIBENZOFURAN | ND | 0.33000 | µg/g | R | |
| SKF | DBZFU | DIBENZOFURAN | ND | 0.33000 | µg/g | R | |
| SKJ | DBZFU | DIBENZOFURAN | ND | 0.33000 | µg/g | R | |
| SKK | DBZFU | DIBENZOFURAN | ND | 0.33000 | µg/g | R | |
| SKM | DBZFU | DIBENZOFURAN | ND | 0.33000 | µg/g | R | |
| SKN | DBZFU | DIBENZOFURAN | ND | 0.33000 | µg/g | R | |
| SKO | DBZFU | DIBENZOFURAN | ND | 10.00000 | µg/l | R | |
| SKP | DBZFU | DIBENZOFURAN | ND | 0.33000 | µg/g | R | |
| SJT | DEP | DIETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SJU | DEP | DIETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SJV | DEP | DIETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SJW | DEP | DIETHYL PHTHALATE | ND | 10.00000 | µg/l | R | |
| SJX | DEP | DIETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SJZ | DEP | DIETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKB | DEP | DIETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKC | DEP | DIETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKD | DEP | DIETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKE | DEP | DIETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKF | DEP | DIETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKJ | DEP | DIETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKK | DEP | DIETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKM | DEP | DIETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKN | DEP | DIETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKO | DEP | DIETHYL PHTHALATE | ND | 10.00000 | µg/l | R | |
| SKP | DEP | DIETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SJT | DITH | DITHIANE | LT | 0.24000 | µg/g | | |
| SJU | DITH | DITHIANE | LT | 0.24000 | µg/g | | |
| SJV | DITH | DITHIANE | LT | 0.24000 | µg/g | | |
| SJW | DITH | DITHIANE | LT | 7.70000 | µg/l | | |
| SJX | DITH | DITHIANE | LT | 0.24000 | µg/g | | |
| SJZ | DITH | DITHIANE | LT | 0.24000 | µg/g | | |

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SKB | DITH | DITHIANE | LT | 0.24000 | µg/g | | |
| SKC | DITH | DITHIANE | LT | 0.24000 | µg/g | | |
| SKD | DITH | DITHIANE | LT | 0.24000 | µg/g | | |
| SKE | DITH | DITHIANE | LT | 0.24000 | µg/g | | |
| SKF | DITH | DITHIANE | LT | 0.24000 | µg/g | | |
| SKJ | DITH | DITHIANE | LT | 0.24000 | µg/g | | |
| SKK | DITH | DITHIANE | LT | 0.24000 | µg/g | | |
| SKM | DITH | DITHIANE | LT | 0.24000 | µg/g | | |
| SKN | DITH | DITHIANE | LT | 0.24000 | µg/g | | |
| SKO | DITH | DITHIANE | LT | 7.70000 | µg/l | | |
| SKP | DITH | DITHIANE | LT | 0.24000 | µg/g | | |
| SJT | DLDRN | DIELDRIN | LT | 0.30000 | µg/g | | |
| SJU | DLDRN | DIELDRIN | LT | 0.30000 | µg/g | | |
| SJV | DLDRN | DIELDRIN | LT | 0.30000 | µg/g | | |
| SJW | DLDRN | DIELDRIN | LT | 11.00000 | µg/l | | |
| SJX | DLDRN | DIELDRIN | LT | 0.30000 | µg/g | | |
| SJZ | DLDRN | DIELDRIN | LT | 0.30000 | µg/g | | |
| SKB | DLDRN | DIELDRIN | LT | 0.30000 | µg/g | | |
| SKC | DLDRN | DIELDRIN | LT | 0.30000 | µg/g | | |
| SKD | DLDRN | DIELDRIN | LT | 0.30000 | µg/g | | |
| SKE | DLDRN | DIELDRIN | LT | 0.30000 | µg/g | | |
| SKF | DLDRN | DIELDRIN | LT | 0.30000 | µg/g | | |
| SKJ | DLDRN | DIELDRIN | LT | 0.30000 | µg/g | | |
| SKK | DLDRN | DIELDRIN | LT | 0.30000 | µg/g | | |
| SKO | DLDRN | DIELDRIN | LT | 11.00000 | µg/l | | |
| SKP | DLDRN | DIELDRIN | LT | 0.30000 | µg/g | | |
| SJT | DMP | DIMETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SJU | DMP | DIMETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SJV | DMP | DIMETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SJW | DMP | DIMETHYL PHTHALATE | ND | 10.00000 | µg/l | R | |
| SJX | DMP | DIMETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SJZ | DMP | DIMETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKB | DMP | DIMETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKC | DMP | DIMETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKD | DMP | DIMETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKE | DMP | DIMETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKF | DMP | DIMETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKJ | DMP | DIMETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKK | DMP | DIMETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKM | DMP | DIMETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKN | DMP | DIMETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKO | DMP | DIMETHYL PHTHALATE | ND | 10.00000 | µg/l | R | |
| SKP | DMP | DIMETHYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SJT | DNBP | DI-N-BUTYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SJU | DNBP | DI-N-BUTYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SJV | DNBP | DI-N-BUTYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SJW | DNBP | DI-N-BUTYL PHTHALATE | ND | 10.00000 | µg/l | R | |
| SJX | DNBP | DI-N-BUTYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SJZ | DNBP | DI-N-BUTYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKB | DNBP | DI-N-BUTYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKC | DNBP | DI-N-BUTYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKD | DNBP | DI-N-BUTYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKE | DNBP | DI-N-BUTYL PHTHALATE | ND | 0.33000 | µg/g | R | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SKF | DNBP | DI-N-BUTYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKJ | DNBP | DI-N-BUTYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKK | DNBP | DI-N-BUTYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKM | DNBP | DI-N-BUTYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKN | DNBP | DI-N-BUTYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SKO | DNBP | DI-N-BUTYL PHTHALATE | ND | 10.00000 | µg/l | R | |
| SKP | DNBP | DI-N-BUTYL PHTHALATE | ND | 0.33000 | µg/g | R | |
| SJT | DNOP | DI-N-OCTYL PHTHALATE | LT | 0.59000 | µg/g | | |
| SJU | DNOP | DI-N-OCTYL PHTHALATE | LT | 0.59000 | µg/g | | |
| SJV | DNOP | DI-N-OCTYL PHTHALATE | LT | 0.59000 | µg/g | | |
| SJW | DNOP | DI-N-OCTYL PHTHALATE | LT | 15.00000 | µg/l | | |
| SJX | DNOP | DI-N-OCTYL PHTHALATE | LT | 0.59000 | µg/g | | |
| SJZ | DNOP | DI-N-OCTYL PHTHALATE | LT | 0.59000 | µg/g | | |
| SKB | DNOP | DI-N-OCTYL PHTHALATE | LT | 0.59000 | µg/g | | |
| SKC | DNOP | DI-N-OCTYL PHTHALATE | LT | 0.59000 | µg/g | | |
| SKD | DNOP | DI-N-OCTYL PHTHALATE | LT | 0.59000 | µg/g | | |
| SKE | DNOP | DI-N-OCTYL PHTHALATE | LT | 0.59000 | µg/g | | |
| SKF | DNOP | DI-N-OCTYL PHTHALATE | LT | 0.59000 | µg/g | | |
| SKJ | DNOP | DI-N-OCTYL PHTHALATE | LT | 0.59000 | µg/g | | |
| SKK | DNOP | DI-N-OCTYL PHTHALATE | LT | 0.59000 | µg/g | | |
| SKM | DNOP | DI-N-OCTYL PHTHALATE | LT | 0.59000 | µg/g | | |
| SKN | DNOP | DI-N-OCTYL PHTHALATE | LT | 0.59000 | µg/g | | |
| SKO | DNOP | DI-N-OCTYL PHTHALATE | LT | 15.00000 | µg/l | | |
| SKP | DNOP | DI-N-OCTYL PHTHALATE | LT | 0.59000 | µg/g | | |
| SJT | ENDRN | ENDRIN | LT | 0.41000 | µg/g | | |
| SJU | ENDRN | ENDRIN | LT | 0.41000 | µg/g | | |
| SJV | ENDRN | ENDRIN | LT | 0.41000 | µg/g | | |
| SJW | ENDRN | ENDRIN | LT | 6.60000 | µg/l | | |
| SJX | ENDRN | ENDRIN | LT | 0.41000 | µg/g | | |
| SJZ | ENDRN | ENDRIN | LT | 0.41000 | µg/g | | |
| SKB | ENDRN | ENDRIN | LT | 0.41000 | µg/g | | |
| SKC | ENDRN | ENDRIN | LT | 0.41000 | µg/g | | |
| SKD | ENDRN | ENDRIN | LT | 0.41000 | µg/g | | |
| SKE | ENDRN | ENDRIN | LT | 0.41000 | µg/g | | |
| SKF | ENDRN | ENDRIN | LT | 0.41000 | µg/g | | |
| SKJ | ENDRN | ENDRIN | LT | 0.41000 | µg/g | | |
| SKK | ENDRN | ENDRIN | LT | 0.41000 | µg/g | | |
| SKO | ENDRN | ENDRIN | LT | 6.60000 | µg/l | | |
| SKP | ENDRN | ENDRIN | LT | 0.41000 | µg/g | | |
| CDX | ENDRN | ENDRIN KETONE | LT | 0.01600 | µg/g | | |
| CDX | ENDRN | ENDRIN KETONE | LT | 0.01600 | µg/g | | |
| SJT | ENDRN | ENDRIN KETONE | ND | 0.20000 | µg/g | R | |
| SJU | ENDRN | ENDRIN KETONE | ND | 0.20000 | µg/g | R | |
| SJV | ENDRN | ENDRIN KETONE | ND | 0.20000 | µg/g | R | |
| SJW | ENDRN | ENDRIN KETONE | ND | 6.00000 | µg/l | R | |
| SJX | ENDRN | ENDRIN KETONE | ND | 0.20000 | µg/g | R | |
| SJZ | ENDRN | ENDRIN KETONE | ND | 1.00000 | µg/g | R | |
| SKB | ENDRN | ENDRIN KETONE | ND | 0.20000 | µg/g | R | |
| SKC | ENDRN | ENDRIN KETONE | ND | 0.20000 | µg/g | R | |
| SKD | ENDRN | ENDRIN KETONE | ND | 0.20000 | µg/g | R | |
| SKE | ENDRN | ENDRIN KETONE | ND | 0.20000 | µg/g | R | |
| SKF | ENDRN | ENDRIN KETONE | ND | 0.20000 | µg/g | R | |
| SKJ | ENDRN | ENDRIN KETONE | ND | 0.20000 | µg/g | R | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SKK | ENDRN | ENDRIN KETONE | ND | 0.20000 | µg/g | R | |
| SKM | ENDRN | ENDRIN KETONE | ND | 0.20000 | µg/g | R | |
| SKN | ENDRN | ENDRIN KETONE | ND | 0.20000 | µg/g | R | |
| SKO | ENDRN | ENDRIN KETONE | ND | 6.00000 | µg/l | R | |
| SKP | ENDRN | ENDRIN KETONE | ND | 0.20000 | µg/g | R | |
| SJT | ESFSO4 | ENDOSULFAN SULFATE | ND | 0.20000 | µg/g | R | |
| SJU | ESFSO4 | ENDOSULFAN SULFATE | ND | 0.20000 | µg/g | R | |
| SJV | ESFSO4 | ENDOSULFAN SULFATE | ND | 0.20000 | µg/g | R | |
| SJW | ESFSO4 | ENDOSULFAN SULFATE | ND | 6.00000 | µg/l | R | |
| SJX | ESFSO4 | ENDOSULFAN SULFATE | ND | 0.20000 | µg/g | R | |
| SJZ | ESFSO4 | ENDOSULFAN SULFATE | ND | 1.00000 | µg/g | R | |
| SKB | ESFSO4 | ENDOSULFAN SULFATE | ND | 0.20000 | µg/g | R | |
| SKC | ESFSO4 | ENDOSULFAN SULFATE | ND | 0.20000 | µg/g | R | |
| SKD | ESFSO4 | ENDOSULFAN SULFATE | ND | 0.20000 | µg/g | R | |
| SKE | ESFSO4 | ENDOSULFAN SULFATE | ND | 0.20000 | µg/g | R | |
| SKF | ESFSO4 | ENDOSULFAN SULFATE | ND | 0.20000 | µg/g | R | |
| SKJ | ESFSO4 | ENDOSULFAN SULFATE | ND | 0.20000 | µg/g | R | |
| SKK | ESFSO4 | ENDOSULFAN SULFATE | ND | 0.20000 | µg/g | R | |
| SKO | ESFSO4 | ENDOSULFAN SULFATE | ND | 6.00000 | µg/l | R | |
| SKP | ESFSO4 | ENDOSULFAN SULFATE | ND | 0.20000 | µg/g | R | |
| SJT | FANT | FLUORANTHENE | LT | 0.52000 | µg/g | | |
| SJU | FANT | FLUORANTHENE | LT | 0.52000 | µg/g | | |
| SJV | FANT | FLUORANTHENE | LT | 0.52000 | µg/g | | |
| SJW | FANT | FLUORANTHENE | LT | 20.00000 | µg/l | | |
| SJX | FANT | FLUORANTHENE | LT | 0.52000 | µg/g | | |
| SJZ | FANT | FLUORANTHENE | LT | 0.52000 | µg/g | | |
| SKB | FANT | FLUORANTHENE | LT | 0.52000 | µg/g | | |
| SKC | FANT | FLUORANTHENE | LT | 0.52000 | µg/g | | |
| SKD | FANT | FLUORANTHENE | LT | 0.52000 | µg/g | | |
| SKE | FANT | FLUORANTHENE | LT | 0.52000 | µg/g | | |
| SKF | FANT | FLUORANTHENE | LT | 0.52000 | µg/g | | |
| SKJ | FANT | FLUORANTHENE | LT | 0.52000 | µg/g | | |
| SKK | FANT | FLUORANTHENE | LT | 0.52000 | µg/g | | |
| SKM | FANT | FLUORANTHENE | LT | 0.52000 | µg/g | | |
| SKN | FANT | FLUORANTHENE | LT | 0.52000 | µg/g | | |
| SKO | FANT | FLUORANTHENE | LT | 20.00000 | µg/l | | |
| SKP | FANT | FLUORANTHENE | LT | 0.52000 | µg/g | | |
| SJT | FLRENE | FLUORENE | ND | 0.33000 | µg/g | R | |
| SJU | FLRENE | FLUORENE | ND | 0.33000 | µg/g | R | |
| SJV | FLRENE | FLUORENE | ND | 0.33000 | µg/g | R | |
| SJW | FLRENE | FLUORENE | ND | 10.00000 | µg/l | R | |
| SJX | FLRENE | FLUORENE | ND | 0.33000 | µg/g | R | |
| SJZ | FLRENE | FLUORENE | ND | 0.33000 | µg/g | R | |
| SKB | FLRENE | FLUORENE | ND | 0.33000 | µg/g | R | |
| SKC | FLRENE | FLUORENE | ND | 0.33000 | µg/g | R | |
| SKD | FLRENE | FLUORENE | ND | 0.33000 | µg/g | R | |
| SKE | FLRENE | FLUORENE | ND | 0.33000 | µg/g | R | |
| SKF | FLRENE | FLUORENE | ND | 0.33000 | µg/g | R | |
| SKJ | FLRENE | FLUORENE | ND | 0.33000 | µg/g | R | |
| SKK | FLRENE | FLUORENE | ND | 0.33000 | µg/g | R | |
| SKM | FLRENE | FLUORENE | ND | 0.33000 | µg/g | R | |
| SKN | FLRENE | FLUORENE | ND | 0.33000 | µg/g | R | |
| SKO | FLRENE | FLUORENE | ND | 10.00000 | µg/l | R | |

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SKP | FLRENE | FLUORENE | ND | 0.33000 | µg/g | R | |
| SJZ | GCLDA | GAMMA-CHLORDANE | ND | 5.00000 | µg/g | R | |
| SKB | GCLDA | GAMMA-CHLORDANE | ND | 5.00000 | µg/g | R | |
| SKC | GCLDA | GAMMA-CHLORDANE | ND | 5.00000 | µg/g | R | |
| SKD | GCLDA | GAMMA-CHLORDANE | ND | 5.00000 | µg/g | R | |
| SKE | GCLDA | GAMMA-CHLORDANE | ND | 5.00000 | µg/g | R | |
| SKF | GCLDA | GAMMA-CHLORDANE | ND | 5.00000 | µg/g | R | |
| SKJ | GCLDA | GAMMA-CHLORDANE | ND | 5.00000 | µg/g | R | |
| SKK | GCLDA | GAMMA-CHLORDANE | ND | 5.00000 | µg/g | R | |
| SKO | GCLDA | GAMMA-CHLORDANE | ND | 30.00000 | µg/l | R | |
| SKP | GCLDA | GAMMA-CHLORDANE | ND | 5.00000 | µg/g | R | |
| SJT | HCBD | HEXACHLOROBUTADIENE | LT | 0.42000 | µg/g | | |
| SJU | HCBD | HEXACHLOROBUTADIENE | LT | 0.42000 | µg/g | | |
| SJV | HCBD | HEXACHLOROBUTADIENE | LT | 0.42000 | µg/g | | |
| SJW | HCBD | HEXACHLOROBUTADIENE | LT | 18.00000 | µg/l | | |
| SJX | HCBD | HEXACHLOROBUTADIENE | LT | 0.42000 | µg/g | | |
| SJZ | HCBD | HEXACHLOROBUTADIENE | LT | 0.42000 | µg/g | | |
| SKB | HCBD | HEXACHLOROBUTADIENE | LT | 0.42000 | µg/g | | |
| SKC | HCBD | HEXACHLOROBUTADIENE | LT | 0.42000 | µg/g | | |
| SKD | HCBD | HEXACHLOROBUTADIENE | LT | 0.42000 | µg/g | | |
| SKE | HCBD | HEXACHLOROBUTADIENE | LT | 0.42000 | µg/g | | |
| SKF | HCBD | HEXACHLOROBUTADIENE | LT | 0.42000 | µg/g | | |
| SKJ | HCBD | HEXACHLOROBUTADIENE | LT | 0.42000 | µg/g | | |
| SKK | HCBD | HEXACHLOROBUTADIENE | LT | 0.42000 | µg/g | | |
| SKM | HCBD | HEXACHLOROBUTADIENE | LT | 0.42000 | µg/g | | |
| SKN | HCBD | HEXACHLOROBUTADIENE | LT | 0.42000 | µg/g | | |
| SKO | HCBD | HEXACHLOROBUTADIENE | LT | 18.00000 | µg/l | | |
| SKP | HCBD | HEXACHLOROBUTADIENE | LT | 0.42000 | µg/g | | |
| SJT | HPCL | HEPTACHLOR | LT | 0.28000 | µg/g | | |
| SJU | HPCL | HEPTACHLOR | LT | 0.28000 | µg/g | | |
| SJV | HPCL | HEPTACHLOR | LT | 0.28000 | µg/g | | |
| SJW | HPCL | HEPTACHLOR | LT | 6.20000 | µg/l | | |
| SJX | HPCL | HEPTACHLOR | LT | 0.28000 | µg/g | | |
| SJZ | HPCL | HEPTACHLOR | LT | 0.28000 | µg/g | | |
| SKB | HPCL | HEPTACHLOR | LT | 0.28000 | µg/g | | |
| SKC | HPCL | HEPTACHLOR | LT | 0.28000 | µg/g | | |
| SKD | HPCL | HEPTACHLOR | LT | 0.28000 | µg/g | | |
| SKE | HPCL | HEPTACHLOR | LT | 0.28000 | µg/g | | |
| SKF | HPCL | HEPTACHLOR | LT | 0.28000 | µg/g | | |
| SKJ | HPCL | HEPTACHLOR | LT | 0.28000 | µg/g | | |
| SKK | HPCL | HEPTACHLOR | LT | 0.28000 | µg/g | | |
| SKO | HPCL | HEPTACHLOR | LT | 6.20000 | µg/l | | |
| SKP | HPCL | HEPTACHLOR | LT | 0.28000 | µg/g | | |
| SJT | HPCLE | HEPTACHLOREPOXIDE | LT | 0.36000 | µg/g | | |
| SJU | HPCLE | HEPTACHLOREPOXIDE | LT | 0.36000 | µg/g | | |
| SJV | HPCLE | HEPTACHLOREPOXIDE | LT | 0.36000 | µg/g | | |
| SJW | HPCLE | HEPTACHLOREPOXIDE | LT | 7.20000 | µg/l | | |
| SJX | HPCLE | HEPTACHLOREPOXIDE | LT | 0.36000 | µg/g | | |
| SJZ | HPCLE | HEPTACHLOREPOXIDE | LT | 0.36000 | µg/g | | |
| SKB | HPCLE | HEPTACHLOREPOXIDE | LT | 0.36000 | µg/g | | |
| SKC | HPCLE | HEPTACHLOREPOXIDE | LT | 0.36000 | µg/g | | |
| SKD | HPCLE | HEPTACHLOREPOXIDE | LT | 0.36000 | µg/g | | |
| SKE | HPCLE | HEPTACHLOREPOXIDE | LT | 0.36000 | µg/g | | |

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SKF | HPCLE | HEPTACHLOREPOXIDE | LT | 0.36000 | µg/g | | |
| SKJ | HPCLE | HEPTACHLOREPOXIDE | LT | 0.36000 | µg/g | | |
| SKK | HPCLE | HEPTACHLOREPOXIDE | LT | 0.36000 | µg/g | | |
| SKO | HPCLE | HEPTACHLOREPOXIDE | LT | 7.20000 | µg/l | | |
| SKP | HPCLE | HEPTACHLOREPOXIDE | LT | 0.36000 | µg/g | | |
| SJT | ICDPYR | INDENO [1,2,3-C,D] PYRENE | LT | 0.21000 | µg/g | | |
| SJU | ICDPYR | INDENO [1,2,3-C,D] PYRENE | LT | 0.21000 | µg/g | | |
| SJV | ICDPYR | INDENO [1,2,3-C,D] PYRENE | LT | 0.21000 | µg/g | | |
| SJW | ICDPYR | INDENO [1,2,3-C,D] PYRENE | LT | 7.20000 | µg/l | | |
| SJX | ICDPYR | INDENO [1,2,3-C,D] PYRENE | LT | 0.21000 | µg/g | | |
| SJZ | ICDPYR | INDENO [1,2,3-C,D] PYRENE | LT | 0.21000 | µg/g | | |
| SKB | ICDPYR | INDENO [1,2,3-C,D] PYRENE | LT | 0.21000 | µg/g | | |
| SKC | ICDPYR | INDENO [1,2,3-C,D] PYRENE | LT | 0.21000 | µg/g | | |
| SKD | ICDPYR | INDENO [1,2,3-C,D] PYRENE | LT | 0.21000 | µg/g | | |
| SKE | ICDPYR | INDENO [1,2,3-C,D] PYRENE | LT | 0.21000 | µg/g | | |
| SKF | ICDPYR | INDENO [1,2,3-C,D] PYRENE | LT | 0.21000 | µg/g | | |
| SKJ | ICDPYR | INDENO [1,2,3-C,D] PYRENE | LT | 0.21000 | µg/g | | |
| SKK | ICDPYR | INDENO [1,2,3-C,D] PYRENE | LT | 0.21000 | µg/g | | |
| SKM | ICDPYR | INDENO [1,2,3-C,D] PYRENE | LT | 0.21000 | µg/g | | |
| SKN | ICDPYR | INDENO [1,2,3-C,D] PYRENE | LT | 0.21000 | µg/g | | |
| SKO | ICDPYR | INDENO [1,2,3-C,D] PYRENE | LT | 7.20000 | µg/l | | |
| SKP | ICDPYR | INDENO [1,2,3-C,D] PYRENE | LT | 0.21000 | µg/g | | |
| SJT | ISOPHR | ISOPHORONE | ND | 0.33000 | µg/g | R | |
| SJU | ISOPHR | ISOPHORONE | ND | 0.33000 | µg/g | R | |
| SJV | ISOPHR | ISOPHORONE | ND | 0.33000 | µg/g | R | |
| SJW | ISOPHR | ISOPHORONE | ND | 10.00000 | µg/l | R | |
| SJX | ISOPHR | ISOPHORONE | ND | 0.33000 | µg/g | R | |
| SJZ | ISOPHR | ISOPHORONE | ND | 0.33000 | µg/g | R | |
| SKB | ISOPHR | ISOPHORONE | ND | 0.33000 | µg/g | R | |
| SKC | ISOPHR | ISOPHORONE | ND | 0.33000 | µg/g | R | |
| SKD | ISOPHR | ISOPHORONE | ND | 0.33000 | µg/g | R | |
| SKE | ISOPHR | ISOPHORONE | ND | 0.33000 | µg/g | R | |
| SKF | ISOPHR | ISOPHORONE | ND | 0.33000 | µg/g | R | |
| SKJ | ISOPHR | ISOPHORONE | ND | 0.33000 | µg/g | R | |
| SKK | ISOPHR | ISOPHORONE | ND | 0.33000 | µg/g | R | |
| SKM | ISOPHR | ISOPHORONE | ND | 0.33000 | µg/g | R | |
| SKN | ISOPHR | ISOPHORONE | ND | 0.33000 | µg/g | R | |
| SKO | ISOPHR | ISOPHORONE | ND | 10.00000 | µg/l | R | |
| SKP | ISOPHR | ISOPHORONE | ND | 0.33000 | µg/g | R | |
| SJT | LIN | LINDANE | LT | 0.43000 | µg/g | | |
| SJU | LIN | LINDANE | LT | 0.43000 | µg/g | | |
| SJV | LIN | LINDANE | LT | 0.43000 | µg/g | | |
| SJW | LIN | LINDANE | LT | 5.80000 | µg/l | | |
| SJX | LIN | LINDANE | LT | 0.43000 | µg/g | | |
| SJZ | LIN | LINDANE | LT | 0.43000 | µg/g | | |
| SKB | LIN | LINDANE | LT | 0.43000 | µg/g | | |
| SKC | LIN | LINDANE | LT | 0.43000 | µg/g | | |
| SKD | LIN | LINDANE | LT | 0.43000 | µg/g | | |
| SKE | LIN | LINDANE | LT | 0.43000 | µg/g | | |
| SKF | LIN | LINDANE | LT | 0.43000 | µg/g | | |
| SKJ | LIN | LINDANE | LT | 0.43000 | µg/g | | |
| SKK | LIN | LINDANE | LT | 0.43000 | µg/g | | |
| SKO | LIN | LINDANE | LT | 5.80000 | µg/l | | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SKP | LIN | LINDANE | LT | 0.43000 | µg/g | | |
| SJT | MEXCL | METHOXYCHLOR | ND | 1.00000 | µg/g | R | |
| SJU | MEXCL | METHOXYCHLOR | ND | 1.00000 | µg/g | R | |
| SJV | MEXCL | METHOXYCHLOR | ND | 1.00000 | µg/g | R | |
| SJW | MEXCL | METHOXYCHLOR | ND | 30.00000 | µg/l | R | |
| SJX | MEXCL | METHOXYCHLOR | ND | 1.00000 | µg/g | R | |
| SJZ | MEXCL | METHOXYCHLOR | ND | 5.00000 | µg/g | R | |
| SKB | MEXCL | METHOXYCHLOR | ND | 1.00000 | µg/g | R | |
| SKC | MEXCL | METHOXYCHLOR | ND | 1.00000 | µg/g | R | |
| SKD | MEXCL | METHOXYCHLOR | ND | 1.00000 | µg/g | R | |
| SKE | MEXCL | METHOXYCHLOR | ND | 1.00000 | µg/g | R | |
| SKF | MEXCL | METHOXYCHLOR | ND | 1.00000 | µg/g | R | |
| SKJ | MEXCL | METHOXYCHLOR | ND | 1.00000 | µg/g | R | |
| SKK | MEXCL | METHOXYCHLOR | ND | 1.00000 | µg/g | R | |
| SKO | MEXCL | METHOXYCHLOR | ND | 30.00000 | µg/l | R | |
| SKP | MEXCL | METHOXYCHLOR | ND | 1.00000 | µg/g | R | |
| SJT | MLTHN | MALATHION | LT | 0.48000 | µg/g | | |
| SJU | MLTHN | MALATHION | LT | 0.48000 | µg/g | | |
| SJV | MLTHN | MALATHION | LT | 0.48000 | µg/g | | |
| SJW | MLTHN | MALATHION | LT | 7.30000 | µg/l | | |
| SJX | MLTHN | MALATHION | LT | 0.48000 | µg/g | | |
| SJZ | MLTHN | MALATHION | LT | 0.48000 | µg/g | | |
| SKB | MLTHN | MALATHION | LT | 0.48000 | µg/g | | |
| SKC | MLTHN | MALATHION | LT | 0.48000 | µg/g | | |
| SKD | MLTHN | MALATHION | LT | 0.48000 | µg/g | | |
| SKE | MLTHN | MALATHION | LT | 0.48000 | µg/g | | |
| SKF | MLTHN | MALATHION | LT | 0.48000 | µg/g | | |
| SKJ | MLTHN | MALATHION | LT | 0.48000 | µg/g | | |
| SKK | MLTHN | MALATHION | LT | 0.48000 | µg/g | | |
| SKM | MLTHN | MALATHION | LT | 0.48000 | µg/g | | |
| SKN | MLTHN | MALATHION | LT | 0.48000 | µg/g | | |
| SKO | MLTHN | MALATHION | LT | 7.30000 | µg/l | | |
| SKP | MLTHN | MALATHION | LT | 0.48000 | µg/g | | |
| SJT | NAP | NAPHTHALENE | LT | 0.42000 | µg/g | | |
| SJU | NAP | NAPHTHALENE | LT | 0.42000 | µg/g | | |
| SJV | NAP | NAPHTHALENE | LT | 0.42000 | µg/g | | |
| SJW | NAP | NAPHTHALENE | LT | 17.00000 | µg/l | | |
| SJX | NAP | NAPHTHALENE | LT | 0.42000 | µg/g | | |
| SJZ | NAP | NAPHTHALENE | LT | 0.42000 | µg/g | | |
| SKB | NAP | NAPHTHALENE | LT | 0.42000 | µg/g | | |
| SKC | NAP | NAPHTHALENE | LT | 0.42000 | µg/g | | |
| SKD | NAP | NAPHTHALENE | LT | 0.42000 | µg/g | | |
| SKE | NAP | NAPHTHALENE | LT | 0.42000 | µg/g | | |
| SKF | NAP | NAPHTHALENE | LT | 0.42000 | µg/g | | |
| SKJ | NAP | NAPHTHALENE | LT | 0.42000 | µg/g | | |
| SKK | NAP | NAPHTHALENE | LT | 0.42000 | µg/g | | |
| SKM | NAP | NAPHTHALENE | LT | 0.42000 | µg/g | | |
| SKN | NAP | NAPHTHALENE | LT | 0.42000 | µg/g | | |
| SKO | NAP | NAPHTHALENE | LT | 17.00000 | µg/l | | |
| SKP | NAP | NAPHTHALENE | LT | 0.42000 | µg/g | | |
| SJT | NB | NITROBENZENE | ND | 0.33000 | µg/g | R | |
| SJU | NB | NITROBENZENE | ND | 0.33000 | µg/g | R | |
| SJV | NB | NITROBENZENE | ND | 0.33000 | µg/g | R | |

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SJW | NB | NITROBENZENE | ND | 10.00000 | µg/l | R | |
| SJX | NB | NITROBENZENE | ND | 0.33000 | µg/g | R | |
| SJZ | NB | NITROBENZENE | ND | 0.33000 | µg/g | R | |
| SKB | NB | NITROBENZENE | ND | 0.33000 | µg/g | R | |
| SKC | NB | NITROBENZENE | ND | 0.33000 | µg/g | R | |
| SKD | NB | NITROBENZENE | ND | 0.33000 | µg/g | R | |
| SKE | NB | NITROBENZENE | ND | 0.33000 | µg/g | R | |
| SKF | NB | NITROBENZENE | ND | 0.33000 | µg/g | R | |
| SKJ | NB | NITROBENZENE | ND | 0.33000 | µg/g | R | |
| SKK | NB | NITROBENZENE | ND | 0.33000 | µg/g | R | |
| SKO | NB | NITROBENZENE | ND | 10.00000 | µg/l | R | |
| SKP | NB | NITROBENZENE | ND | 0.33000 | µg/g | R | |
| SJT | NDNPA | NITROSO DI-N-PROPYLAMINE | LT | 0.36000 | µg/g | | |
| SJU | NDNPA | NITROSO DI-N-PROPYLAMINE | LT | 0.36000 | µg/g | | |
| SJV | NDNPA | NITROSO DI-N-PROPYLAMINE | LT | 0.36000 | µg/g | | |
| SJW | NDNPA | NITROSO DI-N-PROPYLAMINE | LT | 4.50000 | µg/l | | |
| SJX | NDNPA | NITROSO DI-N-PROPYLAMINE | LT | 0.36000 | µg/g | | |
| SJZ | NDNPA | NITROSO DI-N-PROPYLAMINE | LT | 0.36000 | µg/g | | |
| SKB | NDNPA | NITROSO DI-N-PROPYLAMINE | LT | 0.36000 | µg/g | | |
| SKC | NDNPA | NITROSO DI-N-PROPYLAMINE | LT | 0.36000 | µg/g | | |
| SKD | NDNPA | NITROSO DI-N-PROPYLAMINE | LT | 0.36000 | µg/g | | |
| SKE | NDNPA | NITROSO DI-N-PROPYLAMINE | LT | 0.36000 | µg/g | | |
| SKF | NDNPA | NITROSO DI-N-PROPYLAMINE | LT | 0.36000 | µg/g | | |
| SKJ | NDNPA | NITROSO DI-N-PROPYLAMINE | LT | 0.36000 | µg/g | | |
| SKK | NDNPA | NITROSO DI-N-PROPYLAMINE | LT | 0.36000 | µg/g | | |
| SKM | NDNPA | NITROSO DI-N-PROPYLAMINE | LT | 0.36000 | µg/g | | |
| SKN | NDNPA | NITROSO DI-N-PROPYLAMINE | LT | 0.36000 | µg/g | | |
| SKO | NDNPA | NITROSO DI-N-PROPYLAMINE | LT | 4.50000 | µg/l | | |
| SKP | NDNPA | NITROSO DI-N-PROPYLAMINE | LT | 0.36000 | µg/g | | |
| SJT | NNDPA | N-NITROSO DIPHENYLAMINE | ND | 0.33000 | µg/g | R | |
| SJU | NNDPA | N-NITROSO DIPHENYLAMINE | ND | 0.33000 | µg/g | R | |
| SJV | NNDPA | N-NITROSO DIPHENYLAMINE | ND | 0.33000 | µg/g | R | |
| SJW | NNDPA | N-NITROSO DIPHENYLAMINE | ND | 10.00000 | µg/l | R | |
| SJX | NNDPA | N-NITROSO DIPHENYLAMINE | ND | 0.33000 | µg/g | R | |
| SJZ | NNDPA | N-NITROSO DIPHENYLAMINE | ND | 0.33000 | µg/g | R | |
| SKB | NNDPA | N-NITROSO DIPHENYLAMINE | ND | 0.33000 | µg/g | R | |
| SKC | NNDPA | N-NITROSO DIPHENYLAMINE | ND | 0.33000 | µg/g | R | |
| SKD | NNDPA | N-NITROSO DIPHENYLAMINE | ND | 0.33000 | µg/g | R | |
| SKE | NNDPA | N-NITROSO DIPHENYLAMINE | ND | 0.33000 | µg/g | R | |
| SKF | NNDPA | N-NITROSO DIPHENYLAMINE | ND | 0.33000 | µg/g | R | |
| SKJ | NNDPA | N-NITROSO DIPHENYLAMINE | ND | 0.33000 | µg/g | R | |
| SKK | NNDPA | N-NITROSO DIPHENYLAMINE | ND | 0.33000 | µg/g | R | |
| SKM | NNDPA | N-NITROSO DIPHENYLAMINE | ND | 0.33000 | µg/g | R | |
| SKN | NNDPA | N-NITROSO DIPHENYLAMINE | ND | 0.33000 | µg/g | R | |
| SKO | NNDPA | N-NITROSO DIPHENYLAMINE | ND | 10.00000 | µg/l | R | |
| SKP | NNDPA | N-NITROSO DIPHENYLAMINE | ND | 0.33000 | µg/g | R | |
| SJT | OXAT | 1,4-OXATHIANE | LT | 0.25000 | µg/g | | |
| SJU | OXAT | 1,4-OXATHIANE | LT | 0.25000 | µg/g | | |
| SJV | OXAT | 1,4-OXATHIANE | LT | 0.25000 | µg/g | | |
| SJW | OXAT | 1,4-OXATHIANE | LT | 9.10000 | µg/l | | |
| SJX | OXAT | 1,4-OXATHIANE | LT | 0.25000 | µg/g | | |
| SJZ | OXAT | 1,4-OXATHIANE | LT | 0.25000 | µg/g | | |
| SKB | OXAT | 1,4-OXATHIANE | LT | 0.25000 | µg/g | | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SKC | OXAT | 1,4-OXATHIANE | LT | 0.25000 | µg/g | | |
| SKD | OXAT | 1,4-OXATHIANE | LT | 0.25000 | µg/g | | |
| SKE | OXAT | 1,4-OXATHIANE | LT | 0.25000 | µg/g | | |
| SKF | OXAT | 1,4-OXATHIANE | LT | 0.25000 | µg/g | | |
| SKJ | OXAT | 1,4-OXATHIANE | LT | 0.25000 | µg/g | | |
| SKK | OXAT | 1,4-OXATHIANE | LT | 0.25000 | µg/g | | |
| SKM | OXAT | 1,4-OXATHIANE | LT | 0.25000 | µg/g | | |
| SKN | OXAT | 1,4-OXATHIANE | LT | 0.25000 | µg/g | | |
| SKO | OXAT | 1,4-OXATHIANE | LT | 9.10000 | µg/l | | |
| SKP | OXAT | 1,4-OXATHIANE | LT | 0.25000 | µg/g | | |
| CDX | PCB016 | PCB 1016 | LT | 0.07000 | µg/g | L | |
| CED | PCB016 | PCB 1016 | LT | 0.07000 | µg/g | | |
| CDX | PCB260 | PCB 1260 | LT | 0.05400 | µg/g | L | |
| CED | PCB260 | PCB 1260 | LT | 0.05400 | µg/g | | |
| SJT | PCP | PENTACHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SJU | PCP | PENTACHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SJV | PCP | PENTACHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SJW | PCP | PENTACHLOROPHENOL | ND | 50.00000 | µg/l | R | |
| SJX | PCP | PENTACHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SJZ | PCP | PENTACHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SKB | PCP | PENTACHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SKC | PCP | PENTACHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SKD | PCP | PENTACHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SKE | PCP | PENTACHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SKF | PCP | PENTACHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SKJ | PCP | PENTACHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SKK | PCP | PENTACHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SKM | PCP | PENTACHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SKN | PCP | PENTACHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SKO | PCP | PENTACHLOROPHENOL | ND | 50.00000 | µg/l | R | |
| SKP | PCP | PENTACHLOROPHENOL | ND | 1.70000 | µg/g | R | |
| SJT | PHANT | PHENANTHRENE | LT | 0.41000 | µg/g | | |
| SJU | PHANT | PHENANTHRENE | LT | 0.41000 | µg/g | | |
| SJV | PHANT | PHENANTHRENE | LT | 0.41000 | µg/g | | |
| SJW | PHANT | PHENANTHRENE | LT | 22.00000 | µg/l | | |
| SJX | PHANT | PHENANTHRENE | LT | 0.41000 | µg/g | | |
| SJZ | PHANT | PHENANTHRENE | LT | 0.41000 | µg/g | | |
| SKB | PHANT | PHENANTHRENE | LT | 0.41000 | µg/g | | |
| SKC | PHANT | PHENANTHRENE | LT | 0.41000 | µg/g | | |
| SKD | PHANT | PHENANTHRENE | LT | 0.41000 | µg/g | | |
| SKE | PHANT | PHENANTHRENE | LT | 0.41000 | µg/g | | |
| SKF | PHANT | PHENANTHRENE | LT | 0.41000 | µg/g | | |
| SKJ | PHANT | PHENANTHRENE | LT | 0.41000 | µg/g | | |
| SKK | PHANT | PHENANTHRENE | LT | 0.41000 | µg/g | | |
| SKM | PHANT | PHENANTHRENE | LT | 0.41000 | µg/g | | |
| SKN | PHANT | PHENANTHRENE | LT | 0.41000 | µg/g | | |
| SKO | PHANT | PHENANTHRENE | LT | 22.00000 | µg/l | | |
| SKP | PHANT | PHENANTHRENE | LT | 0.41000 | µg/g | | |
| SJT | PHENO | PHENOL | ND | 0.33000 | µg/g | R | |
| SJU | PHENO | PHENOL | ND | 0.33000 | µg/g | R | |
| SJV | PHENO | PHENOL | ND | 0.33000 | µg/g | R | |
| SJW | PHENO | PHENOL | ND | 10.00000 | µg/l | R | |
| SJX | PHENO | PHENOL | ND | 0.33000 | µg/g | R | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SJZ | PHENO | PHENOL | ND | 0.33000 | µg/g | R | |
| SKB | PHENO | PHENOL | ND | 0.33000 | µg/g | R | |
| SKC | PHENO | PHENOL | ND | 0.33000 | µg/g | R | |
| SKD | PHENO | PHENOL | ND | 0.33000 | µg/g | R | |
| SKE | PHENO | PHENOL | ND | 0.33000 | µg/g | R | |
| SKF | PHENO | PHENOL | ND | 0.33000 | µg/g | R | |
| SKJ | PHENO | PHENOL | ND | 0.33000 | µg/g | R | |
| SKK | PHENO | PHENOL | ND | 0.33000 | µg/g | R | |
| SKM | PHENO | PHENOL | ND | 0.33000 | µg/g | R | |
| SKN | PHENO | PHENOL | ND | 0.33000 | µg/g | R | |
| SKO | PHENO | PHENOL | ND | 10.00000 | µg/l | R | |
| SKP | PHENO | PHENOL | ND | 0.33000 | µg/g | R | |
| SJT | PPDDD | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE | LT | 0.18000 | µg/g | | |
| SJU | PPDDD | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE | LT | 0.18000 | µg/g | | |
| SJV | PPDDD | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE | LT | 0.18000 | µg/g | | |
| SJW | PPDDD | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE | LT | 9.70000 | µg/l | | |
| SJX | PPDDD | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE | LT | 0.18000 | µg/g | | |
| SJZ | PPDDD | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE | LT | 0.18000 | µg/g | | |
| SKB | PPDDD | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE | LT | 0.18000 | µg/g | | |
| SKC | PPDDD | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE | LT | 0.18000 | µg/g | | |
| SKD | PPDDD | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE | LT | 0.18000 | µg/g | | |
| SKE | PPDDD | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE | LT | 0.18000 | µg/g | | |
| SKF | PPDDD | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE | LT | 0.18000 | µg/g | | |
| SKJ | PPDDD | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE | LT | 0.18000 | µg/g | | |
| SKK | PPDDD | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE | LT | 0.18000 | µg/g | | |
| SKO | PPDDD | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE | LT | 9.70000 | µg/l | | |
| SKP | PPDDD | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHANE | LT | 0.18000 | µg/g | | |
| SJT | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.22000 | µg/g | | |
| SJU | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.22000 | µg/g | | |
| SJV | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.22000 | µg/g | | |
| SJW | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 9.30000 | µg/l | | |
| SJX | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.22000 | µg/g | | |
| SJZ | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.22000 | µg/g | | |
| SKB | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.22000 | µg/g | | |
| SKC | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.22000 | µg/g | | |
| SKD | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.22000 | µg/g | | |
| SKE | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.22000 | µg/g | | |
| SKF | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.22000 | µg/g | | |
| SKJ | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.22000 | µg/g | | |
| SKK | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.22000 | µg/g | | |
| SKO | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 9.30000 | µg/l | | |
| SKP | PPDDE | 2,2-BIS(PARA-CHLOROPHENYL)-1,1-DICHLOROETHENE | LT | 0.22000 | µg/g | | |
| SJT | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | LT | 0.41000 | µg/g | | |
| SJU | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | LT | 0.41000 | µg/g | | |
| SJV | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | LT | 0.41000 | µg/g | | |
| SJW | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | LT | 7.30000 | µg/l | | |
| SJX | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | LT | 0.41000 | µg/g | | |
| SJZ | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | LT | 0.41000 | µg/g | | |
| SKB | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | LT | 0.41000 | µg/g | | |
| SKC | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | LT | 0.41000 | µg/g | | |
| SKD | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | LT | 0.41000 | µg/g | | |
| SKE | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | LT | 0.41000 | µg/g | | |
| SKF | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | LT | 0.41000 | µg/g | | |

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SKJ | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | LT | 0.41000 | µg/g | | |
| SKK | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | LT | 0.41000 | µg/g | | |
| SKO | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | LT | 7.30000 | µg/l | | |
| SKP | PPDDT | 2,2-BIS(PARA-CHLOROPHENYL)-1,1,1-TRICHLOROETHANE | LT | 0.41000 | µg/g | | |
| SJT | PRTHN | PARATHION | LT | 0.46000 | µg/g | | |
| SJU | PRTHN | PARATHION | LT | 0.46000 | µg/g | | |
| SJV | PRTHN | PARATHION | LT | 0.46000 | µg/g | | |
| SJW | PRTHN | PARATHION | LT | 4.70000 | µg/l | | |
| SJX | PRTHN | PARATHION | LT | 0.46000 | µg/g | | |
| SJZ | PRTHN | PARATHION | LT | 0.46000 | µg/g | | |
| SKB | PRTHN | PARATHION | LT | 0.46000 | µg/g | | |
| SKC | PRTHN | PARATHION | LT | 0.46000 | µg/g | | |
| SKD | PRTHN | PARATHION | LT | 0.46000 | µg/g | | |
| SKE | PRTHN | PARATHION | LT | 0.46000 | µg/g | | |
| SKF | PRTHN | PARATHION | LT | 0.46000 | µg/g | | |
| SKJ | PRTHN | PARATHION | LT | 0.46000 | µg/g | | |
| SKK | PRTHN | PARATHION | LT | 0.46000 | µg/g | | |
| SKM | PRTHN | PARATHION | LT | 0.46000 | µg/g | | |
| SKN | PRTHN | PARATHION | LT | 0.46000 | µg/g | | |
| SKO | PRTHN | PARATHION | LT | 4.70000 | µg/l | | |
| SKP | PRTHN | PARATHION | LT | 0.46000 | µg/g | | |
| SJT | PYR | PYRENE | LT | 0.42000 | µg/g | | |
| SJU | PYR | PYRENE | LT | 0.42000 | µg/g | | |
| SJV | PYR | PYRENE | LT | 0.42000 | µg/g | | |
| SJW | PYR | PYRENE | LT | 17.00000 | µg/l | | |
| SJX | PYR | PYRENE | LT | 0.42000 | µg/g | | |
| SJZ | PYR | PYRENE | LT | 0.42000 | µg/g | | |
| SKB | PYR | PYRENE | LT | 0.42000 | µg/g | | |
| SKC | PYR | PYRENE | LT | 0.42000 | µg/g | | |
| SKD | PYR | PYRENE | LT | 0.42000 | µg/g | | |
| SKE | PYR | PYRENE | LT | 0.42000 | µg/g | | |
| SKF | PYR | PYRENE | LT | 0.42000 | µg/g | | |
| SKJ | PYR | PYRENE | LT | 0.42000 | µg/g | | |
| SKK | PYR | PYRENE | LT | 0.42000 | µg/g | | |
| SKM | PYR | PYRENE | LT | 0.42000 | µg/g | | |
| SKN | PYR | PYRENE | LT | 0.42000 | µg/g | | |
| SKO | PYR | PYRENE | LT | 17.00000 | µg/l | | |
| SKP | PYR | PYRENE | LT | 0.42000 | µg/g | | |
| CDX | TXPHE | TOXAPHENE | LT | 0.16000 | µg/g | | |
| CDX | TXPHE | TOXAPHENE | LT | 0.16000 | µg/g | | |
| SKE | UNK531 | UNKNOWN | | 0.40000 | µg/g | S | |
| SKF | UNK531 | UNKNOWN | | 0.30000 | µg/g | S | |
| SKN | UNK531 | UNKNOWN | | 2.00000 | µg/g | S | |
| SKD | UNK533 | UNKNOWN | | 5.00000 | µg/g | S | |
| SKE | UNK533 | UNKNOWN | | 4.00000 | µg/g | S | |
| SKF | UNK533 | UNKNOWN | | 3.00000 | µg/g | S | |
| SKN | UNK533 | UNKNOWN | | 0.20000 | µg/g | S | |
| SJT | UNK536 | UNKNOWN | | 0.30000 | µg/g | S | |
| SJZ | UNK539 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKJ | UNK539 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKK | UNK539 | UNKNOWN | | 0.20000 | µg/g | S | |
| SJT | UNK540 | UNKNOWN | | 0.50000 | µg/g | S | |
| SJX | UNK540 | UNKNOWN | | 0.20000 | µg/g | | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SJU | UNK541 | UNKNOWN | | 0.20000 | µg/g | S | |
| SJV | UNK541 | UNKNOWN | | 0.20000 | µg/g | | |
| SKK | UNK541 | UNKNOWN | | 0.10000 | µg/g | S | |
| SJT | UNK544 | UNKNOWN | | 0.20000 | µg/g | S | |
| SJX | UNK544 | UNKNOWN | | 0.30000 | µg/g | | |
| SJZ | UNK544 | UNKNOWN | | 0.20000 | µg/g | S | |
| SJV | UNK545 | UNKNOWN | | 0.20000 | µg/g | | |
| SJT | UNK548 | UNKNOWN | | 0.30000 | µg/g | S | |
| SJV | UNK552 | UNKNOWN | | 0.20000 | µg/g | | |
| SJX | UNK552 | UNKNOWN | | 0.20000 | µg/g | | |
| SJX | UNK559 | UNKNOWN | | 0.10000 | µg/g | | |
| SJZ | UNK559 | UNKNOWN | | 0.20000 | µg/g | S | |
| SJV | UNK560 | UNKNOWN | | 0.20000 | µg/g | | |
| SKC | UNK560 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKD | UNK560 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKP | UNK560 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKB | UNK561 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKD | UNK561 | UNKNOWN | | 0.10000 | µg/g | S | |
| SJT | UNK563 | UNKNOWN | | 0.20000 | µg/g | S | |
| SJV | UNK566 | UNKNOWN | | 0.20000 | µg/g | | |
| SJT | UNK568 | UNKNOWN | | 0.40000 | µg/g | S | |
| SKN | UNK569 | UNKNOWN | | 0.10000 | µg/g | S | |
| SKC | UNK573 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKD | UNK573 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKJ | UNK573 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKK | UNK573 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKN | UNK573 | UNKNOWN | | 0.40000 | µg/g | S | |
| SKP | UNK573 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKB | UNK574 | UNKNOWN | | 0.50000 | µg/g | D | |
| SKB | UNK574 | UNKNOWN | | 0.10000 | µg/g | S | |
| SKC | UNK574 | UNKNOWN | | 0.60000 | µg/g | S | |
| SKD | UNK574 | UNKNOWN | | 0.20000 | µg/g | D | |
| SKD | UNK574 | UNKNOWN | | 0.70000 | µg/g | S | |
| SKP | UNK574 | UNKNOWN | | 0.50000 | µg/g | S | |
| SJT | UNK583 | UNKNOWN | | 0.10000 | µg/g | S | |
| SKD | UNK585 | UNKNOWN | | 0.20000 | µg/g | D | |
| SKD | UNK585 | UNKNOWN | | 0.60000 | µg/g | S | |
| SKB | UNK586 | UNKNOWN | | 0.30000 | µg/g | S | |
| SKC | UNK586 | UNKNOWN | | 0.40000 | µg/g | S | |
| SKD | UNK586 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKP | UNK586 | UNKNOWN | | 0.30000 | µg/g | S | |
| SKD | UNK590 | UNKNOWN | | 0.30000 | µg/g | S | |
| SKB | UNK591 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKC | UNK591 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKP | UNK591 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKD | UNK594 | UNKNOWN | | 0.20000 | µg/g | S | |
| SJT | UNK595 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKD | UNK595 | UNKNOWN | | 0.10000 | µg/g | S | |
| SKB | UNK596 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKD | UNK596 | UNKNOWN | | 0.50000 | µg/g | S | |
| SKB | UNK597 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKC | UNK597 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKP | UNK597 | UNKNOWN | | 0.10000 | µg/g | S | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SJT | UNK598 | UNKNOWN | | 0.40000 | µg/g | S | |
| SJT | UNK599 | UNKNOWN | | 0.20000 | µg/g | S | |
| SJV | UNK599 | UNKNOWN | | 0.20000 | µg/g | | |
| SKC | UNK599 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKD | UNK599 | UNKNOWN | | 0.20000 | µg/g | D | |
| SKD | UNK599 | UNKNOWN | | 0.30000 | µg/g | S | |
| SKC | UNK602 | UNKNOWN | | 0.30000 | µg/g | S | |
| SKD | UNK602 | UNKNOWN | | 0.20000 | µg/g | S | |
| SJT | UNK603 | UNKNOWN | | 0.10000 | µg/g | S | |
| SKD | UNK604 | UNKNOWN | | 0.40000 | µg/g | S | |
| SJT | UNK605 | UNKNOWN | | 1.00000 | µg/g | S | |
| SJV | UNK605 | UNKNOWN | | 0.20000 | µg/g | | |
| SKC | UNK605 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKD | UNK605 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKP | UNK605 | UNKNOWN | | 0.20000 | µg/g | S | |
| SJZ | UNK606 | UNKNOWN | | 0.10000 | µg/g | S | |
| SKB | UNK607 | UNKNOWN | | 0.80000 | µg/g | S | |
| SJT | UNK608 | UNKNOWN | | 0.30000 | µg/g | S | |
| SKD | UNK611 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKB | UNK612 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKC | UNK613 | UNKNOWN | | 0.30000 | µg/g | S | |
| SKM | UNK613 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKP | UNK613 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKD | UNK623 | UNKNOWN | | 0.30000 | µg/g | S | |
| SJT | UNK625 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKC | UNK628 | UNKNOWN | | 0.40000 | µg/g | S | |
| SKP | UNK628 | UNKNOWN | | 0.30000 | µg/g | S | |
| SKD | UNK629 | UNKNOWN | | 0.30000 | µg/g | S | |
| SKP | UNK632 | UNKNOWN | | 0.20000 | µg/g | S | |
| SJV | UNK635 | UNKNOWN | | 0.30000 | µg/g | | |
| SKD | UNK635 | UNKNOWN | | 0.20000 | µg/g | S | |
| SJZ | UNK636 | UNKNOWN | | 0.30000 | µg/g | S | |
| SKP | UNK636 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKO | UNK637 | UNKNOWN | | 7.00000 | µg/l | S | |
| SJT | UNK641 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKB | UNK641 | UNKNOWN | | 0.50000 | µg/g | S | |
| SKP | UNK641 | UNKNOWN | | 0.20000 | µg/g | S | |
| SJU | UNK643 | UNKNOWN | | 0.30000 | µg/g | S | |
| SKD | UNK643 | UNKNOWN | | 0.20000 | µg/g | S | |
| SJU | UNK646 | UNKNOWN | | 0.90000 | µg/g | S | |
| SJV | UNK646 | UNKNOWN | | 0.70000 | µg/g | | |
| SJX | UNK646 | UNKNOWN | | 0.90000 | µg/g | | |
| SJZ | UNK646 | UNKNOWN | | 0.60000 | µg/g | S | |
| SJV | UNK648 | UNKNOWN | | 0.40000 | µg/g | | |
| SJT | UNK657 | UNKNOWN | | 0.50000 | µg/g | S | |
| SJT | UNK659 | UNKNOWN | | 0.40000 | µg/g | S | |
| SJT | UNK660 | UNKNOWN | | 0.10000 | µg/g | S | |
| SJX | UNK660 | UNKNOWN | | 1.00000 | µg/g | | |
| SJZ | UNK660 | UNKNOWN | | 0.80000 | µg/g | S | |
| SJU | UNK662 | UNKNOWN | | 1.00000 | µg/g | S | |
| SJV | UNK662 | UNKNOWN | | 1.00000 | µg/g | | |
| SJZ | UNK680 | UNKNOWN | | 0.40000 | µg/g | S | |
| SJT | UNK682 | UNKNOWN | | 0.50000 | µg/g | S | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **SEMIVOLATILES** | | | | | | | |
| SJU | UNK685 | UNKNOWN | | 0.60000 | µg/g | S | |
| SJV | UNK685 | UNKNOWN | | 0.60000 | µg/g | | |
| *Chemical Class:* **UNKNOWN** | | | | | | | |
| SKM | UNK625 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKM | UNK628 | UNKNOWN | | 0.30000 | µg/g | S | |
| SKM | UNK632 | UNKNOWN | | 0.20000 | µg/g | S | |
| SKM | UNK640 | UNKNOWN | | 0.20000 | µg/g | S | |
| *Chemical Class:* **VOLATILES** | | | | | | | |
| VKK | 111TCE | 1,1,1-TRICHLOROETHANE | LT | 0.00400 | µg/g | | |
| VKF | 111TCE | 1,1,1-TRICHLOROETHANE | LT | 0.00400 | µg/g | | |
| VKE | 111TCE | 1,1,1-TRICHLOROETHANE | LT | 4.10000 | µg/l | | |
| VJY | 111TCE | 1,1,1-TRICHLOROETHANE | LT | 4.10000 | µg/l | | |
| VJV | 111TCE | 1,1,1-TRICHLOROETHANE | LT | 0.00400 | µg/g | | |
| VJU | 111TCE | 1,1,1-TRICHLOROETHANE | LT | 0.00400 | µg/g | | |
| VJT | 111TCE | 1,1,1-TRICHLOROETHANE | LT | 4.10000 | µg/l | | |
| VJS | 111TCE | 1,1,1-TRICHLOROETHANE | LT | 0.00400 | µg/g | | |
| VKN | 111TCE | 1,1,1-TRICHLOROETHANE | LT | 4.10000 | µg/l | | |
| VKM | 111TCE | 1,1,1-TRICHLOROETHANE | LT | 0.00400 | µg/g | | |
| VKL | 111TCE | 1,1,1-TRICHLOROETHANE | LT | 0.00400 | µg/g | | |
| VJS | 112TCE | 1,1,2-TRICHLOROETHANE | LT | 0.02000 | µg/g | | |
| VJT | 112TCE | 1,1,2-TRICHLOROETHANE | LT | 0.63000 | µg/l | | |
| VJU | 112TCE | 1,1,2-TRICHLOROETHANE | LT | 0.02000 | µg/g | | |
| VJY | 112TCE | 1,1,2-TRICHLOROETHANE | LT | 0.63000 | µg/l | | |
| VJV | 112TCE | 1,1,2-TRICHLOROETHANE | LT | 0.02000 | µg/g | | |
| VKN | 112TCE | 1,1,2-TRICHLOROETHANE | LT | 0.63000 | µg/l | | |
| VKM | 112TCE | 1,1,2-TRICHLOROETHANE | LT | 0.02000 | µg/g | | |
| VKL | 112TCE | 1,1,2-TRICHLOROETHANE | LT | 0.02000 | µg/g | | |
| VKK | 112TCE | 1,1,2-TRICHLOROETHANE | LT | 0.02000 | µg/g | | |
| VKF | 112TCE | 1,1,2-TRICHLOROETHANE | LT | 0.02000 | µg/g | | |
| VKE | 112TCE | 1,1,2-TRICHLOROETHANE | LT | 0.63000 | µg/l | | |
| VJU | 11DCE | 1,1-DICHLOROETHYLENE | LT | 0.01900 | µg/g | | |
| VJT | 11DCE | 1,1-DICHLOROETHYLENE | LT | 1.42000 | µg/l | | |
| VKN | 11DCE | 1,1-DICHLOROETHYLENE | LT | 1.42000 | µg/l | | |
| VKM | 11DCE | 1,1-DICHLOROETHYLENE | LT | 0.01900 | µg/g | | |
| VKL | 11DCE | 1,1-DICHLOROETHYLENE | LT | 0.01900 | µg/g | | |
| VKK | 11DCE | 1,1-DICHLOROETHYLENE | LT | 0.01900 | µg/g | | |
| VKF | 11DCE | 1,1-DICHLOROETHYLENE | LT | 0.01900 | µg/g | | |
| VKE | 11DCE | 1,1-DICHLOROETHYLENE | LT | 1.42000 | µg/l | | |
| VJY | 11DCE | 1,1-DICHLOROETHYLENE | LT | 1.42000 | µg/l | | |
| VJV | 11DCE | 1,1-DICHLOROETHYLENE | LT | 0.01900 | µg/g | | |
| VJS | 11DCE | 1,1-DICHLOROETHYLENE | LT | 0.01900 | µg/g | | |
| VJT | 11DCLE | 1,1-DICHLOROETHANE | LT | 1.10000 | µg/l | | |
| VJS | 11DCLE | 1,1-DICHLOROETHANE | LT | 0.00200 | µg/g | | |
| VJU | 11DCLE | 1,1-DICHLOROETHANE | LT | 0.00200 | µg/g | | |
| VJY | 11DCLE | 1,1-DICHLOROETHANE | LT | 1.10000 | µg/l | | |
| VKF | 11DCLE | 1,1-DICHLOROETHANE | LT | 0.00200 | µg/g | | |
| VKL | 11DCLE | 1,1-DICHLOROETHANE | LT | 0.00200 | µg/g | | |
| VKK | 11DCLE | 1,1-DICHLOROETHANE | LT | 0.00200 | µg/g | | |
| VKN | 11DCLE | 1,1-DICHLOROETHANE | LT | 1.10000 | µg/l | | |
| VKM | 11DCLE | 1,1-DICHLOROETHANE | LT | 0.00200 | µg/g | | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **VOLATILES** | | | | | | | |
| VKE | 11DCLE | 1,1-DICHLOROETHANE | LT | 1.10000 | µg/l | | |
| VJV | 11DCLE | 1,1-DICHLOROETHANE | LT | 0.00200 | µg/g | | |
| VKK | 12DCE | 1,2-DICHLOROETHYLENES (CIS AND TRANS ISOMERS) | LT | 0.00200 | µg/g | | |
| VKF | 12DCE | 1,2-DICHLOROETHYLENES (CIS AND TRANS ISOMERS) | LT | 0.00200 | µg/g | | |
| VKN | 12DCE | 1,2-DICHLOROETHYLENES (CIS AND TRANS ISOMERS) | LT | 1.10000 | µg/l | | |
| VKM | 12DCE | 1,2-DICHLOROETHYLENES (CIS AND TRANS ISOMERS) | LT | 0.00200 | µg/g | | |
| VKL | 12DCE | 1,2-DICHLOROETHYLENES (CIS AND TRANS ISOMERS) | LT | 0.00200 | µg/g | | |
| VJT | 12DCE | 1,2-DICHLOROETHYLENES (CIS AND TRANS ISOMERS) | LT | 1.10000 | µg/l | | |
| VJV | 12DCE | 1,2-DICHLOROETHYLENES (CIS AND TRANS ISOMERS) | LT | 0.00200 | µg/g | | |
| VJY | 12DCE | 1,2-DICHLOROETHYLENES (CIS AND TRANS ISOMERS) | LT | 1.10000 | µg/l | | |
| VKE | 12DCE | 1,2-DICHLOROETHYLENES (CIS AND TRANS ISOMERS) | LT | 1.10000 | µg/l | | |
| VJU | 12DCE | 1,2-DICHLOROETHYLENES (CIS AND TRANS ISOMERS) | LT | 0.00200 | µg/g | | |
| VJS | 12DCE | 1,2-DICHLOROETHYLENES (CIS AND TRANS ISOMERS) | LT | 0.00200 | µg/g | | |
| VKN | 12DCLB | 1,2-DICHLOROBENZENE | LT | 9.70000 | µg/l | | |
| VKM | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.00100 | µg/g | | |
| VKL | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.00100 | µg/g | | |
| VKK | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.00100 | µg/g | | |
| VKF | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.00100 | µg/g | | |
| VKE | 12DCLB | 1,2-DICHLOROBENZENE | LT | 9.70000 | µg/l | | |
| VJY | 12DCLB | 1,2-DICHLOROBENZENE | LT | 9.70000 | µg/l | | |
| VJV | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.00100 | µg/g | | |
| VJU | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.00100 | µg/g | | |
| VJT | 12DCLB | 1,2-DICHLOROBENZENE | LT | 9.70000 | µg/l | | |
| VJS | 12DCLB | 1,2-DICHLOROBENZENE | LT | 0.00100 | µg/g | | |
| VKK | 12DCLE | 1,2-DICHLOROETHANE | LT | 0.00300 | µg/g | | |
| VKF | 12DCLE | 1,2-DICHLOROETHANE | LT | 0.00300 | µg/g | | |
| VKE | 12DCLE | 1,2-DICHLOROETHANE | LT | 7.60000 | µg/l | | |
| VJY | 12DCLE | 1,2-DICHLOROETHANE | LT | 7.60000 | µg/l | | |
| VJV | 12DCLE | 1,2-DICHLOROETHANE | LT | 0.00300 | µg/g | | |
| VJU | 12DCLE | 1,2-DICHLOROETHANE | LT | 0.00300 | µg/g | | |
| VJT | 12DCLE | 1,2-DICHLOROETHANE | LT | 7.60000 | µg/l | | |
| VJS | 12DCLE | 1,2-DICHLOROETHANE | LT | 0.00300 | µg/g | | |
| VKN | 12DCLE | 1,2-DICHLOROETHANE | LT | 7.60000 | µg/l | | |
| VKM | 12DCLE | 1,2-DICHLOROETHANE | LT | 0.00300 | µg/g | | |
| VKL | 12DCLE | 1,2-DICHLOROETHANE | LT | 0.00300 | µg/g | | |
| VJS | 12DCLP | 1,2-DICHLOROPROPANE | LT | 0.00200 | µg/g | | |
| VJT | 12DCLP | 1,2-DICHLOROPROPANE | LT | 2.80000 | µg/l | | |
| VJU | 12DCLP | 1,2-DICHLOROPROPANE | LT | 0.00200 | µg/g | | |
| VJY | 12DCLP | 1,2-DICHLOROPROPANE | LT | 2.80000 | µg/l | | |
| VJV | 12DCLP | 1,2-DICHLOROPROPANE | LT | 0.00200 | µg/g | | |
| VKN | 12DCLP | 1,2-DICHLOROPROPANE | LT | 2.80000 | µg/l | | |
| VKM | 12DCLP | 1,2-DICHLOROPROPANE | LT | 0.00200 | µg/g | | |
| VKL | 12DCLP | 1,2-DICHLOROPROPANE | LT | 0.00200 | µg/g | | |
| VKK | 12DCLP | 1,2-DICHLOROPROPANE | LT | 0.00200 | µg/g | | |
| VKF | 12DCLP | 1,2-DICHLOROPROPANE | LT | 0.00200 | µg/g | | |
| VKE | 12DCLP | 1,2-DICHLOROPROPANE | LT | 2.80000 | µg/l | | |
| VJS | 12DMB | 1,2-DIMETHYLBENZENE | ND | 0.00500 | µg/g | R | |
| VJU | 12DMB | 1,2-DIMETHYLBENZENE | ND | 0.00500 | µg/g | R | |
| VJT | 12DMB | 1,2-DIMETHYLBENZENE | ND | 5.00000 | µg/l | R | |
| VKN | 12DMB | 1,2-DIMETHYLBENZENE | ND | 5.00000 | µg/l | R | |
| VKM | 12DMB | 1,2-DIMETHYLBENZENE | ND | 0.00500 | µg/g | R | |
| VKL | 12DMB | 1,2-DIMETHYLBENZENE | ND | 0.00500 | µg/g | R | |
| VKK | 12DMB | 1,2-DIMETHYLBENZENE | ND | 0.00500 | µg/g | R | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **VOLATILES** | | | | | | | |
| VKF | 12DMB | 1,2-DIMETHYLBENZENE | ND | 0.00500 | µg/g | R | |
| VKE | 12DMB | 1,2-DIMETHYLBENZENE | ND | 5.00000 | µg/l | R | |
| VJY | 12DMB | 1,2-DIMETHYLBENZENE | ND | 5.00000 | µg/l | R | |
| VJV | 12DMB | 1,2-DIMETHYLBENZENE | ND | 0.00200 | µg/g | R | |
| VKN | 13DCLB | 1,3-DICHLOROBENZENE | LT | 9.20000 | µg/l | | |
| VKM | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.00200 | µg/g | | |
| VKL | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.00200 | µg/g | | |
| VKK | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.00200 | µg/g | | |
| VKF | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.00200 | µg/g | | |
| VKE | 13DCLB | 1,3-DICHLOROBENZENE | LT | 9.20000 | µg/l | | |
| VJY | 13DCLB | 1,3-DICHLOROBENZENE | LT | 9.20000 | µg/l | | |
| VJV | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.00200 | µg/g | | |
| VJU | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.00200 | µg/g | | |
| VJT | 13DCLB | 1,3-DICHLOROBENZENE | LT | 9.20000 | µg/l | | |
| VJS | 13DCLB | 1,3-DICHLOROBENZENE | LT | 0.00200 | µg/g | | |
| VKK | 13DCP | 1,3-DICHLOROPROPANE | LT | 0.00100 | µg/g | | |
| VKF | 13DCP | 1,3-DICHLOROPROPANE | LT | 0.00100 | µg/g | | |
| VKN | 13DCP | 1,3-DICHLOROPROPANE | LT | 3.80000 | µg/l | | |
| VKM | 13DCP | 1,3-DICHLOROPROPANE | LT | 0.00100 | µg/g | | |
| VKL | 13DCP | 1,3-DICHLOROPROPANE | LT | 0.00100 | µg/g | | |
| VJT | 13DCP | 1,3-DICHLOROPROPANE | LT | 3.80000 | µg/l | | |
| VJV | 13DCP | 1,3-DICHLOROPROPANE | LT | 0.00100 | µg/g | | |
| VJY | 13DCP | 1,3-DICHLOROPROPANE | LT | 3.80000 | µg/l | | |
| VKE | 13DCP | 1,3-DICHLOROPROPANE | LT | 3.80000 | µg/l | | |
| VJU | 13DCP | 1,3-DICHLOROPROPANE | LT | 0.00100 | µg/g | | |
| VJS | 13DCP | 1,3-DICHLOROPROPANE | LT | 0.00100 | µg/g | | |
| VKN | 13DMB | 1,3-DIMETHYLBENZENE | ND | 5.00000 | µg/l | R | |
| VKM | 13DMB | 1,3-DIMETHYLBENZENE | ND | 0.00500 | µg/g | R | |
| VKL | 13DMB | 1,3-DIMETHYLBENZENE | ND | 0.00500 | µg/g | R | |
| VKK | 13DMB | 1,3-DIMETHYLBENZENE | ND | 0.00500 | µg/g | R | |
| VKF | 13DMB | 1,3-DIMETHYLBENZENE | ND | 0.00500 | µg/g | R | |
| VKE | 13DMB | 1,3-DIMETHYLBENZENE | ND | 5.00000 | µg/l | R | |
| VJY | 13DMB | 1,3-DIMETHYLBENZENE | ND | 5.00000 | µg/l | R | |
| VJV | 13DMB | 1,3-DIMETHYLBENZENE | ND | 0.00200 | µg/g | R | |
| VJU | 13DMB | 1,3-DIMETHYLBENZENE | ND | 0.00500 | µg/g | R | |
| VJT | 13DMB | 1,3-DIMETHYLBENZENE | ND | 5.00000 | µg/l | R | |
| VJS | 13DMB | 1,3-DIMETHYLBENZENE | ND | 0.00500 | µg/g | R | |
| VJV | 14DCLB | 1,4-DICHLOROBENZENE | LT | 0.00100 | µg/g | | |
| VJU | 14DCLB | 1,4-DICHLOROBENZENE | LT | 0.00100 | µg/g | | |
| VJT | 14DCLB | 1,4-DICHLOROBENZENE | LT | 8.10000 | µg/l | | |
| VJS | 14DCLB | 1,4-DICHLOROBENZENE | | 0.00100 | µg/g | P | |
| VKN | 14DCLB | 1,4-DICHLOROBENZENE | LT | 8.10000 | µg/l | | |
| VKM | 14DCLB | 1,4-DICHLOROBENZENE | | 0.00046 | µg/g | P | |
| VKL | 14DCLB | 1,4-DICHLOROBENZENE | | 0.00100 | µg/g | P | |
| VKK | 14DCLB | 1,4-DICHLOROBENZENE | | 0.00100 | µg/g | P | |
| VKF | 14DCLB | 1,4-DICHLOROBENZENE | | 0.00045 | µg/g | P | |
| VKE | 14DCLB | 1,4-DICHLOROBENZENE | LT | 8.10000 | µg/l | | |
| VJY | 14DCLB | 1,4-DICHLOROBENZENE | LT | 8.10000 | µg/l | | |
| VJV | 2CLEVE | 2-CHLOROETHYLVINYL ETHER | LT | 0.04800 | µg/g | | |
| VKE | 2CLEVE | 2-CHLOROETHYLVINYL ETHER | LT | 82.00000 | µg/l | | |
| VKK | 2CLEVE | 2-CHLOROETHYLVINYL ETHER | LT | 0.04800 | µg/g | | |
| VKF | 2CLEVE | 2-CHLOROETHYLVINYL ETHER | LT | 0.04800 | µg/g | | |
| VKN | 2CLEVE | 2-CHLOROETHYLVINYL ETHER | LT | 82.00000 | µg/l | | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **VOLATILES** | | | | | | | |
| VKM | 2CLEVE | 2-CHLOROETHYLVINYL ETHER | LT | 0.04800 | µg/g | | |
| VKL | 2CLEVE | 2-CHLOROETHYLVINYL ETHER | LT | 0.04800 | µg/g | | |
| VJY | 2CLEVE | 2-CHLOROETHYLVINYL ETHER | LT | 82.00000 | µg/l | | |
| VJU | 2CLEVE | 2-CHLOROETHYLVINYL ETHER | LT | 0.04800 | µg/g | | |
| VJS | 2CLEVE | 2-CHLOROETHYLVINYL ETHER | LT | 0.04800 | µg/g | | |
| VJT | 2CLEVE | 2-CHLOROETHYLVINYL ETHER | LT | 82.00000 | µg/l | | |
| VJT | ACET | ACETONE | ND | 10.00000 | µg/l | R | |
| VJV | ACET | ACETONE | | 0.01400 | µg/g | S | |
| VKE | ACET | ACETONE | | 11.00000 | µg/l | S | |
| VKK | ACET | ACETONE | | 0.00800 | µg/g | S | |
| VKF | ACET | ACETONE | | 0.01000 | µg/g | S | |
| VKN | ACET | ACETONE | ND | 10.00000 | µg/l | R | |
| VKM | ACET | ACETONE | ND | 0.01000 | µg/g | R | |
| VKL | ACET | ACETONE | ND | 0.01000 | µg/g | R | |
| VJY | ACET | ACETONE | | 7.20000 | µg/l | S | |
| VJU | ACET | ACETONE | | 0.01300 | µg/g | S | |
| VJS | ACET | ACETONE | | 0.01200 | µg/g | S | |
| VJY | BRDCL | BROMODICHLOROMETHANE | LT | 7.90000 | µg/l | | |
| VKF | BRDCL | BROMODICHLOROMETHANE | LT | 0.00300 | µg/g | | |
| VKL | BRDCL | BROMODICHLOROMETHANE | LT | 0.00300 | µg/g | | |
| VKK | BRDCL | BROMODICHLOROMETHANE | LT | 0.00300 | µg/g | | |
| VKN | BRDCL | BROMODICHLOROMETHANE | LT | 7.90000 | µg/l | | |
| VKM | BRDCL | BROMODICHLOROMETHANE | LT | 0.00300 | µg/g | | |
| VKE | BRDCL | BROMODICHLOROMETHANE | LT | 7.90000 | µg/l | | |
| VJV | BRDCL | BROMODICHLOROMETHANE | LT | 0.00300 | µg/g | | |
| VJS | BRDCL | BROMODICHLOROMETHANE | LT | 0.00300 | µg/g | | |
| VJT | BRDCL | BROMODICHLOROMETHANE | LT | 7.90000 | µg/l | | |
| VJU | BRDCL | BROMODICHLOROMETHANE | LT | 0.00300 | µg/g | | |
| VJT | C12DCE | CIS-1,2-DICHLOROETHYLENE | ND | 5.00000 | µg/l | R | |
| VKM | C12DCE | CIS-1,2-DICHLOROETHYLENE | ND | 0.00500 | µg/g | R | |
| VKL | C12DCE | CIS-1,2-DICHLOROETHYLENE | ND | 0.00500 | µg/g | R | |
| VKN | C12DCE | CIS-1,2-DICHLOROETHYLENE | ND | 5.00000 | µg/l | R | |
| VJU | C12DCE | CIS-1,2-DICHLOROETHYLENE | ND | 0.00500 | µg/g | R | |
| VKE | C12DCE | CIS-1,2-DICHLOROETHYLENE | ND | 5.00000 | µg/l | R | |
| VKF | C12DCE | CIS-1,2-DICHLOROETHYLENE | ND | 0.00500 | µg/g | R | |
| VKK | C12DCE | CIS-1,2-DICHLOROETHYLENE | ND | 0.00500 | µg/g | R | |
| VJY | C12DCE | CIS-1,2-DICHLOROETHYLENE | ND | 5.00000 | µg/l | R | |
| VKK | C13DCP | CIS-1,3-DICHLOROPROPYLENE | ND | 0.00500 | µg/g | R | |
| VKF | C13DCP | CIS-1,3-DICHLOROPROPYLENE | ND | 0.00500 | µg/g | R | |
| VKN | C13DCP | CIS-1,3-DICHLOROPROPYLENE | ND | 5.00000 | µg/l | R | |
| VKM | C13DCP | CIS-1,3-DICHLOROPROPYLENE | ND | 0.00500 | µg/g | R | |
| VKL | C13DCP | CIS-1,3-DICHLOROPROPYLENE | ND | 0.00500 | µg/g | R | |
| VJT | C13DCP | CIS-1,3-DICHLOROPROPYLENE | ND | 5.00000 | µg/l | R | |
| VJV | C13DCP | CIS-1,3-DICHLOROPROPYLENE | ND | 0.00500 | µg/g | R | |
| VJY | C13DCP | CIS-1,3-DICHLOROPROPYLENE | ND | 5.00000 | µg/l | R | |
| VKE | C13DCP | CIS-1,3-DICHLOROPROPYLENE | ND | 5.00000 | µg/l | R | |
| VJU | C13DCP | CIS-1,3-DICHLOROPROPYLENE | ND | 0.00500 | µg/g | R | |
| VJS | C13DCP | CIS-1,3-DICHLOROPROPYLENE | ND | 0.00500 | µg/g | R | |
| VKN | C2AVE | ACETIC ACID VINYL ESTER | ND | 10.00000 | µg/l | R | |
| VKM | C2AVE | ACETIC ACID VINYL ESTER | ND | 0.01000 | µg/g | R | |
| VKL | C2AVE | ACETIC ACID VINYL ESTER | ND | 0.01000 | µg/g | R | |
| VKK | C2AVE | ACETIC ACID VINYL ESTER | ND | 0.01000 | µg/g | R | |
| VKF | C2AVE | ACETIC ACID VINYL ESTER | ND | 0.01000 | µg/g | R | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **VOLATILES** | | | | | | | |
| VKE | C2AVE | ACETIC ACID VINYL ESTER | ND | 10.00000 | µg/l | R | |
| VJY | C2AVE | ACETIC ACID VINYL ESTER | ND | 10.00000 | µg/l | R | |
| VJV | C2AVE | ACETIC ACID VINYL ESTER | ND | 0.01000 | µg/g | R | |
| VJU | C2AVE | ACETIC ACID VINYL ESTER | ND | 0.01000 | µg/g | R | |
| VJT | C2AVE | ACETIC ACID VINYL ESTER | ND | 10.00000 | µg/l | R | |
| VJS | C2AVE | ACETIC ACID VINYL ESTER | ND | 0.01000 | µg/g | R | |
| VJU | C2H3CL | CHLOROETHENE | LT | 0.01500 | µg/g | | |
| VJY | C2H3CL | CHLOROETHENE | LT | 0.50000 | µg/l | | |
| VKF | C2H3CL | CHLOROETHENE | LT | 0.01500 | µg/g | | |
| VKL | C2H3CL | CHLOROETHENE | LT | 0.01500 | µg/g | | |
| VKK | C2H3CL | CHLOROETHENE | LT | 0.01500 | µg/g | | |
| VKN | C2H3CL | CHLOROETHENE | LT | 0.50000 | µg/l | | |
| VKM | C2H3CL | CHLOROETHENE | LT | 0.01500 | µg/g | | |
| VKE | C2H3CL | CHLOROETHENE | LT | 0.50000 | µg/l | | |
| VJV | C2H3CL | CHLOROETHENE | LT | 0.01500 | µg/g | | |
| VJT | C2H3CL | CHLOROETHENE | LT | 0.50000 | µg/l | | |
| VJS | C2H3CL | CHLOROETHENE | LT | 0.01500 | µg/g | | |
| VKF | C2H5CL | CHLOROETHANE | LT | 0.02700 | µg/g | | |
| VKE | C2H5CL | CHLOROETHANE | LT | 2.12000 | µg/l | | |
| VKN | C2H5CL | CHLOROETHANE | LT | 2.12000 | µg/l | | |
| VKM | C2H5CL | CHLOROETHANE | LT | 0.02700 | µg/g | | |
| VKL | C2H5CL | CHLOROETHANE | LT | 0.02700 | µg/g | | |
| VKK | C2H5CL | CHLOROETHANE | LT | 0.02700 | µg/g | | |
| VJS | C2H5CL | CHLOROETHANE | LT | 0.02700 | µg/g | | |
| VJU | C2H5CL | CHLOROETHANE | LT | 0.02700 | µg/g | | |
| VJV | C2H5CL | CHLOROETHANE | LT | 0.02700 | µg/g | | |
| VJY | C2H5CL | CHLOROETHANE | LT | 2.12000 | µg/l | | |
| VJT | C2H5CL | CHLOROETHANE | LT | 2.12000 | µg/l | | |
| VJV | C6H6 | BENZENE | LT | 0.00300 | µg/g | | |
| VKE | C6H6 | BENZENE | LT | 2.40000 | µg/l | | |
| VKK | C6H6 | BENZENE | LT | 0.00300 | µg/g | | |
| VKM | C6H6 | BENZENE | LT | 0.00300 | µg/g | | |
| VKN | C6H6 | BENZENE | LT | 2.40000 | µg/l | | |
| VKL | C6H6 | BENZENE | LT | 0.00300 | µg/g | | |
| VKF | C6H6 | BENZENE | LT | 0.00300 | µg/g | | |
| VJY | C6H6 | BENZENE | LT | 2.40000 | µg/l | | |
| VJU | C6H6 | BENZENE | LT | 0.00300 | µg/g | | |
| VJS | C6H6 | BENZENE | LT | 0.00300 | µg/g | | |
| VJT | C6H6 | BENZENE | LT | 2.40000 | µg/l | | |
| VJV | CCL3F | TRIFLUOROCHLOROMETHANE | ND | 0.00500 | µg/g | R | |
| VJU | CCL4 | CARBON TETRACHLORIDE | LT | 0.00600 | µg/g | | |
| VJV | CCL4 | CARBON TETRACHLORIDE | LT | 0.00600 | µg/g | | |
| VJT | CCL4 | CARBON TETRACHLORIDE | LT | 3.70000 | µg/l | | |
| VJS | CCL4 | CARBON TETRACHLORIDE | LT | 0.00600 | µg/g | | |
| VJY | CCL4 | CARBON TETRACHLORIDE | LT | 3.70000 | µg/l | | |
| VKF | CCL4 | CARBON TETRACHLORIDE | LT | 0.00600 | µg/g | | |
| VKE | CCL4 | CARBON TETRACHLORIDE | LT | 3.70000 | µg/l | | |
| VKN | CCL4 | CARBON TETRACHLORIDE | LT | 3.70000 | µg/l | | |
| VKM | CCL4 | CARBON TETRACHLORIDE | LT | 0.00600 | µg/g | | |
| VKL | CCL4 | CARBON TETRACHLORIDE | LT | 0.00600 | µg/g | | |
| VKK | CCL4 | CARBON TETRACHLORIDE | LT | 0.00600 | µg/g | | |
| VJT | CH2CL2 | METHYLENE CHLORIDE | | 7.50000 | µg/l | | |
| VJV | CH2CL2 | METHYLENE CHLORIDE | | 0.00700 | µg/g | | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **VOLATILES** | | | | | | | |
| VKE | CH2CL2 | METHYLENE CHLORIDE | | 7.20000 | µg/l | | |
| VJY | CH2CL2 | METHYLENE CHLORIDE | | 6.60000 | µg/l | | |
| VKN | CH2CL2 | METHYLENE CHLORIDE | | 8.00000 | µg/l | | |
| VKM | CH2CL2 | METHYLENE CHLORIDE | | 0.01400 | µg/g | | |
| VKL | CH2CL2 | METHYLENE CHLORIDE | | 0.00800 | µg/g | | |
| VKK | CH2CL2 | METHYLENE CHLORIDE | | 0.00800 | µg/g | | |
| VKF | CH2CL2 | METHYLENE CHLORIDE | | 0.00700 | µg/g | | |
| VJU | CH2CL2 | METHYLENE CHLORIDE | | 0.00600 | µg/g | | |
| VJS | CH2CL2 | METHYLENE CHLORIDE | | 0.00800 | µg/g | | |
| VJS | CH3BR | BROMOMETHANE | ND | 0.01000 | µg/g | R | |
| VKN | CH3BR | BROMOMETHANE | ND | 10.00000 | µg/l | R | |
| VKM | CH3BR | BROMOMETHANE | ND | 0.01000 | µg/g | R | |
| VKL | CH3BR | BROMOMETHANE | ND | 0.01000 | µg/g | R | |
| VKK | CH3BR | BROMOMETHANE | ND | 0.01000 | µg/g | R | |
| VKF | CH3BR | BROMOMETHANE | ND | 0.01000 | µg/g | R | |
| VKE | CH3BR | BROMOMETHANE | ND | 10.00000 | µg/l | R | |
| VJY | CH3BR | BROMOMETHANE | ND | 10.00000 | µg/l | R | |
| VJT | CH3BR | BROMOMETHANE | ND | 10.00000 | µg/l | R | |
| VJV | CH3BR | BROMOMETHANE | ND | 0.01000 | µg/g | R | |
| VJU | CH3BR | BROMOMETHANE | ND | 0.01000 | µg/g | R | |
| VJS | CH3CL | CHLOROMETHANE | LT | 0.01700 | µg/g | | |
| VJT | CH3CL | CHLOROMETHANE | LT | 1.60000 | µg/l | | |
| VJU | CH3CL | CHLOROMETHANE | LT | 0.01700 | µg/g | | |
| VJY | CH3CL | CHLOROMETHANE | LT | 1.60000 | µg/l | | |
| VKF | CH3CL | CHLOROMETHANE | LT | 0.01700 | µg/g | | |
| VKL | CH3CL | CHLOROMETHANE | LT | 0.01700 | µg/g | | |
| VKK | CH3CL | CHLOROMETHANE | LT | 0.01700 | µg/g | | |
| VKN | CH3CL | CHLOROMETHANE | LT | 1.60000 | µg/l | | |
| VKM | CH3CL | CHLOROMETHANE | LT | 0.01700 | µg/g | | |
| VKE | CH3CL | CHLOROMETHANE | LT | 1.60000 | µg/l | | |
| VJV | CH3CL | CHLOROMETHANE | LT | 0.01700 | µg/g | | |
| VJS | CHBR3 | BROMOFORM | LT | 0.01800 | µg/g | | |
| VJU | CHBR3 | BROMOFORM | LT | 0.01800 | µg/g | | |
| VJY | CHBR3 | BROMOFORM | LT | 8.20000 | µg/l | | |
| VKF | CHBR3 | BROMOFORM | LT | 0.01800 | µg/g | | |
| VKE | CHBR3 | BROMOFORM | LT | 8.20000 | µg/l | | |
| VKN | CHBR3 | BROMOFORM | LT | 8.20000 | µg/l | | |
| VKM | CHBR3 | BROMOFORM | LT | 0.01800 | µg/g | | |
| VKL | CHBR3 | BROMOFORM | LT | 0.01800 | µg/g | | |
| VKK | CHBR3 | BROMOFORM | LT | 0.01800 | µg/g | | |
| VJV | CHBR3 | BROMOFORM | LT | 0.01800 | µg/g | | |
| VJT | CHBR3 | BROMOFORM | LT | 8.20000 | µg/l | | |
| VJS | CHCL3 | CHLOROFORM | LT | 0.00200 | µg/g | | |
| VJY | CHCL3 | CHLOROFORM | LT | 0.83000 | µg/l | | |
| VJV | CHCL3 | CHLOROFORM | LT | 0.00200 | µg/g | | |
| VKN | CHCL3 | CHLOROFORM | LT | 0.83000 | µg/l | | |
| VKM | CHCL3 | CHLOROFORM | LT | 0.00200 | µg/g | | |
| VKL | CHCL3 | CHLOROFORM | LT | 0.00200 | µg/g | | |
| VKK | CHCL3 | CHLOROFORM | LT | 0.00200 | µg/g | | |
| VKF | CHCL3 | CHLOROFORM | LT | 0.00200 | µg/g | | |
| VKE | CHCL3 | CHLOROFORM | LT | 0.83000 | µg/l | | |
| VJT | CHCL3 | CHLOROFORM | LT | 0.83000 | µg/l | | |
| VJU | CHCL3 | CHLOROFORM | LT | 0.00200 | µg/g | | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **VOLATILES** | | | | | | | |
| VJS | CLC6H5 | MONOCHLOROBENZENE | LT | 0.00300 | µg/g | | |
| VJU | CLC6H5 | MONOCHLOROBENZENE | LT | 0.00300 | µg/g | | |
| VJT | CLC6H5 | MONOCHLOROBENZENE | LT | 1.40000 | µg/l | | |
| VJV | CLC6H5 | MONOCHLOROBENZENE | LT | 0.00300 | µg/g | | |
| VKE | CLC6H5 | MONOCHLOROBENZENE | LT | 1.40000 | µg/l | | |
| VKK | CLC6H5 | MONOCHLOROBENZENE | LT | 0.00300 | µg/g | | |
| VKM | CLC6H5 | MONOCHLOROBENZENE | LT | 0.00300 | µg/g | | |
| VKL | CLC6H5 | MONOCHLOROBENZENE | LT | 0.00300 | µg/g | | |
| VKN | CLC6H5 | MONOCHLOROBENZENE | LT | 1.40000 | µg/l | | |
| VKF | CLC6H5 | MONOCHLOROBENZENE | LT | 0.00300 | µg/g | | |
| VJY | CLC6H5 | MONOCHLOROBENZENE | LT | 1.40000 | µg/l | | |
| VJS | CS2 | CARBON DISULFIDE | ND | 0.00500 | µg/g | R | |
| VJY | CS2 | CARBON DISULFIDE | ND | 5.00000 | µg/l | R | |
| VKF | CS2 | CARBON DISULFIDE | ND | 0.00500 | µg/g | R | |
| VKL | CS2 | CARBON DISULFIDE | ND | 0.00500 | µg/g | R | |
| VKK | CS2 | CARBON DISULFIDE | ND | 0.00500 | µg/g | R | |
| VKN | CS2 | CARBON DISULFIDE | ND | 5.00000 | µg/l | R | |
| VKM | CS2 | CARBON DISULFIDE | ND | 0.00500 | µg/g | R | |
| VKE | CS2 | CARBON DISULFIDE | ND | 5.00000 | µg/l | R | |
| VJV | CS2 | CARBON DISULFIDE | ND | 0.00500 | µg/g | R | |
| VJT | CS2 | CARBON DISULFIDE | ND | 5.00000 | µg/l | R | |
| VJU | CS2 | CARBON DISULFIDE | ND | 0.00500 | µg/g | R | |
| VJS | DBRCL | DIBROMOCHLOROMETHANE | LT | 0.01400 | µg/g | | |
| VJT | DBRCL | DIBROMOCHLOROMETHANE | LT | 6.50000 | µg/l | | |
| VJU | DBRCL | DIBROMOCHLOROMETHANE | LT | 0.01400 | µg/g | | |
| VJV | DBRCL | DIBROMOCHLOROMETHANE | LT | 0.01400 | µg/g | | |
| VJY | DBRCL | DIBROMOCHLOROMETHANE | LT | 6.50000 | µg/l | | |
| VKE | DBRCL | DIBROMOCHLOROMETHANE | LT | 6.50000 | µg/l | | |
| VKF | DBRCL | DIBROMOCHLOROMETHANE | LT | 0.01400 | µg/g | | |
| VKK | DBRCL | DIBROMOCHLOROMETHANE | LT | 0.01400 | µg/g | | |
| VKL | DBRCL | DIBROMOCHLOROMETHANE | LT | 0.01400 | µg/g | | |
| VKM | DBRCL | DIBROMOCHLOROMETHANE | LT | 0.01400 | µg/g | | |
| VKN | DBRCL | DIBROMOCHLOROMETHANE | LT | 6.50000 | µg/l | | |
| VJS | ETC6H5 | ETHYLBENZENE | LT | 0.00300 | µg/g | | |
| VJT | ETC6H5 | ETHYLBENZENE | LT | 9.30000 | µg/l | | |
| VJU | ETC6H5 | ETHYLBENZENE | LT | 0.00300 | µg/g | | |
| VJV | ETC6H5 | ETHYLBENZENE | LT | 0.00300 | µg/g | | |
| VJY | ETC6H5 | ETHYLBENZENE | LT | 9.30000 | µg/l | | |
| VKE | ETC6H5 | ETHYLBENZENE | LT | 9.30000 | µg/l | | |
| VKF | ETC6H5 | ETHYLBENZENE | LT | 0.00300 | µg/g | | |
| VKK | ETC6H5 | ETHYLBENZENE | LT | 0.00300 | µg/g | | |
| VKL | ETC6H5 | ETHYLBENZENE | LT | 0.00300 | µg/g | | |
| VKM | ETC6H5 | ETHYLBENZENE | LT | 0.00300 | µg/g | | |
| VKN | ETC6H5 | ETHYLBENZENE | LT | 9.30000 | µg/l | | |
| VJS | MEC6H | TOLUENE | LT | 0.00800 | µg/g | | |
| VJT | MEC6H | TOLUENE | LT | 8.70000 | µg/l | | |
| VJU | MEC6H | TOLUENE | LT | 0.00800 | µg/g | | |
| VJV | MEC6H | TOLUENE | LT | 0.00800 | µg/g | | |
| VJY | MEC6H | TOLUENE | LT | 8.70000 | µg/l | | |
| VKE | MEC6H | TOLUENE | LT | 8.70000 | µg/l | | |
| VKF | MEC6H | TOLUENE | LT | 0.00800 | µg/g | | |
| VKK | MEC6H | TOLUENE | LT | 0.00800 | µg/g | | |
| VKL | MEC6H | TOLUENE | LT | 0.00800 | µg/g | | |

## *Method Blanks - Chemical Quality Control - Phase I RI data*

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **VOLATILES** | | | | | | | |
| VKM | MEC6H | TOLUENE | LT | 0.00800 | µg/g | | |
| VKN | MEC6H | TOLUENE | LT | 8.70000 | µg/l | | |
| VJS | MEK | METHYLETHYL KETONE | ND | 0.01000 | µg/g | R | |
| VJT | MEK | METHYLETHYL KETONE | ND | 10.00000 | µg/l | R | |
| VJU | MEK | METHYLETHYL KETONE | ND | 0.01000 | µg/g | R | |
| VJV | MEK | METHYLETHYL KETONE | ND | 0.01000 | µg/g | R | |
| VJY | MEK | METHYLETHYL KETONE | ND | 10.00000 | µg/l | R | |
| VKE | MEK | METHYLETHYL KETONE | ND | 10.00000 | µg/l | R | |
| VKF | MEK | METHYLETHYL KETONE | ND | 0.01000 | µg/g | R | |
| VKK | MEK | METHYLETHYL KETONE | ND | 0.01000 | µg/g | R | |
| VKL | MEK | METHYLETHYL KETONE | ND | 0.01000 | µg/g | R | |
| VKM | MEK | METHYLETHYL KETONE | ND | 0.01000 | µg/g | R | |
| VKN | MEK | METHYLETHYL KETONE | ND | 10.00000 | µg/l | R | |
| VJS | MIBK | METHYLISOBUTYL KETONE | ND | 0.01000 | µg/g | R | |
| VJT | MIBK | METHYLISOBUTYL KETONE | ND | 10.00000 | µg/l | R | |
| VJU | MIBK | METHYLISOBUTYL KETONE | ND | 0.01000 | µg/g | R | |
| VJV | MIBK | METHYLISOBUTYL KETONE | ND | 0.01000 | µg/g | R | |
| VJY | MIBK | METHYLISOBUTYL KETONE | ND | 10.00000 | µg/l | R | |
| VKE | MIBK | METHYLISOBUTYL KETONE | ND | 10.00000 | µg/l | R | |
| VKF | MIBK | METHYLISOBUTYL KETONE | ND | 0.01000 | µg/g | R | |
| VKK | MIBK | METHYLISOBUTYL KETONE | ND | 0.01000 | µg/g | R | |
| VKL | MIBK | METHYLISOBUTYL KETONE | ND | 0.01000 | µg/g | R | |
| VKM | MIBK | METHYLISOBUTYL KETONE | ND | 0.01000 | µg/g | R | |
| VKN | MIBK | METHYLISOBUTYL KETONE | ND | 10.00000 | µg/l | R | |
| VJS | MNBK | METHYL-N-BUTYL KETONE | ND | 0.01000 | µg/g | R | |
| VJT | MNBK | METHYL-N-BUTYL KETONE | ND | 10.00000 | µg/l | R | |
| VJU | MNBK | METHYL-N-BUTYL KETONE | ND | 0.01000 | µg/g | R | |
| VJV | MNBK | METHYL-N-BUTYL KETONE | ND | 0.01000 | µg/g | R | |
| VJY | MNBK | METHYL-N-BUTYL KETONE | ND | 10.00000 | µg/l | R | |
| VKE | MNBK | METHYL-N-BUTYL KETONE | ND | 10.00000 | µg/l | R | |
| VKF | MNBK | METHYL-N-BUTYL KETONE | ND | 0.01000 | µg/g | R | |
| VKK | MNBK | METHYL-N-BUTYL KETONE | ND | 0.01000 | µg/g | R | |
| VKL | MNBK | METHYL-N-BUTYL KETONE | ND | 0.01000 | µg/g | R | |
| VKM | MNBK | METHYL-N-BUTYL KETONE | ND | 0.01000 | µg/g | R | |
| VKN | MNBK | METHYL-N-BUTYL KETONE | ND | 10.00000 | µg/l | R | |
| VJS | STYR | STYRENE | ND | 0.00500 | µg/g | R | |
| VJT | STYR | STYRENE | ND | 5.00000 | µg/l | R | |
| VJU | STYR | STYRENE | ND | 0.00500 | µg/g | R | |
| VJV | STYR | STYRENE | ND | 0.00500 | µg/g | R | |
| VJY | STYR | STYRENE | ND | 5.00000 | µg/l | R | |
| VKE | STYR | STYRENE | ND | 5.00000 | µg/l | R | |
| VKF | STYR | STYRENE | ND | 0.00500 | µg/g | R | |
| VKK | STYR | STYRENE | ND | 0.00500 | µg/g | R | |
| VKL | STYR | STYRENE | ND | 0.00500 | µg/g | R | |
| VKM | STYR | STYRENE | ND | 0.00500 | µg/g | R | |
| VKN | STYR | STYRENE | ND | 5.00000 | µg/l | R | |
| VJS | T13DCP | TRANS-1,3-DICHLOROPROPENE | ND | 0.00500 | µg/g | R | |
| VJT | T13DCP | TRANS-1,3-DICHLOROPROPENE | ND | 5.00000 | µg/l | R | |
| VJU | T13DCP | TRANS-1,3-DICHLOROPROPENE | ND | 0.00500 | µg/g | R | |
| VJV | T13DCP | TRANS-1,3-DICHLOROPROPENE | ND | 0.00500 | µg/g | R | |
| VJY | T13DCP | TRANS-1,3-DICHLOROPROPENE | ND | 5.00000 | µg/l | R | |
| VKE | T13DCP | TRANS-1,3-DICHLOROPROPENE | ND | 5.00000 | µg/l | R | |
| VKF | T13DCP | TRANS-1,3-DICHLOROPROPENE | ND | 0.00500 | µg/g | R | |

| Lot | Test Name | | Meas Bool | Value | Unit Meas | Flag Code | Data Qual |
|---|---|---|---|---|---|---|---|
| *Chemical Class:* **VOLATILES** | | | | | | | |
| VKK | T13DCP | TRANS-1,3-DICHLOROPROPENE | ND | 0.00500 | µg/g | R | |
| VKL | T13DCP | TRANS-1,3-DICHLOROPROPENE | ND | 0.00500 | µg/g | R | |
| VKM | T13DCP | TRANS-1,3-DICHLOROPROPENE | ND | 0.00500 | µg/g | R | |
| VKN | T13DCP | TRANS-1,3-DICHLOROPROPENE | ND | 5.00000 | µg/l | R | |
| VJS | TCLEA | 1,1,2,2-TETRACHLOROETHANE | LT | 0.00200 | µg/g | | |
| VJT | TCLEA | 1,1,2,2-TETRACHLOROETHANE | LT | 4.70000 | µg/l | | |
| VJU | TCLEA | 1,1,2,2-TETRACHLOROETHANE | LT | 0.00200 | µg/g | | |
| VJV | TCLEA | 1,1,2,2-TETRACHLOROETHANE | LT | 0.00200 | µg/g | | |
| VJY | TCLEA | 1,1,2,2-TETRACHLOROETHANE | LT | 4.70000 | µg/l | | |
| VKE | TCLEA | 1,1,2,2-TETRACHLOROETHANE | LT | 4.70000 | µg/l | | |
| VKF | TCLEA | 1,1,2,2-TETRACHLOROETHANE | LT | 0.00200 | µg/g | | |
| VKK | TCLEA | 1,1,2,2-TETRACHLOROETHANE | LT | 0.00200 | µg/g | | |
| VKL | TCLEA | 1,1,2,2-TETRACHLOROETHANE | LT | 0.00200 | µg/g | | |
| VKM | TCLEA | 1,1,2,2-TETRACHLOROETHANE | LT | 0.00200 | µg/g | | |
| VKN | TCLEA | 1,1,2,2-TETRACHLOROETHANE | LT | 4.70000 | µg/l | | |
| VJS | TCLEE | TETRACHLOROETHYLENE | LT | 0.00200 | µg/g | | |
| VJT | TCLEE | TETRACHLOROETHYLENE | LT | 0.50000 | µg/l | | |
| VJU | TCLEE | TETRACHLOROETHYLENE | LT | 0.00200 | µg/g | | |
| VJV | TCLEE | TETRACHLOROETHYLENE | LT | 0.00200 | µg/g | | |
| VJY | TCLEE | TETRACHLOROETHYLENE | | 0.38000 | µg/l | P | |
| VKE | TCLEE | TETRACHLOROETHYLENE | LT | 0.50000 | µg/l | | |
| VKF | TCLEE | TETRACHLOROETHYLENE | LT | 0.00200 | µg/g | | |
| VKK | TCLEE | TETRACHLOROETHYLENE | LT | 0.00200 | µg/g | | |
| VKL | TCLEE | TETRACHLOROETHYLENE | LT | 0.00200 | µg/g | | |
| VKM | TCLEE | TETRACHLOROETHYLENE | LT | 0.00200 | µg/g | | |
| VKN | TCLEE | TETRACHLOROETHYLENE | LT | 0.50000 | µg/l | | |
| VJS | TRCLE | TRICHLOROETHYLENE | LT | 0.00400 | µg/g | | |
| VJT | TRCLE | TRICHLOROETHYLENE | LT | 0.50000 | µg/l | | |
| VJU | TRCLE | TRICHLOROETHYLENE | LT | 0.00400 | µg/g | | |
| VJV | TRCLE | TRICHLOROETHYLENE | LT | 0.00400 | µg/g | | |
| VJY | TRCLE | TRICHLOROETHYLENE | LT | 0.50000 | µg/l | | |
| VKE | TRCLE | TRICHLOROETHYLENE | LT | 0.50000 | µg/l | | |
| VKF | TRCLE | TRICHLOROETHYLENE | LT | 0.00400 | µg/g | | |
| VKK | TRCLE | TRICHLOROETHYLENE | LT | 0.00400 | µg/g | | |
| VKL | TRCLE | TRICHLOROETHYLENE | LT | 0.00400 | µg/g | | |
| VKM | TRCLE | TRICHLOROETHYLENE | LT | 0.00400 | µg/g | | |
| VKN | TRCLE | TRICHLOROETHYLENE | LT | 0.50000 | µg/l | | |

# APPENDIX J

## DATA QUALITY ASSESSMENT RESULTS

# Contents

Data Quality Assessment for:

Old Burn Area (SWMU 6)
Old Burn Area (SWMU 6) Phase II
Chemical Range (SWMU 7)
Small Arms Firing Range (SWMU 8)
Small Arms Firing Range (SWMU 8) Phase II
Tire Disposal Area (SWMU 13)
Building 1303 Washout Pond (SWMU 22)
Bomb and Shell Reconditioning Building (SWMU 23)
Former Transformer Boxing Area (SWMU 31)
PCB Spill (SWMU 32)
Wastewater Spreading Area (SWMU 35)
Old Burn Staging Area (SWMU 36)
AED Test Range (SWMU 40)
AED Test Range (SWMU 40) Phase II

Summary of Qualified Data Based on EPA Functional Guidelines

EcoChem, Inc.

Environmental Science and Chemistry

# DATA QUALITY ASSESSMENT

## TOOELE ARMY DEPOT—NORTH AREA
## DAAA15-90-D-0007, TASK 0003

## SWMU 6
## OLD BURN AREA

**Prepared for:**

RUST Environment and Infrastructure
743 Horizon Court, Suite 240
Grand Junction, Colorado 81506

**Prepared by:**

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801 Second Avenue, Suite 1401
Seattle, Washington 98104

EcoChem Project Number: 8901-30

December 20, 1994

**Approved for Release:**

Jeri A. Hoyd for
Mark T. Brindle
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# DATA QUALITY ASSESSMENT SUMMARY

***Basis for Data Quality Assessment***

This report summarizes the results of data quality assessment performed on soil samples and associated laboratory quality control samples. Refer to the Sample Index for sample identifications.

Samples were analyzed for the following parameters and were reviewed by the chemists listed below:

| SWMU | Test | Lot | Method (Matrix) | Primary | Secondary |
|---|---|---|---|---|---|
| SWMU 6 | Selenium | ANKC | JD20 (SOIL) | Jason Ai | W. Jaime Bruton |
| | ICP Metals | ANUC | JS12 (SOIL) | Jason Ai | W. Jaime Bruton |
| | Explosives | ANDS | LW23 (SOIL) | Mark T. Brindle | Eric Strout |
| | Explosives | ANFY | LW23 (SOIL) | Mark T. Brindle | Eric Strout |
| | Explosives | AMVC | LW23 (SOIL) | Mark T. Brindle | Eric Strout |

Data assessment was based on the QC criteria recommended in the above listed method; the *Tooele Army Depot—North Area QC Plan*; *USEPA Functional Guidelines for Organic and Inorganic Data Review*; and *USATHAMA (USAEC) Quality Assurance Program (PAM 11-41).*

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are assigned a J or UJ, data may be used for site evaluation and risk assessment purposes, but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R, the data are to be rejected and should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the above-referenced documents and method.

Copies of the qualified transfer files are included as **APPENDIX A**. Each lot report also contains a summary table of qualified results. Data Quality Assessment Worksheets, Communication, and Corrective Action Records have been placed in labeled envelopes with the original data packages.

## DATA VALIDATION QUALIFIER CODES

| | |
|---|---|
| U | The material was analyzed for, but was not detected. The associated numerical value is the certified reporting limit. |
| R | Unreliable result. Data should not be used. Analyte may or may not be present in the sample. |

| | |
|---|---|
| J | Analyte present. Reported value is an estimate that may not be accurate or precise. Data Quality Assessment Report should be consulted for reason. |
| UJ | Not detected. Detection limit may be inaccurate or imprecise and may not be equal to certified reporting limit. Data Quality Assessment Report should be consulted for reason. |

## SITE DATA QUALITY SUMMARY: *SWMU 6—OLD BURN AREA*

### *Selenium*

One lot of selenium analyses of soil samples using Method JD20 was reviewed. All results are acceptable for use without qualification.

### *Explosives*

Three lots of explosives analyses of soil samples using Method LW23 were reviewed. In Lot ANDS, the 1,3,5-trinitrobenzene detection limits were qualified as estimated, (UJ) due to low and high spike accuracy deficiencies. All 1,3,5-trinitrobenzene data in Lot AMVC were rejected, (R), and are unusable for any purpose. All other data in Lot AMVC are acceptable. All data in Lot ANFY are acceptable for use without qualification.

### *ICP-Metals*

One lot of ICP-metal analyses of soil samples using method JS12 were reviewed. All antimony detection limits were rejected because of zero antimony recovery in the natural (matrix) spikes. this indicates the possibility of false negatives. The USAEC did not flag this problem because natural spikes are not part of the USAEC QA program; however, they recommend against using Method JS12 for antimony in soil samples because of known poor recovery problems.

# DATA QUALITY ASSESSMENT
# SELENIUM—GFAA ANALYSES: SOIL
# METHOD: JD20
# LOT NO.: ANKC

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot ANKC were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package. Control charts, DataChem QA status report and USAEC control chart response were provided in this data package. Final sample results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and all laboratory notebook pages and strip chart printouts were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

Field chain-of-custody (COC) forms for Lot ANKC were completed properly, and all samples listed in the COC forms were analyzed. All forms were signed and dated. The field chain-of-custody forms indicated no problems with sample receipt conditions.

Laboratory chain-of-custody forms were present and complete for Lot ANKC samples. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory chain-of-custody forms. A minimum of 10% of the field ID and laboratory ID were tracked from the chain-of-custody forms, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. FIELD QC SUMMARY

No field blanks or field duplicate samples were submitted with Lot ANKC samples.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All samples were analyzed within the method specified holding time of 180 days from date of collection to analysis.

**2.0 Instrument Calibration:** ACCEPTABLE/All criteria met.

For the initial calibration, the minimum number of standards were used, which met the method criterion. The linearity requirement of $r \geq$ to 0.995 was met. The laboratory analyzed a continuing calibration standard every ten samples as required. All percent recovery (%R) values of initial and continuing calibration verifications were within the control limit of 90% to 110%.

**3.0 Blank Analyses:** ACCEPTABLE/All criteria met.

Calibration blanks (ICB and CCB) and preparation blanks (PB) were evaluated for possible contamination effects. Calibration blanks were also evaluated for causing possible low bias in associated sample results. Continuing calibration blanks were analyzed after each continuing calibration as required. Preparation blanks were prepared with the digestion batch as required. No target analytes were detected in the blanks at or above the reporting limits.

**4.0 Matrix Spike/Matrix Spike Duplicate Sample Analyses:** ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

One set of MS/MSD analyses was performed on Sample OBP-94-02A. The %R values were 56.0% and 60.2%, less than the Functional Guidelines (2/94) lower control limit of 75%. As MS/MSD analyses were not required in USATHAMA program, selenium results in associated samples were not qualified due to low percent recovery values; however, these same selenium results should be considered biased low. The relative percent difference (RPD) value for this MS/MSD set was 7.3%, which was within the Functional Guidelines (2/94) control limit of 35%.

**5.0 High Spike and Low Spike Analyses:** ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

Two high spike and one low spike analyses were performed with each sample lot. The %R values of both high spike analyses were 89.6% and 87.4%, within the control chart limits of 67.7% to 119.9%. The %R values of the low spike analysis was 116.3%, which was slightly greater than the control chart upper limit of 111.9%. Since these %R values were within the control limits specified in the Functional Guidelines (2/94), no action was taken.

**6.0 Certified Reporting Limits (CRL):** ACCEPTABLE/All criteria met.

The reporting limits for selenium were reviewed. All reporting limits matched the certified reporting limit listed in the laboratory SOP.

**7.0 Calculations:** ACCEPTABLE/All criteria met.

No transcription errors or calculation errors were noted in the sample result data.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method. No technical deficiencies were found.

The USAEC Chemistry Branch Response indicates that Lot ANKC is acceptable. The laboratory noted high spike recovery values trending below the mean, low spike recovery values trending above the mean, low spike range trending above the mean, and low spike recovery values above the control chart upper limit. No qualification is recommended based on these observations.

The data, as reported, are acceptable for use.

# DATA QUALITY ASSESSMENT
# METALS-ICP ANALYSES: SOIL
# METHOD: JS12
# LOT NO.: ANUC

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot ANUC were provided by the laboratory to meet USATHAMA PAM-11-41 requirements for this data package. Control charts, DataChem QA status report and USAEC control chart response were provided in this data package. Final samples results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and all laboratory notebook pages and strip chart printouts were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

The field chain-of-custody forms were present and complete for Lot ANUC. All Lot ANUC samples listed on the chain-of-custody were analyzed. Sample IDs were tracked from the field chain-of-custody to the transfer file printout and no errors were noted. Internal chain-of-custody forms clearly indicated the laboratory numbers and field sample IDs for each sample. No errors in field IDs were noted.

## III. FIELD QUALITY CONTROL

One set of field duplicate samples (TBS-94-09/TBS-94-22) was analyzed and reviewed. The relative percent difference (RPD) values for this set of field duplicate samples ranged from 0.4% to 15.2%, which were within the control limit of 50%.

No field blanks were submitted with Lot ANUC samples.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All samples were analyzed within the method specified holding time of 180 days from date of collection to analysis.

**2.0 Instrument Calibration:** ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

Instrument calibration consisted of one blank and one standard. Instrument sensitivity could not be evaluated with the documentation provided. All calibration check standards were within ±10% of the true value with the exception of thallium with a percent recovery (%R) value of 120.4%. Since the %R value was greater than the upper control limit of 110% and thallium was not detected in any of the samples, no action was recommended. Plus or minus two times the standard deviation control limits were not utilized because historic calibration check results were not provided.

The laboratory analyzed a continuing calibration verification (CCV) standard every ten samples as required. The percent recovery of the CCVs were within ±10% of the true value. Plus or minus two times the standard deviation control limits were not utilized because historic calibration verification results were not provided.

**4.0 Blank Analyses:** ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

Calibration blanks (CCB) and preparation blanks (PB) were evaluated for possible contamination effects. Calibration blanks were also evaluated for causing possible low bias in associated sample results. Continuing calibration blanks were analyzed after each continuing calibration as required. A preparation blank was prepared with each digestion batch as required. No CCB result was greater than the reporting limit or less than the negative reporting limit, and no PB result was greater than the reporting limit. Aluminum, barium, calcium, chromium, iron, potassium, magnesium, manganese, vanadium and zinc were detected in one QC blank (BL-38668-1). Since this soil blank sample (from RMA soil, R3D-381) was unwashed soil, no qualifications were recommended.

**5.0 Matrix Spike Sample Analyses:** ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See Qualified Data Summary Table ANUC-1.

***Discussion:***

Two sets of MS/MSD analyses were performed on Samples CRS-94-01 and CRS-94-14. The antimony %R values in both MS/MSD analyses were 0% which indicates antimony analyses by ICP method were questionable. As antimony was not detected in any of the samples a possibility of false non-detects exists. The quantitation limits for antimony were rejected and not usable for any purposes. All other %R and RPD values were within the control limits.

**6.0 High Spike and Low Spike Analyses:** ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

One low spike and two high spike analyses were performed with this sample lot. Recovery values were evaluated based on the control chart upper and lower limits. The %R values of low spike and high spike analyses were within the control limits, with the exception of those listed in the table below.

| Analyte | Low Spike | Control Limit | 1st High Spike | 2nd High Spike | Control Limits |
|---|---|---|---|---|---|
| Beryllium | Acceptable | 92.5% to 105.1% | Acceptable | 93.7% | 94.5% to 100.5% |
| Vanadium | Acceptable | 59.0% to 120.4% | Acceptable | 92.7% | 92.8% to 101.4% |

As these spike recovery values were close to the USAEC control limits and still within the control limit specified in Functional Guidelines (2/94), no qualifications are recommended.

**7.0 Duplicate Sample Analyses:** NOT APPLICABLE

Laboratory duplicate analyses were not performed with this sample lot.

**8.0 ICP Interference Check Sample (ICS) Analyses:** NOT PERFORMED

ICP interference check sample analyses were not performed with this sample lot.

**9.0 Certified Reporting Limits (CRL):** ACCEPTABLE/All criteria met.

The reporting limit for each analyte was reviewed. All reporting limits match the certified reporting limit listed in the laboratory SOP.

**10.0 Calculations:** ACCEPTABLE/All criteria met.

No transcription errors or calculation errors were noted in the sample result data.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method. No technical deficiencies were found.

The USAEC Chemistry Branch Response indicates that Lot ANUC is acceptable. The laboratory noted high spike recovery values trending above the central line for cadmium and lead; high spike recovery values moving in a downward direction for chromium; low spike recovery values above the central line for boron, beryllium, and lead; low spike recovery values trending below the central line for copper and molybdenum; low spike recovery values moving in an upward

direction for cobalt, tin, tellurium, and thallium; and low spike recovery values moving in a downward direction for molybdenum, nickel, lead, and vanadium. No other qualification is recommended based on these observations.

The data, as qualified, are acceptable for use.

# Qualified Data Summary Table Lot No: ANUC

| Analyte | Code | Qualifier | Sample ID | Concentration | Reason | Report Section |
|---|---|---|---|---|---|---|
| Antimony | SB | R | CRS-94-01 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-02 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-03 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-04 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-05 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-06 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-07 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-08 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-09 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-10 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-11 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-12 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-13 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-14 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-15 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-16 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-17 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-18 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OBS-94-29 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OBS-94-30 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OBS-94-31 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OBS-94-32 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TBS-94-09 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TBS-94-12 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TBS-94-15 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TBS-94-18 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TBS-94-21 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TBS-94-22 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TBS-94-03 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TBS-94-06 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |

# DATA QUALITY ASSESSMENT
# EXPLOSIVES ANALYSES: SOIL
# METHOD: LW23
# LOT: ANDS

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot ANDS were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package, with the exception of percent moisture logbook pages. The sample percent moisture values on the transfer files could not be confirmed. DataChem QA Status Reports and USAEC Control Chart Response were submitted. Final sample results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and all laboratory notebook pages and chromatograms were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

Field chain-of-custody forms were present and complete for each sample in Lot ANDS. All forms were signed and dated. The field chain-of-custody forms indicated no problems with sample receipt conditions.

Laboratory chain-of-custody forms were present and complete for each sample in Lot ANDS. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory chain-of-custody forms. The field IDs and laboratory IDs for all samples were tracked from the chain-of-custody forms, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. FIELD QUALITY CONTROL

No field QC samples from Lot ANDS were identified on the chain-of-custody forms.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All soil samples in Lot ANDS were extracted within five days of collection and were analyzed within 23 days of extraction. The seven-day extraction holding time and 40-day analysis holding time limits were met.

**2.0 Instrument Calibration:** ACCEPTABLE/All criteria met.

The appropriate number of calibration standards were used to generate a zero-intercept model standard curve for explosives compounds. Linearity was acceptable for the standard curves. Recalculation results of the regression statistics for the curves agreed with the laboratory values.

**3.0 Daily Calibration:** ACCEPTABLE/All criteria met.

The results of the daily calibration standard agreed with the initial calibration standard within 25%.

**4.0 Blank Analysis:** ACCEPTABLE/All criteria met.

One soil method blank was associated with the samples in Lot ANDS. Target explosives compounds were not detected in the method blank at or above the certified reporting limit (CRL).

**5.0 Matrix Spike/Matrix Spike Duplicate Analyses:** ACCEPTABLE/All criteria met.

The laboratory used Sample OBS-94-01 for MS/MSD analyses with the samples from Lot ANDS. All percent recovery values and relative percent difference values were within control limits.

**6.0 High Spike and Low Spike Recovery:** ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See Qualified Data Summary Table ANDS-1.

***Discussion:***

The DataChem QA status report noted that the percent recovery values for 1,3,5-trinitrobenzene were below the lower control limit in the high concentration spike analysis. The percent recovery was below the lower warning limit (but above the lower control limit) in the low concentration spike analysis. No action is suggested in the QA status report. The USAEC Control Chart Response letter accepts the lot with no qualifiers. However, a corrective action report in the data package states that the low recoveries are due to inefficient sonication, and recommends flagging all 1,3,5-trinitrobenzene results. This compound is flagged "7" on all transfer files for Lot ANDS.

Due to the inefficient sonication, all 1,3,5-trinitrobenzene results are potentially low biased. This compound was not detected. All detection limits (CRL) are estimated (UJ).

**7.0 Compound Identification:** ACCEPTABLE/All criteria met.

The chromatograms and raw data for Lot ANDS were reviewed for explosives compounds; false negatives or false positives were not found. There were no discrepancies between the raw data and the transfer files.

## 8.0 Compound Quantitation and Certified Reporting Limits (CRL):
ACCEPTABLE/All criteria met.

An evaluation of compound quantitation was performed by recalculating the sample results from the raw data. Discrepancies were not found. The CRL on the transfer file met those listed in the method. No transcription errors were noted.

## 9.0 Chromatogram Quality: ACCEPTABLE/All criteria met.

A review of chromatogram quality revealed no problems. The baselines were stable, no electropositive displacement was found, and all early eluting peaks were resolved to the baseline.

# V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified methods.

An examination of the DataChem QA Status Report that includes Lot ANDS revealed the following item: 1,3,5-trinitrobenzene percent recovery results in the high spike were below the lower control limit, and the percent recovery values were below the lower warning limit in the low spike.

All 1,3,5-trinitrobenzene results were qualified as estimated (UJ), due to low and high spike accuracy deficiencies.

All data, as qualified, are acceptable for use.

# Qualified Data Summary Table Lot No: ANDS-1

| Analyte | Code | Qualifier | Sample ID | Concentration | Reason | Report Section |
|---|---|---|---|---|---|---|
| 1,3,5-trinitrobenzene | 135TNB | UJ | OBS-94-01 | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | OBS-94-02 | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | OBS-94-03 | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | OBS-94-04 | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | OBS-94-05 | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | OBS-94-06 | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | OBS-94-07 | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | OBS-94-08 | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | OBS-94-09 | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | OBS-94-10 | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | OBS-94-11 | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | OBS-94-12 | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | OBS-94-13 | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | OBS-94-14 | LT 9.22E-1 | LS %R < LCL | 6.0 |

# DATA QUALITY ASSESSMENT
# EXPLOSIVES ANALYSES: SOIL
# METHOD: LW23
# LOT: ANFY

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot ANFY were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package, with the exception of percent moisture logbook pages. The sample percent moisture values on the transfer files could not be confirmed. DataChem QA Status Reports and USAEC Control Chart Response were submitted. Final sample results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and all laboratory notebook pages and chromatograms were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

Field chain-of-custody forms were present and complete for each sample in Lot ANFY. All forms were signed and dated. The field chain-of-custody forms indicated no problems with sample receipt conditions.

Laboratory chain-of-custody forms were present and complete for each sample in Lot ANFY. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory chain-of-custody forms. The field IDs and laboratory IDs for all samples were tracked from the chain-of-custody forms, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. FIELD QUALITY CONTROL

No samples from Lot ANFY were identified as field quality control samples.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All soil samples in Lot ANFY were extracted within five days of collection and were analyzed within 26 days of extraction. The seven-day extraction holding time and 40-day analysis holding time limits were met.

**2.0 Instrument Calibration:** ACCEPTABLE/All criteria met.

The appropriate number of calibration standards were used to generate a zero-intercept model standard curve for explosives compounds. Linearity was acceptable for the standard curves. Recalculation results of the regression statistics for the curves agreed with the laboratory values.

**3.0 Daily Calibration:** ACCEPTABLE/All criteria met.

The results of the daily calibration standard agreed with the initial calibration standard within 25%.

**4.0 Blank Analysis:** ACCEPTABLE/All criteria met.

One soil method blank was associated with the samples in Lot ANFY. Target explosives compounds were not detected in the method blank at or above the certified reporting limit (CRL).

**5.0 Matrix Spike/Matrix Spike Duplicate Analyses:** ACCEPTABLE/All criteria met.

The laboratory performed MS/MSD analyses with the samples from Lot ANFY.

**6.0 High Spike and Low Spike Recovery:** ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

The DataChem QA Status Report noted that the recovery values for the following compounds were above the upper control limit in the high concentration spike analysis: 1,3,5-trintrobenzene, 2,4,6-trintrotoluene, and RDX. The 1,3,5-Trinitrotoluene recovery value was also high in the low concentration spike analysis. The QA Status Report that the USAEC Control Chart Response letter recommend that the data for Lot ANFY be accepted with no qualifiers. As the outliers were only slightly outside of the control limits, the data are not significantly affected, and no qualifiers were assigned.

**7.0 Compound Identification:** ACCEPTABLE/All criteria met.

The chromatograms and raw data for Lot ANFY were reviewed for explosives compounds; false negatives or false positives were not found. There were no discrepancies between the raw data and the transfer files.

**8.0 Compound Quantitation and Certified Reporting Limits (CRL):** ACCEPTABLE/All criteria met.

An evaluation of compound quantitation was performed by recalculating the sample results from the raw data. Discrepancies were not found. The CRL on the transfer file met those listed in the method. No transcription errors were noted.

**9.0 Chromatogram Quality:** ACCEPTABLE/All criteria met.

A review of chromatogram quality revealed no problems. The baselines were stable, no electropositive displacement was found, and all early eluting peaks were resolved to the baseline.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method.

An examination of the DataChem QA Status Report that includes Lot ANFY revealed the following items: several recovery values were greater than the upper control limit, and RDX control limits were miscalculated initially, but were corrected by the laboratory by hand in the control chart section. These items do not affect the data, and no action was taken.

All data, as reported, are acceptable for use.

# DATA QUALITY ASSESSMENT
# EXPLOSIVES ANALYSES: SOIL
# METHOD: LW23
# LOT: AMVC

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot AMVC were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package, with the exception of percent moisture logbook pages. The sample percent moisture values on the transfer files could not be confirmed. DataChem QA Status Reports and USAEC Control Chart Response were submitted. Final sample results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: Changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and all laboratory notebook pages and chromatograms were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

Field chain-of-custody forms were present and complete for each sample in Lot AMVC. All forms were signed and dated. The field chain-of-custody forms indicated no problems with sample receipt conditions.

Laboratory chain-of-custody forms were present and complete for each sample in Lot AMVC. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory chain-of-custody forms. The field IDs and laboratory IDs for all samples were tracked from the chain-of-custody forms, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. FIELD QUALITY CONTROL

No samples from Lot AMVC were identified as field quality control samples on the chain-of-custody forms.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All soil samples in Lot AMVC were extracted within five days of collection and were analyzed within 23 days of extraction. The seven-day extraction holding time and 40-day analysis holding time limits were met.

**2.0 Instrument Calibration:** ACCEPTABLE/All criteria met.

The appropriate number of calibration standards were used to generate a zero-intercept model standard curve for explosives compounds. Linearity was acceptable for the standard curves. Recalculation results of the regression statistics for the curves agreed with the laboratory values.

**3.0 Daily Calibration:** ACCEPTABLE/All criteria met.

The results of the daily calibration standard agreed with the initial calibration standard within 25%.

**4.0 Blank Analysis:** ACCEPTABLE/All criteria met.

One soil method blank was associated with the samples in Lot AMVC. Target explosives compounds were not detected in the method blank at or above the certified reporting limit (CRL).

**5.0 Matrix Spike/Matrix Spike Duplicate Analyses:** ACCEPTABLE/All criteria met.

The laboratory used Sample ARP-94-57A for MS/MSD analyses with the samples from Lot AMVC. All percent recovery values were within control limits of 70% to 130%. All relative percent difference values were less than the maximum allowable value of 20%.

**6.0 High Spike and Low Spike Recovery:** ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See Qualified Data Summary Table AMVC-1.

***Discussion:***

In Lot AMVC the low concentration standard spike recovery values for 1,3,5-trinitrobenzene were significantly less than the lower control limit. The USAEC Chemistry Branch made the recommendation that all 1,3,5-trinitrobenzene results in Lot AMVC be rejected. All 1,3,5-trinitrobenzene detection limits for Lot AMVC were rejected (R).

**7.0 Compound Identification:** ACCEPTABLE/All criteria met.

The chromatograms and raw data for Lot AMVC were reviewed for explosives compounds; false negatives or false positives were not found. There were no discrepancies between the raw data and the transfer files.

**8.0 Compound Quantitation and Certified Reporting Limits (CRL):** ACCEPTABLE/All criteria met.

An evaluation of compound quantitation was performed by recalculating the sample results from the raw data. Discrepancies were not found. The CRL on the transfer file met those listed in the method. No transcription errors were noted.

**9.0 Chromatogram Quality:** ACCEPTABLE/All criteria met.

A review of chromatogram quality revealed no problems. The baselines were stable, no electropositive displacement was found, and all early eluting peaks were resolved to the baseline.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method.

An examination of the DataChem QA Status Report that includes Lot AMVC revealed the following item: 1,3,5-trinitrobenzene results in the low spike were below the lower control limit.

All 1,3,5-trinitrobenzene results were rejected (R) due to low spike precision and accuracy deficiencies.

The data that are rejected (R) are unusable for any purpose. Other data, as reported, are acceptable for use.

# Qualified Data Summary Table Lot No: AMVC-1

| Analyte | Code | Qualifier | Sample ID | Concentration | Reason | Report Section |
|---|---|---|---|---|---|---|
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-57A | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-57B | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-57C | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-58A | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-58B | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-58C | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-59A | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-59B | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-59C | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-60A | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-60B | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-60C | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | OBP-94-01A | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | OBP-94-01B | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | OBP-94-01C | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | OBP-94-01D | LT 9.22E-1 | LS %R < LCL | 6.0 |

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Environmental Science and Chemistry

# DATA QUALITY ASSESSMENT

## TEAD-N Remedial Investigation Phase II
## DAAA15-90-D-0007, Task Order 0003

## SWMU 6
## Old Burn Area

**Prepared for:**

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EcoChem Project Number: C8909-20

February 9, 1996

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**Approved for Release:**

Eric Strout
Sr. Project Chemist
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# DATA QUALITY ASSESSMENT SUMMARY

***Basis for Data Quality Assessment***

This report summarizes the results of data quality assessment performed on the data for soil and water samples and associated laboratory quality control sample analyses.

Samples were analyzed for the following parameters and were reviewed by the chemists listed below:

| SWMU | Test | Lot | Method (Matrix) | Validation Level | Primary | Secondary |
|---|---|---|---|---|---|---|
| SWMU 6 | Dioxin/Furan | AWHS | 8290 (SOIL) | Tier 2 | Shawna Kennedy | Eric Strout |
| | Dioxin/Furan | AWDA | 8290 (WATER) | Tier 1 | Shawna Kennedy | Eric Strout |
| | Dioxin/Furan | AWKZ | 8290 (SOIL) | Tier 1 | Shawna Kennedy | Eric Strout |
| | Dioxin/Furan | AWHJ | 8290 (WATER) | Tier 1 | Shawna Kennedy | Eric Strout |
| | Explosives | AVRO | LW23 (SOIL) | Tier 1 | Jason Ai | Jaime Bruton |
| | ICP Metals | AWBP | JS12 (SOIL) | Tier 2 | Bob Olsiewski | Jason Ai |
| | Arsenic | AWBQ | B9 (SOIL) | Tier 2 | Jason Ai | Bob Olsiewski |
| | Selenium | AWBR | JD20 (SOIL) | Tier 2 | Jason Ai | Bob Olsiewski |
| | Thallium | AWBS | 7841 (SOIL) | Tier 2 | Jason Ai | Bob Olsiewski |
| | Antimony | AWBT | 7041 (SOIL) | Tier 2 | Jason Ai | Bob Olsiewski |
| | Mercury | AWBU | Y9 (SOIL) | Tier 2 | Jason Ai | Bob Olsiewski |

Data assessment was based on the QC criteria recommended in the above listed method; the *Tooele Army Depot—North Area QC Plan*; *USEPA National Functional Guidelines for Organic and Inorganic Data Review* (2/94); and *USATHAMA (USAEC) Quality Assurance Program (PAM 11-41).*

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are assigned a J or UJ, data may be used for site evaluation and risk assessment purposes, but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R, the data are to be rejected and should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the above-referenced documents and method.

A summary table of all qualified data for SWMU-6 is included as **APPENDIX A.** Each lot report also contains a summary table of qualified results. Data qualifiers are defined below. A numerical code has been added to each data qualifier to indicate the reason for the qualifier. A list of all of the reason codes is included as **APPENDIX B.** Data Quality Assessment Worksheets, Communication, and Corrective Action Records (if any) have been placed in labeled envelopes with the original data packages.

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## DATA VALIDATION QUALIFIER DEFINITIONS

| | |
|---|---|
| U | The material was analyzed for, but was not detected. The associated numerical value is the certified reporting limit. |
| R | Unreliable result. Data should not be used. Analyte may or may not be present in the sample. |
| J | Analyte present. Reported value is an estimate that may not be accurate or precise. Data Quality Assessment Report should be consulted for reason. |
| UJ | Not detected. Detection limit may be inaccurate or imprecise and may not be equal to certified reporting limit. Data Quality Assessment Report should be consulted for reason. |

## SITE DATA QUALITY SUMMARY

### ICP Metals

One lot of ICP-metal analyses of soil samples using Method JS12 was reviewed. The precision and accuracy was acceptable, based on the percent recovery values for spiked analytes and the relative percent difference values for duplicate analyses. Matrix spike/matrix spike duplicate (MS/MSD) analyses were not submitted, although standard spikes (laboratory control samples) were analyzed. All chromium results in lot AWBP were estimated due to the high concentrations of iron present in the samples. Iron is an interferent for chromium during ICP analyses. No other qualifiers were issued to any of the soil samples.

### Arsenic

One lot of arsenic analyses of soil samples using Method B9 was reviewed. The precision and accuracy were acceptable, based on the percent recovery values for spiked analytes and the relative percent difference values for duplicate analyses. Matrix spike/matrix spike duplicate (MS/MSD) analyses were not submitted, although standard spikes (laboratory control samples) were analyzed. Positive arsenic results were estimated in lot AWBQ due to high percent recovery values for the associated calibration verification (CCV). No other qualifiers were issued.

### Antimony

One lot of antimony analyses of soil samples using USEPA Method 7041 was reviewed. The precision and accuracy was acceptable, based on the percent recovery values for the spiked analytes and the relative percent difference values for duplicate analyses. No qualifiers were issued.

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### Selenium

One lot of selenium analyses of soil samples using Method JD20 was reviewed. The precision and accuracy were acceptable, based on the percent recovery values for most spiked analytes and the relative percent difference values for duplicate analyses. Matrix spike/matrix spike duplicate (MS/MSD) analyses were not submitted, although standard spikes (laboratory control samples) were analyzed. No qualifiers were issued.

### Thallium

Two lots of thallium analyses of soil samples using USEPA Method 7841 were reviewed. The precision and accuracy were acceptable for these lots, based on the percent recovery values for most spiked analytes and the relative percent difference values for duplicate analyses. All thallium detection limits were estimated (UJ) in lot AWBS due to low percent recovery values in the associated laboratory control sample analyses. No other qualifiers were issued.

### Mercury

One lot of mercury analyses of soil samples using Method Y9 was reviewed. The precision and accuracy were acceptable for these lots, based on the percent recovery values for most spiked analytes and the relative percent difference values for duplicate analyses. Matrix spike/matrix spike duplicate (MS/MSD) analyses were not submitted, although standard spikes (laboratory control samples) were analyzed. All mercury detection limits were estimated in lot AWBU due to a negative blank concentration in the associated initial calibration blank (ICB). No other qualifiers were issued.

### Explosive Compounds

One lot of analyses of explosive compounds in soil samples using Method LW23 was reviewed. The precision and accuracy were acceptable for these lots, based on the percent recovery values for most spiked analytes and the relative percent difference values for duplicate analyses. No qualifiers were issued to any of the soil samples.

### Dioxin/Furan Compounds

Two lots of dioxin/furan analyses of soil samples using USEPA Method 8290 were reviewed. Accuracy and precision were acceptable, as demonstrated by the percent recovery values of the labeled compounds and spiked target analytes, and relative percent difference values from the MS/MSD and LCS/LCSD analyses. Most samples had at least one target compound qualified as not detected (U) due to contamination in the associated method blank. Two samples in lot AWKZ, and one sample in lot AWHS had compounds qualified due to low recoveries for the associated internal standards (labeled compounds). The compounds were estimated (J/UJ) due to the possible low bias for the reported value. No other qualifiers were issued to the soil samples.

Two lots of dioxin/furan analyses of water samples using USEPA Method 8290 were reviewed. Accuracy and precision were acceptable, as demonstrated by the percent recovery values of the

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labeled compounds and spiked target analytes, and relative percent difference values from the MS/MSD and LCS/LCSD analyses. The water lots consisted of field blanks (equipment rinsate and field blanks) that were collected with the soil samples. Each field blank had low levels of at least one target compound. No action was taken, as it was not possible to directly associate a field blank to a given soil sample. No qualifiers were issued to any water sample.

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# TIER II DATA QUALITY ASSESSMENT
# DIOXIN/FURAN ANALYSES: SOIL
# METHOD: 8290
# LOT: AWHS

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for this lot were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package. Results for the matrix spike/matrix spike duplicate (MS/MSD) analyses have been included although they are not required by USATHAMA 11-41 for Class 1A analyses. Transfer files were provided. DataChem QA Status Reports, USAEC Control Chart Response, and final sample results were not available at this time; however, these items may not be applicable to Method 8290 Dioxin/Furan analyses. Results for laboratory control sample (LCS) analyses were also submitted.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; correction fluid or tape was not found on any of the raw data; proper units for numerical values were used; the laboratory notebook pages and chromatograms were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

The field Chain-of-Custody forms (COCs) were present and complete for this lot. All samples listed on the COCs were analyzed. All forms were signed and dated. The field COCs indicated no problems with sample receipt conditions.

Laboratory COCs were present and complete for all samples. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory COCs. A minimum of 10% of the field ID and laboratory ID were tracked from the COCs, transfer files, laboratory notebooks, and the raw data. No discrepancies were found. The laboratory noted that Sample OBP-95-01A was received broken. This sample was canceled for dioxin analysis by the client. No action was taken.

## III. FIELD QUALITY CONTROL

Data for one pair of field duplicates were submitted for review (Samples OBP-95-02C and OBP-95-01D). Relative percent difference (RPD) values were calculated for compounds detected in both replicates. Ten of the eleven calculated RPD values were greater than the QC limit of 50%. However, most of the reported concentrations were less than the method specified practical quantitation limit (PQL). A higher degree of variability is common at low concentrations. No data

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were qualified based on field duplicate precision. Field variability should be considered in data interpretation. No data for samples identified as field blanks were submitted with this lot.

## IV. TECHNICAL ASSESSMENT

### 1.0 Sample Holding Times: ACCEPTABLE/All criteria met.

The method required an extraction holding time of 30 days from the date of sampling to the date of extraction. All samples were extracted within 16 days of sampling. The method required an analytical holding time of 45 days from the date of extraction to the date of analysis. All samples were analyzed within 11 days of extraction.

### 2.0 HRMS Tuning: ACCEPTABLE/All criteria met.

Perfluorokerosene (PFK) instrument tuning compound static resolving power checks were analyzed before and after each analytical sequence. The resolution for each PFK was greater than 10,000 at 10% valley (versus peak height) as required by the method. PFK lock masses were verified, and were within 5 ppm of the method-specific m/z as required.

### 3.0 Initial Calibration: ACCEPTABLE/All criteria met.

Initial calibrations were performed for the DB5 column. For initial calibrations, all native (unlabeled) dioxin/furan compounds (quantitated using isotope dilution) had percent relative standard deviation (%RSD) values that were within the 20% acceptance limit.

All other compounds (using the internal standard method) had %RSD values that were within the 30% acceptance limit. Ion abundance ratios, signal to noise (S/N) ratios, and relative response factor (RRF) values were verified by recalculation and are acceptable.

### 4.0 Calibration Verification: ACCEPTABLE/All criteria met.

The calibration verifications (CVER) were analyzed at the beginning and end of each sequence as required. The percent difference (%D) of the RRF values between the initial calibrations and CVER were within 20% and 30% for unlabeled and labeled compounds, respectively. Ion abundance ratios, signal to noise (S/N) ratios, and RRF values were verified by recalculation and are acceptable.

### 5.0 Isomer Specificity: ACCEPTABLE/All criteria met.

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The retention time window mixture analysis for each congener (first and last eluting isomers) was submitted as required, and is acceptable. The isomer specificity test for TCDD (on the DB5 column) was submitted. The peak to valley ratio between 2378 TCDD and the closest eluting isomer was less than 25% as required by the method.

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**6.0 Method Blank:** ACCEPTABLE/With the following exception.

***Qualified Data:*** See the **DATA QUALIFIER SUMMARY TABLE.**

***Discussion:***

The frequency requirement of one method blank for every 20 samples, or for every extraction batch of similar matrix, was met. One compound (1234678 HpCDF) was detected at a concentration less than the PQL in the method blank. An action level was established at five times the concentration in the blank. The 1234678 HpCDF results in the samples at concentrations less than the action level were qualified as not detected (U). No other compounds were detected in the method blank.

**7.0 Labeled Compound Recovery:** ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See the **DATA QUALIFIER SUMMARY TABLE.**

***Discussion:***

Two types of labeled compounds are used for the dioxin/furan analyses: recovery standards, which are used to calculate the recovery values of all labeled compounds and internal standards, which are used to quantitate the concentration of the native (target) compounds.

All labeled compounds met the ion abundance ratio and retention time criteria. All labeled compounds had percent recovery (%R) values within the method QC limits of 40% to 135% with the following exceptions. Sample OBP-95-01C had 13C-2378 TCDF (30.48%), 13C-2378 TCDD (29.38%), and 13C-12378 PeCDF (35.13%) %R values less than QC limits. Associated compound results (quantitated using the outlying internal standards) were qualified as estimated for this sample. There were no positive results associated with the internal standard outliers, so the associated detection limits were estimated (UJ).

**8.0 Matrix Spike/Matrix Spike Duplicate Sample Analyses:** ACCEPTABLE/All criteria met.

Matrix spike/matrix spike duplicate (MS/MSD) analyses data were submitted by the laboratory with Lot AWHS. MS/MSD analyses were performed using Sample OBP-95-04C. All %R values are within the QC limits of 50% to 150%, indicating acceptable accuracy. All RPD values were less than both the method QC limit of 20% and project QC limit of 50%, indicating an acceptable degree of precision.

**9.0 Laboratory Control Sample Analysis:** ACCEPTABLE/All criteria met.

One laboratory control sample (LCS) was extracted and analyzed by the laboratory with these samples. All %R values were within the QC limits of 50% to 150%.

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**10.0 Compound Identification:** ACCEPTABLE/All criteria met.

Compound identifications for all reported compounds were reviewed and are acceptable. For native (unlabeled) target compounds and labeled standard compounds, all ion abundance ratio and retention time criteria were met. The correct m/z (as specified in the method) were used for each compound. All native and labeled compound S/N ratios met the required acceptance limits.

**11.0 Compound Quantitation and Reported Detection Limits:** ACCEPTABLE/With the following discussion.

Compound quantitations were reviewed by recalculation and were determined to be performed correctly. Transcription errors were noted for several samples. The laboratory was contacted, and corrected all of the errors. No further action was taken.

Detection limit calculations using the signal to noise (S/N) ratio method (for estimated detection limits) and the estimated maximum possible concentration (EMPC, when a non-target peak is present at the target compound elution time) method were reviewed and are acceptable. All detection limits and EMPC are less than method PQL, with the exception of one to six compounds in eight of the samples (refer to the Data Validation Worksheets for outliers). As the outlying detection limits were only slightly greater than the PQL, and as Method 8290 detection limits are sample and analysis specific, no action was taken.

## V. OVERALL ASSESSMENT OF THE DATA

On the basis of this evaluation, the laboratory followed the specified analytical method.

Accuracy was found to be acceptable based on the labeled standard, MS/MSD, and LCS %R values. Precision was found to be acceptable based on the low RPD values of the MS/MSD set.

Data were qualified because of blank contamination, and due to labeled compound recovery outliers.

The data, as qualified, are acceptable for use.

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# TIER 1 DATA QUALITY ASSESSMENT
# DIOXIN/FURAN ANALYSES: WATER
# METHOD: 8290
# LOT: AWDA

Analytical data for one water sample were reviewed using quality control (QC) criteria documented in the analytical method, *PAM 11-41* (USAEC, 1990), and *National Functional Guidelines* (U.S. EPA, 1991). The sample was collected on November 11, 1995 and was analyzed by Core Laboratories.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

- Technical Holding Times
- Instrument Tuning and Isomer Specificity
- Initial and Daily Calibration
- * Blank Analyses
- * Labeled Standards Recovery
- Laboratory Control Sample/Laboratory Control Sample Duplicate Analyses
- Compound Identification
- Reported Detection Limits

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Blank Analyses

The frequency requirement of one method blank for every 20 samples, or for every extraction batch of similar matrix, was met. Three compounds (12378 PeCDF, 12378 PeCDD, and 123678 HxCDF) were detected in the method blank. These compounds were not detected in the associated samples. No action was taken.

The only sample submitted in this lot was equipment rinse 3ER-66 (collected 11/21/95). One compound (1234678 HpCDF) was detected in this sample at 0.00000256 µg/L.

### Labeled Standard Recovery

Two types of labeled compounds are used for the dioxin/furan analyses: recovery standards, which are used to calculate the recovery values of all labeled compounds, and internal standards, which are used to quantitate the concentration of the native (target) compounds.

All labeled compounds met the ion abundance ratio and retention time criteria. All labeled compounds had percent recovery (%R) values within the method QC limits of 40% to 135% with

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the exception of 13C-OCDD (136.74%) in the LCSD analysis. No action was taken for outliers in QC samples.

## Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the relative percent difference (RPD) values of the LCS/LCSD set. Accuracy was acceptable, as demonstrated by the LCS/LCSD and most labeled standard %R values being within control limits.

All data, as reported, are acceptable for use.

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# TIER 1 DATA QUALITY ASSESSMENT
# DIOXIN/FURAN ANALYSES: SOIL
# METHOD: 8290
# LOT: AWKZ

Analytical data for 36 soil samples were reviewed using quality control (QC) criteria documented in the analytical method, *PAM 11-41* (USAEC, 1990), and *National Functional Guidelines* (U.S. EPA, 1991). The samples were collected on November 27 and 28, 1995, and were analyzed by Core Laboratories.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

- Technical Holding Times
- Instrument Tuning and Isomer Specificity
- * Initial and Daily Calibration
- * Blank Analyses
- * Labeled Standards Recovery
- Matrix Spike/Matrix Spike Duplicate Analyses
- Laboratory Control Sample/Laboratory Control Sample Duplicate Analyses
- * Compound Identification
- * Reported Detection Limits
- * Field Duplicates

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Initial and Daily Calibration

The calibration verifications (CVER) were analyzed at the beginning and end of each sequence as required. The percent difference (%D) of the relative response factor (RRF) values between the initial calibrations and CVER were within 20% and 30% (for unlabeled and labeled compounds, respectively) for the beginning CVER. However, several unlabeled compounds in the ending CVER had %D values greater than 20% (all outlying %D values were less than 25%). According to method 8290, if the CVER %D values are greater than 20% (but less than 25%), the laboratory should have quantitated the compounds associated with outlying %D values using the average of the RRF values from the beginning and ending CVER analyses. The laboratory used the initial calibration RRF values for all compound quantitations. As the %D values in the beginning CVER were acceptable, the associated data were judged not significantly affected, and no qualifiers were issued.

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## Blank Analyses

The frequency requirement of one method blank for every 20 samples, or for every extraction batch of similar matrix, was met. Several compounds were detected in the method blanks. Action levels were established at five times the concentrations in the blanks. Associated results in samples at concentrations less than the action levels were qualified as not detected (U).

## Labeled Standard Recovery

Two types of labeled compounds are used for the dioxin/furan analyses: recovery standards, which are used to calculate the recovery values of all labeled compounds and internal standards, which are used to quantitate the concentration of the native (target) compounds.

All labeled compounds met the ion abundance ratio and retention time criteria. All labeled compounds had percent recovery (%R) values within the method QC limits of 40% to 135%, with the exception of several labeled compounds in Samples OBS-95-08 and OBS-95-27 (all outliers were less than 40%). Associated compound results (quantitated using the outlying internal standards) were qualified as estimated (J/UJ) for these samples because of the possible low bias.

## Compound Identification

The method specifies that 2378 TCDF should be reported from analysis on a DB-225 column. The laboratory did not analyze samples for 2378 TCDF on a DB-225 column. No action was taken.

## Reported Detection Limits

All detection limits and EMPC are less than method PQL values, with the exception of one to five compounds in six of the samples (refer to the Data Validation Worksheets for outliers). As the outlying detection limits were only slightly greater than the PQL values, and as Method 8290 detection limits are sample and analysis specific, no action was taken.

## Field Duplicates

Data for three pairs of field duplicates were submitted for review. Relative percent difference (RPD) values were calculated for compounds detected in both replicates. All compound RPD values were less than 50% except for OCDD and OCDF in Samples OBS-95-10 and OBS-95-10FD (at 82.9% and 117.7%). No data were qualified based on field duplicate precision. Field variability should be considered in data interpretation.

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## Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method with two minor exceptions. The laboratory used the average response factors from the initial calibration during compound quantitation, and the laboratory did not perform DB-225 column analysis for the tetrafuran results. These deviations should have no significant impact on the reported results, and no action was taken.

Precision was acceptable, as demonstrated by the RPD values of the MS/MSD set. Accuracy was acceptable, as demonstrated by the MS/MSD, LCS, and most labeled standard %R values being within control limits.

Data were qualified because of blank contamination and labeled standard recovery outliers.

All data, as qualified, are acceptable for use.

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# TIER 1 DATA QUALITY ASSESSMENT
# DIOXIN/FURAN ANALYSES: WATER
# METHOD: 8290
# LOT: AWHJ

Analytical data for three water samples were reviewed using quality control (QC) criteria documented in the analytical method, *PAM 11-41* (USAEC, 1990), and *National Functional Guidelines* (U.S. EPA, 1991). The samples were collected on November 27 and 28, 1995, and were analyzed by Core Laboratories.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

- Technical Holding Times
- Instrument Tuning and Isomer Specificity
- * Initial and Daily Calibration
- * Blank Analyses
- Labeled Standards Recovery
- Laboratory Control Sample/Laboratory Control Sample Duplicate Analyses
- Compound Identification
- Reported Detection Limits

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Initial and Daily Calibration

The calibration verifications (CVER) were analyzed at the beginning and end of each sequence as required. The percent difference (%D) of the relative response factor (RRF) values between the initial calibrations and CVER were within 20% and 30% for unlabeled and labeled compounds, respectively, with the following exceptions.

The OCDF %D value for the 12/20/95 ending CVER was greater than 20% but less than 25% (at -24%). The 123478 HxCDD %D value for the 12/21/95 ending CVER was greater than 20% but less than 25% (at 22%). According to method 8290, the laboratory should have quantitated OCDF and 123478 HxCDD results using the average of the RRF values from the beginning and ending CVER analyses. The laboratory used the initial calibration RRF values for all compound quantitations. As the %D values in the beginning CVER were acceptable, the associated data were judged not significantly affected, and no qualifiers were issued.

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## Blank Analyses

The frequency requirement of one method blank for every 20 samples, or for every extraction batch of similar matrix, was met. No compounds were detected in the method blank.

The only samples submitted in this lot were two equipment rinses and a field blank. Sample 3ER-68 (collected 11/28/95) contained 1234678 HpCDF at 0.00000159 µg/L. Sample 3ER-69 (collected 11/29/95) contained OCDD at 0.00000933 µg/L. Sample 3FB-P (collected 11/29/95) contained 1234678 HpCDD at 0.00000255 µg/L, and OCDD at 0.00000430 µg/L.

## Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the relative percent difference (RPD) values of the LCS/LCSD set. Accuracy was acceptable, as demonstrated by the LCS/LCSD and labeled standard %R values being within control limits.

All data, as reported, are acceptable for use.

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# TIER I DATA QUALITY ASSESSMENT
# EXPLOSIVES ANALYSES: SOIL
# METHOD: LW23
# LOT: AVRO

Analytical data for 25 soil samples were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1994). The samples were collected from November 29 through 30, 1995, and were analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

- Technical Holding Times
- Instrument Calibration
- Daily Calibration
- Blank Analyses
- * Laboratory Control Sample Analyses
- * Field Duplicate Analyses
- * Matrix Spike/Matrix Spike Duplicate Analyses
- * Compound Identification
- Chromatogram Quality
- Compound Quantitation and Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Laboratory Control Sample Analyses

Laboratory control sample (LCS) analyses were performed at the required frequency. Most percent recovery (%R) and relative percent difference (RPD) values were within control limits. The %R and RPD value outliers are listed in the Data Quality Assessment Worksheets. In the professional judgment of the reviewer, no qualification of the sample results on the basis of the %R values in the LCS analyses was necessary.

### Field Duplicate Analyses

Two field duplicate sets (OBS-95-34/OBS-95-34FD and ARS-95-10/ARS-95-10FD) were analyzed by the laboratory. No positive results were reported in Samples OBS-95-34 or OBS-95-34FD; field duplicate RPD values were not calculable. Positive results for RDX were reported in Samples ARS-95-10 and ARS-95-10FD at concentrations (corrected for moisture) of 5.34 µg/g and 40.9 µg/g, respectively. The RPD value of RDX was 153.9%, which was greater than


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the 50% control limit. Positive results for HMX and tetryl were reported for Sample ARS-95-10FD, but not for ARS-95-10. No qualifiers were assigned based on field duplicate results.

## Matrix Spike/Matrix Spike Duplicate Analyses

Sample ARS-95-10FD was selected for matrix spike/matrix spike duplicate (MS/MSD) analyses. All %R values were within control limits, except for 2,4-dinitrotoluene. The %R values of 2,4-dinitrotoluene in the MS/MSD analyses were greater than the 28% to 89% control limits at 94% and 98%, respectively. In the professional judgment of the reviewer, no qualification of the sample results on the basis of 2,4-dinitrotoluene %R value was necessary. All RPD values were within control limits.

## Compound Identification

Several positive results were C-flagged by the laboratory to indicate that the results were confirmed by a second column. A result for RDX in Sample ARS-95-05 was Q-flagged by the laboratory to denote that the compound was not confirmed on the second column because of matrix interference. No action was taken on this basis.

## Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the RPD values of the MS/MSD and the LCS analyses being within control limits. Accuracy was acceptable, as demonstrated by the LCS and MS/MSD %R values being within control limits, except where previously noted.

All data, as reported, are acceptable for use.

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# TIER II DATA QUALITY ASSESSMENT
# METALS-ICP ANALYSES: SOIL
# METHOD: JS12
# LOT: AWBP

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for this lot were provided by the laboratory to meet USATHAMA PAM-11-41 requirements for this data package.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and, all laboratory notebook pages and strip chart printouts were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

The field Chain-of-Custody forms (COCs) were present and complete for this lot. All samples listed on the COCs were analyzed. All forms were signed and dated. The field COCs indicated no problems with sample receipt conditions.

Laboratory COCs were present and complete for all samples and all forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory COCs. A minimum of 10% of the field ID and laboratory ID were tracked from the COCs, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. FIELD QUALITY CONTROL

The data for one set of field duplicate samples (OBS-95-34/OBS-95-34FD) were submitted for review. The relative percent difference (RPD) values ranged from 0.0% to 17.4%.

No field blanks were submitted with the samples of this lot.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All samples were analyzed within the method-specific holding time of 180 days from the date of collection to the date of analysis.

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## 2.0 Instrument Calibration: ACCEPTABLE/All criteria met.

Instrument calibration consisted of one blank and one standard. Instrument sensitivity could not be evaluated with the documentation provided. All calibration check standards were within ±10% of the true value.

The laboratory analyzed a continuing calibration verification (CCV) standard every 10 samples, as required. The percent recovery (%R) value of the CCV was within ±10% of the true value.

## 3.0 Blank Analyses: ACCEPTABLE/With the following discussion.

The data for initial and continuing calibration blanks (ICB, CCB), preparation blanks (PB), and QC blanks were evaluated for possible contamination effects. Calibration blank data were also evaluated for causing possible low bias in the associated samples. The laboratory analyzed CCBs after each CCV as required. A preparation blank was prepared with each digestion batch as required. No CCB result was greater than the reporting limit or less than the negative reporting limit, and no PB result was greater than the reporting limit.

Aluminum, barium, calcium, iron, potassium, magnesium, manganese, vanadium, and zinc were detected in one QC blank (BL-104889-1). Since this soil blank sample (from RMA soil, R3D-425) was unwashed soil, no qualifications of associated sample data were recommended.

## 4.0 Matrix Spike/Matrix Spike Duplicate Analyses: NOT SUBMITTED.

No matrix spike/matrix spike duplicate (MS/MSD) analyses were performed on samples in this Lot. No action was taken on this basis.

## 5.0 High Spike and Low Spike Analyses: ACCEPTABLE/With the following discussion.

One low spike and two high spike analyses were performed with this sample lot. Spike %R values were evaluated based on the control chart upper and lower limits. The %R values of the low spike and high spike analyses were within the control limits, with the exception of those listed in the table below.

| Analyte | Low Spike | Control Limit | 1st High Spike | 2nd High Spike | Control Limits |
|---|---|---|---|---|---|
| Nickel | 93.4% | 97.0% to 127.2% | Acceptable | Acceptable | 95.5% to 101.1% |
| Vanadium | Acceptable | 70.7% to 122.5% | 103.7% | Acceptable | 95.1% to 101.5% |
| Copper | Acceptable | 109.2% to 121.4% | Acceptable | 108.0% | 96.0% to 101.2% |
| Lead | Acceptable | 96.1% to 117.9% | Acceptable | 97.3% | 98.5% to 103.3% |

As all of the above %R values were within the *National Functional Guidelines* control limits and no qualifiers were assigned.

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**6.0 Duplicate Sample Analyses:** ACCEPTABLE/With the following discussion.

Laboratory duplicate analyses were not performed with this sample lot; however, the relative percent difference (RPD) values between the two high spike laboratory control samples were evaluated. The copper RPD value of 8.3% was above the control limit of 4.6%; as this value is within the *National Functional Guidelines* control limits, no qualifiers were assigned. All RPD values were acceptable.

**7.0 ICP Interference Check Sample Analyses:** ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See the DATA QUALIFIER SUMMARY TABLE

***Discussion:***

The laboratory analyzed an ICP interference check sample (ICS) immediately following initial calibration and at the end of the analytical run. The laboratory used the initial calibration standard number 3 as the ICS. This standard contains aluminum, calcium, iron, magnesium, potassium and sodium at 500 mg/L, which is equivalent to the EPA solution ICSA. Standard number 3 %R values were within the Functional Guidelines criteria of 80% to 120% for each of these added metals. Additionally, all unspiked analytes were less than the absolute value of the reporting limit, except for chromium and zinc. The chromium results were judged to be affected by the concentration of iron (an interferent) present in the samples; the chromium results were qualified as estimated (J-21). The zinc results were judged to be unaffected.

**8.0 ICP Serial Dilution Analyses:** ACCEPTABLE/With the following discussion.

The laboratory analyzed Sample OBS-95-39 at a ten fold dilution rather at a five fold dilution. These original and diluted sample results are equivalent to the ICP serial dilution analyses, and therefore can be used to determine if interference is indicated. All serial dilution results were acceptable.

**9.0 Certified Reporting Limits:** ACCEPTABLE/All criteria met.

The reporting limit for each analyte was reviewed. All reporting limits matched the certified reporting limit listed in the laboratory SOP.

**10.0 Calculations:** ACCEPTABLE/All criteria met.

No transcription errors or calculation errors were noted in the sample result data.

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## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method. No MS/MSD analyses were performed; therefore, no sample-specific accuracy evaluation was possible for this Lot. Accuracy, as measured by the %R values of the low/high spike analyses, was acceptable, except where noted. Precision, as measured by the RPD between laboratory control sample and field duplicates, was acceptable.

Qualification of chromium results was required because of high iron concentrations (an interferent for chromium) presented in the samples.

The data, as qualified, are acceptable for use.


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# TIER II DATA QUALITY ASSESSMENT
# ARSENIC ANALYSES: SOIL
# METHOD: B9
# LOT: AWBQ

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for this lot were provided by the laboratory to meet USATHAMA PAM-11-41 requirements for this data package. In the raw data, sample concentrations were converted incorrectly from µg/L to µg/g. However, since sample concentrations were reported correctly in the transfer files, no action was taken.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and, all laboratory notebook pages and strip chart printouts were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

The field Chain-of-Custody forms (COCs) were present and complete for this lot. All samples listed were analyzed and all forms were signed and dated. The field COCs indicated no problems with sample receipt conditions.

Laboratory COCs were present and complete for all samples. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory COCs. A minimum of 10% of the field ID and laboratory ID were tracked from the COCs, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. FIELD QUALITY CONTROL

The data for one set of field duplicate samples (OBS-95-34/OBS-95-34FD) were submitted for review. Arsenic was detected in these two samples at concentrations of 7.29 µg/g and 6.33 µg/g, respectively. The relative percent difference (RPD) value was 14.0%, which was less than the maximum control limit of 50%. The field precision was acceptable. No field blanks were submitted with the samples of this lot.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All samples were analyzed within the method-specific holding time of 180 days from the date of collection to the date of analysis.

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## 2.0 Instrument Calibration: ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See the **DATA QUALIFIER SUMMARY TABLE**

***Discussion:***

Instrument calibration consisted of one blank and seven standards. The correlation coefficient was greater than the method requirement of 0.995. All initial calibration verification (ICV) standards were within ±10% of the true value.

The laboratory analyzed a continuing calibration verification (CCV) standard every 10 samples, as required. The percent recovery (%R) values of two CCV analyzed on 1/4/96 were greater than the upper control limit of 110% at 111.8%. Positive arsenic results associated with these two CCV were qualified as estimated (J-5B).

## 3.0 Blank Analyses: ACCEPTABLE/All criteria met.

The data for initial and continuing calibration blanks (ICB, CCB), preparation blanks (PB), and QC blanks were evaluated for possible contamination effects. Calibration blank data were also evaluated for causing possible low bias in the associated samples. The laboratory analyzed CCBs after each CCV as required. A preparation blank was prepared with each digestion batch as required. Arsenic was not detected in any of the blanks at concentrations greater than or equal to the reporting limit.

## 4.0 Matrix Spike/Matrix Spike Duplicate Analyses: NOT PERFORMED.

No matrix spike/matrix spike duplicate (MS/MSD) analyses were performed on samples in this lot. No action was taken on this basis.

## 5.0 High Spike and Low Spike Analyses: ACCEPTABLE/With the following discussion.

One low spike and two high spike analyses were performed with this sample lot. The low/high spike %R values were evaluated based on the control chart upper and lower limits. The low spike %R value of 122% was greater than the upper control limit of 110.4%; as this spike %R value was within the *National Functional Guidelines* control limits, no qualifiers were assigned. The high spike %R values of 97.2% and 105.6% were within the control limits.

## 6.0 Duplicate Sample Analyses: NOT PERFORMED.

Laboratory duplicate analyses were not performed with this sample lot; however, the RPD values between the two high spike samples were evaluated. The arsenic RPD value of 8.3% was less than the maximum control limit of 17.3%. The laboratory precision was acceptable.

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**7.0 Certified Reporting Limits:** ACCEPTABLE/All criteria met.

The reporting limit for each analyte was reviewed. All reporting limits matched the certified reporting limit listed in the laboratory SOP.

**8.0 Calculations:** ACCEPTABLE/All criteria met.

No transcription errors or calculation errors were noted in the sample result data.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method.

Accuracy, as measured by the %R values of the low/high spike analyses, was acceptable. Precision, as measured by the RPD values of high spike analyses, was acceptable.

Qualification of sample results was required because of high CCV %R values.

The data, as qualified, are acceptable for use.

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# TIER II DATA QUALITY ASSESSMENT
# SELENIUM ANALYSES: SOIL
# METHOD: JD20
# LOT: AWBR

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for this lot were provided by the laboratory to meet USATHAMA PAM-11-41 requirements for this data package.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and, all laboratory notebook pages and strip chart printouts were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

The field Chain-of-Custody forms (COCs) were present and complete and all samples listed were analyzed. All forms were signed and dated. The field COCs indicated no problems with sample receipt conditions.

Laboratory COCs were present and complete for all samples and all forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory COCs. A minimum of 10% of the field ID and laboratory ID were tracked from the COCs, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. FIELD QUALITY CONTROL

The data for one set of field duplicate samples (OBS-95-34/OBS-95-34FD) were submitted by the laboratory for review. Selenium was not detected in these two samples; therefore, the relative percent difference (RPD) value was not calculable. The field precision was acceptable.

No field blanks were submitted with the samples of this lot.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All samples were analyzed within the method-specific holding time of 180 days from the date of collection to the date of analysis.

## 2.0 Instrument Calibration: ACCEPTABLE/All criteria met.

Instrument calibration consisted of one blank and six standards. The correlation coefficient was greater than the method requirement of 0.995. All initial calibration verification (ICV) standards were within ±10% of the true value.

The laboratory analyzed a continuing calibration verification (CCV) standard every 10 samples, as required. The percent recovery (%R) value of the CCV was within ±10% of the true value.

## 3.0 Blank Analyses: ACCEPTABLE/All criteria met.

The data for initial and continuing calibration blanks (ICB, CCB), preparation blanks (PB), and QC blanks were evaluated for possible contamination effects. Calibration blank data were also evaluated for causing possible low bias in the associated samples. The laboratory analyzed CCBs after each CCV as required. A preparation blank was prepared with each digestion batch, as required. Selenium was not detected in any of the blanks at concentrations greater than or equal to the reporting limit.

## 4.0 Matrix Spike/Matrix Spike Duplicate Analyses: NOT PERFORMED.

No matrix spike/matrix spike duplicate (MS/MSD) analyses were performed on samples in this lot. No action was taken on this basis.

## 5.0 High Spike and Low Spike Analyses: ACCEPTABLE/With the following discussion.

One low spike and two high spike analyses were performed with this sample lot. The low/high spike %R values were evaluated based on the control chart upper and lower limits. The first high spike %R value of 111.9% was greater than the upper control limit of 104.8%. As this high spike %R value was within the *National Functional Guidelines* control limits, no qualifiers were assigned. The low spike %R value of 104.6% and second high spike %R value of 100% were within the control limits.

## 6.0 Duplicate Sample Analyses: NOT PERFORMED.

Laboratory duplicate analyses were not performed with this sample lot; however, the RPD values between the two high spike samples were evaluated. The selenium RPD value of 11.2% was less than the maximum control limit of 23.8%. The laboratory precision was acceptable.

## 7.0 Graphite Furnace QC Analyses: NOT PERFORMED.

**8.0 Certified Reporting Limits (CRL):** ACCEPTABLE/All criteria met.

The reporting limit for each analyte was reviewed. All reporting limits matched the certified reporting limits listed in the laboratory SOP.

**9.0 Calculations:** ACCEPTABLE/All criteria met.

No transcription errors or calculation errors were noted in the sample result data.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method.

Accuracy, as measured by the %R values of the low/high spike analyses, was acceptable, except where noted. Precision, as measured by the RPD values of high spike analyses, was acceptable.

The data, as reported, are acceptable for use.

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# TIER II DATA QUALITY ASSESSMENT
# THALLIUM ANALYSES: SOIL
# METHOD: SW-7841
# LOT: AWBS

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for this lot were provided by the laboratory to meet project requirements for this data package.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and, all laboratory notebook pages and strip chart printouts were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

The field Chain-of-Custody forms (COCs) were present and complete for this lot and all samples listed were analyzed. All COCs were signed and dated. The field COCs indicated no problems with sample receipt conditions.

Laboratory COCs were present and complete for all samples. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory COCs. A minimum of 10% of the field ID and laboratory ID were tracked from the COCs, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. FIELD QUALITY CONTROL

The data for one set of field duplicate samples (OBS-95-34/OBS-95-34FD) were submitted for review. Thallium was not detected in these two samples; therefore, the relative percent difference (RPD) value was not calculable. The field precision was acceptable.

No field blanks were submitted with the samples of this lot.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All samples were analyzed within the method-specific holding time of 180 days from the date of collection to the date of analysis.


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## 2.0 Instrument Calibration: ACCEPTABLE/All criteria met.

Instrument calibration consisted of one blank and four standards. The correlation coefficient was greater than the method requirement of 0.995. All initial calibration verification (ICV) standards were within ±10% of the true value.

The laboratory analyzed a continuing calibration verification (CCV) standard every 10 samples, as required. The percent recovery (%R) value of the CCV was within ±10% of the true value.

## 3.0 Blank Analyses: ACCEPTABLE/All criteria met.

The data for initial and continuing calibration blanks (ICB, CCB), preparation blanks (PB), and QC blanks were evaluated for possible contamination effects. Calibration blank data were also evaluated for causing possible low bias in the associated samples. The laboratory analyzed CCBs after each CCV as required. A preparation blank was prepared with each digestion batch as required. Thallium was not detected in any of the blanks at concentrations greater than or equal to the reporting limit.

## 4.0 Matrix Spike/Matrix Spike Duplicate Analyses: ACCEPTABLE/All criteria met.

Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed by the laboratory on Sample OBS-95-29. The %R values of 93.2% and 89.0% and RPD value of 4.4% were within the control limits of 75% to 125% for accuracy and 35% for precision.

## 5.0 Laboratory Control Sample Analyses: ACCEPTABLE/With the following exception.

***Qualified Data:*** See the **DATA QUALIFIER SUMMARY TABLE**

***Discussion:***

One laboratory control sample (LCS) analysis was performed with this sample lot. The %R value of 65.7% was less than the lower control limit of 80%. Thallium results in this lot were qualified as estimated (UJ-10).

## 6.0 Duplicate Sample Analyses: ACCEPTABLE/All criteria met.

Laboratory duplicate analyses were performed on Sample OBS-95-29. Thallium was not detected in the original and duplicate samples; therefore, the RPD value was not calculable. The laboratory precision was acceptable.

## 7.0 Graphite Furnace QC Analyses: ACCEPTABLE/All criteria met.

The laboratory performed a post-digestion spike analysis on Sample OBS-95-39. The %R value of 104.6% was within the control limits of 85% to 115%.

## 8.0 Certified Reporting Limits: ACCEPTABLE/All criteria met.

The reporting limit for each analyte was reviewed. All reporting limits matched the certified reporting limit listed in the laboratory SOP.

## 9.0 Calculations: ACCEPTABLE/All criteria met.

No transcription errors or calculation errors were noted in the sample result data.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method.

Accuracy, as measured by the %R values of the MS/MSD and LCS analytes, was acceptable, except where noted. Precision, as measured by the RPD values of MS/MSD, laboratory duplicate and field duplicates, was acceptable.

Qualification of sample results was required because of a low LCS %R value.

The data, as qualified, are acceptable for use.

# TIER II DATA QUALITY ASSESSMENT
# ANTIMONY ANALYSES: SOIL
# METHOD: SW-7041
# LOT: AWBT

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for this lot were provided by the laboratory to meet project requirements for this data package.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and, all laboratory notebook pages and strip chart printouts were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

The field Chain-of-Custody forms (COCs) were present and complete for this lot and all samples listed were analyzed. All forms were signed and dated. The field COCs indicated no problems with sample receipt conditions.

Laboratory COCs were present and complete for all samples and all were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory COCs. A minimum of 10% of the field ID and laboratory ID were tracked from the COCs, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. FIELD QUALITY CONTROL

The data for one set of field duplicate samples (OBS-95-34/OBS-95-34FD) were submitted by the laboratory for review. Antimony was not detected in these two samples; therefore, the relative percent difference (RPD) value was not calculable. The field precision was acceptable.

No field blanks were submitted with the samples of this lot.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All samples were analyzed within the method-specific holding time of 180 days from the date of collection to the date of analysis.

**2.0 Instrument Calibration:** ACCEPTABLE/All criteria met.

Instrument calibration consisted of one blank and five standards. The correlation coefficient was greater than the method requirement of 0.995. All initial calibration verification (ICV) standards were within ±10% of the true value.

The laboratory analyzed a continuing calibration verification (CCV) standard every 10 samples, as required. The percent recovery (%R) value of the CCV was within ±10% of the true value.

**3.0 Blank Analyses:** ACCEPTABLE/All criteria met.

The data for initial and continuing calibration blanks (ICB, CCB), preparation blanks (PB), and QC blanks were evaluated for possible contamination effects. Calibration blank data were also evaluated for causing possible low bias in the associated samples. The laboratory analyzed CCBs after each CCV as required. A preparation blank was prepared with each digestion batch as required. Antimony was not detected in any of the blanks at concentrations greater than or equal to the reporting limit.

**4.0 Matrix Spike/Matrix Spike Duplicate Analyses:** ACCEPTABLE/With the following discussion.

Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed on Sample OBS-95-29. The MS percent recovery (%R) value of 73.3% was slightly less than the lower control limit of 75%. Since the MSD %R value of 85.2% and RPD value of 11.5% were within the control limits of 75% to 125% for accuracy and 35% for precision, no qualifiers were assigned.

**5.0 Laboratory control Sample Analyses:** ACCEPTABLE/All criteria met.

One laboratory control sample (LCS) analysis was performed with this sample lot. The %R value of 111.3% was within the control limits of 80% to 120%.

**6.0 Duplicate Sample Analyses:** ACCEPTABLE/All criteria met.

Laboratory duplicate analyses were performed on Sample OBS-95-29. Antimony was detected in the original and duplicate samples at concentrations of 1.25 µg/g and 1.26 µg/g, respectively. The RPD value of 0.8% was less than the maximum control limit of 35%. The laboratory precision was acceptable.

**7.0 Graphite Furnace QC Analyses:** ACCEPTABLE/All criteria met.

The laboratory performed a post-digestion spike analysis on Sample OBS-95-31. The %R value of 101.3% was within the control limit of 85% to 115%.

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**8.0 Certified Reporting Limits (CRL):** ACCEPTABLE/All criteria met.

The reporting limit for each analyte was reviewed. All reporting limits matched the certified reporting limit listed in the laboratory SOP.

**9.0 Calculations:** ACCEPTABLE/All criteria met.

No transcription errors or calculation errors were noted in the sample result data.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method.

Accuracy, as measured by the %R values of the MS/MSD and LCS analytes, was acceptable, except where noted. Precision, as measured by the RPD values of MS/MSD, laboratory duplicate and field duplicates, was acceptable.

The data, as reported, are acceptable for use.

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# TIER II DATA QUALITY ASSESSMENT
# MERCURY ANALYSES: SOIL
# METHOD: Y9
# LOT: AWBU

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for this lot were provided by the laboratory to meet USATHAMA PAM-11-41 requirements for this data package.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and, all laboratory notebook pages and strip chart printouts were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

The field Chain-of-Custody forms (COCs) were present and complete for this lot, and all samples listed were analyzed. All COCs were signed and dated. The field COCs indicated no problems with sample receipt conditions.

Laboratory COCs were present and complete for all samples. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory COCs. A minimum of 10% of the field ID and laboratory ID were tracked from the COCs, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. FIELD QUALITY CONTROL

The data for one set of field duplicate samples (OBS-95-34/OBS-95-34FD) were submitted for review. Mercury was not detected in these two samples; therefore, the relative percent difference (RPD) value was not calculable. The field precision was acceptable.

No field blanks were submitted with the samples of this lot.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All samples were analyzed within the method-specific holding time of 28 days from the date of collection to the date of analysis.


ORIGINAL

## 2.0 Instrument Calibration: ACCEPTABLE/All criteria met.

Instrument calibration consisted of one blank and five standards. The correlation coefficient was greater than the method requirement of 0.995. All initial calibration verification (ICV) standards were within ±10% of the true value.

The laboratory analyzed a continuing calibration verification (CCV) standard every 10 samples, as required. The percent recovery (%R) value of the CCV was within ±10% of the true value.

## 3.0 Blank Analyses: ACCEPTABLE/With the following exception.

***Qualified Data:*** See the **DATA QUALIFIER SUMMARY TABLE**

***Discussion:***

The data for initial and continuing calibration blanks (ICB, CCB), preparation blanks (PB), and QC blanks were evaluated for possible contamination effects. Calibration blank data were also evaluated for causing possible low bias in the associated samples. The laboratory analyzed CCBs after each CCV as required. A preparation blank was prepared with each digestion batch as required.

Negative blank concentration was detected in the ICB at -0.053 µg/g. Mercury was not detected in any samples at concentrations greater than or equal to the reporting limits; all associated mercury results were qualified as estimated (UJ-7). Mercury was detected in other blanks at concentrations greater than or equal to the reporting limit.

## 4.0 Matrix Spike/Matrix Spike Duplicate Analyses: NOT PERFORMED.

The laboratory did not perform matrix spike/matrix spike duplicate (MS/MSD) analyses on samples in this lot. No action was taken on this basis.

## 5.0 High Spike and Low Spike Analyses: ACCEPTABLE/All criteria met.

One low spike and two high spike analyses were performed with this sample lot. The low/high spike %R values were evaluated based on the control chart upper and lower limits. The low spike %R value of 114% and high spike %R values of 111.2% and 111.0% were within the control limits.

## 6.0 Duplicate Sample Analyses: NOT PERFORMED.

Laboratory duplicate analyses were not performed with this sample lot; however, the RPD values between the two high spike samples were evaluated. The mercury RPD value of 0.2% was less than the maximum control limit of 17.6%. The laboratory precision was acceptable.

**7.0 Certified Reporting Limits:** ACCEPTABLE/All criteria met.

The reporting limit for each analyte was reviewed. All reporting limits matched the certified reporting limit listed in the laboratory SOP.

**8.0 Calculations:** ACCEPTABLE/All criteria met.

No transcription errors or calculation errors were noted in the sample result data.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method.

Accuracy, as measured by the %R values of the low/high spike analyses, was acceptable. Precision, as measured by the RPD values of high spike analyses, was acceptable.

Qualification of sample results was required because of a negative blank concentration in the ICB.

The data, as qualified, are acceptable for use.



ORIGINAL

# DATA QUALIFIER SUMMARY TABLE
# FOR SWMU 6

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AWKZ | OBP-95-01A | 038 UC04344 | SOIL | 8290 | 78HXDF | 0.00000603 | B | U-7 | UGG |
| AWHS | OBP-95-01C | 003 UC04172 | SOIL | 8290 | 234PCF | LT 0.000000980 | | UJ-19 | UGG |
| AWHS | OBP-95-01C | 003 UC04172 | SOIL | 8290 | 78PCDF | LT 0.000000900 | | UJ-19 | UGG |
| AWHS | OBP-95-01C | 003 UC04172 | SOIL | 8290 | TCDD | LT 0.00000131 | | UJ-19 | UGG |
| AWHS | OBP-95-01C | 003 UC04172 | SOIL | 8290 | TCDF | LT 0.00000133 | | UJ-19 | UGG |
| AWHS | OBP-95-01D | 007 UC04176 | SOIL | 8290 | 678HPF | 0.00000131 | DJP | U-7 | UGG |
| AWHS | OBP-95-02A | 004 UC04173 | SOIL | 8290 | 678HPF | 0.00000210 | JP | U-7 | UGG |
| AWHS | OBP-95-03C | 010 UC04179 | SOIL | 8290 | 678HPF | 0.00000239 | JP | U-7 | UGG |
| AWKZ | OBS-95-01 | 003 UC04261 | SOIL | 8290 | 678HPF | 0.00000325 | B | U-7 | UGG |
| AWKZ | OBS-95-01 | 003 UC04261 | SOIL | 8290 | OCDD | 0.00000944 | B | U-7 | UGG |
| AWKZ | OBS-95-02 | 004 UC04262 | SOIL | 8290 | 678HPF | 0.00000679 | B | U-7 | UGG |
| AWKZ | OBS-95-02 | 004 UC04262 | SOIL | 8290 | 789HPF | 0.00000118 | JPB | U-7 | UGG |
| AWKZ | OBS-95-02 | 004 UC04262 | SOIL | 8290 | 78HXDF | 0.00000228 | JPB | U-7 | UGG |
| AWKZ | OBS-95-02 | 004 UC04262 | SOIL | 8290 | OCDD | 0.0000195 | B | U-7 | UGG |
| AWKZ | OBS-95-03 | 005 UC04263 | SOIL | 8290 | 678HPD | 0.00000346 | B | U-7 | UGG |
| AWKZ | OBS-95-03 | 005 UC04263 | SOIL | 8290 | 678HPF | 0.00000587 | B | U-7 | UGG |
| AWKZ | OBS-95-03 | 005 UC04263 | SOIL | 8290 | OCDD | 0.0000266 | B | U-7 | UGG |
| AWKZ | OBS-95-04 | 006 UC04264 | SOIL | 8290 | 678HPD | 0.00000311 | B | U-7 | UGG |
| AWKZ | OBS-95-04 | 006 UC04264 | SOIL | 8290 | 678HPF | 0.00000226 | B | U-7 | UGG |
| AWKZ | OBS-95-04 | 006 UC04264 | SOIL | 8290 | 78HXDF | 0.000000837 | JPB | U-7 | UGG |
| AWKZ | OBS-95-04 | 006 UC04264 | SOIL | 8290 | OCDD | 0.0000280 | B | U-7 | UGG |
| AWKZ | OBS-95-05 | 009 UC04265 | SOIL | 8290 | 678HPF | 0.00000248 | JPB | U-7 | UGG |
| AWKZ | OBS-95-05 | 009 UC04265 | SOIL | 8290 | TCDF | 0.000000174 | JPB | U-7 | UGG |
| AWKZ | OBS-95-06 | 010 UC04266 | SOIL | 8290 | 678HPF | 0.000000952 | JPB | U-7 | UGG |
| AWKZ | OBS-95-06 | 010 UC04266 | SOIL | 8290 | OCDD | 0.00000446 | JPB | U-7 | UGG |
| AWKZ | OBS-95-06 | 010 UC04266 | SOIL | 8290 | OCDF | 0.00000299 | JPB | U-7 | UGG |
| AWKZ | OBS-95-06 | 010 UC04266 | SOIL | 8290 | TCDF | 0.000000127 | JPB | U-7 | UGG |
| AWKZ | OBS-95-07 | 011 UC04267 | SOIL | 8290 | 678HPF | 0.00000288 | B | U-7 | UGG |
| AWKZ | OBS-95-07 | 011 UC04267 | SOIL | 8290 | 678HXF | 0.000000268 | JPB | U-7 | UGG |
| AWKZ | OBS-95-08 | 012 UC04268 | SOIL | 8290 | 678HPF | 0.000000997 | JPB | U-7 | UGG |
| AWKZ | OBS-95-08 | 012 UC04268 | SOIL | 8290 | OCDD | 0.00000339 | JPB | U-7 | UGG |
| AWKZ | OBS-95-08 | 012 UC04268 | SOIL | 8290 | OCDF | 0.00000239 | JPB | U-7 | UGG |
| AWKZ | OBS-95-08 | 012 UC04268 | SOIL | 8290 | TCDD | LT 0.000000410 | | UJ-19 | UGG |
| AWKZ | OBS-95-08 | 012 UC04268 | SOIL | 8290 | TCDF | 0.000000206 | JPB | UJ-7,19 | UGG |
| AWKZ | OBS-95-09 | 013 UC04269 | SOIL | 8290 | 234HXF | 0.000000209 | JPB | U-7 | UGG |
| AWKZ | OBS-95-09 | 013 UC04269 | SOIL | 8290 | 678HPF | 0.00000158 | JPB | U-7 | UGG |
| AWKZ | OBS-95-09 | 013 UC04269 | SOIL | 8290 | 678HXF | 0.000000154 | JPB | U-7 | UGG |
| AWKZ | OBS-95-09 | 013 UC04269 | SOIL | 8290 | OCDD | 0.00000622 | B | U-7 | UGG |
| AWKZ | OBS-95-09 | 013 UC04269 | SOIL | 8290 | OCDF | 0.00000363 | JPB | U-7 | UGG |

# DATA QUALIFIER SUMMARY TABLE
# FOR SWMU 6

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AWKZ | OBS-95-10 | 014 UC04270 | SOIL | 8290 | OCDD | 0.00000688 | B | U-7 | UGG |
| AWKZ | OBS-95-10 | 014 UC04270 | SOIL | 8290 | OCDF | 0.00000428 | JPB | U-7 | UGG |
| AWKZ | OBS-95-10 | 014 UC04270 | SOIL | 8290 | TCDF | 0.000000169 | JPB | U-7 | UGG |
| AWKZ | OBS-95-11 | 015 UC04271 | SOIL | 8290 | 234HXF | 0.000000276 | JPB | U-7 | UGG |
| AWKZ | OBS-95-11 | 015 UC04271 | SOIL | 8290 | 678HPF | 0.00000241 | JPB | U-7 | UGG |
| AWKZ | OBS-95-11 | 015 UC04271 | SOIL | 8290 | OCDD | 0.00000789 | B | U-7 | UGG |
| AWKZ | OBS-95-11 | 015 UC04271 | SOIL | 8290 | OCDF | 0.00000582 | B | U-7 | UGG |
| AWKZ | OBS-95-11 | 015 UC04271 | SOIL | 8290 | TCDF | 0.000000233 | JPB | U-7 | UGG |
| AWKZ | OBS-95-12 | 017 UC04273 | SOIL | 8290 | 678HPF | 0.00000546 | B | U-7 | UGG |
| AWKZ | OBS-95-12 | 017 UC04273 | SOIL | 8290 | 678HXF | 0.000000301 | JPB | U-7 | UGG |
| AWKZ | OBS-95-12 | 017 UC04273 | SOIL | 8290 | TCDF | 0.000000279 | JPB | U-7 | UGG |
| AWKZ | OBS-95-13 | 018 UC04274 | SOIL | 8290 | 234HXF | 0.000000616 | JPB | U-7 | UGG |
| AWKZ | OBS-95-13 | 018 UC04274 | SOIL | 8290 | 678HXF | 0.000000573 | JPB | U-7 | UGG |
| AWKZ | OBS-95-15 | 020 UC04276 | SOIL | 8290 | 678HPF | 0.00000121 | JPB | U-7 | UGG |
| AWKZ | OBS-95-15 | 020 UC04276 | SOIL | 8290 | OCDF | 0.00000305 | JPB | U-7 | UGG |
| AWKZ | OBS-95-15 | 020 UC04276 | SOIL | 8290 | TCDF | 0.000000171 | JPB | U-7 | UGG |
| AWKZ | OBS-95-16 | 021 UC04277 | SOIL | 8290 | 678HPF | 0.00000289 | B | U-7 | UGG |
| AWKZ | OBS-95-16 | 021 UC04277 | SOIL | 8290 | OCDF | 0.00000582 | B | U-7 | UGG |
| AWKZ | OBS-95-16 | 021 UC04277 | SOIL | 8290 | TCDF | 0.000000346 | JPB | U-7 | UGG |
| AWKZ | OBS-95-18 | 023 UC04279 | SOIL | 8290 | 678HPF | 0.00000419 | B | U-7 | UGG |
| AWKZ | OBS-95-20 | 025 UC04281 | SOIL | 8290 | 234HXF | 0.000000473 | JPB | U-7 | UGG |
| AWKZ | OBS-95-20 | 025 UC04281 | SOIL | 8290 | 678HPF | 0.00000198 | JPB | U-7 | UGG |
| AWKZ | OBS-95-20 | 025 UC04281 | SOIL | 8290 | OCDF | 0.00000353 | JPB | U-7 | UGG |
| AWKZ | OBS-95-21 | 029 UC04316 | SOIL | 8290 | 678HPD | 0.00000750 | B | U-7 | UGG |
| AWKZ | OBS-95-21 | 029 UC04316 | SOIL | 8290 | 678HPF | 0.0000189 | B | U-7 | UGG |
| AWKZ | OBS-95-21 | 029 UC04316 | SOIL | 8290 | 78HXDF | 0.00000448 | B | U-7 | UGG |
| AWKZ | OBS-95-21 | 029 UC04316 | SOIL | 8290 | OCDD | 0.0000575 | B | U-7 | UGG |
| AWKZ | OBS-95-22 | 030 UC04317 | SOIL | 8290 | 78HXDF | 0.00000654 | B | U-7 | UGG |
| AWKZ | OBS-95-23 | 031 UC04318 | SOIL | 8290 | 678HPF | 0.0000172 | B | U-7 | UGG |
| AWKZ | OBS-95-23 | 031 UC04318 | SOIL | 8290 | 78HXDF | 0.00000409 | B | U-7 | UGG |
| AWKZ | OBS-95-24 | 032 UC04319 | SOIL | 8290 | 678HPD | 0.00000332 | B | U-7 | UGG |
| AWKZ | OBS-95-24 | 032 UC04319 | SOIL | 8290 | 678HPF | 0.00000546 | B | U-7 | UGG |
| AWKZ | OBS-95-24 | 032 UC04319 | SOIL | 8290 | 78HXDF | 0.00000193 | JPB | U-7 | UGG |
| AWKZ | OBS-95-24 | 032 UC04319 | SOIL | 8290 | OCDD | 0.0000205 | B | U-7 | UGG |
| AWKZ | OBS-95-25 | 033 UC04320 | SOIL | 8290 | 678HPD | 0.00000493 | B | U-7 | UGG |
| AWKZ | OBS-95-25 | 033 UC04320 | SOIL | 8290 | 678HPF | 0.00000611 | B | U-7 | UGG |
| AWKZ | OBS-95-25 | 033 UC04320 | SOIL | 8290 | 789HPF | 0.000000899 | JPB | U-7 | UGG |
| AWKZ | OBS-95-25 | 033 UC04320 | SOIL | 8290 | 78HXDF | 0.00000306 | B | U-7 | UGG |
| AWKZ | OBS-95-25 | 033 UC04320 | SOIL | 8290 | OCDD | 0.0000390 | B | U-7 | UGG |



ORIGINAL

# DATA QUALIFIER SUMMARY TABLE
# FOR SWMU 6

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AWKZ | OBS-95-26 | 034 UC04321 | SOIL | 8290 | 78HXDF | 0.0000108 | B | U-7 | UGG |
| AWKZ | OBS-95-27 | 035 UC04322 | SOIL | 8290 | 234HXF | LT 0.000000400 | | UJ-19 | UGG |
| AWKZ | OBS-95-27 | 035 UC04322 | SOIL | 8290 | 678HPF | 0.00000286 | B | UJ-7,19 | UGG |
| AWKZ | OBS-95-27 | 035 UC04322 | SOIL | 8290 | 678HXF | LT 0.000000280 | | UJ-19 | UGG |
| AWKZ | OBS-95-27 | 035 UC04322 | SOIL | 8290 | 789HPF | LT 0.00000110 | | UJ-19 | UGG |
| AWKZ | OBS-95-27 | 035 UC04322 | SOIL | 8290 | 789HXF | LT 0.000000570 | | UJ-19 | UGG |
| AWKZ | OBS-95-27 | 035 UC04322 | SOIL | 8290 | 78HXDF | LT 0.000000410 | | UJ-19 | UGG |
| AWKZ | OBS-95-27 | 035 UC04322 | SOIL | 8290 | OCDD | 0.0000206 | B | UJ-7,19 | UGG |
| AWKZ | OBS-95-27 | 035 UC04322 | SOIL | 8290 | OCDF | 0.00000935 | | J-19 | UGG |
| AWKZ | OBS-95-28 | 036 UC04323 | SOIL | 8290 | 678HPF | 0.0000110 | B | U-7 | UGG |
| AWKZ | OBS-95-28 | 036 UC04323 | SOIL | 8290 | 789HPF | 0.00000249 | JPB | U-7 | UGG |
| AWKZ | OBS-95-28 | 036 UC04323 | SOIL | 8290 | 78HXDF | 0.00000337 | B | U-7 | UGG |
| AWBP | OBS-95-29 | 005 UC04325 | SOIL | JS12 | CR | 12.9 | | J-21 | UGG |
| AWBQ | OBS-95-29 | 005 UC04325 | SOIL | B9 | AS | 6.86 | | J-5B | UGG |
| AWBS | OBS-95-29 | 003 UC04325 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AWBU | OBS-95-29 | 005 UC04325 | SOIL | Y9 | HG | LT 0.0500 | | UJ-7 | UGG |
| AWBP | OBS-95-30 | 006 UC04327 | SOIL | JS12 | CR | 19.7 | | J-21 | UGG |
| AWBQ | OBS-95-30 | 006 UC04327 | SOIL | B9 | AS | 4.58 | | J-5B | UGG |
| AWBS | OBS-95-30 | 007 UC04327 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AWBU | OBS-95-30 | 006 UC04327 | SOIL | Y9 | HG | LT 0.0500 | | UJ-7 | UGG |
| AWBP | OBS-95-31 | 007 UC04329 | SOIL | JS12 | CR | 13.2 | | J-21 | UGG |
| AWBQ | OBS-95-31 | 007 UC04329 | SOIL | B9 | AS | 4.98 | | J-5B | UGG |
| AWBS | OBS-95-31 | 008 UC04329 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AWBU | OBS-95-31 | 007 UC04329 | SOIL | Y9 | HG | LT 0.0500 | | UJ-7 | UGG |
| AWBP | OBS-95-32 | 008 UC04332 | SOIL | JS12 | CR | 8.89 | | J-21 | UGG |
| AWBQ | OBS-95-32 | 008 UC04332 | SOIL | B9 | AS | 4.54 | | J-5B | UGG |
| AWBS | OBS-95-32 | 009 UC04332 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AWBU | OBS-95-32 | 008 UC04332 | SOIL | Y9 | HG | LT 0.0500 | | UJ-7 | UGG |
| AWBP | OBS-95-33 | 009 UC04333 | SOIL | JS12 | CR | 19.5 | | J-21 | UGG |
| AWBQ | OBS-95-33 | 009 UC04333 | SOIL | B9 | AS | 8.75 | | J-5B | UGG |
| AWBS | OBS-95-33 | 010 UC04333 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AWBU | OBS-95-33 | 009 UC04333 | SOIL | Y9 | HG | LT 0.0500 | | UJ-7 | UGG |
| AWBP | OBS-95-34 | 010 UC04336 | SOIL | JS12 | CR | 15.1 | | J-21 | UGG |
| AWBQ | OBS-95-34 | 010 UC04336 | SOIL | B9 | AS | 7.22 | | J-5B | UGG |
| AWBS | OBS-95-34 | 011 UC04336 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AWBU | OBS-95-34 | 010 UC04336 | SOIL | Y9 | HG | LT 0.0500 | | UJ-7 | UGG |
| AWKZ | OBS-95-35 | 016 UC04272 | SOIL | 8290 | 678HPF | 0.00000513 | DB | U-7 | UGG |
| AWKZ | OBS-95-36 | 026 UC04282 | SOIL | 8290 | 678HPF | 0.00000181 | DJPB | U-7 | UGG |
| AWKZ | OBS-95-36 | 026 UC04282 | SOIL | 8290 | 678HXF | 0.000000196 | DJPB | U-7 | UGG |



ORIGINAL

# DATA QUALIFIER SUMMARY TABLE
# FOR SWMU 6

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AWKZ | OBS-95-36 | 026 UC04282 | SOIL | 8290 | OCDF | 0.00000380 | DJPB | U-7 | UGG |
| AWKZ | OBS-95-36 | 026 UC04282 | SOIL | 8290 | TCDF | 0.000000619 | DJPB | U-7 | UGG |
| AWKZ | OBS-95-37 | 037 UC04324 | SOIL | 8290 | 678HPF | 0.00000791 | DB | U-7 | UGG |
| AWKZ | OBS-95-37 | 037 UC04324 | SOIL | 8290 | 789HPF | 0.00000153 | DJPB | U-7 | UGG |
| AWBP | OBS-95-38 | 011 UC04337 | SOIL | JS12 | CR | 17.7 | D | J-21 | UGG |
| AWBQ | OBS-95-38 | 011 UC04337 | SOIL | B9 | AS | 6.27 | D | J-5B | UGG |
| AWBS | OBS-95-38 | 012 UC04337 | SOIL | 7841 | TL | LT 1.00 | D | UJ-10 | UGG |
| AWBU | OBS-95-38 | 011 UC04337 | SOIL | Y9 | HG | LT 0.0500 | D | UJ-7 | UGG |
| AWBP | OBS-95-39 | 014 UC04343 | SOIL | JS12 | CR | 16.9 | | J-21 | UGG |
| AWBQ | OBS-95-39 | 014 UC04343 | SOIL | B9 | AS | 5.57 | | J-5B | UGG |
| AWBS | OBS-95-39 | 015 UC04343 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AWBU | OBS-95-39 | 014 UC04343 | SOIL | Y9 | HG | LT 0.0500 | | UJ-7 | UGG |
| AWBP | OBS-95-40 | 012 UC04339 | SOIL | JS12 | CR | 19.1 | | J-21 | UGG |
| AWBQ | OBS-95-40 | 012 UC04339 | SOIL | B9 | AS | 6.00 | | J-5B | UGG |
| AWBS | OBS-95-40 | 013 UC04339 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AWBU | OBS-95-40 | 012 UC04339 | SOIL | Y9 | HG | LT 0.0500 | | UJ-7 | UGG |
| AWBP | OBS-95-41 | 013 UC04341 | SOIL | JS12 | CR | 17.1 | | J-21 | UGG |
| AWBQ | OBS-95-41 | 013 UC04341 | SOIL | B9 | AS | 5.90 | | J-5B | UGG |
| AWBS | OBS-95-41 | 014 UC04341 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AWBU | OBS-95-41 | 013 UC04341 | SOIL | Y9 | HG | LT 0.0500 | | UJ-7 | UGG |

# DATA QUALIFIER SUMMARY TABLE
# FOR BACKGROUND AND FIELD BLANK SAMPLES

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AVZD | 3ER-67 | 005 UC04285 | WATER | SD25 | SE | LT 2.53 | | UJ-10 | UGL |
| AVZD | 3ER-68 | 006 UC04286 | WATER | SD25 | SE | LT 2.53 | | UJ-10 | UGL |
| AVZD | 3ER-69 | 007 UC04349 | WATER | SD25 | SE | LT 2.53 | | UJ-10 | UGL |
| AVZD | 3FB-P | 008 UC04353 | WATER | SD25 | SE | LT 2.53 | | UJ-10 | UGL |
| AWKZ | BKS-95-06 | 039 UC04345 | SOIL | 8290 | 678HPD | 0.00000655 | B | U-7 | UGG |
| AWKZ | BKS-95-06 | 039 UC04345 | SOIL | 8290 | 678HPF | 0.0000221 | B | U-7 | UGG |
| AWKZ | BKS-95-06 | 039 UC04345 | SOIL | 8290 | 78HXDF | 0.00000762 | B | U-7 | UGG |
| AWKZ | BKS-95-06 | 039 UC04345 | SOIL | 8290 | OCDD | 0.0000301 | B | U-7 | UGG |
| AWKZ | BKS-95-07 | 040 UC04346 | SOIL | 8290 | 678HPF | 0.0000221 | B | U-7 | UGG |
| AWKZ | BKS-95-07 | 040 UC04346 | SOIL | 8290 | 78HXDF | 0.00000457 | B | U-7 | UGG |
| AWKZ | BKS-95-08 | 041 UC04347 | SOIL | 8290 | 678HPD | 0.00000352 | B | U-7 | UGG |
| AWKZ | BKS-95-08 | 041 UC04347 | SOIL | 8290 | 678HPF | 0.00000511 | B | U-7 | UGG |
| AWKZ | BKS-95-08 | 041 UC04347 | SOIL | 8290 | OCDD | 0.0000266 | B | U-7 | UGG |
| AWKZ | BKS-95-09 | 042 UC04348 | SOIL | 8290 | 678HPD | 0.00000320 | B | U-7 | UGG |
| AWKZ | BKS-95-09 | 042 UC04348 | SOIL | 8290 | 678HPF | 0.00000333 | B | U-7 | UGG |
| AWKZ | BKS-95-09 | 042 UC04348 | SOIL | 8290 | 78HXDF | 0.00000166 | JPB | U-7 | UGG |
| AWKZ | BKS-95-09 | 042 UC04348 | SOIL | 8290 | OCDD | 0.0000186 | B | U-7 | UGG |

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Environmental Science and Chemistry

# DATA QUALITY ASSESSMENT

## TOOELE ARMY DEPOT—NORTH AREA
## DAAA15-90-D-0007, TASK 0003

## SWMU 8
## SMALL ARMS FIRING RANGE

**Prepared for:**

RUST Environment and Infrastructure
743 Horizon Court, Suite 240
Grand Junction, Colorado 81506

**Prepared by:**

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EcoChem Project Number: 8901-30

December 20, 1994

**Approved for Release:**

Jeri A. Hoyt for

Mark T. Brindle
Project Manager
**EcoChem, Inc.**

# DATA QUALITY ASSESSMENT SUMMARY

***Basis for Data Quality Assessment***

This report summarizes the results of data quality assessment performed on soil samples and associated laboratory quality control samples. Refer to the Sample Index for sample identifications.

Samples were analyzed for the following parameters and were reviewed by the chemists listed below:

| SWMU | Test | Lot | Method (Matrix) | Primary | Secondary |
|---|---|---|---|---|---|
| SWMU 8 | Mercury | ANGK | Y9 (SOIL) | Jason Ai | W. Jaime Bruton |

Data assessment was based on the QC criteria recommended in the above listed method; the *Tooele Army Depot—North Area QC Plan*; *USEPA Functional Guidelines for Organic and Inorganic Data Review*; and *USATHAMA (USAEC) Quality Assurance Program (PAM 11-41)*.

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are assigned a J or UJ, data may be used for site evaluation and risk assessment purposes, but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R, the data are to be rejected and should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the above-referenced documents and method.

Copies of the qualified transfer files are included as **APPENDIX A**. Each lot report also contains a summary table of qualified results. Data Quality Assessment Worksheets, Communication, and Corrective Action Records have been placed in labeled envelopes with the original data packages.

## DATA VALIDATION QUALIFIER CODES

| | |
|---|---|
| U | The material was analyzed for, but was not detected. The associated numerical value is the certified reporting limit. |
| R | Unreliable result. Data should not be used. Analyte may or may not be present in the sample. |
| J | Analyte present. Reported value is an estimate that may not be accurate or precise. Data Quality Assessment Report should be consulted for reason. |

| | |
|---|---|
| UJ | Not detected. Detection limit may be inaccurate or imprecise and may not be equal to certified reporting limit. Data Quality Assessment Report should be consulted for reason. |

## SITE DATA QUALITY SUMMARY: *SWMU 8—SMALL ARMS FIRING RANGE*

### *Mercury*

One lot of mercury analyses of soil samples using Method Y9 was reviewed. All results are acceptable for use without qualification.

# DATA QUALITY ASSESSMENT
# MERCURY—CVAA ANALYSES: SOIL
# METHOD: Y9
# LOT NO.: ANGK

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot ANGK were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package. Control charts, DataChem QA status report and USAEC control chart response were provided in this data package. Final sample results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and all laboratory notebook pages and strip chart printouts were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

Field chain-of-custody (COC) forms for Lot ANGK were completed properly, and all samples listed in the COC forms were analyzed. All forms were signed and dated. The field chain-of-custody forms indicated no problems with sample receipt conditions.

Laboratory chain-of-custody forms were present and complete for Lot ANGK samples. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory chain-of-custody forms. A minimum of 10% of the field ID and laboratory ID were tracked from the chain-of-custody forms, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. FIELD QC SUMMARY

Three sets of field duplicate samples (SAS-94-04/SAS-94-21, SAS-94-09/SAS-94-22, and SAS-94-19/SAS-94-23) were analyzed and reviewed. Mercury was not detected in these samples. The relative percent difference (RPD) values were not calculable.

No field blanks were submitted with Lot ANGK samples.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All samples were analyzed within the method specified holding time of 28 days from date of collection to analysis.

**2.0 Instrument Calibration:** ACCEPTABLE/All criteria met.

For the initial calibration, the minimum number of standards were used, which met the method criterion. The linearity requirement of $r \geq$ to 0.995 was met. The laboratory analyzed a continuing calibration standard every ten samples as required. All percent recovery (%R) values of initial and continuing calibration verifications were within the control limit of 80% to 120%.

**3.0 Blank Analyses:** ACCEPTABLE/All criteria met.

Calibration blanks (ICB and CCB) and preparation blanks (PB) were evaluated for possible contamination effects. Calibration blanks were also evaluated for causing possible low bias in associated sample data. Continuing calibration blanks were analyzed after each continuing calibration as required. Preparation blanks were prepared with each digestion batch as required. No target analytes were detected in the blanks at or above the reporting limits.

**4.0 Matrix Spike/Matrix Spike Duplicate Sample Analyses:** ACCEPTABLE/All criteria met.

Two sets of MS/MSD analyses were performed on Samples SAS-94-01 and SAS-94-21. The (%R) values ranged from 106.8% to 116.4%, which was within the Functional Guidelines (2/94) control limits of 75% to 125%. The (RPD) values for these two sets of MS/MSD analyses were 7% and 1%, respectively, which were within the control limit of 35%.

**5.0 High Spike and Low Spike Analyses:** ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

Two high spike and one low spike analyses were performed with each sample lot. The %R values of both high spike analyses were 109.4% and 113.0%, which were within the control chart limits of 94.9% to 128.3%. The percent recovery of the low spike analysis was 91%, which was slightly below the control chart lower limit of 102.2%. Since these percent recoveries were within the control limits specified in the Functional Guidelines (2/94), no action was taken.

**6.0 Certified Reporting Limits (CRL):** ACCEPTABLE/All criteria met.

The reporting limits for mercury were reviewed. All reporting limits matched the certified reporting limits listed in the laboratory SOP.

**7.0 Calculations:** ACCEPTABLE/All criteria met.

No transcription errors or calculation errors were noted in the sample result data.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method. No technical deficiencies were found.

The USAEC Chemistry Branch Response indicates that Lot ANGK is acceptable. The laboratory noted high spike recovery values trending below the mean and low spike recovery values below the lower control chart limit. No qualification is recommended based on these observations.

The data, as reported, are acceptable for use.

EcoChem, Inc.

Environmental Science and Chemistry

# DATA QUALITY ASSESSMENT

## TEAD-N Remedial Investigation Phase II
## DAAA15-90-D-0007, Task Order 0003

## SWMU 8
## Small Arms Firing Range

**Prepared for:**

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**Prepared by:**

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EcoChem Project Number: C8909-20

February 9, 1996

**Approved for Release:**



Eric Strout
Sr. Project Chemist
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# DATA QUALITY ASSESSMENT SUMMARY

***Basis for Data Quality Assessment***

This report summarizes the results of data quality assessment performed on the data for soil and water samples and associated laboratory quality control sample analyses.

Samples were analyzed for the following parameters and were reviewed by the chemists listed below:

| SWMU | Test | Lot | Method (Matrix) | Validation Level | Primary | Secondary |
|---|---|---|---|---|---|---|
| SWMU 8 | ICP Metals | AVZA | SS12 (WATER) | Tier 1 | Bob Olsiewski | Jason Ai |
| | ICP Metals | AVXW | JS12 (SOIL) | Tier 1 | Bob Olsiewski | Jason Ai |
| | Arsenic | AVZB | AX8 (WATER) | Tier 1 | Jason Ai | Bob Olsiewski |
| | Arsenic | AVXX | B9 (SOIL) | Tier 1 | Jason Ai | Bob Olsiewski |
| | Antimony | AVZG | 7041 (WATER) | Tier 1 | Jason Ai | Bob Olsiewski |
| | Antimony | AVYB | 7041 (SOIL) | Tier 1 | Jason Ai | Bob Olsiewski |
| | Antimony | AVYC | 7041 (SOIL) | Tier 1 | Jason Ai | Bob Olsiewski |
| | Selenium | AVZD | SD25 (WATER) | Tier 1 | Jason Ai | Bob Olsiewski |
| | Selenium | AVXY | JD20 (SOIL) | Tier 1 | Jason Ai | Bob Olsiewski |
| | Thallium | AVZF | 7841 (WATER) | Tier 1 | Jason Ai | Bob Olsiewski |
| | Thallium | AVXZ | 7841 (SOIL) | Tier 1 | Jason Ai | Bob Olsiewski |
| | Thallium | AVYA | 7841 (SOIL) | Tier 1 | Jason Ai | Bob Olsiewski |
| | Mercury | AVUQ | CC8 (WATER) | Tier 1 | Jason Ai | Bob Olsiewski |
| | Mercury | AVYQ | Y9 (SOIL) | Tier 1 | Jason Ai | Bob Olsiewski |

Data assessment was based on the QC criteria recommended in the above listed methods; the *Tooele Army Depot—North Area QC Plan*; *USEPA National Functional Guidelines for Inorganic Data Review* (2/94); and *USATHAMA (USAEC) Quality Assurance Program (PAM 11-41).*

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are assigned a J or UJ, data may be used for site evaluation and risk assessment purposes, but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R, the data are to be rejected and should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the above-referenced documents and method.

A summary table of all qualified data for SWMU-8 is included as **APPENDIX A.** Each lot report also contains a summary table of qualified results. Data qualifiers are defined below. A numerical code has been added to each data qualifier to indicate the reason for the qualifier. A list of all of the reason codes is included as **APPENDIX B.** Data Quality Assessment Worksheets, Communication, and Corrective Action Records (if any) have been placed in labeled envelopes with the original data packages.

ORIGINAL

## DATA VALIDATION QUALIFIER CODES

| | |
|---|---|
| U | The material was analyzed for, but was not detected. The associated numerical value is the certified reporting limit. |
| R | Unreliable result. Data should not be used. Analyte may or may not be present in the sample. |
| J | Analyte present. Reported value is an estimate that may not be accurate or precise. Data Quality Assessment Report should be consulted for reason. |
| UJ | Not detected. Detection limit may be inaccurate or imprecise and may not be equal to certified reporting limit. Data Quality Assessment Report should be consulted for reason. |

## SITE DATA QUALITY SUMMARY

### ICP Metals

One lot of ICP-metal analyses of soil samples using Method JS12 was reviewed. The precision and accuracy were acceptable, based on the percent recovery values for spiked analytes and the relative percent difference values for duplicate analyses. Matrix spike/matrix spike duplicate (MS/MSD) analyses were not submitted, although standard spikes (laboratory control samples) were analyzed. No qualifiers were issued to any of the soil samples.

One lot of ICP-metal analyses of water samples using Method SS12 was reviewed. The water samples consisted of field blanks and equipment rinsate blanks associated with the soil samples. Calcium was detected in the blanks. No action was taken, as it was not possible to directly associate a field QC blank with a given soil sample. The precision and accuracy were acceptable for this lot, based on the percent recovery values for spiked analytes and the relative percent difference values for duplicate analyses. No qualifiers were issued to any of the water samples.

### Arsenic

One lot of arsenic analyses of soil samples using Method B9 was reviewed. The precision and accuracy were acceptable, based on the percent recovery values for spiked analytes and the relative percent difference values for duplicate analyses. No qualifiers were issued.

One lot of arsenic analyses of water samples using Method AX8 was reviewed. The water samples consisted of field blanks and equipment rinsate blanks associated with the soil samples. Arsenic was not detected in the blanks. The precision and accuracy were acceptable for this lot, based on the percent recovery values for spiked analytes and the relative percent difference

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values for duplicate analyses. Matrix spike/matrix spike duplicate (MS/MSD) analyses were not submitted, although standard spikes (laboratory control samples) were analyzed. No qualifiers were issued to any of the water samples.

### Antimony

Two lots of antimony analyses of soil samples using USEPA Method 7041 were reviewed. The precision and accuracy were acceptable for these lots, based on the percent recovery values for most spiked analytes and the relative percent difference values for duplicate analyses. All antimony detection limits were estimated (UJ) in lots AVYB and AVYC due to low percent recovery values in the associated matrix spike/matrix spike duplicate analyses. No other qualifiers were issued.

One lot of antimony analyses of water samples using USEPA Method 7041 was reviewed. The water samples consisted of field blanks and equipment rinsate blanks associated with the soil samples. Antimony was not detected in the blanks. The precision and accuracy were acceptable for this lot, based on the percent recovery values for spiked analytes and the relative percent difference values for duplicate analyses. No qualifiers were issued to any of the water samples.

### Selenium

One lot of selenium analyses of soil samples using Method JD20 was reviewed. The precision and accuracy were acceptable, based on the percent recovery values for most spiked analytes and the relative percent difference values for duplicate analyses. All selenium results were estimated in lot AVXY due to low percent recovery values in the associated matrix spike/matrix spike duplicate (MS/MSD) analyses. No other qualifiers were issued.

One lot of selenium analyses of water samples using Method SD25 was reviewed. The water samples consisted of field blanks and equipment rinsate blanks associated with the soil samples. Selenium was not detected in the blanks. The precision and accuracy were acceptable for this lot, based on most of the percent recovery values for spiked analytes and the relative percent difference values for duplicate analyses. No MS/MSD analyses were submitted. All selenium results were estimated in lot AVZD due to low percent recovery values in the low spike analysis. No other qualifiers were issued to any of the water samples.

### Thallium

Two lots of thallium analyses of soil samples using USEPA Method 7841 were reviewed. The precision and accuracy were acceptable for these lots, based on the percent recovery values for most spiked analytes and the relative percent difference values for duplicate analyses. All thallium detection limits were estimated (UJ) in lot AVYA due to low percent recovery values in the associated laboratory control sample analyses. No other qualifiers were issued.

One lot of thallium analyses of water samples using USEPA Method 7841 was reviewed. The water samples consisted of field blanks and equipment rinsate blanks associated with the soil samples. Thallium was not detected in the blanks. The precision and accuracy were acceptable

ORIGINAL

for this lot, based on the percent recovery values for spiked analytes and the relative percent difference values for duplicate analyses. No qualifiers were issued to any of the water samples.

**Mercury**

One lot of mercury analyses of soil samples using Method Y9 was reviewed. The precision and accuracy were acceptable for these lots, based on the percent recovery values for most spiked analytes and the relative percent difference values for duplicate analyses. The positive mercury results in Lot AVYQ were estimated (J) due to a high percent recovery values in the associated low spike analyses. No other qualifiers were issued.

One lot of mercury analyses of water samples using Method CC8 was reviewed. The water samples consisted of field blanks and equipment rinsate blanks associated with the soil samples. The precision and accuracy were acceptable for this lot, based on the percent recovery values for spiked analytes and the relative percent difference values for duplicate analyses. No MS/MSD analyses were submitted. No qualifiers were issued to any of the water samples.

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# TIER I DATA QUALITY ASSESSMENT
# METALS-ICP ANALYSES: WATER
# METHOD: SS12
# LOT: AVZA

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Analytical data for 3 equipment blank samples and one field blank sample were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1991). The samples were collected on November 28 and 29, 1995, and were analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Technical Holding Times
Instrument Calibration
* Blank Analyses (Method and Field)
* Matrix Spike Sample Analyses
* Low Spike and High Spike Analyses
* Duplicate Sample Analyses
Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Blank Analyses (Field)

Three equipment blanks and one field blank were submitted for this lot. Calcium was detected in these blanks at concentrations ranging from 107 µg/L and 243 µg/L. Since samples associated with these equipment or field blanks were not submitted with this sample lot, no action was taken.

### Matrix Spike Sample Analyses

No matrix spike/matrix spike duplicate (MS/MSD) analyses were performed for this lot. No action was taken on this basis.

### Low Spike and High Spike Analyses

One low spike and two high spike analyses were performed with this sample lot. Percent recovery (%R) values were evaluated based on the control chart upper and lower limits.

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The barium %R value in the low spike sample was greater than the laboratory control limits, and the %R values for cadmium and lead in the low spike sample were less the laboratory control limits. Only the copper %R values in the high spike samples were within the laboratory control limits; all other analyte %R values in the high spike samples were less than the laboratory control limits. Since all of these %R values were within the control limits established by *National Functional Guidelines*, no qualifiers were assigned.

## Duplicate Sample Analyses

No laboratory duplicate analyses were performed for this lot. No action was taken on this basis.

## Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the relative percent difference (RPD) values of the high spike analyses being within QC criteria. Accuracy was acceptable, as demonstrated by the low spike and high spike %R values being within control limits, except where noted.

All data, as reported, are acceptable for use.

# TIER I DATA QUALITY ASSESSMENT
# METALS-ICP ANALYSES: SOIL
# METHOD: JS12
# LOT: AVXW

Analytical data for 30 soil samples and three field duplicate samples were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1991). The samples were collected on November 27 and 28, 1995 and were analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

- Technical Holding Times
- Instrument Calibration
- * Blank Analyses
- Matrix Spike Sample Analyses
- * Low Spike and High Spike Analyses
- * Duplicate Sample Analyses
- * Field Duplicate Sample Analyses
- Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Blank Analyses

Aluminum, barium, calcium, iron, potassium, magnesium, manganese, vanadium, and zinc were detected in one QC blank (BL-104712-1). Since this soil blank sample (from RMA soil, R3D-425) was unwashed soil, no qualifications of associated sample data were recommended.

### Low Spike and High Spike Analyses

One low spike and two high spike analyses were performed with this sample lot. Percent recovery (%R) values were evaluated based on the control chart upper and lower limits.

The beryllium %R value in the laboratory control sample LCS QC104712-1 was greater than the laboratory control limits of 95.6% to 104.8% at 105.0%. The lead %R value in the low spike sample was less than the control limits of 96.1% to 117.9% at 95.3%. The beryllium %R value in the first high spike sample was greater than the control limits of 95.0% to 99.8% at 99.9%. The beryllium %R value in the second high spike sample was greater than the control limits of 95.0% to 99.8% at 100.0%. The copper %R value in the second high spike sample was greater than the

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control limits of 96.0% to 101.2% at 102%. Since all of the above %R values were within the control limits established by *National Functional Guidelines*, no qualifiers were assigned.

## Duplicate Sample Analyses

No laboratory sample duplicate analyses were performed for this lot. No action was taken on this basis.

## Field Duplicate Sample Analyses

The calcium relative percent difference (RPD) value (72.3%) for the field duplicate pair SAB-95-10B/SAB-95-10B FD was greater than the control limit of 50%. No qualifiers were assigned on this basis.

## Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the QC criteria-compliant RPD values of the MS/MSD analyses. Accuracy was acceptable, as demonstrated by the MS/MSD and Low/High Spike %R values being within control limits, except where noted.

All data, as reported, are acceptable for use.

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# Laboratory and Field Duplicate Report

**SDG:** AVXW
**Method Group:**
**Analytical Batch ID:** AVXW
**Matrix:** SOIL

**Associated Field Samples**

SAB-95-01A , SAB-95-01B , SAB-95-02A , SAB-95-02B , SAB-95-03A , SAB-95-03B , SAB-95-04A , SAB-95-04B , SAB-95-05A , SAB-95-05B , SAB-95-06A , SAB-95-06B , SAB-95-07A , SAB-95-07B , SAB-95-08A , SAB-95-08B , SAB-95-09A , SAB-95-09B , SAB-95-10A , SAB-95-10A (FD), SAB-95-10B , SAB-95-10B (FD), SAS-95-01 , SAS-95-02 , SAS-95-03 , SAS-95-04 , SAS-95-05 , SAS-95-06 , SAS-95-07 , SAS-95-08 , SAS-95-09 , SAS-95-10 , SAS-95-10 (FD)

| Quality Control Samples | Reporting Limit | Results | | Accuracy | | Control Limit | Qualification Notes |
|---|---|---|---|---|---|---|---|
| | | Sample | Sample Dup | RPD | Difference | | |
| **Field Duplicate Set: Samples 028 UC04251, 031 UC04254** | | | | | | | |
| JS12 (UGG) | | | | | | | |
| AL | 0.00 | 12100 | 15600 | 24.9 | | 50.0 | |
| BA | 0.00 | 136 | 170 | 21.9 | | 50.0 | |
| BE | 0.458 | 0.458U | 0.668 | | 0.210 | +/-2*RL | |
| CA | 0.00 | 24700 | 31100 | 23.2 | | 50.0 | |
| CO | 0.00 | 5.36 | 6.12 | 13.2 | | 50.0 | |
| CR | 0.00 | 17.6 | 21.6 | 20.4 | | 50.0 | |
| CU | 0.00 | 13.4 | 16.2 | 18.9 | | 50.0 | |
| FE | 0.00 | 15200 | 18800 | 20.9 | | 50.0 | |
| K | 0.00 | 3080 | 3810 | 21.3 | | 50.0 | |
| MG | 0.00 | 9020 | 11200 | 21.3 | | 50.0 | |
| MN | 0.00 | 321 | 389 | 19.2 | | 50.0 | |
| NA | 0.00 | 421 | 497 | 16.7 | | 50.0 | |
| NI | 0.00 | 11.8 | 15.5 | 26.9 | | 50.0 | |
| PB | 0.00 | 17.3 | 20.5 | 17.2 | | 50.0 | |
| V | 0.00 | 26.5 | 32.5 | 20.5 | | 50.0 | |
| ZN | 0.00 | 54.8 | 69.3 | 23.3 | | 50.0 | |
| **Field Duplicate Set: Samples 036 UC04257, 038 UC04259** | | | | | | | |
| JS12 (UGG) | | | | | | | |
| AL | 0.00 | 11200 | 11800D | 4.9 | | 50.0 | |
| BA | 0.00 | 138 | 140D | 1.1 | | 50.0 | |
| BE | 0.00 | 0.507 | 0.478D | 5.9 | | 50.0 | |
| CA | 0.00 | 33100 | 34400D | 3.8 | | 50.0 | |
| CO | 0.00 | 4.92 | 5.23D | 6.2 | | 50.0 | |
| CR | 0.00 | 19.6 | 20.7D | 5.6 | | 50.0 | |
| CU | 0.00 | 11.9 | 11.8D | 1.5 | | 50.0 | |
| FE | 0.00 | 16400 | 16500D | 1.0 | | 50.0 | |
| K | 0.00 | 2520 | 2610D | 3.6 | | 50.0 | |

# Laboratory and Field Duplicate Report

**SDG:** AVXW
**Method Group:**
**Analytical Batch ID:** AVXW
**Matrix:** SOIL

**Associated Field Samples**

SAB-95-01A , SAB-95-01B , SAB-95-02A , SAB-95-02B , SAB-95-03A , SAB-95-03B , SAB-95-04A , SAB-95-04B , SAB-95-05A , SAB-95-05B , SAB-95-06A , SAB-95-06B , SAB-95-07A , SAB-95-07B , SAB-95-08A , SAB-95-08B , SAB-95-09A , SAB-95-09B , SAB-95-10A , SAB-95-10A (FD), SAB-95-10B , SAB-95-10B (FD), SAS-95-01 , SAS-95-02 , SAS-95-03 , SAS-95-04 , SAS-95-05 , SAS-95-06 , SAS-95-07 , SAS-95-08 , SAS-95-09 , SAS-95-10 , SAS-95-10 (FD)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Field Duplicate Set: Samples 036 UC04257, 038 UC04259** | | | | | | | |
| MG | 0.00 | 9140 | 9500D | 3.8 | | 50.0 | |
| MN | 0.00 | 314 | 313D | 0.4 | | 50.0 | |
| NA | 0.00 | 426 | 414D | 3.0 | | 50.0 | |
| NI | 0.00 | 12.7 | 12.1D | 4.8 | | 50.0 | |
| PB | 0.00 | 16.1 | 12.7D | 23.2 | | 50.0 | |
| V | 0.00 | 29.8 | 31.4D | 5.2 | | 50.0 | |
| ZN | 0.00 | 52.1 | 54.6D | 4.7 | | 50.0 | |
| **Field Duplicate Set: Samples 037 UC04258, 039 UC04260** | | | | | | | |
| JS12 (UGG) | | | | | | | |
| AL | 0.00 | 10400 | 11300D | 8.3 | | 50.0 | |
| BA | 0.00 | 137 | 145D | 5.3 | | 50.0 | |
| BE | 0.450 | 0.450U | 0.494D | | 0.0437 | +/-2*RL | |
| CA | 0.00 | 66400 | 31100D | 72.3* | | 50.0 | |
| CO | 0.00 | 5.30 | 6.87D | 25.8 | | 50.0 | |
| CR | 0.00 | 17.6 | 19.8D | 11.9 | | 50.0 | |
| CU | 0.00 | 10.5 | 11.4D | 7.8 | | 50.0 | |
| FE | 0.00 | 14800 | 15700D | 6.3 | | 50.0 | |
| K | 0.00 | 2490 | 2620D | 5.1 | | 50.0 | |
| MG | 0.00 | 8950 | 8590D | 4.1 | | 50.0 | |
| MN | 0.00 | 287 | 290D | 1.2 | | 50.0 | |
| NA | 0.00 | 409 | 435D | 6.1 | | 50.0 | |
| NI | 0.00 | 12.6 | 13.0D | 2.6 | | 50.0 | |
| PB | 0.00 | 14.4 | 14.7D | 1.6 | | 50.0 | |
| V | 0.00 | 26.7 | 28.0D | 4.7 | | 50.0 | |
| ZN | 0.00 | 52.7 | 51.9D | 1.5 | | 50.0 | |

# TIER I DATA QUALITY ASSESSMENT
# ARSENIC ANALYSES: WATER
# METHOD: AX8
# LOT: AVZB

Analytical data for four equipment blanks were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1991). The samples were collected on November 28 and 29, 1995, and were analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

- Technical Holding Times
- Instrument Calibration
- Blank Analyses
- * Matrix Spike Sample Analyses
- Low Spike and High Spike Analyses
- * Duplicate Sample Analyses (Laboratory and Field)
- Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Matrix Spike Sample Analyses

No matrix spike/matrix spike duplicate (MS/MSD) analyses were performed for this lot. No action was taken on this basis.

### Duplicate Sample Analyses

No laboratory and field duplicate analyses were performed for this lot. No action was taken on this basis.

### Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the relative percent difference (RPD) values of the high spike analyses being within QC criteria. Accuracy was acceptable, as demonstrated by the low spike and high spike percent recovery (%R) values being within control limits. All data, as reported, are acceptable for use.

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# TIER I DATA QUALITY ASSESSMENT
# ARSENIC ANALYSES: SOIL
# METHOD: B9
# LOT: AVXX

Analytical data for 33 soil samples were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1991). The samples were collected on November 27 and 28, 1995, and were analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Technical Holding Times
Instrument Calibration
Blank Analyses
* Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses
* Low Spike and High Spike Analyses
* Duplicate Sample Analyses (Laboratory and Field)
Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Matrix Spike/Matrix Spike Duplicate Analyses

The laboratory performed matrix spike/matrix spike duplicate (MS/MSD) analyses on Sample SAS-95-11. The MSD percent recovery (%R) value of 6.0% was less than the lower control limit of 75%. Since the MS %R value of 120.4% and the relative percent difference (RPD) value of 34.1% were within the control limits, and since the high and low spike %R values were also acceptable, no qualifiers were assigned on this basis.

### Low Spike and High Spike Analyses

One low spike and two high spike analyses were performed with this sample lot. The low/high spike %R values were evaluated based on the control chart upper and lower limits. The low spike %R value of 113.0% was greater than the upper control limit of 110.4%. As this low spike %R value was within the *National Functional Guidelines* control limits, no qualifiers were assigned. The high spike %R values of 101.2% and 99.6% were within the control limits.

ORIGINAL

## Duplicate Sample Analyses

No laboratory duplicate analyses were performed for this Lot. No action was taken on this basis.

## Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the RPD values of the high spike and MS/MSD analyses being within QC criteria. Accuracy was acceptable, as demonstrated by the low and high spike and MS/MSD %R values being within control limits, except where noted above.

All data, as reported, are acceptable for use.

FINAL

# TIER I DATA QUALITY ASSESSMENT
# ANTIMONY ANALYSES: WATER
# METHOD: SW-7041
# LOT: AVZG

Analytical data for four equipment blanks were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1991). The samples were collected on November 28 and 29, 1995, and were analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Technical Holding Times
Instrument Calibration
Blank Analyses
Matrix Spike/Matrix Spike Duplicate (MS/MSD) Sample Analyses
Laboratory Control Sample (LCS) Analyses
* Duplicate Sample Analyses (Laboratory and Field)
Graphite Furnace QC Analyses
Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Duplicate Sample Analyses

No field duplicate samples were submitted for this lot. No action was taken on this basis.

### Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the relative percent difference (RPD) values of the matrix spike/matrix spike duplicate (MS/MSD) analyses being within QC criteria. Accuracy was acceptable, as demonstrated by the laboratory control sample and MS/MSD %R values being within control limits.

All data, as reported, are acceptable for use.

ORIGINAL

| Sdg | Sampid | Fieldid | Labid | Anlmethod | Qctype1 |
|---|---|---|---|---|---|
| AVRO | ARS-95-10 | AFI7000P | 030 UC04455M | LW23 | MS |
| AVRO | ARS-95-10 | AFI7000P | 031 UC04455M | LW23 | MSD |
| AVRP | ARS-95-10 | AFI7000P | 021 UC04455M | ECNS | MS |
| AVRP | ARS-95-10 | AFI7000P | 022 UC04455M | ECNS | MSD |
| AVRQ | ARS-95-10 | AFI7000P | 021 UC04455M | LW27 | MS |
| AVRQ | ARS-95-10 | AFI7000P | 022 UC04455M | LW27 | MSD |
| AVRR | ARS-95-10 | AFI7000P | 021 UC04455M | LW30 | MS |
| AVRR | ARS-95-10 | AFI7000P | 022 UC04455M | LW30 | MSD |
| AVRS | 3ER-70 | AJC70000 | 004 UC04464M | ECNW | MS |
| AVRS | 3ER-70 | AJC70000 | 005 UC04464M | ECNW | MSD |
| AVSY | ARS-95-10 | AFP7000P | 018 UC04457M | LM25 | MS |
| AVSY | ARS-95-10 | AFP7000P | 019 UC04457M | LM25 | MSD |
| AVTB | ARS-95-10 | AFH7000P | 021 UC04454M | KY15 | MS |
| AVTB | ARS-95-10 | AFH7000P | 022 UC04454M | KY15 | MSD |
| AVVA | ARS-95-10 | AFH7000P | 021 UC04454M | KF17 | MS |
| AVVA | ARS-95-10 | AFH7000P | 022 UC04454M | KF17 | MSD |
| AVVS | 3ER-70 | AIU70000 | 006 UC04459M | UW29 | MS |
| AVVS | 3ER-70 | AIU70000 | 007 UC04459M | UW29 | MSD |
| AVVU | ARS-95-10 | AFH7000P | 021 UC04454M | LF05 | MS |
| AVVU | ARS-95-10 | AFH7000P | 022 UC04454M | LF05 | MSD |
| AVXW | SAS-95-10 | AFV6800P | 032 UC04254M | JS12 | MS |
| AVXW | SAS-95-10 | AFV6800P | 033 UC04254M | JS12 | MSD |
| AVXX | SAS-95-10 | AFV6800P | 032 UC04254M | B9 | MS |
| AVXX | SAS-95-10 | AFV6800P | 033 UC04254M | B9 | MSD |
| AVXY | SAS-95-10 | AFV6800P | 032 UC04254M | JD20 | MS |
| AVXY | SAS-95-10 | AFV6800P | 033 UC04254M | JD20 | MSD |
| AVXZ | SAB-95-01A | A536700P | 004 UC04228M | 7841 | MS |
| AVXZ | SAB-95-01A | A536700P | 005 UC04228M | 7841 | MSD |
| AVYA | SAS-95-10 | AFV6800P | 015 UC04254M | 7841 | MS |
| AVYA | SAS-95-10 | AFV6800P | 016 UC04254M | 7841 | MSD |
| AVYB | SAB-95-01A | A536700P | 004 UC04228M | 7041 | MS |
| AVYB | SAB-95-01A | A536700P | 005 UC04228M | 7041 | MSD |
| AVYC | SAS-95-10 | AFV6800P | 015 UC04254M | 7041 | MS |
| AVYC | SAS-95-10 | AFV6800P | 016 UC04254M | 7041 | MSD |
| AVYQ | SAS-95-10 | AFV6800P | 032 UC04254M | Y9 | MS |
| AVYQ | SAS-95-10 | AFV6800P | 033 UC04254M | Y9 | MSD |
| AVZF | 3ER-67 | AHT6700P | 004 UC04285M | 7841 | MS |
| AVZF | 3ER-67 | AHT6700P | 005 UC04285M | 7841 | MSD |
| AVZG | 3ER-68 | AIF6800P | 006 UC04286M | 7041 | MS |
| AVZG | 3ER-68 | AIF6800P | 007 UC04286M | 7041 | MSD |
| AWAX | ARS-95-10 | AFL7000P | 021 UC04456M | KT07 | MS |
| AWAX | ARS-95-10 | AFL7000P | 022 UC04456M | KT07 | MSD |
| AWBI | ARS-95-10 | AFL7000P | 019 UC04456M | PRCL | MS |
| AWBI | ARS-95-10 | AFL7000P | 020 UC04456M | PRCL | MSD |
| AWBS | OBS-95-29 | AQD6900P | 006 UC04325M | 7841 | MSD |
| AWBS | OBS-95-29 | AQD9600P | 005 UC04325M | 7841 | MS |
| AWBT | OBS-95-29 | AQD6900P | 005 UC04325M | 7041 | MS |
| AWBT | OBS-95-29 | AQD6900P | 006 UC04325M | 7041 | MSD |
| AWHS | OBP-95-04C | A426600P | 014 UC04182M | 8290 | MS |
| AWHS | OBP-95-04C | A426600P | 015 UC04182M | 8290 | MSD |
| AWKZ | OBS-95-04 | A046800P | 007 UC04264M | 8290 | MS |
| AWKZ | OBS-95-04 | A046800P | 008 UC04264M | 8290 | MSD |
| AWKZ | OBS-95-20 | AQF6800P | 027 UC04282M | 8290 | MS |
| AWKZ | OBS-95-20 | AQF6800P | 028 UC04282M | 8290 | MSD |

FINAL

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# QUALITY CONTROL REPORT

AVZG

Form RLIMS65-V1.0
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Page 1

G9609011

Method....: IT-SW-7041
Analyte...: Antimony
Matrix....: WATER

Date Printed....: 12-JAN-1996 09:03
Group Name.....: G9609011
Analyst.....: T. Cherdin 1-12-96
Units.....: ug/L

QC Limit Type...: Full

## Blank Results

| Sample ID | Sample Name | QC Date | Blank Result |
|---|---|---|---|
| S95CL0CJ | BL-104729-1 | 29-DEC-1995 | 1.19 ug/L = 0.119 ug/g. ND. |

## LCS Results

| Sample ID | Sample Name | QC Date | LCS Result | Amount Spiked | Percent Recovery |
|---|---|---|---|---|---|
| S95CL0CK | QC-104729-1 | 29-DEC-1995 | 46.5 ~~46.5~~ | 50.0 | 93.0 |

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## Matrix Spike Results

| Sample ID | Sample Name | QC Date | Sample Result | MS Result | Amount Spiked | Percent Recovery |
|---|---|---|---|---|---|---|
| S95CL0CM | UC 04286MS 3ER-68 | 29-DEC-1995 | -0.570 | 47.5 47.53 | 50.0 | 95.1 |

## Matrix Spike Duplicate Results

| Sample ID | Sample Name | QC Date | MSD Result | Percent Recovery | Relative % Difference |
|---|---|---|---|---|---|
| S95CL0CN | UC 04286MSD 3ER-68 | 29-DEC-1995 | 48.7 48.69 | 97.4 | 2.41 |

## Matrix Duplicate Results

| Sample ID | Sample Name | QC Date | Sample Result | MD Result | Relative % Difference |
|---|---|---|---|---|---|
| S95CL0CL | UC 04285MD 3ER-67 | 29-DEC-1995 | ~~1.63~~ 0.163 ug/g ND | ~~0.380~~ 0.038 ug/g ND | ~~124.~~ NC |

VB 1/15/96

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# TIER I DATA QUALITY ASSESSMENT
# ANTIMONY ANALYSES: SOIL
# METHOD: SW-7041
# LOT: AVYB

Analytical data for 15 soil samples were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1991). The samples were collected on November 27, 1995, and were analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Technical Holding Times
Instrument Calibration
Blank Analyses
* Matrix Spike/Matrix Spike Duplicate (MS/MSD) Sample Analyses
Laboratory Control Sample (LCS) Analyses
Duplicate Sample Analyses (Laboratory and Field)
Graphite Furnace QC Analyses
Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Matrix Spike/Matrix Spike Duplicate Analyses

Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed on Sample OBS-95-11. The percent recovery (%R) values of 70.9% and 63.8%% were less than the lower control limit of 75%. Antimony results in the associated samples were qualified as estimated (UJ-8).

### Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the relative percent difference (RPD) values of the MS/MSD analyses being within QC criteria. Accuracy was acceptable, as demonstrated by the laboratory control sample %R value being within control limits.

Qualification of sample results was required because of low MS/MSD %R values.

All data, as qualified, are acceptable for use.

ORIGINAL

# TIER I DATA QUALITY ASSESSMENT
# ANTIMONY ANALYSES: SOIL
# METHOD: SW-7041
# LOT: AVYC

Analytical data for 18 soil samples were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1991). The samples were collected on November 28, 1995, and were analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Technical Holding Times
Instrument Calibration
Blank Analyses
* Matrix Spike/Matrix Spike Duplicate (MS/MSD) Sample Analyses
Laboratory Control Sample (LCS) Analyses
Duplicate Sample Analyses (Laboratory and Field)
Graphite Furnace QC Analyses
Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Matrix Spike/Matrix Spike Duplicate Analyses

Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed on Sample OBS-95-11. The percent recovery (%R) values of 65.2% and 60.6%% were less than the lower control limit of 75%. Antimony results in the associated samples were qualified as estimated (UJ-8).

### Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the relative percent difference (RPD) values of the MS/MSD analyses being within QC criteria. Accuracy was acceptable, as demonstrated by the laboratory control sample %R value being within control limits.

Qualification of sample results was required because of low MS/MSD %R values.

All data, as qualified, are acceptable for use.

# TIER I DATA QUALITY ASSESSMENT
# SELENIUM ANALYSES: WATER
# METHOD: SD25
# LOT: AVZD

Analytical data for four equipment blanks were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1991). The samples were collected on November 28 and 29, 1995 and were analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

- Technical Holding Times
- Instrument Calibration
- Blank Analyses
- * Matrix Spike Sample Analyses
- * Low spike and High Spike Analyses
- * Duplicate Sample Analyses (Laboratory and Field)
- Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Matrix Spike/Matrix Spike Duplicate Analyses

No matrix spike/matrix spike duplicate (MS/MSD) analyses were performed for this lot. No action was taken on this basis.

### Low Spike and High Spike Analyses

One low spike and two high spike analyses were performed with this sample lot. The low/high spike percent recovery (%R) values were evaluated based on the control chart upper and lower limits. The low spike %R value of 79% was less than the lower control limit of 81.5%. As this low spike %R value was also less than the *National Functional Guidelines* control limits, all selenium results were qualified as estimated (UJ-10). The high spike %R values of 82.1% and 90.3% were within the control limits. The relative percent difference (RPD) value of 9.5% for high spike analyses was greater than the control limit of 8.2%. As this RPD value was less than the *National Functional Guidelines* control limit of 20%, no action was taken.

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## Duplicate Sample Analyses

No laboratory and field duplicate analyses were performed for this lot. No action was taken on this basis.

## Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the RPD values of the high spike analyses being within QC criteria. Accuracy was acceptable, as demonstrated by the high spike %R values being within control limits.

Qualification of sample results was required because of a low spike %R value.

All data, as qualified, are acceptable for use.

ORIGINAL

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# TIER I DATA QUALITY ASSESSMENT
# SELENIUM ANALYSES: SOIL
# METHOD: JD20
# LOT: AVXY

Analytical data for 33 soil samples were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1991). The samples were collected on November 27 and 28, 1995 and were analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

- Technical Holding Times
- Instrument Calibration
- Blank Analyses
- * Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses
- Low spike and High Spike Analyses
- * Duplicate Sample Analyses (Laboratory and Field)
- * Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Matrix Spike/Matrix Spike Duplicate Analyses

The laboratory performed matrix spike/matrix spike duplicate (MS/MSD) analyses on Sample SAS-95-11. The MS and MSD percent recovery (%R) values of 51.0% and 48.2% were less than the lower control limit of 75%. Selenium results in the associated samples were qualified as estimated (UJ-8/J-8). The relative percent difference (RPD) value of 5.6% was within the control limit.

### Duplicate Sample Analyses

No laboratory duplicate analyses were performed for this lot. No action was taken on this basis.

### Certified Reporting Limits

In raw data, the selenium result in Sample SAS-95-11 was greater than the reporting limit of 0.459 µg/g at 0.493 µg/g. However, the laboratory reported this result as not detected in the transfer files. The laboratory was contacted, and resubmitted the transfer files and the sample

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results summary page for the data package, showing the corrected value. No further action was taken.

## Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the QC criteria-compliant RPD values of the high spike and MS/MSD analyses. Accuracy was acceptable, as demonstrated by the low and high spike %R values being within control limits.

Qualification of sample results was required because of low MS/MSD %R values.

All data, as qualified, are acceptable for use.

# TIER I DATA QUALITY ASSESSMENT
# THALLIUM ANALYSES: WATER
# METHOD: SW-7841
# LOT: AVZF

Analytical data for three equipment blank samples and one field blank sample were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1991). The samples were collected on November 28 and 29, 1995, and were analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

- Technical Holding Times
- Instrument Calibration
- Blank Analyses
- Matrix Spike Sample Analyses
- Low Spike and High Spike Analyses
- Duplicate Sample Analyses (Laboratory and Field)
- Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the QC criteria-compliant relative percent difference (RPD) values of the laboratory duplicate, high spike and matrix spike/matrix spike duplicate (MS/MSD) analyses. Accuracy was acceptable, as demonstrated by the low spike and high spike percent recovery (%R) and MS/MSD %R values being within control limits.

All data, as reported, are acceptable for use.

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# QUALITY CONTROL REPORT

Form RLIMS65-V1.0
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Page 1

G960G029

AV2F

Method....: IT-SW-7841
Analyte...: THALLIUM
Matrix....: WATER

Date Printed....: 16-JAN-1996 18:34
Group Name.....: G960G029
Analyst.....:
Units.....: ug/L

GLH 1/17/96

QC Limit Type...: Full

## Blank Results

| Sample ID | Sample Name | QC Date | Blank Result |
|---|---|---|---|
| S95CL0CC | BL-104732-1 | 28-DEC-1995 | -0.290 / ND. |

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## LCS Results

| Sample ID | Sample Name | QC Date | LCS Result | Amount Spiked | Percent Recovery |
|---|---|---|---|---|---|
| S95CL0CD | QC-104732-1 | 28-DEC-1995 | 44.6 / 44.57 | 50.0 | 89.1 |

## Matrix Spike Results

| Sample ID | Sample Name | QC Date | Sample Result | MS Result | Amount Spiked | Percent Recovery |
|---|---|---|---|---|---|---|
| S95CL0CF | UC 04285MS<br>3ER-67 | 28-DEC-1995 | 0.0500 | 22.9 / 22.89 | 25.0 | 91.6 |

## Matrix Spike Duplicate Results

| Sample ID | Sample Name | QC Date | MSD Result | Percent Recovery | Relative % Difference |
|---|---|---|---|---|---|
| S95CL0CG | UC 04285MSD<br>3ER-67 | 28-DEC-1995 | 23.2 / 23.15 | 92.6 | 1.13 |

## Matrix Duplicate Results

| Sample ID | Sample Name | QC Date | Sample Result | MD Result | Relative % Difference |
|---|---|---|---|---|---|
| S95CL0CH | UC 04286MD<br>3ER-68 | 28-DEC-1995 | 0.0100<br>ND | 0.0700<br>ND | ~~150.~~<br>NC / NC |

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# TIER I DATA QUALITY ASSESSMENT
# THALLIUM ANALYSES: SOIL
# METHOD: SW-7841
# LOT: AVXZ

Analytical data for 15 soil samples were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1991). The samples were collected on November 27, 1995, and were analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Technical Holding Times
Instrument Calibration
Blank Analyses
Matrix Spike/Matrix Spike Duplicate (MS/MSD) Sample Analyses
Laboratory Control Sample (LCS) Analyses
* Duplicate Sample Analyses (Laboratory and Field)
Graphite Furnace QC Analyses
Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Duplicate Sample Analyses

No field duplicate samples were submitted for this Lot. No action was taken on this basis.

### Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the QC criteria-compliant relative percent difference (RPD) values of the matrix spike/matrix spike duplicate (MS/MSD) analyses. Accuracy was acceptable, as demonstrated by the laboratory control sample and MS/MSD percent recovery (%R) values being within control limits.

All data, as reported, are acceptable for use.

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# QUALITY CONTROL REPORT

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AVX2

Form RLIMS65-V1.0
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Page 1

G960B023

Method....: IT-SW-7841
Analyte...: THALLIUM
Matrix....: SOIL

Date Printed....: 12-JAN-1996 15:19
Group Name.....: G960B023
Analyst.....: DW
Units.....: ug/g

QC Limit Type...: Full

## Blank Results

| Sample ID | Sample Name | QC Date | Blank Result |
|---|---|---|---|
| S95CH084 | BL-104716-1 | 21-DEC-1995 | 0.0440 / 0.044 |

## LCS Results

| Sample ID | Sample Name | QC Date | LCS Result | Amount Spiked | Percent Recovery |
|---|---|---|---|---|---|
| S95CH085 | QC-104716-1 | 21-DEC-1995 | 37.5 / 37.43 | 39.0 | 96.0 / 96.03 |

## Matrix Spike Results

| Sample ID | Sample Name | QC Date | Sample Result | MS Result | Amount Spiked | Percent Recovery |
|---|---|---|---|---|---|---|
| S95CH086 | UC 04228MS | 21-DEC-1995 | 0.253 / 0.253 | 2.18 / 2.184 | 2.50 | 87.4 / 87.36 |

## Matrix Spike Duplicate Results

| Sample ID | Sample Name | QC Date | MSD Result | Percent Recovery | Relative % Difference |
|---|---|---|---|---|---|
| S95CH087 | UC 04228MSD | 21-DEC-1995 | 2.39 / 2.388 | 95.5 / 95.52 | 8.92 |

## Matrix Duplicate Results

| Sample ID | Sample Name | QC Date | Sample Result | MD Result | Relative % Difference |
|---|---|---|---|---|---|
| S95CH088 | UC 04229MD | 21-DEC-1995 | 0.0970 / 0.097 ND | 0.0530 / 0.053 ND | ~~58.7~~ NC |

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# TIER I DATA QUALITY ASSESSMENT
# THALLIUM ANALYSES: SOIL
# METHOD: SW-7841
# LOT: AVYA

Analytical data for 18 soil samples were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1991). The samples were collected on November 28, 1995, and were analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Technical Holding Times
Instrument Calibration
Blank Analyses
Matrix Spike/Matrix Spike Duplicate (MS/MSD) Sample Analyses
* Laboratory Control Sample (LCS) Analyses
Duplicate Sample Analyses (Laboratory and Field)
Graphite Furnace QC Analyses
Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Laboratory Control Sample Analyses

One laboratory control sample (LCS) analysis was performed with this sample lot. The percent recovery (%R) value of 63.8% was less than the lower control limit of 80%. Thallium results in this lot were qualified as estimated (UJ-10).

### Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the relative percent difference (RPD) values of the matrix spike/matrix spike duplicate (MS/MSD) analyses being within QC criteria. Accuracy was acceptable, as demonstrated by the MS/MSD %R values being within control limits.

Qualification of sample results was required because of a low LCS %R value.

All data, as qualified, are acceptable for use.

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# QUALITY CONTROL REPORT

AVYA COPY

Form RLIMS65-V1.0
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Page 1

G960G02C

Method.....: IT-SW-7841
Analyte....: THALLIUM
Matrix.....: SOIL

Date Printed....: 16-JAN-1996 18:35
Group Name.....: G960G02C
Analyst.....: C/CM 1/17/96
Units.....: ug/g

QC Limit Type...: Full

## Blank Results

| Sample ID | Sample Name | QC Date | Blank Result |
|---|---|---|---|
| S95CH089 | BL-104723-1 | 21-DEC-1995 | -0.00300 |

## LCS Results

| Sample ID | Sample Name | QC Date | LCS Result | Amount Spiked | Percent Recovery |
|---|---|---|---|---|---|
| S95CH08B | QC-104723-1 | 21-DEC-1995 | 24.9 / 24.89 | 39.0 | 63.8 / 63.85 |

80-120%

## Matrix Spike Results

| Sample ID | Sample Name | QC Date | Sample Result | MS Result | Amount Spiked | Percent Recovery |
|---|---|---|---|---|---|---|
| S95BW11C | UC 04254MS | 21-DEC-1995 | 0.190 / 0.19 | 2.37 / 2.371 | 2.50 | 94.8 |

SAS-95-11

## Matrix Spike Duplicate Results

| Sample ID | Sample Name | QC Date | MSD Result | Percent Recovery | Relative % Difference |
|---|---|---|---|---|---|
| S95BW11D | UC 04254MSD | 21-DEC-1995 | 2.37 / 2.365 | 94.6 | 0.253 |

SAS-95-11

## Matrix Duplicate Results

| Sample ID | Sample Name | QC Date | Sample Result | MD Result | Relative % Difference |
|---|---|---|---|---|---|
| S95CH08C | UC 04260MD | 21-DEC-1995 | 0.175 ND | 0.117 ND | ~~39.7~~ NC |

SAS-95-1113

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# TIER I DATA QUALITY ASSESSMENT
# MERCURY ANALYSES: WATER
# METHOD: CC8
# LOT: AVUQ

Analytical data for four equipment blanks were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1991). The samples were collected on November 28 and 29, 1995 and were analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Technical Holding Times
Instrument Calibration
Blank Analyses
* Matrix Spike Sample Analyses
Low Spike and High Spike Analyses
* Duplicate Sample Analyses (Laboratory and Field)
Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Matrix Spike/Matrix Spike Duplicate Analyses

No matrix spike/matrix spike duplicate (MS/MSD) analyses were performed for this lot. No action was taken on this basis.

### Duplicate Sample Analyses

No laboratory and field duplicate analyses were performed for this lot. No action was taken on this basis.

### Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the relative percent difference (RPD) values of the high spike analyses being within QC criteria. Accuracy was acceptable, as demonstrated by the low and high spike percent recovery (%R) values being within control limits. All data, as reported, are acceptable for use.

ORIGINAL

# TIER I DATA QUALITY ASSESSMENT
# MERCURY ANALYSES: SOIL
# METHOD: Y9
# LOT: AVYQ

Analytical data for 33 soil samples were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1991). The samples were collected on November 27 and 28, 1995, and were analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

- Technical Holding Times
- Instrument Calibration
- Blank Analyses
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses
- * Low Spike and High Spike Analyses
- * Duplicate Sample Analyses (Laboratory and Field)
- Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Low Spike and High Spike Analyses

One low spike and two high spike analyses were performed with this sample lot. The low/high spike percent recovery (%R) values were evaluated based on the control chart upper and lower limits. The low spike %R value of 157.0% was greater than the upper control limit of 135%. All positive mercury results in the associated samples were qualified as estimated (J-10). The high spike %R values of 111.8% and 106% were within the control limits.

### Duplicate Sample Analyses

No laboratory duplicate analyses were performed for this lot. No action was taken on this basis.

### Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the relative percent difference (RPD) values of the high spike and matrix spike/matrix spike duplicate (MS/MSD) analyses being within QC criteria.

Accuracy was acceptable, as demonstrated by the high spike and MS/MSD %R values being within control limits.

Qualification of sample results was required because of a high spike %R value.

All data, as qualified, are acceptable for use.

ORIGINAL

DATA CHEM LABORATORIES

A Sorenson Company

# Case Narrative

Method: Y9
Analysis: Mercury
Preparation SOP #: Y9, Rev. 3 (0)
Analysis SOP #: Y9, Rev. 3 (0)
Lot: AVYQ
DCL Set ID: U95-0640-33 & U95-0641-33

Client: RUST E & I
Account: 3224
Matrix: Soil

General Set Information: There are thirty three field samples in these sets. The samples were analyzed for mercury in soil.

Method Summary: A representative 0.20 g (± 0.002 g) wet weight portion of sample is treated in a BOD with sulfuric and nitric acid. The sample is then heated for two minutes on a steam bath. After heating, the sample is cooled and ASTM Type II water, potassium permanganate, and potassium persulfate are added. The sample is heated for 30 minutes. After heating, the sample is cooled and ASTM Type II water is again added. Hydroxylamine hydrochloride is added to the sample, and an aliquot of the prepared sample is poured into a sample cup and loaded into the CVAA autosampler. The automated introduction system of the instrument injects a reproducible volume of standard or sample from the sample cups into an HCl carrier stream. Stannous chloride is then added to the sample in the sample stream; and the resulting Hg vapor is separated from the liquid by a gas/liquid separator. The resulting vapor is transported into the analytical cell for determination of Hg content.

Sample Preparation: All samples were prepared in accordance with published procedures.

Holding Times: The holding times were met for both preparation and analysis.

Instrument Calibration: Instrument calibration was performed in accordance with published procedures.

Calibration Check Standards: Recoveries of the analyte in all calibration check standards are within quality control limits.

Calibration Check Blanks: No method analyte was found in any calibration check blank sample at levels above detection limits.

Dilutions: None are reported for this lot.

QC Sample Analysis: QC samples were prepared and analyzed according to the method. Recovery data were submitted and approved according to the USAEC QC plan.

Matrix Spike Analysis: A matrix spike was prepared from samples UC 04254 and analyzed with this lot. Recovery of the spiked analyte in the matrix spike is within the quality control limits of ± 25%.

Matrix Spike Duplicate Analysis: A matrix spike duplicate was also prepared from the same samples as the matrix spike. The relative percent difference between the matrix spike and the matrix spike duplicate is within the quality control limit of 20%.

Flagging Codes: Samples flagged with a "D" are duplicates.

NC/CAR and CPR: None are reported for this lot.

Sample Calculation: The final results are calculated in µg/g by the equation (A) x (B) where

A = Analyte concentration from instrument determination (µg/g)

B = Dilution performed at time of analysis

e.g. UC 04240: (0.016 µg/g) x (1) = 0.016 µg/g

Miscellaneous Comments: None.

Thi Tang 12-28-95

Thi Tang Date

# DATA QUALIFIER SUMMARY TABLE
# FOR SWMU 6

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AWKZ | OBP-95-01A | 038 UC04344 | SOIL | 8290 | 78HXDF | 0.00000603 | B | U-7 | UGG |
| AWHS | OBP-95-01C | 003 UC04172 | SOIL | 8290 | 234PCF | LT 0.000000980 | | UJ-19 | UGG |
| AWHS | OBP-95-01C | 003 UC04172 | SOIL | 8290 | 78PCDF | LT 0.000000900 | | UJ-19 | UGG |
| AWHS | OBP-95-01C | 003 UC04172 | SOIL | 8290 | TCDD | LT 0.00000131 | | UJ-19 | UGG |
| AWHS | OBP-95-01C | 003 UC04172 | SOIL | 8290 | TCDF | LT 0.00000133 | | UJ-19 | UGG |
| AWHS | OBP-95-01D | 007 UC04176 | SOIL | 8290 | 678HPF | 0.00000131 | DJP | U-7 | UGG |
| AWHS | OBP-95-02A | 004 UC04173 | SOIL | 8290 | 678HPF | 0.00000210 | JP | U-7 | UGG |
| AWHS | OBP-95-03C | 010 UC04179 | SOIL | 8290 | 678HPF | 0.00000239 | JP | U-7 | UGG |
| AWKZ | OBS-95-01 | 003 UC04261 | SOIL | 8290 | 678HPF | 0.00000325 | B | U-7 | UGG |
| AWKZ | OBS-95-01 | 003 UC04261 | SOIL | 8290 | OCDD | 0.00000944 | B | U-7 | UGG |
| AWKZ | OBS-95-02 | 004 UC04262 | SOIL | 8290 | 678HPF | 0.00000679 | B | U-7 | UGG |
| AWKZ | OBS-95-02 | 004 UC04262 | SOIL | 8290 | 789HPF | 0.00000118 | JPB | U-7 | UGG |
| AWKZ | OBS-95-02 | 004 UC04262 | SOIL | 8290 | 78HXDF | 0.00000228 | JPB | U-7 | UGG |
| AWKZ | OBS-95-02 | 004 UC04262 | SOIL | 8290 | OCDD | 0.0000195 | B | U-7 | UGG |
| AWKZ | OBS-95-03 | 005 UC04263 | SOIL | 8290 | 678HPD | 0.00000346 | B | U-7 | UGG |
| AWKZ | OBS-95-03 | 005 UC04263 | SOIL | 8290 | 678HPF | 0.00000587 | B | U-7 | UGG |
| AWKZ | OBS-95-03 | 005 UC04263 | SOIL | 8290 | OCDD | 0.0000266 | B | U-7 | UGG |
| AWKZ | OBS-95-04 | 006 UC04264 | SOIL | 8290 | 678HPD | 0.00000311 | B | U-7 | UGG |
| AWKZ | OBS-95-04 | 006 UC04264 | SOIL | 8290 | 678HPF | 0.00000226 | B | U-7 | UGG |
| AWKZ | OBS-95-04 | 006 UC04264 | SOIL | 8290 | 78HXDF | 0.000000837 | JPB | U-7 | UGG |
| AWKZ | OBS-95-04 | 006 UC04264 | SOIL | 8290 | OCDD | 0.0000280 | B | U-7 | UGG |
| AWKZ | OBS-95-05 | 009 UC04265 | SOIL | 8290 | 678HPF | 0.00000248 | JPB | U-7 | UGG |
| AWKZ | OBS-95-05 | 009 UC04265 | SOIL | 8290 | TCDF | 0.000000174 | JPB | U-7 | UGG |
| AWKZ | OBS-95-06 | 010 UC04266 | SOIL | 8290 | 678HPF | 0.000000952 | JPB | U-7 | UGG |
| AWKZ | OBS-95-06 | 010 UC04266 | SOIL | 8290 | OCDD | 0.00000446 | JPB | U-7 | UGG |
| AWKZ | OBS-95-06 | 010 UC04266 | SOIL | 8290 | OCDF | 0.00000299 | JPB | U-7 | UGG |
| AWKZ | OBS-95-06 | 010 UC04266 | SOIL | 8290 | TCDF | 0.000000127 | JPB | U-7 | UGG |
| AWKZ | OBS-95-07 | 011 UC04267 | SOIL | 8290 | 678HPF | 0.00000288 | B | U-7 | UGG |
| AWKZ | OBS-95-07 | 011 UC04267 | SOIL | 8290 | 678HXF | 0.000000268 | JPB | U-7 | UGG |
| AWKZ | OBS-95-08 | 012 UC04268 | SOIL | 8290 | 678HPF | 0.000000997 | JPB | U-7 | UGG |
| AWKZ | OBS-95-08 | 012 UC04268 | SOIL | 8290 | OCDD | 0.00000339 | JPB | U-7 | UGG |
| AWKZ | OBS-95-08 | 012 UC04268 | SOIL | 8290 | OCDF | 0.00000239 | JPB | U-7 | UGG |
| AWKZ | OBS-95-08 | 012 UC04268 | SOIL | 8290 | TCDD | LT 0.000000410 | | UJ-19 | UGG |
| AWKZ | OBS-95-08 | 012 UC04268 | SOIL | 8290 | TCDF | 0.000000206 | JPB | UJ-7,19 | UGG |
| AWKZ | OBS-95-09 | 013 UC04269 | SOIL | 8290 | 234HXF | 0.000000209 | JPB | U-7 | UGG |
| AWKZ | OBS-95-09 | 013 UC04269 | SOIL | 8290 | 678HPF | 0.00000158 | JPB | U-7 | UGG |
| AWKZ | OBS-95-09 | 013 UC04269 | SOIL | 8290 | 678HXF | 0.000000154 | JPB | U-7 | UGG |
| AWKZ | OBS-95-09 | 013 UC04269 | SOIL | 8290 | OCDD | 0.00000622 | B | U-7 | UGG |
| AWKZ | OBS-95-09 | 013 UC04269 | SOIL | 8290 | OCDF | 0.00000363 | JPB | U-7 | UGG |

# DATA QUALIFIER SUMMARY TABLE
# FOR SWMU 6

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AWKZ | OBS-95-10 | 014 UC04270 | SOIL | 8290 | OCDD | 0.00000688 | B | U-7 | UGG |
| AWKZ | OBS-95-10 | 014 UC04270 | SOIL | 8290 | OCDF | 0.00000428 | JPB | U-7 | UGG |
| AWKZ | OBS-95-10 | 014 UC04270 | SOIL | 8290 | TCDF | 0.000000169 | JPB | U-7 | UGG |
| AWKZ | OBS-95-11 | 015 UC04271 | SOIL | 8290 | 234HXF | 0.000000276 | JPB | U-7 | UGG |
| AWKZ | OBS-95-11 | 015 UC04271 | SOIL | 8290 | 678HPF | 0.00000241 | JPB | U-7 | UGG |
| AWKZ | OBS-95-11 | 015 UC04271 | SOIL | 8290 | OCDD | 0.00000789 | B | U-7 | UGG |
| AWKZ | OBS-95-11 | 015 UC04271 | SOIL | 8290 | OCDF | 0.00000582 | B | U-7 | UGG |
| AWKZ | OBS-95-11 | 015 UC04271 | SOIL | 8290 | TCDF | 0.000000233 | JPB | U-7 | UGG |
| AWKZ | OBS-95-12 | 017 UC04273 | SOIL | 8290 | 678HPF | 0.00000546 | B | U-7 | UGG |
| AWKZ | OBS-95-12 | 017 UC04273 | SOIL | 8290 | 678HXF | 0.000000301 | JPB | U-7 | UGG |
| AWKZ | OBS-95-12 | 017 UC04273 | SOIL | 8290 | TCDF | 0.000000279 | JPB | U-7 | UGG |
| AWKZ | OBS-95-13 | 018 UC04274 | SOIL | 8290 | 234HXF | 0.000000616 | JPB | U-7 | UGG |
| AWKZ | OBS-95-13 | 018 UC04274 | SOIL | 8290 | 678HXF | 0.000000573 | JPB | U-7 | UGG |
| AWKZ | OBS-95-15 | 020 UC04276 | SOIL | 8290 | 678HPF | 0.00000121 | JPB | U-7 | UGG |
| AWKZ | OBS-95-15 | 020 UC04276 | SOIL | 8290 | OCDF | 0.00000305 | JPB | U-7 | UGG |
| AWKZ | OBS-95-15 | 020 UC04276 | SOIL | 8290 | TCDF | 0.000000171 | JPB | U-7 | UGG |
| AWKZ | OBS-95-16 | 021 UC04277 | SOIL | 8290 | 678HPF | 0.00000289 | B | U-7 | UGG |
| AWKZ | OBS-95-16 | 021 UC04277 | SOIL | 8290 | OCDF | 0.00000582 | B | U-7 | UGG |
| AWKZ | OBS-95-16 | 021 UC04277 | SOIL | 8290 | TCDF | 0.000000346 | JPB | U-7 | UGG |
| AWKZ | OBS-95-18 | 023 UC04279 | SOIL | 8290 | 678HPF | 0.00000419 | B | U-7 | UGG |
| AWKZ | OBS-95-20 | 025 UC04281 | SOIL | 8290 | 234HXF | 0.000000473 | JPB | U-7 | UGG |
| AWKZ | OBS-95-20 | 025 UC04281 | SOIL | 8290 | 678HPF | 0.00000198 | JPB | U-7 | UGG |
| AWKZ | OBS-95-20 | 025 UC04281 | SOIL | 8290 | OCDF | 0.00000353 | JPB | U-7 | UGG |
| AWKZ | OBS-95-21 | 029 UC04316 | SOIL | 8290 | 678HPD | 0.00000750 | B | U-7 | UGG |
| AWKZ | OBS-95-21 | 029 UC04316 | SOIL | 8290 | 678HPF | 0.0000189 | B | U-7 | UGG |
| AWKZ | OBS-95-21 | 029 UC04316 | SOIL | 8290 | 78HXDF | 0.00000448 | B | U-7 | UGG |
| AWKZ | OBS-95-21 | 029 UC04316 | SOIL | 8290 | OCDD | 0.0000575 | B | U-7 | UGG |
| AWKZ | OBS-95-22 | 030 UC04317 | SOIL | 8290 | 78HXDF | 0.00000654 | B | U-7 | UGG |
| AWKZ | OBS-95-23 | 031 UC04318 | SOIL | 8290 | 678HPF | 0.0000172 | B | U-7 | UGG |
| AWKZ | OBS-95-23 | 031 UC04318 | SOIL | 8290 | 78HXDF | 0.00000409 | B | U-7 | UGG |
| AWKZ | OBS-95-24 | 032 UC04319 | SOIL | 8290 | 678HPD | 0.00000332 | B | U-7 | UGG |
| AWKZ | OBS-95-24 | 032 UC04319 | SOIL | 8290 | 678HPF | 0.00000546 | B | U-7 | UGG |
| AWKZ | OBS-95-24 | 032 UC04319 | SOIL | 8290 | 78HXDF | 0.00000193 | JPB | U-7 | UGG |
| AWKZ | OBS-95-24 | 032 UC04319 | SOIL | 8290 | OCDD | 0.0000205 | B | U-7 | UGG |
| AWKZ | OBS-95-25 | 033 UC04320 | SOIL | 8290 | 678HPD | 0.00000493 | B | U-7 | UGG |
| AWKZ | OBS-95-25 | 033 UC04320 | SOIL | 8290 | 678HPF | 0.00000611 | B | U-7 | UGG |
| AWKZ | OBS-95-25 | 033 UC04320 | SOIL | 8290 | 789HPF | 0.000000899 | JPB | U-7 | UGG |
| AWKZ | OBS-95-25 | 033 UC04320 | SOIL | 8290 | 78HXDF | 0.00000306 | B | U-7 | UGG |
| AWKZ | OBS-95-25 | 033 UC04320 | SOIL | 8290 | OCDD | 0.0000390 | B | U-7 | UGG |

# DATA QUALIFIER SUMMARY TABLE
# FOR SWMU 6

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AWKZ | OBS-95-26 | 034 UC04321 | SOIL | 8290 | 78HXDF | 0.0000108 | B | U-7 | UGG |
| AWKZ | OBS-95-27 | 035 UC04322 | SOIL | 8290 | 234HXF | LT 0.000000400 | | UJ-19 | UGG |
| AWKZ | OBS-95-27 | 035 UC04322 | SOIL | 8290 | 678HPF | 0.00000286 | B | UJ-7,19 | UGG |
| AWKZ | OBS-95-27 | 035 UC04322 | SOIL | 8290 | 678HXF | LT 0.000000280 | | UJ-19 | UGG |
| AWKZ | OBS-95-27 | 035 UC04322 | SOIL | 8290 | 789HPF | LT 0.00000110 | | UJ-19 | UGG |
| AWKZ | OBS-95-27 | 035 UC04322 | SOIL | 8290 | 789HXF | LT 0.000000570 | | UJ-19 | UGG |
| AWKZ | OBS-95-27 | 035 UC04322 | SOIL | 8290 | 78HXDF | LT 0.000000410 | | UJ-19 | UGG |
| AWKZ | OBS-95-27 | 035 UC04322 | SOIL | 8290 | OCDD | 0.0000206 | B | UJ-7,19 | UGG |
| AWKZ | OBS-95-27 | 035 UC04322 | SOIL | 8290 | OCDF | 0.00000935 | | J-19 | UGG |
| AWKZ | OBS-95-28 | 036 UC04323 | SOIL | 8290 | 678HPF | 0.0000110 | B | U-7 | UGG |
| AWKZ | OBS-95-28 | 036 UC04323 | SOIL | 8290 | 789HPF | 0.00000249 | JPB | U-7 | UGG |
| AWKZ | OBS-95-28 | 036 UC04323 | SOIL | 8290 | 78HXDF | 0.00000337 | B | U-7 | UGG |
| AWBP | OBS-95-29 | 005 UC04325 | SOIL | JS12 | CR | 12.9 | | J-21 | UGG |
| AWBQ | OBS-95-29 | 005 UC04325 | SOIL | B9 | AS | 6.86 | | J-5B | UGG |
| AWBS | OBS-95-29 | 003 UC04325 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AWBU | OBS-95-29 | 005 UC04325 | SOIL | Y9 | HG | LT 0.0500 | | UJ-7 | UGG |
| AWBP | OBS-95-30 | 006 UC04327 | SOIL | JS12 | CR | 19.7 | | J-21 | UGG |
| AWBQ | OBS-95-30 | 006 UC04327 | SOIL | B9 | AS | 4.58 | | J-5B | UGG |
| AWBS | OBS-95-30 | 007 UC04327 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AWBU | OBS-95-30 | 006 UC04327 | SOIL | Y9 | HG | LT 0.0500 | | UJ-7 | UGG |
| AWBP | OBS-95-31 | 007 UC04329 | SOIL | JS12 | CR | 13.2 | | J-21 | UGG |
| AWBQ | OBS-95-31 | 007 UC04329 | SOIL | B9 | AS | 4.98 | | J-5B | UGG |
| AWBS | OBS-95-31 | 008 UC04329 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AWBU | OBS-95-31 | 007 UC04329 | SOIL | Y9 | HG | LT 0.0500 | | UJ-7 | UGG |
| AWBP | OBS-95-32 | 008 UC04332 | SOIL | JS12 | CR | 8.89 | | J-21 | UGG |
| AWBQ | OBS-95-32 | 008 UC04332 | SOIL | B9 | AS | 4.54 | | J-5B | UGG |
| AWBS | OBS-95-32 | 009 UC04332 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AWBU | OBS-95-32 | 008 UC04332 | SOIL | Y9 | HG | LT 0.0500 | | UJ-7 | UGG |
| AWBP | OBS-95-33 | 009 UC04333 | SOIL | JS12 | CR | 19.5 | | J-21 | UGG |
| AWBQ | OBS-95-33 | 009 UC04333 | SOIL | B9 | AS | 8.75 | | J-5B | UGG |
| AWBS | OBS-95-33 | 010 UC04333 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AWBU | OBS-95-33 | 009 UC04333 | SOIL | Y9 | HG | LT 0.0500 | | UJ-7 | UGG |
| AWBP | OBS-95-34 | 010 UC04336 | SOIL | JS12 | CR | 15.1 | | J-21 | UGG |
| AWBQ | OBS-95-34 | 010 UC04336 | SOIL | B9 | AS | 7.22 | | J-5B | UGG |
| AWBS | OBS-95-34 | 011 UC04336 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AWBU | OBS-95-34 | 010 UC04336 | SOIL | Y9 | HG | LT 0.0500 | | UJ-7 | UGG |
| AWKZ | OBS-95-35 | 016 UC04272 | SOIL | 8290 | 678HPF | 0.00000513 | DB | U-7 | UGG |
| AWKZ | OBS-95-36 | 026 UC04282 | SOIL | 8290 | 678HPF | 0.00000181 | DJPB | U-7 | UGG |
| AWKZ | OBS-95-36 | 026 UC04282 | SOIL | 8290 | 678HXF | 0.000000196 | DJPB | U-7 | UGG |

# DATA QUALIFIER SUMMARY TABLE
# FOR SWMU 6

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AWKZ | OBS-95-36 | 026 UC04282 | SOIL | 8290 | OCDF | 0.00000380 | DJPB | U-7 | UGG |
| AWKZ | OBS-95-36 | 026 UC04282 | SOIL | 8290 | TCDF | 0.000000619 | DJPB | U-7 | UGG |
| AWKZ | OBS-95-37 | 037 UC04324 | SOIL | 8290 | 678HPF | 0.00000791 | DB | U-7 | UGG |
| AWKZ | OBS-95-37 | 037 UC04324 | SOIL | 8290 | 789HPF | 0.00000153 | DJPB | U-7 | UGG |
| AWBP | OBS-95-38 | 011 UC04337 | SOIL | JS12 | CR | 17.7 | D | J-21 | UGG |
| AWBQ | OBS-95-38 | 011 UC04337 | SOIL | B9 | AS | 6.27 | D | J-5B | UGG |
| AWBS | OBS-95-38 | 012 UC04337 | SOIL | 7841 | TL | LT 1.00 | D | UJ-10 | UGG |
| AWBU | OBS-95-38 | 011 UC04337 | SOIL | Y9 | HG | LT 0.0500 | D | UJ-7 | UGG |
| AWBP | OBS-95-39 | 014 UC04343 | SOIL | JS12 | CR | 16.9 | | J-21 | UGG |
| AWBQ | OBS-95-39 | 014 UC04343 | SOIL | B9 | AS | 5.57 | | J-5B | UGG |
| AWBS | OBS-95-39 | 015 UC04343 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AWBU | OBS-95-39 | 014 UC04343 | SOIL | Y9 | HG | LT 0.0500 | | UJ-7 | UGG |
| AWBP | OBS-95-40 | 012 UC04339 | SOIL | JS12 | CR | 19.1 | | J-21 | UGG |
| AWBQ | OBS-95-40 | 012 UC04339 | SOIL | B9 | AS | 6.00 | | J-5B | UGG |
| AWBS | OBS-95-40 | 013 UC04339 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AWBU | OBS-95-40 | 012 UC04339 | SOIL | Y9 | HG | LT 0.0500 | | UJ-7 | UGG |
| AWBP | OBS-95-41 | 013 UC04341 | SOIL | JS12 | CR | 17.1 | | J-21 | UGG |
| AWBQ | OBS-95-41 | 013 UC04341 | SOIL | B9 | AS | 5.90 | | J-5B | UGG |
| AWBS | OBS-95-41 | 014 UC04341 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AWBU | OBS-95-41 | 013 UC04341 | SOIL | Y9 | HG | LT 0.0500 | | UJ-7 | UGG |

# DATA QUALIFIER SUMMARY TABLE
# FOR SWMU 8

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AVXY | SAB-95-01A | 005 UC04228 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYB | SAB-95-01A | 003 UC04228 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAB-95-01B | 006 UC04229 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYB | SAB-95-01B | 006 UC04229 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAB-95-02A | 008 UC04231 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYB | SAB-95-02A | 009 UC04231 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAB-95-02B | 009 UC04232 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYB | SAB-95-02B | 010 UC04232 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAB-95-03A | 011 UC04234 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYB | SAB-95-03A | 012 UC04234 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAB-95-03B | 012 UC04235 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYB | SAB-95-03B | 013 UC04235 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAB-95-04A | 014 UC04237 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYB | SAB-95-04A | 015 UC04237 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAB-95-04B | 015 UC04238 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYB | SAB-95-04B | 016 UC04238 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVYQ | SAB-95-04B | 015 UC04238 | SOIL | Y9 | HG | 0.0611 | | J-10 | UGG |
| AVXY | SAB-95-05A | 017 UC04240 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYB | SAB-95-05A | 018 UC04240 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAB-95-05B | 018 UC04241 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYB | SAB-95-05B | 019 UC04241 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAB-95-06A | 020 UC04243 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYA | SAB-95-06A | 003 UC04243 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AVYC | SAB-95-06A | 003 UC04243 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAB-95-06B | 021 UC04244 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYA | SAB-95-06B | 004 UC04244 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AVYC | SAB-95-06B | 004 UC04244 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAB-95-07A | 026 UC04249 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYA | SAB-95-07A | 009 UC04249 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AVYC | SAB-95-07A | 009 UC04249 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAB-95-07B | 027 UC04250 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYA | SAB-95-07B | 010 UC04250 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AVYC | SAB-95-07B | 010 UC04250 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAB-95-08A | 029 UC04252 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYA | SAB-95-08A | 012 UC04252 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AVYC | SAB-95-08A | 012 UC04252 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAB-95-08B | 030 UC04253 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYA | SAB-95-08B | 013 UC04253 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AVYC | SAB-95-08B | 013 UC04253 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |

# DATA QUALIFIER SUMMARY TABLE
# FOR SWMU 8

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AVYQ | SAB-95-08B | 030 UC04253 | SOIL | Y9 | HG | 0.0824 | | J-10 | UGG |
| AVXY | SAB-95-09A | 034 UC04255 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYA | SAB-95-09A | 017 UC04255 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AVYC | SAB-95-09A | 017 UC04255 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAB-95-09B | 035 UC04256 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYA | SAB-95-09B | 018 UC04256 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AVYC | SAB-95-09B | 018 UC04256 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAB-95-10A | 036 UC04257 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYA | SAB-95-10A | 019 UC04257 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AVYC | SAB-95-10A | 019 UC04257 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAB-95-10B | 037 UC04258 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYA | SAB-95-10B | 020 UC04258 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AVYC | SAB-95-10B | 020 UC04258 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAB-95-11A | 038 UC04259 | SOIL | JD20 | SE | LT 0.449 | D | UJ-8 | UGG |
| AVYA | SAB-95-11A | 021 UC04259 | SOIL | 7841 | TL | LT 1.00 | D | UJ-10 | UGG |
| AVYC | SAB-95-11A | 021 UC04259 | SOIL | 7041 | SB | LT 1.00 | D | UJ-8 | UGG |
| AVXY | SAB-95-11B | 039 UC04260 | SOIL | JD20 | SE | LT 0.449 | D | UJ-8 | UGG |
| AVYA | SAB-95-11B | 022 UC04260 | SOIL | 7841 | TL | LT 1.00 | D | UJ-10 | UGG |
| AVYC | SAB-95-11B | 022 UC04260 | SOIL | 7041 | SB | LT 1.00 | D | UJ-8 | UGG |
| AVXY | SAS-95-01 | 007 UC04230 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYB | SAS-95-01 | 008 UC04230 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAS-95-02 | 010 UC04233 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYB | SAS-95-02 | 011 UC04233 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAS-95-03 | 013 UC04236 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYB | SAS-95-03 | 014 UC04236 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAS-95-04 | 016 UC04239 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYB | SAS-95-04 | 017 UC04239 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAS-95-05 | 019 UC04242 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYB | SAS-95-05 | 020 UC04242 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVYQ | SAS-95-05 | 019 UC04242 | SOIL | Y9 | HG | 0.0574 | | J-10 | UGG |
| AVXY | SAS-95-06 | 022 UC04245 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYA | SAS-95-06 | 005 UC04245 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AVYC | SAS-95-06 | 005 UC04245 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAS-95-07 | 023 UC04246 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYA | SAS-95-07 | 006 UC04246 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AVYC | SAS-95-07 | 006 UC04246 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVYQ | SAS-95-07 | 023 UC04246 | SOIL | Y9 | HG | 0.0565 | | J-10 | UGG |
| AVXY | SAS-95-08 | 024 UC04247 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYA | SAS-95-08 | 007 UC04247 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |

# DATA QUALIFIER SUMMARY TABLE
# FOR SWMU 8

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AVYC | SAS-95-08 | 007 UC04247 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAS-95-09 | 025 UC04248 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYA | SAS-95-09 | 008 UC04248 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AVYC | SAS-95-09 | 008 UC04248 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVYQ | SAS-95-09 | 025 UC04248 | SOIL | Y9 | HG | 0.0519 | | J-10 | UGG |
| AVXY | SAS-95-10 | 028 UC04251 | SOIL | JD20 | SE | LT 0.449 | | UJ-8 | UGG |
| AVYA | SAS-95-10 | 011 UC04251 | SOIL | 7841 | TL | LT 1.00 | | UJ-10 | UGG |
| AVYC | SAS-95-10 | 011 UC04251 | SOIL | 7041 | SB | LT 1.00 | | UJ-8 | UGG |
| AVXY | SAS-95-11 | 031 UC04254 | SOIL | JD20 | SE | 0.493 | D | UJ-8 | UGG |
| AVYA | SAS-95-11 | 014 UC04254 | SOIL | 7841 | TL | LT 1.00 | D | UJ-10 | UGG |
| AVYC | SAS-95-11 | 014 UC04254 | SOIL | 7041 | SB | LT 1.00 | D | UJ-8 | UGG |

# DATA QUALIFIER SUMMARY TABLE
# FOR BACKGROUND AND FIELD BLANK SAMPLES

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AVZD | 3ER-67 | 005 UC04285 | WATER | SD25 | SE | LT 2.53 | | UJ-10 | UGL |
| AVZD | 3ER-68 | 006 UC04286 | WATER | SD25 | SE | LT 2.53 | | UJ-10 | UGL |
| AVZD | 3ER-69 | 007 UC04349 | WATER | SD25 | SE | LT 2.53 | | UJ-10 | UGL |
| AVZD | 3FB-P | 008 UC04353 | WATER | SD25 | SE | LT 2.53 | | UJ-10 | UGL |
| AWKZ | BKS-95-06 | 039 UC04345 | SOIL | 8290 | 678HPD | 0.00000655 | B | U-7 | UGG |
| AWKZ | BKS-95-06 | 039 UC04345 | SOIL | 8290 | 678HPF | 0.0000221 | B | U-7 | UGG |
| AWKZ | BKS-95-06 | 039 UC04345 | SOIL | 8290 | 78HXDF | 0.00000762 | B | U-7 | UGG |
| AWKZ | BKS-95-06 | 039 UC04345 | SOIL | 8290 | OCDD | 0.0000301 | B | U-7 | UGG |
| AWKZ | BKS-95-07 | 040 UC04346 | SOIL | 8290 | 678HPF | 0.0000221 | B | U-7 | UGG |
| AWKZ | BKS-95-07 | 040 UC04346 | SOIL | 8290 | 78HXDF | 0.00000457 | B | U-7 | UGG |
| AWKZ | BKS-95-08 | 041 UC04347 | SOIL | 8290 | 678HPD | 0.00000352 | B | U-7 | UGG |
| AWKZ | BKS-95-08 | 041 UC04347 | SOIL | 8290 | 678HPF | 0.00000511 | B | U-7 | UGG |
| AWKZ | BKS-95-08 | 041 UC04347 | SOIL | 8290 | OCDD | 0.0000266 | B | U-7 | UGG |
| AWKZ | BKS-95-09 | 042 UC04348 | SOIL | 8290 | 678HPD | 0.00000320 | B | U-7 | UGG |
| AWKZ | BKS-95-09 | 042 UC04348 | SOIL | 8290 | 678HPF | 0.00000333 | B | U-7 | UGG |
| AWKZ | BKS-95-09 | 042 UC04348 | SOIL | 8290 | 78HXDF | 0.00000166 | JPB | U-7 | UGG |
| AWKZ | BKS-95-09 | 042 UC04348 | SOIL | 8290 | OCDD | 0.0000186 | B | U-7 | UGG |

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# APPENDIX B
# DATA QUALIFIER REASON CODES

GINAL

# DATA QUALIFICATION CODES

| | |
|---|---|
| 1 | Holding Time |
| 2 | Sample Preservation |
| 3 | Sample Custody |
| 4 | Missing Deliverables |
| 5A | Calibration (initial) |
| 5B | Calibration (continuing) |
| 6 | Field Blanks |
| 7 | Laboratory Blanks |
| 8 | Matrix Spike |
| 9 | Precision (Matrix Spike Duplicate) |
| 10 | Laboratory Control Sample |
| 11 | Detection Limit |
| 12 | Standards |
| 13 | Surrogates |
| 14 | Other |
| 15 | Furnace QC |
| 16 | ICP Serial Dilution |
| 17 | Chemical Recoveries |
| 18 | Trip Blanks |
| 19 | Internal Standards |
| 20 | Linear Range Exceeded |
| 21 | Potential False Positives |

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# DATA QUALITY ASSESSMENT

## TOOELE ARMY DEPOT—NORTH AREA
## DAAA15-90-D-0007, TASK 0003

## SWMU 13
## TIRE DISPOSAL AREA

**Prepared for:**

RUST Environment and Infrastructure
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**Prepared by:**

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EcoChem Project Number: 8901-30

December 20, 1994

**Approved for Release:**

Yuri A. Hoyal for
Mark T. Brindle
Project Manager
**EcoChem, Inc.**

# DATA QUALITY ASSESSMENT SUMMARY

***Basis for Data Quality Assessment***

This report summarizes the results of data quality assessment performed on soil samples and associated laboratory quality control samples. Refer to the Sample Index for sample identifications.

Samples were analyzed for the following parameters and were reviewed by the chemists listed below:

| SWMU | Test | Lot | Method (Matrix) | Primary | Secondary |
|---|---|---|---|---|---|
| SWMU 13 | VOC | ANRP | LM23 (SOIL) | Bruce Tiffany | Eric Strout |
| | SVOC | ANQQ | LM25 (SOIL) | Bruce Tiffany | Eric Strout |

Data assessment was based on the QC criteria recommended in the above listed method; the *Tooele Army Depot—North Area QC Plan*; *USEPA Functional Guidelines for Organic and Inorganic Data Review*; and *USATHAMA (USAEC) Quality Assurance Program (PAM 11-41)*.

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are assigned a J or UJ, data may be used for site evaluation and risk assessment purposes, but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R, the data are to be rejected and should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the above-referenced documents and method.

Copies of the qualified transfer files are included as Appendix A. Each lot report also contains a summary table of qualified results. Data Quality Assessment Worksheets, Communication, and Corrective Action Records have been placed in labeled envelopes with the original data packages.

## DATA VALIDATION QUALIFIER CODES

| | |
|---|---|
| U | The material was analyzed for, but was not detected. The associated numerical value is the certified reporting limit. |
| R | Unreliable result. Data should not be used. Analyte may or may not be present in the sample. |

| | |
|---|---|
| J | Analyte present. Reported value is an estimate that may not be accurate or precise. Data Quality Assessment Report should be consulted for reason. |
| UJ | Not detected. Detection limit may be inaccurate or imprecise and may not be equal to certified reporting limit. Data Quality Assessment Report should be consulted for reason. |

### *SWMU 13 Tire Disposal Area*

#### *Volatile Organics*

One lot of volatile organic analyses of soil samples using Method LM23 was reviewed. Data were found to be acceptable for use without qualification.

#### *Semivolatile Organic Compounds*

One lot of semivolatile organic compound (SVOC) analyses of soil samples using Method LM25 was reviewed. Bis(2-ethylhexyl)phthalate and several unknowns were qualified due to blank contamination. Hexachloro cyclopentadiene results (all non-detects) were qualified as estimated due to decreased sensitivity during continuing calibration. Three PCB aroclors (PCB 1016, 1260, and 1262) and toxaphene were reported as less than the CRL ("LT") with no flag or qualifying code. Because they were not analyzed for in the samples, the results should be qualified as rejected.

All other SVOC are acceptable for use as reported.

# DATA QUALITY ASSESSMENT
# VOLATILE ORGANIC ANALYSES: SOIL
# METHOD: LM23
# LOT NO.: ANRP

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot ANRP was provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package, with the exception of percent moisture logbook pages. Sample moisture data was provided on the transfer file, but moisture raw data logbook pages were not provided. Transfer files, coding forms, USAEC Control Chart Response and DataChem QA Status Reports were provided.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; proper units for numerical values were used; and all laboratory notebook pages and chromatograms were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

Field Chain-of-Custody forms were present and complete for each sample in Lot ANRP. All forms were signed and dated. The field Chain-of-Custody forms indicated no problems with sample receipt conditions. All samples in Lot ANRP were analyzed.

Laboratory Chain-of-Custody forms were present and complete for each sample in Lot ANRP. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory Chain-of-Custody forms. The field ID and laboratory ID for Sample TDP-94-10A were tracked from the Chain-of-Custody forms, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. FIELD QUALITY CONTROL

No field, equipment, or trip blanks were submitted with Lot ANRP. This lot did not contain any field duplicates.

## IV. TECHNICAL ASSESSMENT

### 1.0 Sample Holding Times: ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

The extraction holding time criterion listed in Method LM23 for soil matrices is seven days from date of sampling to date of extraction. All samples in Lot ANRP were extracted eight days after sampling. Standard (USEPA) holding time for soils is 14 days; no qualification is recommended. The analytical holding time criterion listed in Method LM23 for soil matrices is 14 days from date of sampling. All analyses were performed within 14 days of sampling.

### 2.0 GC/MS Instrument Performance Check: ACCEPTABLE/All criteria met.

Bromofluorobenzene (BFB) was analyzed at the beginning of each calibration sequence as required. All appropriate BFB data were provided and all results were within the specified control limits listed in the data package.

### 3.0 Initial and Continuing Calibration: ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

The initial calibration was performed at the proper frequency. Five standards were used, meeting USATHAMA PAM 11-41 criterion for Class 1A. Response factors and percent relative standard deviation (%RSD) values were calculated for several compounds (see Data Quality Assessment Worksheets). No transcription or calculation errors were noted. Two compounds (methyl ethyl ketone at 43% and methyl isobutyl ketone at 43%) had %RSD values above the 30% upper control limit. These compounds were not detected in any sample. The CRL were judged not significantly affected, and no action was taken.

Daily calibrations were run at the correct frequency (before and after sample analyses). All daily calibrations met the Method LM23 criteria. The calibrations had several percent difference (%D) values between daily and initial response factors above 25%. Compounds with outlying %D values are listed in the Data Quality Assessment Worksheets. There were no positive target compound results in any sample. The certified reporting limits (CRL) for non-detected compounds associated with a non-compliant %D values greater than 50% were judged as low biased, and would be estimated (UJ). However, all CRL were previously qualified as estimated due to extraction holding time criteria violations. No additional action was taken.

**4.0 Blank Analyses:** ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

The method blank was analyzed at the proper frequency (one for each lot). The blank was free of target analytes and unknowns above the CRL. Two compounds (methyl isobutyl ketone and 1,1,2,2,-tetrachloroethane) were detected at concentrations below the CRL. These compounds were not detected in any of the associated samples. No action was required.

**5.0 Surrogate Recovery:** ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

Surrogate compound percent recovery values (%R) were reviewed by recalculation. See the Data Quality Assessment Worksheets for examples of surrogate calculations. The upper and lower surrogate percent recovery limits from the control charts in the DataChem QA Status Report are based upon a standard matrix (ASTM Type II water) surrogate quality control spike. There are no control charts for field sample (natural matrix) surrogate recovery. For data assessment purposes, the surrogate %R values were compared to the limits specified in the three day moving average percent recovery control charts in the DataChem QA Status Report, and the surrogate recovery limits specified in the EPA Contract Laboratory Program (CLP) 3/90 Statement Of Work (SOW). The CLP SOW does not specify recovery limits for two of the USATHAMA-specified surrogate compounds, methylene chloride-d2 and ethylbenzene-d10. For these compounds, a recovery limit of ±20% (80% to 120% recovery range) was used to assess the field sample results.

All surrogate recovery values were within the limits specified by the EPA CLP 3/90 SOW. For surrogate compounds not specified in the EPA CLP 3/90 SOW, all recovery values fell within the 80% to 120% acceptance range. All surrogates satisfied USAEC criteria.

**6.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Sample Analyses:** ACCEPTABLE/All criteria met.

All spiking compounds in the MS/MSD analyses satisfied EPA percent recovery (%R) and RPD criteria. No calculation or transcription errors were found.

**7.0 Laboratory Control Sample (LCS):** ACCEPTABLE/All criteria met.

Laboratory sample QC-39459-1 was analyzed with acceptable %R results.

**8.0 Internal Standards Performance:** ACCEPTABLE/All criteria met.

Analysis of areas and retention times for internal standards was conducted (see Data Quality Assessment Worksheets). No quality control criteria for internal standards are specified in USATHAMA PAM 11-41 or the laboratory method. For data assessment purposes, the criteria from EPA National Functional Guidelines was used to assess the internal standards.

All internal standard areas were within the acceptance window of 50% to 200% of the continuing calibration internal standard area. All retention times were within ±30 seconds of the continuing calibration internal standard retention time.

**9.0 Compound Identification:** ACCEPTABLE/All criteria met.

Target compounds were not detected in the samples. Compound identifications from the method blank and spiked analyses were reviewed and are acceptable.

**10.0 Compound Quantitation and Certified Reporting Limits (CRL):** ACCEPTABLE/All criteria met.

The quantitation of target analytes were reviewed by recalculation. See the Data Quality Assessment Worksheets for examples of compound quantitation. All compound quantitations were performed correctly. The certified reporting limits met those listed in Method LM23. No transcription errors were noted.

**11.0 Unknown Compounds:** NONE REPORTED.

No unknown compounds were reported with the samples in this lot.

**12.0 System Performance:** ACCEPTABLE/All criteria met.

No signs of degraded instrument performance were observed. The analytical system was judged to have been in tune, within control, and stable during the course of these analyses.

## V. OVERALL ASSESSMENT/QC SUMMARY

Based on this evaluation, the laboratory followed the specified analytical method.

Laboratory precision was acceptable according to MS/MSD RPD values. Accuracy was acceptable, as demonstrated by surrogate spike and MS recovery values.

The DataChem QA Status Report noted that downward trends were present for the recovery values of ethylbenzene-d10 and methylene chloride-d8. The laboratory and the USAEC Control Chart Response recommends that Lot ANRP be accepted. As all recovery values (for surrogate and spike compounds) were within the EPA and control chart acceptance limits, the above noted trends do not have any affect on the data.

The data, as qualified, are acceptable for use.

# SEMIVOLATILE ORGANIC ANALYSES: SOIL
# METHOD: LM25
# LOT NO.: ANQQ

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot ANQQ were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package, with the exception of percent moisture logbook pages. Sample moisture data was provided on the transfer file, but moisture raw data logbook pages were not provided. Results for MS/MSD analyses have been included although they are not required by USATHAMA 11-41 for Class 1A analyses. Transfer files, DataChem QA Status Reports and USAEC Control Chart Response were provided. Final sample results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: Changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; correction fluid or tape was not found on any of the raw data; proper units for numerical values were used; the laboratory notebook pages and chromatograms were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

Field chain-of-custody forms were present and complete for each sample in Lot ANQQ. All forms were signed and dated. The field chain-of-custody forms indicated no problems with sample receipt conditions. All samples listed on ANQQ chain-of-custody forms were analyzed.

Laboratory chain-of-custody forms were present and complete for each sample in Lot ANQQ. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory chain-of-custody forms. The field IDs and laboratory IDs for all samples were tracked from the chain-of-custody forms, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. Field Quality Control

No field quality control samples (field replicates, field blanks, or trip blanks) were submitted with Lot ANQQ.

## IV. TECHNICAL ASSESSMENT

### 1.0 Sample Holding Times: ACCEPTABLE/All criteria met.

The extraction holding time criterion listed in Method LM25 for semivolatiles in a soil matrix is 14 days from date sampled to extraction date. The analytical holding time criterion listed in Method LM25 for soil matrices is 40 days from extraction date to date of analysis. All soil

samples were extracted within five days from the date of sampling, and analyzed within twelve days of the date of extraction.

**2.0 GC/MS Instrument Performance Check:** ACCEPTABLE/All criteria met.

DFTPP was analyzed at the beginning of each twelve hour analytical sequence as required. All DFTPP data were provided, and all results were within the specified control limits.

**3.0 Initial and Daily Calibration:** ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See Qualified Data Summary Table

***Discussion:***

The initial calibration was performed at the proper frequency. Six standards were used, meeting USATHAMA PAM 11-41 criterion for Class 1A. Relative response factors (RRF) and percent relative standard deviation (%RSD) values were verified by recalculation. No calculation or transcription errors were noted. During data assessment, only positive results in the associated samples would be qualified on the basis of outlying curve linearity (indicated by %RSD values above 30%). All positive results were associated with acceptable compound curves. No action required.

Several compounds (heptachloroepoxide, chlordane and endosulfan II) had RRF values below the 0.05 lower control limit. These compounds are not consistently recoverable using GCMS methods, and historically have very low response factors. However, these compounds had acceptable %RSD values, indicating a stable response, and all RRF values were above 0.01. No action was taken.

Four compounds (PCB-1016, PCB-1260, PCB-1262, and toxaphene) were not included in the initial calibration, any daily calibration, and were not part of the list of compounds scanned for in any sample. These compounds were reported on the transfer files as LT (less than) values, with no laboratory flags. As these compounds were not scanned for (except as unknown compounds), the reporting limits (CRL) are rejected (R).

Continuing calibrations (CCAL) were run at the correct frequency (before and after sample analyses). All daily calibrations met the Method LM25 criteria. All of the CCAL had compounds with percent difference (%D) values greater than the ±25% control limits. A list of all %D outliers is in the Data Validation Worksheet. There were no positive results for any of these compounds in the samples. The detection limits (CRL) were judged not significantly affected, and no action was taken. All other %D values were acceptable.

**4.0 Blank Analyses:** ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See Qualified Data Summary Table

***Discussion:***

A method blank was analyzed at the required frequency. No target compounds were detected in the method blank. Several unknown compounds were detected. A list of all compounds detected in the method blank is in the Data Quality Assessment Worksheet. Action levels were established at ten times the concentration in the blank. Unknown compounds that were detected in the samples at concentrations less than the action levels were rejected (R). The unknown compounds were verified using the scan number, retention times, and a comparison of the mass spectra.

No field or equipment blanks were submitted with this lot.

**5.0 Surrogate Recovery:** ACCEPTABLE/With the following discussion.

***Qualified Data*:** None.

***Discussion*:**

Surrogate compound percent recoveries (%R) were reviewed by recalculation. See the Data Quality Assessment Worksheets for examples of surrogate calculations. The upper and lower surrogate percent recovery limits from the control charts in the DataChem QA Status Report are based upon a standard matrix (ASTM Type II water) surrogate quality control spike. There are no control charts for field sample (natural matrix) surrogate recovery. For data assessment purposes, the surrogate percent recoveries were compared to the limits specified in the three day moving average percent recovery control charts in the DataChem QA Status Report, and the surrogate recovery limits specified in the EPA Contract Laboratory Program (CLP) 3/90 Statement Of Work (SOW). The CLP SOW does not specify recovery limits for two of the USATHAMA-specified surrogate compounds, di-n-octyl phthalate-d4 and diethylphthalate-d4. For these compounds, a recovery range of 20% to 130% was used to assess the field sample results. The range is the same as the range recommended in the CLP SOW for new surrogate compounds.

One surrogate standard (di-n-octyl phthalate-d4) had percent recovery values above the 130% upper control limit (UCL) criterion in the blank and four samples. These samples also had high recoveries for diethyl phthalate-d4. Although these surrogate compounds are both part of the base-neutral fraction, these compounds are not discussed in the EPA CLP 3/90 SOW. The 130% upper control limit was established during the data quality assessment as a recommended control limit. As all other surrogates (both base-neutral and acid fractions) had percent recovery values within the specified EPA CLP 3/90 SOW control limits, no action was taken on the basis of the phthalate surrogate recovery outliers. For surrogate compounds not specified in the, all other recoveries fell within the 20% to 130% recovery range.

In the 13 field and QC sample analyses, 11 analyses each had from one to three percent recovery values outside the acceptance range specified in the DataChem QA Status Report control charts. The samples and the surrogate outliers are listed in the Data Quality Assessment Worksheet. As the surrogate percent recoveries met the CLP limits (except as noted above), and as the surrogate

recoveries were not significantly outside the control chart limits, no qualifiers were issued to the samples based on control chart surrogate percent recovery outliers.

## 6.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Sample Analyses:
ACCEPTABLE/With the following discussion.

***Qualified Data*:** None.

***Discussion*:**

MS/MSD analyses were submitted with lot ANQQ. MS/MSD analyses were performed using Sample TDP-94-05B. The percent recovery values for 2,4-dinitrotoluene were 102% in the MS and 103% in the MSD, above the upper control limit of 89%. No action was taken. All other percent recovery (%R) values are within the control limits specified in the EPA CLP 3/90 SOW, indicating an acceptable degree of accuracy. All relative percent difference (RPD) values are eight percent or less, indicating an acceptable degree of precision.

## 7.0 Field Duplicates: NOT SUBMITTED

Field duplicate samples were not submitted as part of Lot ANQQ.

## 8.0 Internal Standards Performance: ACCEPTABLE/With the following discussion.

***Qualified Data*:** None.

***Discussion*:**

Analysis of areas and retention times for internal standards was conducted (see Data Quality Assessment Worksheets). No quality control criteria for internal standards are specified in USATHAMA PAM 11-41 or the laboratory method. For data assessment purposes, the criteria from U.S. EPA National Functional Guidelines was used to assess the internal standards.

All internal standard areas were within the acceptance window of 50% to 200% of the continuing calibration internal standard area. All retention times were within ±30 seconds of the continuing calibration internal standard retention time.

## 9.0 Compound Identification: ACCEPTABLE/All criteria met.

All compound identifications were reviewed and are found to be acceptable.

## 10.0 Compound Quantitation and Certified Reporting Limits (CRL):
ACCEPTABLE/All criteria met.

There were no positive results for any target compounds in the samples. Surrogate and matrix spiking compound quantitation were recalculated using the method described in the CLP SOW, with results similar to those reported by the laboratory. The compound quantitations were

judged to be acceptable. The reported CRL met those listed in Method LM25. No transcription errors were found.

**11.0 Unknown Compounds:** ACCEPTABLE/With the following qualification.

***Qualified Data*:** See Section 4.0. All other unknown compounds were qualified JN.

***Discussion*:**

Mass spectral library searches to identify unknown (non-target) compounds were performed as required, and all reported identifications were acceptable. As discussed in Section 4.0, unknown compounds in a sample that were also detected in the associated method blank were rejected (R). All other unknown compounds are qualified as estimated with tentative identification (JN).

**12.0 System Performance:** ACCEPTABLE/All criteria met.

No signs of degraded instrument performance were observed. The analytical systems were judged to have been in tune, within control, and stable during the course of these analyses.

## 13.0 OVERALL ASSESSMENT/QC SUMMARY

Based on this evaluation, the laboratory followed the specified analytical method.

Accuracy is acceptable, as demonstrated by the %R values of surrogate and matrix spike recoveries. Precision is acceptable on the basis of MS/MSD RPD values.

The DataChem QC Status report notes the following trends were found in Lot ANQQ: terphenyl-d14 recoveries are trending below the mean, and 2-chlorophenol-d4, 2-fluorobiphenyl, 2-fluorophenol, diethyl phthalate-d4, nitrobenzene-d5 and phenol-d6 recoveries were going in a downward direction. The individual outlier listed was a low recovery for 2-fluorobiphenyl. One compound (1,3-dichlorobenzene-d4) was flagged as being above the range UCL, although the percent recovery was acceptable. The DataChem QA Status Report recommends that Lot ANQQ be accepted. The USAEC Control Chart Response letter accepts Lot ANQQ with no comments. The above noted trends and outliers have no significant impact upon the reported data.

Data qualifiers were assigned due to calibration outliers (compounds not included in the calibration) and blank contamination. Unknown (non-target) compounds that were not qualified due to blank contamination received a JN flag.

Data that are rejected are unusable for any purpose. All other data, as qualified, are acceptable for use.

## Qualified Data Summary Table Lot No: ANQQ

| Analyte | Code | Qualifier | Sample ID | Concentration | Reason | Report Section |
|---|---|---|---|---|---|---|
| UNK530 | UNK530 | R | TDP-94-05B | 0.8 | < Action Level | 4 |
| UNK537 | UNK537 | R | TDP-94-05B | 0.3 | < Action Level | 4 |
| UNK643 | UNK643 | R | TDP-94-05B | 0.3 | < Action Level | 4 |
| UNK530 | UNK530 | R | TDP-94-06A | 1.0 | < Action Level | 4 |
| UNK537 | UNK537 | R | TDP-94-06A | 0.4 | < Action Level | 4 |
| UNK643 | UNK643 | R | TDP-94-06A | 1.0 | < Action Level | 4 |
| UNK530 | UNK530 | R | TDP-94-06B | 0.6 | < Action Level | 4 |
| UNK537 | UNK537 | R | TDP-94-06B | 0.3 | < Action Level | 4 |
| UNK530 | UNK530 | R | TDP-94-07A | 0.8 | < Action Level | 4 |
| UNK537 | UNK537 | R | TDP-94-07A | 0.8 | < Action Level | 4 |
| UNK643 | UNK643 | R | TDP-94-07A | 0.3 | < Action Level | 4 |
| UNK530 | UNK530 | R | TDP-94-07B | 0.6 | < Action Level | 4 |
| UNK537 | UNK537 | R | TDP-94-07B | 0.3 | < Action Level | 4 |
| UNK643 | UNK643 | R | TDP-94-07B | 0.5 | < Action Level | 4 |
| UNK530 | UNK530 | R | TDP-94-03A | 0.4 | < Action Level | 4 |
| UNK537 | UNK537 | R | TDP-94-03A | 0.4 | < Action Level | 4 |
| UNK530 | UNK530 | R | TDP-94-03B | 0.6 | < Action Level | 4 |
| UNK537 | UNK537 | R | TDP-94-03B | 0.5 | < Action Level | 4 |
| UNK643 | UNK643 | R | TDP-94-03B | 0.7 | < Action Level | 4 |
| UNK530 | UNK530 | R | TDP-94-04A | 0.5 | < Action Level | 4 |
| UNK537 | UNK537 | R | TDP-94-04A | 0.3 | < Action Level | 4 |
| UNK530 | UNK530 | R | TDP-94-04B | 0.5 | < Action Level | 4 |
| UNK537 | UNK537 | R | TDP-94-04B | 0.3 | < Action Level | 4 |
| UNK643 | UNK643 | R | TDP-94-04B | 0.5 | < Action Level | 4 |
| UNK530 | UNK530 | R | TDP-94-05A | 0.5 | < Action Level | 4 |
| | | | | | | |
| | | | | | | |
| PCB 1016 | PCB016 | R | All Samples | CRL = 0.32 | Analytes not scanned | 3 |
| PCB 1260 | PCB260 | R | All Samples | CRL = 0.79 | Analytes not scanned | 3 |
| PCB 1262 | PCB262 | R | All Samples | CRL = 6.3 | Analytes not scanned | 3 |
| Toxaphene | TXPHEN | R | All Samples | CRL = 12 | Analytes not scanned | 3 |

EcoChem, Inc.

Environmental Science and Chemistry

# DATA QUALITY ASSESSMENT

## TOOELE ARMY DEPOT—NORTH AREA
## DAAA15-90-D-0007, TASK 0003

## SWMU 22
## BUILDING 1303 WASHOUT POND

**Prepared for:**

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EcoChem Project Number: 8901-30

December 20, 1994

**Approved for Release:**

Jeri A. Hoyd for
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Project Manager
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## DATA QUALITY ASSESSMENT SUMMARY

***Basis for Data Quality Assessment***

This report summarizes the results of data quality assessment performed on soil samples and associated laboratory quality control samples. Refer to the Sample Index for sample identifications.

Samples were analyzed for the following parameters and were reviewed by the chemists listed below:

| SWMU | Test | Lot | Method (Matrix) | Primary | Secondary |
|---|---|---|---|---|---|
| SWMU 22 | Cyanide | ANLG | KY15 (SOIL) | Jason Ai | W. Jaime Bruton |
| | ICP Metals | ANWJ | JS12 (SOIL) | Jason Ai | W. Jaime Bruton |

Data assessment was based on the QC criteria recommended in the above listed method; the *Tooele Army Depot—North Area QC Plan*; *USEPA Functional Guidelines for Organic and Inorganic Data Review*; and *USATHAMA (USAEC) Quality Assurance Program (PAM 11-41).*

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are assigned a J or UJ, data may be used for site evaluation and risk assessment purposes, but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R, the data are to be rejected and should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the above-referenced documents and method.

Copies of the qualified transfer files are included as **APPENDIX A.** Each lot report also contains a summary table of qualified results. Data Quality Assessment Worksheets, Communication, and Corrective Action Records have been placed in labeled envelopes with the original data packages.

### DATA VALIDATION QUALIFIER CODES

| | |
|---|---|
| U | The material was analyzed for, but was not detected. The associated numerical value is the certified reporting limit. |
| R | Unreliable result. Data should not be used. Analyte may or may not be present in the sample. |

# DATA QUALITY ASSESSMENT
# CYANIDE ANALYSES: SOIL
# METHOD: KY15
# LOT NO.: ANLG

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot ANLG were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package. Control charts, DataChem QA status report and USAEC control chart response were provided in this data package. Final sample results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and all laboratory notebook pages and strip chart printouts were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

Field chain-of-custody (COC) forms for Lot ANLG were completed properly, and all samples listed in the COC forms were analyzed. All forms were signed and dated. The field chain-of-custody forms indicated no problems with sample receipt conditions.

Laboratory chain-of-custody forms were present and complete for Lot ANLG samples. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory chain-of-custody forms. A minimum of 10% of the field ID and laboratory ID were tracked from the chain-of-custody forms, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. FIELD QC SUMMARY

One set of field duplicate samples (BWS-94-09/BWS-94-18) was analyzed and reviewed. Cyanide was not detected in these two samples. The relative percent difference (RPD) value for this set of field duplicate samples was not calculable.

No field blank was submitted with Lot ANLG samples.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All samples were analyzed within the method specified holding time of 14 days from date of collection to analysis.

### 2.0 Instrument Calibration: ACCEPTABLE/All criteria met.

For the initial calibration, the minimum number of standards were used, which met the method criterion. The linearity requirement of $r \geq$ to 0.995 was met. The laboratory analyzed a continuing calibration standard every ten samples as required. All percent recovery (%R) values of initial and continuing calibration verifications were within the control limits of 90% to 110%.

### 3.0 Blank Analyses: ACCEPTABLE/All criteria met.

Calibration blanks (ICB and CCB) and preparation blanks (PB) were evaluated for possible contamination effects. Calibration blanks were also evaluated for causing possible low bias in associated sample results. Continuing calibration blanks were analyzed after each continuing calibration standard as required. Preparation blanks were prepared with each digestion batch as required. No target analytes were detected in the blanks at or above the reporting limits.

### 4.0 Matrix Spike/Matrix Spike Duplicate Sample Analyses: ACCEPTABLE/All criteria met.

One set of MS/MSD analyses was performed on Sample BWS-94-01. The %R values for cyanide were 100.6% and 98.7%, which were within the control limits of 75% to 125%. The RPD value for this MS/MSD set was 1.9%, which was within the control limit of 35%.

### 5.0 High Spike and Low Spike Analyses: ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

#### *Discussion*

Two high spike and one low spike analyses were performed with each sample lot. The %R values of both high spike analyses were 101.1% and 103.0%, which were slightly greater than the control chart upper limit of 99.9%. Since these percent recovery values were within the control limits specified in the Functional Guidelines (2/94), no action was taken. The %R values of the low spike analysis was 94.8%, which was within the control chart limits of 68.8% to 106.2%.

### 6.0 Certified Reporting Limits (CRL): ACCEPTABLE/All criteria met.

The reporting limits for cyanide were reviewed. All reporting limits matched the certified reporting limit listed in the laboratory SOP.

**7.0 Calculations:** ACCEPTABLE/All criteria met.

Cyanide was not detected in any of the samples. No transcription errors or calculation errors were noted in the sample result data.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method. No technical deficiencies were found.

The USAES Chemistry Branch Response indicates that Lot ANLG is acceptable. The laboratory noted high spike recovery values above the control chart upper limit for cyanide. No qualification is recommended based on these observations.

All data, as reported, are acceptable for use.

# DATA QUALITY ASSESSMENT
# METALS-ICP ANALYSES: SOIL
# METHOD: JS12
# LOT NO.: ANWJ

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot ANWJ were provided by the laboratory to meet USATHAMA PAM-11-41 requirements for this data package. Control charts, DataChem QA status report and USAEC control chart response were provided in this data package. Final samples results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and all laboratory notebook pages and strip chart printouts were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

The field chain-of-custody forms were present and complete for Lot ANWJ. All Lot ANWJ samples listed on the chain-of-custody were analyzed. Transcription errors were found in Samples BRB-94-12A, BRB-94-12B, and BRB-94-12C. These sample IDs were incorrectly reported as BRP-94-12A, BRP-94-12B, and BRP-94-12C. in the laboratory chain-of-custody, transfer file printout, and raw data. The laboratory was contacted and corrected forms have not yet been received from the laboratory. All other sample IDs were tracked from the field chain-of-custody to the transfer file printout and no errors were noted. Internal chain-of-custody forms clearly indicated the laboratory numbers and field sample IDs for each sample.

## III. FIELD QUALITY CONTROL

No field blanks or field duplicate samples were submitted with Lot ANWJ samples.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All samples were analyzed within the method specified holding time of 180 days from date of collection to analysis.

### 2.0 Instrument Calibration: ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

Instrument calibration consisted of one blank and one standard. Instrument sensitivity could not be evaluated with the documentation provided. All calibration check standards were within ±10% of the true value with the exception of a percent recovery (%R) for thallium at 127.2%. Since the %R value was greater than the upper control limit of 110% and thallium was not detected in any of the samples, no action was recommended. Plus or minus two times the standard deviation control limits were not utilized because historic calibration check results were not provided.

The laboratory analyzed a continuing calibration verification (CCV) standard every ten samples as required. The %R of the CCV were within ±10% of the true value. Plus or minus two times the standard deviation control limits were not utilized because historic calibration verification results were not provided.

## 4.0 Blank Analyses: ACCEPTABLE/With the following discussion.

***Qualified Data***: None.

***Discussion:***

Calibration blanks (CCB) and preparation blanks (PB) were evaluated for possible contamination effects. Calibration blanks were also evaluated for causing possible low bias in associated samples. Continuing calibration blanks were analyzed after each continuing calibration as required. A preparation blank was prepared with each digestion batch as required. No CCB result was greater than the reporting limit or less than the negative reporting limit, and no PB result was greater than the reporting limit. Aluminum, barium, calcium, chromium, iron, potassium, magnesium, manganese, vanadium, and zinc were detected in one QC blank (BL-39714-1). Since this soil blank sample (from RMA soil, R3D-381) was unwashed soil, no qualifications were recommended.

## 5.0 Matrix Spike Sample Analyses: ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See Qualified Data Summary Table ANWJ-1.

***Discussion:***

MS/MSD analyses were performed on Samples OSP-94-05A and BRB-94-12A. The MS %R value for chromium in the first set of MS/MSD analyses was 74%, which was slightly less than the lower control limit of 75%. Since the MSD %R value and relative percent difference (RPD) values were within the control limits, no action was recommended. The antimony %R values in both MS/MSD analyses were 0%, which indicates antimony analyses by ICP method were questionable. Antimony was not detected in any of the samples leading to a possibility of false non-detects. The quantitation limits for antimony were rejected and not usable for any purposes. All other %R values and RPD values were within the control limits.

## 6.0 High Spike and Low Spike Analyses: ACCEPTABLE/With the following discussion.

***Qualified Data:*** See Qualified Data Summary Table ANWJ-1.

***Discussion:***

One low spike and two high spike analyses were performed with this sample lot. Recovery values were evaluated based on the control chart upper and lower limits. The %R of low spike and high spike analyses were within the control limits, with the exception of those listed in the table below.

| Analyte | Low Spike | Control Limit | 1st High Spike | 2nd High Spike | Control Limits |
|---|---|---|---|---|---|
| Beryllium | Acceptable | 92.5% to 105.1% | 99% | 100% | 94.2% to 98.8% |
| Cadmium | Acceptable | 86.6% to 107.8% | 98% | 100% | 92.4% to 97.2% |
| Cobalt | Acceptable | 94.8% to 124.2% | Acceptable | 103% | 95.0% to 102.2% |
| Chromium | Acceptable | 90.3% to 111.5% | 101% | 102% | 96.6% to 100.4% |
| Copper | Acceptable | 104.8% to 121.8% | Acceptable | 101% | 95.2% to 100.4% |
| Nickel | Acceptable | 88.8% to 126.2% | Acceptable | 101% | 94.0% to 100.8% |
| Lead | Acceptable | 88.9% to 116.9% | 102% | 104% | 95.1% to 100.3% |
| Antimony | Acceptable | 45.1% to 75.9% | Acceptable | 87.8% | 79.1% to 87.7% |
| Vanadium | 42.0% | 69.2% to 127.8% | Acceptable | Acceptable | 92.8% to 101.4% |
| Zinc | 76.7% | 88.5% to 104.7% | Acceptable | Acceptable | 93.7% to 100.3% |

The vanadium low spike %R value was less than both the USAEC control limit and the control limit specified in Functional Guidelines (2/94). Vanadium results in field samples that were less than the high spike concentration (30 µg/g) were considered biased low and were qualified as estimated. Since both vanadium high spike %R values were within the control limits, vanadium results greater than the high spike concentration were acceptable and no other qualifications are recommended.

All other spike recovery values were close to the USAEC control limits and still within the control limit specified in Functional Guidelines (2/94), no other qualifications are recommended.

## 7.0 Duplicate Sample Analyses: NOT APPLICABLE

Laboratory duplicate analyses were not performed with this sample lot.

## 8.0 ICP Interference Check Sample (ICS) Analyses: NOT PERFORMED

ICP interference check sample analyses were not performed with this sample lot.

## 9.0 Certified Reporting Limits (CRL): ACCEPTABLE/All criteria met.

The reporting limit for each analyte was reviewed. All reporting limits matched the certified reporting limit listed in the laboratory SOP.

**10.0 Calculations:** ACCEPTABLE/All criteria met.

No transcription errors or calculation errors were noted in the sample result data.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method. No technical deficiencies were found.

The USAEC Chemistry Branch Response indicates that Lot ANWJ is partially acceptable. The laboratory noted high spike recovery values trending above the central line for cadmium and lead; high spike recovery values moving in a downward direction for chromium; low spike range trending above the central line for boron, beryllium, and lead; low spike recovery values trending below the central line for copper and molybdenum; low spike recovery values moving in an upward direction for cobalt, tin, tellurium and thallium; low spike recovery values moving in a downward direction for molybdenum, nickel, lead, vanadium and zinc; and low spike recovery values less than the control chart lower limits for vanadium and zinc.

Vanadium was flagged with a "7" by the laboratory indicating low spike recovery. All vanadium results that were less than the high spike concentration (30 µg/g) should be considered biased low and qualified. The zinc low spike %R value was 76.7%, which was less than the control chart lower limit of 88.5%, but within the Functional Guidelines (2/94) control limits of 75% to 125%. No qualification was recommended. No other qualifications are recommended on these observations.

The data, as qualified, are acceptable for use.

# Qualified Data Summary Table Lot No: ANWJ

| Analyte | Code | Qualifier | Sample ID | Concentration | Reason | Report Section |
|---|---|---|---|---|---|---|
| Antimony | SB | R | OSP-94-05A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OSP-94-05B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OSP-94-05C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OSP-94-06A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OSP-94-06B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OSP-94-06C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-01A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-01B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-01C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-02A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-02B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-02C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-03A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-03B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-03C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRB-94-12A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRB-94-12B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRB-94-12C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-03A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-03B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-03C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-09A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-09B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-07A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-07B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-07C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-01A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-01B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-01C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-13A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-13B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-13C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-02A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-02B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-02C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Vanadium | V | J | OSP-94-05A | 21.7 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | OSP-94-05B | 13.7 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | OSP-94-05C | 10.6 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | OSP-94-06A | 21.0 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | OSP-94-06B | 13.3 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | OSP-94-06C | 16.8 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BWB-94-01A | 10.6 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BWB-94-01B | 15.3 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BWB-94-02A | 10.9 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BWB-94-02B | 7.33 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BWB-94-03A | 10.2 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BWB-94-03B | 20.4 ug/g | LS %R = 42.2% | 6 |

# Qualified Data Summary Table Lot No: ANWJ

| Analyte | Code | Qualifier | Sample ID | Concentration | Reason | Report Section |
|---|---|---|---|---|---|---|
| Vanadium | V | J | BWB-94-03C | 7.85 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRB-94-12A | 15.1 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRB-94-12B | 22.0 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRB-94-12C | 14.1 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-03A | 21.2 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-03B | 15.1 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-03C | 11.4 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-09A | 12.2 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-09B | 10.3 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-07A | 21.9 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-07B | 10.4 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-07C | 6.88 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-01A | 20.0 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-01B | 14.7 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-01C | 18.3 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-13A | 12.0 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-13B | 6.10 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-13C | 4.34 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-02A | 12.8 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-02B | 21.8 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-02C | 8.52 ug/g | LS %R = 42.2% | 6 |

EcoChem, Inc.

Environmental Science and Chemistry

# DATA QUALITY ASSESSMENT

## TOOELE ARMY DEPOT—NORTH AREA
## DAAA15-90-D-0007, TASK 0003

## SWMU 23
## BOMB AND SHELL RECONDITIONING BUILDING

**Prepared for:**

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EcoChem Project Number: 8901-30

December 20, 1994

**Approved for Release:**

Jeri A. Hoyel for
Mark T. Brindle
Project Manager
**EcoChem, Inc.**

# DATA QUALITY ASSESSMENT SUMMARY

***Basis for Data Quality Assessment***

This report summarizes the results of data quality assessment performed on soil samples and associated laboratory quality control samples. Refer to the Sample Index for sample identifications.

Samples were analyzed for the following parameters and were reviewed by the chemists listed below:

| SWMU | Test | Lot | Method (Matrix) | Primary | Secondary |
|---|---|---|---|---|---|
| SWMU 23 | Arsenic | ANWH | B9 (SOIL) | Jason Ai | W. Jaime Bruton |
| | PCBs | ANVA | LH17 (SOIL) | Marcia Bender | Eric Strout |
| | ICP Metals | ANWJ | JS12 (SOIL) | Jason Ai | W. Jaime Bruton |

Data assessment was based on the QC criteria recommended in the above listed method; the *Tooele Army Depot—North Area QC Plan*; *USEPA Functional Guidelines for Organic and Inorganic Data Review*; and *USATHAMA (USAEC) Quality Assurance Program (PAM 11-41)*.

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are assigned a J or UJ, data may be used for site evaluation and risk assessment purposes, but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R, the data are to be rejected and should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the above-referenced documents and method.

Copies of the qualified transfer files are included as **APPENDIX A**. Each lot report also contains a summary table of qualified results. Data Quality Assessment Worksheets, Communication, and Corrective Action Records have been placed in labeled envelopes with the original data packages.

## DATA VALIDATION QUALIFIER CODES

| | |
|---|---|
| U | The material was analyzed for, but was not detected. The associated numerical value is the certified reporting limit. |
| R | Unreliable result. Data should not be used. Analyte may or may not be present in the sample. |

| | |
|---|---|
| J | Analyte present. Reported value is an estimate that may not be accurate or precise. Data Quality Assessment Report should be consulted for reason. |
| UJ | Not detected. Detection limit may be inaccurate or imprecise and may not be equal to certified reporting limit. Data Quality Assessment Report should be consulted for reason. |

## SITE DATA QUALITY SUMMARY: *SWMU 23—BOMB AND SHELL RECONDITIONING BUILDING*

### *Arsenic*

One lot of arsenic analyses of soil samples using Method B9 was reviewed. Data were found to be acceptable for use without qualification.

### *PCBs*

One lot of PCB analyses of soil samples using Method LH17 was reviewed. Data were found to be acceptable for use without qualification.

### *ICP-Metals*

One lot of ICP-metal analyses of soil samples using method JS12 was reviewed. All vanadium results less than the high spike concentration were qualified as estimated. These results are considered biased low by approximately 40% and the qualified results are slightly less precise than unqualified data. Qualification was recommended by both USAEC and EcoChem.

All antimony detection limits were rejected because of zero antimony recovery in the natural (matrix) spikes. This indicates the possibility of false negatives. The USAEC did not flag this problem because natural spikes are not part of the USAEC QA program; however, they recommend against using Method JS12 for antimony in soil samples because of known poor recovery problems.

Zinc data was qualified as estimated by the USAEC due to low spike recovery. Since the spike recovery was acceptable under Functional Guidelines, we recommend accepting the data without qualification. The results should be considered acceptable for all uses with the understanding that the results are potentially biased low by approximately 25%.

# DATA QUALITY ASSESSMENT
# ARSENIC—GFAA ANALYSES: SOIL
# METHOD: B9
# LOT NO.: ANWH

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot ANWH were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package. Control charts, DataChem QA status report and USAEC control chart response were provided in this data package. Final sample results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and all laboratory notebook pages and strip chart printouts were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

Field chain-of-custody (COC) forms for Lot ANWH were completed properly, and all samples listed in the COC forms were analyzed. All forms were signed and dated. The field chain-of-custody forms indicated no problems with sample receipt conditions.

Laboratory chain-of-custody forms were present and complete for Lot ANWH samples. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory chain-of-custody forms. A minimum of 10% of the field ID and laboratory ID were tracked from the chain-of-custody forms, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. FIELD QC SUMMARY

Two sets of field duplicate samples (BRP-94-09C/BRP-94-18C and OSP-94-04C/OSP-94-07A) were analyzed and reviewed. The relative percent difference (RPD) values for these two sets of field duplicate samples were 4.9% and 6.9%, respectively.

No field blanks were submitted with Lot ANWH samples.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All samples were analyzed within the method specified holding time of 180 days from date of collection to analysis.

**2.0 Instrument Calibration:** ACCEPTABLE/All criteria met.

For the initial calibration, the minimum number of standards were used, which met the method criterion. The linearity requirement of r ≥ to 0.995 was met. The laboratory analyzed a continuing calibration standard every ten samples as required. All percent recovery (%R) values of initial and continuing calibration verifications were within the control limits of 90% to 110%.

**3.0 Blank Analyses:** ACCEPTABLE/All criteria met.

Calibration blanks (ICB and CCB) and preparation blanks (PB) were evaluated for possible contamination effects. Calibration blanks were also evaluated for causing possible low bias in associated sample results. Continuing calibration blanks were analyzed after each continuing calibration as required. Preparation blanks were prepared with each digestion batch as required. No target analytes were detected in the blanks at or above the reporting limits.

**4.0 Matrix Spike/Matrix Spike Duplicate Sample Analyses:** ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

Two sets of MS/MSD analyses were performed on Samples OSP-94-01A and BRB-94-16A. The %R values for the first set of MS/MSD analyses were 196.0% and 55.0%, which were both outside the Functional Guidelines (2/94) control limit of 75% to 125%. The RPD value for the first set of MS/MSD analyses was 112.4%, which was greater than the control limit of 35%. The %R values for the second MS/MSD set were 80.7% (within control limits), and 69.7%, (less than the control limit). The RPD value for the second set of MS/MSD analyses was 14.6%, which was within the control limit of 35%.

Since MS/MSD analyses were not required in the USATHAMA program and high and low spike recovery values were within the control limits, arsenic results were not qualified due to low or high percent recovery values. However, arsenic results should be considered as estimated.

**5.0 High Spike and Low Spike Analyses:** ACCEPTABLE/All criteria met.

Two high spike and one low spike analyses were performed with each sample lot. The percent recovery values of both high spike analyses were 95.7% and 94.3%, which were within the control chart limits of 86.9% to 109.5%. The percent recovery value of the low spike analysis was 103.9%, which was within the control chart limit of 92.0% to 104.2%.

**6.0 Certified Reporting Limits (CRL):** ACCEPTABLE/All criteria met.

The reporting limits for arsenic were reviewed. All reporting limits match the certified reporting limit listed in the laboratory SOP.

**7.0 Calculations:** ACCEPTABLE/All criteria met.

No transcription errors or calculation errors were noted in the sample result data.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method. No technical deficiencies were found.

The USAEC Chemistry Branch Response indicates that Lot ANWH is acceptable. The laboratory noted high spike recovery values moving in an upward direction, and low spike recovery values trending above the mean. No qualification is recommended based on these observations.

The data, as reported, are acceptable for use.

# DATA QUALITY ASSESSMENT
# PCB ANALYSES: SOIL
# METHOD: LH17
# LOT NO.: ANVA

## I. DELIVERABLES AND DOCUMENTATION

Method LH17 is certified for pesticide/PCB compounds in soil. For Lot ANVA, only PCB compound analyses were requested, so a modified Method LH17 was used, reporting PCB compounds only.

All necessary documentation for Lot ANVA were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package, with the exception of percent moisture logbook pages. The sample percent moisture values on the transfer files could not be confirmed. Transfer files, the DataChem QA Status Report, and USAEC Control Chart Response were also provided.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; all laboratory notebook pages and chromatograms were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

Field chain-of-custody forms were present and complete for each sample in Lot ANVA. All forms were signed and dated. The field chain-of-custody forms indicated no problems with sample receipt conditions. All samples listed on the field chain-of-custody forms were analyzed, with the exception of one equipment rinsate sample, 3ER-39.

Laboratory chain-of-custody forms were present and complete for each sample in Lot ANVA. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory chain-of-custody forms. The field ID and laboratory ID for all samples were tracked from the chain-of-custody forms, transfer files, laboratory notebooks, and the raw data. Discrepancies were not found.

## III. FIELD QUALITY CONTROL

Sample 3ER-39 was identified on the field chain-of-custody form as a field equipment rinsate sample. This sample was not analyzed with Lot ANVA. No other field QC samples were identified.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All soil samples were extracted within seven days of collection and were analyzed within 17 days of extraction. The USATHAMA PAM 11-41-required extraction holding time limit of seven days and analysis holding time of 40 days were met.

### 2.0 Instrument Calibration: ACCEPTABLE/All criteria met.

The appropriate number of calibration standards were used to generate a zero-intercept model standard curve for PCB compounds. Linearity was acceptable for the standard curves. Recalculation results of the regression statistics for the curves agreed with the laboratory values.

### 3.0 Daily Calibration: ACCEPTABLE/All criteria met.

The results of the daily calibration standard agreed with the initial calibration standard within 25%. Percent difference (%D) values for PCB compounds were reported by the laboratory. All %D values were within control limits.

### 4.0 Blank Analysis: ACCEPTABLE/All criteria met.

One method blank was associated with the samples in this lot. Target PCB compounds were not detected in the method blank at or above the certified reporting limit (CRL).

### 5.0 Matrix Spike / Matrix Spike Duplicate Analyses: ACCEPTABLE/All criteria met.

The laboratory performed MS/MSD analyses at a frequency of one pair per 20 samples. MS/MSD analysis was performed on Sample BRB-94-16A. Aroclor 1016 and 1260 were contained in the spiking solution. Upper and lower control limits for the measurements of accuracy and precision for Aroclor spikes are not formalized; percent recovery values (%R) were within 35% R and relative percent difference values (RPD) were within 15 RPD and were judged acceptable.

### 6.0 High Spike Analysis: ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion***

One high spike analysis was performed with this sample lot. The percent recovery values of the high spike analysis were less than the control limits. However, for both target analytes analyzed in the high spike, the percent recovery values were slightly above the upper warning limit. No action was taken.

**7.0 Compound Identification:** ACCEPTABLE/All criteria met.

The chromatograms and raw data for Lot ANVA were reviewed for PCB compounds; no false negatives or false positives were found. There were no discrepancies between the raw data and the transfer files.

**8.0 Compound Quantitation and Certified Reporting Limit (CRL):** ACCEPTABLE/All criteria met.

Non-target PCB compounds were detected above the CRL in two samples. Compound quantitation was verified by recalculation, and no problems were found. The CRL on the transfer file met those listed in the method. No transcription errors were noted.

**9.0 Chromatogram Quality:** ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion***

The chromatogram quality was acceptable for the primary column. On the confirmation column, there was a baseline drift during the middle portion of the analyses. The baseline was manually drawn by the analyst. The baseline drift could result in a low bias; however, as the column was used for compound confirmation only, no data were affected and no action was taken.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method. No technical deficiencies were found. An examination of the DataChem QA Status Report that includes Lot ANVA revealed no values outside of control limits. The USAEC Control Chart Response accepts Lot ANVA with no comment.

Accuracy was generally acceptable, as demonstrated by the percent recovery values of the spiked compounds. Precision was acceptable, as demonstrated by the low RPD values of the MS/MSD set.

The data, as reported, are acceptable for use.

# DATA QUALITY ASSESSMENT
# METALS-ICP ANALYSES: SOIL
# METHOD: JS12
# LOT NO.: ANWJ

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot ANWJ were provided by the laboratory to meet USATHAMA PAM-11-41 requirements for this data package. Control charts, DataChem QA status report and USAEC control chart response were provided in this data package. Final samples results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and all laboratory notebook pages and strip chart printouts were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

The field chain-of-custody forms were present and complete for Lot ANWJ. All Lot ANWJ samples listed on the chain-of-custody were analyzed. Transcription errors were found in Samples BRB-94-12A, BRB-94-12B, and BRB-94-12C. These sample IDs were incorrectly reported as BRP-94-12A, BRP-94-12B, and BRP-94-12C. in the laboratory chain-of-custody, transfer file printout, and raw data. The laboratory was contacted and corrected forms have not yet been received from the laboratory. All other sample IDs were tracked from the field chain-of-custody to the transfer file printout and no errors were noted. Internal chain-of-custody forms clearly indicated the laboratory numbers and field sample IDs for each sample.

## III. FIELD QUALITY CONTROL

No field blanks or field duplicate samples were submitted with Lot ANWJ samples.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All samples were analyzed within the method specified holding time of 180 days from date of collection to analysis.

### 2.0 Instrument Calibration: ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

Instrument calibration consisted of one blank and one standard. Instrument sensitivity could not be evaluated with the documentation provided. All calibration check standards were within ±10% of the true value with the exception of a percent recovery (%R) for thallium at 127.2%. Since the %R value was greater than the upper control limit of 110% and thallium was not detected in any of the samples, no action was recommended. Plus or minus two times the standard deviation control limits were not utilized because historic calibration check results were not provided.

The laboratory analyzed a continuing calibration verification (CCV) standard every ten samples as required. The %R of the CCV were within ±10% of the true value. Plus or minus two times the standard deviation control limits were not utilized because historic calibration verification results were not provided.

## 4.0 Blank Analyses: ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

Calibration blanks (CCB) and preparation blanks (PB) were evaluated for possible contamination effects. Calibration blanks were also evaluated for causing possible low bias in associated samples. Continuing calibration blanks were analyzed after each continuing calibration as required. A preparation blank was prepared with each digestion batch as required. No CCB result was greater than the reporting limit or less than the negative reporting limit, and no PB result was greater than the reporting limit. Aluminum, barium, calcium, chromium, iron, potassium, magnesium, manganese, vanadium, and zinc were detected in one QC blank (BL-39714-1). Since this soil blank sample (from RMA soil, R3D-381) was unwashed soil, no qualifications were recommended.

## 5.0 Matrix Spike Sample Analyses: ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See Qualified Data Summary Table ANWJ-1.

***Discussion:***

MS/MSD analyses were performed on Samples OSP-94-05A and BRB-94-12A. The MS %R value for chromium in the first set of MS/MSD analyses was 74%, which was slightly less than the lower control limit of 75%. Since the MSD %R value and relative percent difference (RPD) values were within the control limits, no action was recommended. The antimony %R values in both MS/MSD analyses were 0%, which indicates antimony analyses by ICP method were questionable. Antimony was not detected in any of the samples leading to a possibility of false non-detects. The quantitation limits for antimony were rejected and not usable for any purposes. All other %R values and RPD values were within the control limits.

## 6.0 High Spike and Low Spike Analyses: ACCEPTABLE/With the following discussion.

***Qualified Data:*** See Qualified Data Summary Table ANWJ-1.

***Discussion:***

One low spike and two high spike analyses were performed with this sample lot. Recovery values were evaluated based on the control chart upper and lower limits. The %R of low spike and high spike analyses were within the control limits, with the exception of those listed in the table below.

| Analyte | Low Spike | Control Limit | 1st High Spike | 2nd High Spike | Control Limits |
|---|---|---|---|---|---|
| Beryllium | Acceptable | 92.5% to 105.1% | 99% | 100% | 94.2% to 98.8% |
| Cadmium | Acceptable | 86.6% to 107.8% | 98% | 100% | 92.4% to 97.2% |
| Cobalt | Acceptable | 94.8% to 124.2% | Acceptable | 103% | 95.0% to 102.2% |
| Chromium | Acceptable | 90.3% to 111.5% | 101% | 102% | 96.6% to 100.4% |
| Copper | Acceptable | 104.8% to 121.8% | Acceptable | 101% | 95.2% to 100.4% |
| Nickel | Acceptable | 88.8% to 126.2% | Acceptable | 101% | 94.0% to 100.8% |
| Lead | Acceptable | 88.9% to 116.9% | 102% | 104% | 95.1% to 100.3% |
| Antimony | Acceptable | 45.1% to 75.9% | Acceptable | 87.8% | 79.1% to 87.7% |
| Vanadium | 42.0% | 69.2% to 127.8% | Acceptable | Acceptable | 92.8% to 101.4% |
| Zinc | 76.7% | 88.5% to 104.7% | Acceptable | Acceptable | 93.7% to 100.3% |

The vanadium low spike %R value was less than both the USAEC control limit and the control limit specified in Functional Guidelines (2/94). Vanadium results in field samples that were less than the high spike concentration (30 µg/g) were considered biased low and were qualified as estimated. Since both vanadium high spike %R values were within the control limits, vanadium results greater than the high spike concentration were acceptable and no other qualifications are recommended.

All other spike recovery values were close to the USAEC control limits and still within the control limit specified in Functional Guidelines (2/94), no other qualifications are recommended.

## 7.0 Duplicate Sample Analyses: NOT APPLICABLE

Laboratory duplicate analyses were not performed with this sample lot.

## 8.0 ICP Interference Check Sample (ICS) Analyses: NOT PERFORMED

ICP interference check sample analyses were not performed with this sample lot.

## 9.0 Certified Reporting Limits (CRL): ACCEPTABLE/All criteria met.

The reporting limit for each analyte was reviewed. All reporting limits matched the certified reporting limit listed in the laboratory SOP.

**10.0 Calculations:** ACCEPTABLE/All criteria met.

No transcription errors or calculation errors were noted in the sample result data.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method. No technical deficiencies were found.

The USAEC Chemistry Branch Response indicates that Lot ANWJ is partially acceptable. The laboratory noted high spike recovery values trending above the central line for cadmium and lead; high spike recovery values moving in a downward direction for chromium; low spike range trending above the central line for boron, beryllium, and lead; low spike recovery values trending below the central line for copper and molybdenum; low spike recovery values moving in an upward direction for cobalt, tin, tellurium and thallium; low spike recovery values moving in a downward direction for molybdenum, nickel, lead, vanadium and zinc; and low spike recovery values less than the control chart lower limits for vanadium and zinc.

Vanadium was flagged with a "7" by the laboratory indicating low spike recovery. All vanadium results that were less than the high spike concentration (30 µg/g) should be considered biased low and qualified. The zinc low spike %R value was 76.7%, which was less than the control chart lower limit of 88.5%, but within the Functional Guidelines (2/94) control limits of 75% to 125%. No qualification was recommended. No other qualifications are recommended on these observations.

The data, as qualified, are acceptable for use.

# Qualified Data Summary Table Lot No: ANWJ

| Analyte | Code | Qualifier | Sample ID | Concentration | Reason | Report Section |
|---|---|---|---|---|---|---|
| Antimony | SB | R | OSP-94-05A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OSP-94-05B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OSP-94-05C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OSP-94-06A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OSP-94-06B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OSP-94-06C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-01A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-01B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-01C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-02A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-02B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-02C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-03A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-03B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-03C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRB-94-12A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRB-94-12B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRB-94-12C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-03A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-03B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-03C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-09A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-09B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-07A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-07B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-07C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-01A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-01B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-01C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-13A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-13B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-13C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-02A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-02B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-02C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Vanadium | V | J | OSP-94-05A | 21.7 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | OSP-94-05B | 13.7 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | OSP-94-05C | 10.6 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | OSP-94-06A | 21.0 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | OSP-94-06B | 13.3 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | OSP-94-06C | 16.8 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BWB-94-01A | 10.6 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BWB-94-01B | 15.3 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BWB-94-02A | 10.9 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BWB-94-02B | 7.33 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BWB-94-03A | 10.2 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BWB-94-03B | 20.4 ug/g | LS %R = 42.2% | 6 |

# Qualified Data Summary Table Lot No: ANWJ

| Analyte | Code | Qualifier | Sample ID | Concentration | Reason | Report Section |
|---|---|---|---|---|---|---|
| Vanadium | V | J | BWB-94-03C | 7.85 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRB-94-12A | 15.1 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRB-94-12B | 22.0 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRB-94-12C | 14.1 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-03A | 21.2 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-03B | 15.1 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-03C | 11.4 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-09A | 12.2 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-09B | 10.3 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-07A | 21.9 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-07B | 10.4 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-07C | 6.88 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-01A | 20.0 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-01B | 14.7 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-01C | 18.3 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-13A | 12.0 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-13B | 6.10 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-13C | 4.34 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-02A | 12.8 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-02B | 21.8 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-02C | 8.52 ug/g | LS %R = 42.2% | 6 |

EcoChem, Inc.

Environmental Science and Chemistry

# DATA QUALITY ASSESSMENT

## TOOELE ARMY DEPOT—NORTH AREA
## DAAA15-90-D-0007, TASK 0003

## SWMU 31
## FORMER TRANSFORMER BOXING AREA

**Prepared for:**

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EcoChem Project Number: 8901-30

December 20, 1994

**Approved for Release:**

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Project Manager
**EcoChem, Inc.**

# DATA QUALITY ASSESSMENT SUMMARY

***Basis for Data Quality Assessment***

This report summarizes the results of data quality assessment performed on soil samples and associated laboratory quality control samples. Refer to the Sample Index for sample identifications.

Samples were analyzed for the following parameters and were reviewed by the chemists listed below:

| SWMU | Test | Lot | Method (Matrix) | Primary | Secondary |
|---|---|---|---|---|---|
| SWMU 31 | ICP Metals | ANUC | JS12 (SOIL) | Jason Ai | W. Jaime Bruton |
| | SVOC | ANFR | LM25 (SOIL) | Bruce Tiffany | Eric Strout |

Data assessment was based on the QC criteria recommended in the above listed method; the *Tooele Army Depot—North Area QC Plan*; *USEPA Functional Guidelines for Organic and Inorganic Data Review*; and *USATHAMA (USAEC) Quality Assurance Program (PAM 11-41)*.

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are assigned a J or UJ, data may be used for site evaluation and risk assessment purposes, but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R, the data are to be rejected and should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the above-referenced documents and method.

Copies of the qualified transfer files are included as **APPENDIX A.** Each lot report also contains a summary table of qualified results. Data Quality Assessment Worksheets, Communication, and Corrective Action Records have been placed in labeled envelopes with the original data packages.

## DATA VALIDATION QUALIFIER CODES

| | |
|---|---|
| U | The material was analyzed for, but was not detected. The associated numerical value is the certified reporting limit. |
| R | Unreliable result. Data should not be used. Analyte may or may not be present in the sample. |

| | |
|---|---|
| J | Analyte present. Reported value is an estimate that may not be accurate or precise. Data Quality Assessment Report should be consulted for reason. |
| UJ | Not detected. Detection limit may be inaccurate or imprecise and may not be equal to certified reporting limit. Data Quality Assessment Report should be consulted for reason. |

## SITE DATA QUALITY SUMMARY: *SWMU 31—FORMER TRANSFORMER BOXING AREA*

### *ICP-Metals*

One lot of ICP-metal analyses of soil samples using method JS12 were reviewed. All antimony detection limits were rejected because of zero antimony recovery in the natural (matrix) spikes. this indicates the possibility of false negatives. The USAEC did not flag this problem because natural spikes are not part of the USAEC QA program; however, they recommend against using Method JS12 for antimony in soil samples because of known poor recovery problems.

### *Semivolatile Organic Compounds*

One lot of semivolatile organic compound (SVOC) analyses of soil samples using Method LM25 was reviewed. Bis(2-ethylhexyl)phthalate and several unknowns were qualified due to blank contamination. Hexachloro cyclopentadiene results (all non-detects) were qualified as estimated due to decreased sensitivity during continuing calibration. Three PCB aroclors (PCB 1016, 1260, and 1262) and toxaphene were reported as less than the CRL ("LT") with no flag or qualifying code. Because they were not analyzed for in the samples, the results should be qualified as rejected.

All other SVOC are acceptable for use as reported.

# DATA QUALITY ASSESSMENT
# METALS-ICP ANALYSES: SOIL
# METHOD: JS12
# LOT NO.: ANUC

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot ANUC were provided by the laboratory to meet USATHAMA PAM-11-41 requirements for this data package. Control charts, DataChem QA status report and USAEC control chart response were provided in this data package. Final samples results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and all laboratory notebook pages and strip chart printouts were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

The field chain-of-custody forms were present and complete for Lot ANUC. All Lot ANUC samples listed on the chain-of-custody were analyzed. Sample IDs were tracked from the field chain-of-custody to the transfer file printout and no errors were noted. Internal chain-of-custody forms clearly indicated the laboratory numbers and field sample IDs for each sample. No errors in field IDs were noted.

## III. FIELD QUALITY CONTROL

One set of field duplicate samples (TBS-94-09/TBS-94-22) was analyzed and reviewed. The relative percent difference (RPD) values for this set of field duplicate samples ranged from 0.4% to 15.2%, which were within the control limit of 50%.

No field blanks were submitted with Lot ANUC samples.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All samples were analyzed within the method specified holding time of 180 days from date of collection to analysis.

## 2.0 Instrument Calibration: ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

Instrument calibration consisted of one blank and one standard. Instrument sensitivity could not be evaluated with the documentation provided. All calibration check standards were within ±10% of the true value with the exception of thallium with a percent recovery (%R) value of 120.4%. Since the %R value was greater than the upper control limit of 110% and thallium was not detected in any of the samples, no action was recommended. Plus or minus two times the standard deviation control limits were not utilized because historic calibration check results were not provided.

The laboratory analyzed a continuing calibration verification (CCV) standard every ten samples as required. The percent recovery of the CCVs were within ±10% of the true value. Plus or minus two times the standard deviation control limits were not utilized because historic calibration verification results were not provided.

## 4.0 Blank Analyses: ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

Calibration blanks (CCB) and preparation blanks (PB) were evaluated for possible contamination effects. Calibration blanks were also evaluated for causing possible low bias in associated sample results. Continuing calibration blanks were analyzed after each continuing calibration as required. A preparation blank was prepared with each digestion batch as required. No CCB result was greater than the reporting limit or less than the negative reporting limit, and no PB result was greater than the reporting limit. Aluminum, barium, calcium, chromium, iron, potassium, magnesium, manganese, vanadium and zinc were detected in one QC blank (BL-38668-1). Since this soil blank sample (from RMA soil, R3D-381) was unwashed soil, no qualifications were recommended.

## 5.0 Matrix Spike Sample Analyses: ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See Qualified Data Summary Table ANUC-1.

***Discussion:***

Two sets of MS/MSD analyses were performed on Samples CRS-94-01 and CRS-94-14. The antimony %R values in both MS/MSD analyses were 0% which indicates antimony analyses by ICP method were questionable. As antimony was not detected in any of the samples a possibility of false non-detects exists. The quantitation limits for antimony were rejected and not usable for any purposes. All other %R and RPD values were within the control limits.

**6.0 High Spike and Low Spike Analyses:** ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

One low spike and two high spike analyses were performed with this sample lot. Recovery values were evaluated based on the control chart upper and lower limits. The %R values of low spike and high spike analyses were within the control limits, with the exception of those listed in the table below.

| Analyte | Low Spike | Control Limit | 1st High Spike | 2nd High Spike | Control Limits |
|---|---|---|---|---|---|
| Beryllium | Acceptable | 92.5% to 105.1% | Acceptable | 93.7% | 94.5% to 100.5% |
| Vanadium | Acceptable | 59.0% to 120.4% | Acceptable | 92.7% | 92.8% to 101.4% |

As these spike recovery values were close to the USAEC control limits and still within the control limit specified in Functional Guidelines (2/94), no qualifications are recommended.

**7.0 Duplicate Sample Analyses:** NOT APPLICABLE

Laboratory duplicate analyses were not performed with this sample lot.

**8.0 ICP Interference Check Sample (ICS) Analyses:** NOT PERFORMED

ICP interference check sample analyses were not performed with this sample lot.

**9.0 Certified Reporting Limits (CRL):** ACCEPTABLE/All criteria met.

The reporting limit for each analyte was reviewed. All reporting limits match the certified reporting limit listed in the laboratory SOP.

**10.0 Calculations:** ACCEPTABLE/All criteria met.

No transcription errors or calculation errors were noted in the sample result data.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method. No technical deficiencies were found.

The USAEC Chemistry Branch Response indicates that Lot ANUC is acceptable. The laboratory noted high spike recovery values trending above the central line for cadmium and lead; high spike recovery values moving in a downward direction for chromium; low spike recovery values above the central line for boron, beryllium, and lead; low spike recovery values trending below the central line for copper and molybdenum; low spike recovery values moving in an upward

direction for cobalt, tin, tellurium, and thallium; and low spike recovery values moving in a downward direction for molybdenum, nickel, lead, and vanadium. No other qualification is recommended based on these observations.

The data, as qualified, are acceptable for use.

# Qualified Data Summary Table Lot No: ANUC

| Analyte | Code | Qualifier | Sample ID | Concentration | Reason | Report Section |
|---|---|---|---|---|---|---|
| Antimony | SB | R | CRS-94-01 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-02 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-03 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-04 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-05 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-06 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-07 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-08 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-09 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-10 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-11 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-12 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-13 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-14 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-15 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-16 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-17 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | CRS-94-18 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OBS-94-29 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OBS-94-30 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OBS-94-31 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OBS-94-32 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TBS-94-09 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TBS-94-12 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TBS-94-15 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TBS-94-18 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TBS-94-21 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TBS-94-22 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TBS-94-03 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TBS-94-06 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |

# SEMIVOLATILE ORGANIC ANALYSES: SOIL
# METHOD: LM25
# LOT NO.: ANFR

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot ANFR were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package, with the exception of percent moisture logbook pages. Sample moisture data was provided on the transfer file, but moisture raw data logbook pages were not provided. Results for MS/MSD analyses have been included although they are not required by USATHAMA 11-41 for Class 1A analyses. Transfer files, DataChem QA Status Reports and USAEC Control Chart Response were provided. Final sample results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: Changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; correction fluid or tape was not found on any of the raw data; proper units for numerical values were used; the laboratory notebook pages and chromatograms were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

Field chain-of-custody forms were present and complete for each sample in Lot ANFR. All forms were signed and dated. The field chain-of-custody forms indicated no problems with sample receipt conditions. All samples listed on ANFR chain-of-custody forms were analyzed.

Laboratory chain-of-custody forms were present and complete for each sample in Lot ANFR. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory chain-of-custody forms. The field IDs and laboratory IDs for Samples VGS-94-RL and VGS-94-23 were tracked from the chain-of-custody forms, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. Field Quality Control

Two samples were submitted as a field duplicate set (TBS-94-09 and TBS-94-22). Relative percent difference (RPD) values were calculated for all positive results detected in both samples. Field precision is considered acceptable on the basis of low RPD values (<30%). No field or trip blanks were submitted with Lot ANFR.

## IV. TECHNICAL ASSESSMENT

### 1.0 Sample Holding Times: ACCEPTABLE/All criteria met.

The extraction holding time criterion listed in Method LM25 for semivolatiles in a soil matrix is 14 days from date sampled to extraction date. The analytical holding time criterion listed in Method LM25 for soil matrices is 40 days from extraction date to date of analysis. All soil samples were extracted within four days and analyzed within six days of extraction.

### 2.0 GC/MS Instrument Performance Check: ACCEPTABLE/All criteria met.

DFTPP was analyzed at the beginning of each twelve hour analytical sequence as required. All DFTPP data were provided, and all results were within the specified control limits.

### 3.0 Initial and Daily Calibration: ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See Qualified Data Summary Table

***Discussion:***

The initial calibration was performed at the proper frequency. Six standards were used, meeting USATHAMA PAM 11-41 criterion for Class 1A. Relative response factors (RRF) and percent relative standard deviation (%RSD) values were verified by recalculation. No calculation or transcription errors were noted. All %RSD values were below the 30% upper control limit. Several compounds (heptachloroepoxide, chlordane and endosulfan II) had RRF values below the 0.05 lower control limit. These compounds are not consistently recoverable using GCMS methods, and historically have very low response factors. However, these compounds had acceptable %RSD values, indicating a stable response, and all RRF values were above 0.01. No action was taken.

Four compounds (PCB-1016, PCB-1260, PCB-1262, and toxaphene) were not included in the initial calibration, any daily calibration, and were not part of the list of compounds scanned for in any sample. These compounds were reported on the transfer files as LT (less than) values, with no laboratory flags. As these compounds were not scanned for (except as unknown compounds), the reporting limits (CRL) are rejected (R).

Continuing calibrations (CCAL) were run at the correct frequency (before and after sample analyses). All daily calibrations met the Method LM25 criteria. Two of the CCAL had compounds with percent difference (%D) values greater than the ±25% control limits. A list of all %D outliers is in the Data Validation Worksheet. There were no positive results for any of these compounds in the samples. The detection limits (CRL) were judged not significantly affected, with the exception of the hexachlorocyclopentadiene detection limits. This compound had a %D value of 57% in the second CCAL. This %D value indicates a significant loss of instrument sensitivity. As all sample analyses are associated with this CCAL, all

hexachlorocyclopentadiene detection limits are estimated (UJ). All other %D values were acceptable.

## 4.0 Blank Analyses: ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See Qualified Data Summary Table

***Discussion:***

A method blank was analyzed at the required frequency. Two phthalate esters were detected at levels below the CRL. Several unknown compounds were also detected. A list of all compounds detected in the method blank is in the Data Quality Assessment Worksheet. Action levels were established at ten times the concentration in the blank. One phthalate ester [bis(2-ethylhexyl) phthalate] was detected in Sample TBS-94-22 at a concentration below the action level. This result was qualified as not detected (U) at the reported level. Unknown compounds that were detected in the samples at concentrations less than the action levels were rejected (R). The unknown compounds were verified using the scan number, retention times, and a comparison of the mass spectra.

No field or equipment blanks were submitted with this lot.

## 5.0 Surrogate Recovery: ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

Surrogate compound percent recoveries (%R) were reviewed by recalculation. See the Data Quality Assessment Worksheets for examples of surrogate calculations. The upper and lower surrogate percent recovery limits from the control charts in the DataChem QA Status Report are based upon a standard matrix (ASTM Type II water) surrogate quality control spike. There are no control charts for field sample (natural matrix) surrogate recovery. For data assessment purposes, the surrogate percent recoveries were compared to the limits specified in the three day moving average percent recovery control charts in the DataChem QA Status Report, and the surrogate recovery limits specified in the EPA Contract Laboratory Program (CLP) 3/90 Statement Of Work (SOW). The CLP SOW does not specify recovery limits for two of the USATHAMA-specified surrogate compounds, di-n-octyl phthalate-d4 and diethylphthalate-d4. For these compounds, a recovery range of 20% to 130% was used to assess the field sample results. The range is the same as the range recommended in the CLP SOW for new surrogate compounds.

One surrogate standard (di-n-octyl phthalate-d4) had percent recovery values above the 130% upper control limit (UCL) criterion in seven samples. No data qualifiers are recommended unless two or more semivolatile surrogates within the same fraction (acid or base/neutral) are outside the control limits. No action was taken. One acid fraction surrogate (2-fluorophenol)

had a low recovery (3%) in Sample CRS-94-14. The low recovery was caused by a retention time shift in the analysis which favored early elution of the analytes. The surrogate compound (2-fluorophenol) had mainly eluted before the mass spectrometer data acquisition initiated. Comparison of internal standard areas and subsequent surrogate standard recoveries indicate that this temporary change in elution characteristics (retention time shift) had no significant affect upon data quality. As all other acid fraction surrogates were acceptable, no action was taken. All other surrogate recoveries were within the limits specified by the EPA CLP 3/90 SOW. For surrogate compounds not specified in the EPA CLP 3/90 SOW, all other recoveries fell within the 20% to 130% recovery range.

In the 19 field and QC sample analyses, 14 analyses each had from one to three percent recovery values outside the acceptance range specified in the DataChem QA Status Report control charts. The samples and the surrogate outliers are listed in the Data Quality Assessment Worksheet. As the surrogate percent recoveries met the CLP limits (except as noted above), and as the surrogate recoveries were not significantly outside the control chart limits, no qualifiers were issued to the samples based on control chart surrogate percent recovery outliers.

## 6.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Sample Analyses:
ACCEPTABLE/All criteria met.

MS/MSD analyses were submitted with lot ANFR. MS/MSD analyses were performed using Sample TBS-94-06. All percent recovery (%R) values are within 80% to 120%, indicating an acceptable degree of accuracy. All relative percent difference (RPD) values are three percent or less, indicating an acceptable degree of precision.

## 7.0 Field Duplicates: ACCEPTABLE/All criteria met.

Two samples were submitted as a field duplicate set (TBS-94-09 and TBS-94-22). Relative percent difference (RPD) values were calculated for all positive results detected in both samples. Field precision is considered acceptable on the basis of low RPD values (<30%).

## 8.0 Internal Standards Performance: ACCEPTABLE/With the following discussion.

***Qualified Data*:** None.

***Discussion*:**

Analysis of areas and retention times for internal standards was conducted (see Data Quality Assessment Worksheets). No quality control criteria for internal standards are specified in USATHAMA PAM 11-41 or the laboratory method. For data assessment purposes, the criteria from U.S. EPA National Functional Guidelines was used to assess the internal standards.

One internal standard retention time was outside the acceptance window of plus or minus 30 seconds of the daily calibration internal standard retention time. No data were impacted by this non-compliance, and no action was taken.

All other internal standard areas were within the acceptance window of 50% to 200% of the continuing calibration internal standard area. All other retention times were within ±30 seconds of the continuing calibration internal standard retention time.

**9.0 Compound Identification:** ACCEPTABLE/All criteria met.

All compound identifications were reviewed and are found to be acceptable.

**10.0 Compound Quantitation and Certified Reporting Limits (CRL):** ACCEPTABLE/All criteria met.

Target compound quantitation were recalculated using the method described in the CLP SOW, with results similar to those reported by the laboratory. The compound quantitations were judged to be acceptable. The reported CRL met those listed in Method LM25. No transcription errors were found.

**11.0 Unknown Compounds:** ACCEPTABLE/With the following qualification.

***Qualified Data*:** See Section 4.0. All other unknown compounds were qualified JN.

***Discussion*:**

Mass spectral library searches to identify unknown (non-target) compounds were performed as required, and all reported identifications were acceptable. As discussed in Section 4.0, unknown compounds in a sample that were also detected in the associated method blank were rejected (R). All other unknown compounds are qualified as estimated with tentative identification (JN).

**12.0 System Performance:** ACCEPTABLE/All criteria met.

No signs of degraded instrument performance were observed. The analytical systems were judged to have been in tune, within control, and stable during the course of these analyses.

## 13.0 OVERALL ASSESSMENT/QC SUMMARY

Based on this evaluation, the laboratory followed the specified analytical method.

Accuracy is acceptable, as demonstrated by the %R values of surrogate and matrix spike recoveries. Precision is acceptable on the basis of MS/MSD RPD values.

The DataChem QC Status report notes that no outliers or trends were found in Lot ANFR. The DataChem QA Status Report recommends that Lot ANFR be accepted. The USAEC Control Chart Response letter accepts Lot ANFR with no comments.

Data qualifiers were assigned due to calibration outliers and blank contamination.

Data that are rejected are unusable for any purpose. All other data, as qualified, are acceptable for use.

# Qualified Data Summary Table Lot No: ANFR

| Analyte | Code | Qualifier | Sample ID | Concentration | Reason | Report Section |
|---|---|---|---|---|---|---|
| bis(2-ethylhexyl)phthalate | B2EHP | U | TBS-94-22 | 0.5 | < Action Level | 4 |
| hexachlorocyclopentadiene | CL6CP | UJ | All samples | 0.52 | CCal %D > 50% (57.4) | 3 |
| PCB 1016 | PCB016 | R | All Samples | NA | Analytes not scanned for | 3 |
| PCB 1260 | PCB260 | R | All Samples | NA | Analytes not scanned for | 3 |
| PCB 1262 | PCB262 | R | All Samples | NA | Analytes not scanned for | 3 |
| toxaphene | TXPHEN | R | All Samples | NA | Analytes not scanned for | 3 |
| UNK527 | UNK527 | R | CRS-94-14 | 0.6 | < Action Level | 4 |
| UNK642 | UNK642 | R | CRS-94-14 | 0.6 | < Action Level | 4 |
| UNK663 | UNK663 | R | CRS-94-14 | 0.9 | < Action Level | 4 |
| UNK530 | UNK530 | R | CRS-94-15 | 0.3 | < Action Level | 4 |
| UNK641 | UNK641 | R | CRS-94-15 | 0.7 | < Action Level | 4 |
| UNK663 | UNK663 | R | CRS-94-15 | 0.6 | < Action Level | 4 |
| UNK530 | UNK530 | R | CRS-94-16 | 0.3 | < Action Level | 4 |
| UNK641 | UNK641 | R | CRS-94-16 | 0.5 | < Action Level | 4 |
| UNK663 | UNK663 | R | CRS-94-16 | 0.5 | < Action Level | 4 |
| UNK530 | UNK530 | R | CRS-94-17 | 0.4 | < Action Level | 4 |
| UNK537 | UNK537 | R | CRS-94-17 | 0.3 | < Action Level | 4 |
| UNK537 | UNK537 | R | CRS-94-17 | 1 | < Action Level | 4 |
| UNK641 | UNK641 | R | CRS-94-17 | 1 | < Action Level | 4 |
| UNK663 | UNK663 | R | CRS-94-17 | 0.7 | < Action Level | 4 |
| UNK530 | UNK530 | R | CRS-94-18 | 0.3 | < Action Level | 4 |
| UNK537 | UNK537 | R | CRS-94-18 | 0.5 | < Action Level | 4 |
| UNK641 | UNK641 | R | CRS-94-18 | 1 | < Action Level | 4 |
| UNK663 | UNK663 | R | CRS-94-18 | 0.7 | < Action Level | 4 |
| UNK530 | UNK530 | R | VGS-94-RL | 0.3 | < Action Level | 4 |
| UNK641 | UNK641 | R | VGS-94-RL | 2 | < Action Level | 4 |
| UNK663 | UNK663 | R | VGS-94-RL | 2 | < Action Level | 4 |
| UNK641 | UNK641 | R | VGS-94-23 | 4 | < Action Level | 4 |
| UNK663 | UNK663 | R | VGS-94-23 | 1 | < Action Level | 4 |
| UNK530 | UNK530 | R | TBS-94-09 | 0.3 | < Action Level | 4 |
| UNK641 | UNK641 | R | TBS-94-09 | 1 | < Action Level | 4 |
| UNK530 | UNK530 | R | TBS-94-12 | 0.5 | < Action Level | 4 |
| UNK537 | UNK537 | R | TBS-94-12 | 0.3 | < Action Level | 4 |
| UNK641 | UNK641 | R | TBS-94-12 | 1 | < Action Level | 4 |
| UNK663 | UNK663 | R | TBS-94-12 | 0.3 | < Action Level | 4 |
| UNK530 | UNK530 | R | TBS-94-15 | 0.5 | < Action Level | 4 |
| UNK537 | UNK537 | R | TBS-94-15 | 0.5 | < Action Level | 4 |
| UNK641 | UNK641 | R | TBS-94-15 | 1 | < Action Level | 4 |
| UNK530 | UNK530 | R | TBS-94-18 | 0.3 | < Action Level | 4 |
| UNK537 | UNK537 | R | TBS-94-18 | 0.4 | < Action Level | 4 |
| UNK641 | UNK641 | R | TBS-94-18 | 1 | < Action Level | 4 |
| UNK530 | UNK530 | R | TBS-94-21 | 0.3 | < Action Level | 4 |
| UNK537 | UNK537 | R | TBS-94-21 | 0.4 | < Action Level | 4 |
| UNK641 | UNK641 | R | TBS-94-21 | 2 | < Action Level | 4 |
| UNK530 | UNK530 | R | TBS-94-22 | 0.3 | < Action Level | 4 |
| UNK641 | UNK641 | R | TBS-94-22 | 1 | < Action Level | 4 |
| UNK529 | UNK529 | R | TBS-94-03 | 1 | < Action Level | 4 |
| UNK641 | UNK641 | R | TBS-94-03 | 0.9 | < Action Level | 4 |
| UNK530 | UNK530 | R | TBS-94-06 | 0.3 | < Action Level | 4 |
| UNK641 | UNK641 | R | TBS-94-06 | 0.4 | < Action Level | 4 |

EcoChem, Inc.

Environmental Science and Chemistry

# DATA QUALITY ASSESSMENT

## TOOELE ARMY DEPOT—NORTH AREA
## DAAA15-90-D-0007, TASK 0003

## SWMU 32
## PCB SPILL SWMU

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December 20, 1994

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# DATA QUALITY ASSESSMENT SUMMARY

***Basis for Data Quality Assessment***

This report summarizes the results of data quality assessment performed on soil samples and associated laboratory quality control samples. Refer to the Sample Index for sample identifications.

Samples were analyzed for the following parameters and were reviewed by the chemists listed below:

| SWMU | Test | Lot | Method (Matrix) | Primary | Secondary |
|---|---|---|---|---|---|
| SWMU 32 | ICP Metals | ANVM | JS12 (SOIL) | Jason Ai | W. Jaime Bruton |
| | SVOC | ANUH | LM25 (SOIL) | Bruce Tiffany | Eric Strout |

Data assessment was based on the QC criteria recommended in the above listed method; the *Tooele Army Depot—North Area QC Plan*; *USEPA Functional Guidelines for Organic and Inorganic Data Review*; and *USATHAMA (USAEC) Quality Assurance Program (PAM 11-41).*

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are assigned a J or UJ, data may be used for site evaluation and risk assessment purposes, but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R, the data are to be rejected and should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the above-referenced documents and method.

Copies of the qualified transfer files are included as **APPENDIX A.** Each lot report also contains a summary table of qualified results. Data Quality Assessment Worksheets, Communication, and Corrective Action Records have been placed in labeled envelopes with the original data packages.

## DATA VALIDATION QUALIFIER CODES

| | |
|---|---|
| U | The material was analyzed for, but was not detected. The associated numerical value is the certified reporting limit. |
| R | Unreliable result. Data should not be used. Analyte may or may not be present in the sample. |

| | |
|---|---|
| J | Analyte present. Reported value is an estimate that may not be accurate or precise. Data Quality Assessment Report should be consulted for reason. |
| UJ | Not detected. Detection limit may be inaccurate or imprecise and may not be equal to certified reporting limit. Data Quality Assessment Report should be consulted for reason. |

## SITE DATA QUALITY SUMMARY: *SWMU 32—PCB SPILL SWMU*

### *ICP-Metals*

One lot of ICP-metal analyses of soil samples using method JS12 were reviewed. All antimony detection limits were rejected because of zero antimony recovery in the natural (matrix) spikes. this indicates the possibility of false negatives. The USAEC did not flag this problem because natural spikes are not part of the USAEC QA program; however, they recommend against using Method JS12 for antimony in soil samples because of known poor recovery problems.

### *SVOC*

One lot of SVOC analyses for soil samples using Method LM25 was reviewed. All samples had mone or more analyte result(s) qualified due to poor internal standard response, a parameter not checked under standard USAEC review. Results qualified for poor internal standard response should be considered to be potentially biased low.

### *PCB/Pesticides*

Four compounds (PCB-1016, PCB-1260, PCB-1262, and toxaphene) were not included in the initial calibration, any daily calibration, and wree not part of the list of compounds scanned for in any sample. These compounds were reported on the transfer files as LT (less than) values, with no laboratory flags. As these compounds were not scanned for (except as unknown compounds) the reporting limits (CRL) are rejected (R). For one sample (BRP-94-18A) PCB compounds were reported as the tentatively identification for many of the unknown (non-target) compound peaks. As specified by USATHAMA PAM 11-41, the PCB compounds were reported on the transfer file as UNKxxx, where xxx is a three digit number. Due to the limitations of the calibration and the GCMS detector, these PCB compounds cannot be identified as unique isomers, and cannot be accurately quantitated. However, the presence of PCB compounds in this sample indicates that multiple PCB isomers could be present in high concentrations. The identification should be qualitative (PCB compounds are present), and the reported concentrations should be considered gross estimates.

# DATA QUALITY ASSESSMENT
# METALS-ICP ANALYSES: SOIL
# METHOD: JS12
# LOT NO.: ANVM

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot ANVM were provided by the laboratory to meet USATHAMA PAM-11-41 requirements for this data package. Control charts, DataChem QA status report and USAEC control chart response were provided in this data package. Final samples results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and all laboratory notebook pages and strip chart printouts were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

The field chain-of-custody forms were present and complete for Lot ANVM. One field rinse blank (3ER-35) was listed on the field Chain-of-Custody for metal analysis. This sample's results were not provided with Lot ANVM. All other Lot ANVM samples listed on the chain-of-custody were analyzed. Sample IDs were tracked from the field chain-of-custody to the transfer file printout, and no errors were noted. Internal chain-of-custody forms clearly indicated the laboratory numbers and field sample IDs for each sample. No errors in field IDs were noted.

## III. FIELD QUALITY CONTROL

The duplicates of TDP-94-16A and TDP-94-16B, Samples TDP-94-09A and TDP-94-09B were not submitted with Lot ANVM so field precision could not be evaluated.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All samples were analyzed within the method specified holding time of 180 days from date of collection to analysis.

### 2.0 Instrument Calibration: ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

Instrument calibration consisted of one blank and one standard. Instrument sensitivity could not be evaluated with the documentation provided. All calibration check standards were within ±10% of the true value with the exception of thallium with a percent recovery (%R) value of 122.0%. Since the %R value was greater than the upper control limit of 110% and thallium was not detected in any of the samples, no action was recommended. Plus or minus two times the standard deviation control limits were not utilized because historic calibration check results were not provided.

The laboratory analyzed a continuing calibration verification (CCV) standard every ten samples as required. The %R of the CCVs were within ±10% of the true value. Plus or minus two times the standard deviation control limits were not utilized because historic calibration verification results were not provided.

## 4.0 Blank Analyses: ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

Calibration blanks (CCB) and preparation blanks (PB) were evaluated for possible contamination effects. Calibration blanks were also evaluated for causing possible low bias in associated sample results. Continuing calibration blanks were analyzed after each continuing calibration as required. A preparation blank was prepared with each digestion batch as required. No CCB result was greater than the reporting limit or less than the negative reporting limit and no PB result was greater than the reporting limit. Aluminum, barium, calcium, iron, potassium, magnesium, manganese, and vanadium were detected in one QC blank (BL-39448-1). Since this soil blank sample (from RMA soil, R3D-381) was unwashed soil, no qualifications were recommended.

## 5.0 Matrix Spike Sample Analyses: ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See Qualified Data Summary Table ANVM-1.

***Discussion:***

Two sets of MS/MSD analyses were performed on Samples TDP-94-05B and TDP-94-13A. The MSD %R value for manganese in the first set of MS/MSD analyses was 136%, which was greater than the upper control limit of 125%. Since the MS %R value and RPD value for manganese in the first set of MS/MSD analyses were within the control limits, no action was recommended. The antimony %R values in both MS/MSD analyses were 0% which indicates antimony analyses by ICP method were questionable. As antimony was not detected in any of the samples, a possibility of false non-detects exist. The quantitation limits for antimony were

rejected and not usable for any purposes. All other %R and RPD values were within the control limits.

## 6.0 High Spike and Low Spike Analyses: ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion***

One low spike and two high spike analyses were performed with this sample lot. Recovery values were evaluated based on the control chart upper and lower limits. The %R of the low spike and both high spike analyses were within the control limits, with the exception of those listed in the table below.

| Analyte | Low Spike | Control Limit | 1st High Spike | 2nd High Spike | Control Limits |
|---|---|---|---|---|---|
| Beryllium | Acceptable | 92.5% to 105.1% | 100.0% | 99.2% | 94.25% to 98.8% |
| Chromium | Acceptable | 90.5% to 110.3% | 101.0% | Acceptable | 96.6% to 100.4% |
| Vanadium | Acceptable | 59.2% to 127.8% | 101.3% | Acceptable | 93.7% to 100.5% |

As these spike recovery values were close to the USAEC control limits and still within the control limits specified in Functional Guidelines (2/94), no qualifications are recommended.

## 7.0 Duplicate Sample Analyses: NOT APPLICABLE

Laboratory duplicate analyses were not performed with this sample lot.

## 8.0 ICP Interference Check Sample (ICS) Analyses: NOT PERFORMED

ICP interference check sample analyses were not performed with this sample lot.

## 9.0 Certified Reporting Limits (CRL): ACCEPTABLE/All criteria met.

The reporting limit for each element was reviewed. All reporting limits match the certified reporting limit listed in the laboratory SOP.

## 10.0 Calculations: ACCEPTABLE/All criteria met.

No transcription errors or calculation errors were noted in the sample result data.

# V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method. No technical deficiencies were found.

The USAEC Chemistry Branch Response indicates that Lot ANVM is acceptable. The laboratory noted high spike recovery values trending above the central line for cadmium and lead; high spike recovery values moving in a downward direction for chromium; low spike recovery values above the central line for boron, beryllium, and lead; low spike recovery values trending below the central line for copper and molybdenum; low spike recovery values moving in an upward direction for cobalt, tin, tellurium, and thallium; low spike recovery values moving in a downward direction for molybdenum, nickel, lead, vanadium, and zinc; and low spike range above the control chart upper limit for copper and nickel. No other qualification is recommended based on these observations.

The data, as qualified, are acceptable for use.

# Qualified Data Summary Table Lot No: ANVM

| Analyte | Code | Qualifier | Sample ID | Concentration | Reason | Report Section |
|---|---|---|---|---|---|---|
| Antimony | SB | R | TDP-94-05B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TDP-94-06A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TDP-94-06B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TDP-94-07A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TDP-94-07B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TDP-94-03A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TDP-94-03B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TDP-94-04A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TDP-94-04B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TDP-94-05A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TDP-94-13A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TDP-94-13B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TDP-94-14A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TDP-94-14B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TDP-94-15A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TDP-94-15B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TDP-94-16A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | TDP-94-16B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | PPB-94-01A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | PPB-94-01B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | PPB-94-01C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | PPB-94-08A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | PPB-94-08B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | PPB-94-08C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | PPB-94-03A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | PPB-94-03B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | PPB-94-03C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | PPS-94-05 | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |

# SEMIVOLATILE ORGANIC ANALYSES: SOIL
# METHOD: LM25
# LOT NO.: ANUH

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot ANUH were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package, with the exception of percent moisture logbook pages. Sample moisture data was provided on the transfer file, but moisture raw data logbook pages were not provided. Results for MS/MSD analyses have been included although they are not required by USATHAMA 11-41 for Class 1A analyses. Transfer files, DataChem QA Status Reports and USAEC Control Chart Response were provided. Final sample results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: Changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; correction fluid or tape was not found on any of the raw data; proper units for numerical values were used; the laboratory notebook pages and chromatograms were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

Field chain-of-custody forms were present and complete for each sample in Lot ANUH. All forms were signed and dated. The field chain-of-custody forms indicated no problems with sample receipt conditions. All samples listed on ANUH chain-of-custody forms were analyzed.

Laboratory chain-of-custody forms were present and complete for each sample in Lot ANUH. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory chain-of-custody forms. The field IDs and laboratory IDs for all samples were tracked from the chain-of-custody forms, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. Field Quality Control

Two samples were submitted as a field duplicate set (BRP-94-09C and BRP-94-18C). Relative percent difference (RPD) values were calculated for all positive results detected in both samples. Field precision is considered acceptable on the basis of low RPD values (<30%). Two other samples (BRP-94-18A and BRP-94-18B) were listed as field duplicates on the chain-of-custody. However, the replicates of these samples were not included as part of Lot ANUH. An assessment of field precision could not be made for those samples. No field or trip blanks were submitted with Lot ANUH.

## IV. TECHNICAL ASSESSMENT

### 1.0 Sample Holding Times: ACCEPTABLE/All criteria met.

The extraction holding time criterion listed in Method LM25 for semivolatiles in a soil matrix is 14 days from date sampled to extraction date. The analytical holding time criterion listed in Method LM25 for soil matrices is 40 days from extraction date to date of analysis. All soil samples were extracted within seven days of sampling and analyzed within seven days of extraction.

### 2.0 GC/MS Instrument Performance Check: ACCEPTABLE/All criteria met.

DFTPP was analyzed at the beginning of each twelve hour analytical sequence as required. All DFTPP data were provided, and all results were within the specified control limits.

### 3.0 Initial and Daily Calibration: ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See Qualified Data Summary Table

***Discussion:***

The initial calibration was performed at the proper frequency. Six standards were used, meeting USATHAMA PAM 11-41 criterion for Class 1A. Relative response factors (RRF) and percent relative standard deviation (%RSD) values were verified by recalculation. No calculation or transcription errors were noted. During data assessment, only positive results in the associated samples would be qualified on the basis of outlying curve linearity (indicated by %RSD values above 30%). All positive results were associated with acceptable compound curves. No action required.

Several compounds (heptachloroepoxide, chlordane and endosulfan II) had RRF values below the 0.05 lower control limit. These compounds are not consistently recoverable using GCMS methods, and historically have very low response factors. However, these compounds had acceptable %RSD values, indicating a stable response, and all RRF values were above 0.01. No action was taken.

Four compounds (PCB-1016, PCB-1260, PCB-1262, and toxaphene) were not included in the initial calibration, any daily calibration, and were not part of the list of compounds scanned for in any sample. These compounds were reported on the transfer files as LT (less than) values, with no laboratory flags. As these compounds were not scanned for (except as unknown compounds), the reporting limits (CRL) are rejected (R).

Continuing calibrations (CCAL) were run at the correct frequency (before and after sample analyses). All daily calibrations met the Method LM25 criteria. All of the CCAL had compounds with percent difference (%D) values greater than the ±25% control limits. A list of all %D outliers is in the Data Quality Assessment Worksheet. All positive compound results

associated with an outlying %D value are estimated (J). For non-detects associated with %D outliers, the detection limits (CRL) were judged not significantly affected, with the exception of the hexachlorocyclopentadiene and 4,6-dinitro-2-methylphenol detection limits. These compounds had a %D values greater than 50% in the second CCAL. A %D value greater than 50% indicates a significant loss of instrument sensitivity. As all sample analyses are associated with this CCAL, all detection limits for these compounds are estimated (UJ). One other compound (2,4-dinitrophenol) had a %D value of 53% in the final CCAL. The 2,4-dinitrophenol detection limits in the samples associated with this CCAL are estimated (UJ). All other %D values were acceptable.

## 4.0 Blank Analyses: ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See Qualified Data Summary Table

***Discussion:***

A method blank was analyzed at the required frequency. One phthalate ester (di-n-butyl phthalate) was detected at a level below the CRL in the method blank. Several unknown compounds were also detected. A list of all compounds detected in the method blank is in the Data Quality Assessment Worksheet. Action levels were established at ten times the concentration in the blank. Di-n-butyl phthalate was detected in two samples at concentrations below the action level. These results were qualified as not detected (U) at the reported levels. Unknown compounds that were detected in the samples at concentrations less than the action levels were rejected (R). The unknown compounds were verified using the scan number, retention times, and a comparison of the mass spectra.

No field or equipment blanks were submitted with this lot.

## 5.0 Surrogate Recovery: ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

Surrogate compound percent recoveries (%R) were reviewed by recalculation. See the Data Quality Assessment Worksheets for examples of surrogate calculations. The upper and lower surrogate percent recovery limits from the control charts in the DataChem QA Status Report are based upon a standard matrix (ASTM Type II water) surrogate quality control spike. There are no control charts for field sample (natural matrix) surrogate recovery. For data assessment purposes, the surrogate percent recoveries were compared to the limits specified in the three day moving average percent recovery control charts in the DataChem QA Status Report, and the surrogate recovery limits specified in the EPA Contract Laboratory Program (CLP) 3/90 Statement Of Work (SOW). The CLP SOW does not specify recovery limits for two of the USATHAMA-specified surrogate compounds, di-n-octyl phthalate-d4 and diethylphthalate-d4. For these compounds, a recovery range of 20% to 130% was used to assess the field sample

results. The range is the same as the range recommended in the CLP SOW for new surrogate compounds.

One surrogate standard (di-n-octyl phthalate-d4) had percent recovery values above the 130% upper control limit (UCL) criterion in all samples and QC analyses. No data qualifiers are recommended unless two or more semivolatile surrogates within the same fraction (acid or base/neutral) are outside the control limits. No action was taken. Sample PPB-94-03A also had a high recovery for diethyl phthalate-d4 (134%). As the phthalate surrogates are not EPA CLP 3/90 SOW surrogates and the recovery ranges are only recommended, and as all other surrogate recoveries were acceptable, no action was taken. All other surrogate recoveries were within the limits specified by the EPA CLP 3/90 SOW. For surrogate compounds not specified in the EPA CLP 3/90 SOW, all other recoveries fell within the 20% to 130% recovery range.

In the 14 field and QC sample analyses, 14 analyses each had from one to four percent recovery values outside the acceptance range specified in the DataChem QA Status Report control charts. The samples and the surrogate outliers are listed in the Data Quality Assessment Worksheet. As the surrogate percent recoveries met the CLP limits (except as noted above), and as the surrogate recoveries were not significantly outside the control chart limits, no qualifiers were issued to the samples based on control chart surrogate percent recovery outliers.

## 6.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Sample Analyses:

ACCEPTABLE/All criteria met.

MS/MSD analyses were submitted with lot ANUH. MS/MSD analyses were performed using Sample PPB-94-03A. All percent recovery (%R) values are within 80% to 120%, indicating an acceptable degree of accuracy. All relative percent difference (RPD) values are less than 15%, indicating an acceptable degree of precision.

## 7.0 Field Duplicates: ACCEPTABLE/All criteria met.

Two samples were submitted as a field duplicate set (BRP-94-09C and BRP-94-18C). Relative percent difference (RPD) values were calculated for all positive results detected in both samples. Field precision is considered acceptable on the basis of low RPD values (<30%). Two other samples (BRP-94-18A and BRP-94-18B) were listed as field duplicates. However, the replicates of these samples were not included as part of Lot ANUH. An assessment of field precision could not be made for those samples.

## 8.0 Internal Standards Performance: ACCEPTABLE/With the following exceptions.

***Qualified Data***: See Qualified Data Summary Table.

***Discussion*:**

Analysis of areas and retention times for internal standards was conducted (see Data Quality Assessment Worksheets). No quality control criteria for internal standards are specified in USATHAMA PAM 11-41 or the laboratory method. For data assessment purposes, the criteria from U.S. EPA National Functional Guidelines was used to assess the internal standards.

Several samples had from one to five internal standards with areas below the lower control limit (50% of the continuing calibration internal standard area). All analyses had low areas for the last internal standard, perylene-d12. A list of the internal standard outliers, and a list of the associated target compounds are in the Data Quality Assessment Worksheets. All positive results associated with a non-compliant internal standard are estimated (J). For non-detected compounds, the detection limits (CRL) are estimated (UJ).

All other internal standard areas were within the acceptance window of 50% to 200% of the continuing calibration internal standard area. All other retention times were within ±30 seconds of the continuing calibration internal standard retention time.

**9.0 Compound Identification:** ACCEPTABLE/All criteria met.

All compound identifications were reviewed and are found to be acceptable.

**10.0 Compound Quantitation and Certified Reporting Limits (CRL):** ACCEPTABLE/All criteria met.

Target compound quantitation were recalculated using the method described in the CLP SOW, with results similar to those reported by the laboratory. The compound quantitations were judged to be acceptable. The reported CRL met those listed in Method LM25. No transcription errors were found.

**11.0 Unknown Compounds:** ACCEPTABLE/With the following qualification.

***Qualified Data*:** See Section 4.0. All other unknown compounds were qualified JN.

***Discussion*:**

Mass spectral library searches to identify unknown (non-target) compounds were performed as required, and all reported identifications were acceptable. As discussed in Section 4.0, unknown compounds in a sample that were also detected in the associated method blank were rejected (R). All other unknown compounds are qualified as estimated with tentative identification (JN).

As discussed in Section 3.0, PCB compounds were not calibrated or scanned for during the analysis. The PCB results on the transfer file were either reported as ND with an 'R' flag by the laboratory, or were rejected during the Data Quality Assessment. For one sample (BRP-94-18A), PCB compounds were reported as the tentative identification for many of the unknown

(non-target) compound peaks. As specified by USATHAMA PAM 11-41, the PCB compounds were reported on the transfer file as UNKxxx, where xxx is a three digit number. Due to the limitations of the calibration and the GCMS detector, these PCB compounds cannot be identified as unique isomers, and cannot be accurately quantitated. However, the presence of PCB compounds in this sample indicates that multiple PCB isomers could be present in high concentrations. The identification should be qualitative (PCB compounds are present), and the reported concentrations should be considered gross estimates.

## 12.0 System Performance: ACCEPTABLE/All criteria met.

No signs of degraded instrument performance were observed. The analytical systems were judged to have been in tune, within control, and stable during the course of these analyses.

## 13.0 OVERALL ASSESSMENT/QC SUMMARY

Based on this evaluation, the laboratory followed the specified analytical method.

Accuracy is acceptable, as demonstrated by the %R values of most of the surrogate and matrix spike recoveries. Precision is acceptable on the basis of MS/MSD RPD values.

The DataChem QC Status report notes the following trends were found in Lot ANUH: terphenyl-d14 recoveries are trending below the mean, and 2-chlorophenol-d4, 2-fluorobiphenyl, 2-fluorophenol, diethyl phthalate-d4, nitrobenzene-d5 and phenol-d6 recoveries were going in a downward direction. The individual outliers listed were a high recovery for diethyl phthalate-d4, and a low recovery for phenol-d6. The DataChem QA Status Report recommends that Lot ANUH be accepted. The USAEC Control Chart Response letter accepts Lot ANUH with no comments. The above noted trends and outliers have no significant impact upon the reported data, other than is discussed in this Data Quality Assessment Report.

PCB compounds were detected as unknown compounds in Sample BRP-94-18A. The PCB compounds were reported on the transfer file as UNKxxx, where xxx is a three digit number. As discussed in Section 3.0, the PCB isomers reported as target compounds on the transfer file were either flagged 'R' by the laboratory or were rejected during the Data Quality Assessment. Due to the limitations of the calibration and the GCMS detector, these PCB compounds cannot be identified as unique isomers, and cannot be accurately quantitated. However, the presence of PCB compounds in this sample indicates that multiple PCB isomers could be present in high concentrations. The identification should be qualitative (PCB compounds are present), and the reported concentrations should be considered gross estimates.

Data qualifiers were assigned due to calibration outliers, low internal standard areas, and blank contamination. Unknown (non-target) compounds were qualified JN.

Data that are rejected are unusable for any purpose. All other data, as qualified, are acceptable for use.

# Qualified Data Summary Table Lot No: ANUH

| Analyte | Code | Qualifier | Sample ID | Concentration | Reason | Report Section |
|---|---|---|---|---|---|---|
| di-n-butylphthalate | DNBP | U | BRP-94-18A | 1.5 | < Action Level | 4 |
| di-n-butylphthalate | DNBP | U | BRP-94-08A | 1.9 | < Action Level | 4 |
| UNK530 | UNK530 | R | PPB-94-03A | 0.4 | < Action Level | 4 |
| UNK643 | UNK643 | R | PPB-94-03A | 1 | < Action Level | 4 |
| UNK642 | UNK642 | R | PPB-94-03B | 0.5 | < Action Level | 4 |
| UNK643 | UNK643 | R | PPB-94-03C | 0.7 | < Action Level | 4 |
| UNK642 | UNK642 | R | PPS-94-05 | 0.4 | < Action Level | 4 |
| UNK642 | UNK642 | R | BRP-94-09C | 0.5 | < Action Level | 4 |
| UNK642 | UNK642 | R | BRP-94-18A | 0.3 | < Action Level | 4 |
| UNK642 | UNK642 | R | BRP-94-18B | 0.4 | < Action Level | 4 |
| UNK642 | UNK642 | R | BRP-94-18C | 0.7 | < Action Level | 4 |
| UNK642 | UNK642 | R | BRP-94-08A | 0.6 | < Action Level | 4 |
| UNK643 | UNK643 | R | BRP-94-08B | 0.3 | < Action Level | 4 |
| | | | | | | |
| hexachlorocyclopentadiene | CL6CP | UJ | ALL SAMPLES | CRL = 0.52 | CCal %D > 50% | 3 |
| 4,6-dinitro-2-methylphenol | 46DN2C | UJ | ALL SAMPLES | CRL = 0.8 | CCal %D > 50% | 3 |
| 2,4-dinitrophenol | 24DNP | UJ | BRP-94-08A | CRL = 4.7 | CCal %D > 50% | |
| 2,4-dinitrophenol | 24DNP | UJ | BRP-94-08B | CRL = 4.7 | CCal %D > 50% | |
| 2,4-dinitrophenol | 24DNP | UJ | BRP-94-08C | CRL = 4.7 | CCal %D > 50% | |
| benzyl alcohol | BZALC | J | PPB-94-03A | 0.056 | CCal %D > 25% | 3 |
| benzyl alcohol | BZALC | J | PPB-94-03B | 0.054 | CCal %D > 25% | 3 |
| benzyl alcohol | BZALC | J | PPS-94-05 | 0.038 | CCal %D > 25% | 3 |
| benzyl alcohol | BZALC | J | BRP-94-09C | 0.049 | CCal %D > 25% | 3 |
| benzyl alcohol | BZALC | J | BRP-04-18C | 0.063 | CCal %D > 25% | 3 |
| benzyl alcohol | BZALC | J | BRP-94-08A | 0.056 | CCal %D > 25% | 3 |
| benzyl alcohol | BZALC | J | BRP-94-08B | 0.051 | CCal %D > 25% | 3 |
| | | | | | | |
| Benzo(k)fluoranthene | BKFANT | J | BRP-94-18A | 0.17 | CCal %D > 25% | 3 |
| | | | | | | |
| PCB 1016 | PCB016 | R | All Samples | CRL = 0.32 | Analytes not scanned | 3 |
| PCB 1260 | PCB260 | R | All Samples | CRL = 0.79 | Analytes not scanned | 3 |
| PCB 1262 | PCB262 | R | All Samples | CRL =6.3 | Analytes not scanned | 3 |
| toxaphene | TXPHEN | R | All Samples | CRL = 12 | Analytes not scanned | 3 |
| | | | | | | |
| 1,2,3-trichlorobenzene | 123TCB | UJ | PPB-94-03A | 0.032 | Low area in | 8 |
| 1,2,4-trichlorobenzene | 124TCB | UJ | PPB-94-03A | 0.22 | associated I.S. | 8 |
| 2,4-dichlorophenol | 24DCLP | UJ | PPB-94-03A | 0.065 | (naphthalene-d8) | 8 |
| 2,4-dimethylphenol | 24DMPN | UJ | PPB-94-03A | 3 | | 8 |
| 2-methyl naphthalene | 2MNAP | UJ | PPB-94-03A | 0.032 | | 8 |
| 2-nitrophenol | 2NP | UJ | PPB-94-03A | 1.1 | | 8 |
| 3-nitrotoluene | 3NT | UJ | PPB-94-03A | 0.34 | | 8 |
| 4-chloroaniline | 4CANIL | UJ | PPB-94-03A | 0.63 | | 8 |
| benzoic acid | BENZOA | UJ | PPB-94-03A | 3.1 | | 8 |
| bis(2-chloroethoxy)methane | B2CEXM | UJ | PPB-94-03A | 0.19 | | 8 |
| dibromochloropropane | DBCP | UJ | PPB-94-03A | 0.071 | | 8 |
| hexachlorobutadiene | HCBD | UJ | PPB-94-03A | 0.97 | | 8 |
| isophorone | ISOPHR | UJ | PPB-94-03A | 0.39 | | 8 |
| naphthalene | NAP | UJ | PPB-94-03A | 0.74 | | 8 |
| nitrobenzene | NB | UJ | PPB-94-03A | 1.8 | | 8 |
| p-chloro-m-cresol | 4CL3C | UJ | PPB-94-03A | 0.93 | | 8 |
| p-chlorphenylmethyl sulfide | CPMS | UJ | PPB-94-03A | 0.097 | | 8 |
| vapona | DDVP | UJ | PPB-94-03A | 0.068 | | 8 |

# Qualified Data Summary Table Lot No: ANUH

| Analyte | Code | Qualifier | Sample ID | Concentration | Reason | Report Section |
|---|---|---|---|---|---|---|
| 1,3-dinitrobenzene | 13DNB | UJ | PPB-94-03A | 0.63 | Low area in | 8 |
| 2,3,6-trichlorophenol | 236TCP | UJ | PPS-94-05 | 0.62 | associated I.S. | 8 |
| 2,4,5-trichlorophenol | 245TCP | UJ | | 0.49 | (acenaphthene-d10) | 8 |
| 2,4,6-trichlorophenol | 246TCP | UJ | | 0.061 | | 8 |
| 2,4-dinitrophenol | 24DNP | UJ | | 4.7 | | 8 |
| 2,4-dinitrotoluene | 24DNT | UJ | | 1.4 | | 8 |
| 2,6-dinitrotoluene | 26DNT | UJ | | 0.32 | | 8 |
| 2-chloronaphthalene | 2CNAP | UJ | | 0.24 | | 8 |
| 2-nitroaniline | 2NANIL | UJ | | 3.1 | | 8 |
| 3-nitroaniline | 3NANIL | UJ | | 3 | | 8 |
| 4-chlorophenylphenyl ether | 4CLPPE | UJ | | 0.17 | | 8 |
| 4-nitroaniline | 4NANIL | UJ | | 3.1 | | 8 |
| 4-nitrophenol | 4NP | UJ | | 3.3 | | 8 |
| acenaphthene | ANAPNE | UJ | | 0.041 | | 8 |
| acenaphthylene | ANAPYL | UJ | | 0.033 | | 8 |
| dibenzofuran | DBZFUR | UJ | | 0.38 | | 8 |
| diethylphthalate | DEP | UJ | | 0.24 | | 8 |
| dimethylphthalate | DMP | UJ | | 0.063 | | 8 |
| fluorene | FLRENE | UJ | | 0.065 | | 8 |
| hexachlorocyclopentadiene | CL6CP | UJ | | 0.52 | | 8 |
| p-chlorophenylmethyl sulfone | CPMSO2 | UJ | | 0.066 | | 8 |
| p-chlorophenylmethylsulfoxide | CPMSO | UJ | | 0.32 | | 8 |
| fluoranthene | FANT | UJ | PPB-94-03A | 0.032 | Low area in | 8 |
| fluoranthene | FANT | J | PPS-94-05 | 0.046 | associated I.S. | 8 |
| fluoranthene | FANT | UJ | BRP-94-08C | 0.032 | ( phenanthrene-d10) | 8 |
| 1,2-diphenylhydrazine | 12DPH | UJ | PPB-94-03A | 0.52 | Low area in | 8 |
| 2,6-dinitroaniline | 26DNA | UJ | PPS-94-05 | 0.57 | associated I.S. | 8 |
| 3,5-dinitroaniline | 35DNA | UJ | BRP-94-08C | 1.6 | ( phenanthrene-d10) | 8 |
| 4,6-dinitro-2-cresol | 46DN2C | UJ | | 0.8 | | 8 |
| 4-bromophenylphenyl ether | 4BRPPE | UJ | | 0.041 | | 8 |
| aldrin | ALDRN | UJ | | 1.3 | | 8 |
| alpha-BHC | ABHC | UJ | | 1.3 | | 8 |
| anthracene | ANTRC | UJ | | 0.71 | | 8 |
| atrazine | ATZ | UJ | | 0.065 | | 8 |
| beta-BHC | BBHC | UJ | | 1.3 | | 8 |
| delta-BHC | DBHC | UJ | | 0.21 | | 8 |
| di-n-butylphthalate | DNBP | UJ | | 1.3 | | 8 |
| heptachlor | HPCL | UJ | | 0.24 | | 8 |
| heptachlor epoxide | HPCLE | UJ | | 0.48 | | 8 |
| hexachlorobenzene | CL6BZ | UJ | | 0.08 | | 8 |
| isodrin | ISODR | UJ | | 0.48 | | 8 |
| lindane | LIN | UJ | | 0.1 | | 8 |
| malathion | MLTHN | UJ | | 0.18 | | 8 |
| N-nitrosodiphenylamine | NNDPA | UJ | | 0.29 | | 8 |
| parathion | PRTHN | UJ | | 1.7 | | 8 |
| pentachlorophenol | PCP | UJ | | 0.76 | | 8 |
| phenanthrene | PHANTR | UJ | | 0.032 | | 8 |
| supona | SUPONA | UJ | | 0.92 | | 8 |

# Qualified Data Summary Table Lot No: ANUH

| Analyte | Code | Qualifier | Sample ID | Concentration | Reason | Report Section |
|---|---|---|---|---|---|---|
| 3,3'-dichlorobenzidine | 33DCBD | UJ | PPB-94-03A | 1.6 | Low area in | 8 |
| 4,4'-DDD | PPDDD | UJ | PPS-94-05 | 0.064 | associated I.S. | 8 |
| 4,4'-DDE | PPDDE | UJ | BRP-94-08B | 0.068 | (chrysene-d12) | 8 |
| 4,4'-DDT | PPDDT | UJ | BRP-94-08C | 0.1 | | 8 |
| benzo[a]anthracene | BAANTR | UJ | | 0.041 | | 8 |
| bis(2-ethylhexyl)phthalate | B2EHP | UJ | | 0.48 | | 8 |
| butylbenzylphthalate | BBZP | UJ | | 1.8 | | 8 |
| chlordane | CLDAN | UJ | | 0.68 | | 8 |
| chrysene | CHRY | UJ | | 0.032 | | 8 |
| dieldrin | DLDRN | UJ | | 0.079 | | 8 |
| endosulfan I | AENSLF | UJ | | 0.4 | | 8 |
| endosulfan II | BENSLF | UJ | | 2.4 | | 8 |
| endosulfan sulfate | ESFSO4 | UJ | | 1.2 | | 8 |
| endrin | ENDRN | UJ | | 1.3 | | 8 |
| endrin aldehyde | ENDRNA | UJ | | 1.8 | | 8 |
| endrin ketone | ENDRNK | UJ | | 0.28 | | 8 |
| famphur | FAMPHR | UJ | | 1.3 | | 8 |
| kepone | KEP | UJ | | 1.3 | | 8 |
| methoxychlor | MEXCLR | UJ | | 0.26 | | 8 |
| pyrene | PYR | UJ | | 0.083 | | 8 |
| benzo[a]pyrene | BAPYR | UJ | All Samples | 1.2 | Low area in | 8 |
| benzo[b]fluoranthene | BBFANT | UJ | except | 0.31 | associated I.S. | 8 |
| benzo[ghi]perylene | BGHIPY | UJ | BRP-94-18A | 0.18 | (perylene-d12) | 8 |
| benzo[k]fluoranthene | BKFANT | UJ | | 0.13 | | 8 |
| di-n-octylphthalate | DNOP | UJ | | 0.23 | | 8 |
| dibenzo[a,h]anthracene | DBAHA | UJ | | 0.31 | | 8 |
| indeno[1,2,3,cd]pyrene | ICDPYR | UJ | | 2.4 | | 8 |
| mirex | MIREX | UJ | | 0.14 | | 8 |
| benzo[a]pyrene | BAPYR | UJ | BRP-94-18A | 1.2 | Low area in | 8 |
| benzo[b]fluoranthene | BBFANT | J | | 0.38 | associated I.S. | 8 |
| benzo[ghi]perylene | BGHIPY | J | | 0.2 | (perylene-d12) | 8 |
| benzo[k]fluoranthene | BKFANT | J | | 0.17 | | 8 |
| di-n-octylphthalate | DNOP | UJ | | 0.23 | | 8 |
| dibenzo[a,h]anthracene | DBAHA | UJ | | 0.31 | | 8 |
| indeno[1,2,3,cd]pyrene | ICDPYR | UJ | | 2.4 | | 8 |
| mirex | MIREX | UJ | | 0.14 | | 8 |

EcoChem, Inc.

Environmental Science and Chemistry

# DATA QUALITY ASSESSMENT

## TOOELE ARMY DEPOT—NORTH AREA
## DAAA15-90-D-0007, TASK 0003

## SWMU 35
## WASTEWATER SPREADING AREA

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December 20, 1994

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# DATA QUALITY ASSESSMENT SUMMARY

***Basis for Data Quality Assessment***

This report summarizes the results of data quality assessment performed on soil and water samples and associated laboratory quality control samples. Refer to the Sample Index for sample identifications.

Samples were analyzed for the following parameters and were reviewed by the chemists listed below:

| SWMU | Test | Lot | Method (Matrix) | Primary | Secondary |
|---|---|---|---|---|---|
| SWMU 35 | Pesticides | ANHJ | LH17 (SOIL) | Marcia Bender | Eric Strout |
| | Pesticides | ANWT | UH20 (WATER) | Marcia Bender | Eric Strout |
| | Explosives | ANRS | UW25 (WATER) | Mark T. Brindle | Eric Strout |

Data assessment was based on the QC criteria recommended in the above listed method; the *Tooele Army Depot—North Area QC Plan*; *USEPA Functional Guidelines for Organic and Inorganic Data Review*; and *USATHAMA (USAEC) Quality Assurance Program (PAM 11-41)*.

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are assigned a J or UJ, data may be used for site evaluation and risk assessment purposes, but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R, the data are to be rejected and should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the above-referenced documents and method.

Copies of the qualified transfer files are included as Appendix A. Each lot report also contains a summary table of qualified results. Data Quality Assessment Worksheets, Communication, and Corrective Action Records have been placed in labeled envelopes with the original data packages.

## DATA VALIDATION QUALIFIER CODES

| | |
|---|---|
| U | The material was analyzed for, but was not detected. The associated numerical value is the certified reporting limit. |
| R | Unreliable result. Data should not be used. Analyte may or may not be present in the sample. |

| | |
|---|---|
| J | Analyte present. Reported value is an estimate that may not be accurate or precise. Data Quality Assessment Report should be consulted for reason. |
| UJ | Not detected. Detection limit may be inaccurate or imprecise and may not be equal to certified reporting limit. Data Quality Assessment Report should be consulted for reason. |

## *SITE DATA QUALITY SUMMARY SWMU 35 WASTEWATER SPREADING AREA*

### *Pesticides*

One lot of pesticide analyses of water samples using Method UH20 was reviewed. All results were acceptable for use without qualification, except for endosulfan I. As noted by the USAEC, the low spike recovery for endosulfan I was low. The associated detection limits were estimated (UJ) due to possible low bias.

One lot of pesticide analyses of soil samples using Method LH17 was reviewed. The DataChem QA Status Report notes that almost all recoveries in the QC spike are above the control limits. The laboratory states that this is due to a cracked vial, which allowed some of the solvent to evaporate, concentrating the sample. The laboratory also noted that the recoveries obtained during the sample screening (performed prior to the solvent loss) were acceptable, as were the recoveries of standards and MS/MSD compounds. The laboratory flagged all associated data "H". The USAEC accepted the lot, and flagged all associated data with "M" flags. As the high recoveries are a one time occurrence due to an isolated incident, the high recoveries were judged to have no significant impact on the reported results, and no data qualifiers were issued during the Data Quality Assessment.

Qualifications were issued to seven samples due to the suspected presence of technical chlordane. As chlordane was not reported, the possibility of false negatives exists, and the chlordane CRL were qualified as not usable (R) in the affected samples. As the multi-component peaks of technical chlordane would mask other analytes, resulting in elevated detection limits and possible false positive results, all other analytes in the affected samples were estimated (J/UJ).

### Explosives

One lot of explosives analyses of water samples using Method UW25 was reviewed. The laboratory flagged all RDX results as "7' due to poor recovery of the high concentration spike. All RDX data (all non-detects) were qualified as estimated at the detection limit. Qualifiers were assigned to 2,4-dinitrotoluene and nitrobenzene CRL in one sample (WW-1) due to poor MS/MSD precision. The MS/MSD analyses are not required by the USAEC program, but are required for the assessment of sites within the State of Utah.

# DATA QUALITY ASSESSMENT
## EXPLOSIVES ANALYSES: WATER
## METHOD: UW25
## LOT: ANRS

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot ANRS were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package. DataChem QA Status Reports and USAEC Control Chart Response were submitted. Final sample results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: Changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and all laboratory notebook pages and chromatograms were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

Field chain-of-custody forms were present and complete for each sample in Lot ANRS. All forms were signed and dated. The field chain-of-custody forms indicated no problems with sample receipt conditions.

Laboratory chain-of-custody forms were present and complete for each sample in Lot ANRS. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory chain-of-custody forms. The field IDs and laboratory IDs for all samples were tracked from the chain-of-custody forms, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. FIELD QUALITY CONTROL

Sample 3ER-38 from Lot ANRS was identified as field quality control sample on the chain-of-custody forms. One compound (1,3,5-trinitrobenzene) was detected in the field rinsate blank at a concentration of 0.45 µg/L, slightly above the certified reporting limit of 0.21 µg/L. Since 1,3,5-trinitrobenzene was detected in no other field sample in Lot ANRS, no action was taken.

Samples WW-1 and WW-1 DUP were identified on the chain-of-custody forms as field duplicate samples. Target compounds were not detected in either sample. Field duplicate precision was not evaluated.

## IV. TECHNICAL ASSESSMENT

**1.0 Holding Times:** ACCEPTABLE/All criteria met.

All water samples in Lot ANRS were extracted within three days of collection and were analyzed within 16 days of extraction. The seven-day extraction holding time and 40-day analysis holding time limits were met.

**2.0 Instrument Calibration:** ACCEPTABLE/All criteria met.

The appropriate number of calibration standards were used to generate a zero-intercept model standard curve for explosives compounds. Linearity was acceptable for the standard curves. Recalculation results of the regression statistics for the curves agreed with the laboratory values.

**3.0 Daily Calibration:** ACCEPTABLE/All criteria met.

The results of the daily calibration standard agreed with the initial calibration standard within 25%.

**4.0 Blank Analysis:** ACCEPTABLE/All criteria met.

One water method blank was associated with the samples in Lot ANRS. Target compounds were not detected in the method blank at or above the certified reporting limit (CRL).

**5.0 Matrix Spike/Matrix Spike Duplicate Analyses:** ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See Qualified Data Summary Table ANRS-1.

***Discussion:***

The laboratory used Sample WW-1 for MS/MSD analyses with the samples from Lot ANRS. The RDX percent recovery value of 30% in the MSD sample was less than the lower control limit of 70%. The relative percent difference values for 2,4-dinitrotoluene, nitrobenzene, and RDX were greater than the upper control limit for precision of 20%. The detection limits (CRL) for 2,4-dinitrotoluene, nitrobenzene, and RDX in the associated unspiked sample, WW-1, were qualified as estimated, (UJ).

All other percent recovery values were within control limits of 70% to 130%. All other relative percent difference values were less than the maximum allowable value of 20%.

**6.0 High Spike and Low Spike Recovery:** ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See Qualified Data Summary Table ANRS-1.

***Discussion:***

The DataChem QA Status Report noted that the recovery values for RDX were less than the lower control limit in the high spike analysis. The QA Status Report recommends that the data for Lot ANRS be accepted with a flagging code of "7" for all RDX data. The reviewer concurs with the recommendation and has qualified all RDX detection limits as estimated, (UJ).

**7.0 Compound Identification:** ACCEPTABLE/All criteria met.

The chromatograms and raw data for Lot ANRS were reviewed for explosives compounds; false negatives or false positives were not found. There were no discrepancies between the raw data and the transfer files.

**8.0 Compound Quantitation and Certified Reporting Limits (CRL):** ACCEPTABLE/All criteria met.

An evaluation of compound quantitation was performed by recalculating the sample results from the raw data. Discrepancies were not found. The CRL on the transfer file met those listed in the method. No transcription errors were noted.

**9.0 Chromatogram Quality:** ACCEPTABLE/All criteria met.

A review of chromatogram quality revealed no problems. The baselines were stable, no electropositive displacement was found, and all early eluting peaks were resolved to the baseline.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method.

An examination of the DataChem QA Status Report that includes Lot ANRS revealed the following items: RDX results in the high spike were below the lower control limit.

All RDX detection limits were qualified as estimated (UJ) due to high spike accuracy deficiencies. Qualifiers were issued to the 2,4-dinitrotoluene and nitrobenzene CRL in Sample WW-1 because of poor MS/MSD precision.

All data, as qualified, are acceptable for use.

# Qualified Data Summary Table Lot No: ANRS-1

| Analyte | Code | Qualifier | Sample ID | Concentration | Reason | Report Section |
|---|---|---|---|---|---|---|
| RDX | RDX | UJ | 3ER-38 | LT 4.16E-1 | HS%R<LCL | 6.0 |
| RDX | RDX | UJ | WW-1 | LT 4.16E-1 | HS%R<LCL | 6.0 |
| RDX | RDX | UJ | WW-1 DUP | LT 4.16E-1 | HS%R<LCL | 6.0 |
| RDX | RDX | UJ | WW-1 | LT 4.16E-1 | MS/MSD %R & RPD out | 5.0 |
| 2,4-Dinitrotoluene | 24DNT | UJ | WW-1 | LT 3.97E-1 | MS/MSD RPD > UCL | 5.0 |
| Nitrobenzene | NB | UJ | WW-1 | LT 6.82E-1 | MS/MSD RPD > UCL | 5.0 |

# DATA QUALITY ASSESSMENT
## PESTICIDE ANALYSES: SOIL
## METHOD: LH17
## LOT NO.: ANHJ

## I. DELIVERABLES AND DOCUMENTATION

Method LH17 analyzes for pesticides/PCB compounds. Only organochlorine pesticide analyses were requested, so a modified method LH17 was performed. No PCB compounds were reported. All necessary documentation for lot ANHJ were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package, with the exception of percent moisture logbook pages. The sample percent moisture values on the transfer files could not be confirmed. Transfer files, the DataChem QA Status Report, and USAEC Control Chart Response were also provided.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; all laboratory notebook pages and chromatograms were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

Field chain-of-custody forms were present and complete for each sample in lot ANHJ. All forms were signed and dated. The field chain-of-custody forms indicated no problems with sample receipt conditions. All samples listed on field chain-of-custody forms were analyzed, with the exception of one equipment rinsate sample, 3ER-33. This sample was not included with lot ANHJ.

Laboratory chain-of-custody forms were present and complete for each sample in lot ANHJ. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory chain-of-custody forms. The field ID and laboratory ID for all samples were tracked from the chain-of-custody forms, transfer files, laboratory notebooks, and the raw data. Discrepancies were not found.

## III. FIELD QUALITY CONTROL

Sample WSS-94-16 was identified on the field chain-of-custody form as a field duplicate of Sample WSS-94-09. Gamma-BHC, 4,4'-DDE, and 4,4'-DDT were detected in both samples. Relative percent difference (RPD) values of less than 25% were calculated for these analytes, indicating acceptable precision. Heptachlor epoxide was detected just above the detection limit in Sample WSS-94-16 only. As the RPD between this detected value and the detection limit reported for the original sample is also less than 25%, no action was taken. No qualification was

necessary. Sample 3ER-33 was identified on the field chain-of-custody form as a field equipment rinsate sample, but was not analyzed as part of lot ANHJ. No other field QC samples were identified.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All soil samples were extracted within two days of collection and were analyzed within 20 days of extraction. The USATHAMA PAM 11-41-required extraction holding time limit of seven days and analysis holding time of 40 days were met.

### 2.0 Instrument Calibration: ACCEPTABLE/All criteria met.

The appropriate number of calibration standards were used to generate a zero-intercept model standard curve for pesticide compounds. Linearity was acceptable for the standard curves. Recalculation results of the regression statistics for the curves agreed with the laboratory values.

### 3.0 Daily Calibration: ACCEPTABLE/All criteria met.

The results of the daily calibration standard agreed with the initial calibration standard within 25%. Percent difference (%D) values for pesticide compounds were reported by the laboratory. All %D values were within control limits.

### 4.0 Blank Analysis: ACCEPTABLE/All criteria met.

One method blank was associated with the samples in this lot. Target and non-target pesticide compounds were not detected in the method blank at or above the certified reporting limit (CRL).

### 5.0 Matrix Spike / Matrix Spike Duplicate Analyses: ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

The laboratory performed MS/MSD analyses at a frequency of one pair per 20 samples. MS/MSD analysis was performed on Sample WSS-94-05. Percent recovery (%R) and relative percent difference (RPD) values for pesticide compounds were evaluated. All analytes with associated acceptance criteria were within USEPA control limits for %R and RPD, with the exception of the %R value for 4,4'-DDT in both the matrix spike and the matrix spike duplicate samples. The 4,4'-DDT %R values were above the upper control limit. The elevated recoveries were caused by matrix interference. No action was taken. Two compounds (endosulfan I and methoxychlor) were also included in the spike solution. There are no USEPA control limits for these compounds. The %R and RPD values were judged acceptable.

## 6.0 High Spike Analyses: ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

Two high concentration spike analyses were performed with sample lot ANHJ. One analysis was spiked with technical chlordane, the other with a mixture of individual target compound pesticides. The percent recovery of the technical chlordane was below the lower control limit. The percent recoveries of individual pesticide analytes were all above the upper control limit. The laboratory attributes the high recoveries to accidental concentration, due to a crack in the sample vial that allowed solvent evaporation. Results from the sample screening performed prior to concentration show the QC values within limits, and comparable field sample values to those achieved during sample analysis. Also, the standard and MS/MSD analyses had acceptable results. The elevated %R values in the high concentration spike analysis were judged to be a one time occurrence, and had no impact on the reported sample results. No data qualifiers were issued.

## 7.0 Compound Identification: ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See Qualifier Table.

***Discussion:***

The chromatograms and raw data for lot ANHJ were reviewed for organochlorine pesticide compounds. In seven samples, chlordane was reported as not detected, and two individual chlordane isomers (alpha and gamma chlordane) were reported as positive results. A review of the chromatograms indicated the possible presence of technical chlordane, a multi-component compound with many eluting peaks which reflect the many chlordane isomers. Notes made by the analyst on the raw data (and repeated in the data package case narrative) state that the presence of technical chlordane was suspected by the analyst for these samples.

As the presence of technical chlordane is suspected, the reported non-detect for chlordane represents a possible false negative result. For this reason, the chlordane detection limit (CRL) is qualified as unusable (R) in the seven samples, as summarized in the Qualified Data Summary Table.

## 8.0 Compound Quantitation and Certified Reporting Limit (CRL): ACCEPTABLE/ With the following exceptions.

***Qualified Data:*** See Qualifier Table.

***Discussion:***

As discussed in Section 7.0, the presence of technical chlordane was suspected in seven samples. As technical chlordane is a multi-component analyte with many peaks, the presence of technical chlordane can mask other analytes which have similar elution times. This interference results in

elevated detection limits, and an increased possibility of false positive identifications. Due to this, all target analytes in the affected samples are estimated (J/UJ).

Compound quantitation was reviewed by recalculation; no errors were noted. The CRL on the transfer file met those listed in the method. No transcription errors were found.

Several compounds that are not method LH17 target compounds were included during the analyses. These compounds were correctly flagged "T" (for non-detects) or "Z" (for positive results) by the laboratory. No action was required.

**9.0 Chromatogram Quality:** ACCEPTABLE/All criteria met.

A review of chromatogram quality revealed no problems. The baselines were stable, no electropositive displacement was found, and all early eluting peaks were resolved to the baseline.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method. Accuracy was acceptable, based upon the percent recovery values for most of the spiked analytes. Precision was acceptable, based upon the low RPD values for the MS/MSD and field duplicate sets.

The DataChem QA Status Report notes that almost all recoveries in the QC spike are above the control limits. The laboratory states that this is due to a cracked vial, which allowed some of the solvent to evaporate, concentrating the sample. The laboratory also noted that the recoveries obtained during the sample screening (performed prior to the solvent loss) were acceptable, as were the recoveries of standards and MS/MSD compounds. The laboratory flagged all associated data "H". The USAEC accepted the lot, and flagged all associated data with "M" flags. As the high recoveries are a one time occurrence due to an isolated incident, the high recoveries were judged to have no significant impact on the reported results, and no data qualifiers were issued during the Data Quality Assessment.

Qualifications were issued to seven samples due to the suspected presence of technical chlordane. As chlordane was not reported, the possibility of false negatives exists, and the chlordane CRL were qualified as not usable (R) in the affected samples. As the multi-component peaks of technical chlordane would mask other analytes, resulting in elevated detection limits and possible false positive results, all other analytes in the affected samples were estimated (J/UJ).

Data that are rejected (R) are not usable for any purpose. All other data, as qualified, are acceptable for use.

# Qualified Data Summary Table Lot No: ANHJ

| Analyte | Code | Qualifier | Sample ID | Conc(ug/g) | Reason | Report Section |
|---|---|---|---|---|---|---|
| Chlordane (Tech) | CLDAN | R | WSS-94-01 | LT 6.84E-2 | False negative | 7 |
| Chlordane (Tech) | CLDAN | R | WSS-94-03 | LT 6.84E-2 | False negative | 7 |
| Chlordane (Tech) | CLDAN | R | WSS-94-06 | LT 6.84E-2 | False negative | 7 |
| Chlordane (Tech) | CLDAN | R | WSS-94-07 | LT 6.84E-2 | False negative | 7 |
| Chlordane (Tech) | CLDAN | R | WSS-94-08 | LT 6.84E-2 | False negative | 7 |
| Chlordane (Tech) | CLDAN | R | WSS-94-09 | LT 6.84E-2 | False negative | 7 |
| Chlordane (Tech) | CLDAN | R | WSS-94-16 | LT 6.84E-2 | False negative | 7 |
| | ABHC | UJ | WSS-94-01 | LT 2.80E-3 | Uncertain detection limit | 8 |
| | AENSLF | UJ | WSS-94-01 | LT 1.00E-3 | Uncertain detection limit | 8 |
| | ALDRN | UJ | WSS-94-01 | LT 1.4E-3 | Uncertain detection limit | 8 |
| | BBHC | UJ | WSS-94-01 | LT 7.70E-3 | Uncertain detection limit | 8 |
| | BENSLF | UJ | WSS-94-01 | LT 7.00E-4 | Uncertain detection limit | 8 |
| | DBHC | UJ | WSS-94-01 | LT 8.50R-3 | Uncertain detection limit | 8 |
| | DLDRN | J | WSS-94-01 | 1.94E-03 | Possible False Positive | 8 |
| | ENDRN | J | WSS-94-01 | 1.43E-02 | Possible False Positive4505X8 | |
| | HPCL | UJ | WSS-94-01 | LT 2.20E-3 | Uncertain detection limit | 8 |
| | HPCLE | UJ | WSS-94-01 | LT 1.30E-3 | Uncertain detection limit | 8 |
| | ISODR | UJ | WSS-94-01 | LT 3.00E-3 | Uncertain detection limit | 8 |
| | LIN | UJ | WSS-94-01 | LT 1.00E-3 | Uncertain detection limit | 8 |
| | MEXCLR | UJ | WSS-94-01 | LT 3.59E-2 | Uncertain detection limit | 8 |
| | PPDDD | J | WSS-94-01 | 1.10E-02 | Possible False Positive | 8 |
| | PPDDE | J | WSS-94-01 | 1.23E-02 | Possible False Positive | 8 |
| | PPDDT | J | WSS-94-01 | 3.87E-02 | Possible False Positive | 8 |
| | TXPHEN | UJ | WSS-94-01 | LT 2.26E-1 | Uncertain detection limit | 8 |
| | ENDRNA | UJ | WSS-94-01 | ND 5.00E-4 | Uncertain detection limit | 8 |
| | ENDRNK | UJ | WSS-94-01 | ND 5.00E-4 | Uncertain detection limit | 8 |
| | ESFSO4 | UJ | WSS-94-01 | ND 5.00E-4 | Uncertain detection limit | 8 |
| | ABHC | UJ | WSS-94-03 | LT 2.80E-3 | Uncertain detection limit | 8 |
| | AENSLF | J | WSS-94-03 | 8.20E-03 | Possible False Positive | 8 |
| | ALDRN | J | WSS-94-03 | 1.42E-03 | Possible False Positive | 8 |
| | BBHC | UJ | WSS-94-03 | LT 7.70E-3 | Uncertain detection limit | 8 |
| | BENSLF | J | WSS-94-03 | 1.67E-03 | Possible False Detection | 8 |
| | DBHC | J | WSS-94-03 | 3.48E-02 | Possible False Detection | 8 |
| | DLDRN | J | WSS-94-03 | 2.36E-03 | Possible False Detection | 8 |
| | ENDRN | J | WSS-94-03 | 1.54E-02 | Possible False Positive | 8 |
| | HPCL | UJ | WSS-94-03 | LT 2.20E-3 | Uncertain detection limit | 8 |
| | HPCLE | J | WSS-94-03 | 1.28E-02 | Possible False Positive | 8 |
| | ISODR | UJ | WSS-94-03 | LT 3.00E-3 | Uncertain detection limit | 8 |
| | LIN | J | WSS-94-03 | 1.31E-03 | Possible False Positive | 8 |
| | MEXCLR | UJ | WSS-94-03 | LT 3.59E-2 | Uncertain detection limit | 8 |
| | PPDDD | J | WSS-94-03 | 1.25E-02 | Possible False Positive | 8 |
| | PPDDE | J | WSS-94-03 | 3.86E-02 | Possible False Detection | 8 |
| | PPDDT | J | WSS-94-03 | 9.00E-03 | Possible False Positive | 8 |
| | TXPHEN | UJ | WSS-94-03 | LT 2.26E-1 | Uncertain detection limit | 8 |
| | ENDRNA | J | WSS-94-03 | 6.25E-04 | Possible False Positive | 8 |
| | ENDRNK | J | WSS-94-03 | 5.73E-04 | Possible False Positive | 8 |
| | ESFSO4 | J | WSS-94-03 | 1.50E-03 | Possible False Positive | 8 |

# Qualified Data Summary Table Lot No: ANHJ

| Analyte | Code | Qualifier | Sample ID | Conc(ug/g) | Reason | Report Section |
|---|---|---|---|---|---|---|
| | ABHC | UJ | WSS-94-06 | LT 2.80E-3 | Uncertain detection limit | 8 |
| | AENSLF | J | WSS-94-06 | 1.81E-03 | Possible False Detection | 8 |
| | ALDRN | UJ | WSS-94-06 | LT 1.40E-3 | Uncertain detection limit | 8 |
| | BBHC | UJ | WSS-94-06 | LT 7.70E-3 | Uncertain detection limit | 8 |
| | BENSLF | UJ | WSS-94-06 | LT 7.00E-4 | Uncertain detection limit | 8 |
| | DBHC | UJ | WSS-94-06 | LT 8.50E-3 | Uncertain detection limit | 8 |
| | DLDRN | UJ | WSS-94-06 | LT 1.60E-3 | Uncertain detection limit | 8 |
| | ENDRN | J | WSS-94-06 | 1.80E-02 | Possible False Positive | 8 |
| | HPCL | UJ | WSS-94-06 | LT 2.20E-3 | Uncertain detection limit | 8 |
| | HPCLE | J | WSS-94-06 | 8.49E-03 | Possible False Positive | 8 |
| | ISODR | UJ | WSS-94-06 | LT 3.00E-3 | Uncertain detection limit | 8 |
| | LIN | UJ | WSS-94-06 | LT 1.00E-3 | Uncertain detection limit | 8 |
| | MEXCLR | UJ | WSS-94-06 | LT 3.59E-2 | Uncertain detection limit | 8 |
| | PPDDD | J | WSS-94-06 | 1.49E-02 | Possible False Positive | 8 |
| | PPDDE | J | WSS-94-06 | 1.39E-01 | Possible False Positive | 8 |
| | PPDDT | J | WSS-94-06 | 6.79E-02 | Possible False Positive | 8 |
| | TXPHEN | UJ | WSS-94-06 | LT 2.26E-1 | Uncertain detection limit | 8 |
| | ENDRNA | UJ | WSS-94-06 | ND 5.00E-4 | Uncertain detection limit | 8 |
| | ENDRNK | UJ | WSS-94-06 | ND 5.00E-4 | Uncertain detection limit | 8 |
| | ESFSO4 | UJ | WSS-94-06 | ND 5.00E-4 | Uncertain detection limit | 8 |
| | ABHC | UJ | WSS-94-07 | LT 2.80E-3 | Uncertain detection limit | 8 |
| | AENSLF | J | WSS-94-07 | 2.59E-02 | Possible False Positive | 8 |
| | ALDRN | UJ | WSS-94-07 | LT 1.40E-3 | Uncertain detection limit | 8 |
| | BBHC | J | WSS-94-07 | 1.52E-02 | Possible False Positive | 8 |
| | BENSLF | UJ | WSS-94-07 | LT 7.00E-4 | Uncertain detection limit | 8 |
| | DBHC | J | WSS-94-07 | 2.14E-02 | Possible False Detection | 8 |
| | DLDRN | J | WSS-94-07 | 2.79E-02 | Possible False Detection | 8 |
| | ENDRN | J | WSS-94-07 | 3.88E-02 | Possible False Positive | 8 |
| | HPCL | J | WSS-94-07 | 1.39E-02 | Possible False Detection | 8 |
| | HPCLE | J | WSS-94-07 | 2.29E-02 | Possible False Positive | 8 |
| | ISODR | UJ | WSS-94-07 | LT 3.00E-3 | Uncertain detection limit | 8 |
| | LIN | J | WSS-94-07 | 3.70E-02 | Possible False Positive | 8 |
| | MEXCLR | UJ | WSS-94-07 | LT 3.59E-2 | Uncertain detection limit | 8 |
| | PPDDD | J | WSS-94-07 | 1.21E-02 | Possible False Positive | 8 |
| | PPDDE | J | WSS-94-07 | 7.27E-02 | Possible False Positive | 8 |
| | PPDDT | J | WSS-94-07 | 2.34E-02 | Possible False Positive | 8 |
| | TXPHEN | UJ | WSS-94-07 | LT 2.26E-1 | Uncertain detection limit | 8 |
| | ENDRNA | J | WSS-94-07 | 1.56E-03 | Uncertain detection limit | 8 |
| | ENDRNK | J | WSS-94-07 | 8.95E-03 | Uncertain detection limit | 8 |
| | ESFSO4 | J | WSS-94-07 | 3.59E-03 | Uncertain detection limit | 8 |
| | ABHC | UJ | WSS-94-08 | LT 2.80E-3 | Uncertain detection limit | 8 |
| | AENSLF | J | WSS-94-08 | 4.05E-03 | Possible False Detection | 8 |
| | ALDRN | UJ | WSS-94-08 | LT 1.40E-3 | Uncertain detection limit | 8 |
| | BBHC | UJ | WSS-94-08 | LT 7.70E-3 | Uncertain detection limit | 8 |
| | BENSLF | UJ | WSS-94-08 | LT 7.00E-4 | Uncertain detection limit | 8 |
| | DBHC | UJ | WSS-94-08 | LT 8.50E-3 | Uncertain detection limit | 8 |
| | DLDRN | J | WSS-94-08 | 5.85E-03 | Possible False Detection | 8 |

# Qualified Data Summary Table Lot No: ANHJ

| Analyte | Code | Qualifier | Sample ID | Conc(ug/g) | Reason | Report Section |
|---|---|---|---|---|---|---|
| | ENDRN | J | WSS-94-08 | 4.00E-02 | Possible False Detection | 8 |
| | HPCL | UJ | WSS-94-08 | LT 2.20E-3 | Uncertain detection limit | 8 |
| | HPCLE | J | WSS-94-08 | 5.82E-03 | Possible False Positive | 8 |
| | ISODR | UJ | WSS-94-08 | LT 3.00E-3 | Uncertain detection limit | 8 |
| | LIN | UJ | WSS-94-08 | LT 1.00E-3 | Uncertain detection limit | 8 |
| | MEXCLR | UJ | WSS-94-08 | LT 3.59E-2 | Uncertain detection limit | 8 |
| | PPDDD | UJ | WSS-94-08 | LT 2.70E-3 | Uncertain detection limit | 8 |
| | PPDDE | J | WSS-94-08 | 2.11E-02 | Possible False Positive | 8 |
| | PPDDT | J | WSS-94-08 | 5.93E-03 | Possible False Positive | 8 |
| | TXPHEN | UJ | WSS-94-08 | LT 2.26E-1 | Uncertain detection limit | 8 |
| | ENDRNA | UJ | WSS-94-08 | ND 5.00E-4 | Uncertain detection limit | 8 |
| | ENDRNK | UJ | WSS-94-08 | ND 5.00E-4 | Uncertain detection limit | 8 |
| | ESFSO4 | UJ | WSS-94-08 | ND 5.00E-4 | Uncertain detection limit | 8 |
| | ABHC | UJ | WSS-94-09 | LT 2.80E-3 | Uncertain detection limit | 8 |
| | AENSLF | UJ | WSS-94-09 | LT 1.00E-3 | Uncertain detection limit | 8 |
| | ALDRN | UJ | WSS-94-09 | LT 1.40E-3 | Uncertain detection limit | 8 |
| | BBHC | UJ | WSS-94-09 | LT 7.70E-3 | Uncertain detection limit | 8 |
| | BENSLF | UJ | WSS-94-09 | LT 7.00E-4 | Uncertain detection limit | 8 |
| | DBHC | UJ | WSS-94-09 | LT 8.50E-3 | Uncertain detection limit | 8 |
| | DLDRN | UJ | WSS-94-09 | LT 1.60E-3 | Uncertain detection limit | 8 |
| | ENDRN | UJ | WSS-94-09 | LT 6.50E-3 | Uncertain detection limit | 8 |
| | HPCL | UJ | WSS-94-09 | LT 2.20E-3 | Uncertain detection limit | 8 |
| | HPCLE | UJ | WSS-94-09 | LT 1.30E-3 | Uncertain detection limit | 8 |
| | ISODR | UJ | WSS-94-09 | LT 3.00E-3 | Uncertain detection limit | 8 |
| | LIN | UJ | WSS-94-09 | LT 1.00E-3 | Uncertain detection limit | 8 |
| | MEXCLR | UJ | WSS-94-09 | LT 3.59E-2 | Uncertain detection limit | 8 |
| | PPDDD | UJ | WSS-94-09 | LT 2.70E-3 | Uncertain detection limit | 8 |
| | PPDDE | J | WSS-94-09 | 5.90E-03 | Possible False Positive | 8 |
| | PPDDT | J | WSS-94-09 | 5.03E-03 | Possible False Positive | 8 |
| | TXPHEN | UJ | WSS-94-09 | LT 2.26E-1 | Uncertain detection limit | 8 |
| | ENDRNA | UJ | WSS-94-09 | ND 5.00E-4 | Uncertain detection limit | 8 |
| | ENDRNK | UJ | WSS-94-09 | ND 5.00E-4 | Uncertain detection limit | 8 |
| | ESFSO4 | UJ | WSS-94-09 | ND 5.00E-4 | Uncertain detection limit | 8 |
| | ABHC | UJ | WSS-94-16 | LT 2.80E-3 | Uncertain detection limit | 8 |
| | AENSLF | UJ | WSS-94-16 | LT 1.00E-3 | Uncertain detection limit | 8 |
| | ALDRN | UJ | WSS-94-16 | LT 1.40E-3 | Uncertain detection limit | 8 |
| | BBHC | UJ | WSS-94-16 | LT 7.70E-3 | Uncertain detection limit | 8 |
| | BENSLF | UJ | WSS-94-16 | LT 7.00E-4 | Uncertain detection limit | 8 |
| | DBHC | UJ | WSS-94-16 | LT 8.50E-3 | Uncertain detection limit | 8 |
| | DLDRN | UJ | WSS-94-16 | LT 1.60E-3 | Uncertain detection limit | 8 |
| | ENDRN | UJ | WSS-94-16 | LT 6.50E-3 | Uncertain detection limit | 8 |
| | HPCL | UJ | WSS-94-16 | LT 2.20E-3 | Uncertain detection limit | 8 |
| | HPCLE | J | WSS-94-16 | 1.59E-03 | Possible False Positive | 8 |
| | ISODR | UJ | WSS-94-16 | LT 3.00E-3 | Possible False Positive | 8 |
| | LIN | UJ | WSS-94-16 | LT 1.00E-3 | Possible False Positive | 8 |
| | MEXCLR | UJ | WSS-94-16 | LT 3.59E-2 | Uncertain detection limit | 8 |
| | PPDDD | UJ | WSS-94-16 | LT 2.70E-3 | Uncertain detection limit | 8 |

# Qualified Data Summary Table Lot No: ANHJ

| Analyte | Code | Qualifier | Sample ID | Conc(ug/g) | Reason | Report Section |
|---|---|---|---|---|---|---|
| | PPDDE | J | WSS-94-16 | 7.37E-03 | Uncertain detection limit | 8 |
| | PPDDT | J | WSS-94-16 | 6.28E-03 | Uncertain detection limit | 8 |
| | TXPHEN | UJ | WSS-94-16 | LT 2.26E-1 | Uncertain detection limit | 8 |
| | ENDRNA | UJ | WSS-94-16 | ND 5.00E-4 | Uncertain detection limit | 8 |
| | ENDRNK | UJ | WSS-94-16 | ND 5.00E-4 | Uncertain detection limit | 8 |
| | ESFSO4 | UJ | WSS-94-16 | ND 5.00E-4 | Uncertain detection limit | 8 |

# DATA QUALITY ASSESSMENT
## PESTICIDE ANALYSES: WATER
## METHOD: UH20
## LOT NO.: ANWT

## I. DELIVERABLES AND DOCUMENTATION

Method UH20 is for pesticide/PCB analyses in water. Only the organochlorine pesticide analyses were requested, so a modified method UH20 was performed. All necessary documentation for lot ANWT were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package. Transfer files, the DataChem QA Status Report, and USAEC Control Chart Response were also provided. No final sample results were available at this time.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; all laboratory notebook pages and chromatograms were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

Field chain-of-custody forms were present and complete for each sample in lot ANWT. All submitted forms were signed and dated. The field chain-of-custody forms indicated no problems with sample receipt conditions. All water samples listed on the field chain-of-custody forms were analyzed, with the exception of one equipment rinsate sample, 3ER-40. Sample 3ER-40 was requested for PCB analysis only, and was not analyzed as part of Lot ANWT.

Laboratory chain-of-custody forms were present and complete for each sample in lot ANWT. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory chain-of-custody forms. The field ID and laboratory ID for all samples were tracked from the chain-of-custody forms, transfer files, laboratory notebooks, and the raw data. Discrepancies were not found.

## III. FIELD QUALITY CONTROL

Sample 3ER-42 was identified on the field chain-of-custody form as a field equipment rinsate sample. A low level hit of endosulfan sulfate was detected on the primary column for Sample 3ER-42. This compound was not confirmed, and was not detected in any sample. No action was taken. Samples WW-1 and WW-1(D) were listed on the field chain-of-custody form as field duplicate samples. Pesticide compounds were not detected in the field QC samples. No other field QC samples were identified.

## IV. TECHNICAL ASSESSMENT

**1.0 Holding Times:** ACCEPTABLE/All criteria met.

All soil samples were extracted within 7 days of collection and were analyzed within 10 days of extraction. The USATHAMA PAM 11-41-required extraction holding time limit of 7 days and analysis holding time of 40 days were met.

**2.0 Instrument Calibration:** ACCEPTABLE/All criteria met.

The appropriate number of calibration standards were used to generate a zero-intercept model standard curve for pesticide compounds. Linearity was acceptable for the standard curves. Recalculation results of the regression statistics for the curves agreed with the laboratory values.

**3.0 Daily Calibration:** ACCEPTABLE/All criteria met.

The results of the daily calibration standard agreed with the initial calibration standard within 25%. Percent difference (%D) values for pesticide compounds were reported by the laboratory. All %D values were within control limits.

**4.0 Blank Analysis:** ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

One method blank was associated with the samples in this lot. One non-target compound (endosulfan sulfate) was detected in the method blank at a low level. This compound was not confirmed on the secondary column, and was not detected in any field sample. No action was taken. Target pesticide compounds were not detected in the method blank at or above the certified reporting limit (CRL).

**5.0 Matrix Spike / Matrix Spike Duplicate Analyses:** ACCEPTABLE/All criteria met.

The laboratory performed MS/MSD analyses at a frequency of one pair per 20 samples. MS/MSD analysis was performed on Sample WW-1. Percent difference (%D) values and relative percent difference (RPD) for pesticide compounds were evaluated. All values were within USEPA control limits.

**6.0 High Spike Analysis:** ACCEPTABLE/With the following discussion.

***Qualified Data:*** See Qualified Data Summary Table ANWT-1.

***Discussion:***

One high concentration spike analysis was performed with this sample lot. The percent recovery values of the high spike analysis were within the control limits, with the exception of endo-

sulfan I. The recovery of endosulfan I was below the lower control limit. This compound was not detected in any field sample. The corresponding detection limits (CRL) were qualified as estimated (UJ).

**7.0 Compound Identification:** ACCEPTABLE/All criteria met.

The chromatograms and raw data for lot ANWT were reviewed for pesticide compounds; no false negatives or false positives were found. There were no discrepancies between the raw data and the transfer files.

**8.0 Compound Quantitation and Certified Reporting Limit (CRL):** ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

Target pesticide compounds were detected above the CRL in matrix spiked samples. Compound quantitation was verified by recalculation; no problems were found. The CRL on the transfer file met those listed in the method. No transcription errors were noted.

Several compounds not included in the Method UH20 target compound list were reported on the transfer files. These compounds were correctly flagged "T" (or "Z" for detections) by the laboratory. No action required.

**9.0 Chromatogram Quality:** ACCEPTABLE/All criteria met.

A review of chromatogram quality revealed no problems. The baselines were stable, no electropositive displacement was found, and all early eluting peaks were resolved to the baseline.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method. Accuracy was acceptable, as demonstrated by the percent recovery values of spiked compounds. Precision was acceptable, as demonstrated by the low RPD values of the MS/MSD set.

The DataChem QA Status Report notes a low percent recovery for endosulfan I. This compound was not detected in any field sample. The associated detection limits (CRL) are estimated (UJ), due to the possible low bias.

The data, as qualified, are acceptable for use.

# Qualified Data Summary Table Lot No: ANWT

| Analyte | Code | Qualifier | Sample ID | Concentration | Reason | Report Section |
|---|---|---|---|---|---|---|
| Endosulfan 1 | AENSLF | UJ | WW-1 | 2.50E-03 | spike out low | 6 |
| Endosulfan 1 | AENSLF | UJ | WW-1(DU | 2.50E-03 | spike out low | 6 |
| Endosulfan 1 | AENSLF | UJ | 3ER-42 | 2.50E-03 | spike out low | 6 |

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# DATA QUALITY ASSESSMENT

## TOOELE ARMY DEPOT—NORTH AREA
## DAAA15-90-D-0007, TASK 0003

## SWMU 36
## OLD BURN STAGING AREA

**Prepared for:**

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December 20, 1994

**Approved for Release:**

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# DATA QUALITY ASSESSMENT SUMMARY

### *Basis for Data Quality Assessment*

This report summarizes the results of data quality assessment performed on soil samples and associated laboratory quality control samples. Refer to the Sample Index for sample identifications.

Samples were analyzed for the following parameters and were reviewed by the chemists listed below:

| SWMU | Test | Lot | Method (Matrix) | Primary | Secondary |
|---|---|---|---|---|---|
| SWMU 36 | Arsenic | ANWH | B9 (SOIL) | Jason Ai | W. Jaime Bruton |
| | ICP Metals | ANWJ | JS12 (SOIL) | Jason Ai | W. Jaime Bruton |

Data assessment was based on the QC criteria recommended in the above listed method; the *Tooele Army Depot—North Area QC Plan*; *USEPA Functional Guidelines for Organic and Inorganic Data Review*; and *USATHAMA (USAEC) Quality Assurance Program (PAM 11-41).*

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are assigned a J or UJ, data may be used for site evaluation and risk assessment purposes, but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R, the data are to be rejected and should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the above-referenced documents and method.

Copies of the qualified transfer files are included as **APPENDIX A.** Each lot report also contains a summary table of qualified results. Data Quality Assessment Worksheets, Communication, and Corrective Action Records have been placed in labeled envelopes with the original data packages.

### DATA VALIDATION QUALIFIER CODES

| | |
|---|---|
| U | The material was analyzed for, but was not detected. The associated numerical value is the certified reporting limit. |
| R | Unreliable result. Data should not be used. Analyte may or may not be present in the sample. |

| | |
|---|---|
| J | Analyte present. Reported value is an estimate that may not be accurate or precise. Data Quality Assessment Report should be consulted for reason. |
| UJ | Not detected. Detection limit may be inaccurate or imprecise and may not be equal to certified reporting limit. Data Quality Assessment Report should be consulted for reason. |

## SITE DATA QUALITY SUMMARY: *SWMU 36—OLD BURN STAGING AREA*

### *Arsenic*

One lot of arsenic analyses of soil samples using Method B9 was reviewed. All results are acceptable for use without qualification.

### *ICP-Metals*

One lot of ICP-metal analyses of soil samples using Method JS12 was reviewed. All vanadium results less than the high spike concentration were qualified as estimated. These results are considered biased low by approximately 40% and the qualified results are slightly less precise than unqualified data. Qualification was recommended by both USAEC and EcoChem.

All antimony detection limits were rejected because of zero antimony recovery in the natural (matrix) spikes. this indicates the possibility of false negatives. The USAEC did not flag this problem because natural spikes are not part of the USAEC QA program; however, they recommend against using Method JS12 for antimony in soil samples because of known poor recovery problems.

Zinc data were qualified as estimated by the USAEC due to low spike recovery. Since the spike recovery was acceptable under Functional Guidelines, we recommend accepting the data without qualification. The results should be considered acceptable for all uses with the understanding that the results are potentially biased low by approximately 25%.

# DATA QUALITY ASSESSMENT
# ARSENIC—GFAA ANALYSES: SOIL
# METHOD: B9
# LOT NO.: ANWH

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot ANWH were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package. Control charts, DataChem QA status report and USAEC control chart response were provided in this data package. Final sample results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and all laboratory notebook pages and strip chart printouts were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

Field chain-of-custody (COC) forms for Lot ANWH were completed properly, and all samples listed in the COC forms were analyzed. All forms were signed and dated. The field chain-of-custody forms indicated no problems with sample receipt conditions.

Laboratory chain-of-custody forms were present and complete for Lot ANWH samples. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory chain-of-custody forms. A minimum of 10% of the field ID and laboratory ID were tracked from the chain-of-custody forms, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. FIELD QC SUMMARY

Two sets of field duplicate samples (BRP-94-09C/BRP-94-18C and OSP-94-04C/OSP-94-07A) were analyzed and reviewed. The relative percent difference (RPD) values for these two sets of field duplicate samples were 4.9% and 6.9%, respectively.

No field blanks were submitted with Lot ANWH samples.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All samples were analyzed within the method specified holding time of 180 days from date of collection to analysis.

## 2.0 Instrument Calibration: ACCEPTABLE/All criteria met.

For the initial calibration, the minimum number of standards were used, which met the method criterion. The linearity requirement of $r \geq$ to 0.995 was met. The laboratory analyzed a continuing calibration standard every ten samples as required. All percent recovery (%R) values of initial and continuing calibration verifications were within the control limits of 90% to 110%.

## 3.0 Blank Analyses: ACCEPTABLE/All criteria met.

Calibration blanks (ICB and CCB) and preparation blanks (PB) were evaluated for possible contamination effects. Calibration blanks were also evaluated for causing possible low bias in associated sample results. Continuing calibration blanks were analyzed after each continuing calibration as required. Preparation blanks were prepared with each digestion batch as required. No target analytes were detected in the blanks at or above the reporting limits.

## 4.0 Matrix Spike/Matrix Spike Duplicate Sample Analyses: ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

Two sets of MS/MSD analyses were performed on Samples OSP-94-01A and BRB-94-16A. The %R values for the first set of MS/MSD analyses were 196.0% and 55.0%, which were both outside the Functional Guidelines (2/94) control limit of 75% to 125%. The RPD value for the first set of MS/MSD analyses was 112.4%, which was greater than the control limit of 35%. The %R values for the second MS/MSD set were 80.7% (within control limits), and 69.7%, (less than the control limit). The RPD value for the second set of MS/MSD analyses was 14.6%, which was within the control limit of 35%.

Since MS/MSD analyses were not required in the USATHAMA program and high and low spike recovery values were within the control limits, arsenic results were not qualified due to low or high percent recovery values. However, arsenic results should be considered as estimated.

## 5.0 High Spike and Low Spike Analyses: ACCEPTABLE/All criteria met.

Two high spike and one low spike analyses were performed with each sample lot. The percent recovery values of both high spike analyses were 95.7% and 94.3%, which were within the control chart limits of 86.9% to 109.5%. The percent recovery value of the low spike analysis was 103.9%, which was within the control chart limit of 92.0% to 104.2%.

## 6.0 Certified Reporting Limits (CRL): ACCEPTABLE/All criteria met.

The reporting limits for arsenic were reviewed. All reporting limits match the certified reporting limit listed in the laboratory SOP.

**7.0 Calculations:** ACCEPTABLE/All criteria met.

No transcription errors or calculation errors were noted in the sample result data.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method. No technical deficiencies were found.

The USAEC Chemistry Branch Response indicates that Lot ANWH is acceptable. The laboratory noted high spike recovery values moving in an upward direction, and low spike recovery values trending above the mean. No qualification is recommended based on these observations.

The data, as reported, are acceptable for use.

# DATA QUALITY ASSESSMENT
# METALS-ICP ANALYSES: SOIL
# METHOD: JS12
# LOT NO.: ANWJ

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot ANWJ were provided by the laboratory to meet USATHAMA PAM-11-41 requirements for this data package. Control charts, DataChem QA status report and USAEC control chart response were provided in this data package. Final samples results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and all laboratory notebook pages and strip chart printouts were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

The field chain-of-custody forms were present and complete for Lot ANWJ. All Lot ANWJ samples listed on the chain-of-custody were analyzed. Transcription errors were found in Samples BRB-94-12A, BRB-94-12B, and BRB-94-12C. These sample IDs were incorrectly reported as BRP-94-12A, BRP-94-12B, and BRP-94-12C. in the laboratory chain-of-custody, transfer file printout, and raw data. The laboratory was contacted and corrected forms have not yet been received from the laboratory. All other sample IDs were tracked from the field chain-of-custody to the transfer file printout and no errors were noted. Internal chain-of-custody forms clearly indicated the laboratory numbers and field sample IDs for each sample.

## III. FIELD QUALITY CONTROL

No field blanks or field duplicate samples were submitted with Lot ANWJ samples.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All samples were analyzed within the method specified holding time of 180 days from date of collection to analysis.

### 2.0 Instrument Calibration: ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

Instrument calibration consisted of one blank and one standard. Instrument sensitivity could not be evaluated with the documentation provided. All calibration check standards were within ±10% of the true value with the exception of a percent recovery (%R) for thallium at 127.2%. Since the %R value was greater than the upper control limit of 110% and thallium was not detected in any of the samples, no action was recommended. Plus or minus two times the standard deviation control limits were not utilized because historic calibration check results were not provided.

The laboratory analyzed a continuing calibration verification (CCV) standard every ten samples as required. The %R of the CCV were within ±10% of the true value. Plus or minus two times the standard deviation control limits were not utilized because historic calibration verification results were not provided.

## 4.0 Blank Analyses: ACCEPTABLE/With the following discussion.

***Qualified Data*: None.**

***Discussion:***

Calibration blanks (CCB) and preparation blanks (PB) were evaluated for possible contamination effects. Calibration blanks were also evaluated for causing possible low bias in associated samples. Continuing calibration blanks were analyzed after each continuing calibration as required. A preparation blank was prepared with each digestion batch as required. No CCB result was greater than the reporting limit or less than the negative reporting limit, and no PB result was greater than the reporting limit. Aluminum, barium, calcium, chromium, iron, potassium, magnesium, manganese, vanadium, and zinc were detected in one QC blank (BL-39714-1). Since this soil blank sample (from RMA soil, R3D-381) was unwashed soil, no qualifications were recommended.

## 5.0 Matrix Spike Sample Analyses: ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See Qualified Data Summary Table ANWJ-1.

***Discussion:***

MS/MSD analyses were performed on Samples OSP-94-05A and BRB-94-12A. The MS %R value for chromium in the first set of MS/MSD analyses was 74%, which was slightly less than the lower control limit of 75%. Since the MSD %R value and relative percent difference (RPD) values were within the control limits, no action was recommended. The antimony %R values in both MS/MSD analyses were 0%, which indicates antimony analyses by ICP method were questionable. Antimony was not detected in any of the samples leading to a possibility of false non-detects. The quantitation limits for antimony were rejected and not usable for any purposes. All other %R values and RPD values were within the control limits.

## 6.0 High Spike and Low Spike Analyses: ACCEPTABLE/With the following discussion.

***Qualified Data:*** See Qualified Data Summary Table ANWJ-1.

***Discussion:***

One low spike and two high spike analyses were performed with this sample lot. Recovery values were evaluated based on the control chart upper and lower limits. The %R of low spike and high spike analyses were within the control limits, with the exception of those listed in the table below.

| Analyte | Low Spike | Control Limit | 1st High Spike | 2nd High Spike | Control Limits |
|---|---|---|---|---|---|
| Beryllium | Acceptable | 92.5% to 105.1% | 99% | 100% | 94.2% to 98.8% |
| Cadmium | Acceptable | 86.6% to 107.8% | 98% | 100% | 92.4% to 97.2% |
| Cobalt | Acceptable | 94.8% to 124.2% | Acceptable | 103% | 95.0% to 102.2% |
| Chromium | Acceptable | 90.3% to 111.5% | 101% | 102% | 96.6% to 100.4% |
| Copper | Acceptable | 104.8% to 121.8% | Acceptable | 101% | 95.2% to 100.4% |
| Nickel | Acceptable | 88.8% to 126.2% | Acceptable | 101% | 94.0% to 100.8% |
| Lead | Acceptable | 88.9% to 116.9% | 102% | 104% | 95.1% to 100.3% |
| Antimony | Acceptable | 45.1% to 75.9% | Acceptable | 87.8% | 79.1% to 87.7% |
| Vanadium | 42.0% | 69.2% to 127.8% | Acceptable | Acceptable | 92.8% to 101.4% |
| Zinc | 76.7% | 88.5% to 104.7% | Acceptable | Acceptable | 93.7% to 100.3% |

The vanadium low spike %R value was less than both the USAEC control limit and the control limit specified in Functional Guidelines (2/94). Vanadium results in field samples that were less than the high spike concentration (30 µg/g) were considered biased low and were qualified as estimated. Since both vanadium high spike %R values were within the control limits, vanadium results greater than the high spike concentration were acceptable and no other qualifications are recommended.

All other spike recovery values were close to the USAEC control limits and still within the control limit specified in Functional Guidelines (2/94), no other qualifications are recommended.

## 7.0 Duplicate Sample Analyses: NOT APPLICABLE

Laboratory duplicate analyses were not performed with this sample lot.

## 8.0 ICP Interference Check Sample (ICS) Analyses: NOT PERFORMED

ICP interference check sample analyses were not performed with this sample lot.

## 9.0 Certified Reporting Limits (CRL): ACCEPTABLE/All criteria met.

The reporting limit for each analyte was reviewed. All reporting limits matched the certified reporting limit listed in the laboratory SOP.

**10.0 Calculations:** ACCEPTABLE/All criteria met.

No transcription errors or calculation errors were noted in the sample result data.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method. No technical deficiencies were found.

The USAEC Chemistry Branch Response indicates that Lot ANWJ is partially acceptable. The laboratory noted high spike recovery values trending above the central line for cadmium and lead; high spike recovery values moving in a downward direction for chromium; low spike range trending above the central line for boron, beryllium, and lead; low spike recovery values trending below the central line for copper and molybdenum; low spike recovery values moving in an upward direction for cobalt, tin, tellurium and thallium; low spike recovery values moving in a downward direction for molybdenum, nickel, lead, vanadium and zinc; and low spike recovery values less than the control chart lower limits for vanadium and zinc.

Vanadium was flagged with a "7" by the laboratory indicating low spike recovery. All vanadium results that were less than the high spike concentration (30 µg/g) should be considered biased low and qualified. The zinc low spike %R value was 76.7%, which was less than the control chart lower limit of 88.5%, but within the Functional Guidelines (2/94) control limits of 75% to 125%. No qualification was recommended. No other qualifications are recommended on these observations.

The data, as qualified, are acceptable for use.

# Qualified Data Summary Table Lot No: ANWJ

| Analyte | Code | Qualifier | Sample ID | Concentration | Reason | Report Section |
|---|---|---|---|---|---|---|
| Antimony | SB | R | OSP-94-05A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OSP-94-05B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OSP-94-05C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OSP-94-06A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OSP-94-06B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | OSP-94-06C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-01A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-01B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-01C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-02A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-02B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-02C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-03A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-03B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BWB-94-03C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRB-94-12A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRB-94-12B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRB-94-12C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-03A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-03B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-03C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-09A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-09B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-07A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-07B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-07C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-01A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-01B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-01C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-13A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-13B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-13C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-02A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-02B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | BRP-94-02C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Vanadium | V | J | OSP-94-05A | 21.7 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | OSP-94-05B | 13.7 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | OSP-94-05C | 10.6 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | OSP-94-06A | 21.0 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | OSP-94-06B | 13.3 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | OSP-94-06C | 16.8 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BWB-94-01A | 10.6 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BWB-94-01B | 15.3 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BWB-94-02A | 10.9 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BWB-94-02B | 7.33 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BWB-94-03A | 10.2 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BWB-94-03B | 20.4 ug/g | LS %R = 42.2% | 6 |

# Qualified Data Summary Table Lot No: ANWJ

| Analyte | Code | Qualifier | Sample ID | Concentration | Reason | Report Section |
|---|---|---|---|---|---|---|
| Vanadium | V | J | BWB-94-03C | 7.85 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRB-94-12A | 15.1 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRB-94-12B | 22.0 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRB-94-12C | 14.1 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-03A | 21.2 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-03B | 15.1 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-03C | 11.4 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-09A | 12.2 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-09B | 10.3 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-07A | 21.9 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-07B | 10.4 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-07C | 6.88 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-01A | 20.0 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-01B | 14.7 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-01C | 18.3 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-13A | 12.0 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-13B | 6.10 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-13C | 4.34 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-02A | 12.8 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-02B | 21.8 ug/g | LS %R = 42.2% | 6 |
| Vanadium | V | J | BRP-94-02C | 8.52 ug/g | LS %R = 42.2% | 6 |

EcoChem, Inc.

Environmental Science and Chemis

# DATA QUALITY ASSESSMENT

## TOOELE ARMY DEPOT—NORTH AREA
## DAAA15-90-D-0007, TASK 0003

## SWMU 40
## AED TEST RANGE

**Prepared for:**

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EcoChem Project Number: 8901-30

December 20, 1994

**Approved for Release:**

Jeri A. Hogan for

Mark T. Brindle
Project Manager
**EcoChem, Inc.**

# DATA QUALITY ASSESSMENT SUMMARY

***Basis for Data Quality Assessment***

This report summarizes the results of data quality assessment performed on soil samples and associated laboratory quality control samples. Refer to the Sample Index for sample identifications.

Samples were analyzed for the following parameters and were reviewed by the chemists listed below:

| SWMU | Test | Lot | Method (Matrix) | Primary | Secondary |
|---|---|---|---|---|---|
| SWMU 40 | Explosives | AMGX | LW23 (SOIL) | Mark T. Brindle | Eric Strout |
| | Explosives | AMIE | LW23 (SOIL) | Mark T. Brindle | Eric Strout |
| | Explosives | AMVC | LW23 (SOIL) | Mark T. Brindle | Eric Strout |
| | ICP Metals | ANCV | JS12 (SOIL) | Jason Ai | W. Jaime Bruton |

Data assessment was based on the QC criteria recommended in the above listed method; the *Tooele Army Depot—North Area QC Plan*; *USEPA Functional Guidelines for Organic and Inorganic Data Review*; and *USATHAMA (USAEC) Quality Assurance Program (PAM 11-41).*

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are assigned a J or UJ, data may be used for site evaluation and risk assessment purposes, but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R, the data are to be rejected and should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the above-referenced documents and method.

Copies of the qualified transfer files are included as **APPENDIX A.** Each lot report also contains a summary table of qualified results. Data Quality Assessment Worksheets, Communication, and Corrective Action Records have been placed in labeled envelopes with the original data packages.

## DATA VALIDATION QUALIFIER CODES

| | |
|---|---|
| U | The material was analyzed for, but was not detected. The associated numerical value is the certified reporting limit. |
| R | Unreliable result. Data should not be used. Analyte may or may not be present in the sample. |

| | |
|---|---|
| J | Analyte present. Reported value is an estimate that may not be accurate or precise. Data Quality Assessment Report should be consulted for reason. |
| UJ | Not detected. Detection limit may be inaccurate or imprecise and may not be equal to certified reporting limit. Data Quality Assessment Report should be consulted for reason. |

## SITE DATA QUALITY SUMMARY: *SWMU 40—AED TEST RANGE*

### *Explosives*

Three lots of explosives analyses of soil samples using Method LW23 were reviewed. Data for Lot AMGX are acceptable for use without qualification. Data for Lot AMIE are acceptable for use without qualification, with the exception of all CRL for 1,3,5-trinitrobenzene. All 1,3,5-trinitrobenzene detection limits were qualified as estimated due to low concentration spike accuracy deficiencies. All 1,3,5-trinitrobenzene data in Lot AMVC were rejected, (R), based on accuracy and precision deficiencies. The data for 1,3,5-trinitrobenzene are considered biased low by approximately 50%, and are unusable for any purpose. All other data in Lot AMVC are acceptable.

### *ICP-Metals*

One lot of ICP-metal analyses of soil samples using Method JS12 were reviewed. All antimony detection limits were rejected because of zero antimony recovery in the natural (matrix) spikes. This indicates the possibility of false negatives. The USAEC did not flag this problem because natural spikes are not part of the USAEC QA program; however, they recommend against using Method JS12 for antimony in soil samples because of known poor recovery problems.

# DATA QUALITY ASSESSMENT
## EXPLOSIVES ANALYSES: SOIL
## METHOD: LW23
## LOT: AMGX

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot AMGX were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package, with the exception of percent moisture logbook pages. The sample percent moisture values on the transfer files could not be confirmed. DataChem QA Status Reports and USAEC Control Chart Response were submitted. Final sample results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: Changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and all laboratory notebook pages and chromatograms were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

Field chain-of-custody forms were present and complete for each sample in Lot AMGX. All forms were signed and dated. The field chain-of-custody forms indicated no problems with sample receipt conditions.

Laboratory chain-of-custody forms were present and complete for each sample in Lot AMGX. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory chain-of-custody forms. The field IDs and laboratory IDs for all samples were tracked from the chain-of-custody forms, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. FIELD QUALITY CONTROL

Three field duplicate samples were identified in Lot AMGX as follows: three duplicate samples (ARP-94-61A, ARP-94-61B, and ARP-94-61C) which are pairs of Samples ARP-94-09A, ARP-94-09B, and ARP-94-09C, respectively. Positive results were not reported for any of the field QC samples in Lot AMGX. No evaluation of field duplicate precision (RPD) was possible.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All soil samples in Lot AMGX were extracted within four days of collection and were analyzed within 12 days of extraction. The seven-day extraction holding time and 40-day analysis holding time limits were met.

**2.0 Instrument Calibration:** ACCEPTABLE/All criteria met.

The appropriate number of calibration standards were used to generate a zero-intercept model standard curve for explosives compounds. Linearity was acceptable for the standard curves. Recalculation results of the regression statistics for the curves agreed with the laboratory values.

**3.0 Daily Calibration:** ACCEPTABLE/All criteria met.

The results of the daily calibration standard agreed with the initial calibration standard within 25%.

**4.0 Blank Analysis:** ACCEPTABLE/All criteria met.

One soil method blank was associated with the samples in Lot AMGX. Target explosives compounds were not detected in the method blank at or above the certified reporting limit (CRL).

**5.0 Matrix Spike/Matrix Spike Duplicate Analyses:** ACCEPTABLE/All criteria met.

The laboratory used Sample ARP-94-07A for MS/MSD analyses with the samples from Lot AMGX. All percent recovery values were within control limits of 70% to 130%. All relative percent difference values were less than the maximum allowable value of 20%.

**6.0 High Spike and Low Spike Recovery:** ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

The DataChem QA Status Report noted that the recovery values for the following compounds were less than the lower control limit in the low concentration spike analyses: 1,3,5-trinitrobenzene, 2,4-dinitrotoluene, and RDX. The QA Status Report and the USAEC Control Chart Response letter recommend that the data for Lot AMGX be accepted. The low concentration spike analysis recovery values were slightly less than the lower control limits, the data are not significantly affected, and no qualifiers were assigned.

**7.0 Compound Identification:** ACCEPTABLE/All criteria met.

The chromatograms and raw data for Lot AMGX were reviewed for explosives compounds; false negatives or false positives were not found. There were no discrepancies between the raw data and the transfer files.

**8.0 Compound Quantitation and Certified Reporting Limits (CRL):** ACCEPTABLE/All criteria met.

An evaluation of compound quantitation was performed by recalculating the sample results from the raw data. Discrepancies were not found. The CRL on the transfer file met those listed in the method. No transcription errors were noted.

**9.0 Chromatogram Quality:** ACCEPTABLE/All criteria met.

A review of chromatogram quality revealed no problems. The baselines were stable, no electropositive displacement was found, and all early eluting peaks were resolved to the baseline.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method.

An examination of the DataChem QA Status Report that includes Lot AMGX revealed the following items: 1,3,5-trinitrobenzene, 2,4-dinitrotoluene, and RDX results in the low spike were below the lower control limit. Precision and accuracy, as demonstrated by the recovery of matrix spiking compounds, was acceptable. Field duplicate RPD values were not calculable since no target compounds were detected in the duplicate pairs. Since the outliers for this lot were only slightly outside of the lower control limits in each case, the data are not significantly affected, and no qualifiers were assigned.

All data, as reported, are acceptable for use.

# DATA QUALITY ASSESSMENT
# EXPLOSIVES ANALYSES: SOIL
# METHOD: LW23
# LOT: AMIE

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot AMIE were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package, with the exception of percent moisture logbook pages. The sample percent moisture values on the transfer files could not be confirmed. DataChem QA Status Reports and USAEC Control Chart Response were submitted. Final sample results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: Changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and all laboratory notebook pages and chromatograms were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

Field chain-of-custody forms were present and complete for each sample in Lot AMIE. All forms were signed and dated. The field chain-of-custody forms indicated no problems with sample receipt conditions.

Laboratory chain-of-custody forms were present and complete for each sample in Lot AMIE. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory chain-of-custody forms. The field IDs and laboratory IDs for all samples were tracked from the chain-of-custody forms, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. FIELD QUALITY CONTROL

No samples from Lot AMIE were identified as field quality control samples on the chain-of-custody forms.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All soil samples in Lot AMIE were extracted within three days of collection and were analyzed within 16 days of extraction. The 7-day extraction holding time and 40-day analysis holding time limits were met.

## 2.0 Instrument Calibration: ACCEPTABLE/All criteria met.

The appropriate number of calibration standards were used to generate a zero-intercept model standard curve for explosives compounds. Linearity was acceptable for the standard curves. Recalculation results of the regression statistics for the curves agreed with the laboratory values.

## 3.0 Daily Calibration: ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

The results of the daily calibration standard agreed with the initial calibration standard within 25%, with the exceptions in the table below. From the AMIE daily calibration results, the area counts for HMX were greater than the upper acceptance limit; however, the exceedance was so slight that the data was not qualified. The area counts for nitrobenzene were less than the lower area acceptance limit, but no positive identifications of the two compounds were reported. The detection limits (CRL) were not qualified.

| Analyte | Sample Number | Calibration Date and Time | Daily Calibration Area Count | Area Count Acceptance Limits |
|---|---|---|---|---|
| Nitrobenzene | All Samples in Lot AMIE | 7/1/94 00:47 | 667.4 | 682.3 - 797.9 |
| | | 7/1/94 05:26 | 640.4 | |
| HMX | | 7/1/94 00:47 | 367.7 | 308.8 - 366.0 |

## 4.0 Blank Analysis: ACCEPTABLE/All criteria met.

One soil method blank was associated with the samples in Lot AMIE. Target explosives compounds were not detected in the method blank at or above the certified reporting limit (CRL).

## 5.0 Matrix Spike/Matrix Spike Duplicate Analyses: ACCEPTABLE/All criteria met.

The laboratory used Sample ARP-94-16A for MS/MSD analyses with the samples from Lot AMIE. All percent recovery values were within control limits of 70% to 130%. All relative percent difference values were less than the maximum allowable value of 20%.

## 6.0 High Spike and Low Spike Recovery: ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See Qualified Data Summary Table AMIE-1.

***Discussion:***

The percent recovery value for 1,3,5-trinitrobenzene in the low spike was 57.6%, below the 78% lower control limit. The USAEC Chemistry Branch made the recommendation that all 1,3,5-trinitrobenzene results in Lot AMIE be estimated due to the low spike recovery values. The reviewer concurs with the recommendations.

**7.0 Compound Identification:** ACCEPTABLE/All criteria met.

The chromatograms and raw data for Lot AMIE were reviewed for explosives compounds; false negatives or false positives were not found. There were no discrepancies between the raw data and the transfer files.

**8.0 Compound Quantitation and Certified Reporting Limits (CRL):** ACCEPTABLE/All criteria met.

An evaluation of compound quantitation was performed by recalculating the sample results from the raw data. Discrepancies were not found. The CRL on the transfer file met those listed in the method. No transcription errors were noted.

**9.0 Chromatogram Quality:** ACCEPTABLE/All criteria met.

A review of chromatogram quality revealed no problems. The baselines were stable, no electropositive displacement was found, and all early eluting peaks were resolved to the baseline.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method.

An examination of the DataChem QA Status Report that includes Lot AMIE revealed the following item: 1,3,5-trinitrobenzene results in the low spike were below the lower control limit.

All 1,3,5-trinitrobenzene detection limits (CRL) were qualified as estimated (UJ) due to low spike accuracy deficiencies.

All data, as qualified, are acceptable for use.

# Qualified Data Summary Table Lot No: AMIE-1

| Analyte | Code | Qualifier | Sample ID | Concentration | Reason | Report Section |
|---|---|---|---|---|---|---|
| 1,3,5-trinitrobenzene | 135TNB | UJ | ARP-94-16A | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | ARP-94-16B | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | ARP-94-16C | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | ARP-94-17A | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | ARP-94-17B | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | ARP-94-17C | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | ARP-94-18A | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | ARP-94-18B | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | ARP-94-18C | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | ARP-94-19A | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | ARP-94-19B | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | ARP-94-19C | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | ARP-94-20A | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | ARP-94-20B | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | ARP-94-20C | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | ARP-94-21A | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | ARP-94-21B | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | UJ | ARP-94-21C | LT 9.22E-1 | LS %R < LCL | 6.0 |

# DATA QUALITY ASSESSMENT
# EXPLOSIVES ANALYSES: SOIL
# METHOD: LW23
# LOT: AMVC

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot AMVC were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package, with the exception of percent moisture logbook pages. The sample percent moisture values on the transfer files could not be confirmed. DataChem QA Status Reports and USAEC Control Chart Response were submitted. Final sample results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: Changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and all laboratory notebook pages and chromatograms were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

Field chain-of-custody forms were present and complete for each sample in Lot AMVC. All forms were signed and dated. The field chain-of-custody forms indicated no problems with sample receipt conditions.

Laboratory chain-of-custody forms were present and complete for each sample in Lot AMVC. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory chain-of-custody forms. The field IDs and laboratory IDs for all samples were tracked from the chain-of-custody forms, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. FIELD QUALITY CONTROL

No samples from Lot AMVC were identified as field quality control samples on the chain-of-custody forms.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All soil samples in Lot AMVC were extracted within five days of collection and were analyzed within 23 days of extraction. The seven-day extraction holding time and 40-day analysis holding time limits were met.

**2.0 Instrument Calibration:** ACCEPTABLE/All criteria met.

The appropriate number of calibration standards were used to generate a zero-intercept model standard curve for explosives compounds. Linearity was acceptable for the standard curves. Recalculation results of the regression statistics for the curves agreed with the laboratory values.

**3.0 Daily Calibration:** ACCEPTABLE/All criteria met.

The results of the daily calibration standard agreed with the initial calibration standard within 25%.

**4.0 Blank Analysis:** ACCEPTABLE/All criteria met.

One soil method blank was associated with the samples in Lot AMVC. Target explosives compounds were not detected in the method blank at or above the certified reporting limit (CRL).

**5.0 Matrix Spike/Matrix Spike Duplicate Analyses:** ACCEPTABLE/All criteria met.

The laboratory used Sample ARP-94-57A for MS/MSD analyses with the samples from Lot AMVC. All percent recovery values were within control limits of 70% to 130%. All relative percent difference values were less than the maximum allowable value of 20%.

**6.0 High Spike and Low Spike Recovery:** ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See Qualified Data Summary Table AMVC-1.

***Discussion:***

In Lot AMVC the low concentration standard spike recovery values for 1,3,5-trinitrobenzene were significantly less than the lower control limit. The USAEC Chemistry Branch made the recommendation that all 1,3,5-trinitrobenzene results in Lot AMVC be rejected. All 1,3,5-trinitrobenzene detection limits for Lot AMVC were rejected (R).

**7.0 Compound Identification:** ACCEPTABLE/All criteria met.

The chromatograms and raw data for Lot AMVC were reviewed for explosives compounds; false negatives or false positives were not found. There were no discrepancies between the raw data and the transfer files.

**8.0 Compound Quantitation and Certified Reporting Limits (CRL):** ACCEPTABLE/All criteria met.

An evaluation of compound quantitation was performed by recalculating the sample results from the raw data. Discrepancies were not found. The CRL on the transfer file met those listed in the method. No transcription errors were noted.

**9.0 Chromatogram Quality:** ACCEPTABLE/All criteria met.

A review of chromatogram quality revealed no problems. The baselines were stable, no electropositive displacement was found, and all early eluting peaks were resolved to the baseline.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method.

An examination of the DataChem QA Status Report that includes Lot AMVC revealed the following item: 1,3,5-trinitrobenzene results in the low spike were below the lower control limit.

All 1,3,5-trinitrobenzene results were rejected (R) due to low spike precision and accuracy deficiencies.

The data that are rejected (R) are unusable for any purpose. Other data, as reported, are acceptable for use.

# Qualified Data Summary Table Lot No: AMVC-1

| Analyte | Code | Qualifier | Sample ID | Concentration | Reason | Report Section |
|---|---|---|---|---|---|---|
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-57A | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-57B | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-57C | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-58A | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-58B | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-58C | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-59A | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-59B | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-59C | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-60A | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-60B | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | ARP-94-60C | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | OBP-94-01A | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | OBP-94-01B | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | OBP-94-01C | LT 9.22E-1 | LS %R < LCL | 6.0 |
| 1,3,5-trinitrobenzene | 135TNB | R | OBP-94-01D | LT 9.22E-1 | LS %R < LCL | 6.0 |

# DATA QUALITY ASSESSMENT
# METALS-ICP ANALYSES: SOIL
# METHOD: JS12
# LOT NO.: ANCV

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for Lot ANCV were provided by the laboratory to meet USATHAMA PAM-11-41 requirements for this data package. Control charts, DataChem QA status report and USAEC control chart response were provided in this data package. Final samples results were not available at this time.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and all laboratory notebook pages and strip chart printouts were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

The field chain-of-custody forms were present and complete for Lot ANCV. All Lot ANCV samples listed on the chain-of-custody were analyzed. Sample IDs were tracked from the field chain-of-custody to the transfer file printout and no errors were noted. Internal chain-of-custody forms clearly indicated the laboratory numbers and field sample IDs for each sample. No errors in field IDs were noted.

## III. FIELD QUALITY CONTROL

No field blanks or field duplicate samples were submitted with Lot ANCV samples.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All samples were analyzed within the method specified holding time of 180 days from date of collection to analysis.

### 2.0 Instrument Calibration: ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

Instrument calibration consisted of one blank and one standard. Instrument sensitivity could not be evaluated with the documentation provided. All calibration check standards were within ±10% of the true value with the exception of thallium with a percent recovery (%R) value of 121.6%. Since the %R value was greater than the upper control limit of 110% and thallium was not detected in any of the samples, no action was recommended. Plus or minus two times the standard deviation control limits were not utilized because historic calibration check results were not provided.

The laboratory analyzed a continuing calibration verification (CCV) standard every ten samples as required. The percent recovery values of the CCVs were within ±10% of the true value. Plus or minus two times the standard deviation control limits were not utilized because historic calibration verification results were not provided.

## 4.0 Blank Analyses: ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

Calibration blanks (CCB) and preparation blanks (PB) were evaluated for possible contamination effects. Calibration blanks were also evaluated for causing possible low bias in associated sample results. Continuing calibration blanks were analyzed after each continuing calibration as required. A preparation blank was prepared with each digestion batch as required. No CCB result was greater than the reporting limit or less than the negative reporting limit and no PB result was greater than the reporting limit. Aluminum, barium, calcium, iron, potassium, magnesium, manganese, vanadium, and zinc were detected in one QC blank (BL-36643-1). Since this soil blank sample (from RMA soil, R3D-385) was unwashed soil, no qualifications were recommended.

## 5.0 Matrix Spike Sample Analyses: ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See Qualified Data Summary Table ANCV-1.

***Discussion:***

Two sets of MS/MSD analyses were performed on Samples ARP-94-11A and ARP-94-16A. The antimony %R values in both MS/MSD analyses were 0% which indicates antimony analyses by ICP method were questionable. As antimony was not detected in any of the samples a possibility of false non-detects exists. The quantitation limits for antimony were rejected and not usable for any purposes. All other %R and RPD values were within the control limits.

**6.0 High Spike and Low Spike Analyses:** ACCEPTABLE/With the following discussion.

***Qualified Data:*** None.

***Discussion:***

One low spike and two high spike analyses were performed with this sample lot. Analyte recovery values were evaluated based on the control chart upper and lower limits. The %R values of low spike and high spike analyses were within the control limits, with the exception of those listed in the table below.

| Analyte | Low Spike | Control Limit | 1st High Spike | 2nd High Spike | Control Limits |
|---|---|---|---|---|---|
| Cadmium | 101.6% | 91.1% to 100.3% | Acceptable | Acceptable | 87.3% to 122.4% |
| Chromium | 112.0% | 94.1% to 103.5% | Acceptable | Acceptable | 90.6% to 107.8% |
| Copper | 115.2% | 100.6% to 111.4% | Acceptable | Acceptable | 98.4% to 112.1% |
| Antimony | 51.4% | 59.0% to 85.2% | Acceptable | 53.0% | 55.0% to 84.0% |

As these spike recovery values were close to the USAEC control limits and still within the control limits specified in Functional Guidelines (2/94), no qualifications are recommended.

**7.0 Duplicate Sample Analyses:** NOT APPLICABLE

Laboratory duplicate analyses were not performed with this sample lot.

**8.0 ICP Interference Check Sample (ICS) Analyses:** NOT PERFORMED

ICP interference check sample analyses were not performed with this sample lot.

**9.0 Certified Reporting Limits (CRL):** ACCEPTABLE/All criteria met.

The reporting limit for each analyte was reviewed. All reporting limits match the certified reporting limit listed in the laboratory SOP.

**10.0 Calculations:** ACCEPTABLE/All criteria met.

No transcription errors or calculation errors were noted in the sample result data.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified method. No technical deficiencies were found.

The USAEC Chemistry Branch Response indicates that Lot ANCV is partially acceptable. The positive antimony results should be qualified as estimated and the quantitation limits should be

rejected. The laboratory noted high spike recovery values trending above the mean for tin; high spike recovery values trending below the mean for boron, cobalt, copper, and nickel; high spike recovery values moving in an upward direction for beryllium; low spike recovery values trending above the mean for chromium; low spike range trending above the mean for chromium, nickel, antimony, and thallium; low spike recovery values moving in a downward direction for antimony; and low spike recovery values moving in an upward direction for cadmium, tin, and tellurium. No other qualification is recommended based on these observations.

The data, as qualified, are acceptable for use.

# Qualified Data Summary Table Lot No: ANCV

| Analyte | Code | Qualifier | Sample ID | Concentration | Reason | Report Section |
|---|---|---|---|---|---|---|
| Antimony | SB | R | ARP-94-11A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-11B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-11C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-12A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-12B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-12C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-13A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-13B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-13C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-14A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-14B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-14C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-15A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-15B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-15C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-16A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-16B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-16C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-17A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-17B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-17C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-18A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-18B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-18C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-19A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-19B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-19C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-20A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-20B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-20C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-21A | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-21B | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |
| Antimony | SB | R | ARP-94-21C | LT 19.6 ug/g | MS/MSD %R = 0% | 5 |

EcoChem, Inc.

Environmental Science and Chemist

# DATA QUALITY ASSESSMENT

## TEAD-N Remedial Investigation Phase II
## DAAA15-90-D-0007, Task Order 0003

## SWMU 40
## AED Test Range

ORIGINAL

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February 16, 1996

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**Approved for Release:**

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# DATA QUALITY ASSESSMENT SUMMARY

***Basis for Data Quality Assessment***

This report summarizes the results of data quality assessment performed on the data for soil and water samples and associated laboratory quality control sample analyses.

Samples were analyzed for the following parameters and were reviewed by the chemists listed below:

| SWMU | Test | Lot | Method (Matrix) | Validation Level | Primary | Secondary |
|---|---|---|---|---|---|---|
| SWMU 40 | SVOC | AVSY | LM25 (SOIL) | Tier 2 | Sherri Wunderlich | Eric Strout |
| | SVOC | AVSI | UM25 (WATER) | Tier 1 | Sherri Wunderlich | Eric Strout |
| | Explosives | AVNC | LW23 (SOIL) | Tier 2 | Jason Ai | Jaime Bruton |
| | Explosives | AVRO | LW23 (SOIL) | Tier 1 | Jason Ai | Jaime Bruton |
| | Explosives | AVNE | UW25 (WATER) | Tier 1 | Jason Ai | Jaime Bruton |
| | Explosives | AVRB | UW25 (WATER) | Tier 1 | Jason Ai | Jaime Bruton |
| | Nitrocellulose | AVVU | LF05 (SOIL) | Tier 2 | Jaime Bruton | Jason Ai |
| | Nitrocellulose | AVWX | UF05 (WATER) | Tier 1 | Jaime Bruton | Jason Ai |
| | Nitroguanidine | AVRR | LW30 (SOIL) | Tier 2 | Jaime Bruton | Jason Ai |
| | Nitroguanidine | AVVS | UW29 (WATER) | Tier 1 | Jaime Bruton | Jason Ai |
| | PETN / NG | AVRQ | LW27 (SOIL) | Tier 2 | Jaime Bruton | Jason Ai |
| | PETN / NG | AVRT | UW27 (WATER) | Tier 1 | Jaime Bruton | Jason Ai |
| | Ethyl Centralite | AVRP | SOP # OL-DC-EC (SOIL) | Tier 2 | Jaime Bruton | Jason Ai |
| | Ethyl Centralite | AVRS | SOP # OL-DC-EC (WATER) | Tier 1 | Jaime Bruton | Jason Ai |
| | Perchlorate | AWBI | SOP # IC-DC-ClO4 (SOIL) | Tier 1 | Jaime Bruton | Jason Ai |
| | Perchlorate | AWBH | SOP # IC-DC-ClO4 (WATER) | Tier 1 | Jaime Bruton | Jason Ai |
| | Cyanide | AVTB | KY15 (SOIL) | Tier 1 | Jason Ai | Jaime Bruton |
| | Cyanide | AVSJ | TY23 (WATER) | Tier 1 | Jason Ai | Jaime Bruton |
| | Nitrates | AVVA | KF17 (SOIL) | Tier 1 | Jason Ai | Bob Olsiewski |
| | Nitrates | AVSC | LL8 (WATER) | Tier 1 | Jason Ai | Bob Olsiewski |
| | Sulfate | AWAX | KT07 (SOIL) | Tier 1 | Jason Ai | Bob Olsiewski |
| | Sulfate | AWCR | TT09 (WATER) | Tier 1 | Jason Ai | Bob Olsiewski |

Data assessment was based on the QC criteria recommended in the above listed methods; the *Tooele Army Depot—North Area QC Plan*; *USEPA National Functional Guidelines for Organic* and *Inorganic Data Review* (2/94); and *USATHAMA (USAEC) Quality Assurance Program (PAM 11-41).*

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are assigned a J or UJ, data may be used for site evaluation and risk assessment purposes, but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R, the data are to be rejected and should not be

used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the above-referenced documents and method.

A summary table of all qualified data for SWMU-40 is included as **APPENDIX A.** Each lot report also contains a summary table of qualified results. Data qualifiers are defined below. A numerical code has been added to each data qualifier to indicate the reason for the qualifier. A list of all of the reason codes is included as **APPENDIX B.** Data Quality Assessment Worksheets, Communication, and Corrective Action Records (if any) have been placed in labeled envelopes with the original data packages.

### DATA VALIDATION QUALIFIER CODES

| | |
|---|---|
| U | The material was analyzed for, but was not detected. The associated numerical value is the certified reporting limit. |
| R | Unreliable result. Data should not be used. Analyte may or may not be present in the sample. |
| J | Analyte present. Reported value is an estimate that may not be accurate or precise. Data Quality Assessment Report should be consulted for reason. |
| UJ | Not detected. Detection limit may be inaccurate or imprecise and may not be equal to certified reporting limit. Data Quality Assessment Report should be consulted for reason. |

## SITE DATA QUALITY SUMMARY

### Semivolatile Organics

One lot of data for the analysis of semivolatile organic compounds in soil samples using Method LM25, and one lot of water sample analyses using Method UM25 were reviewed. For the soil samples, the precision and accuracy were acceptable, based on the percent recovery values for surrogate and matrix spike analytes, and the relative percent difference values for the matrix spike/matrix spike duplicate (MS/MSD) analyses. The water sample was an equipment rinsate blank associated with the soil samples. No MS/MSD analysis was performed for the water sample, so an evaluation of precision was not possible. The accuracy was acceptable, based on the acceptable surrogate percent recovery values.

Three unknown (non-target) compounds were detected in the method blank associated with the soil samples. All results for these compounds in the associated samples were less than the action

levels (ten times the blank concentration), and were qualified as not usable (R). All remaining unknown compounds were qualified as estimated concentration with tentative identification (JN). The water matrix method blank, and the equipment rinsate blank did not contain any target or unknown compounds at concentrations equal to or greater than the certified reporting level (CRL).

For both lots of data, qualifiers were issued due to instrument sensitivity concerns noted in the initial calibration. Three compounds (pentachlorophenol, 2,4-dinitro-2-methylphenol, and kepone) had very poor response in the initial calibration standard at a concentration equivalent to the CRL for that compound. The responses were acceptable at higher concentrations. The CRL for these compounds were estimated (UJ) to reflect the possible low bias. One other compound (benzidine) had both an inadequate and erratic response. All CRL for this compound were rejected (R).

Aniline was not reported in any of the initial calibration summary pages or raw data, although a response was reported for the continuing calibrations. All CRL for aniline were rejected. All of the PCB compounds and toxaphene were not included in any of the calibration standards, and were not part of the list of compounds scanned for during sample analysis. All reported detection limits for these compounds were rejected. No other qualifiers were issued to any semivolatile analysis of soil or water samples.

## Explosive Compounds

Two lots of data for analyses of explosive compounds in soil samples using Method LW23 were reviewed. The accuracy was acceptable for these lots, based on the percent recovery values for the surrogate compounds and most spiked analytes (MS/MSD for lot AVRO, low and high spike analyses for both lots). The high spike for lot AVNC had recoveries for 1,3,5-trinitrobenzene and nitrobenzene that were slightly less than the lower control limit. As the compounds were not detected in the samples, and as the low spike values were acceptable, no action was taken. The precision was acceptable, based on the relative percent difference values for duplicate (MS/MSD for lot AVRO, and high spike duplicate analyses for both lots) analyses. No qualifiers were issued to any of the soil samples.

Two lots of data for analyses of explosive compounds in water samples using Method UW25 were reviewed. The samples in the water lots were field and equipment rinsate blanks. Explosives were not detected in the blanks. The accuracy was acceptable for these lots, based on the percent recovery values for the surrogate compounds and spiked analytes (low and high spike analyses for both lots). No MS/MSD analyses were submitted for either lot. Three compounds had recovery values slightly greater than the upper control limits in the low or high spike in each of the lots. As the compounds were not detected in the samples, no action was taken. The precision was acceptable, based on the relative percent difference values for duplicate analyses of the high spike for both lots. The CRL were slightly elevated for RDX in two samples (3ER-69 and 3FB-P) in lot AVRB due to interferences. No qualifiers were issued to any of the water samples.

## Nitrocellulose

One lot of data for nitrocellulose analyses of soil samples using Method LF05 was reviewed. Nitrocellulose was reported in the method blank at a high level, nearly four times the CRL for nitrocellulose. Nitrocellulose was reported in all samples at a similar level, and was qualified as not detected (U) in all samples based upon the method blank contamination. The accuracy was not acceptable. The reported percent recovery values for the spiked analytes in the high and low spikes were acceptable, however, the reported values were blank corrected prior to the calculation of the percent recovery. If the percent recoveries are recalculated without blank correction, all standard spike recoveries are above the control limit. MS/MSD analyses were also performed. The percent recovery values in the MS/MSD analyses were less than 25%. All results were rejected.

One lot of data for nitrocellulose analyses of water samples using Method UF05 was reviewed. The lot consisted of a single equipment rinsate blank associated with the soil samples. Nitrocellulose was not detected in the blank. The accuracy was acceptable for this lot, based on the percent recovery values for spiked analytes. No MS/MSD analyses were performed. Precision was acceptable, based upon the relative percent difference values of the duplicate high spike analyses. No qualifiers were issued to the water sample.

## Nitroguanidine

One lot of data for nitroguanidine analyses in soil samples using Method LW30 was reviewed. The precision and accuracy were acceptable, based on the percent recovery values for spiked analytes (MS/MSD and standard spike analyses) and the relative percent difference values for duplicate (MS/MSD, high spike duplicate, and field duplicate) analyses. All positive results were estimated (J), due to a high percent recovery value in the initial calibration verification (ICV) analysis. No other qualifiers were issued.

One lot of data for nitroguanidine analyses in water samples using Method UW29 was reviewed. The lot consisted of a single equipment rinsate blank. Nitroguanidine was not detected in the blank. The precision and accuracy were acceptable, based on the percent recovery values for most spiked analytes (MS/MSD and standard spike analyses) and the relative percent difference values for duplicate (MS/MSD, high spike duplicate, and field duplicate) analyses. There was a high percent recovery value in the initial calibration verification (ICV) analysis, however, there were no positive results in the sample. No qualifiers were issued.

## PETN/Nitroglycerin Analyses

One lot of data for PETN and nitroglycerin analyses in soil samples using Method LW27 was reviewed. The accuracy was acceptable, based on the percent recovery values for most spiked analytes in the low and high spikes, and the MS/MSD analyses. The percent recovery value for nitroglycerin was slightly greater than the upper control limit in the MS analysis. No action was

taken, as nitroglycerin was not detected in the samples, and as all other recoveries were acceptable. The precision was acceptable, based upon the relative percent difference values for duplicate (MS/MSD and high spike duplicate) analyses. No qualifiers were issued.

One lot of data for PETN and nitroglycerin analyses in water samples using Method UW27 was reviewed. The lot consisted of a single equipment rinsate blank. PETN and nitroglycerin were not detected in the blank. The percent recovery values in the calibration verification (CCV) analyses were less than the lower control limit of 90%. All CRL were estimated (UJ) due to the possible low bias. The accuracy was acceptable, based on the percent recovery values for most spiked analytes in the low and high spikes. MS/MSD analyses were not performed. The percent recovery value for PETN was slightly greater than the upper control limit in the low spike analysis. No action was taken, as PETN was not detected in the samples, and as all other recoveries were acceptable. The precision was acceptable, based upon the relative percent difference values for the high spike duplicate analyses.

### Ethyl Centralite

One lot of data for ethyl centralite analyses in soil samples, and one lot of data for water samples using DataChem laboratory standard operating procedure (SOP) number OL-DC-EC were reviewed. The water lot consisted of field and equipment rinsate blanks. Ethyl centralite was not detected in the blanks. The precision and accuracy were acceptable for these lots, based on the percent recovery values for spiked analytes in the MS/MSD and standard spike analyses, and the relative percent difference values for MS/MSD analyses. No problems were noted, and no qualifiers were issued.

### Perchlorate

One lot of data for perchlorate analyses in soil samples, and one lot of data for water samples using DataChem laboratory SOP number IC-DC-ClO4 were reviewed. The water lot consisted of a single equipment rinsate blank. Perchlorate was not detected in the blank. The accuracy was acceptable for these lots, based on the percent recovery values for most spiked analytes in the MS/MSD and standard spike analyses. The MS/MSD percent recovery values for the soil lot (SWBI) were slightly less than the recommended lower control limit of 75%. Perchlorate was not detected in the associated samples, and all perchlorate detection limits were estimated (UJ). The precision was acceptable, based on the relative percent difference values in the MS/MSD set. MS/MSD analyses were not performed for the water lot, AWBH. The precision could not be evaluated for this lot.

### Conventional Parameter Analyses

One lot each of data for cyanide, nitrate, and sulfate analyses in soil samples were reviewed. The analyses were performed using methods KY15, KF17, and KT07 (respectively). The accuracy

was acceptable for these lots, based on the percent recovery values for most spiked analytes in the MS/MSD and standard spike analyses. For the sulfate analyses, the percent recoveries were slightly below the lower control limit in the low spike and one high spike analysis. No qualifiers were recommended. Precision was acceptable for all soil lots, based on the relative percent difference values in the MS/MSD analyses.

One lot each of data for cyanide, nitrate, and sulfate analyses in water samples were reviewed. The analyses were performed using methods TY23, LL8, and TT09 (respectively). The water samples consisted of equipment rinsate blanks. Nitrates were detected in the rinsate blank. The nitrate concentrations reported in the soil samples were all greater than the action levels, and no qualifiers were issued. Cyanide and sulfates were not detected in the blanks. The accuracy was acceptable for these lots, based on the percent recovery values for most spiked analytes in the standard spike analyses. For the sulfate analyses, the percent recoveries were slightly greater than the upper control limit in one high spike analysis. No qualifiers were recommended. MS/MSD analyses were not submitted for any water lot. Precision was acceptable, based on the relative percent difference values calculated for the duplicate analyses of the high spikes.

# TIER II DATA QUALITY ASSESSMENT FINAL
# SEMIVOLATILE ORGANIC COMPOUNDS ANALYSES: SOIL
# METHOD: LM25
# LOT: AVSY

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for this lot were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package. Results for matrix spike/matrix spike duplicate (MS/MSD) analyses were included, although they are not required by USATHAMA 11-41 for Class 1A analyses. Transfer files and DataChem QA Status Reports were provided.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; correction fluid or tape was not found on any of the raw data; proper units for numerical values were used; the laboratory notebook pages and chromatograms were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

The field Chain-of-Custody forms (COCs) were present and complete for this lot. All samples listed were analyzed and all forms were signed and dated. The field COCs indicated no problems with sample receipt conditions.

Laboratory COCs were present and complete for all samples. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory COCs. A minimum of 10% of the field ID and laboratory ID were tracked from the COCs, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. FIELD QUALITY CONTROL

The laboratory submitted data for one pair of field duplicates, Samples ARS-95-10 (laboratory number 016 UC04453) and ARS-95-10 FD (laboratory number 017 UC04457, listed on the COC form as ARS-95-11). One target compound (diethylphthalate) was detected in only one of the duplicate samples, ARS-95-10. A relative percent difference (RPD) value could not be calculated. Seven unknown compounds were detected in both samples. The seven RPD values calculated for the unknown compounds ranged from 0.3% to 107.5%, with two values greater than the control limit of 50%. The reported concentrations for the unknown compounds are estimates, and a higher degree of variability is common. No data were qualified based on field duplicate precision.

No data for samples identified as field or equipment blanks were submitted with this lot.

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## IV. TECHNICAL ASSESSMENT

### 1.0 Sample Holding Times: ACCEPTABLE/ All criteria met.

The extraction holding-time criterion listed in Method LM25 for soil matrices is 7 days from date of sampling to date of extraction. All samples in this lot were extracted 6 days after sampling. The analytical holding time criterion listed in Method LM25 for soil matrices is 40 days from date of extraction. All analyses were performed within 11 days of extraction

### 2.0 GC/MS Instrument Performance Check: ACCEPTABLE/All criteria met.

Decafluorotriphenylphosphine (DFTPP) was analyzed at the beginning of each calibration sequence, as required. All appropriate DFTPP data were provided and all results were within the specified control limits listed in the data package.

### 3.0 Initial and Continuing Calibration: ACCEPTABLE/With the following exceptions. (Qualification Codes 5A and 5B)

***Qualified Data:*** See the **DATA QUALIFIER SUMMARY TABLE**

***Discussion:***

The initial calibration (ICAL) was performed at the proper frequency. Seven standards were used, meeting USATHAMA PAM 11-41 criterion for Class 1A. Percent relative standard deviation (%RSD) values were calculated by the reviewer for calibration check compounds (CCC), system performance check compounds (SPCC), and compounds for which positive results were reported in samples. All calculated %RSD values were less than the 30% upper control limit, except pentachlorophenol (PCP). When the response for the low concentration ICAL standard (5 µg/mL) was eliminated from the calculation, the %RSD value for PCP was less than 30%. This indicates that the PCP response is not stable at lower concentrations.

The certified reporting limit (CRL) for PCP is 0.76 µg/g (uncorrected for moisture content). The PCP response is not stable in the initial calibration standards with concentrations less than 20 µg/mL (equivalent to 1.25 µg/g). PCP was not detected in any sample. All reported PCP CRL are estimated (UJ-5A) because of the possible low bias caused by poor instrument sensitivity.

Several compounds had relative response factor (RRF) values less than 0.05 in the ICAL and continuing calibrations (CCAL). Eight of these compounds (β-BHC, endosulfan I, endosulfan II, δ-BHC, endrin, heptachloroepoxide, chlordane, and endrin ketone) historically have low response during GC/MS analysis. These compounds were judged by assessing the relative stability of the compound, as determined by the %RSD values in the ICAL standards. The eight compounds were judged as stable, and no qualifiers were assigned.

The RRF values for three compounds (4,6-dinitro-2-methylphenol, pentachlorophenol, and kepone) were less than 0.05 in the ICAL standard, with a concentration that is nearest the respective CRL for the compounds. The RRF values for these compounds are greater than 0.05

ORIGINAL

in all standards at concentrations greater than the CRL. This indicates poor sensitivity for the compound at concentrations equivalent to the CRL. The CRL were consequently qualified as estimated (UJ-5A). The RRF values of benzidine in the ICAL and CCAL were less than 0.05 and judged unstable, based upon the high %RSD (55%) and %D values. The CRL in associated samples were rejected (R-5A, 5B).

Nine compounds (PCB-1016, PCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, PCB-1260, PCB-1262, and toxaphene) were not included in the ICAL, any of the CCAL, and were not part of the list of compounds scanned for in any sample. One compound (aniline) was reported as not detected in any of the ICAL standards. No positive results for these compounds were reported for any sample. The CRL for the PCB compounds and toxaphene were rejected (R-5A, 5B). The CRL for aniline were also rejected (R-5A).

CCAL were run at the correct frequency (before and after sample analyses) for all analytical sequences with this lot. All daily calibrations met the Method LM25 criteria.

All of the CCAL had several percent difference (%D) values greater than the ±25% control limits. Compounds with outlying %D values are listed in the Data Quality Assessment Worksheets. There were no positive results in any sample for compounds associated with a %D outlier. A negative outlying %D value indicates an increase in instrument sensitivity and potential positive bias. For the non-detects, the CRL for compounds associated with a negative %D value were judged not significantly affected, and no action was taken. A positive %D value indicates a loss in instrument sensitivity. The CRL for compounds with a positive %D value greater than 50% are qualified to reflect the possible low bias. Benzidine was the only compound with a positive %D value greater than 50% in one CCAL (at +50.6%). As the CRL of benzidine were already rejected (R-5A, 5B) due to low RRF values, no further action was taken.

## 4.0 Blank Analyses: ACCEPTABLE/With the following exceptions. (Qualification Code 7)

***Qualified Data:*** See the **DATA QUALIFIER SUMMARY TABLE**

***Discussion:***

The method blank was analyzed at the proper frequency (one for each lot). No target compounds were detected in the blank, however, three unknown compounds were reported. Action levels of ten times the method blank concentration were used to evaluate sample results. Associated sample results for the unknown compounds at concentrations less than the action levels were qualified as R-7.

## 5.0 Surrogate Recovery: ACCEPTABLE/With the following discussion.

Surrogate compound percent recovery (%R) values were submitted and reviewed. For data assessment purposes, the surrogate %R values were compared to the limits specified in the EPA Contract Laboratory Program (CLP) 3/90 Statement Of Work (SOW). The CLP SOW does not specify recovery limits for three of the USATHAMA-specific surrogate compounds

ORIGINAL

(1,3-dichlorobenzene-d4, di-n-octylphthalate-d4, and diethylphthalate-d4). For these compounds, a recovery range of 20% to 130% was used to assess the field sample results. The range is the same as the range recommended in the CLP SOW for new surrogate compounds. All surrogate %R values were within the limits specified by EPA CLP 3/90 SOW. For surrogate compounds not specified in the EPA CLP 3/90 SOW, all %R values were within the 20% to 130% recovery range.

It was also noted that in the 16 field sample analyses, all analyses each had from two-to-seven %R values outside the acceptance range specified by the control charts. The surrogate recovery limits and outliers are listed in the Data Quality Screening Tool Summary. As the surrogate %R values were not significantly outside the control chart limits, no qualifiers were issued to the samples based on control chart surrogate %R value outliers.

## 6.0 Matrix Spike/Matrix Spike Duplicate Sample Analyses: ACCEPTABLE/All criteria met.

Sample ARS-95-11 was selected by the laboratory for matrix spike/matrix spike duplicate (MS/MSD) analyses. No quality control criteria for MS/MSD analyses are specified in USATHAMA PAM 11-41 or the laboratory method. All spiking compounds in the MS/MSD analyses satisfied EPA %R and RPD criteria. No calculation or transcription errors were found.

## 7.0 Laboratory Control Sample: ACCEPTABLE/With the following discussion.

Raw data for laboratory control sample (LCS) QC-105129-1 were submitted by the laboratory. Since no LCS results summary form was provided in the data package, and as all MS/MSD results were acceptable, an evaluation of LCS results was not performed.

## 8.0 Internal Standards Performance: ACCEPTABLE/All criteria met.

Analysis of areas and retention times for internal standards was conducted (see Data Quality Assessment Worksheets). No quality control criteria for internal standards are specified in USATHAMA PAM 11-41 or the laboratory method. For data assessment purposes, the criteria from *National Functional Guidelines* (U.S. EPA, 1994) was used to assess the internal standards.

All internal standard areas were within the acceptance window of 50% to 200% of the continuing calibration internal standard area. All retention times were within ±30 seconds of the continuing calibration internal standard retention time.

## 9.0 Compound Identification: ACCEPTABLE/All criteria met.

All target compound identifications were reviewed and were acceptable.

ORIGINAL

**10.0 Compound Quantitation and Certified Reporting Limits:** ACCEPTABLE/All criteria met.

The quantitation of target analytes were reviewed by recalculation. See the Data Quality Assessment Worksheets for an example of compound quantitation. The certified reporting limits met those listed in Method LM25. No transcription errors were noted.

**11.0 Unknown Compounds:** ACCEPTABLE/With the following discussion. (Qualification Codes 7 and 14)

***Qualified Data:*** See the **DATA QUALIFIER SUMMARY TABLE**

***Discussion:***

Mass spectral library searches to identify unknown (non-target) compounds were performed as required. As mentioned in **SECTION 4.0**, unknown compounds also found in the associated method blank were qualified as R-7. All remaining unknowns were qualified as estimated with tentative identification (JN-14).

**12.0 System Performance:** ACCEPTABLE/All criteria met.

No signs of degraded instrument performance were observed. The analytical system was judged to have been in tune, within control, and stable during the course of these analyses.

## V. OVERALL ASSESSMENT

On the basis of this evaluation, the laboratory followed the specified analytical method.

Laboratory precision was acceptable according to MS/MSD and most field duplicate RPD values. Accuracy was acceptable, as demonstrated by surrogate spike and MS/MSD recovery values.

Data qualifiers were assigned as a result of ICAL and CCAL criteria outliers, instrument sensitivity concerns noted in the initial calibration standards, and method blank contamination (of unknown compounds). Remaining unknowns were qualified JN.

Data that are rejected are unusable for any purpose. All other data, as qualified, are acceptable for use.

# DATA QUALIFIER SUMMARY TABLE
# FOR LOT AVSY

8909-10

| Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|
| ARS-95-01 | 003 UC04398 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| ARS-95-01 | 003 UC04398 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| ARS-95-01 | 003 UC04398 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| ARS-95-01 | 003 UC04398 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| ARS-95-01 | 003 UC04398 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| ARS-95-01 | 003 UC04398 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-01 | 003 UC04398 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-01 | 003 UC04398 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-01 | 003 UC04398 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-01 | 003 UC04398 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-01 | 003 UC04398 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| ARS-95-01 | 003 UC04398 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| ARS-95-01 | 003 UC04398 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| ARS-95-01 | 003 UC04398 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| ARS-95-01 | 003 UC04398 | SOIL | LM25 | UNK562 | 7.00 | SB | R-7 | UGG |
| ARS-95-01 | 003 UC04398 | SOIL | LM25 | UNK642 | 0.600 | SB | R-7 | UGG |
| ARB-95-01B | 004 UC04402 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| ARB-95-01B | 004 UC04402 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| ARB-95-01B | 004 UC04402 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| ARB-95-01B | 004 UC04402 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| ARB-95-01B | 004 UC04402 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| ARB-95-01B | 004 UC04402 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-01B | 004 UC04402 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-01B | 004 UC04402 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-01B | 004 UC04402 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-01B | 004 UC04402 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-01B | 004 UC04402 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| ARB-95-01B | 004 UC04402 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| ARB-95-01B | 004 UC04402 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| ARB-95-01B | 004 UC04402 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| ARB-95-01B | 004 UC04402 | SOIL | LM25 | UNK562 | 10.0 | SB | R-7 | UGG |
| ARB-95-01B | 004 UC04402 | SOIL | LM25 | UNK642 | 0.700 | SB | R-7 | UGG |
| ARS-95-02 | 005 UC04406 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| ARS-95-02 | 005 UC04406 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| ARS-95-02 | 005 UC04406 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| ARS-95-02 | 005 UC04406 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| ARS-95-02 | 005 UC04406 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| ARS-95-02 | 005 UC04406 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-02 | 005 UC04406 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |

## DATA QUALIFIER SUMMARY TABLE
## FOR LOT AVSY

8909-10

| Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|
| ARS-95-02 | 005 UC04406 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-02 | 005 UC04406 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-02 | 005 UC04406 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-02 | 005 UC04406 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| ARS-95-02 | 005 UC04406 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| ARS-95-02 | 005 UC04406 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| ARS-95-02 | 005 UC04406 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| ARS-95-02 | 005 UC04406 | SOIL | LM25 | UNK562 | 6.00 | SB | R-7 | UGG |
| ARS-95-02 | 005 UC04406 | SOIL | LM25 | UNK642 | 0.600 | SB | R-7 | UGG |
| ARS-95-03 | 006 UC04413 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| ARS-95-03 | 006 UC04413 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| ARS-95-03 | 006 UC04413 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| ARS-95-03 | 006 UC04413 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| ARS-95-03 | 006 UC04413 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| ARS-95-03 | 006 UC04413 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-03 | 006 UC04413 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-03 | 006 UC04413 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-03 | 006 UC04413 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-03 | 006 UC04413 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-03 | 006 UC04413 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| ARS-95-03 | 006 UC04413 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| ARS-95-03 | 006 UC04413 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| ARS-95-03 | 006 UC04413 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| ARS-95-03 | 006 UC04413 | SOIL | LM25 | UNK562 | 7.00 | SB | R-7 | UGG |
| ARS-95-03 | 006 UC04413 | SOIL | LM25 | UNK642 | 0.700 | SB | R-7 | UGG |
| ARB-95-03B | 007 UC04417 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| ARB-95-03B | 007 UC04417 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| ARB-95-03B | 007 UC04417 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| ARB-95-03B | 007 UC04417 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| ARB-95-03B | 007 UC04417 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| ARB-95-03B | 007 UC04417 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-03B | 007 UC04417 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-03B | 007 UC04417 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-03B | 007 UC04417 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-03B | 007 UC04417 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-03B | 007 UC04417 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| ARB-95-03B | 007 UC04417 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| ARB-95-03B | 007 UC04417 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| ARB-95-03B | 007 UC04417 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |

# DATA QUALIFIER SUMMARY TABLE
# FOR LOT AVSY

8909-10

| Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|
| ARB-95-03B | 007 UC04417 | SOIL | LM25 | UNK563 | 10.0 | SB | R-7 | UGG |
| ARB-95-03B | 007 UC04417 | SOIL | LM25 | UNK642 | 0.300 | SB | R-7 | UGG |
| ARS-95-04 | 008 UC04421 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| ARS-95-04 | 008 UC04421 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| ARS-95-04 | 008 UC04421 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| ARS-95-04 | 008 UC04421 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| ARS-95-04 | 008 UC04421 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| ARS-95-04 | 008 UC04421 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-04 | 008 UC04421 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-04 | 008 UC04421 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-04 | 008 UC04421 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-04 | 008 UC04421 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-04 | 008 UC04421 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| ARS-95-04 | 008 UC04421 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| ARS-95-04 | 008 UC04421 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| ARS-95-04 | 008 UC04421 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| ARS-95-04 | 008 UC04421 | SOIL | LM25 | UNK562 | 6.00 | SB | R-7 | UGG |
| ARS-95-04 | 008 UC04421 | SOIL | LM25 | UNK642 | 0.800 | SB | R-7 | UGG |
| ARB-95-04B | 009 UC04425 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| ARB-95-04B | 009 UC04425 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| ARB-95-04B | 009 UC04425 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| ARB-95-04B | 009 UC04425 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| ARB-95-04B | 009 UC04425 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| ARB-95-04B | 009 UC04425 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-04B | 009 UC04425 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-04B | 009 UC04425 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-04B | 009 UC04425 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-04B | 009 UC04425 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-04B | 009 UC04425 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| ARB-95-04B | 009 UC04425 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| ARB-95-04B | 009 UC04425 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| ARB-95-04B | 009 UC04425 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| ARB-95-04B | 009 UC04425 | SOIL | LM25 | UNK562 | 5.00 | SB | R-7 | UGG |
| ARB-95-04B | 009 UC04425 | SOIL | LM25 | UNK642 | 0.500 | SB | R-7 | UGG |
| ARS-95-05 | 010 UC04429 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| ARS-95-05 | 010 UC04429 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| ARS-95-05 | 010 UC04429 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| ARS-95-05 | 010 UC04429 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| ARS-95-05 | 010 UC04429 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |

# DATA QUALIFIER SUMMARY TABLE
# FOR LOT AVSY

8909-10

| Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|
| ARS-95-05 | 010 UC04429 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-05 | 010 UC04429 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-05 | 010 UC04429 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-05 | 010 UC04429 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-05 | 010 UC04429 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-05 | 010 UC04429 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| ARS-95-05 | 010 UC04429 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| ARS-95-05 | 010 UC04429 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| ARS-95-05 | 010 UC04429 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| ARS-95-05 | 010 UC04429 | SOIL | LM25 | UNK563 | 20.0 | SB | R-7 | UGG |
| ARS-95-05 | 010 UC04429 | SOIL | LM25 | UNK642 | 0.400 | SB | R-7 | UGG |
| ARB-95-05B | 011 UC04433 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| ARB-95-05B | 011 UC04433 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| ARB-95-05B | 011 UC04433 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| ARB-95-05B | 011 UC04433 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| ARB-95-05B | 011 UC04433 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| ARB-95-05B | 011 UC04433 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-05B | 011 UC04433 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-05B | 011 UC04433 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-05B | 011 UC04433 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-05B | 011 UC04433 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-05B | 011 UC04433 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| ARB-95-05B | 011 UC04433 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| ARB-95-05B | 011 UC04433 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| ARB-95-05B | 011 UC04433 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| ARB-95-05B | 011 UC04433 | SOIL | LM25 | UNK562 | 10.0 | SB | R-7 | UGG |
| ARB-95-05B | 011 UC04433 | SOIL | LM25 | UNK642 | 0.500 | SB | R-7 | UGG |
| ARS-95-06 | 012 UC04437 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| ARS-95-06 | 012 UC04437 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| ARS-95-06 | 012 UC04437 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| ARS-95-06 | 012 UC04437 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| ARS-95-06 | 012 UC04437 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| ARS-95-06 | 012 UC04437 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-06 | 012 UC04437 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-06 | 012 UC04437 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-06 | 012 UC04437 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-06 | 012 UC04437 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-06 | 012 UC04437 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| ARS-95-06 | 012 UC04437 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |

# DATA QUALIFIER SUMMARY TABLE
# FOR LOT AVSY

8909-10

| Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|
| ARS-95-06 | 012 UC04437 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| ARS-95-06 | 012 UC04437 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| ARS-95-06 | 012 UC04437 | SOIL | LM25 | UNK562 | 5.00 | SB | R-7 | UGG |
| ARS-95-06 | 012 UC04437 | SOIL | LM25 | UNK642 | 0.500 | SB | R-7 | UGG |
| ARS-95-07 | 013 UC04441 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| ARS-95-07 | 013 UC04441 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| ARS-95-07 | 013 UC04441 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| ARS-95-07 | 013 UC04441 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| ARS-95-07 | 013 UC04441 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| ARS-95-07 | 013 UC04441 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-07 | 013 UC04441 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-07 | 013 UC04441 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-07 | 013 UC04441 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-07 | 013 UC04441 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-07 | 013 UC04441 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| ARS-95-07 | 013 UC04441 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| ARS-95-07 | 013 UC04441 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| ARS-95-07 | 013 UC04441 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| ARS-95-07 | 013 UC04441 | SOIL | LM25 | UNK562 | 9.00 | SB | R-7 | UGG |
| ARS-95-07 | 013 UC04441 | SOIL | LM25 | UNK642 | 0.800 | SB | R-7 | UGG |
| ARS-95-08 | 014 UC04445 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| ARS-95-08 | 014 UC04445 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| ARS-95-08 | 014 UC04445 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| ARS-95-08 | 014 UC04445 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| ARS-95-08 | 014 UC04445 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| ARS-95-08 | 014 UC04445 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-08 | 014 UC04445 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-08 | 014 UC04445 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-08 | 014 UC04445 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-08 | 014 UC04445 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-08 | 014 UC04445 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| ARS-95-08 | 014 UC04445 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| ARS-95-08 | 014 UC04445 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| ARS-95-08 | 014 UC04445 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| ARS-95-08 | 014 UC04445 | SOIL | LM25 | UNK562 | 6.00 | SB | R-7 | UGG |
| ARS-95-08 | 014 UC04445 | SOIL | LM25 | UNK642 | 0.400 | SB | R-7 | UGG |
| ARS-95-09 | 015 UC04449 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| ARS-95-09 | 015 UC04449 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| ARS-95-09 | 015 UC04449 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |

# DATA QUALIFIER SUMMARY TABLE
# FOR LOT AVSY

8909-10

| Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|
| ARS-95-09 | 015 UC04449 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| ARS-95-09 | 015 UC04449 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| ARS-95-09 | 015 UC04449 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-09 | 015 UC04449 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-09 | 015 UC04449 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-09 | 015 UC04449 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-09 | 015 UC04449 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-09 | 015 UC04449 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| ARS-95-09 | 015 UC04449 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| ARS-95-09 | 015 UC04449 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| ARS-95-09 | 015 UC04449 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| ARS-95-09 | 015 UC04449 | SOIL | LM25 | UNK562 | 7.00 | SB | R-7 | UGG |
| ARS-95-09 | 015 UC04449 | SOIL | LM25 | UNK642 | 0.500 | SB | R-7 | UGG |
| ARS-95-10 | 016 UC04453 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| ARS-95-10 | 016 UC04453 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| ARS-95-10 | 016 UC04453 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| ARS-95-10 | 016 UC04453 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| ARS-95-10 | 016 UC04453 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| ARS-95-10 | 016 UC04453 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-10 | 016 UC04453 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-10 | 016 UC04453 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-10 | 016 UC04453 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-10 | 016 UC04453 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| ARS-95-10 | 016 UC04453 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| ARS-95-10 | 016 UC04453 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| ARS-95-10 | 016 UC04453 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| ARS-95-10 | 016 UC04453 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| ARS-95-10 | 016 UC04453 | SOIL | LM25 | UNK562 | 5.00 | SB | R-7 | UGG |
| ARS-95-10 | 016 UC04453 | SOIL | LM25 | UNK642 | 0.600 | SB | R-7 | UGG |
| ARS-95-11 | 017 UC04457 | SOIL | LM25 | 46DN2C | LT 0.800 | D | UJ-5A | UGG |
| ARS-95-11 | 017 UC04457 | SOIL | LM25 | ANIL | ND 0.130 | RD | R-5A | UGG |
| ARS-95-11 | 017 UC04457 | SOIL | LM25 | BENZID | ND 0.130 | RD | R-5A, 5B | UGG |
| ARS-95-11 | 017 UC04457 | SOIL | LM25 | KEP | ND 1.30 | RD | UJ-5A | UGG |
| ARS-95-11 | 017 UC04457 | SOIL | LM25 | PCB016 | LT 0.320 | D | R-5A, 5B | UGG |
| ARS-95-11 | 017 UC04457 | SOIL | LM25 | PCB221 | ND 0.320 | RD | R-5A, 5B | UGG |
| ARS-95-11 | 017 UC04457 | SOIL | LM25 | PCB232 | ND 0.320 | RD | R-5A, 5B | UGG |
| ARS-95-11 | 017 UC04457 | SOIL | LM25 | PCB242 | ND 0.320 | RD | R-5A, 5B | UGG |
| ARS-95-11 | 017 UC04457 | SOIL | LM25 | PCB248 | ND 0.320 | RD | R-5A, 5B | UGG |
| ARS-95-11 | 017 UC04457 | SOIL | LM25 | PCB254 | ND 0.320 | RD | R-5A, 5B | UGG |

## DATA QUALIFIER SUMMARY TABLE
## FOR LOT AVSY

8909-10

| Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|
| ARS-95-11 | 017 UC04457 | SOIL | LM25 | PCB260 | LT 0.790 | D | R-5A, 5B | UGG |
| ARS-95-11 | 017 UC04457 | SOIL | LM25 | PCB262 | LT 6.30 | D | R-5A, 5B | UGG |
| ARS-95-11 | 017 UC04457 | SOIL | LM25 | PCP | LT 0.760 | D | UJ-5A | UGG |
| ARS-95-11 | 017 UC04457 | SOIL | LM25 | TXPHEN | LT 12.0 | D | R-5A, 5B | UGG |
| ARS-95-11 | 017 UC04457 | SOIL | LM25 | UNK562 | 10.0 | SBD | R-7 | UGG |
| ARS-95-11 | 017 UC04457 | SOIL | LM25 | UNK642 | 0.900 | SBD | R-7 | UGG |
| ARB-95-02B | 020 UC04465 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| ARB-95-02B | 020 UC04465 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| ARB-95-02B | 020 UC04465 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| ARB-95-02B | 020 UC04465 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| ARB-95-02B | 020 UC04465 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| ARB-95-02B | 020 UC04465 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-02B | 020 UC04465 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-02B | 020 UC04465 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-02B | 020 UC04465 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-02B | 020 UC04465 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| ARB-95-02B | 020 UC04465 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| ARB-95-02B | 020 UC04465 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| ARB-95-02B | 020 UC04465 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| ARB-95-02B | 020 UC04465 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| ARB-95-02B | 020 UC04465 | SOIL | LM25 | UNK562 | 7.00 | SB | R-7 | UGG |
| ARB-95-02B | 020 UC04465 | SOIL | LM25 | UNK642 | 0.500 | SB | R-7 | UGG |

# TIER I DATA QUALITY ASSESSMENT
# SEMIVOLATILE ANALYSES: WATER
# METHOD: UM25
# LOT: AVSI

Analytical data for one water sample were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1991). The sample was collected on November 30, 1995, and was analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

- Technical Holding Times
- GC/MS Instrument Performance Check
- * Initial and Daily Calibration
- Blank Analyses
- * Surrogate Recovery
- Internal Standards Performance
- Compound Identification
- Compound Quantitation and Certified Reporting Limits (CRL)
- Unknown Compounds
- System Performance

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Initial and Daily Calibration (Qualification Codes 5A and 5B)

The initial calibration (ICAL) was performed at the proper frequency. Seven standards were used, meeting USATHAMA PAM 11-41 criterion for Class 1A. Percent relative standard deviation (%RSD) values were calculated by the reviewer for calibration check compounds (CCC) and system performance check compounds (SPCC). All calculated %RSD values were less than the 30% upper control limit, except pentachlorophenol (PCP). When the response for the low concentration ICAL standard (5 µg/mL) was eliminated from the calculation, the %RSD value for PCP was less than 30%. This indicates that the PCP response is not stable at lower concentrations.

The certified reporting limit (CRL) for PCP is 9.1 µg/L. The PCP response is not stable in the initial calibration standards with concentrations less than 20 µg/L. PCP was not detected in the sample. The reported PCP CRL is estimated (UJ-5A) because of possible low bias caused by poor instrument sensitivity.

Several compounds had relative response factor (RRF) values less than 0.05 in the ICAL and continuing calibrations (CCAL). Eight of these compounds (β-BHC, endosulfan I, endosulfan II, δ-BHC, endrin, heptachloroepoxide, chlordane, and endrin ketone) historically have low response during GC/MS analysis. These compounds were judged by assessing the relative stability of the compound, as determined by the %RSD values in the ICAL standards. The eight compounds were judged as stable, and no qualifiers were assigned.

The RRF values for three compounds (4,6-dinitro-2-methylphenol, pentachlorophenol, and kepone) were less than 0.05 in the ICAL standard with a concentration that is nearest the respective CRL for the compounds. The RRF values for these compounds are greater than 0.05 in all standards at concentrations greater than the CRL. This indicates poor sensitivity for the compound at concentrations equivalent to the CRL. The CRL were consequently qualified as estimated (UJ-5A). The RRF values of benzidine in the ICAL and CCAL were less than 0.05 and judged unstable, based upon the high %RSD (55%) and %D values. The CRL in associated samples were rejected (R-5A, 5B).

Nine compounds (PCB-1016, PCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, PCB-1260, PCB-1262, and toxaphene) were not included in the ICAL, any of the CCAL, and were not part of the list-of-compounds scanned for in any sample. One compound (aniline) was reported as not detected in any of the ICAL standards. No positive results for these compounds were reported for any sample. The CRL for the PCB compounds and toxaphene were rejected (R-5A, 5B). The CRL for aniline were also rejected (R-5A).

CCAL were run at the correct frequency (before and after sample analyses) for all analytical sequences with this lot. All daily calibrations met the Method UM25 criteria.

All of the CCAL had several percent difference (%D) values greater than the ±25% control limits. Compounds with outlying %D values are listed in the Data Quality Assessment Worksheets. There were no positive target compound results for compounds associated with a %D outlier. A negative outlying %D value indicates an increase in instrument sensitivity and potential positive bias. For the non-detects, the CRL for compounds associated with a negative %D value were judged not significantly affected, and no action was taken. A positive %D value indicates a loss in instrument sensitivity. The CRL for compounds with a positive %D value greater than 50% are qualified to reflect the possible low bias. Benzidine was the only compound with a positive %D value greater than 50% in one CCAL (at +50.6%). As the CRL of benzidine were already rejected (R-5A,5B) for low RRF values, no further action was taken.

## Surrogate Recovery

Surrogate compound percent recovery (%R) values were submitted and reviewed. For data assessment purposes, the surrogate %R values were compared to the limits specified in the EPA Contract Laboratory Program (CLP) 3/90 Statement Of Work (SOW). The CLP SOW does not specify recovery limits for three of the USATHAMA-specific surrogate compounds (1,3-dichlorobenzene-d4, di-n-octylphthalate-d4, and diethylphthalate-d4). For these compounds, a recovery range of 16% to 110% was used to assess the field sample results. The range is the

same as the range recommended in the CLP SOW for new base/neutral surrogate compounds. All surrogate %R values were within the limits specified by EPA CLP 3/90 SOW for Sample 3ER-70. For surrogate compounds not specified in the EPA CLP3/90 SOW, all %R values were within the 16% to 110% recovery range for Sample 3ER-70. Three surrogate %R values for the method blank were greater than control limits. The outliers are listed in the Data Quality Assessment Worksheets. Qualifiers are not assigned to method blanks.

It was also noted that Sample 3ER-70 contained two %R values outside the acceptance range specified by the control charts. The surrogate recovery limits and outliers are listed in the Data Quality Screening Tool summary. No qualifiers were issued to the samples based on control chart surrogate %R value outliers.

## Sample Quantitation and Certified Reporting Limits

The certified reporting limits (CRLs) met those listed in Method UM25, except for three compounds (naphthalene, 2,3,6-trichlorophenol, and di-n-octylphthalate). The reported detection limits for these compounds were slightly greater than the method CRL. See the Data Quality Screening Tool print-out for more details. No action was taken, other than to note the discrepancy.

## Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was not evaluated, as no MS/MSD, laboratory duplicate, or field duplicate analyses were performed. Accuracy was acceptable, as demonstrated by most of the surrogate %R values being within control limits.

Data qualifiers were assigned as a result of ICAL and CCAL criteria outliers, and instrument sensitivity concerns noted in the initial calibration standards.

Data that are rejected are unusable for any purpose. All other data, as qualified, are acceptable for use.

# DATA QUALIFIER SUMMARY TABLE
# FOR LOT AVSI

8909-10

| Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|
| 3ER-70 | 002 UC04463 | WATER | UM25 | 46DN2C | ND 50.0 | R | UJ-5A | UGL |
| 3ER-70 | 002 UC04463 | WATER | UM25 | ANIL | ND 2.00 | R | R-5A | UGL |
| 3ER-70 | 002 UC04463 | WATER | UM25 | BENZID | ND 2.00 | R | R-5A, 5B | UGL |
| 3ER-70 | 002 UC04463 | WATER | UM25 | KEP | ND 20.0 | R | UJ-5A | UGL |
| 3ER-70 | 002 UC04463 | WATER | UM25 | PCB016 | ND 9.10 | R | R-5A, 5B | UGL |
| 3ER-70 | 002 UC04463 | WATER | UM25 | PCB221 | ND 9.10 | R | R-5A, 5B | UGL |
| 3ER-70 | 002 UC04463 | WATER | UM25 | PCB232 | ND 9.10 | R | R-5A, 5B | UGL |
| 3ER-70 | 002 UC04463 | WATER | UM25 | PCB242 | ND 9.10 | R | R-5A, 5B | UGL |
| 3ER-70 | 002 UC04463 | WATER | UM25 | PCB248 | ND 9.10 | R | R-5A, 5B | UGL |
| 3ER-70 | 002 UC04463 | WATER | UM25 | PCB254 | ND 9.10 | R | R-5A, 5B | UGL |
| 3ER-70 | 002 UC04463 | WATER | UM25 | PCB260 | ND 13.0 | R | R-5A, 5B | UGL |
| 3ER-70 | 002 UC04463 | WATER | UM25 | PCP | LT 9.10 | | UJ-5A | UGL |
| 3ER-70 | 002 UC04463 | WATER | UM25 | TXPHEN | ND 17.0 | R | R-5A, 5B | UGL |

# TIER II DATA QUALITY ASSESSMENT
# EXPLOSIVES ANALYSES: WATER
# METHOD: LW23
# LOT: AVNC

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for this lot were provided by the laboratory to meet USATHAMA PAM-11-41 requirements for this data package.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; no correction fluid or tape was found on any raw data; the proper units for numerical values were used; and, all laboratory notebook pages and strip chart printouts were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

The field Chain-of-Custody forms (COCs) were present and complete and all samples listed were analyzed. All forms were signed and dated. The field COCs indicated no problems with sample receipt conditions.

Laboratory COCs were present and complete for all samples. All forms were signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory COCs. A minimum of 10% of the field ID and laboratory ID were tracked from the COCs, transfer files, laboratory notebooks, and the raw data. No discrepancies were found.

## III. FIELD QUALITY CONTROL

One pair of field duplicate samples (ARP-95-03C and ARP-95-03CFD) from this lot was identified as a field quality control sample set. Target explosive compounds were not detected in the field duplicate samples at concentrations greater than or equal to the reporting limits. Field duplicate relative percent difference (RPD) values were not calculable.

No field equipment blanks were submitted for this lot.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All samples in this lot were extracted within 7 days of collection and were analyzed within 15 days of extraction. For each sample, the 7-day extraction holding time and 40-day analysis holding time limits were met.

**2.0 Instrument Calibration:** ACCEPTABLE/All criteria met.

The appropriate number of calibration standards were used to generate a standard curve for explosives compounds. Linearity was acceptable for the standard curves. Recalculation results of the regression statistics for the curves agreed with the laboratory values.

**3.0 Daily Calibration:** ACCEPTABLE/With the following discussion.

The results of the daily calibration standard agreed with the initial calibration standard within 15%, except 2,4-dinitrotoluene in one continuing calibration (12/29/95) standard at 15.7%. Since 2,4-dinitrotoluene was not detected in any of the samples, and since the reporting limits were determined to not be affected, no action was taken. The daily calibrations were performed at the proper frequency.

**4.0 Blank Analysis:** ACCEPTABLE/All criteria met.

One method blank was associated with the samples in this lot. Target explosive compounds were not detected in the method blank at concentrations greater than or equal to the reporting limits.

**5.0 Matrix Spike/Matrix Spike Duplicate Analyses:** NOT PERFORMED.

No matrix spike/matrix spike duplicate (MS/MSD) analyses were performed on samples in this lot. No action was taken on this basis.

**6.0 High Spike and Low Spike Analyses:** ACCEPTABLE/With the following discussion.

One low spike and two high spike analyses were performed with this sample lot. The low/high spike percent recovery (%R) values were evaluated based on the control chart upper and lower limits. The high spike %R values for 1,3,5-trinitrobenzene (90.4% and 90.0%) and nitrobenzene (86.6% and 86.2%) were less than the lower control limits of 92.7% for 1,3,5-trinitrobenzene and 92.8% for nitrobenzene. Since these two compounds were not detected in any of the samples, and since the low spike %R values for these two compounds were within the control limits, no qualifiers were assigned on this basis. All other low spike and high spike %R values were within the control limits.

**7.0 Duplicate Sample Analyses:** NOT PERFORMED.

Laboratory duplicate analyses were not performed with this sample lot; however, the RPD values between the two high spike samples were evaluated. The RPD values ranged from 0.1% to 0.46% and were less than the maximum control limits. The laboratory precision was acceptable.

**8.0 Compound Identification:** ACCEPTABLE/All criteria met.

The chromatograms and raw data were reviewed for explosive compounds; false negatives or false positives were not found. There were no discrepancies between the raw data and the transfer files.

**9.0 Compound Quantitation and Certified Reporting Limits:** ACCEPTABLE/All criteria met.

An evaluation of compound quantitation was performed by recalculating sample results from the raw data. No discrepancies were found. The reporting limit for each analyte was reviewed. All reporting limits matched the certified reporting limit listed in the laboratory SOP.

**10.0 Chromatogram Quality:** ACCEPTABLE/All criteria met.

A review of chromatogram quality revealed no problems. The baselines were stable, no electropositive displacement was found, and all early eluting peaks were resolved to the baseline.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified methods.

Accuracy was acceptable, as demonstrated by most of the %R values for the laboratory control sample compounds, except where noted. Precision was acceptable, as demonstrated by the RPD values for the high spike analyses.

The data, as reported, are acceptable for use.

# TIER I DATA QUALITY ASSESSMENT
# EXPLOSIVES ANALYSES: SOIL
# METHOD: LW23
# LOT: AVRO

Analytical data for 25 soil samples were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1994). The samples were collected from November 29 through 30, 1995, and were analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

- Technical Holding Times
- Instrument Calibration
- Daily Calibration
- Blank Analyses
- * Laboratory Control Sample Analyses
- * Field Duplicate Analyses
- * Matrix Spike/Matrix Spike Duplicate Analyses
- * Compound Identification
- Chromatogram Quality
- Compound Quantitation and Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Laboratory Control Sample Analyses

Laboratory control sample (LCS) analyses were performed at the required frequency. Most percent recovery (%R) and relative percent difference (RPD) values were within control limits. The %R and RPD value outliers are listed in the Data Quality Assessment Worksheets. In the professional judgment of the reviewer, no qualification of the sample results on the basis of the %R values in the LCS analyses was necessary.

### Field Duplicate Analyses

Two field duplicate sets (OBS-95-34/OBS-95-34FD and ARS-95-10/ARS-95-10FD) were analyzed by the laboratory. No positive results were reported in Samples OBS-95-34 or OBS-95-34FD; field duplicate RPD values were not calculable. Positive results for RDX were reported in Samples ARS-95-10 and ARS-95-10FD at concentrations (corrected for moisture) of 5.34 µg/g and 40.9 µg/g, respectively. The RPD value of RDX was 153.9%, which was greater

than the 50% control limit. Positive results for HMX and tetryl were reported for Sample ARS-95-10FD, but not for ARS-95-10. No qualifiers were assigned based on field duplicate results.

## Matrix Spike/Matrix Spike Duplicate Analyses

Sample ARS-95-10FD was selected for matrix spike/matrix spike duplicate (MS/MSD) analyses. All %R values were within control limits, except for 2,4-dinitrotoluene. The %R values of 2,4-dinitrotoluene in the MS/MSD analyses were greater than the 28% to 89% control limits at 94% and 98%, respectively. In the professional judgment of the reviewer, no qualification of the sample results on the basis of 2,4-dinitrotoluene %R value was necessary. All RPD values were within control limits.

## Compound Identification

Several positive results were C-flagged by the laboratory to indicate that the results were confirmed by a second column. A result for RDX in Sample ARS-95-05 was Q-flagged by the laboratory to denote that the compound was not confirmed on the second column because of matrix interference. No action was taken on this basis.

## Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the RPD values of the MS/MSD and the LCS analyses being within control limits. Accuracy was acceptable, as demonstrated by the LCS and MS/MSD %R values being within control limits, except where previously noted.

All data, as reported, are acceptable for use.

# TIER I DATA QUALITY ASSESSMENT
# EXPLOSIVES ANALYSES: WATER
# METHOD: UW25
# LOT: AVNE

Analytical data for one water sample was reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1994). The sample was collected on November 20, 1995, and was analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Technical Holding Times
Instrument Calibration
Daily Calibration
Blank Analyses
* Laboratory Control Sample Analyses
Compound Identification
Chromatogram Quality
Compound Quantitation and Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Laboratory Control Sample Analyses

Laboratory control sample (LCS) analyses were performed by the laboratory at the required frequency. Three of the percent recovery (%R) values for high spike analyses were greater than the control limits. The %R value outliers are listed in the Data Quality Assessment Worksheets. As the %R values were within the laboratory control limits for these analytes in the low spike analysis, and as these three high spike %R values were reasonable, no qualifiers were assigned on the basis of these LCS results.

### Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the relative percent difference (RPD) values of the LCS analyses being within QC criteria. Accuracy was acceptable, as demonstrated by the compliant LCS %R values, except where previously noted.

All data, as reported, are acceptable for use.

# TIER I DATA QUALITY ASSESSMENT
# EXPLOSIVES ANALYSES: WATER
# METHOD: UW25
# LOT: AVRB

Analytical data for three water samples were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1994). The samples were collected from November 29 through 30, 1995, and were analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

- Technical Holding Times
- Instrument Calibration
- Daily Calibration
- Blank Analyses
- * Laboratory Control Sample Analyses
- Compound Identification
- Chromatogram Quality
- * Compound Quantitation and Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Laboratory Control Sample Analyses

Laboratory control sample (LCS) analyses were performed at the required frequency by the laboratory. Two low spike LCS analytes and one high spike LCS analyte were greater than the laboratory control limits. The %R and RPD value outliers are listed in the Data Quality Assessment Worksheets. As there were no positive results reported in associated samples, no action was taken.

### Compound Quantitation and Certified Reporting Limits

The certified reporting limits (CRLs) for RDX in Samples 3ER-69 and 3FB-P were elevated and K-flagged by the laboratory to denote that the CRLs were raised because of interferences. The CRL for 1,3,5-trinitrobenzene in Sample 3ER-70 was also elevated by the laboratory. A positive result for 1,3,5-trinitrobenzene was found in the original analysis of Sample 3ER-70 but was not confirmed on a second column. The 1,3,5-trinitrobenzene result for 3ER-70 was U-flagged by the laboratory. No action was required.

## Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by most of the relative percent difference (RPD) values of the LCS analyses being within QC criteria. Accuracy was acceptable, as demonstrated by the LCS %R values being within control limits, except where previously noted.

All data, as reported, are acceptable for use.

# TIER II DATA QUALITY ASSESSMENT
# NITROCELLULOSE ANALYSES: SOIL
# METHOD: LF05
# LOT: AVVU

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for this lot were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package, with the exception of percent moisture logbook pages. The sample percent moisture values on the transfer files could not be confirmed.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; correction fluid or tape was not found on any of the raw data; proper units for numerical values were used; the laboratory notebook pages and chromatograms were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

The field Chain-of-Custody forms (COCs) were present and complete for this lot. All samples listed were analyzed and all forms signed and dated. The field COCs indicated no problems with sample receipt conditions.

Laboratory COCs were present and complete for all samples and all forms signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory COCs. A minimum of 10% of the field ID and laboratory ID were tracked from the COCs, the transfer files, laboratory notebooks, and the raw data.

## III. FIELD QUALITY CONTROL

The data for one field duplicate set (ARS-95-10/ARS-95-11) were submitted for review. Nitrocellulose was detected in these two samples at concentrations of 104 µg/g and 77.8 µg/g, respectively. The relative percent difference (RPD) value was within the control limit of 50% at 28.5%. However, these two nitrocellulose results were qualified as not detected because of the blank contamination.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

Holding times were not listed in the method. All samples in this lot were extracted within 15 days of collection and were analyzed within 3 days of extraction. Sample results were not qualified on this basis.

**2.0 Instrument Calibration:** ACCEPTABLE/With the following discussion.

The appropriate number of calibration standards were used to generate a least squares model linear standard curve. The correlation coefficient was greater than 0.995, indicated acceptable linearity. The correlation coefficient, the slope and y intercept were calculated by the reviewer. The results of the regression statistics for the curve did not exactly agree with the laboratory values. However, as both the recalculated results and reported results are acceptable, no qualification of sample results was performed by the reviewer.

**3.0 Daily Calibration:** ACCEPTABLE/All criteria meet.

The results of the daily calibration standard were calculated by the reviewer and agreed with the initial calibration high standard within the 90% to 110% criteria. The daily calibrations were performed at the proper frequency.

**4.0 Blank Analysis:** ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See the data qualifier table, **TABLE AVVU.**

***Discussion:***

One method blank was associated with the samples in this lot. Nitrocellulose was quantitated at 86.7 µg/g. All associated sample results were less than the action level of 434 µg/g and have been qualified as not detected and flagged U-7.

**5.0 Matrix Spike/Matrix Spike Duplicate Analyses:** ACCEPTABLE/With the following exceptions.

***Qualified Data:*** See the data qualifier table, **TABLE AVVU.**

***Discussion:***

The laboratory performed matrix spike/matrix spike duplicate (MS/MSD) analyses on Sample ARS-95-11. The DataChem QA Status Report control charts does not specify percent recovery (%R) limits and relative percent difference (RPD) limits for MS/MSD analyses.

The %R values for nitrocellulose of the MS/MSD samples were 22.0% and -21.3%, respectively. Because of the low recovery of this analyte in the MS/MSD analyses, all not detected results (including those qualified as not detected because of blank contamination) in the associated samples were qualified as rejected (R-7, 8). The RPD value for nitrocellulose was within the control limit of 50% at 42.9%.

**6.0 High Spike and Low Spike Recovery:** ACCEPTABLE/With the following discussion.

The results of the low and two high spike sample results were blank subtracted by the laboratory before the %R values for nitrocellulose were calculated. The %R values were 67.9%, 73.6%, and

89.4% respectively. These values are within the control limits established for this analyte. As the laboratory subtracted the blank from these three samples only and not the field samples, the reviewer recalculated the %R values using the unsubtracted values. Recalculated %R values were 211%, 102%, and 118%, which are all greater than the respective upper control limit. No qualification of data was required as all sample results were previously qualified as not detected.

**7.0 Compound Identification:** ACCEPTABLE/All criteria met.

The raw data were reviewed for nitrocellulose; false negatives or false positives were not found. There were no discrepancies between the raw data and the transfer files.

**8.0 Compound Quantitation and Certified Reporting Limits:** ACCEPTABLE/With the following discussion.

An evaluation of compound quantitation was performed by recalculating the sample results from the raw data. Discrepancies were not found. The CRL on the transfer file met those listed in the method.

**9.0 Chromatogram Quality:** ACCEPTABLE/All criteria met.

A review of chromatogram quality revealed no problems. The baselines were stable, no electropositive displacement was found, and all early eluting peaks were resolved to the baseline.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified analytical method.

Accuracy was not acceptable, as demonstrated by the %R valufes of the MS/MSD and standard spike recovery values. Precision was acceptable, as demonstrated by the RPD value of the MS/MSD samples.

Data were rejected and assigned an R-7,8 qualifier as a result of low MS/MSD %R values and method blank contamination.

All data are not acceptable for use.

# DATA QUALIFIER SUMMARY TABLE
# FOR LOT AVVU

8909-10

| Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|
| ARS-95-01 | 005 UC04395 | SOIL | LF05 | NC | 152 | | R-7,8 | UGG |
| ARB-95-01B | 006 UC04399 | SOIL | LF05 | NC | 87.3 | | R-7,8 | UGG |
| ARS-95-02 | 007 UC04403 | SOIL | LF05 | NC | 144 | | R-7,8 | UGG |
| ARB-95-02B | 008 UC04407 | SOIL | LF05 | NC | 88.4 | | R-7,8 | UGG |
| ARS-95-03 | 009 UC04410 | SOIL | LF05 | NC | 172 | | R-7,8 | UGG |
| ARB-95-03B | 010 UC04414 | SOIL | LF05 | NC | 173 | | R-7,8 | UGG |
| ARS-95-04 | 011 UC04418 | SOIL | LF05 | NC | 63.9 | | R-7,8 | UGG |
| ARB-95-04B | 012 UC04422 | SOIL | LF05 | NC | 149 | | R-7,8 | UGG |
| ARS-95-05 | 013 UC04426 | SOIL | LF05 | NC | 180 | | R-7,8 | UGG |
| ARB-95-05B | 014 UC04430 | SOIL | LF05 | NC | 144 | | R-7,8 | UGG |
| ARS-95-06 | 015 UC04434 | SOIL | LF05 | NC | 162 | | R-7,8 | UGG |
| ARS-95-07 | 016 UC04438 | SOIL | LF05 | NC | 140 | | R-7,8 | UGG |
| ARS-95-08 | 017 UC04442 | SOIL | LF05 | NC | 121 | | R-7,8 | UGG |
| ARS-95-09 | 018 UC04446 | SOIL | LF05 | NC | 97.3 | | R-7,8 | UGG |
| ARS-95-10 | 019 UC04450 | SOIL | LF05 | NC | 148 | | R-7,8 | UGG |
| ARS-95-11 | 020 UC04454 | SOIL | LF05 | NC | 111 | D | R-7,8 | UGG |

# TIER I DATA QUALITY ASSESSMENT
# NITROCELLULOSE: WATER
# METHOD: UF05
# LOT: AVWX

Analytical data for one equipment rinsate blank was reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1994). The sample was collected on November 30, 1995, and was analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

* Technical Holding Times
  Initial Calibration
  Initial and Continuing Calibration Verification
  Blanks (Method, ICB, CCB)
  Standard Spikes
* Duplicate Sample
* Spiked Sample Analyses (MS/MSD)
  Certified Reporting Limits (CRL)

### Technical Holding Times

Holding times were not listed in the method. Sample 3ER-70 was extracted 19 days after sample collection and analyzed one day after sample extraction. As the sample is a field equipment rinsate blank, results were not qualified on this basis.

### Duplicate Sample

Duplicate sample analysis was not performed with this sample lot. No qualification of data has been performed as duplicate analysis is not required.

### Spiked Sample Analyses

Matrix spike/matrix spike duplicate (MS/MSD) sample analysis was not performed with this sample lot. As the sample is a field equipment rinsate blank, no qualification of data has been performed.

## Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the relative percent difference value of high spike samples. Accuracy was acceptable, as demonstrated by the standard spike samples percent recovery values being within control limits.

All data, as reported, are acceptable for use.

# TIER II DATA QUALITY ASSESSMENT
# NITROGUANIDINE: SOIL
# METHOD: LW30
# LOT: AVRR

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for this lot were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package, with the exception of percent moisture logbook pages. The sample percent moisture values on the transfer files could not be confirmed.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; correction fluid or tape was not found on any of the raw data; proper units for numerical values were used; the laboratory notebook pages and chromatograms were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

The field Chain-of-Custody forms (COCs) were present and complete for this lot. All samples listed were analyzed and all forms signed and dated. The field COCs indicated no problems with sample receipt conditions.

Laboratory COCs were present and complete for all samples and all forms signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory COCs. A minimum of 10% of the field ID and laboratory ID were tracked from the COCs, the transfer files, laboratory notebooks, and the raw data.

## III. FIELD QUALITY CONTROL

The data for one field duplicate set (ARS-95-10/ARS-95-11) were submitted for review. Field duplicate relative percent difference (RPD) values were less than the 50% RPD control limit at 45.6%.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

Holding times were not listed in the method. All samples in this lot were extracted within 4 days of collection and were analyzed within 8 days of extraction. The holding times were judged to be acceptable.

**2.0 Instrument Calibration:** ACCEPTABLE/With the following exception.

***Qualified Data:*** See the DATA QUALIFIER SUMMARY TABLE

***Discussion:***

The appropriate number of calibration standards were used to generate a least squares model linear standard curve. The correlation coefficient was greater than 0.995 indicating acceptable linearity. The correlation coefficient, the slope and y intercept were calculated by the reviewer. The results of the regression statistics for the curve did not exactly agree with the laboratory values. However, as both the reported and recalculated values were acceptable, no qualification of sample results was performed by the reviewer.

The percent recovery (%R) value nitroguanidine in the initial calibration verification (ICV) solution was 125%, which was greater than the upper control limit of 110%. All positive results were qualified as estimated (J-5A).

**3.0 Daily Calibration:** ACCEPTABLE/All criteria met.

The results of the daily calibration standard were calculated by the reviewer and agreed with the initial calibration high standard within the 90% to 110% criteria. The daily calibrations were performed at the proper frequency.

**4.0 Blank Analysis:** ACCEPTABLE/All criteria met.

One method blank was associated with the samples in this lot. Nitroguanidine was not detected in the method blank at concentrations equal to or greater than the certified reporting limit (CRL).

**5.0 Matrix Spike/Matrix Spike Duplicate Analyses:** ACCEPTABLE/All criteria met.

The laboratory performed matrix spike/matrix spike duplicate (MS/MSD) analyses on Sample ARS-95-11. The %R values of the MS/MSD samples were 113.8% and 112.8%, respectively. These %R values are within the high spike control limits of 91.4% to 136.6%. The relative percent difference (RPD) value of 0.88% was less than the 50% control limit.

**6.0 High Spike and Low Spike Recovery:** ACCEPTABLE/All criteria met.

The %R values of the low and two high spike sample results were within the specified control limits. The RPD value of 10.5% between the two high spike analyses was less than the MS/MSD RPD control limit of 50%.

**7.0 Compound Identification:** ACCEPTABLE/All criteria met.

The chromatograms and raw data were reviewed for nitroguanidine; false negatives or false positives were not found. There were no discrepancies between the raw data and the transfer files.

**8.0 Compound Quantitation and Certified Reporting Limits:** ACCEPTABLE/All criteria met.

An evaluation of compound quantitation was performed by recalculating the sample results from the raw data. Discrepancies were not found. The CRL on the transfer file met those listed in the method.

**9.0 Chromatogram Quality:** ACCEPTABLE/All criteria met.

A review of chromatogram quality revealed no problems. The baselines were stable, no electropositive displacement was found, and all early eluting peaks were resolved to the baseline.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified analytical method.

Accuracy was acceptable, as demonstrated by the %R values of the MS/MSD and standard spike recovery values. Precision was acceptable as demonstrated by acceptable RPD values.

Qualification of sample data was required because of a high %R value of the ICV solution.

All data, as qualified, are acceptable for use.

# DATA QUALIFIER SUMMARY TABLE
# FOR LOT AVRR

8909-10

| Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|
| ARS-95-01 | 005 UC04396 | SOIL | LW30 | NQ | 0.0807 | | J-5A | UGG |
| ARS-95-05 | 013 UC04427 | SOIL | LW30 | NQ | 0.209 | | J-5A | UGG |
| ARS-95-09 | 018 UC04447 | SOIL | LW30 | NQ | 0.350 | | J-5A | UGG |
| ARS-95-10 | 019 UC04451 | SOIL | LW30 | NQ | 0.148 | | J-5A | UGG |
| ARS-95-11 | 020 UC04455 | SOIL | LW30 | NQ | 0.235 | D | J-5A | UGG |

# TIER I DATA QUALITY ASSESSMENT
# NITROGUANIDINE: WATER
# METHOD: UW29
# LOT: AVVS

Analytical data for one equipment rinsate blank was reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1994). The sample was collected on November 30, 1995, and was analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

* Technical Holding Times
  Initial Calibration
* Initial and Continuing Calibration Verification
  Blanks (Method, ICB, CCB)
  Standard Spikes
* Duplicate Sample
  Spiked Sample Analyses (MS/MSD)
  Certified Reporting Limits (CRL)

### Technical Holding Times

Holding times were not listed in the method. Sample 3ER-70 was extracted 12 days after sample collection and analyzed zero day after sample extraction. Sample results were not qualified on this basis.

### Initial Calibration Verification

The initial calibration verification (ICV) percent recovery (%R) value was greater than the upper control limit of 110% at 125.4%. Since nitroguanidine was not detected in any of the samples, and since the not detected results were determined not affected, no action was taken.

### Duplicate Sample

Duplicate sample analysis was not performed with this sample lot. No qualification of data has been performed, since duplicate analysis is not required.

## Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the criteria-compliant relative percent difference (RPD) values of the matrix spike/matrix spike duplicate (MS/MSD) analyses. Accuracy was acceptable, as demonstrated by the MS/MSD and low/high spike %R values being within control limits.

All data, as reported, are acceptable for use.

DATA CHEM
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# Case Narrative

**Analysis:** Nitroguanidine
**Preparation SOP #:** UW29
**Analysis SOP#:** UW29
**Lot/Release/SDG #:** AVVS
**DCL Set ID's:** U95-0656-40

**Client:** Rust E&I
**Account:** 03224
**Matrix:** Water

**General Set Information:** There were three samples in lot AVVS.

**Method Summary:** A portion of the water samples were filtered through a 0.45µ Teflon filter prior to being injected into a HPLC equipped with UV detection. Prior to sample analysis, the instrument was adjusted to the proper operating parameters and allowed to equilibrate until a stable baseline was established. Calibration standards were analyzed and a linear calibration curve was generated from the data. A continuing calibration standard was analyzed at the end of the sample analysis. The response of the continuing calibration standard was verified to be within method limits.

Samples and QCs were analyzed under identical conditions as those used for initial and continuing calibration. Quantitation was based on a calibration curve using the initial calibration standards. Sample results were reported in µg/L.

**Sample Preparation:** There were no anomalies associated with the preparation of these samples.

**Holding Times:** All samples were extracted and analyzed within method specified holding times.

**Dilution(s):** No dilutions were required.

**Method and Sample QC Data:**

*Laboratory Quality Control Sample:* All quality control results were within acceptable limits.
*Blank:* All Blank samples met QC criteria.

**MS/MSD:** Matrix spike and matrix spike duplicate samples were prepared using sample UC 04459 (AVVS005). The MS/MSD recoveries were within acceptable limits.

**Instrument QC:** All initial and continuing calibration samples met method criteria.

**Flagging Codes:** No data flagging codes were used.

**NC/CAR - CPR:** No NC/CARs or CPRs were required for this lot.

**Miscellaneous Comments:** None.

**Sample Calculation:**

The slope was taken from the calibration curve for NQ and the area for NQ was taken from sample UC 04459MS (AVVS006)

$$\underline{6228}\ \mu g/L \text{ of NQ} = \frac{1000\ mL \times [\underline{133180}\ (\text{Area}) - \underline{132.2}\ (\text{Intercept})]}{1.0\ L \times \underline{21362}\ \text{Slope (area x ml/ug)}}$$

Kristine M. Kolenz 12/18/95
Kristine M. Kolenz Date

# TIER II DATA QUALITY ASSESSMENT
# NITROGLYCERIN AND PETN ANALYSES: SOIL
# METHOD: LW27
# LOT: AVRQ

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for this lot were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package, with the exception of percent moisture logbook pages. The sample percent moisture values on the transfer files could not be confirmed.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; correction fluid or tape was not found on any of the raw data; proper units for numerical values were used; the laboratory notebook pages and chromatograms were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

The field Chain-of-Custody forms (COCs) were present and complete for this lot. All samples listed on were analyzed and all forms signed and dated. The field COCs indicated no problems with sample receipt conditions.

Laboratory COCs were present and complete for all samples and all forms signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory COCs. A minimum of 10% of the field ID and laboratory ID were tracked from the COCs, the transfer files, laboratory notebooks, and the raw data.

## III. FIELD QUALITY CONTROL

The data for one field duplicate set (ARS-95-10/ARS-95-11) were submitted for review. Nitroglycerin or PETN were not detected in the field duplicate sample at concentrations greater than or equal to the certified reporting limit (CRL). Field duplicate relative percent difference (RPD) values were therefore not calculable.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

Holding times were not listed in the method. All samples in this lot were extracted within 4 days of collection and were analyzed within 2 days of extraction. Sample results were not qualified on this basis.

**2.0 Instrument Calibration:** ACCEPTABLE/With the following discussion.

The appropriate number of calibration standards were used to generate a least squares model linear standard curve. The correlation coefficient was greater than 0.995, indicated acceptable linearity. The correlation coefficient, the slope and y intercept were calculated by the reviewer. The results of the regression statistics for the curve did not exactly agree with the laboratory values. However, as both the recalculated and reported values were acceptable, no qualification of sample results was performed by the reviewer.

Sample ARS-95-10 was re-analyzed on December 7, 1996. Initial calibration results for this analytical run were not submitted with the data package. No data were qualified on this basis.

**3.0 Daily Calibration:** ACCEPTABLE/All criteria met.

The results of the daily calibration standard were calculated by the reviewer and agreed with the initial calibration high standard within the 90% to 110% criteria. The daily calibrations were performed at the proper frequency.

**4.0 Blank Analysis:** ACCEPTABLE/All criteria met.

One method blank was associated with the samples in this lot. Nitroglycerin and PETN were not detected in the method blank at concentrations greater than or equal to the CRL.

**5.0 Matrix Spike/Matrix Spike Duplicate Analyses:** ACCEPTABLE/With the following discussion.

The laboratory performed matrix spike/matrix spike duplicate (MS/MSD) analyses on Sample ARS-95-11. The percent recovery (%R) values for nitroglycerin of the MS/MSD samples were 102.0% and 108.0%, respectively. The %R values for PETN of the MS/MSD samples were 99.0% and 98.0%, respectively. The MS %R value of nitroglycerin was slightly greater than the high spike upper control limit of 103.9% at 108%. Since the MSD %R and RPD value for nitroglycerin were within the high spike control limits, no action was taken. The %R and RPD values for PETN were within the high spike control limits.

**6.0 High Spike and Low Spike Recovery:** ACCEPTABLE/All criteria met.

The %R values of the low and two high spike sample results were within the specified control limits.

**7.0 Compound Identification:** ACCEPTABLE/All criteria met.

The chromatograms and raw data were reviewed for nitroglycerin and PETN; false negatives or false positives were not found. There were no discrepancies between the raw data and the transfer files.

**8.0 Compound Quantitation and Certified Reporting Limits:** ACCEPTABLE/All criteria met.

An evaluation of compound quantitation was performed by recalculating the sample results from the raw data. Discrepancies were not found. The CRLs on the transfer file met those listed in the method.

**9.0 Chromatogram Quality:** ACCEPTABLE/All criteria met.

A review of chromatogram quality revealed no problems. The baselines were stable, no electropositive displacement was found, and all early eluting peaks were resolved to the baseline.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified analytical method.

Accuracy was acceptable, as demonstrated by the %R values of the MS/MSD and standard spike recovery values. Precision was acceptable as demonstrated by acceptable MS/MSD RPD values.

All data, as reported, are acceptable for use.

# TIER I DATA QUALITY ASSESSMENT
# NITROGLYCERIN AND PETN: WATER
# METHOD: UW27
# LOT: AVRT

Analytical data for one equipment rinsate blank was reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1994). The sample was collected on November 30, 1995, and was analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

* Technical Holding Times
  Initial Calibration
* Initial and Continuing Calibration Verification
  Blanks (Method, ICB, CCB)
* Standard Spikes
* Duplicate Sample
* Spiked Sample Analyses (MS/MSD)
  Certified Reporting Limits (CRL)

### Technical Holding Times

Holding times were not listed in the method. Sample 3ER-70 was extracted 4 days after sample collection and analyzed 23 days after sample extraction. Sample results were not qualified on this basis.

### Continuing Calibration Verification

The percent recovery (%R) values for nitroglycerin and PETN in two continuing calibration verification samples (CCV) ranged from 40.4% to 41.6% and were less than the lower control limit of 90%. The %R value for nitroglycerin in the daily calibration standard was 40.3% which is lower than the control limit of 90%. All results were qualified as estimated (UJ-5B).

### Standard Spikes

The low spike %R value for PETN of 112% was greater than the upper control limit of 102%. As the sample result was not detected no qualification of data was performed.

## Duplicate Sample

Duplicate sample analysis was not performed with this sample lot. No qualification of data has been performed as duplicate analysis is not required.

## Spiked Sample Analyses

Matrix spike/matrix spike duplicate (MS/MSD) sample analysis was not performed with this sample lot. Because the sample is a field equipment rinsate blank, no qualification of data has been performed.

## Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the relative percent difference (RPD) values of high spike samples. Accuracy was acceptable, as demonstrated by the standard spike samples %R values being within control limits, except for the low spike of PETN.

Qualification of sample results was required because of low CCV and daily calibration %R values.

All data, as qualified, are acceptable for use.

# DATA QUALIFIER SUMMARY TABLE
# FOR LOT AVRT

8909-10

| Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|
| 3ER-70 | 005 UC04459 | WATER | UW27 | NG | LT 1.49 | | UJ-5B | UGL |
| 3ER-70 | 005 UC04459 | WATER | UW27 | PETN | LT 2.00 | | UJ-5B | UGL |

# TIER II DATA QUALITY ASSESSMENT
# ETHYL CENTRALITE: SOIL
# METHOD: ECNS
# LOT: AVRP

## I. DELIVERABLES AND DOCUMENTATION

All necessary documentation for this lot were provided by the laboratory to meet USATHAMA PAM 11-41 requirements for this data package, with the exception of percent moisture logbook pages. The sample percent moisture values on the transfer files could not be confirmed.

Good documentation practices were observed by the laboratory in the following areas: changes or corrections were struck out by a single line and the entry was initialed and dated by the analyst; correction fluid or tape was not found on any of the raw data; proper units for numerical values were used; the laboratory notebook pages and chromatograms were signed and dated by the analyst.

## II. CHAIN-OF-CUSTODY/SAMPLE IDENTIFICATION

The field Chain-of-Custody forms (COCs) were present and complete for this lot. All samples listed were analyzed and all forms signed and dated. The field COCs indicated no problems with sample receipt conditions.

Laboratory COCs were present and complete for all samples and all forms signed and dated. The laboratory lot and sample identification suffixes were clearly indicated on all laboratory COCs. A minimum of 10% of the field ID and laboratory ID were tracked from the COCs, the transfer files, laboratory notebooks, and the raw data.

## III. FIELD QUALITY CONTROL

The data for one field duplicate set (ARS-95-10/ARS-95-11) were submitted for review. Ethyl centralite was not detected in the field duplicate samples at concentrations greater than or equal to the certified reporting limit (CRL). Field duplicate relative percent difference (RPD) values were therefore not calculable.

## IV. TECHNICAL ASSESSMENT

### 1.0 Holding Times: ACCEPTABLE/All criteria met.

All samples in this lot were extracted within 8 days of collection and were analyzed within 5 days of extraction. These holding times were within the method specified holding times of 14 days for sample extraction and 40 for sample analysis.

**2.0 Instrument Calibration:** ACCEPTABLE/With the following discussion.

The appropriate number of calibration standards were used to generate a least-squares-model linear standard curve. The correlation coefficient was greater than 0.995, indicating acceptable linearity. The correlation coefficient, the slope and y intercept were calculated by the reviewer. The results of the regression statistics for the curve did not exactly agree with the laboratory values. However, as both the recalculated results and reported results are acceptable, no qualification of sample results was performed by the reviewer.

**3.0 Daily Calibration:** ACCEPTABLE/ With the following discussion.

The results of the daily calibration standard were calculated by the reviewer and agreed with the initial calibration high standard within the method-specified 75% to 125% recovery (%R) criteria. The daily calibrations (ICV and CHK) were performed at the proper frequency, except for the CHK calibration check standard. Twenty samples were analyzed between CHK1 and CHK2, whereas the method requires the analysis of a CHK standard every 10 samples. However, as all check standards were acceptable, no qualification of data was performed.

**4.0 Blank Analysis:** ACCEPTABLE/ All criteria met.

One method blank was associated with the samples in this lot. Ethyl centralite was not detected in the method blank at concentrations greater than or equal to the CRL.

**5.0 Matrix Spike/Matrix Spike Duplicate Analyses:** ACCEPTABLE/With the following discussion.

The laboratory performed matrix spike/matrix spike duplicate (MS/MSD) analyses on Sample ARS-95-11. The %R values for ethyl centralite of the MS/MSD samples were 80.0% and 79.2%, respectively. As %R control limits are not established in the method, the ICV and CHK control limits of 75% to 125% were used as advisory control limits. The MS/MSD RPD value for ethyl centralite was within the advisory control limit of less than or equal to 50% at 1.0%.

**6.0 Laboratory Control Sample Analysis:** ACCEPTABLE/With the following discussion.

The %R value of the laboratory control sample (LCS) results was within the ICV and CHK control limits of 75% to 125% at 82.8%.

**7.0 Compound Identification:** ACCEPTABLE/All criteria met.

The chromatograms and raw data were reviewed for ethyl centralite; false negatives or false positives were not found. There were no discrepancies between the raw data and the transfer files.

**8.0 Compound Quantitation and Certified Reporting Limits:** ACCEPTABLE/All criteria met.

An evaluation of compound quantitation was performed by recalculating the sample results from the raw data. Discrepancies were not found. The CRL on the transfer file met those listed in the method.

**9.0 Chromatogram Quality:** ACCEPTABLE/ With the following discussion.

A review of chromatogram quality revealed no problems. The baselines were stable, no electropositive displacement was found, and all early eluting peaks were resolved to the baseline. Sample retention times (RT) did not fall within the laboratory established RT windows of 10.23 to 10.29. No qualification of associated sample data was performed as the peak width of these samples were larger than the established RT windows.

## V. OVERALL ASSESSMENT/QC SUMMARY

On the basis of this evaluation, the laboratory followed the specified analytical method.

Accuracy was acceptable, as demonstrated by acceptable %R values of the MS/MSD and LCS recovery values. Precision was acceptable as demonstrated by an acceptable MS/MSD RPD value.

All data, as reported, are acceptable for use.

# TIER I DATA QUALITY ASSESSMENT
# ETHYL CENTRALITE: WATER
# METHOD: ECNW
# LOT: AVRS

Analytical data for one equipment rinsate blank was reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1994). The sample was collected on November 30, 1995, and was analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

- Technical Holding Times
- Initial Calibration
- Initial and Continuing Calibration Verification
- Blanks (Method, ICB, CCB)
- * Standard Spikes
- * Duplicate Sample
- * Spiked Sample Analyses (MS/MSD)
- Certified Reporting Limits (CRL)

### Standard Spikes

A laboratory control sample (LCS) was analyzed with this sample batch. LCS percent recovery (%R) criteria were not specified in the method. For the purpose of data review, 75% to 125% control limits were used. The LCS %R value of 87.6% was within these advisory criteria, so qualification of data has not been performed.

### Duplicate Sample

Duplicate sample analysis was not performed with this sample lot. No qualification of data has been performed as duplicate analysis is not required.

### Spiked Sample Analyses

The laboratory performed matrix spike/matrix spike duplicate (MS/MSD) sample analysis was performed on Sample 3ER-70. MS/MSD %R control limits were not specified in the method. For the purpose of data review, 75% to 125% control limits were used. The MS/MSD %R values of 88.4% and 96.4%, respectively, were within these control limits. The relative percent difference (RPD) value of 8.7% was less than the advisory RPD control limit of 20%.

## Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the relative percent difference (RPD) values of the MS/MSD analyses being within the advisory control limit. Accuracy was acceptable, as demonstrated by the MS/MSD and standard spike %R value being within advisory control limits.

All data, as reported, are acceptable for use.

# TIER I DATA QUALITY ASSESSMENT
# PERCHLORATE: SOIL
# METHOD: PRCL
# LOT: AWBI

Analytical data for 16 soil samples were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1994). The samples were collected on November 30, 1995, and were analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

- Technical Holding Times
- Initial Calibration
- Initial and Continuing Calibration Verification
- Blanks (Method, ICB, CCB)
- Standard Spikes
- * Duplicate Sample
- * Spiked Sample Analyses (MS/MSD)
- Certified Reporting Limits (CRL)

### Duplicate Sample

Duplicate sample analysis was not performed with this sample lot. No qualification of data has been performed as duplicate analysis is not required and matrix spike/matrix spike duplicate (MS/MSD) analysis was performed.

### Spiked Sample Analyses

The laboratory used Sample ARS-95-11 for the MS/MSD analysis. Percent recovery (%R) values of the MS/MSD samples were 68.3% and 65.9%, respectively. These values are less than the laboratory-established %R control limits of 75% to 125%. All sample results have been qualified as estimated (UJ-8) on this basis. The relative percent difference (RPD) value of 4% was less than the laboratory specified RPD control limit of 20%.

### Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the control-limit compliant RPD values of the MS/MSD. Accuracy was acceptable, as demonstrated by the standard spike sample %R value.

Qualification of sample data was required because of MS/MSD %R values less than the lower control limit.

All data, as qualified, are acceptable for use.

# DATA QUALIFIER SUMMARY TABLE
# FOR LOT AWBI

8909-10

| Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|
| ARS-95-01 | 003 UC04397 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| ARB-95-01B | 004 UC04401 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| ARS-95-02 | 005 UC04405 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| ARB-95-02B | 006 UC04409 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| ARS-95-03 | 007 UC04412 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| ARB-95-03B | 008 UC04416 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| ARS-95-04 | 009 UC04420 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| ARB-95-04B | 010 UC04424 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| ARS-95-05 | 011 UC04428 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| ARB-95-05B | 012 UC04432 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| ARS-95-06 | 013 UC04436 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| ARS-95-07 | 014 UC04440 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| ARS-95-08 | 015 UC04444 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| ARS-95-09 | 016 UC04448 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| ARS-95-10 | 017 UC04452 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| ARS-95-11 | 018 UC04456 | SOIL | PRCL | CLO4 | LT 5.00 | D | UJ-8 | UGG |

# TIER I DATA QUALITY ASSESSMENT
# PERCHLORATE: WATER
# METHOD: PRCL
# LOT: AWBH

Analytical data for one equipment rinsate blank were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1994). The sample was collected on November 30, 1995, and was analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Technical Holding Times
Initial Calibration
Initial and Continuing Calibration Verification
Blanks (Method, ICB, CCB)
Standard Spikes
* Duplicate Sample
* Spiked Sample Analyses (MS/MSD)
Certified Reporting Limits (CRL)

### Duplicate Sample

Duplicate sample analysis was not performed with this sample lot. No qualification of data has been performed as the sample associated with this lot is a field equipment rinsate blank.

### Spiked Sample Analyses

Matrix spike/matrix spike duplicate (MS/MSD) sample analysis was not performed with this sample lot. No qualification of data has been performed as the sample associated with this lot is a field equipment rinsate blank.

### Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was not evaluated as an MS/MSD or a standard spike and a duplicate standard spike analysis was not performed. Accuracy was acceptable, as demonstrated by the standard spike sample percent recovery value being within control limits.

All data, as reported, are acceptable for use.

# TIER I DATA QUALITY ASSESSMENT
# CYANIDE ANALYSES: SOIL
# METHOD: KY15
# LOT: AVTB

Analytical data for 16 soil samples were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1991). The samples were collected on November 30, 1995 and were analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

- Technical Holding Times
- Instrument Calibration
- Blank Analyses
- Matrix Spike Sample Analyses
- Low Spike and High Spike Analyses
- * Duplicate Sample Analyses (Laboratory and Field)
- Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Duplicate Sample Analyses

No laboratory duplicate analyses were performed for this lot. No action was taken on this basis.

### Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the relative percent difference (RPD) values of the high spike analyses and matrix spike/matrix spike duplicate (MS/MSD) analyses being within QC criteria. Accuracy was acceptable, as demonstrated by the low spike and high spike percent recovery (%R) values and MS/MSD %R values being within control limits.

All data, as reported, are acceptable for use.

# TIER I DATA QUALITY ASSESSMENT
# CYANIDE ANALYSES: WATER
# METHOD: TY23
# LOT: AVSJ

Analytical data for one equipment blank were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1991). The sample was collected on November 30, 1995, and was analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Technical Holding Times
Instrument Calibration
Blank Analyses
* Matrix Spike Sample Analyses
* Low Spike and High Spike Analyses
* Duplicate Sample Analyses (Laboratory and Field)
Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Matrix Spike Sample Analyses

No matrix spike/matrix spike duplicate (MS/MSD) analyses were performed for this lot. No action was taken on this basis.

### Low Spike and High Spike Analyses

One low spike and two high spike analyses were performed with this sample lot. The low/high spike percent recovery (%R) values were evaluated based on the control chart upper and lower limits. The low spike %R value of 103% was greater than the upper control limit of 98.4%. As this low spike %R value was within the *National Functional Guidelines* control limits, no qualifiers were assigned. The high spike %R values of 97.3% and 98.0% were within the control limits.

### Duplicate Sample Analyses

No laboratory and field duplicate analyses were performed for this lot. No action was taken on this basis.

## Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the relative percent difference (RPD) values of the high spike analyses being within QC criteria. Accuracy was acceptable, as demonstrated by the low spike and high spike %R values being within control limits.

All data, as reported, are acceptable for use.

# TIER I DATA QUALITY ASSESSMENT
# NITRATES AND NITRITES: SOIL
# METHOD: KT09
# LOT: AVVA

Analytical data for 16 soil samples were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1994). The samples were collected on November 30, 1995, and were analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below. All criteria were met for all quality control requirements.

Technical Holding Times
Initial Calibration
Initial and Continuing Calibration Verification
Blanks (Method, ICB, CCB)
Duplicate Sample
Spiked Sample Analyses (MS/MSD))
Certified Reporting Limits (CRL)

### Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the relative percent difference values of the field duplicate and matrix spike/matrix spike duplicate (MS/MSD) analyses. Accuracy was acceptable, as demonstrated by the laboratory control sample and MS/MSD percent recovery values being within control limits.

All data, as reported, are acceptable for use.

# TIER I DATA QUALITY ASSESSMENT
# NITRATE PLUS NITRITE: WATER
# METHOD: LL8
# LOT: AVSC

Analytical data for one water sample was reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1994). The sample was collected on November 30, 1995, and was analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Technical Holding Times
Initial Calibration
Initial and Continuing Calibration Verification
* Blanks (Method, ICB, CCB, Equipment)
* Laboratory Control Sample Analyses
Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Laboratory Control Sample Analyses

The percent recovery (%R) values for two high spike analyses (93.4% and 94.8%) were slightly less than control limits of 95.3% to 99.5%. As the %R value was within the laboratory control limits for a third laboratory control sample (LCS), and as these two high spike %R values were reasonable, no qualifiers were assigned on the basis of these LCS results.

### Blanks (Method, ICB, CCB, Equipment)

Equipment blank 3ER-70 contained 97.6 µg/L of nitrites/nitrates. An action level of five times the equipment blank contamination was used to evaluate sample results. Associated samples (soil samples from Lot AVVA) with positive results reported for nitrites/nitrates contained concentrations greater than the action level and consequently were not qualified for equipment blank contamination.

### Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the relative percent difference (RPD) values of the LCS analyses. Accuracy was acceptable, as demonstrated by one of the LCS %R values being within control limits.

All data, as reported, are acceptable for use.

# TIER I DATA QUALITY ASSESSMENT
# SULFATE: SOIL
# METHOD: KT09
# LOT: AWAX

Analytical data for 16 soil samples were reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1994). The samples were collected on November 30, 1995, and were analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Technical Holding Times
Initial Calibration
Initial and Continuing Calibration Verification
Blanks (Method, ICB, CCB)
* Laboratory Control Sample Analyses
Duplicate Sample
Spiked Sample Analyses (MS/MSD))
Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Laboratory Control Sample Analyses

The percent recovery (%R) value for the low spike analysis (84.1%) was less than control limits of 88.2% to 110.6%. The %R value for one of the high spike analyses (81.6%) was also less than control limits of 99.1% to 103.9%. The relative percent difference (RPD) value of 20.1% was also greater than the control limits of 4.2%. As the %R values were acceptable for one laboratory control sample (LCS) and the matrix spike/matrix spike duplicate (MS/MSD) analyses, no qualifiers were assigned on the basis of LCS results.

### Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the RPD values of the MS/MSD analyses and field duplicate results. Accuracy was acceptable, as demonstrated by the MS/MSD and one of the LCS %R values being within control limits.

All data, as reported, are acceptable for use.

# TIER I DATA QUALITY ASSESSMENT
# SULFATE: WATER
# METHOD: TT09
# LOT: AWCR

Analytical data for one equipment blank sample was reviewed using quality control (QC) criteria documented in the analytical method, USATHAMA PAM 11-41, and *National Functional Guidelines* (U.S. EPA, 1994). The sample was collected on November 30, 1995, and was analyzed by DataChem.

## TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

Technical Holding Times
Initial Calibration
Initial and Continuing Calibration Verification
Blanks (Method, ICB, CCB, Equipment)
* Laboratory Control Sample Analyses
Certified Reporting Limits (CRL)

Those items marked with an asterisk (*) did not meet all specified QC criteria and are discussed below. QC items not marked with an asterisk meet all QC criteria.

### Laboratory Control Sample Analyses

The percent recovery (%R) value for one high spike analysis (104.8%) was slightly greater than the control limits of 98.4% to 103.0%. As the %R values were acceptable for two other laboratory control sample (LCS) analyses, no qualifiers were assigned on the basis of LCS results.

### Overall Assessment

On the basis of this evaluation, the laboratory followed the specified method.

Precision was acceptable, as demonstrated by the relative percent difference (RPD) values of the LCS analyses. Accuracy was acceptable, as demonstrated by most of the LCS %R values being within control limits.

All data, as reported, are acceptable for use.

# APPENDIX A

# DATA QUALIFIER SUMMARY TABLE

# DATA QUALIFIER SUMMARY TABLE
# FOR BACKGROUND AND FIELD BLANK SAMPLES

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AVZD | 3ER-67 | 005 UC04285 | WATER | SD25 | SE | LT 2.53 | | UJ-10 | UGL |
| AVZD | 3ER-68 | 006 UC04286 | WATER | SD25 | SE | LT 2.53 | | UJ-10 | UGL |
| AVZD | 3ER-69 | 007 UC04349 | WATER | SD25 | SE | LT 2.53 | | UJ-10 | UGL |
| AVRT | 3ER-70 | 005 UC04459 | WATER | UW27 | NG | LT 1.49 | | UJ-5B | UGL |
| AVRT | 3ER-70 | 005 UC04459 | WATER | UW27 | PETN | LT 2.00 | | UJ-5B | UGL |
| AVSI | 3ER-70 | 002 UC04463 | WATER | UM25 | 46DN2C | ND 50.0 | R | UJ-5A | UGL |
| AVSI | 3ER-70 | 002 UC04463 | WATER | UM25 | ANIL | ND 2.00 | R | R-5A | UGL |
| AVSI | 3ER-70 | 002 UC04463 | WATER | UM25 | BENZID | ND 2.00 | R | R-5A, 5B | UGL |
| AVSI | 3ER-70 | 002 UC04463 | WATER | UM25 | KEP | ND 20.0 | R | UJ-5A | UGL |
| AVSI | 3ER-70 | 002 UC04463 | WATER | UM25 | PCB016 | ND 9.10 | R | R-5A, 5B | UGL |
| AVSI | 3ER-70 | 002 UC04463 | WATER | UM25 | PCB221 | ND 9.10 | R | R-5A, 5B | UGL |
| AVSI | 3ER-70 | 002 UC04463 | WATER | UM25 | PCB232 | ND 9.10 | R | R-5A, 5B | UGL |
| AVSI | 3ER-70 | 002 UC04463 | WATER | UM25 | PCB242 | ND 9.10 | R | R-5A, 5B | UGL |
| AVSI | 3ER-70 | 002 UC04463 | WATER | UM25 | PCB248 | ND 9.10 | R | R-5A, 5B | UGL |
| AVSI | 3ER-70 | 002 UC04463 | WATER | UM25 | PCB254 | ND 9.10 | R | R-5A, 5B | UGL |
| AVSI | 3ER-70 | 002 UC04463 | WATER | UM25 | PCB260 | ND 13.0 | R | R-5A, 5B | UGL |
| AVSI | 3ER-70 | 002 UC04463 | WATER | UM25 | PCP | LT 9.10 | | UJ-5A | UGL |
| AVSI | 3ER-70 | 002 UC04463 | WATER | UM25 | TXPHEN | ND 17.0 | R | R-5A, 5B | UGL |
| AVZD | 3FB-P | 008 UC04353 | WATER | SD25 | SE | LT 2.53 | | UJ-10 | UGL |
| AWKZ | BKS-95-06 | 039 UC04345 | SOIL | 8290 | 678HPD | 0.00000655 | B | U-7 | UGG |
| AWKZ | BKS-95-06 | 039 UC04345 | SOIL | 8290 | 678HPF | 0.0000221 | B | U-7 | UGG |
| AWKZ | BKS-95-06 | 039 UC04345 | SOIL | 8290 | 78HXDF | 0.00000762 | B | U-7 | UGG |
| AWKZ | BKS-95-06 | 039 UC04345 | SOIL | 8290 | OCDD | 0.0000301 | B | U-7 | UGG |
| AWKZ | BKS-95-07 | 040 UC04346 | SOIL | 8290 | 678HPF | 0.0000221 | B | U-7 | UGG |
| AWKZ | BKS-95-07 | 040 UC04346 | SOIL | 8290 | 78HXDF | 0.00000457 | B | U-7 | UGG |
| AWKZ | BKS-95-08 | 041 UC04347 | SOIL | 8290 | 678HPD | 0.00000352 | B | U-7 | UGG |
| AWKZ | BKS-95-08 | 041 UC04347 | SOIL | 8290 | 678HPF | 0.00000511 | B | U-7 | UGG |
| AWKZ | BKS-95-08 | 041 UC04347 | SOIL | 8290 | OCDD | 0.0000266 | B | U-7 | UGG |
| AWKZ | BKS-95-09 | 042 UC04348 | SOIL | 8290 | 678HPD | 0.00000320 | B | U-7 | UGG |
| AWKZ | BKS-95-09 | 042 UC04348 | SOIL | 8290 | 678HPF | 0.00000333 | B | U-7 | UGG |
| AWKZ | BKS-95-09 | 042 UC04348 | SOIL | 8290 | 78HXDF | 0.00000166 | JPB | U-7 | UGG |
| AWKZ | BKS-95-09 | 042 UC04348 | SOIL | 8290 | OCDD | 0.0000186 | B | U-7 | UGG |

# DATA QUALIFIER SUMMARY TABLE
# FOR SWMU 40

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AVSY | ARB-95-01B | 004 UC04402 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| AVSY | ARB-95-01B | 004 UC04402 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| AVSY | ARB-95-01B | 004 UC04402 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-01B | 004 UC04402 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| AVSY | ARB-95-01B | 004 UC04402 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| AVSY | ARB-95-01B | 004 UC04402 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-01B | 004 UC04402 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-01B | 004 UC04402 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-01B | 004 UC04402 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-01B | 004 UC04402 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-01B | 004 UC04402 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| AVSY | ARB-95-01B | 004 UC04402 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| AVSY | ARB-95-01B | 004 UC04402 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| AVSY | ARB-95-01B | 004 UC04402 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| AVSY | ARB-95-01B | 004 UC04402 | SOIL | LM25 | UNK562 | 10.0 | SB | R-7 | UGG |
| AVSY | ARB-95-01B | 004 UC04402 | SOIL | LM25 | UNK642 | 0.700 | SB | R-7 | UGG |
| AVVU | ARB-95-01B | 006 UC04399 | SOIL | LF05 | NC | 87.3 | | R-7,8 | UGG |
| AWBI | ARB-95-01B | 004 UC04401 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| AVSY | ARB-95-02B | 020 UC04465 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| AVSY | ARB-95-02B | 020 UC04465 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| AVSY | ARB-95-02B | 020 UC04465 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-02B | 020 UC04465 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| AVSY | ARB-95-02B | 020 UC04465 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| AVSY | ARB-95-02B | 020 UC04465 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-02B | 020 UC04465 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-02B | 020 UC04465 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-02B | 020 UC04465 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-02B | 020 UC04465 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-02B | 020 UC04465 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| AVSY | ARB-95-02B | 020 UC04465 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| AVSY | ARB-95-02B | 020 UC04465 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| AVSY | ARB-95-02B | 020 UC04465 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| AVSY | ARB-95-02B | 020 UC04465 | SOIL | LM25 | UNK562 | 7.00 | SB | R-7 | UGG |
| AVSY | ARB-95-02B | 020 UC04465 | SOIL | LM25 | UNK642 | 0.500 | SB | R-7 | UGG |
| AVVU | ARB-95-02B | 008 UC04407 | SOIL | LF05 | NC | 88.4 | | R-7,8 | UGG |
| AWBI | ARB-95-02B | 006 UC04409 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| AVSY | ARB-95-03B | 007 UC04417 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| AVSY | ARB-95-03B | 007 UC04417 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| AVSY | ARB-95-03B | 007 UC04417 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |

# DATA QUALIFIER SUMMARY TABLE
# FOR SWMU 40

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AVSY | ARB-95-03B | 007 UC04417 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| AVSY | ARB-95-03B | 007 UC04417 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| AVSY | ARB-95-03B | 007 UC04417 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-03B | 007 UC04417 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-03B | 007 UC04417 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-03B | 007 UC04417 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-03B | 007 UC04417 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-03B | 007 UC04417 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| AVSY | ARB-95-03B | 007 UC04417 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| AVSY | ARB-95-03B | 007 UC04417 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| AVSY | ARB-95-03B | 007 UC04417 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| AVSY | ARB-95-03B | 007 UC04417 | SOIL | LM25 | UNK563 | 10.0 | SB | R-7 | UGG |
| AVSY | ARB-95-03B | 007 UC04417 | SOIL | LM25 | UNK642 | 0.300 | SB | R-7 | UGG |
| AVVU | ARB-95-03B | 010 UC04414 | SOIL | LF05 | NC | 173 | | R-7,8 | UGG |
| AWBI | ARB-95-03B | 008 UC04416 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| AVSY | ARB-95-04B | 009 UC04425 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| AVSY | ARB-95-04B | 009 UC04425 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| AVSY | ARB-95-04B | 009 UC04425 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-04B | 009 UC04425 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| AVSY | ARB-95-04B | 009 UC04425 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| AVSY | ARB-95-04B | 009 UC04425 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-04B | 009 UC04425 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-04B | 009 UC04425 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-04B | 009 UC04425 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-04B | 009 UC04425 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-04B | 009 UC04425 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| AVSY | ARB-95-04B | 009 UC04425 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| AVSY | ARB-95-04B | 009 UC04425 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| AVSY | ARB-95-04B | 009 UC04425 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| AVSY | ARB-95-04B | 009 UC04425 | SOIL | LM25 | UNK562 | 5.00 | SB | R-7 | UGG |
| AVSY | ARB-95-04B | 009 UC04425 | SOIL | LM25 | UNK642 | 0.500 | SB | R-7 | UGG |
| AVVU | ARB-95-04B | 012 UC04422 | SOIL | LF05 | NC | 149 | | R-7,8 | UGG |
| AWBI | ARB-95-04B | 010 UC04424 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| AVSY | ARB-95-05B | 011 UC04433 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| AVSY | ARB-95-05B | 011 UC04433 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| AVSY | ARB-95-05B | 011 UC04433 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-05B | 011 UC04433 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| AVSY | ARB-95-05B | 011 UC04433 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| AVSY | ARB-95-05B | 011 UC04433 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |

# DATA QUALIFIER SUMMARY TABLE
# FOR SWMU 40

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AVSY | ARB-95-05B | 011 UC04433 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-05B | 011 UC04433 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-05B | 011 UC04433 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-05B | 011 UC04433 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARB-95-05B | 011 UC04433 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| AVSY | ARB-95-05B | 011 UC04433 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| AVSY | ARB-95-05B | 011 UC04433 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| AVSY | ARB-95-05B | 011 UC04433 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| AVSY | ARB-95-05B | 011 UC04433 | SOIL | LM25 | UNK562 | 10.0 | SB | R-7 | UGG |
| AVSY | ARB-95-05B | 011 UC04433 | SOIL | LM25 | UNK642 | 0.500 | SB | R-7 | UGG |
| AVVU | ARB-95-05B | 014 UC04430 | SOIL | LF05 | NC | 144 | | R-7,8 | UGG |
| AWBI | ARB-95-05B | 012 UC04432 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| AVRR | ARS-95-01 | 005 UC04396 | SOIL | LW30 | NQ | 0.0807 | | J-5A | UGG |
| AVSY | ARS-95-01 | 003 UC04398 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| AVSY | ARS-95-01 | 003 UC04398 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| AVSY | ARS-95-01 | 003 UC04398 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-01 | 003 UC04398 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| AVSY | ARS-95-01 | 003 UC04398 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| AVSY | ARS-95-01 | 003 UC04398 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-01 | 003 UC04398 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-01 | 003 UC04398 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-01 | 003 UC04398 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-01 | 003 UC04398 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-01 | 003 UC04398 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| AVSY | ARS-95-01 | 003 UC04398 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| AVSY | ARS-95-01 | 003 UC04398 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| AVSY | ARS-95-01 | 003 UC04398 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| AVSY | ARS-95-01 | 003 UC04398 | SOIL | LM25 | UNK562 | 7.00 | SB | R-7 | UGG |
| AVSY | ARS-95-01 | 003 UC04398 | SOIL | LM25 | UNK642 | 0.600 | SB | R-7 | UGG |
| AVVU | ARS-95-01 | 005 UC04395 | SOIL | LF05 | NC | 152 | | R-7,8 | UGG |
| AWBI | ARS-95-01 | 003 UC04397 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| AVSY | ARS-95-02 | 005 UC04406 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| AVSY | ARS-95-02 | 005 UC04406 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| AVSY | ARS-95-02 | 005 UC04406 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-02 | 005 UC04406 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| AVSY | ARS-95-02 | 005 UC04406 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| AVSY | ARS-95-02 | 005 UC04406 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-02 | 005 UC04406 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-02 | 005 UC04406 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |

# DATA QUALIFIER SUMMARY TABLE
# FOR SWMU 40

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AVSY | ARS-95-02 | 005 UC04406 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-02 | 005 UC04406 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-02 | 005 UC04406 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| AVSY | ARS-95-02 | 005 UC04406 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| AVSY | ARS-95-02 | 005 UC04406 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| AVSY | ARS-95-02 | 005 UC04406 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| AVSY | ARS-95-02 | 005 UC04406 | SOIL | LM25 | UNK562 | 6.00 | SB | R-7 | UGG |
| AVSY | ARS-95-02 | 005 UC04406 | SOIL | LM25 | UNK642 | 0.600 | SB | R-7 | UGG |
| AVVU | ARS-95-02 | 007 UC04403 | SOIL | LF05 | NC | 144 | | R-7,8 | UGG |
| AWBI | ARS-95-02 | 005 UC04405 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| AVSY | ARS-95-03 | 006 UC04413 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| AVSY | ARS-95-03 | 006 UC04413 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| AVSY | ARS-95-03 | 006 UC04413 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-03 | 006 UC04413 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| AVSY | ARS-95-03 | 006 UC04413 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| AVSY | ARS-95-03 | 006 UC04413 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-03 | 006 UC04413 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-03 | 006 UC04413 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-03 | 006 UC04413 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-03 | 006 UC04413 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-03 | 006 UC04413 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| AVSY | ARS-95-03 | 006 UC04413 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| AVSY | ARS-95-03 | 006 UC04413 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| AVSY | ARS-95-03 | 006 UC04413 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| AVSY | ARS-95-03 | 006 UC04413 | SOIL | LM25 | UNK562 | 7.00 | SB | R-7 | UGG |
| AVSY | ARS-95-03 | 006 UC04413 | SOIL | LM25 | UNK642 | 0.700 | SB | R-7 | UGG |
| AVVU | ARS-95-03 | 009 UC04410 | SOIL | LF05 | NC | 172 | | R-7,8 | UGG |
| AWBI | ARS-95-03 | 007 UC04412 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| AVSY | ARS-95-04 | 008 UC04421 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| AVSY | ARS-95-04 | 008 UC04421 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| AVSY | ARS-95-04 | 008 UC04421 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-04 | 008 UC04421 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| AVSY | ARS-95-04 | 008 UC04421 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| AVSY | ARS-95-04 | 008 UC04421 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-04 | 008 UC04421 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-04 | 008 UC04421 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-04 | 008 UC04421 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-04 | 008 UC04421 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-04 | 008 UC04421 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |

# DATA QUALIFIER SUMMARY TABLE
# FOR SWMU 40

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AVSY | ARS-95-04 | 008 UC04421 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| AVSY | ARS-95-04 | 008 UC04421 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| AVSY | ARS-95-04 | 008 UC04421 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| AVSY | ARS-95-04 | 008 UC04421 | SOIL | LM25 | UNK562 | 6.00 | SB | R-7 | UGG |
| AVSY | ARS-95-04 | 008 UC04421 | SOIL | LM25 | UNK642 | 0.800 | SB | R-7 | UGG |
| AVVU | ARS-95-04 | 011 UC04418 | SOIL | LF05 | NC | 63.9 | | R-7,8 | UGG |
| AWBI | ARS-95-04 | 009 UC04420 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| AVRR | ARS-95-05 | 013 UC04427 | SOIL | LW30 | NQ | 0.209 | | J-5A | UGG |
| AVSY | ARS-95-05 | 010 UC04429 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| AVSY | ARS-95-05 | 010 UC04429 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| AVSY | ARS-95-05 | 010 UC04429 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-05 | 010 UC04429 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| AVSY | ARS-95-05 | 010 UC04429 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| AVSY | ARS-95-05 | 010 UC04429 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-05 | 010 UC04429 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-05 | 010 UC04429 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-05 | 010 UC04429 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-05 | 010 UC04429 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-05 | 010 UC04429 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| AVSY | ARS-95-05 | 010 UC04429 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| AVSY | ARS-95-05 | 010 UC04429 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| AVSY | ARS-95-05 | 010 UC04429 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| AVSY | ARS-95-05 | 010 UC04429 | SOIL | LM25 | UNK563 | 20.0 | SB | R-7 | UGG |
| AVSY | ARS-95-05 | 010 UC04429 | SOIL | LM25 | UNK642 | 0.400 | SB | R-7 | UGG |
| AVVU | ARS-95-05 | 013 UC04426 | SOIL | LF05 | NC | 180 | | R-7,8 | UGG |
| AWBI | ARS-95-05 | 011 UC04428 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| AVSY | ARS-95-06 | 012 UC04437 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| AVSY | ARS-95-06 | 012 UC04437 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| AVSY | ARS-95-06 | 012 UC04437 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-06 | 012 UC04437 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| AVSY | ARS-95-06 | 012 UC04437 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| AVSY | ARS-95-06 | 012 UC04437 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-06 | 012 UC04437 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-06 | 012 UC04437 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-06 | 012 UC04437 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-06 | 012 UC04437 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-06 | 012 UC04437 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| AVSY | ARS-95-06 | 012 UC04437 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| AVSY | ARS-95-06 | 012 UC04437 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |

## DATA QUALIFIER SUMMARY TABLE
## FOR SWMU 40

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AVSY | ARS-95-06 | 012 UC04437 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| AVSY | ARS-95-06 | 012 UC04437 | SOIL | LM25 | UNK562 | 5.00 | SB | R-7 | UGG |
| AVSY | ARS-95-06 | 012 UC04437 | SOIL | LM25 | UNK642 | 0.500 | SB | R-7 | UGG |
| AVVU | ARS-95-06 | 015 UC04434 | SOIL | LF05 | NC | 162 | | R-7,8 | UGG |
| AWBI | ARS-95-06 | 013 UC04436 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| AVSY | ARS-95-07 | 013 UC04441 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| AVSY | ARS-95-07 | 013 UC04441 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| AVSY | ARS-95-07 | 013 UC04441 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-07 | 013 UC04441 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| AVSY | ARS-95-07 | 013 UC04441 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| AVSY | ARS-95-07 | 013 UC04441 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-07 | 013 UC04441 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-07 | 013 UC04441 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-07 | 013 UC04441 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-07 | 013 UC04441 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-07 | 013 UC04441 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| AVSY | ARS-95-07 | 013 UC04441 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| AVSY | ARS-95-07 | 013 UC04441 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| AVSY | ARS-95-07 | 013 UC04441 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| AVSY | ARS-95-07 | 013 UC04441 | SOIL | LM25 | UNK562 | 9.00 | SB | R-7 | UGG |
| AVSY | ARS-95-07 | 013 UC04441 | SOIL | LM25 | UNK642 | 0.800 | SB | R-7 | UGG |
| AVVU | ARS-95-07 | 016 UC04438 | SOIL | LF05 | NC | 140 | | R-7,8 | UGG |
| AWBI | ARS-95-07 | 014 UC04440 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| AVSY | ARS-95-08 | 014 UC04445 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| AVSY | ARS-95-08 | 014 UC04445 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| AVSY | ARS-95-08 | 014 UC04445 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-08 | 014 UC04445 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| AVSY | ARS-95-08 | 014 UC04445 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| AVSY | ARS-95-08 | 014 UC04445 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-08 | 014 UC04445 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-08 | 014 UC04445 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-08 | 014 UC04445 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-08 | 014 UC04445 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-08 | 014 UC04445 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| AVSY | ARS-95-08 | 014 UC04445 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| AVSY | ARS-95-08 | 014 UC04445 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| AVSY | ARS-95-08 | 014 UC04445 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| AVSY | ARS-95-08 | 014 UC04445 | SOIL | LM25 | UNK562 | 6.00 | SB | R-7 | UGG |
| AVSY | ARS-95-08 | 014 UC04445 | SOIL | LM25 | UNK642 | 0.400 | SB | R-7 | UGG |

# DATA QUALIFIER SUMMARY TABLE
# FOR SWMU 40

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AVVU | ARS-95-08 | 017 UC04442 | SOIL | LF05 | NC | 121 | | R-7,8 | UGG |
| AWBI | ARS-95-08 | 015 UC04444 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| AVRR | ARS-95-09 | 018 UC04447 | SOIL | LW30 | NQ | 0.350 | | J-5A | UGG |
| AVSY | ARS-95-09 | 015 UC04449 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| AVSY | ARS-95-09 | 015 UC04449 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| AVSY | ARS-95-09 | 015 UC04449 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-09 | 015 UC04449 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| AVSY | ARS-95-09 | 015 UC04449 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| AVSY | ARS-95-09 | 015 UC04449 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-09 | 015 UC04449 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-09 | 015 UC04449 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-09 | 015 UC04449 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-09 | 015 UC04449 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-09 | 015 UC04449 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| AVSY | ARS-95-09 | 015 UC04449 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| AVSY | ARS-95-09 | 015 UC04449 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| AVSY | ARS-95-09 | 015 UC04449 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| AVSY | ARS-95-09 | 015 UC04449 | SOIL | LM25 | UNK562 | 7.00 | SB | R-7 | UGG |
| AVSY | ARS-95-09 | 015 UC04449 | SOIL | LM25 | UNK642 | 0.500 | SB | R-7 | UGG |
| AVVU | ARS-95-09 | 018 UC04446 | SOIL | LF05 | NC | 97.3 | | R-7,8 | UGG |
| AWBI | ARS-95-09 | 016 UC04448 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| AVRR | ARS-95-10 | 019 UC04451 | SOIL | LW30 | NQ | 0.148 | | J-5A | UGG |
| AVSY | ARS-95-10 | 016 UC04453 | SOIL | LM25 | 46DN2C | LT 0.800 | | UJ-5A | UGG |
| AVSY | ARS-95-10 | 016 UC04453 | SOIL | LM25 | ANIL | ND 0.130 | R | R-5A | UGG |
| AVSY | ARS-95-10 | 016 UC04453 | SOIL | LM25 | BENZID | ND 0.130 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-10 | 016 UC04453 | SOIL | LM25 | KEP | ND 1.30 | R | UJ-5A | UGG |
| AVSY | ARS-95-10 | 016 UC04453 | SOIL | LM25 | PCB016 | LT 0.320 | | R-5A, 5B | UGG |
| AVSY | ARS-95-10 | 016 UC04453 | SOIL | LM25 | PCB221 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-10 | 016 UC04453 | SOIL | LM25 | PCB232 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-10 | 016 UC04453 | SOIL | LM25 | PCB242 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-10 | 016 UC04453 | SOIL | LM25 | PCB248 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-10 | 016 UC04453 | SOIL | LM25 | PCB254 | ND 0.320 | R | R-5A, 5B | UGG |
| AVSY | ARS-95-10 | 016 UC04453 | SOIL | LM25 | PCB260 | LT 0.790 | | R-5A, 5B | UGG |
| AVSY | ARS-95-10 | 016 UC04453 | SOIL | LM25 | PCB262 | LT 6.30 | | R-5A, 5B | UGG |
| AVSY | ARS-95-10 | 016 UC04453 | SOIL | LM25 | PCP | LT 0.760 | | UJ-5A | UGG |
| AVSY | ARS-95-10 | 016 UC04453 | SOIL | LM25 | TXPHEN | LT 12.0 | | R-5A, 5B | UGG |
| AVSY | ARS-95-10 | 016 UC04453 | SOIL | LM25 | UNK562 | 5.00 | SB | R-7 | UGG |
| AVSY | ARS-95-10 | 016 UC04453 | SOIL | LM25 | UNK642 | 0.600 | SB | R-7 | UGG |
| AVVU | ARS-95-10 | 019 UC04450 | SOIL | LF05 | NC | 148 | | R-7,8 | UGG |

## DATA QUALIFIER SUMMARY TABLE
## FOR SWMU 40

8909-10

| Lot | Site ID | Lab ID | Matrix | Method | Analyte | Conc. | Lab Qualifier | DV Qualifier | Units |
|---|---|---|---|---|---|---|---|---|---|
| AWBI | ARS-95-10 | 017 UC04452 | SOIL | PRCL | CLO4 | LT 5.00 | | UJ-8 | UGG |
| AVRR | ARS-95-11 | 020 UC04455 | SOIL | LW30 | NQ | 0.235 | D | J-5A | UGG |
| AVSY | ARS-95-11 | 017 UC04457 | SOIL | LM25 | 46DN2C | LT 0.800 | D | UJ-5A | UGG |
| AVSY | ARS-95-11 | 017 UC04457 | SOIL | LM25 | ANIL | ND 0.130 | RD | R-5A | UGG |
| AVSY | ARS-95-11 | 017 UC04457 | SOIL | LM25 | BENZID | ND 0.130 | RD | R-5A, 5B | UGG |
| AVSY | ARS-95-11 | 017 UC04457 | SOIL | LM25 | KEP | ND 1.30 | RD | UJ-5A | UGG |
| AVSY | ARS-95-11 | 017 UC04457 | SOIL | LM25 | PCB016 | LT 0.320 | D | R-5A, 5B | UGG |
| AVSY | ARS-95-11 | 017 UC04457 | SOIL | LM25 | PCB221 | ND 0.320 | RD | R-5A, 5B | UGG |
| AVSY | ARS-95-11 | 017 UC04457 | SOIL | LM25 | PCB232 | ND 0.320 | RD | R-5A, 5B | UGG |
| AVSY | ARS-95-11 | 017 UC04457 | SOIL | LM25 | PCB242 | ND 0.320 | RD | R-5A, 5B | UGG |
| AVSY | ARS-95-11 | 017 UC04457 | SOIL | LM25 | PCB248 | ND 0.320 | RD | R-5A, 5B | UGG |
| AVSY | ARS-95-11 | 017 UC04457 | SOIL | LM25 | PCB254 | ND 0.320 | RD | R-5A, 5B | UGG |
| AVSY | ARS-95-11 | 017 UC04457 | SOIL | LM25 | PCB260 | LT 0.790 | D | R-5A, 5B | UGG |
| AVSY | ARS-95-11 | 017 UC04457 | SOIL | LM25 | PCB262 | LT 6.30 | D | R-5A, 5B | UGG |
| AVSY | ARS-95-11 | 017 UC04457 | SOIL | LM25 | PCP | LT 0.760 | D | UJ-5A | UGG |
| AVSY | ARS-95-11 | 017 UC04457 | SOIL | LM25 | TXPHEN | LT 12.0 | D | R-5A, 5B | UGG |
| AVSY | ARS-95-11 | 017 UC04457 | SOIL | LM25 | UNK562 | 10.0 | SBD | R-7 | UGG |
| AVSY | ARS-95-11 | 017 UC04457 | SOIL | LM25 | UNK642 | 0.900 | SBD | R-7 | UGG |
| AVVU | ARS-95-11 | 020 UC04454 | SOIL | LF05 | NC | 111 | D | R-7,8 | UGG |
| AWBI | ARS-95-11 | 018 UC04456 | SOIL | PRCL | CLO4 | LT 5.00 | D | UJ-8 | UGG |

**APPENDIX B**

# DATA QUALIFIER REASON CODES

# DATA QUALIFIER REASON CODES

| | |
|---|---|
| 1 | Holding Times |
| 2 | Sample Preservation |
| 3 | Sample Custody |
| 4 | Missing Deliverables |
| 5A | Calibration (initial) |
| 5B | Calibration (continuing) |
| 6 | Field Blanks |
| 7 | Laboratory Blanks |
| 8 | Matrix Spike |
| 9 | Precision (Duplicate, or Matrix Spike Duplicate) |
| 10 | Laboratory Control Sample |
| 11 | Detection Limit |
| 12 | Standards |
| 13 | Surrogates |
| 14 | Other |
| 15 | Furnace QC |
| 16 | ICP Serial Dilution |
| 17 | Chemical Recoveries |
| 18 | Trip Blanks |
| 19 | Internal Standards |
| 20 | Linear Range Exceeded |
| 21 | Potential False Positives |

# Summary of

# Qualified Data Based on

# EPA Functional Guidelines

# Contents


| | Page |
|---|---|
| SWMU 6 | 1 |
| SWMU 7 | 30 |
| SWMU 8 | 46 |
| SWMU 13 | 63 |
| SWMU 22 | 69 |
| SWMU 23 | 76 |
| SWMU 31 | 94 |
| SWMU 32 | 98 |
| SWMU 35 | 104 |
| SWMU 36 | 115 |
| SWMU 40 | 124 |

## *Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

### *Surface Soil*

| Group | Analytes | OBS-92-101 0 ft | | OBS-92-201 0 ft | | OBS-92-301 0 ft | | OBS-92-401 0 ft | | OBS-92-G01 0 ft | | OBS-92-G02 0 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | 6 | | 3.36 | U | 3.36 | U | 2.67 | U | 11.4 | | 3.52 | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 0.744 | U | 0.744 | U | 0.744 | U | 0.744 | U | 0.744 | U | 1.73 | |
| | 2,4,6-TRINITROTOLUENE | 0.931 | U | 0.931 | U | 0.931 | U | 0.931 | U | 0.931 | U | 0.931 | U |
| | 2,6-DINITROTOLUENE | 0.83 | U | 0.83 | U | 0.83 | U | 0.83 | U | 0.83 | U | 0.83 | U |
| | RDX | 0.445 | U | 0.445 | U | 0.445 | U | 0.445 | U | 0.445 | U | 8.36 | |
| METALS | ALUMINUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ANTIMONY | 34 | U | 34 | U | 34 | U | 34 | U | 34 | U | 34 | U |
| | ARSENIC | 240 | U | 24 | U | 48 | U | 240 | U | 240 | U | 24 | U |
| | BARIUM | 130 | | 380 | | 120 | | 160 | | 180 | | 160 | |
| | BERYLLIUM | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U |
| | BORON | NA | | NA | | NA | | NA | | NA | | NA | |
| | CADMIUM | 0.424 | U | 10 | | 0.424 | U | 0.424 | U | 0.424 | U | 0.424 | U |
| | CALCIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | CHROMIUM | 12.9 | | 28.1 | | 16.7 | | 12.3 | | 17.1 | | 10.5 | |
| | COBALT | NA | | NA | | NA | | NA | | NA | | NA | |
| | COPPER | 33 | | 200 | | 13.9 | | 27 | | 53 | | 30 | |
| | IRON | 15000 | | 39000 | | 15000 | | 11000 | | 20000 | | 12000 | |
| | LEAD | 46 | | 12000 | | 16 | | 22 | | 70 | | 35 | |
| | MAGNESIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | MANGANESE | NA | | NA | | NA | | NA | | NA | | NA | |
| | MERCURY | 0.25 | | 0.0259 | U | 0.0259 | U | 0.0279 | | 0.0486 | | 0.0259 | U |
| | NICKEL | 2.46 | U | 8.82 | | 2.46 | U | 2.46 | U | 2.46 | U | 2.46 | U |
| | POTASSIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | SILVER | 0.0853 | | 1.2 | | 0.0612 | | 0.0773 | | 0.187 | | 0.104 | |
| | SODIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | VANADIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ZINC | 130 | | 880 | | 43 | | 190 | | 200 | | 280 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | 0.39 | U | 0.39 | U | 0.39 | U | 0.75 | | 0.39 | U | 10 | |
| | 2,6-DINITROTOLUENE | 0.53 | U | 0.53 | U | 0.53 | U | 0.53 | U | 0.53 | U | 0.78 | |
| | BUTYLBENZYL PHTHALATE | 0.33 | UJ | 0.33 | UJ | 0.283 | | 0.09 | U | 0.18 | J | 0.33 | UJ |
| | DI-N-BUTYL PHTHALATE | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.21 | | 0.33 | UJ | 0.33 | UJ |
| | N-NITROSO DIPHENYLAMINE | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.051 | | 0.33 | UJ | 0.33 | UJ |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Surface Soil (continued)*

| Group | Analytes | OBS-92-G03 0 ft | | OBS-92-G04 0 ft | | OBS-92-G05 0.5 ft | | OBP-94-01A 0.5 ft | | OBP-94-02A 0.5 ft | | OBP-94-03A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | 3.17 | | 4.5 | | 2.76 | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 34 | | 3.64 | | 0.744 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 0.931 | U | 3.4 | | 0.931 | U | 2 | U | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 0.83 | U | 0.83 | U | 0.83 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 0.445 | U | 0.445 | U | 0.445 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| METALS | ALUMINUM | NA | | NA | | NA | | 17300 | | 12300 | | 6730 | |
| | ANTIMONY | 34 | U | 34 | U | 17 | U | 19.6 | U | 19.6 | UJ | 19.6 | UJ |
| | ARSENIC | 24 | U | 240 | U | 120 | U | 7.17 | | 2.68 | | 3.34 | |
| | BARIUM | 240 | | 230 | | 160 | | 344 | | 88 | | 44.1 | |
| | BERYLLIUM | 0.078 | U | 0.078 | U | 0.078 | U | 0.726 | | 0.549 | | 0.427 | U |
| | BORON | NA | | NA | | NA | | NA | | NA | | NA | |
| | CADMIUM | 0.424 | U | 0.424 | U | 0.424 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | NA | | NA | | NA | | 11800 | | 2220 | | 4460 | |
| | CHROMIUM | 11.8 | | 13.6 | | 12.4 | | 39.3 | | 14.8 | | 9.41 | |
| | COBALT | NA | | NA | | NA | | 6 | | 3.22 | | 2.5 | U |
| | COPPER | 35 | | 62 | | 14.8 | | 112 | | 11.6 | | 10.5 | |
| | IRON | 10000 | | 13000 | | 16000 | | 36500 | | 11500 | | 7190 | |
| | LEAD | 35 | | 43 | | 20 | | 1800 | | 109 | | 32.2 | |
| | MAGNESIUM | NA | | NA | | NA | | 6960 | | 3200 | | 1560 | |
| | MANGANESE | NA | | NA | | NA | | 488 | | 208 | | 21.2 | U |
| | MERCURY | 0.0259 | U | 0.0277 | | 0.0259 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 2.46 | U | 2.46 | U | 2.46 | U | 23.3 | | 7.83 | | 3.86 | |
| | POTASSIUM | NA | | NA | | NA | | 4820 | | 3230 | | 1720 | |
| | SILVER | 0.112 | | 0.128 | | 0.0818 | | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | NA | | NA | | NA | | 278 | | 174 | | 151 | |
| | VANADIUM | NA | | NA | | NA | | 27.8 | J | 17.7 | | 3.15 | U |
| | ZINC | 240 | | 240 | | 77 | | 641 | | 43 | | 45.9 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | 7 | | 4.5 | | 0.39 | U | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | 0.58 | | 0.53 | U | 0.53 | U | NA | | NA | | NA | |
| | BUTYLBENZYL PHTHALATE | 0.29 | | 0.19 | | 0.31 | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | NA | | NA | | NA | |
| | N-NITROSO DIPHENYLAMINE | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Surface Soil (continued)*

| Group | Analytes | OBP-94-04A 0.5 ft | | OBP-94-06A 0.5 ft | | OBP-94-07A 0.5 ft | | OBP-94-08A 0.5 ft | | OBP-94-09A 0.5 ft | | OBP-94-09A 0.5 ft (dup) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| METALS | ALUMINUM | 14600 | | 11500 | | 16700 | | 18400 | | 18700 | | 12100 | |
| | ANTIMONY | 19.6 | UJ | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U |
| | ARSENIC | 3.93 | | 3.6 | | 6.51 | | 3.53 | | 3.97 | | 5.08 | |
| | BARIUM | 205 | | 111 | | 364 | | 179 | | 158 | | 131 | |
| | BERYLLIUM | 0.575 | | 0.529 | | 0.669 | | 0.74 | | 0.735 | | 0.848 | |
| | BORON | NA | | NA | | NA | | NA | | NA | | NA | |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.59 | | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 4450 | | 3650 | | 30500 | | 7070 | | 12000 | | 10400 | |
| | CHROMIUM | 34.4 | | 13.2 | | 30.5 | | 20.6 | | 20 | | 12.9 | |
| | COBALT | 6.62 | | 3.46 | | 5.49 | | 4.66 | | 5.99 | | 5.98 | |
| | COPPER | 116 | | 17 | | 347 | | 81.9 | | 16.8 | | 16.7 | |
| | IRON | 21600 | | 12600 | | 26100 | | 16400 | | 16500 | | 13100 | |
| | LEAD | 394 | | 20.8 | | 982 | | 55.9 | | 9.36 | | 7.44 | U |
| | MAGNESIUM | 4060 | | 4340 | | 5440 | | 5860 | | 6580 | | 5590 | |
| | MANGANESE | 290 | | 320 | | 338 | | 390 | | 368 | | 345 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.102 | J | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 10.1 | | 8.57 | | 15.2 | | 8.94 | | 9.78 | | 8.98 | |
| | POTASSIUM | 4180 | | 3470 | | 4990 | | 5610 | | 5750 | | 3620 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 268 | | 119 | | 277 | | 236 | | 237 | | 222 | |
| | VANADIUM | 21.9 | | 3.56 | UJ | 26.6 | J | 26.4 | J | 27.3 | J | 17.7 | |
| | ZINC | 137 | | 50.1 | | 952 | | 177 | | 85.1 | | 75.2 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | BUTYLBENZYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | N-NITROSO DIPHENYLAMINE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Surface Soil (continued)*

| Group | Analytes | OBP-94-10A 0.5 ft | | OBP-94-12A 0.5 ft | | OBS-94-01 0.5 ft | | OBS-94-02 0.5 ft | | OBS-94-03 0.5 ft | | OBS-94-04 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| METALS | ALUMINUM | 9560 | | 12600 | | 16500 | | 16100 | | 14200 | | 15300 | |
| | ANTIMONY | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U |
| | ARSENIC | 34 | | 4.55 | | 4.81 | | 5 | | 4.77 | | 3.61 | |
| | BARIUM | 167 | | 113 | | 142 | | 152 | | 126 | | 120 | |
| | BERYLLIUM | 0.427 | U | 0.647 | | 0.767 | | 0.725 | | 0.674 | | 0.643 | |
| | BORON | NA | | NA | | NA | | NA | | NA | | NA | |
| | CADMIUM | 1.38 | | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 4010 | | 8210 | | 4150 | | 7330 | | 5110 | | 3720 | |
| | CHROMIUM | 26.1 | | 14 | | 17.4 | | 16.5 | | 15 | | 17.5 | |
| | COBALT | 6.64 | | 4.72 | | 5.32 | | 5.32 | | 4.88 | | 3.83 | |
| | COPPER | 38.7 | | 11.1 | | 17.5 | | 18.6 | | 13.6 | | 14.4 | |
| | IRON | 26800 | | 12900 | | 15500 | | 14600 | | 13700 | | 12500 | |
| | LEAD | 89.4 | | 7.44 | U | 12.3 | | 17.1 | | 11 | | 14.8 | |
| | MAGNESIUM | 3750 | | 6000 | | 7080 | | 7840 | | 6910 | | 5770 | |
| | MANGANESE | 485 | | 330 | | 419 | | 410 | | 351 | | 333 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 15.2 | | 9.71 | | 11.9 | | 11.4 | | 10.6 | | 9.04 | |
| | POTASSIUM | 3100 | | 3650 | | 4670 | | 4620 | | 3940 | | 4330 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 332 | | 239 | | 318 | | 328 | | 247 | | 318 | |
| | VANADIUM | 14.7 | | 17.4 | | 21.9 | | 20.5 | | 19 | | 20.9 | |
| | ZINC | 355 | | 41.1 | | 55.8 | | 53.9 | | 46 | | 43.1 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | BUTYLBENZYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | N-NITROSO DIPHENYLAMINE | NA | | NA | | NA | | NA | | NA | | NA | |

## *Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

### *Surface Soil (continued)*

| Group | Analytes | OBS-94-05 0.5 ft | | OBS-94-06 0.5 ft | | OBS-94-07 0.5 ft | | OBS-94-08 0.5 ft | | OBS-94-09 0.5 ft | | OBS-94-09 0.5 ft (dup) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| METALS | ALUMINUM | 18100 | | 11800 | | 12600 | | 11900 | | 11300 | | 8280 | |
| | ANTIMONY | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U |
| | ARSENIC | 5.13 | | 5.41 | | 5.14 | | 4.17 | | 3.5 | | 4.01 | |
| | BARIUM | 162 | | 104 | | 113 | | 107 | | 96.3 | | 86.2 | |
| | BERYLLIUM | 0.794 | | 0.548 | | 0.519 | | 0.495 | | 0.427 | U | 0.427 | U |
| | BORON | NA | | 14 | | NA | | NA | | NA | | NA | |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 4450 | | 32000 | | 3060 | | 3060 | | 2660 | | 2520 | |
| | CHROMIUM | 17.4 | | 13.9 | | 12.3 | | 12.5 | | 14.1 | | 9.15 | |
| | COBALT | 5.27 | | 3.08 | | 4.17 | | 4.49 | | 4.05 | | 2.9 | |
| | COPPER | 18.1 | | 15.5 | | 15 | | 20.2 | | 24.1 | | 18.2 | |
| | IRON | 16100 | | 11200 | | 11700 | | 11100 | | 9390 | | 8800 | |
| | LEAD | 19.4 | | 14.7 | | 16.7 | | 22.3 | | 31.4 | | 23.2 | |
| | MAGNESIUM | 7820 | | 9100 | | 4510 | | 4430 | | 3590 | | 3240 | |
| | MANGANESE | 449 | | 265 | | 330 | | 306 | | 262 | | 251 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 11.3 | | 9.73 | | 8.63 | | 7.42 | | 6.71 | | 6.18 | |
| | POTASSIUM | 5120 | | 3600 | | 3350 | | 3290 | | 3180 | | 2370 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 376 | | 247 | | 264 | | 250 | | 256 | | 178 | |
| | VANADIUM | 23.1 | | 16.5 | | 16.6 | | 15.5 | | 15.4 | | 2.21 | U |
| | ZINC | 55.6 | | 38.3 | | 41.2 | | 47.5 | | 51.5 | | 43.2 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | BUTYLBENZYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | N-NITROSO DIPHENYLAMINE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Surface Soil (continued)*

| Group | Analytes | OBS-94-10 0.5 ft | | OBS-94-11 0.5 ft | | OBS-94-12 0.5 ft | | OBS-94-13 0.5 ft | | OBS-94-14 0.5 ft | | OBS-94-15 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| METALS | ALUMINUM | 9380 | | 14800 | | 14800 | | 11.2 | U | 10200 | | 7970 | |
| | ANTIMONY | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U |
| | ARSENIC | 3.55 | | 4.77 | | 5.28 | | 17.6 | | 4.66 | | 10.2 | |
| | BARIUM | 87.1 | | 137 | | 134 | | 3.29 | U | 83.2 | | 87.8 | |
| | BERYLLIUM | 0.427 | U | 0.655 | | 0.606 | | 0.427 | U | 0.479 | | 0.427 | U |
| | BORON | NA | | NA | | NA | | NA | | NA | | NA | |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 2360 | | 3060 | | 3600 | | 25.3 | U | 2250 | | 5350 | |
| | CHROMIUM | 11.1 | | 13.8 | | 14.8 | | 1.04 | U | 9.37 | | 9.42 | |
| | COBALT | 3.86 | | 4.97 | | 4.4 | | 2.5 | U | 3.83 | | 2.73 | |
| | COPPER | 9.61 | | 16.8 | | 20.6 | | 2.84 | U | 20.3 | | 16.4 | |
| | IRON | 9850 | | 14200 | | 13600 | | 6.66 | U | 11000 | | 8270 | |
| | LEAD | 8.36 | | 12.2 | | 23.2 | | 7.44 | U | 21.3 | | 270 | |
| | MAGNESIUM | 3370 | | 5290 | | 5110 | | 10.1 | U | 3510 | | 3310 | |
| | MANGANESE | 278 | | 351 | | 365 | | 9.87 | U | 242 | | 206 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.304 | J | 0.05 | U | 0.05 | U |
| | NICKEL | 6.59 | | 10.4 | | 9.34 | | 2.74 | U | 8.39 | | 5.34 | |
| | POTASSIUM | 2510 | | 4010 | | 3970 | | 131 | U | 2670 | | 2250 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 161 | | 251 | | 347 | | 38.7 | U | 110 | | 156 | |
| | VANADIUM | 13.5 | | 18.6 | | 20.5 | | 1.41 | U | 13.5 | | 2.21 | U |
| | ZINC | 29.1 | | 221 | | 59.7 | | 10000 | GT | 44.3 | | 75.6 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | BUTYLBENZYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | N-NITROSO DIPHENYLAMINE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Surface Soil (continued)*

| Group | Analytes | OBS-94-16 0.5 ft | | OBS-94-17 0.5 ft | | OBS-94-18 0.5 ft | | OBS-94-19 0.5 ft | | OBS-94-19 0.5 ft (dup) | | OBS-94-20 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| METALS | ALUMINUM | 12100 | | 10500 | | 25000 | | 11600 | | 10500 | | 15900 | |
| | ANTIMONY | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U |
| | ARSENIC | 3.17 | | 5.03 | | 9.05 | | 5.52 | | 5.33 | | 4.34 | |
| | BARIUM | 93.8 | | 86.2 | | 247 | | 166 | | 152 | | 119 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 1.09 | | 0.513 | | 0.479 | | 0.642 | |
| | BORON | NA | | 21.7 | | NA | | NA | | NA | | NA | |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.8 | | 5.92 | | 6.98 | | 1.2 | U |
| | CALCIUM | 2660 | | 8090 | | 16100 | | 10300 | | 8380 | | 3230 | |
| | CHROMIUM | 12.7 | | 14.6 | | 23.2 | | 14.1 | | 12.8 | | 16.1 | |
| | COBALT | 3.4 | | 4.23 | | 7.75 | | 3.61 | | 4.33 | | 5.09 | |
| | COPPER | 12.5 | | 23 | | 76.9 | | 27.5 | | 29.2 | | 11.6 | |
| | IRON | 10400 | | 10000 | | 22500 | | 16200 | | 13200 | | 13600 | |
| | LEAD | 11.7 | | 106 | | 68.2 | | 35.5 | | 35.6 | | 7.44 | U |
| | MAGNESIUM | 3950 | | 3130 | | 9870 | | 5750 | | 5050 | | 4970 | |
| | MANGANESE | 270 | | 214 | | 555 | | 345 | | 337 | | 331 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.187 | J | 0.238 | J | 0.05 | U |
| | NICKEL | 6.42 | | 9.14 | | 17 | | 9.94 | | 9.66 | | 10.3 | |
| | POTASSIUM | 3530 | | 2420 | | 7260 | | 3260 | | 3030 | | 4490 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 211 | | 210 | | 314 | | 279 | | 234 | | 259 | |
| | VANADIUM | 15.5 | | 19.5 | | 30.3 | | 15.8 | | 14.1 | | 20.7 | |
| | ZINC | 35.9 | | 123 | | 173 | | 144 | | 117 | | 49 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | BUTYLBENZYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | N-NITROSO DIPHENYLAMINE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Surface Soil (continued)*

| Group | Analytes | OBS-94-21 0.5 ft | | OBS-94-22 0.5 ft | | OBS-94-23 0.5 ft | | OBS-94-24 0.5 ft | | OBS-94-25 0.5 ft | | OBS-94-26 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| METALS | ALUMINUM | 9770 | | 7710 | | 7430 | | 15600 | | 15100 | | 13200 | |
| | ANTIMONY | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U |
| | ARSENIC | 4.11 | | 4.36 | | 3.9 | | 6.78 | | 6.9 | | 6.23 | |
| | BARIUM | 121 | | 106 | | 796 | | 160 | | 141 | | 137 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.775 | | 0.691 | | 0.576 | |
| | BORON | NA | | NA | | NA | | NA | | NA | | NA | |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 3.52 | |
| | CALCIUM | 5590 | | 11800 | | 2600 | | 3630 | | 3340 | | 21600 | |
| | CHROMIUM | 11.6 | | 8.99 | | 8.6 | | 14.9 | | 14.4 | | 14 | |
| | COBALT | 3.39 | | 2.77 | | 2.5 | U | 5.8 | | 5.62 | | 4.16 | |
| | COPPER | 22.7 | | 16.1 | | 139 | | 18.1 | | 25.9 | | 23.4 | |
| | IRON | 10000 | | 8730 | | 8290 | | 16000 | | 14900 | | 12300 | |
| | LEAD | 18.6 | | 13.4 | | 44.1 | | 14 | | 26.5 | | 36.4 | |
| | MAGNESIUM | 3600 | | 3000 | | 2920 | | 6250 | | 5090 | | 5130 | |
| | MANGANESE | 271 | | 212 | | 228 | | 422 | | 413 | | 310 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 7.27 | | 7.28 | | 5.81 | | 11.4 | | 10.8 | | 9.08 | |
| | POTASSIUM | 2600 | | 2130 | | 2450 | | 4820 | | 4240 | | 3830 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 170 | | 161 | | 148 | | 241 | | 219 | | 207 | |
| | VANADIUM | 12.9 | | 11.6 | | 2.21 | U | 17.8 | | 17.6 | | 18.1 | |
| | ZINC | 286 | | 91.8 | | 597 | | 97.6 | | 97.9 | | 61.2 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | BUTYLBENZYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | N-NITROSO DIPHENYLAMINE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Surface Soil (continued)*

| Group | Analytes | OBS-94-27 0.5 ft | | OBS-94-28 0.5 ft | | OBS-94-29 0.5 ft | | OBS-94-30 0.5 ft | | OBS-94-31 0.5 ft | | OBS-94-32 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| METALS | ALUMINUM | 11200 | | 17700 | | 16100 | | 12000 | | 14100 | | 18000 | |
| | ANTIMONY | 19.6 | U | 19.6 | U | 19.6 | UR | 19.6 | UR | 19.6 | UR | 19.6 | UR |
| | ARSENIC | 5.54 | | 6.49 | | 3.11 | | 4.39 | | 5.86 | | 3.87 | |
| | BARIUM | 132 | | 154 | | 142 | | 106 | | 170 | | 185 | |
| | BERYLLIUM | 0.515 | | 0.819 | | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | BORON | NA | | NA | | NA | | NA | | NA | | NA | |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 6740 | | 4120 | | 4580 | | 3170 | | 5060 | | 10300 | |
| | CHROMIUM | 12.1 | | 17.2 | | 22.8 | | 13.3 | | 15.5 | | 18.6 | |
| | COBALT | 4.95 | | 6.24 | | 5.61 | | 4.53 | | 5.07 | | 6.4 | |
| | COPPER | 40.8 | | 20.7 | | 16.4 | | 15.9 | | 32.1 | | 20.6 | |
| | IRON | 13000 | | 17100 | | 16500 | | 12700 | | 14300 | | 17700 | |
| | LEAD | 71 | | 16.5 | | 33.8 | | 17.6 | | 33.2 | | 23.2 | |
| | MAGNESIUM | 4660 | | 6870 | | 4940 | | 3470 | | 4290 | | 7860 | |
| | MANGANESE | 334 | | 448 | | 471 | | 312 | | 394 | | 505 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 9.56 | | 12 | | 9.41 | | 7.28 | | 8.4 | | 10.7 | |
| | POTASSIUM | 3470 | | 5080 | | 4300 | | 2800 | | 3500 | | 5050 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 207 | | 265 | | 461 | | 427 | | 497 | | 654 | |
| | VANADIUM | 15.1 | | 21.3 | | 22.2 | | 16.4 | | 19.2 | | 22.7 | |
| | ZINC | 102 | | 56.7 | | 61.7 | | 48.2 | | 170 | | 78.5 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | BUTYLBENZYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | N-NITROSO DIPHENYLAMINE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Surface Soil (continued)*

| Group | Analytes | OBS-95-29 0.5 ft | | OBS-95-30 0.5 ft | | OBS-95-31 0.5 ft | | OBS-95-32 0.5 ft | | OBS-95-33 0.5 ft | | OBS-95-34 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| METALS | ALUMINUM | 10200 | | 13800 | | 11600 | | 7440 | | 17800 | | 13800 | |
| | ANTIMONY | 1.3 | | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U |
| | ARSENIC | 6.86 | J | 4.58 | J | 4.98 | J | 4.54 | J | 8.75 | J | 7.22 | J |
| | BARIUM | 138 | | 148 | | 134 | | 194 | | 576 | | 196 | |
| | BERYLLIUM | 0.494 | | 0.658 | | 0.585 | | 0.427 | U | 0.943 | | 0.76 | |
| | BORON | NA | | NA | | NA | | NA | | NA | | NA | |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.39 | | 1.2 | U |
| | CALCIUM | 2940 | | 3080 | | 3070 | | 2660 | | 8800 | | 5800 | |
| | CHROMIUM | 12.9 | J | 19.7 | J | 13.2 | J | 8.89 | J | 19.5 | J | 15.1 | J |
| | COBALT | 3.94 | | 5.77 | | 5.52 | | 3.01 | | 7.42 | | 6 | |
| | COPPER | 78.4 | | 22.7 | | 16.1 | | 24.9 | | 56.6 | | 20.6 | |
| | IRON | 11100 | | 18100 | | 14200 | | 11200 | | 20200 | | 16500 | |
| | LEAD | 78.5 | | 27 | | 15.5 | | 25.1 | | 60.4 | | 22.7 | |
| | MAGNESIUM | 3340 | | 4590 | | 4290 | | 3080 | | 9750 | | 8620 | |
| | MANGANESE | 340 | | 402 | | 379 | | 309 | | 673 | | 648 | |
| | MERCURY | 0.05 | UJ | 0.05 | UJ | 0.05 | UJ | 0.05 | UJ | 0.05 | UJ | 0.05 | UJ |
| | NICKEL | 7.27 | | 10.6 | | 10.2 | | 7.04 | | 13.6 | | 11 | |
| | POTASSIUM | 2810 | | 3550 | | 3250 | | 2220 | | 6000 | | 4990 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 137 | | 162 | | 130 | | 99.3 | | 232 | | 241 | |
| | VANADIUM | 15.7 | | 20.7 | | 16.8 | | 11.6 | | 23.8 | | 18.3 | |
| | ZINC | 69.4 | | 67.3 | | 65.8 | | 153 | | 408 | | 80.6 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | BUTYLBENZYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | N-NITROSO DIPHENYLAMINE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Surface Soil (continued)*

| Group | Analytes | OBS-95-34 0.5 ft (dup) | | OBS-95-39 0.5 ft | | OBS-95-40 0.5 ft | | OBS-95-41 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | NA | | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | NA | | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 2 | U | NA | | 2 | U | 2 | U |
| | RDX | 1.28 | U | NA | | 1.28 | U | 1.28 | U |
| METALS | ALUMINUM | 16400 | | 9450 | | 16700 | | 14900 | |
| | ANTIMONY | 1 | U | 3.26 | | 1 | U | 1.25 | |
| | ARSENIC | 6.27 | J | 5.57 | | 6 | J | 5.9 | J |
| | BARIUM | 196 | | 163 | | 181 | | 213 | |
| | BERYLLIUM | 0.904 | | 0.551 | | 0.813 | | 0.702 | |
| | BORON | NA | | NA | | NA | | NA | |
| | CADMIUM | 1.2 | U | 4.24 | | 1.2 | U | 1.2 | U |
| | CALCIUM | 5800 | | 3510 | | 5710 | | 7970 | |
| | CHROMIUM | 17.7 | J | 16.9 | | 19.1 | J | 17.1 | J |
| | COBALT | 6.05 | | 3.79 | | 5.98 | | 5.37 | |
| | COPPER | 19.9 | | 9900 | | 24.8 | | 33 | |
| | IRON | 18100 | | 13000 | | 17200 | | 15500 | |
| | LEAD | 21.2 | | 376 | | 31.7 | | 50.6 | |
| | MAGNESIUM | 9060 | | 3520 | | 7970 | | 7210 | |
| | MANGANESE | 649 | | 320 | | 578 | | 477 | |
| | MERCURY | 0.05 | UJ | 0.05 | UJ | 0.05 | UJ | 0.05 | UJ |
| | NICKEL | 12 | | 10.5 | | 11.2 | | 11 | |
| | POTASSIUM | 5610 | | 2950 | | 5260 | | 4670 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 262 | | 129 | | 243 | | 213 | |
| | VANADIUM | 21.8 | | 14.3 | | 24.3 | | 21 | |
| | ZINC | 78 | | 5700 | | 75.8 | | 76.3 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | |
| | BUTYLBENZYL PHTHALATE | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | |
| | N-NITROSO DIPHENYLAMINE | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Surface Soil (continued)*

| Group | Analytes | OBP-95-01A 0.5 ft | | OBP-95-02A 0.5 ft | | OBP-95-03A 0.5 ft | | OBP-95-04A 0.5 ft | | OBS-95-01 0.5 ft | | OBS-95-02 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIOXINS | 2,3,7,8-TCDD | 6.9E-07 | U | 3.4E-07 | U | 3.2E-06 | | 2.0E-06 | U | 1.1E-06 | U | 5.5E-07 | U |
| | 2,3,7,8-TCDF | 2.2E-06 | | 4.0E-07 | U | 3.9E-05 | | 1.4E-06 | | 1.2E-06 | | 7.3E-07 | |
| | 1,2,3,7,8-PeCDD | 6.0E-07 | U | 4.2E-07 | U | 1.2E-05 | | 2.7E-07 | U | 7.5E-07 | U | 3.3E-07 | U |
| | 1,2,3,7,8-PeCDF | 1.2E-06 | | 4.9E-07 | U | 6.2E-06 | | 3.2E-07 | U | 7.9E-07 | U | 2.9E-07 | U |
| | 2,3,4,7,8-PeCDF | 1.1E-06 | U | 5.3E-07 | U | 1.3E-05 | | 3.3E-07 | U | 8.4E-07 | U | 4.4E-07 | |
| | 1,2,3,4,7,8-HxCDD | 9.9E-07 | | 5.9E-07 | U | 9.8E-06 | | 2.7E-06 | U | 3.1E-06 | U | 7.8E-07 | U |
| | 1,2,3,6,7,8-HxCDD | 1.2E-06 | U | 4.8E-07 | U | 2.9E-05 | | 2.2E-06 | U | 1.8E-06 | U | 4.6E-07 | U |
| | 1,2,3,7,8,9-HxCDD | 2.3E-06 | | 5.3E-07 | U | 4.0E-05 | | 9.2E-07 | U | 2.4E-06 | U | 5.9E-07 | U |
| | 1,2,3,4,7,8-HxCDF | 6.0E-06 | U | 3.4E-07 | | 1.7E-05 | | 1.0E-06 | U | 2.0E-06 | U | 2.3E-06 | U |
| | 1,2,3,6,7,8-HxCDF | 1.6E-06 | | 3.7E-07 | U | 6.8E-06 | | 2.8E-07 | | 4.9E-07 | U | 7.4E-07 | |
| | 1,2,3,7,8,9-HxCDF | 1.9E-06 | | 5.7E-07 | U | 1.6E-06 | U | 1.4E-06 | U | 9.9E-07 | U | 6.7E-07 | |
| | 2,3,4,6,7,8-HxCDF | 7.9E-06 | | 3.3E-07 | U | 1.1E-05 | | 4.2E-07 | U | 7.0E-07 | U | 2.2E-06 | |
| | 1,2,3,4,6,7,8-HpCDD | 2.3E-05 | | 2.2E-06 | U | 3.6E-04 | | 2.0E-05 | | 1.4E-06 | U | 3.1E-06 | U |
| | 1,2,3,4,6,7,8-HpCDF | 3.2E-05 | | 2.1E-06 | U | 5.4E-05 | | 5.8E-06 | | 3.3E-06 | U | 6.8E-06 | U |
| | 1,2,3,4,7,8,9-HpCDF | 1.0E-05 | | 3.1E-07 | U | 2.5E-06 | | 1.1E-06 | U | 1.3E-06 | U | 1.2E-06 | U |
| | OCTACHLORODIBENZODIOXIN | 1.2E-04 | | 1.1E-05 | | 9.3E-04 | | 1.3E-04 | | 9.4E-06 | U | 2.0E-05 | U |
| | OCTACHLORODIBENZOFURAN | 1.0E-04 | | 7.3E-06 | U | 4.3E-05 | | 1.8E-05 | | 5.0E-06 | U | 1.2E-05 | |
| | TOTAL 2,3,7,8-TCDD EQUIVALENTS | 2.6E-06 | | 4.5E-08 | | 3.6E-05 | | 5.7E-07 | | 1.2E-07 | | 6.6E-07 | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Surface Soil (continued)*

| Group | Analytes | OBS-95-03 0.5 ft | | OBS-95-04 0.5 ft | | OBS-95-05 0.5 ft | | OBS-95-06 0.5 ft | | OBS-95-07 0.5 ft | | OBS-95-08 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIOXINS | 2,3,7,8-TCDD | 2.7E-07 | U | 3.7E-07 | U | 2.3E-07 | U | 1.6E-07 | U | 8.0E-08 | U | 4.1E-07 | UJ |
| | 2,3,7,8-TCDF | 4.5E-07 | U | 4.7E-07 | U | 1.7E-07 | U | 1.3E-07 | U | 2.0E-07 | U | 2.1E-07 | UJ |
| | 1,2,3,7,8-PeCDD | 3.0E-07 | U | 3.5E-07 | U | 2.1E-07 | | 1.6E-07 | U | 2.3E-07 | U | 1.2E-07 | U |
| | 1,2,3,7,8-PeCDF | 2.5E-07 | U | 3.4E-07 | U | 1.7E-07 | | 1.4E-07 | U | 2.1E-07 | U | 3.2E-07 | U |
| | 2,3,4,7,8-PeCDF | 2.6E-07 | U | 3.6E-07 | U | 1.2E-07 | U | 1.5E-07 | U | 1.8E-07 | | 3.4E-07 | U |
| | 1,2,3,4,7,8-HxCDD | 8.2E-07 | U | 1.5E-06 | U | 3.3E-07 | U | 2.8E-07 | U | 3.2E-07 | U | 4.3E-07 | U |
| | 1,2,3,6,7,8-HxCDD | 4.9E-07 | U | 8.7E-07 | U | 2.2E-07 | U | 1.9E-07 | U | 2.2E-07 | U | 2.9E-07 | U |
| | 1,2,3,7,8,9-HxCDD | 6.2E-07 | U | 1.1E-06 | U | 2.6E-07 | U | 2.2E-07 | U | 2.6E-07 | U | 3.4E-07 | U |
| | 1,2,3,4,7,8-HxCDF | 1.6E-06 | U | 8.4E-07 | U | 4.2E-07 | | 1.9E-07 | | 4.5E-07 | U | 1.0E-07 | U |
| | 1,2,3,6,7,8-HxCDF | 6.4E-07 | | 3.1E-07 | | 1.9E-07 | U | 1.2E-07 | U | 2.7E-07 | U | 8.0E-08 | U |
| | 1,2,3,7,8,9-HxCDF | 4.9E-07 | U | 2.9E-07 | | 2.3E-07 | U | 2.1E-07 | U | 3.0E-07 | U | 1.5E-07 | U |
| | 2,3,4,6,7,8-HxCDF | 1.5E-06 | | 3.5E-07 | U | 2.6E-07 | U | 1.5E-07 | U | 3.6E-07 | U | 1.1E-07 | U |
| | 1,2,3,4,6,7,8-HpCDD | 3.5E-06 | U | 3.1E-06 | U | 4.4E-06 | | 9.0E-07 | U | 2.3E-06 | | 1.0E-06 | |
| | 1,2,3,4,6,7,8-HpCDF | 5.9E-06 | U | 2.3E-06 | U | 2.5E-06 | U | 9.5E-07 | U | 2.9E-06 | U | 1.0E-06 | U |
| | 1,2,3,4,7,8,9-HpCDF | 1.6E-06 | U | 4.0E-07 | U | 3.4E-07 | | 4.6E-07 | U | 5.6E-07 | | 2.0E-07 | U |
| | OCTACHLORODIBENZODIOXIN | 2.7E-05 | U | 2.8E-05 | U | 5.4E-05 | | 4.5E-06 | U | 1.6E-05 | | 3.4E-06 | U |
| | OCTACHLORODIBENZOFURAN | 1.0E-05 | | 4.8E-06 | | 6.7E-06 | | 3.0E-06 | U | 6.8E-06 | | 2.4E-06 | U |
| | TOTAL 2,3,7,8-TCDD EQUIVALENTS | 2.3E-07 | | 6.5E-08 | | 2.6E-07 | | 1.9E-09 | | 1.4E-07 | | 1.0E-08 | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Surface Soil (continued)*

| Group | Analytes | OBS-95-09 0.5 ft | | OBS-95-10 0.5 ft | | OBS-95-10 0.5 ft (dup) | | OBS-95-11 0.5 ft | | OBS-95-12 0.5 ft | | OBS-95-13 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIOXINS | 2,3,7,8-TCDD | 1.2E-07 | | 1.0E-07 | U | 1.6E-07 | U | 8.0E-08 | U | 1.1E-07 | U | 3.5E-07 | |
| | 2,3,7,8-TCDF | 1.8E-07 | U | 1.7E-07 | U | 2.5E-07 | U | 2.3E-07 | U | 2.8E-07 | U | 4.1E-07 | U |
| | 1,2,3,7,8-PeCDD | 1.3E-07 | | 2.0E-08 | U | 1.4E-07 | U | 1.6E-07 | U | 2.6E-07 | U | 1.4E-06 | U |
| | 1,2,3,7,8-PeCDF | 1.5E-07 | U | 1.3E-07 | U | 1.3E-07 | U | 1.5E-07 | U | 2.2E-07 | U | 5.2E-07 | U |
| | 2,3,4,7,8-PeCDF | 1.1E-07 | | 1.4E-07 | U | 6.4E-07 | | 9.0E-08 | U | 1.3E-07 | U | 1.3E-07 | |
| | 1,2,3,4,7,8-HxCDD | 2.6E-07 | U | 3.1E-07 | U | 4.9E-07 | U | 3.3E-07 | U | 1.7E-07 | | 1.4E-06 | |
| | 1,2,3,6,7,8-HxCDD | 1.8E-07 | U | 2.1E-07 | U | 3.3E-07 | U | 2.2E-07 | U | 4.5E-07 | | 3.2E-06 | |
| | 1,2,3,7,8,9-HxCDD | 2.1E-07 | U | 2.5E-07 | U | 4.0E-07 | U | 2.7E-07 | U | 3.3E-07 | U | 4.7E-06 | |
| | 1,2,3,4,7,8-HxCDF | 3.9E-07 | | 2.0E-07 | U | 1.0E-06 | | 4.8E-07 | | 5.8E-07 | | 8.4E-07 | |
| | 1,2,3,6,7,8-HxCDF | 1.5E-07 | U | 8.0E-08 | U | 3.1E-07 | U | 2.6E-07 | U | 3.0E-07 | U | 5.7E-07 | U |
| | 1,2,3,7,8,9-HxCDF | 1.2E-07 | U | 8.4E-08 | | 4.1E-07 | U | 2.0E-07 | | 1.3E-07 | | 1.6E-07 | |
| | 2,3,4,6,7,8-HxCDF | 2.1E-07 | U | 1.4E-07 | U | 1.6E-06 | U | 2.8E-07 | U | 3.5E-07 | U | 6.2E-07 | U |
| | 1,2,3,4,6,7,8-HpCDD | 1.3E-06 | | 1.2E-06 | | 2.3E-06 | U | 1.5E-06 | | 1.4E-05 | | 6.1E-05 | |
| | 1,2,3,4,6,7,8-HpCDF | 1.6E-06 | U | 8.8E-07 | U | 5.1E-06 | U | 2.4E-06 | U | 5.5E-06 | U | 1.3E-05 | |
| | 1,2,3,4,7,8,9-HpCDF | 4.1E-07 | U | 2.2E-07 | U | 1.5E-06 | | 3.2E-07 | U | 4.9E-07 | U | 9.3E-07 | |
| | OCTACHLORODIBENZODIOXIN | 6.2E-06 | U | 6.9E-06 | U | 1.7E-05 | | 7.9E-06 | U | 1.4E-04 | | 5.6E-04 | |
| | OCTACHLORODIBENZOFURAN | 3.6E-06 | U | 4.3E-06 | U | 1.7E-05 | | 5.8E-06 | U | 1.2E-05 | | 2.1E-05 | |
| | TOTAL 2,3,7,8-TCDD EQUIVALENTS | 2.9E-07 | | 2.0E-08 | | 4.7E-07 | | 8.3E-08 | | 4.2E-07 | | 2.8E-06 | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Surface Soil (continued)*

| Group | Analytes | OBS-95-14 0.5 ft | | OBS-95-15 0.5 ft | | OBS-95-16 0.5 ft | | OBS-95-17 0.5 ft | OBS-95-18 0.5 ft | | OBS-95-19 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIOXINS | 2,3,7,8-TCDD | 2.0E-07 | U | 7.0E-08 | U | 1.0E-07 | U | 6.8E-07 | 8.3E-07 | U | 3.8E-07 | U |
| | 2,3,7,8-TCDF | 1.2E-06 | | 1.7E-07 | U | 3.5E-07 | U | 6.9E-06 | 3.4E-06 | | 6.4E-06 | |
| | 1,2,3,7,8-PeCDD | 9.6E-07 | | 2.9E-07 | | 2.4E-07 | | 2.7E-06 | 1.6E-06 | | 1.1E-06 | |
| | 1,2,3,7,8-PeCDF | 8.7E-07 | | 1.4E-07 | | 1.4E-07 | U | 2.3E-06 | 7.4E-07 | | 1.1E-06 | |
| | 2,3,4,7,8-PeCDF | 6.7E-07 | | 1.2E-07 | U | 1.9E-07 | U | 3.4E-06 | 1.0E-06 | | 1.6E-06 | |
| | 1,2,3,4,7,8-HxCDD | 2.0E-06 | | 5.3E-07 | U | 1.6E-07 | U | 3.0E-06 | 1.2E-06 | | 9.7E-07 | U |
| | 1,2,3,6,7,8-HxCDD | 4.6E-06 | | 3.6E-07 | U | 4.0E-07 | U | 7.0E-06 | 3.3E-06 | | 3.0E-06 | |
| | 1,2,3,7,8,9-HxCDD | 4.2E-06 | | 4.3E-07 | U | 3.8E-07 | U | 1.0E-05 | 4.4E-06 | | 3.8E-06 | |
| | 1,2,3,4,7,8-HxCDF | 3.4E-06 | | 1.9E-07 | | 5.8E-07 | U | 8.3E-06 | 1.5E-06 | | 2.7E-06 | |
| | 1,2,3,6,7,8-HxCDF | 2.2E-06 | | 8.0E-08 | U | 2.1E-07 | U | 4.2E-06 | 7.8E-07 | | 1.1E-06 | |
| | 1,2,3,7,8,9-HxCDF | 8.8E-07 | | 1.4E-07 | U | 1.2E-07 | U | 8.4E-07 | 4.3E-07 | U | 3.5E-07 | U |
| | 2,3,4,6,7,8-HxCDF | 2.0E-06 | | 1.0E-08 | U | 2.6E-07 | U | 5.7E-06 | 9.2E-07 | U | 1.3E-06 | U |
| | 1,2,3,4,6,7,8-HpCDD | 1.3E-04 | | 4.1E-06 | | 5.2E-06 | | 1.1E-04 | 2.7E-05 | | 5.4E-05 | |
| | 1,2,3,4,6,7,8-HpCDF | 4.1E-05 | | 1.2E-06 | U | 2.9E-06 | U | 3.1E-05 | 4.2E-06 | U | 9.2E-06 | |
| | 1,2,3,4,7,8,9-HpCDF | 3.9E-06 | | 1.9E-07 | U | 4.3E-07 | | 1.4E-06 | 5.3E-07 | U | 7.5E-07 | |
| | OCTACHLORODIBENZODIOXIN | 1.1E-03 | | 2.3E-05 | | 4.1E-05 | | 3.9E-04 | 6.7E-05 | | 3.2E-04 | |
| | OCTACHLORODIBENZOFURAN | 1.4E-04 | | 3.1E-06 | U | 5.8E-06 | U | 1.6E-05 | 3.8E-06 | U | 1.2E-05 | |
| | TOTAL 2,3,7,8-TCDD EQUIVALENTS | 5.9E-06 | | 2.3E-07 | | 2.2E-07 | | 1.0E-05 | 3.2E-06 | | 4.1E-06 | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Surface Soil (continued)*

| Group | Analytes | OBS-95-20 0.5 ft | | OBS-95-20 0.5 ft (dup) | | OBS-95-21 0.5 ft | | OBS-95-22 0.5 ft | | OBS-95-23 0.5 ft | | OBS-95-24 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIOXINS | 2,3,7,8-TCDD | 1.4E-07 | | 2.6E-07 | U | 2.0E-07 | | 3.4E-07 | U | 1.9E-07 | U | 3.2E-07 | U |
| | 2,3,7,8-TCDF | 6.4E-07 | U | 6.2E-07 | U | 1.9E-06 | | 6.8E-06 | | 1.3E-06 | | 1.2E-06 | |
| | 1,2,3,7,8-PeCDD | 3.0E-07 | U | 3.1E-07 | | 2.6E-07 | U | 1.3E-06 | | 3.4E-07 | U | 2.7E-07 | U |
| | 1,2,3,7,8-PeCDF | 3.5E-07 | | 2.4E-07 | U | 4.6E-07 | U | 4.8E-06 | | 7.2E-07 | | 2.7E-07 | U |
| | 2,3,4,7,8-PeCDF | 3.5E-07 | | 3.5E-07 | U | 6.4E-07 | | 2.2E-06 | | 5.1E-07 | U | 3.7E-07 | U |
| | 1,2,3,4,7,8-HxCDD | 4.0E-07 | U | 3.5E-07 | U | 6.2E-07 | U | 1.5E-06 | | 4.5E-07 | U | 5.9E-07 | U |
| | 1,2,3,6,7,8-HxCDD | 4.3E-07 | U | 5.5E-07 | U | 4.9E-07 | | 4.1E-06 | | 9.6E-07 | | 3.5E-07 | U |
| | 1,2,3,7,8,9-HxCDD | 4.3E-07 | U | 3.5E-07 | U | 6.1E-07 | | 5.7E-06 | | 1.4E-06 | | 4.5E-07 | U |
| | 1,2,3,4,7,8-HxCDF | 5.3E-07 | U | 5.1E-07 | | 4.5E-06 | U | 6.5E-06 | U | 4.1E-06 | U | 1.9E-06 | U |
| | 1,2,3,6,7,8-HxCDF | 3.6E-07 | U | 2.0E-07 | U | 1.3E-06 | U | 1.8E-06 | | 1.1E-06 | U | 4.7E-07 | |
| | 1,2,3,7,8,9-HxCDF | 1.9E-07 | U | 1.0E-07 | U | 1.7E-06 | | 1.5E-06 | | 1.0E-06 | | 4.4E-07 | |
| | 2,3,4,6,7,8-HxCDF | 4.7E-07 | U | 2.8E-07 | U | 5.8E-06 | | 5.4E-06 | | 4.8E-06 | | 1.1E-06 | U |
| | 1,2,3,4,6,7,8-HpCDD | 5.3E-06 | | 5.6E-06 | | 7.5E-06 | U | 8.3E-05 | | 1.9E-05 | | 3.3E-06 | U |
| | 1,2,3,4,6,7,8-HpCDF | 2.0E-06 | U | 1.8E-06 | U | 1.9E-05 | U | 2.9E-05 | | 1.7E-05 | U | 5.5E-06 | U |
| | 1,2,3,4,7,8,9-HpCDF | 2.1E-07 | U | 2.5E-07 | U | 6.1E-06 | U | 5.4E-06 | | 4.1E-06 | | 9.4E-07 | U |
| | OCTACHLORODIBENZODIOXIN | 3.8E-05 | | 3.7E-05 | | 5.8E-05 | U | 6.0E-04 | | 1.3E-04 | | 2.1E-05 | U |
| | OCTACHLORODIBENZOFURAN | 3.5E-06 | U | 3.8E-06 | U | 1.0E-04 | | 6.6E-05 | | 4.4E-05 | | 1.2E-05 | |
| | TOTAL 2,3,7,8-TCDD EQUIVALENTS | 4.3E-07 | | 3.0E-07 | | 1.7E-06 | | 6.5E-06 | | 1.4E-06 | | 2.3E-07 | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Surface Soil (continued)*

| Group | Analytes | OBS-95-25 0.5 ft | | OBS-95-26 0.5 ft | | OBS-95-27 0.5 ft | | OBS-95-28 0.5 ft | | OBS-95-28 0.5 ft (dup) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DIOXINS | 2,3,7,8-TCDD | 2.6E-07 | U | 6.3E-07 | U | 5.7E-07 | U | 3.7E-07 | | 1.0E-06 | U |
| | 2,3,7,8-TCDF | 2.3E-06 | | 5.1E-06 | | 7.6E-07 | | 1.0E-06 | | 1.5E-06 | U |
| | 1,2,3,7,8-PeCDD | 4.7E-07 | | 6.5E-07 | | 5.6E-07 | U | 3.5E-07 | U | 8.7E-07 | U |
| | 1,2,3,7,8-PeCDF | 4.9E-07 | U | 2.0E-06 | | 9.0E-07 | U | 7.0E-07 | | 8.3E-07 | |
| | 2,3,4,7,8-PeCDF | 7.0E-07 | U | 2.3E-06 | | 9.4E-07 | U | 5.0E-07 | | 8.6E-07 | U |
| | 1,2,3,4,7,8-HxCDD | 9.6E-07 | U | 6.9E-07 | | 6.3E-06 | U | 9.6E-07 | U | 2.8E-06 | U |
| | 1,2,3,6,7,8-HxCDD | 5.7E-07 | U | 1.0E-06 | | 3.7E-06 | U | 8.6E-07 | | 1.7E-06 | U |
| | 1,2,3,7,8,9-HxCDD | 7.3E-07 | U | 2.0E-06 | U | 4.8E-06 | U | 7.9E-07 | U | 2.1E-06 | U |
| | 1,2,3,4,7,8-HxCDF | 3.1E-06 | U | 1.1E-05 | U | 4.1E-07 | UJ | 3.4E-06 | U | 1.6E-06 | U |
| | 1,2,3,6,7,8-HxCDF | 8.7E-07 | | 3.3E-06 | | 2.8E-07 | UJ | 9.6E-07 | | 6.0E-07 | U |
| | 1,2,3,7,8,9-HxCDF | 4.5E-07 | U | 1.9E-06 | U | 5.7E-07 | UJ | 9.9E-07 | U | 1.2E-06 | U |
| | 2,3,4,6,7,8-HxCDF | 1.4E-06 | U | 7.5E-06 | | 4.0E-07 | UJ | 3.2E-06 | | 8.5E-07 | U |
| | 1,2,3,4,6,7,8-HpCDD | 4.9E-06 | U | 1.6E-05 | | 3.3E-06 | U | 1.7E-05 | | 1.7E-05 | |
| | 1,2,3,4,6,7,8-HpCDF | 6.1E-06 | U | 3.5E-05 | | 2.9E-06 | UJ | 1.1E-05 | U | 7.9E-06 | U |
| | 1,2,3,4,7,8,9-HpCDF | 9.0E-07 | U | 7.3E-06 | | 1.1E-06 | UJ | 2.5E-06 | U | 1.5E-06 | U |
| | OCTACHLORODIBENZODIOXIN | 3.9E-05 | U | 1.3E-04 | | 2.1E-05 | UJ | 1.6E-04 | | 1.5E-04 | |
| | OCTACHLORODIBENZOFURAN | 1.4E-05 | | 1.2E-04 | | 9.4E-06 | J | 1.8E-05 | | 1.5E-05 | |
| | TOTAL 2,3,7,8-TCDD EQUIVALENTS | 5.6E-07 | | 4.2E-06 | | 8.5E-08 | | 1.6E-06 | | 3.7E-07 | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Subsurface Soil*

| Group | Analytes | OBP-92-101 5 ft | | OBP-92-102 5 ft | | OBP-92-103 4 ft | | OBP-92-104 10 ft | | OBP-92-201 2 ft | | OBP-92-202 5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | FLUORIDE | 19.2 | U | 19.2 | U | 19.2 | U | 19.2 | U | 19.2 | U | 19.2 | U |
| | NITRATE | 3.36 | U | 3.36 | U | 4.58 | | 3.36 | U | 3.36 | U | 3.36 | U |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.352 | U | 0.352 | U | 0.352 | U | 0.352 | U | 0.352 | U | 0.352 | U |
| | 2,4-DINITROTOLUENE | 0.744 | U | 0.744 | U | 0.744 | U | 0.744 | U | 0.744 | U | 0.744 | U |
| | 2,4,6-TRINITROTOLUENE | 0.931 | U | 0.931 | U | 0.931 | U | 0.931 | U | 0.931 | U | 0.931 | U |
| | RDX | 0.445 | U | 0.445 | U | 0.445 | U | 0.445 | U | 0.445 | U | 0.445 | U |
| METALS | ALUMINUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ANTIMONY | 68 | U | 34 | U | 34 | U | 34 | U | 60.6 | | 340 | U |
| | ARSENIC | 24 | U | 240 | U | 24 | U | 240 | U | 24 | U | 95.2 | |
| | BARIUM | 180 | | 56 | | 120 | | 62 | | 310 | | 2300 | |
| | BERYLLIUM | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U |
| | CADMIUM | 4.2 | U | 0.424 | U | 0.424 | U | 0.424 | U | 0.424 | U | 25 | U |
| | CALCIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | CHROMIUM | 26.5 | | 5.96 | | 15.6 | | 7.81 | | 10.8 | | 150 | |
| | COBALT | NA | | NA | | NA | | NA | | NA | | NA | |
| | COPPER | 110 | | 5.21 | | 43 | | 9.7 | | 110 | | 1700 | |
| | IRON | 40000 | | 6500 | | 24000 | | 14000 | | 13000 | | 290000 | |
| | LEAD | 580 | | 7 | | 160 | | 12 | | 11000 | | 3600 | |
| | MAGNESIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | MANGANESE | NA | | NA | | NA | | NA | | NA | | NA | |
| | MERCURY | 0.443 | | 0.0543 | | 0.168 | | 0.0962 | | 0.0643 | | 0.0259 | U |
| | NICKEL | 7.47 | | 2.46 | U | 2.46 | U | 2.46 | U | 2.46 | U | 110 | |
| | POTASSIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | SILVER | 0.156 | | 0.0345 | | 0.115 | | 0.0376 | | 0.77 | | 5 | |
| | SODIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | THALLIUM | 170 | U | 170 | U | 170 | U | 170 | U | 170 | U | 347 | |
| | VANADIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ZINC | 380 | | 22.8 | | 1200 | | 150 | | 380 | | 11000 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U |
| | BIS (2-ETHYHEXYL) PHTHALATE | 0.39 | U | 0.39 | U | 1.1 | | 0.39 | U | 0.39 | U | 0.39 | U |
| | N-NITROSO DIPHENYLAMINE | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Subsurface Soil (continued)*

| Group | Analytes | OBP-92-203 7.5 ft | | OBP-92-204 12 ft | | OBP-92-301 1 ft | | OBP-92-302 5 ft | | OBP-92-303 7.5 ft | | OBP-92-304 10 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | FLUORIDE | 19.2 | U | 19.2 | U | 19.2 | U | 12.4 | | 19.2 | U | 19.2 | U |
| | NITRATE | 3.36 | U | 9.47 | | 2.67 | U | 2.67 | U | 3.36 | U | 2.67 | U |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.352 | U | 0.352 | U | 7.4 | | 17 | | 0.352 | U | 0.352 | U |
| | 2,4-DINITROTOLUENE | 0.744 | U | 0.744 | U | 0.744 | U | 0.744 | U | 0.744 | U | 0.744 | U |
| | 2,4,6-TRINITROTOLUENE | 0.931 | U | 0.931 | U | 8.52 | | 16 | | 0.931 | U | 0.931 | U |
| | RDX | 0.445 | U | 0.445 | U | 0.445 | U | 0.445 | U | 0.445 | U | 0.445 | U |
| METALS | ALUMINUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ANTIMONY | 340 | U | 34 | U | 34 | U | 34 | U | 34 | U | 34 | U |
| | ARSENIC | 24 | U | 240 | U | 48 | U | 240 | U | 240 | U | 240 | U |
| | BARIUM | 1700 | | 170 | | 120 | | 68 | | 190 | | 130 | |
| | BERYLLIUM | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.78 | U | 0.16 | U |
| | CADMIUM | 4.2 | U | 0.424 | U | 0.424 | U | 0.424 | U | 4.2 | U | 0.85 | U |
| | CALCIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | CHROMIUM | 220 | | 24.8 | | 14.1 | | 9.46 | | 39 | U | 7.8 | U |
| | COBALT | NA | | NA | | NA | | NA | | NA | | NA | |
| | COPPER | 10000 | | 20 | | 7.33 | | 3.59 | | 20 | U | 4.8 | |
| | IRON | 110000 | | 29000 | | 13000 | | 9200 | | 12000 | | 8700 | |
| | LEAD | 17000 | | 28 | | 7.3 | | 5.5 | | 7.2 | | 4.6 | |
| | MAGNESIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | MANGANESE | NA | | NA | | NA | | NA | | NA | | NA | |
| | MERCURY | 0.0259 | U | 0.0259 | U | 0.0259 | U | 0.0776 | | 0.0259 | U | 0.0259 | U |
| | NICKEL | 48 | | 2.46 | U | 2.46 | U | 2.46 | U | 25 | U | 4.9 | U |
| | POTASSIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | SILVER | 12 | | 0.0778 | | 0.0356 | | 0.043 | | 0.0146 | U | 0.0146 | U |
| | SODIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | THALLIUM | 170 | U | 170 | U | 170 | U | 170 | U | 1700 | U | 1700 | U |
| | VANADIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ZINC | 7700 | | 75 | | 35 | | 17.3 | | 80 | U | 16 | U |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U |
| | BIS (2-ETHYHEXYL) PHTHALATE | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U |
| | N-NITROSO DIPHENYLAMINE | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Subsurface Soil (continued)*

| Group | Analytes | OBP-92-401 2.5 ft | | OBP-92-402 5 ft | | OBP-92-403 7.5 ft | | OBP-92-404 9 ft | | OBP-94-01B 2 ft | | OBP-94-01C 5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | FLUORIDE | 19.2 | U | 19.2 | U | 19.2 | U | 19.2 | U | NA | | NA | |
| | NITRATE | 3.36 | U | 2.67 | U | 3.36 | U | 3.36 | U | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.352 | U | 0.352 | U | 0.352 | U | 0.352 | U | 0.922 | UR | 0.922 | UR |
| | 2,4-DINITROTOLUENE | 0.744 | U | 0.744 | U | 25 | | 0.744 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 0.931 | U | 0.931 | U | 0.931 | U | 0.931 | U | 2 | U | 2 | U |
| | RDX | 0.445 | U | 0.445 | U | 0.445 | U | 0.445 | U | 1.28 | U | 9.41 | |
| METALS | ALUMINUM | NA | | NA | | NA | | NA | | 6580 | | 1100 | U |
| | ANTIMONY | 34 | U | 34 | U | 34 | U | 3.42 | U | 19.6 | U | 19.6 | U |
| | ARSENIC | 72 | U | 72 | U | 24 | U | 24 | U | 9.19 | | 3.14 | |
| | BARIUM | 100 | | 98 | | 33 | | 38 | | 65.2 | | 142 | |
| | BERYLLIUM | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.427 | U | 0.427 | U |
| | CADMIUM | 0.424 | U | 0.424 | U | 0.424 | U | 0.424 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | NA | | NA | | NA | | NA | | 14200 | | 120000 | |
| | CHROMIUM | 10.9 | | 9.93 | | 6.03 | | 3.9 | U | 11.7 | | 6.05 | |
| | COBALT | NA | | NA | | NA | | NA | | 2.75 | | 2.5 | U |
| | COPPER | 10.8 | | 9.43 | | 4.23 | | 2.61 | | 6.46 | | 7.77 | |
| | IRON | 10000 | | 11000 | | 7300 | | 2700 | | 10900 | | 1490 | U |
| | LEAD | 8.5 | | 8.4 | | 4.2 | | 2.4 | | 7.44 | U | 17.7 | |
| | MAGNESIUM | NA | | NA | | NA | | NA | | 2220 | | 5120 | |
| | MANGANESE | NA | | NA | | NA | | NA | | 25.4 | U | 128 | |
| | MERCURY | 0.0259 | U | 0.0259 | U | 0.0302 | | 0.0259 | U | 0.05 | U | 0.0684 | J |
| | NICKEL | 2.46 | U | 2.46 | U | 2.46 | U | 2.46 | U | 5.19 | | 4.84 | |
| | POTASSIUM | NA | | NA | | NA | | NA | | 1740 | | 302 | U |
| | SILVER | 0.0405 | | 0.0276 | | 0.0146 | U | 0.0146 | U | 0.803 | U | 0.803 | U |
| | SODIUM | NA | | NA | | NA | | NA | | 160 | | 273 | |
| | THALLIUM | 50 | U | 50 | U | 170 | U | 170 | U | 34.3 | U | 34.3 | U |
| | VANADIUM | NA | | NA | | NA | | NA | | 19.5 | J | 3.56 | UJ |
| | ZINC | 64 | | 53 | | 14.9 | | 15.5 | | 21.3 | | 31.9 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | 1.4 | | 0.39 | U | 0.39 | U | 0.39 | U | NA | | NA | |
| | BIS (2-ETHYHEXYL) PHTHALATE | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U | NA | | NA | |
| | N-NITROSO DIPHENYLAMINE | 0.1 | | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Subsurface Soil (continued)*

| Group | Analytes | OBP-94-01D 7 ft | | OBP-94-02B 2 ft | | OBP-94-02C 5 ft | | OBP-94-02D 7 ft | | OBP-94-02E 10 ft | | OBP-94-02F 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | FLUORIDE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | UR | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U |
| | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| METALS | ALUMINUM | 1100 | U | 1180 | U | 1180 | U | 28100 | | 6750 | | 13600 | |
| | ANTIMONY | 19.6 | U | 19.6 | UJ | 19.6 | UJ | 19.6 | UJ | 19.6 | UJ | 19.6 | UJ |
| | ARSENIC | 3.03 | | 2.5 | U | 2.5 | U | 2.99 | | 3.13 | | 4.29 | |
| | BARIUM | 151 | | 8.77 | U | 8.77 | U | 141 | | 79.8 | | 99 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 1.08 | | 0.427 | U | 0.548 | |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 100000 | | 909 | | 15500 | | 3940 | | 100000 | | 2740 | |
| | CHROMIUM | 8.16 | | 1.62 | U | 1.62 | U | 26.3 | | 1.62 | U | 16 | |
| | COBALT | 2.5 | U | 2.5 | U | 2.5 | U | 9.4 | | 2.5 | U | 4.75 | |
| | COPPER | 9.31 | | 2.84 | U | 2.84 | U | 13.3 | | 5.17 | | 10.6 | |
| | IRON | 1490 | U | 1300 | U | 1300 | U | 22000 | | 6500 | | 11800 | |
| | LEAD | 14.9 | | 7.44 | U | 7.44 | U | 13 | | 7.44 | U | 19.1 | |
| | MAGNESIUM | 5770 | | 178 | U | 178 | U | 7870 | | 5410 | | 3310 | |
| | MANGANESE | 131 | | 21.2 | U | 21.2 | U | 137 | | 21.2 | U | 239 | |
| | MERCURY | 0.0558 | | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 5.45 | | 2.74 | U | 2.74 | U | 12.2 | | 4.02 | | 7.21 | |
| | POTASSIUM | 302 | U | 320 | U | 320 | U | 7260 | | 1620 | | 3610 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 315 | | 50.1 | | 51 | | 573 | | 213 | | 232 | |
| | THALLIUM | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U |
| | VANADIUM | 3.56 | UJ | 3.15 | U | 3.15 | U | 34.8 | | 3.15 | U | 19.7 | |
| | ZINC | 39.6 | | 3 | U | 3 | U | 48.5 | | 16.6 | | 48.1 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | BIS (2-ETHYHEXYL) PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | N-NITROSO DIPHENYLAMINE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Subsurface Soil (continued)*

| Group | Analytes | OBP-94-03B 2 ft | | OBP-94-03C 5 ft | | OBP-94-03D 7 ft | | OBP-94-04B 2 ft | | OBP-94-04C 5 ft | | OBP-94-04D 7 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | FLUORIDE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U |
| | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| METALS | ALUMINUM | 1180 | U | 1180 | U | 1180 | U | 11500 | | 8470 | | 7830 | |
| | ANTIMONY | 19.6 | UJ | 19.6 | UJ | 19.6 | UJ | 19.6 | UJ | 19.6 | UJ | 19.6 | UJ |
| | ARSENIC | 2.5 | U | 2.5 | U | 2.5 | U | 4.55 | | 3.88 | | 3.56 | |
| | BARIUM | 8.77 | U | 8.77 | U | 8.77 | U | 103 | | 59 | | 68.7 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 857 | | 18800 | | 5800 | | 21000 | | 16000 | | 36300 | |
| | CHROMIUM | 1.62 | U | 1.62 | U | 1.62 | U | 14.7 | | 11.6 | | 10.2 | |
| | COBALT | 2.5 | U | 2.5 | U | 2.5 | U | 2.94 | | 4.23 | | 2.5 | U |
| | COPPER | 2.84 | U | 2.84 | U | 3.54 | | 16.6 | | 10 | | 5.59 | |
| | IRON | 1300 | U | 1300 | U | 1300 | U | 10100 | | 9780 | | 8340 | |
| | LEAD | 7.44 | U | 10 | | 19 | | 25.9 | | 11.8 | | 7.44 | U |
| | MAGNESIUM | 178 | U | 1450 | | 1000 | | 3430 | | 5080 | | 4690 | |
| | MANGANESE | 21.2 | U | 21.2 | U | 21.2 | U | 190 | | 167 | | 108 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.0578 | |
| | NICKEL | 2.74 | U | 2.74 | U | 2.74 | U | 7.15 | | 7.95 | | 4.5 | |
| | POTASSIUM | 320 | U | 320 | U | 320 | U | 3060 | | 2250 | | 2380 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 38.7 | U | 103 | | 252 | | 257 | | 205 | | 314 | |
| | THALLIUM | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U |
| | VANADIUM | 3.15 | U | 3.15 | U | 3.15 | U | 21.8 | | 17.1 | | 15.8 | |
| | ZINC | 3 | U | 3 | U | 3 | U | 87 | | 35.3 | | 16.2 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | BIS (2-ETHYHEXYL) PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | N-NITROSO DIPHENYLAMINE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Subsurface Soil (continued)*

| Group | Analytes | OBP-94-05C 5 ft | | OBP-94-05D 7 ft | | OBP-94-05E 10 ft | | OBP-94-06B 2 ft | | OBP-94-06C 5 ft | | OBP-94-06D 7 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | FLUORIDE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U |
| | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| METALS | ALUMINUM | 8780 | | 1100 | U | 1100 | U | 8920 | | 1100 | U | 1100 | U |
| | ANTIMONY | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U |
| | ARSENIC | 5.29 | | 3.97 | | 2.5 | U | 3.36 | | 3.85 | | 3.51 | |
| | BARIUM | 57.7 | | 10.1 | U | 10.1 | U | 89.7 | | 61.1 | | 76.8 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CADMIUM | 46.5 | | 12.6 | | 3.98 | | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 11100 | | 6840 | | 20400 | | 24600 | | 37800 | | 54800 | |
| | CHROMIUM | 8.59 | | 6.88 | | 1.16 | U | 10.5 | | 1.16 | U | 9.32 | |
| | COBALT | 2.5 | U | 2.63 | | 2.5 | U | 3.45 | | 2.5 | U | 3.25 | |
| | COPPER | 2600 | | 311 | | 16.4 | | 7.12 | | 3.32 | | 4.89 | |
| | IRON | 8630 | | 1490 | U | 1490 | U | 9830 | | 1490 | U | 1490 | U |
| | LEAD | 30.7 | | 96.9 | | 18.3 | | 7.44 | U | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 1610 | | 1050 | | 2100 | | 3840 | | 4650 | | 4670 | |
| | MANGANESE | 142 | | 25.4 | U | 25.4 | U | 192 | | 25.4 | U | 25.4 | U |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.057 | |
| | NICKEL | 6.01 | | 3.36 | | 2.74 | U | 5.66 | | 2.74 | U | 4.36 | |
| | POTASSIUM | 1550 | | 302 | U | 302 | U | 2330 | | 302 | U | 302 | U |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 89.5 | | 60.5 | | 38.7 | U | 114 | | 197 | | 161 | |
| | THALLIUM | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U |
| | VANADIUM | 3.56 | UJ | 3.56 | UJ | 3.56 | UJ | 3.56 | UJ | 3.56 | UJ | 3.56 | UJ |
| | ZINC | 2300 | | 380 | | 55.9 | | 29.5 | | 3.92 | U | 3.92 | U |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | BIS (2-ETHYHEXYL) PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | N-NITROSO DIPHENYLAMINE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Subsurface Soil (continued)*

| Group | Analytes | OBP-94-06E 10 ft | | OBP-94-07B 2 ft | | OBP-94-07C 5 ft | | OBP-94-07D 7 ft | | OBP-94-07E 10 ft | | OBP-94-08B 2 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | FLUORIDE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U |
| | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| METALS | ALUMINUM | 1100 | U | 13200 | | 1100 | U | 6270 | | 1100 | U | 20300 | |
| | ANTIMONY | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U |
| | ARSENIC | 2.5 | U | 7.99 | | 3.31 | | 3.99 | | 7.09 | | 6.62 | |
| | BARIUM | 10.1 | U | 188 | | 81.1 | | 82.6 | | 56.6 | | 225 | |
| | BERYLLIUM | 0.427 | U | 0.575 | | 0.427 | U | 0.427 | U | 0.427 | U | 0.87 | |
| | CADMIUM | 1.2 | U | 11 | | 1.2 | U | 1.2 | U | 1.2 | U | 5.14 | |
| | CALCIUM | 27800 | | 16700 | | 38200 | | 46700 | | 35700 | | 12200 | |
| | CHROMIUM | 1.16 | U | 23.2 | | 7.52 | | 10.1 | | 8.04 | | 20.6 | |
| | COBALT | 2.5 | U | 5.29 | | 2.5 | U | 2.68 | | 2.5 | U | 5.21 | |
| | COPPER | 2.84 | U | 85.3 | | 30.5 | | 31.7 | | 19.1 | | 22.1 | |
| | IRON | 1490 | U | 42200 | | 1490 | U | 8470 | | 8220 | | 20400 | |
| | LEAD | 7.44 | U | 607 | | 66.6 | | 96.4 | | 50.9 | | 25.6 | |
| | MAGNESIUM | 1640 | | 4840 | | 3820 | | 4700 | | 4620 | | 7730 | |
| | MANGANESE | 25.4 | U | 534 | | 142 | | 148 | | 135 | | 472 | |
| | MERCURY | 0.05 | U | 0.259 | J | 0.173 | J | 0.204 | J | 0.05 | U | 0.706 | |
| | NICKEL | 2.74 | U | 11.8 | | 3.38 | | 3.87 | | 6.59 | | 12.6 | |
| | POTASSIUM | 302 | U | 3730 | | 302 | U | 1890 | | 302 | U | 5980 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 85.5 | | 190 | | 114 | | 201 | | 140 | | 249 | |
| | THALLIUM | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 46.7 | |
| | VANADIUM | 3.56 | UJ | 24 | J | 3.56 | UJ | 3.56 | UJ | 3.56 | UJ | 30.8 | J |
| | ZINC | 3.92 | U | 248 | | 102 | | 116 | | 94.3 | | 137 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | BIS (2-ETHYHEXYL) PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | N-NITROSO DIPHENYLAMINE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Subsurface Soil (continued)*

| Group | Analytes | OBP-94-08C 5 ft | | OBP-94-08D 7 ft | | OBP-94-08E 10 ft | | OBP-94-09B 2 ft | | OBP-94-09C 5 ft | | OBP-94-09C 5 ft (dup) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | FLUORIDE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | UJ | 0.922 | UJ |
| | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| METALS | ALUMINUM | 1100 | U | 1100 | U | 1100 | U | 18600 | | 5500 | | 4580 | |
| | ANTIMONY | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U |
| | ARSENIC | 2.68 | | 2.5 | U | 2.5 | U | 4.51 | | 4.72 | | 4.6 | |
| | BARIUM | 99.3 | | 10.1 | U | 10.1 | U | 148 | | 55.9 | | 51.1 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.767 | | 0.427 | U | 0.427 | U |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 61000 | | 15900 | | 17100 | | 3940 | | 23500 | | 21700 | |
| | CHROMIUM | 7.69 | | 1.16 | U | 1.16 | U | 20.6 | | 8.1 | | 7.58 | |
| | COBALT | 3.16 | | 2.5 | U | 2.5 | U | 4.2 | | 2.79 | | 2.96 | |
| | COPPER | 4.37 | | 2.84 | U | 5.24 | | 13.3 | | 2.84 | U | 4.7 | |
| | IRON | 1490 | U | 1490 | U | 1490 | U | 16900 | | 7280 | | 6570 | |
| | LEAD | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 3790 | | 943 | | 1450 | | 6180 | | 2520 | | 2230 | |
| | MANGANESE | 25.4 | U | 25.4 | U | 25.4 | U | 387 | | 27.9 | U | 27.9 | U |
| | MERCURY | 0.0542 | | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 3.58 | | 2.74 | U | 2.74 | U | 10.1 | | 4.74 | | 5.65 | |
| | POTASSIUM | 302 | U | 302 | U | 302 | U | 5470 | | 1050 | | 902 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 223 | | 50.2 | | 80.6 | | 317 | | 188 | | 173 | |
| | THALLIUM | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U |
| | VANADIUM | 3.56 | UJ | 3.56 | UJ | 3.56 | UJ | 26.4 | J | 2.81 | U | 2.81 | U |
| | ZINC | 3.92 | U | 3.92 | U | 3.92 | U | 53.1 | | 18.6 | | 3.53 | U |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | BIS (2-ETHYHEXYL) PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | N-NITROSO DIPHENYLAMINE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Subsurface Soil (continued)*

| Group | Analytes | OBP-94-09D 7 ft | | OBP-94-09E 10 ft | | OBP-94-09E 10 ft (dup) | | OBP-94-10B 2 ft | | OBP-94-10C 5 ft | | OBP-94-10D 7 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | FLUORIDE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | UJ | 0.922 | UJ | 0.922 | UJ | 0.922 | UJ | 0.922 | UJ | 0.922 | UJ |
| | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| METALS | ALUMINUM | 7760 | | 777 | U | 777 | U | 6390 | | 777 | U | 777 | U |
| | ANTIMONY | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U |
| | ARSENIC | 4.27 | | 3.69 | | 3.76 | | 2.97 | | 3.6 | | 3.75 | |
| | BARIUM | 99.3 | | 51.8 | | 53.1 | | 75.2 | | 49.7 | | 42.4 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 22000 | | 38500 | | 34700 | | 2230 | | 7540 | | 22800 | |
| | CHROMIUM | 9.2 | | 5.07 | | 5.24 | | 7.19 | | 6.09 | | 7.2 | |
| | COBALT | 3.37 | | 2.5 | U | 3.11 | | 4.02 | | 2.5 | U | 3.14 | |
| | COPPER | 17.3 | | 2.84 | U | 3.68 | | 6.2 | | 4.4 | | 21.1 | |
| | IRON | 9530 | | 5970 | | 6110 | | 10500 | | 6450 | | 26400 | |
| | LEAD | 7.82 | | 7.44 | U | 7.44 | U | 7.44 | U | 8.35 | | 7.44 | U |
| | MAGNESIUM | 4180 | | 3830 | | 3650 | | 2710 | | 1560 | | 1400 | |
| | MANGANESE | 227 | | 27.9 | U | 27.9 | U | 225 | | 143 | | 189 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 6.9 | | 4.61 | | 4.95 | | 6.71 | | 4.49 | | 6.98 | |
| | POTASSIUM | 2080 | | 158 | U | 158 | U | 1770 | | 876 | | 158 | U |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 215 | | 236 | | 247 | | 148 | | 115 | | 115 | |
| | THALLIUM | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U |
| | VANADIUM | 15 | | 2.81 | U | 2.81 | U | 2.81 | U | 2.81 | U | 2.81 | U |
| | ZINC | 97.8 | | 3.53 | U | 3.53 | U | 45.2 | | 23.1 | | 24.1 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | BIS (2-ETHYHEXYL) PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | N-NITROSO DIPHENYLAMINE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Subsurface Soil (continued)*

| Group | Analytes | OBP-94-10E 10 ft | | OBP-94-12B 2 ft | | OBP-94-12C 5 ft | | OBP-94-12D 7 ft | | OBP-94-12E 10 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | FLUORIDE | NA | | NA | | NA | | NA | | NA | |
| | NITRATE | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | UJ | 0.922 | UJ | 0.922 | UJ | 0.922 | UJ | 0.922 | UJ |
| | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| METALS | ALUMINUM | 777 | U | 7660 | | 16600 | | 17200 | | 6640 | |
| | ANTIMONY | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U |
| | ARSENIC | 5.07 | | 3.57 | | 3.39 | | 3.94 | | 2.5 | U |
| | BARIUM | 8.36 | U | 77.7 | | 165 | | 145 | | 74.2 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.726 | | 0.602 | | 0.427 | U |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 12900 | | 29200 | | 93000 | | 140000 | | 66000 | |
| | CHROMIUM | 5.11 | | 10.5 | | 13.2 | | 15.4 | | 9.77 | |
| | COBALT | 2.5 | U | 3.76 | | 5.91 | | 5.54 | | 3.35 | |
| | COPPER | 4.77 | | 5.76 | | 7.47 | | 9.64 | | 3.75 | |
| | IRON | 6740 | | 9360 | | 14800 | | 15300 | | 7110 | |
| | LEAD | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 2060 | | 3630 | | 14100 | | 13600 | | 6210 | |
| | MANGANESE | 27.9 | U | 184 | | 182 | | 297 | | 27.9 | U |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 3.95 | | 6.58 | | 10.9 | | 10.4 | | 4.64 | |
| | POTASSIUM | 158 | U | 1950 | | 4740 | | 4820 | | 1610 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 93 | | 163 | | 2300 | | 2310 | | 769 | |
| | THALLIUM | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U |
| | VANADIUM | 2.81 | U | 16.9 | | 21.7 | | 22.6 | | 2.81 | U |
| | ZINC | 3.53 | U | 24.6 | | 38.1 | | 35.7 | | 3.53 | U |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | |
| | BIS (2-ETHYHEXYL) PHTHALATE | NA | | NA | | NA | | NA | | NA | |
| | N-NITROSO DIPHENYLAMINE | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Subsurface Soil (continued)*

| Group | Analytes | OBP-95-01B 2 ft | OBP-95-01C 4 ft | OBP-95-02B 5 ft | OBP-95-02C 7 ft | OBP-95-02C 7 ft (dup) | OBP-95-03B 1.5 ft |
|---|---|---|---|---|---|---|---|
| DIOXINS | 2,3,7,8-TCDD | 8.5E-07 | 1.3E-06 UJ | 2.5E-06 | 1.8E-06 U | 4.6E-07 U | 6.0E-06 |
| | 2,3,7,8-TCDF | 1.5E-06 | 1.3E-06 UJ | 2.7E-05 | 2.2E-06 | 4.2E-07 | 9.9E-05 |
| | 1,2,3,7,8-PeCDD | 4.3E-06 | 1.2E-06 U | 1.4E-05 | 1.0E-05 | 9.1E-07 U | 2.0E-05 |
| | 1,2,3,7,8-PeCDF | 3.9E-07 | 9.0E-07 UJ | 7.1E-06 | 7.0E-07 U | 4.2E-07 U | 1.9E-05 |
| | 2,3,4,7,8-PeCDF | 5.0E-07 | 9.8E-07 UJ | 1.1E-05 | 1.1E-06 U | 4.6E-07 U | 2.8E-05 |
| | 1,2,3,4,7,8-HxCDD | 4.0E-06 | 1.1E-06 U | 1.4E-05 | 8.5E-06 U | 1.3E-06 U | 1.4E-05 |
| | 1,2,3,6,7,8-HxCDD | 1.3E-05 | 8.6E-07 U | 2.8E-05 | 1.7E-05 | 4.5E-07 | 5.3E-05 |
| | 1,2,3,7,8,9-HxCDD | 1.6E-05 | 9.5E-07 U | 5.2E-05 | 3.2E-05 | 1.2E-06 U | 6.8E-05 |
| | 1,2,3,4,7,8-HxCDF | 1.1E-06 | 6.6E-07 U | 2.2E-05 | 2.3E-06 | 5.3E-07 U | 4.0E-05 |
| | 1,2,3,6,7,8-HxCDF | 5.5E-07 | 5.8E-07 U | 8.9E-06 | 7.6E-07 | 4.7E-07 U | 1.6E-05 |
| | 1,2,3,7,8,9-HxCDF | 3.0E-07 U | 9.1E-07 U | 3.2E-06 U | 4.8E-07 U | 7.4E-07 U | 5.8E-06 |
| | 2,3,4,6,7,8-HxCDF | 1.1E-06 | 7.0E-07 U | 1.4E-05 | 1.6E-06 | 3.1E-07 | 2.4E-05 |
| | 1,2,3,4,6,7,8-HpCDD | 2.4E-04 | 3.1E-06 U | 3.5E-04 | 1.9E-04 | 4.6E-06 | 5.5E-04 |
| | 1,2,3,4,6,7,8-HpCDF | 9.7E-06 | 1.5E-06 U | 3.7E-05 | 7.6E-06 | 1.3E-06 U | 9.7E-05 |
| | 1,2,3,4,7,8,9-HpCDF | 1.0E-06 U | 8.6E-07 U | 5.0E-06 | 1.2E-06 U | 3.1E-07 U | 6.0E-06 |
| | OCTACHLORODIBENZODIOXIN | 7.7E-04 | 6.0E-06 U | 7.1E-04 | 3.7E-04 | 1.2E-05 | 1.4E-03 |
| | OCTACHLORODIBENZOFURAN | 1.3E-05 | 5.6E-06 U | 3.3E-05 | 1.4E-05 | 5.9E-06 U | 6.5E-05 |
| | TOTAL 2,3,7,8-TCDD EQUIVALENTS | 1.0E-05 | 9.5E-08 U | 3.7E-05 | 1.4E-05 | 1.8E-07 | 7.1E-05 |

*Summary of Analytes Detected in Soil for the Old Burn Area (SWMU 6)*

*Subsurface Soil (continued)*

| Group | Analytes | OBP-95-03C 4 ft | | OBP-95-04B 1 ft | | OBP-95-04C 2.5 ft | |
|---|---|---|---|---|---|---|---|
| DIOXINS | 2,3,7,8-TCDD | 1.0E-06 | U | 2.2E-07 | U | 7.9E-07 | U |
| | 2,3,7,8-TCDF | 2.0E-06 | | 4.8E-06 | | 4.5E-07 | |
| | 1,2,3,7,8-PeCDD | 8.0E-07 | U | 1.5E-06 | | 6.8E-07 | U |
| | 1,2,3,7,8-PeCDF | 3.6E-07 | | 1.4E-06 | | 3.0E-07 | U |
| | 2,3,4,7,8-PeCDF | 4.4E-07 | | 2.2E-06 | | 3.3E-07 | U |
| | 1,2,3,4,7,8-HxCDD | 5.8E-07 | U | 1.2E-06 | U | 3.8E-07 | U |
| | 1,2,3,6,7,8-HxCDD | 1.4E-06 | | 2.8E-06 | U | 3.1E-07 | U |
| | 1,2,3,7,8,9-HxCDD | 1.8E-06 | | 3.6E-06 | | 3.4E-07 | U |
| | 1,2,3,4,7,8-HxCDF | 6.4E-07 | U | 5.0E-06 | | 3.1E-07 | U |
| | 1,2,3,6,7,8-HxCDF | 5.2E-07 | U | 2.3E-06 | U | 2.8E-07 | U |
| | 1,2,3,7,8,9-HxCDF | 1.9E-07 | | 6.7E-07 | U | 4.3E-07 | U |
| | 2,3,4,6,7,8-HxCDF | 4.8E-07 | | 2.3E-06 | U | 3.4E-07 | U |
| | 1,2,3,4,6,7,8-HpCDD | 1.5E-05 | | 3.8E-05 | | 2.1E-06 | |
| | 1,2,3,4,6,7,8-HpCDF | 2.4E-06 | U | 1.3E-05 | | 1.0E-06 | U |
| | 1,2,3,4,7,8,9-HpCDF | 7.5E-07 | U | 1.9E-06 | U | 3.9E-07 | U |
| | OCTACHLORODIBENZODIOXIN | 4.2E-05 | | 1.6E-04 | | 9.3E-06 | |
| | OCTACHLORODIBENZOFURAN | 5.9E-06 | U | 1.7E-05 | | 3.3E-06 | |
| | TOTAL 2,3,7,8-TCDD EQUIVALENTS | 1.0E-06 | | 4.0E-06 | | 7.9E-08 | |

All values are in µg/g (equal to ppm)
NA = Not analyzed
U = Not detected; value is the Certified Reporting Limit.
Dup = Duplicate analysis
J = Value is estimated
GT = Greater than.
TCDD = Tetrachlorodibenzo-p-dioxin.
TCDF = Tetrachlorodibenzofuran.

*Summary of Analytes Detected in Soil for the Chemical Range (SWMU 07)*

*Firing Point Area - Surface Soil*

| Group | Analytes | CRS-92-101 0 ft | | CRS-92-201 0 ft | | CRS-92-301 0 ft | | CRP-94-15A 0.5 ft | | CRS-94-17 0.5 ft | | CRS-94-18 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | NA | | NA | | NA | | 12,700 | | 19,700 | | 23,200 | |
| | ARSENIC | 72 | U | 240 | U | 48 | U | 3.25 | | 5.08 | | 5.24 | |
| | BARIUM | 130 | | 140 | | 130 | | 93.6 | | 143 | | 147 | |
| | BERYLLIUM | 0.078 | U | 0.078 | U | 0.078 | U | 0.556 | | 0.539 | | 0.718 | |
| | CALCIUM | NA | | NA | | NA | | 19,600 | | 13,100 | | 15,600 | |
| | CHROMIUM | 16.6 | | 17.6 | | 14 | | 13.9 | | 22.7 | | 25.4 | |
| | COBALT | NA | | NA | | NA | | 3.51 | | 6.84 | | 6.95 | |
| | COPPER | 9.75 | | 8.4 | | 8.48 | | 7.35 | | 22.1 | | 14.2 | |
| | IRON | 17,000 | | 19,000 | | 19,000 | | 13,600 | | 17,300 | | 19,600 | |
| | LEAD | 8.4 | | 11 | | 7 | | 7.44 | U | 31.2 | | 11.7 | |
| | MAGNESIUM | NA | | NA | | NA | | 5,970 | | 7,780 | | 8,780 | |
| | MANGANESE | NA | | NA | | NA | | 25.9 | U | 480 | | 455 | |
| | NICKEL | 2.46 | U | 2.46 | U | 2.46 | U | 11.5 | J | 11.4 | | 13.2 | |
| | POTASSIUM | NA | | NA | | NA | | 2,060 | | 5,670 | | 6,450 | |
| | SILVER | 0.0692 | | 0.0524 | | 0.0497 | | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | NA | | NA | | NA | | 3,850 | | 358 | | 331 | |
| | VANADIUM | NA | | NA | | NA | | 21.5 | | 26.6 | | 29.7 | |
| | ZINC | 64 | | 45 | | 45 | | 28.2 | | 61.5 | | 56.2 | |
| SEMIVOLATILES | BUTYLBENZYL PHTHALATE | 0.33 | UJ | 0.33 | UJ | 0.292 | | 1.8 | U | 1.8 | U | 1.8 | U |

*Summary of Analytes Detected in Soil for the Chemical Range (SWMU 07)*

*Firing Point Area - Subsurface Soil*

| Group | Analytes | CRT-92-101 2.5 ft | | CRT-92-102 5 ft | | CRT-92-103 7.5 ft | | CRT-92-104 10 ft | | CRT-92-201 2.5 ft | | CRT-92-202 5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ARSENIC | 240 | U | 72 | U | 240 | U | 24 | U | 240 | U | 72 | U |
| | BARIUM | 130 | | 140 | | 110 | | 45 | | 190 | | 130 | |
| | BERYLLIUM | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U |
| | CADMIUM | 0.424 | U | 0.424 | U | 0.424 | U | 0.424 | U | 0.424 | U | 0.424 | U |
| | CALCIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | CHROMIUM | 15.1 | | 17.5 | | 12.6 | | 5.41 | | 18.3 | | 14.9 | |
| | COBALT | NA | | NA | | NA | | NA | | NA | | NA | |
| | COPPER | 6.62 | | 16.3 | | 7.32 | | 6.26 | | 7.63 | | 6.05 | |
| | IRON | 16,000 | | 22,000 | | 15,000 | | 8,200 | | 21,000 | | 16,000 | |
| | LEAD | 14 | | 31 | | 9.4 | | 4.9 | | 11 | | 8.7 | |
| | MAGNESIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | MANGANESE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NICKEL | 2.46 | U | 2.46 | U | 2.46 | U | 2.46 | U | 2.46 | U | 2.46 | U |
| | POTASSIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | SILVER | 0.0461 | | 0.0389 | | 0.0277 | | 0.0166 | | 0.0484 | | 0.0231 | |
| | SODIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | VANADIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ZINC | 37 | | 800 | | 110 | | 88 | | 46 | | 36 | |
| SEMIVOLATILES | BENZYL ALCOHOL | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ |
| | BIS (2-ETHYHEXYL) PHTHALATE | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U | 0.339 | |
| | BUTYLBENZYL PHTHALATE | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.665 | |
| | DI-N-BUTYL PHTHALATE | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ |
| | HEXACHLOROBENZENE | 0.26 | U | 0.26 | U | 0.26 | U | 0.26 | U | 0.26 | U | 0.26 | U |

*Summary of Analytes Detected in Soil for the Chemical Range (SWMU 07)*

*Firing Point Area - Subsurface Soil (continued)*

| Group | Analytes | CRT-92-203 7.5 ft | | CRT-92-204 10 ft | | CRT-92-301 2.5 ft | | CRT-92-302 5 ft | | CRT-92-303 7.5 ft | | CRT-92-304 10 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ARSENIC | 72 | U | 24 | U | 48 | U | 24 | U | 24 | U | 24 | U |
| | BARIUM | 120 | | 45 | | 120 | | 130 | | 120 | | 110 | |
| | BERYLLIUM | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U |
| | CADMIUM | 0.424 | U | 0.424 | U | 0.424 | U | 0.424 | U | 0.424 | U | 0.424 | U |
| | CALCIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | CHROMIUM | 14.3 | | 3.9 | U | 12.9 | | 13.1 | | 12.1 | | 11.9 | |
| | COBALT | NA | | NA | | NA | | NA | | NA | | NA | |
| | COPPER | 6.11 | | 2.44 | | 5.92 | | 7.11 | | 6.33 | | 6.82 | |
| | IRON | 15,000 | | 4,900 | | 16,000 | | 24,000 | | 15,000 | | 16,000 | |
| | LEAD | 8.9 | | 4.8 | | 12 | | 11 | | 9.7 | | 10 | |
| | MAGNESIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | MANGANESE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NICKEL | 2.46 | U | 2.46 | U | 2.46 | U | 2.46 | U | 2.46 | U | 2.46 | U |
| | POTASSIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | SILVER | 0.0284 | | 0.0166 | | 0.0289 | | 0.0277 | | 0.0305 | | 0.0293 | |
| | SODIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | VANADIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ZINC | 37 | | 10.9 | | 34 | | 42 | | 37 | | 39 | |
| SEMIVOLATILES | BENZYL ALCOHOL | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ |
| | BIS (2-ETHYHEXYL) PHTHALATE | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U |
| | BUTYLBENZYL PHTHALATE | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ |
| | DI-N-BUTYL PHTHALATE | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ |
| | HEXACHLOROBENZENE | 0.26 | U | 0.26 | U | 0.26 | U | 0.26 | U | 0.26 | U | 0.26 | U |

*Summary of Analytes Detected in Soil for the Chemical Range (SWMU 07)*

*Firing Point Area - Subsurface Soil (continued)*

| Group | Analytes | CRP-94-01A 5 ft | | CRP-94-01B 7 ft | | CRP-94-01C 9 ft | | CRP-94-01D 10 ft | | CRP-94-02A 5 ft | | CRP-94-02B 7 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 17,600 | | 10,800 | | 12,700 | | 4,630 | | 17,800 | | 15,900 | |
| | ARSENIC | 5.67 | | 4.77 | | 5.85 | | 3.58 | | 17.5 | | 5.02 | |
| | BARIUM | 139 | | 89.4 | | 126 | | 46.6 | | 123 | | 111 | |
| | BERYLLIUM | 0.842 | | 0.562 | | 0.657 | | 0.427 | U | 0.701 | | 0.73 | |
| | CADMIUM | 1.2 | U | 1.2 | U | 2.63 | | 1.2 | U | 9.48 | | 1.2 | U |
| | CALCIUM | 39,500 | | 19,800 | | 25,200 | | 14,500 | | 23,600 | | 27,200 | |
| | CHROMIUM | 17.6 | | 11.4 | | 18.8 | | 5.66 | | 19.2 | | 16.5 | |
| | COBALT | 8.05 | | 5.17 | | 6.39 | | 3.06 | | 7.52 | | 6.7 | |
| | COPPER | 10.1 | | 12.2 | | 28.8 | | 32.1 | | 99.6 | | 7.7 | |
| | IRON | 18,100 | | 13,200 | | 22,300 | | 10,200 | | 25,100 | | 15,200 | |
| | LEAD | 7.44 | U | 7.44 | U | 48.5 | | 7.44 | U | 19.6 | | 7.44 | U |
| | MAGNESIUM | 7,280 | | 5,390 | | 5,470 | | 2,300 | | 6,740 | | 6,420 | |
| | MANGANESE | 381 | | 287 | | 326 | | 27.9 | U | 448 | | 357 | |
| | NICKEL | 13.3 | | 9.35 | | 11.9 | | 4.96 | | 15.5 | | 11.3 | |
| | POTASSIUM | 4,260 | | 2,650 | | 2,860 | | 1,080 | | 4,370 | | 3,290 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 333 | | 300 | | 291 | | 195 | | 249 | | 488 | |
| | VANADIUM | 29.9 | | 19.1 | | 20.7 | | 2.81 | U | 26.2 | | 24 | |
| | ZINC | 47.7 | | 218 | | 1,040 | | 697 | | 12,000 | | 51.7 | |
| SEMIVOLATILES | BENZYL ALCOHOL | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U | 0.064 | |
| | BIS (2-ETHYHEXYL) PHTHALATE | 0.48 | U | 0.48 | U | 0.48 | U | 0.48 | U | 0.48 | U | 0.48 | U |
| | BUTYLBENZYL PHTHALATE | 1.8 | U | 1.8 | U | 1.8 | U | 1.8 | U | 1.8 | U | 1.8 | U |
| | DI-N-BUTYL PHTHALATE | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 2.6 | | 1.3 | U |
| | HEXACHLOROBENZENE | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U | 0.34 | | 0.08 | U |

*Summary of Analytes Detected in Soil for the Chemical Range (SWMU 07)*

*Firing Point Area - Subsurface Soil (continued)*

| Group | Analytes | CRP-94-02C 9 ft | | CRP-94-02D 10 ft | | CRP-94-03A 5 ft | | CRP-94-03B 7 ft | | CRP-94-03C 9 ft | | CRP-94-03D 10 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 13,500 | | 20,100 | | 16,200 | | 17,000 | | 9,420 | | 17,100 | |
| | ARSENIC | 4.29 | | 6.2 | | 6.1 | | 6.07 | | 3.92 | | 5.14 | |
| | BARIUM | 103 | | 148 | | 119 | | 135 | | 86.2 | | 138 | |
| | BERYLLIUM | 0.736 | | 1.02 | | 0.742 | | 0.427 | U | 0.427 | U | 0.736 | |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 27,500 | | 27,900 | | 32,200 | | 25,300 | | 19,300 | | 18,300 | |
| | CHROMIUM | 14 | | 20.7 | | 15.8 | | 15.8 | | 10.7 | | 16.9 | |
| | COBALT | 6.06 | | 8.56 | | 7.26 | | 6.93 | | 5.18 | | 6.38 | |
| | COPPER | 11.5 | | 42.5 | | 9.7 | | 8.73 | | 4.28 | | 9 | |
| | IRON | 12,900 | | 24,200 | | 15,800 | | 15,100 | | 9,600 | | 16,200 | |
| | LEAD | 7.44 | U | 12.5 | | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 5,070 | | 7,390 | | 7,210 | | 6,270 | | 4,220 | | 6,970 | |
| | MANGANESE | 289 | | 413 | | 364 | | 332 | | 288 | | 390 | |
| | NICKEL | 10.9 | | 15.2 | | 12.2 | | 11.5 | | 7.91 | | 11.3 | |
| | POTASSIUM | 2,690 | | 4,480 | | 3,830 | | 3,810 | | 2,070 | | 3,870 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 502 | | 312 | | 1,030 | | 2,070 | | 996 | | 1,900 | |
| | VANADIUM | 21.5 | | 29.6 | | 23.9 | | 25.1 | | 16.2 | | 25.2 | |
| | ZINC | 178 | | 2500 | | 43.8 | | 39.7 | | 27.9 | | 46.4 | |
| SEMIVOLATILES | BENZYL ALCOHOL | 0.032 | U | 0.032 | U | 0.061 | | 0.043 | | 0.032 | U | 0.079 | |
| | BIS (2-ETHYHEXYL) PHTHALATE | 0.48 | U | 0.48 | U | 0.48 | U | 0.48 | U | 0.48 | U | 0.48 | U |
| | BUTYLBENZYL PHTHALATE | 1.8 | U | 1.8 | U | 1.8 | U | 1.8 | U | 1.8 | U | 1.8 | U |
| | DI-N-BUTYL PHTHALATE | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U |
| | HEXACHLOROBENZENE | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U |

*Summary of Analytes Detected in Soil for the Chemical Range (SWMU 07)*

*Firing Point Area - Subsurface Soil (continued)*

| Group | Analytes | CRP-94-04A 5 ft | | CRP-94-04B 7 ft | | CRP-94-04C 9 ft | | CRP-94-04D 10 ft | | CRP-94-05A 4 ft | | CRP-94-05B 5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 17,300 | | 12,300 | | 10,600 | | 7,410 | | 16,700 | | 16,200 | |
| | ARSENIC | 4.55 | | 5.23 | | 4.26 | | 3.86 | | 5.53 | | 5.57 | |
| | BARIUM | 149 | | 83.9 | | 83.3 | | 64.7 | | 152 | | 136 | |
| | BERYLLIUM | 0.761 | | 0.613 | | 0.427 | U | 0.521 | | 0.848 | | 0.739 | |
| | CADMIUM | 1.81 | | 1.2 | U | 1.2 | U | 1.2 | U | 21.6 | | 12.8 | |
| | CALCIUM | 35,100 | | 24,800 | | 16,300 | | 14,100 | | 45,100 | | 38,000 | |
| | CHROMIUM | 16.5 | | 13.4 | | 11.2 | | 7.92 | | 16.5 | | 15.5 | |
| | COBALT | 6.78 | | 5.35 | | 4.75 | | 3.52 | | 8.68 | | 7.22 | |
| | COPPER | 8.21 | | 5.34 | | 4.91 | | 10.2 | | 13 | | 11 | |
| | IRON | 15,900 | | 12,500 | | 10,900 | | 8,390 | | 16,100 | | 15,700 | |
| | LEAD | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 6,570 | | 4,900 | | 4,430 | | 3,210 | | 6,730 | | 6,640 | |
| | MANGANESE | 364 | | 296 | | 249 | | 189 | | 508 | | 430 | |
| | NICKEL | 12.3 | | 10.3 | | 7.53 | | 6.32 | | 16.8 | | 13.8 | |
| | POTASSIUM | 4,600 | | 2,730 | | 2,240 | | 1,730 | | 4,290 | | 4,180 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 287 | | 293 | | 493 | | 252 | | 262 | | 308 | |
| | VANADIUM | 24.7 | | 23 | | 17 | | 2.81 | U | 25.5 | | 24.9 | |
| | ZINC | 356 | | 47 | | 35.1 | | 231 | | 6,300 | | 5,300 | |
| SEMIVOLATILES | BENZYL ALCOHOL | 0.067 | | 0.062 | | 0.051 | | 0.065 | | 0.047 | | 0.052 | |
| | BIS (2-ETHYHEXYL) PHTHALATE | 0.48 | U | 0.48 | U | 0.48 | U | 0.48 | U | 0.48 | U | 0.48 | U |
| | BUTYLBENZYL PHTHALATE | 1.8 | U | 1.8 | U | 1.8 | U | 1.8 | U | 1.8 | U | 1.8 | U |
| | DI-N-BUTYL PHTHALATE | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U |
| | HEXACHLOROBENZENE | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U |

*Summary of Analytes Detected in Soil for the Chemical Range (SWMU 07)*

*Firing Point Area - Subsurface Soil (continued)*

| Group | Analytes | CRP-94-05C 7 ft | | CRP-94-05D 10 ft | | CRP-94-15B 5 ft | | CRP-94-15C 10 ft | |
|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 16,200 | | 14,400 | | 14,500 | | 7,970 | |
| | ARSENIC | 5.02 | | 4.5 | | 4.94 | | 4.1 | |
| | BARIUM | 125 | | 116 | | 86.2 | | 72.9 | |
| | BERYLLIUM | 0.785 | | 0.77 | | 0.604 | | 0.427 | U |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 30,000 | | 20,100 | | 38,700 | | 37,500 | |
| | CHROMIUM | 16.1 | | 14.6 | | 13 | | 7.58 | |
| | COBALT | 5.98 | | 6.25 | | 5.42 | | 3.37 | |
| | COPPER | 11.4 | | 8.66 | | 8.53 | | 5.61 | |
| | IRON | 16,000 | | 14,800 | | 13,500 | | 8,550 | |
| | LEAD | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 6,220 | | 5,730 | | 6,240 | | 4,220 | |
| | MANGANESE | 359 | | 362 | | 286 | | 145 | |
| | NICKEL | 12.2 | | 11.7 | | 10.7 | J | 5.55 | J |
| | POTASSIUM | 3,690 | | 3,070 | | 3,440 | | 1,990 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 385 | | 394 | | 1,790 | | 918 | |
| | VANADIUM | 25 | | 22.1 | | 20.7 | | 13.6 | |
| | ZINC | 186 | | 47.4 | | 30 | | 21.2 | |
| SEMIVOLATILES | BENZYL ALCOHOL | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U |
| | BIS (2-ETHYHEXYL) PHTHALATE | 0.48 | U | 0.48 | U | 0.48 | U | 0.48 | U |
| | BUTYLBENZYL PHTHALATE | 1.8 | U | 1.8 | U | 1.8 | U | 1.8 | U |
| | DI-N-BUTYL PHTHALATE | 1.3 | U | 1.3 | U | 3.2 | U | 3.2 | U |
| | HEXACHLOROBENZENE | 0.08 | U | 0.08 | U | 0.08 | U | 0.08 | U |

*Summary of Analytes Detected in Soil for the Chemical Range (SWMU 07)*

*Bullet Stop - Surface Soil*

| Group | Analytes | CRP-94-13A 0.5 ft | | CRP-94-14A 0.5 ft | | CRS-94-04 0.5 ft | | CRS-94-05 0.5 ft | | CRS-94-06 0.5 ft | | CRS-94-07 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 18,100 | | 819 | U | 22,100 | | 22,600 | | 18,500 | | 17,600 | |
| | ARSENIC | 5.42 | | 8.64 | | 5.64 | | 6.24 | | 5.42 | | 5.05 | |
| | BARIUM | 136 | | 8.76 | U | 194 | | 201 | | 172 | | 147 | |
| | BERYLLIUM | 0.737 | | 0.427 | U | 0.65 | | 0.617 | | 0.427 | U | 0.427 | U |
| | CALCIUM | 36,300 | | 34,900 | | 6,290 | | 20,400 | | 20,200 | | 21,400 | |
| | CHROMIUM | 17.7 | | 3.49 | | 24.6 | | 24.1 | | 20.2 | | 20.6 | |
| | COBALT | 5.67 | | 2.5 | U | 8.12 | | 7.02 | | 5.68 | | 5.57 | |
| | COPPER | 14.1 | | 2.84 | U | 26.3 | | 20.7 | | 20.6 | | 16.2 | |
| | IRON | 17,600 | | 1,360 | U | 22,300 | | 20,000 | | 16,600 | | 16,700 | |
| | LEAD | 12.8 | | 7.44 | U | 29.8 | | 19.3 | | 24.4 | | 136 | |
| | MAGNESIUM | 9,740 | | 2,150 | | 9,140 | | 10,900 | | 9,130 | | 7,650 | |
| | MANGANESE | 375 | | 25.9 | U | 632 | | 615 | | 520 | | 400 | |
| | NICKEL | 14 | J | 3.63 | J | 13.2 | | 11.1 | | 10.1 | | 9.87 | |
| | POTASSIUM | 5,700 | | 218 | U | 6,450 | | 6,920 | | 5,860 | | 5,280 | |
| | SODIUM | 277 | | 126 | | 574 | | 528 | | 518 | | 421 | |
| | THALLIUM | 40.2 | J | 34.3 | UJ | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U |
| | VANADIUM | 22.3 | | 2.41 | U | 32.3 | | 30.4 | | 26 | | 26.2 | |
| | ZINC | 50.2 | | 38.7 | | 71.2 | | 66.5 | | 59.1 | | 49.4 | |

*Summary of Analytes Detected in Soil for the Chemical Range (SWMU 07)*

*Bullet Stop - Surface Soil (continued)*

| Group | Analytes | CRS-94-08 0.5 ft | | CRS-94-09 0.5 ft | | CRS-94-10 0.5 ft | | CRS-94-11 0.5 ft | | CRS-94-12 0.5 ft | | CRS-94-13 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 16,100 | | 10,500 | | 11,800 | | 15,100 | | 16,100 | | 21,600 | |
| | ARSENIC | 6.02 | | 4.18 | | 3.95 | | 4.34 | | 5.39 | | 4.8 | |
| | BARIUM | 141 | | 99.5 | | 98.5 | | 124 | | 124 | | 150 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.649 | |
| | CALCIUM | 19,400 | | 16,200 | | 10,700 | | 9,520 | | 34,400 | | 44,300 | |
| | CHROMIUM | 17.7 | | 11.8 | | 13.5 | | 17.3 | | 19.4 | | 26 | |
| | COBALT | 5.66 | | 4.32 | | 4.61 | | 5.15 | | 5.42 | | 6.56 | |
| | COPPER | 19.5 | | 22.1 | | 14 | | 17 | | 19.9 | | 14.8 | |
| | IRON | 16,500 | | 11,100 | | 12,700 | | 15,600 | | 15,900 | | 19,400 | |
| | LEAD | 298 | | 164 | | 19.2 | | 21.6 | | 24.8 | | 12.2 | |
| | MAGNESIUM | 6,190 | | 4,180 | | 5,540 | | 7,370 | | 7,880 | | 9,680 | |
| | MANGANESE | 369 | | 237 | | 288 | | 390 | | 377 | | 418 | |
| | NICKEL | 9.8 | | 7.1 | | 6.9 | | 9.74 | | 12.5 | | 14.5 | |
| | POTASSIUM | 4,640 | | 2,730 | | 3,070 | | 4,340 | | 4,420 | | 6,440 | |
| | SODIUM | 385 | | 374 | | 424 | | 444 | | 433 | | 372 | |
| | THALLIUM | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U |
| | VANADIUM | 24.6 | | 15.8 | | 18 | | 21.5 | | 23.5 | | 30.2 | |
| | ZINC | 49.5 | | 34.5 | | 39.4 | | 50.4 | | 52.2 | | 56 | |

*Summary of Analytes Detected in Soil for the Chemical Range (SWMU 07)*

*Bullet Stop - Surface Soil (continued)*

| Group | Analytes | CRS-94-14 0.5 ft | | CRS-94-15 0.5 ft | | CRS-94-16 0.5 ft | |
|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 19,200 | | 21,000 | | 21,400 | |
| | ARSENIC | 5.23 | | 4.59 | | 4.54 | |
| | BARIUM | 140 | | 173 | | 190 | |
| | BERYLLIUM | 0.582 | | 0.562 | | 0.695 | |
| | CALCIUM | 32,900 | | 27,400 | | 26,000 | |
| | CHROMIUM | 22.9 | | 25.4 | | 23.7 | |
| | COBALT | 6.45 | | 6.63 | | 7.6 | |
| | COPPER | 17.1 | | 20.4 | | 17.6 | |
| | IRON | 18,000 | | 19,300 | | 20,000 | |
| | LEAD | 15.9 | | 24.4 | | 16.5 | |
| | MAGNESIUM | 9,580 | | 11,200 | | 11,700 | |
| | MANGANESE | 444 | | 502 | | 602 | |
| | NICKEL | 13.3 | | 11.9 | | 13.8 | |
| | POTASSIUM | 5,530 | | 6,600 | | 6,960 | |
| | SODIUM | 427 | | 573 | | 614 | |
| | THALLIUM | 34.3 | U | 34.3 | U | 34.3 | U |
| | VANADIUM | 25.6 | | 30.1 | | 27.3 | |
| | ZINC | 56.5 | | 61.7 | | 61.4 | |

*Summary of Analytes Detected in Soil for the Chemical Range (SWMU 07)*

*Bullet Stop - Subsurface Soil*

| Group | Analytes | CRP-94-13B 5 ft | | CRP-94-13C 10 ft | | CRP-94-14B 5 ft | | CRP-94-14C 10 ft | |
|---|---|---|---|---|---|---|---|---|---|
| METALS | ARSENIC | 3.96 | | 3.5 | | 5.2 | | 17.6 | |
| | CADMIUM | 1.2 | U | 1.56 | | 1.2 | U | 1.2 | U |
| | CALCIUM | 13,500 | | 4,200 | | 20,900 | | 8,420 | |
| | CHROMIUM | 4.77 | | 3.76 | | 2.57 | | 1.66 | |
| | COPPER | 3.99 | | 7 | | 2.84 | U | 2.84 | U |
| | IRON | 6,850 | | 1,360 | U | 1,360 | U | 1,360 | U |
| | MAGNESIUM | 1,670 | | 172 | U | 2,010 | | 1,200 | |
| | NICKEL | 4.19 | J | 3.83 | J | 3.67 | J | 2.74 | U |
| | SODIUM | 102 | | 64.6 | | 74.6 | | 302 | |
| | ZINC | 13.7 | | 9,900 | | 15.6 | | 24.3 | |

*Summary of Analytes Detected in Soil for the Chemical Range (SWMU 07)*

*Northwest Trench - Surface Soil*

| Group | Analytes | CRP-94-06A 0.5 ft | | CRP-94-07A 0.5 ft | | CRP-94-08A 0.5 ft | | CRP-94-09A 0.5 ft | | CRP-94-09A 0.5 ft (dup) | | CRP-94-10A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 23,700 | | 26,300 | | 39,800 | | 23,600 | | 26,500 | | 24,600 | |
| | ARSENIC | 7.21 | | 7 | | 5.62 | | 5.71 | | 2.5 | U | 6.09 | |
| | BARIUM | 220 | | 289 | | 412 | | 212 | | 257 | | 227 | |
| | BERYLLIUM | 1.11 | | 1.17 | | 1.71 | | 0.945 | | 1.11 | | 1.05 | |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 47,400 | | 46,300 | | 49,500 | | 34,800 | | 47,800 | | 35,700 | |
| | CHROMIUM | 23.2 | | 23.3 | | 34.3 | | 22.1 | | 22.8 | | 22.4 | |
| | COBALT | 6.53 | | 8.22 | | 11.2 | | 7.62 | | 8.49 | | 7.6 | |
| | COPPER | 20.8 | | 21.6 | | 26.6 | | 26.4 | | 21.5 | | 21 | |
| | IRON | 23,200 | | 25,600 | | 35,000 | | 21,400 | | 24,800 | | 24,300 | |
| | LEAD | 22.5 | | 20.2 | | 25.5 | | 36.3 | | 19.2 | | 21 | |
| | MAGNESIUM | 14,600 | | 16,300 | | 21,300 | | 13,800 | | 16,000 | | 15,500 | |
| | MANGANESE | 589 | | 649 | | 732 | | 637 | | 611 | | 646 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 16.5 | J | 18.3 | J | 24.2 | J | 15.8 | J | 17.2 | J | 16.7 | J |
| | POTASSIUM | 9,250 | | 10,700 | | 15,700 | | 9,300 | | 10,900 | | 11,100 | |
| | SODIUM | 657 | | 731 | | 961 | | 780 | | 912 | | 1,240 | |
| | THALLIUM | 34.3 | UJ | 35.8 | J | 34.3 | UJ | 38.2 | J | 34.3 | UJ | 34.3 | UJ |
| | VANADIUM | 27.8 | | 27.4 | | 39.9 | | 27.8 | | 28 | | 26 | |
| | ZINC | 73 | | 78.4 | | 99.9 | | 70 | | 72.2 | | 73.4 | |
| SEMIVOLATILES | BENZYL ALCOHOL | 0.032 | U | 0.032 | U | 0.032 | U | 0.052 | | 0.032 | U | 0.032 | U |

*Summary of Analytes Detected in Soil for the Chemical Range (SWMU 07)*

*Northwest Trench - Surface Soil (Continued)*

| Group | Analytes | CRP-94-11A 0.5 ft | | CRP-94-12A 0.5 ft | | CRS-94-01 0.5 ft | | CRS-94-02 0.5 ft | | CRS-94-03 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 819 | U | 819 | U | 12600 | | 23100 | | 13600 | |
| | ARSENIC | 2.5 | U | 9.49 | | 4.79 | | 7.09 | | 4.95 | |
| | BARIUM | 8.76 | U | 8.76 | U | 107 | | 189 | | 130 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.631 | | 1.15 | | 0.427 | U |
| | CADMIUM | 1.2 | U | 4.94 | | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 100,000 | | 4,900 | | 7,030 | | 29,700 | | 10,400 | |
| | CHROMIUM | 1.28 | | 5.41 | | 15 | | 25.1 | | 14.5 | |
| | COBALT | 2.5 | U | 2.66 | | 5.23 | | 8.45 | | 5.56 | |
| | COPPER | 4.03 | | 10.1 | | 15.3 | | 20.8 | | 21.5 | |
| | IRON | 1,360 | U | 1,360 | U | 14,700 | | 21,700 | | 15,100 | |
| | LEAD | 7.44 | U | 10.8 | | 16.6 | | 19.7 | | 30.4 | |
| | MAGNESIUM | 901 | | 172 | U | 5,100 | | 12,200 | | 6,980 | |
| | MANGANESE | 25.9 | U | 25.9 | U | 318 | | 514 | | 382 | |
| | MERCURY | 0.05 | U | 0.0897 | | 0.0534 | | 0.05 | U | 0.05 | U |
| | NICKEL | 4.53 | J | 5.81 | J | 8.99 | | 15 | | 8.96 | |
| | POTASSIUM | 218 | U | 218 | U | 3,370 | | 7,220 | | 3,860 | |
| | SODIUM | 56.6 | | 75.6 | | 326 | | 501 | | 514 | |
| | THALLIUM | 34.3 | UJ | 37.3 | J | 34.3 | U | 34.3 | U | 34.3 | U |
| | VANADIUM | 2.41 | U | 2.41 | U | 19 | | 31.2 | | 19.1 | |
| | ZINC | 11.1 | | 811 | | 43.1 | | 67.8 | | 49.4 | |
| SEMIVOLATILES | BENZYL ALCOHOL | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U |

*Summary of Analytes Detected in Soil for the Chemical Range (SWMU 07)*

*Northwest Trench - Subsurface Soil*

| Group | Analytes | CRP-94-06B 5 ft | | CRP-94-06C 10 ft | | CRP-94-07B 5 ft | | CRP-94-07C 10 ft | | CRP-94-08B 5 ft | | CRP-94-08C 10 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 40,100 | | 6,110 | | 42,400 | | 11,200 | | 40,100 | | 819 | U |
| | ARSENIC | 11.3 | | 5.11 | | 11.6 | | 2.5 | U | 9.82 | | 3.78 | |
| | BARIUM | 245 | | 60 | | 265 | | 78.4 | | 239 | | 8.76 | U |
| | BERYLLIUM | 1.79 | | 0.604 | | 1.77 | | 0.541 | | 1.64 | | 0.765 | |
| | CALCIUM | 34,300 | | 85,000 | | 38,300 | | 4,000 | | 40,300 | | 140,000 | |
| | CHROMIUM | 38.3 | | 7.5 | | 37.9 | | 12.9 | | 36.2 | | 3.5 | |
| | COBALT | 9.72 | | 4.21 | | 11.1 | | 5.44 | | 10.3 | | 5.13 | |
| | COPPER | 22.4 | | 3.6 | | 24.2 | | 7.87 | | 23.2 | | 11.9 | |
| | IRON | 35,900 | | 7,000 | | 36,500 | | 13,100 | | 34,600 | | 1,360 | U |
| | LEAD | 19.7 | | 10.9 | | 21.9 | | 10.7 | | 19.1 | | 7.44 | U |
| | MAGNESIUM | 12,700 | | 4,970 | | 13,700 | | 3,250 | | 13,300 | | 1,920 | |
| | MANGANESE | 513 | | 25.9 | U | 545 | | 250 | | 531 | | 25.9 | U |
| | MERCURY | 0.05 | U | 0.119 | | 0.05 | U | 0.0595 | | 0.05 | U | 0.05 | U |
| | NICKEL | 27 | J | 5.08 | J | 26.8 | J | 11.7 | J | 25.2 | J | 13.6 | J |
| | POTASSIUM | 9,440 | | 218 | U | 10,600 | | 1,880 | | 10,500 | | 218 | U |
| | SODIUM | 6,140 | | 1,950 | | 6,800 | | 2,750 | | 6,840 | | 1,420 | |
| | THALLIUM | 34.3 | UJ | 34.3 | UJ | 34.3 | UJ | 34.3 | UJ | 55.3 | J | 34.3 | UJ |
| | VANADIUM | 49.4 | | 2.41 | U | 48.5 | | 16.2 | | 47.8 | | 2.41 | U |
| | ZINC | 85.1 | | 15.2 | | 89.3 | | 36.9 | | 84.1 | | 8.84 | |
| SEMIVOLATILES | BENZYL ALCOHOL | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U |

*Summary of Analytes Detected in Soil for the Chemical Range (SWMU 07)*

*Northwest Trench - Subsurface Soil (continued)*

| Group | Analytes | CRP-94-09B 5 ft | | CRP-94-09B 5 ft (dup) | | CRP-94-09C 10 ft | | CRP-94-09C 10 ft (dup) | | CRP-94-10B 5 ft | | CRP-94-10C 10 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 36,900 | | 35,100 | | 29,400 | | 31,000 | | 13,800 | | 11,200 | |
| | ARSENIC | 9.39 | | 9.16 | | 8.62 | | 8.55 | | 9.44 | | 3.74 | |
| | BARIUM | 211 | | 236 | | 215 | | 196 | | 80.8 | | 112 | |
| | BERYLLIUM | 1.55 | | 1.41 | | 1.27 | | 1.38 | | 0.637 | | 1.03 | |
| | CALCIUM | 45,000 | | 31,500 | | 31,800 | | 27,000 | | 18,600 | | 77,000 | |
| | CHROMIUM | 33.2 | | 32.3 | | 29.9 | | 29.5 | | 13.5 | | 11.5 | |
| | COBALT | 10 | | 9.19 | | 8.92 | | 9.6 | | 5.87 | | 3.81 | |
| | COPPER | 22.7 | | 21.2 | | 19.7 | | 21.7 | | 9.11 | | 9.06 | |
| | IRON | 32,900 | | 30,400 | | 29,400 | | 31,500 | | 14,200 | | 11,400 | |
| | LEAD | 18.4 | | 11.7 | | 13.8 | | 15.5 | | 9.51 | | 13.4 | |
| | MAGNESIUM | 14,000 | | 13,300 | | 10,400 | | 11,300 | | 5,150 | | 4,290 | |
| | MANGANESE | 530 | | 526 | | 490 | | 557 | | 215 | | 173 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 24 | J | 21.8 | J | 23.4 | J | 22.6 | J | 11.3 | J | 7.72 | J |
| | POTASSIUM | 10,200 | | 9,640 | | 6,020 | | 6,790 | | 3,310 | | 2,400 | |
| | SODIUM | 5,680 | | 5,250 | | 5,230 | | 5,760 | | 2,440 | | 2,590 | |
| | THALLIUM | 45.7 | J | 34.3 | UJ | 50.1 | J | 34.3 | UJ | 34.3 | UJ | 34.3 | UJ |
| | VANADIUM | 43.4 | | 42.3 | | 36.7 | | 38.2 | | 18.5 | | 2.41 | U |
| | ZINC | 83 | | 77.8 | | 73.8 | | 85 | | 31.8 | | 38.3 | |
| SEMIVOLATILES | BENZYL ALCOHOL | 0.049 | | 0.032 | U | 0.061 | | 0.056 | | 0.032 | U | 0.054 | |

*Summary of Analytes Detected in Soil for the Chemical Range (SWMU 07)*

*Northwest Trench - Subsurface Soil (continued)*

| Group | Analytes | CRP-94-11B 5 ft | | CRP-94-11C 9 ft | | CRP-94-12B 5 ft | | CRP-94-12C 10 ft | |
|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 819 | U | 819 | U | 819 | U | 819 | U |
| | ARSENIC | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | BARIUM | 8.76 | U | 8.76 | U | 8.76 | U | 8.76 | U |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CALCIUM | 65,000 | | 20,800 | | 38,000 | | 41,600 | |
| | CHROMIUM | 3.72 | | 2.91 | | 2.52 | | 3.67 | |
| | COBALT | 3.66 | | 2.5 | U | 2.5 | U | 2.5 | U |
| | COPPER | 12.9 | | 4.66 | | 2.84 | U | 3.4 | |
| | IRON | 1,360 | U | 1,360 | U | 1,360 | U | 1,360 | U |
| | LEAD | 9.24 | | 7.44 | U | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 1,990 | | 2,150 | | 1,440 | | 2,380 | |
| | MANGANESE | 158 | | 25.9 | U | 25.9 | U | 25.9 | U |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 4.61 | J | 3.5 | J | 2.74 | U | 3.84 | J |
| | POTASSIUM | 218 | U | 218 | U | 218 | U | 218 | U |
| | SODIUM | 69.1 | | 78.4 | | 49.6 | | 88.1 | |
| | THALLIUM | 48.7 | J | 34.3 | UJ | 37.4 | J | 45.7 | J |
| | VANADIUM | 2.41 | U | 2.41 | U | 2.41 | U | 2.41 | U |
| | ZINC | 33.5 | | 12.4 | | 31.7 | | 14.6 | |
| SEMIVOLATILES | BENZYL ALCOHOL | 0.032 | U | 0.041 | | 0.032 | U | 0.032 | U |

All values are in µg/g (equal to ppm)
NA = Not analyzed
U = Not detected; value is the Certified Reporting Limit.
Dup = Duplicate analysis
J = Value is estimated.

*Summary of Analytes Detected in Soil for the Small Arms Firing Range (SWMU 8)*

*Bullet Stops - Surface Soil*

| Group | Analytes | SAS-92-01 0 ft | | SAS-92-02 0 ft | | SAS-92-03 0 ft | | SAS-92-04 0 ft | | SAB-94-01A 0.5 ft | | SAB-94-02A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 14000 | | 13100 | | 15100 | | 19200 | | 10700 | | 10100 | |
| | ANTIMONY | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 143 | |
| | ARSENIC | 5.72 | | 7.34 | | 10.8 | | 8.47 | | 7.41 | | 27 | |
| | BARIUM | 183 | | 199 | | 185 | | 185 | | 129 | | 119 | |
| | BERYLLIUM | 0.571 | | 0.495 | | 0.542 | | 0.597 | | 0.581 | | 0.548 | |
| | BORON | 10.8 | | 9.79 | | 10.5 | | 19.3 | | NA | | NA | |
| | CALCIUM | 84000 | | 47300 | | 35,200 | | 31,200 | | 40,000 | | 36,800 | |
| | CHROMIUM | 16 | | 14.6 | | 18.1 | | 22.3 | | 12.9 | | 13 | |
| | COBALT | 4.91 | | 6.28 | | 6.22 | | 6.4 | | 5.29 | | 4.35 | |
| | COPPER | 18.8 | | 14.6 | | 13.1 | | 17.8 | | 10.7 | | 1700 | |
| | IRON | 15300 | | 17100 | | 18500 | | 20200 | | 15900 | | 13700 | |
| | LEAD | 190 | | 480 | | 31 | | 28 | | 12.9 | | 33000 | |
| | MAGNESIUM | 8720 | | 10100 | | 9000 | | 10800 | | 9880 | | 8860 | |
| | MANGANESE | 307 | | 308 | | 441 | | 405 | | 317 | | 267 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.0518 | | 0.05 | U |
| | NICKEL | 13.8 | | 14.2 | | 16.6 | | 15.6 | | 12.3 | | 10.9 | |
| | POTASSIUM | 2690 | | 2710 | | 3990 | | 5050 | | 1710 | | 1790 | |
| | SILVER | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U | 1 | |
| | SODIUM | 247 | | 289 | | 275 | | 358 | | 310 | | 291 | |
| | VANADIUM | 21.4 | | 20.8 | | 26 | | 30 | | 20 | | 18 | |
| | ZINC | 52.9 | | 53.9 | | 62.4 | | 71.7 | | 42.7 | | 213 | |

*Summary of Analytes Detected in Soil for the Small Arms Firing Range (SWMU 8)*

*Bullet Stops - Surface Soil (continued)*

| Group | Analytes | SAB-94-03A 0.5 ft | | SAB-94-04A 0.5 ft | | SAB-94-05A 0.5 ft | | SAB-94-06A 0.5 ft | | SAB-94-07A 0.5 ft | | SAB-94-08A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 9950 | | 6130 | | 15200 | | 17300 | | 16200 | | 14700 | |
| | ANTIMONY | 62.1 | | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 97.2 | |
| | ARSENIC | 13.9 | | 7.72 | | 7.1 | | 8.9 | | 8.81 | | 12.5 | |
| | BARIUM | 120 | | 75.3 | | 203 | | 215 | | 180 | | 192 | |
| | BERYLLIUM | 0.517 | | 0.427 | U | 0.85 | | 0.835 | | 0.839 | | 0.792 | |
| | BORON | NA | | NA | | NA | | NA | | NA | | NA | |
| | CALCIUM | 34,800 | | 27,800 | | 45,900 | | 45,900 | | 62,000 | | 44,900 | |
| | CHROMIUM | 12.6 | | 7.99 | | 17.5 | | 20 | | 18.8 | | 17 | |
| | COBALT | 4.34 | | 4 | | 7.34 | | 6.48 | | 7 | | 6.06 | |
| | COPPER | 335 | | 29.1 | | 15.6 | | 20.8 | | 178 | | 879 | |
| | IRON | 13500 | | 10600 | | 20200 | | 19800 | | 19400 | | 18900 | |
| | LEAD | 15000 | | 788 | | 545 | | 1200 | | 5900 | | 26000 | |
| | MAGNESIUM | 8100 | | 5390 | | 12200 | | 11500 | | 10900 | | 11500 | |
| | MANGANESE | 270 | | 167 | | 413 | | 374 | | 374 | | 376 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 11.2 | | 8.47 | | 14.7 | | 15 | | 15.1 | | 15.5 | |
| | POTASSIUM | 2020 | | 1190 | | 2150 | | 2910 | | 2810 | | 2760 | |
| | SILVER | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U | 1 | |
| | SODIUM | 342 | | 171 | | 382 | | 426 | | 426 | | 459 | |
| | VANADIUM | 17 | | 10.9 | | 26 | | 27 | | 25 | | 23 | |
| | ZINC | 82.7 | | 24.5 | | 58.1 | | 62.3 | | 81.8 | | 157 | |

*Summary of Analytes Detected in Soil for the Small Arms Firing Range (SWMU 8)*

*Bullet Stops - Surface Soil (continued)*

| Group | Analytes | SAB-94-09A 0.5 ft | | SAB-94-10A 0.5 ft | | SAS-94-01 0.5 ft | | SAS-94-02 0.5 ft | | SAS-94-03 0.5 ft | | SAS-94-04 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 6020 | | 4400 | | 12200 | | 5900 | | 11900 | | 15300 | |
| | ANTIMONY | 41.2 | | 19.6 | U | 42.3 | | 19.6 | U | 19.6 | U | 19.6 | U |
| | ARSENIC | 7.41 | | 5.77 | | 11.9 | | 6.38 | | 6.5 | | 6.55 | |
| | BARIUM | 74.5 | | 62.1 | | 133 | | 77.8 | | 152 | | 199 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.639 | | 0.427 | U | 0.687 | | 0.856 | |
| | BORON | NA | | NA | | NA | | NA | | NA | | NA | |
| | CALCIUM | 25300 | | 30100 | | 42600 | | 31200 | | 43400 | | 44900 | |
| | CHROMIUM | 8.2 | | 6.27 | | 15 | | 8.59 | | 16.1 | | 18.3 | |
| | COBALT | 3.34 | | 2.5 | U | 5.99 | | 3.84 | | 6.14 | | 7.71 | |
| | COPPER | 89 | | 9.25 | | 243 | | 14.5 | | 15.4 | | 15.6 | |
| | IRON | 11600 | | 9100 | | 16700 | | 10500 | | 18000 | | 20300 | |
| | LEAD | 7100 | | 117 | | 12000 | | 102 | | 39.1 | | 45.5 | |
| | MAGNESIUM | 5430 | | 5560 | | 10400 | | 6440 | | 11900 | | 12000 | |
| | MANGANESE | 172 | | 147 | | 312 | | 196 | | 371 | | 405 | |
| | MERCURY | 0.0627 | | 0.05 | U | 0.05 | U | 0.05 | U | 0.0537 | | 0.05 | U |
| | NICKEL | 7.73 | | 7.18 | | 11.5 | | 7.04 | | 13.9 | | 15.4 | |
| | POTASSIUM | 1030 | | 746 | | 2210 | | 1120 | | 2190 | | 2460 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 229 | | 215 | | 188 | | 92.7 | | 183 | | 1030 | |
| | VANADIUM | 11.4 | | 1.86 | U | 20 | | 2.71 | U | 21.6 | | 24.3 | |
| | ZINC | 34 | | 19.7 | | 73.6 | | 26.9 | | 56.1 | | 64.5 | |

*Summary of Analytes Detected in Soil for the Small Arms Firing Range (SWMU 8)*

*Bullet Stops - Surface Soil (continued)*

| Group | Analytes | SAS-94-04 0.5 ft (dup) | | SAS-94-05 0.5 ft | | SAS-94-06 0.5 ft | | SAS-94-07 0.5 ft | | SAS-94-08 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 19000 | | 17000 | | 23000 | | 26600 | | 17600 | |
| | ANTIMONY | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U |
| | ARSENIC | 6.9 | | 7.51 | | 6.53 | | 6.89 | | 6.91 | |
| | BARIUM | 201 | | 209 | | 250 | | 293 | | 215 | |
| | BERYLLIUM | 0.917 | | 0.941 | | 1.07 | | 1.27 | | 0.962 | |
| | BORON | NA | | NA | | NA | | NA | | NA | |
| | CALCIUM | 43800 | | 45700 | | 45400 | | 38100 | | 48700 | |
| | CHROMIUM | 22.1 | | 19.3 | | 25.3 | | 28.3 | | 20.6 | |
| | COBALT | 7.98 | | 7.91 | | 8.64 | | 10.2 | | 8.26 | |
| | COPPER | 16.5 | | 16.7 | | 18.4 | | 28.9 | | 16.8 | |
| | IRON | 21700 | | 21800 | | 24100 | | 26900 | | 22000 | |
| | LEAD | 71.6 | | 204 | | 60.5 | | 205 | | 51.3 | |
| | MAGNESIUM | 12200 | | 12500 | | 13600 | | 13400 | | 13200 | |
| | MANGANESE | 405 | | 438 | | 434 | | 625 | | 438 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 16.3 | | 17.2 | | 18.8 | | 20.2 | | 16.8 | |
| | POTASSIUM | 3030 | | 2730 | | 3810 | | 3940 | | 2830 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 1090 | | 552 | | 572 | | 857 | | 523 | |
| | VANADIUM | 29 | | 25.3 | | 32.8 | | 35.2 | | 27 | |
| | ZINC | 67.1 | | 70.7 | | 78 | | 89.4 | | 71.4 | |

*Summary of Analytes Detected in Soil for the Small Arms Firing Range (SWMU 8)*

*Bullet Stops - Subsurface Soil*

| Group | Analytes | SAB-94-01B 3 ft | | SAB-94-02B 3 ft | | SAB-94-03B 3 ft | | SAB-94-04B 3 ft | | SAB-94-05B 3 ft | | SAB-94-06B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 18100 | | 15200 | | 18800 | | 18100 | | 18900 | | 19600 | |
| | ANTIMONY | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U |
| | ARSENIC | 6.33 | | 8.12 | | 7.99 | | 7.34 | | 8.12 | | 6.68 | |
| | BARIUM | 172 | | 199 | | 229 | | 211 | | 189 | | 252 | |
| | BERYLLIUM | 0.875 | | 0.828 | | 0.933 | | 0.882 | | 0.964 | | 1.01 | |
| | CALCIUM | 53800 | | 49900 | | 55900 | | 51100 | | 54400 | | 53900 | |
| | CHROMIUM | 20.1 | | 19 | | 22.2 | | 21.8 | | 28.6 | | 22.1 | |
| | COBALT | 7.74 | | 6.75 | | 7.45 | | 7.34 | | 8.62 | | 8.19 | |
| | COPPER | 14.2 | | 70.4 | | 20.3 | | 18.1 | | 14.7 | | 16.9 | |
| | IRON | 21400 | | 19500 | | 21800 | | 21000 | | 25400 | | 23600 | |
| | LEAD | 16.7 | | 1500 | | 496 | | 45.1 | | 20.3 | | 22.9 | |
| | MAGNESIUM | 13500 | | 11800 | | 13100 | | 12900 | | 14500 | | 13400 | |
| | MANGANESE | 439 | | 393 | | 379 | | 420 | | 422 | | 461 | |
| | MERCURY | 0.0587 | | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 15 | | 16.6 | | 17.8 | | 17.6 | | 20.1 | | 17.7 | |
| | POTASSIUM | 2590 | | 2730 | | 3570 | | 4290 | | 2300 | | 3450 | |
| | SODIUM | 799 | | 439 | | 885 | | 683 | | 554 | | 968 | |
| | VANADIUM | 31 | | 25 | | 29.7 | | 27.2 | | 41.4 | | 31.3 | |
| | ZINC | 60.9 | | 71.3 | | 71.1 | | 77.3 | | 71 | | 77.5 | |

*Summary of Analytes Detected in Soil for the Small Arms Firing Range (SWMU 8)*

*Bullet Stops - Subsurface Soil (continued)*

| Group | Analytes | SAB-94-07B 3 ft | | SAB-94-08B 3 ft | | SAB-94-09B 3 ft | | SAB-94-10B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 18900 | | 20600 | | 13000 | | 17300 | |
| | ANTIMONY | 19.6 | U | 19.6 | U | 19.6 | U | 19.6 | U |
| | ARSENIC | 6.13 | | 7.06 | | 6.54 | | 8.47 | |
| | BARIUM | 240 | | 229 | | 144 | | 229 | |
| | BERYLLIUM | 0.972 | | 1.01 | | 0.67 | | 0.932 | |
| | CALCIUM | 46300 | | 55100 | | 38000 | | 52700 | |
| | CHROMIUM | 20.7 | | 23.5 | | 14.3 | | 20.5 | |
| | COBALT | 7.96 | | 7.91 | | 5.27 | | 8.02 | |
| | COPPER | 15.1 | | 19.1 | | 11.5 | | 17.8 | |
| | IRON | 22300 | | 23100 | | 15500 | | 21700 | |
| | LEAD | 20.9 | | 127 | | 78.9 | | 23.1 | |
| | MAGNESIUM | 13500 | | 12700 | | 8260 | | 12900 | |
| | MANGANESE | 379 | | 394 | | 257 | | 471 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.0637 | | 0.05 | U |
| | NICKEL | 17.1 | | 18.2 | | 11.9 | | 18.1 | |
| | POTASSIUM | 2750 | | 3820 | | 2260 | | 4070 | |
| | SODIUM | 1110 | | 1150 | | 674 | | 1130 | |
| | VANADIUM | 28.7 | | 32 | | 18.4 | | 26.3 | |
| | ZINC | 68 | | 76.5 | | 50.9 | | 82.5 | |

*Summary of Analytes Detected in Soil for the Small Arms Firing Range (SWMU 8)*

*Firing Lines - Surface Soil*

| Group | Analytes | SAB-94-11 0.5 ft | | SAB-94-12 0.5 ft | | SAB-94-13 0.5 ft | | SAB-94-14 0.5 ft | | SAB-94-15 0.5 ft | | SAS-94-09 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 12400 | | 16200 | | 20400 | | 20000 | | 18700 | | 20600 | |
| | ARSENIC | 5.37 | | 6.41 | | 9.07 | | 6.65 | | 6.03 | | 6.56 | |
| | BARIUM | 156 | | 161 | | 295 | | 227 | | 205 | | 222 | |
| | BERYLLIUM | 0.701 | | 0.963 | | 1.14 | | 0.922 | | 0.969 | | 0.961 | |
| | CALCIUM | 38400 | | 28000 | | 45400 | | 43000 | | 47600 | | 46700 | |
| | CHROMIUM | 15.4 | | 19.5 | | 23.4 | | 25.5 | | 23.3 | | 23.7 | |
| | COBALT | 5.62 | | 7.93 | | 10.2 | | 7.47 | | 7.98 | | 7.93 | |
| | COPPER | 11.6 | | 19 | | 19.7 | | 16.2 | | 16.5 | | 16 | |
| | IRON | 18000 | | 21800 | | 27400 | | 22700 | | 23100 | | 23000 | |
| | LEAD | 18.8 | | 33.8 | | 25.5 | | 19.1 | | 19.2 | | 20.1 | |
| | MAGNESIUM | 11500 | | 10700 | | 13600 | | 12200 | | 13200 | | 12900 | |
| | MANGANESE | 409 | | 384 | | 661 | | 398 | | 393 | | 436 | |
| | MERCURY | 0.05 | U | 0.0684 | | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 13 | | 18.4 | | 24 | | 18.2 | | 18.2 | | 17 | |
| | POTASSIUM | 1910 | | 2890 | | 3220 | | 4300 | | 3850 | | 3170 | |
| | SODIUM | 407 | | 496 | | 513 | | 428 | | 503 | | 454 | |
| | VANADIUM | 21.1 | | 24.8 | | 31.6 | | 33.6 | | 32.6 | | 32.1 | |
| | ZINC | 51.9 | | 73 | | 93.6 | | 74.4 | | 75.7 | | 71.1 | |

*Summary of Analytes Detected in Soil for the Small Arms Firing Range (SWMU 8)*

*Firing Lines - Surface Soil (continued)*

| Group | Analytes | SAS-94-09 0.5 ft (dup) | SAS-94-10 0.5 ft | SAS-94-11 0.5 ft | SAS-94-18 0.5 ft | SAS-94-19 0.5 ft | SAS-94-19 0.5 ft (dup) |
|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 19100 | 12700 | 16600 | 17000 | 17800 | 16600 |
| | ARSENIC | 7.03 | 8.24 | 6.83 | 8.68 | 7.24 | 7.24 |
| | BARIUM | 228 | 171 | 173 | 197 | 218 | 211 |
| | BERYLLIUM | 0.938 | 0.717 | 0.796 | 0.893 | 0.906 | 0.922 |
| | CALCIUM | 47200 | 50300 | 47800 | 42900 | 58000 | 53500 |
| | CHROMIUM | 21.5 | 17.3 | 19.4 | 19.9 | 21.6 | 19.7 |
| | COBALT | 8.21 | 6.76 | 7.17 | 8.11 | 7.83 | 7.94 |
| | COPPER | 16 | 18 | 16.5 | 15.9 | 17.4 | 16.5 |
| | IRON | 22400 | 19200 | 19700 | 22400 | 22300 | 21300 |
| | LEAD | 20 | 67.3 | 33.1 | 17.9 | 18.7 | 18.1 |
| | MAGNESIUM | 12800 | 11200 | 12400 | 11800 | 13500 | 13200 |
| | MANGANESE | 455 | 418 | 415 | 429 | 412 | 413 |
| | MERCURY | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| | NICKEL | 16 | 16.2 | 14.8 | 17.4 | 18.8 | 17.6 |
| | POTASSIUM | 2970 | 2390 | 2840 | 3120 | 3580 | 3320 |
| | SODIUM | 436 | 373 | 424 | 233 | 356 | 339 |
| | VANADIUM | 30.2 | 22.5 | 24.7 | 26.1 | 29 | 25.5 |
| | ZINC | 70.3 | 66.2 | 66.1 | 72.2 | 75.8 | 73.5 |

*Summary of Analytes Detected in Soil for the Small Arms Firing Range (SWMU 8)*

*Firing Lines - Surface Soil (continued)*

| Group | Analytes | SAS-94-20 0.5 ft | |
|---|---|---|---|
| METALS | ALUMINUM | 16200 | |
| | ARSENIC | 7.01 | |
| | BARIUM | 199 | |
| | BERYLLIUM | 0.861 | |
| | CALCIUM | 49400 | |
| | CHROMIUM | 20.3 | |
| | COBALT | 7.36 | |
| | COPPER | 20.7 | |
| | IRON | 20600 | |
| | LEAD | 17 | |
| | MAGNESIUM | 11900 | |
| | MANGANESE | 394 | |
| | MERCURY | 0.05 | U |
| | NICKEL | 15.9 | |
| | POTASSIUM | 4750 | |
| | SODIUM | 266 | |
| | VANADIUM | 25.5 | |
| | ZINC | 73.4 | |

*Summary of Analytes Detected in Soil for the Small Arms Firing Range (SWMU 8)*

*Firing Lines - Subsurface Soil*

| Group | Analytes | SAB-94-11B 3 ft | | SAB-94-12B 3 ft | | SAB-94-13B 3 ft | | SAB-94-14B 3 ft | | SAB-94-15B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 8400 | | 15100 | | 18300 | | 21900 | | 17700 | |
| | ARSENIC | 5.52 | | 7.11 | | 9.87 | | 6.03 | | 6.37 | |
| | BARIUM | 82.1 | | 163 | | 168 | | 197 | | 195 | |
| | BERYLLIUM | 0.427 | U | 0.875 | | 0.902 | | 0.944 | | 1.07 | |
| | CALCIUM | 21400 | | 42800 | | 50800 | | 40100 | | 40800 | |
| | CHROMIUM | 13.2 | | 18.6 | | 22.6 | | 40.2 | | 23.3 | |
| | COBALT | 4.56 | | 7.69 | | 7.61 | | 8.06 | | 7.17 | |
| | COPPER | 9.21 | | 13.5 | | 14.5 | | 17 | | 15.9 | |
| | IRON | 13800 | | 20700 | | 22200 | | 22900 | | 21100 | |
| | LEAD | 12.3 | | 15.9 | | 15.7 | | 18.6 | | 19.3 | |
| | MAGNESIUM | 9040 | | 12100 | | 13000 | | 12200 | | 11400 | |
| | MANGANESE | 428 | | 340 | | 453 | | 415 | | 396 | |
| | NICKEL | 11.6 | | 17.4 | | 16.2 | | 23.2 | | 17.5 | |
| | POTASSIUM | 1290 | | 2250 | | 2220 | | 4290 | | 3350 | |
| | SELENIUM | 0.449 | U | 0.449 | U | 1.93 | | 0.449 | U | 0.449 | U |
| | SODIUM | 278 | | 694 | | 781 | | 839 | | 793 | |
| | VANADIUM | 20.6 | | 25.6 | | 34.3 | | 36.9 | | 29.2 | |
| | ZINC | 40.5 | | 67.4 | | 55.8 | | 75 | | 71.6 | |

*Summary of Analytes Detected in Soil for the Small Arms Firing Range (SWMU 8)*

*Area Between Firing Lines - Surface Soil*

| Group | Analytes | SAS-94-12 0.5 ft | | SAS-94-13 0.5 ft | | SAS-94-14 0.5 ft | | SAS-94-15 0.5 ft | | SAS-94-16 0.5 ft | | SAS-94-17 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 18900 | | 11200 | | 18000 | | 9980 | | 17600 | | 16000 | |
| | ARSENIC | 6.35 | | 7.5 | | 10.1 | | 7.74 | | 9.65 | | 6.71 | |
| | BARIUM | 234 | | 155 | | 193 | | 150 | | 200 | | 175 | |
| | BERYLLIUM | 0.938 | | 0.597 | | 0.877 | | 0.591 | | 0.887 | | 0.771 | |
| | CALCIUM | 49400 | | 52700 | | 26900 | | 59000 | | 42000 | | 28300 | |
| | CHROMIUM | 20.9 | | 16.1 | | 23 | | 14.8 | | 22.9 | | 20.9 | |
| | COBALT | 8.86 | | 6 | | 8 | | 6 | | 8.11 | | 7 | |
| | COPPER | 16.4 | | 14.4 | | 19.1 | | 15.3 | | 18.7 | | 21.6 | |
| | IRON | 22400 | | 18200 | | 22600 | | 17300 | | 22100 | | 20300 | |
| | LEAD | 21.7 | | 49.9 | | 25.7 | | 55.5 | | 20.9 | | 20.4 | |
| | MAGNESIUM | 13700 | | 12900 | | 11100 | | 11800 | | 13200 | | 13500 | |
| | MANGANESE | 341 | | 365 | | 513 | | 371 | | 446 | | 527 | |
| | MERCURY | 0.05 | U | 0.0536 | | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 17.5 | | 13.8 | | 18.7 | | 14.1 | | 17.8 | | 13.7 | |
| | POTASSIUM | 3720 | | 2140 | | 4370 | | 2260 | | 4330 | | 5090 | |
| | SODIUM | 331 | | 223 | | 272 | | 191 | | 277 | | 309 | |
| | VANADIUM | 26.6 | | 23.3 | | 30.4 | | 21.3 | | 28 | | 26.7 | |
| | ZINC | 76.5 | | 60 | | 88.6 | | 58.3 | | 86.8 | | 87 | |

*Summary of Analytes Detected in Soil for the Small Arms Firing Range (SWMU 8)*

*Drainage Area - Surface Soil*

| Group | Analytes | SAB-95-01A 0.5 ft | | SAB-95-02A 0.5 ft | | SAB-95-03A 0.5 ft | | SAB-95-04A 0.5 ft | | SAB-95-05A 0.5 ft | | SAB-95-06A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 14100 | | 20500 | | 20200 | | 22100 | | 19500 | | 17500 | |
| | ARSENIC | 8.63 | | 6.13 | | 9.4 | | 8.75 | | 9.26 | | 10.1 | |
| | BARIUM | 160 | | 248 | | 220 | | 224 | | 216 | | 242 | |
| | BERYLLIUM | 0.613 | | 0.915 | | 0.963 | | 1.01 | | 0.871 | | 0.846 | |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 31600 | | 53000 | | 36700 | | 38100 | | 42000 | | 37500 | |
| | CHROMIUM | 19.8 | | 23.5 | | 24.1 | | 26.4 | | 24.4 | | 24.5 | |
| | COBALT | 6.29 | | 7.32 | | 7.66 | | 8.45 | | 7.92 | | 7.79 | |
| | COPPER | 15 | | 17 | | 20.9 | | 20.1 | | 18.1 | | 17.9 | |
| | IRON | 17800 | | 21100 | | 22800 | | 23800 | | 22100 | | 21100 | |
| | LEAD | 21.5 | | 17.5 | | 22.3 | | 19.6 | | 23.3 | | 17.5 | |
| | MAGNESIUM | 10400 | | 14100 | | 13200 | | 14000 | | 11900 | | 11600 | |
| | MANGANESE | 370 | | 524 | | 478 | | 528 | | 438 | | 445 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 14.2 | | 16.9 | | 18.2 | | 18.9 | | 18.5 | | 18.6 | |
| | POTASSIUM | 3560 | | 5550 | | 5370 | | 6060 | | 4310 | | 4750 | |
| | SELENIUM | 0.449 | UJ | 0.449 | UJ | 0.449 | UJ | 0.449 | UJ | 0.449 | UJ | 0.449 | UJ |
| | SODIUM | 526 | | 573 | | 514 | | 592 | | 576 | | 573 | |
| | VANADIUM | 28.8 | | 32.1 | | 33.8 | | 35.7 | | 35.1 | | 33 | |
| | ZINC | 67.1 | | 84.7 | | 89.5 | | 95.7 | | 81.5 | | 85.1 | |

*Summary of Analytes Detected in Soil for the Small Arms Firing Range (SWMU 8)*

*Drainage Area - Surface Soil (continued)*

| Group | Analytes | SAB-95-07A 0.5 ft | | SAB-95-08A 0.5 ft | | SAB-95-09A 0.5 ft | | SAB-95-10A 0.5 ft | | SAB-95-10A 0.5 ft (dup) | | SAS-95-01 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 19400 | | 21700 | | 15300 | | 11800 | | 12400 | | 21000 | |
| | ARSENIC | 6.34 | | 6.66 | | 7.96 | | 7.87 | | 7.64 | | 8.66 | |
| | BARIUM | 216 | | 217 | | 180 | | 146 | | 147 | | 238 | |
| | BERYLLIUM | 0.845 | | 0.97 | | 0.805 | | 0.556 | | 0.524 | | 0.976 | |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 43100 | | 40900 | | 34200 | | 34800 | | 36200 | | 47300 | |
| | CHROMIUM | 23.6 | | 25.5 | | 19.5 | | 20.3 | | 21.5 | | 24.7 | |
| | COBALT | 7.01 | | 7.91 | | 7.56 | | 5.03 | | 5.35 | | 7.94 | |
| | COPPER | 17.6 | | 18.9 | | 16.9 | | 13 | | 12.8 | | 20.8 | |
| | IRON | 21400 | | 22600 | | 19700 | | 17400 | | 17500 | | 22600 | |
| | LEAD | 20 | | 17 | | 19.2 | | 16.4 | | 13 | | 45.4 | |
| | MAGNESIUM | 12400 | | 13400 | | 11500 | | 9530 | | 9910 | | 13700 | |
| | MANGANESE | 429 | | 440 | | 426 | | 326 | | 325 | | 523 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 17.9 | | 18.5 | | 17.4 | | 12.6 | | 12 | | 19.2 | |
| | POTASSIUM | 4690 | | 6260 | | 3920 | | 2710 | | 2810 | | 5490 | |
| | SELENIUM | 0.449 | UJ | 0.449 | UJ | 0.449 | UJ | 0.449 | UJ | 0.449 | UJ | 0.449 | UJ |
| | SODIUM | 545 | | 571 | | 499 | | 482 | | 468 | | 629 | |
| | VANADIUM | 32.9 | | 33.9 | | 28.3 | | 30.7 | | 32.3 | | 34.6 | |
| | ZINC | 81 | | 87 | | 77.1 | | 55.6 | | 58.3 | | 88 | |

*Summary of Analytes Detected in Soil for the Small Arms Firing Range (SWMU 8)*

*Drainage Area - Surface Soil (continued)*

| Group | Analytes | SAS-95-02 0.5 ft | | SAS-95-03 0.5 ft | | SAS-95-04 0.5 ft | | SAS-95-05 0.5 ft | | SAS-95-06 0.5 ft | | SAS-95-07 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 20200 | | 20500 | | 28800 | | 15500 | | 20000 | | 23000 | |
| | ARSENIC | 6.8 | | 9.75 | | 9.5 | | 7.55 | | 6.98 | | 6.45 | |
| | BARIUM | 241 | | 225 | | 365 | | 176 | | 226 | | 242 | |
| | BERYLLIUM | 0.94 | | 0.96 | | 1.3 | | 0.728 | | 0.958 | | 1.14 | |
| | CADMIUM | 1.2 | U | 1.43 | | 1.2 | U | 1.2 | U | 1.2 | U | 1.42 | |
| | CALCIUM | 48000 | | 40500 | | 50200 | | 31300 | | 38500 | | 34500 | |
| | CHROMIUM | 23.6 | | 25.1 | | 27.7 | | 20.5 | | 24.7 | | 27.3 | |
| | COBALT | 8.11 | | 8.03 | | 10.1 | | 7.12 | | 8.39 | | 8.52 | |
| | COPPER | 19.3 | | 20.9 | | 22.4 | | 19 | | 22.8 | | 23.9 | |
| | IRON | 22700 | | 22600 | | 28000 | | 19700 | | 22800 | | 26000 | |
| | LEAD | 19 | | 23.2 | | 25.6 | | 30.3 | | 28.6 | | 25 | |
| | MAGNESIUM | 13700 | | 14000 | | 13300 | | 10900 | | 11700 | | 13400 | |
| | MANGANESE | 505 | | 516 | | 526 | | 406 | | 503 | | 544 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.0574 | J | 0.05 | U | 0.0565 | J |
| | NICKEL | 18.2 | | 18.2 | | 21.6 | | 15 | | 21.5 | | 22.5 | |
| | POTASSIUM | 5530 | | 5390 | | 4400 | | 3680 | | 4610 | | 5710 | |
| | SELENIUM | 0.449 | UJ | 0.449 | UJ | 0.449 | UJ | 0.449 | UJ | 0.449 | UJ | 0.449 | UJ |
| | SODIUM | 591 | | 554 | | 2250 | | 547 | | 501 | | 495 | |
| | VANADIUM | 32.8 | | 34.3 | | 37.3 | | 30.1 | | 34 | | 37.7 | |
| | ZINC | 87.8 | | 93.8 | | 85.9 | | 75.6 | | 87 | | 109 | |

*Summary of Analytes Detected in Soil for the Small Arms Firing Range (SWMU 8)*

*Drainage Area - Surface Soil (continued)*

| Group | Analytes | SAS-95-08 0.5 ft | | SAS-95-09 0.5 ft | | SAS-95-10 0.5 ft | | SAS-95-10 0.5 ft (dup) | |
|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 16400 | | 16400 | | 12800 | | 16400 | |
| | ARSENIC | 9.16 | | 9.07 | | 6.77 | | 6.77 | |
| | BARIUM | 203 | | 207 | | 143 | | 178 | |
| | BERYLLIUM | 0.761 | | 0.788 | | 0.427 | U | 0.732 | |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 35200 | | 42600 | | 26000 | | 32800 | |
| | CHROMIUM | 20.6 | | 20.5 | | 18.3 | | 22.4 | |
| | COBALT | 6.98 | | 7.79 | | 5.49 | | 6.26 | |
| | COPPER | 18.3 | | 17.4 | | 14.5 | | 17.6 | |
| | IRON | 20500 | | 20300 | | 16100 | | 19900 | |
| | LEAD | 24.8 | | 23.1 | | 17.6 | | 20.9 | |
| | MAGNESIUM | 11100 | | 11500 | | 9410 | | 11600 | |
| | MANGANESE | 448 | | 437 | | 333 | | 404 | |
| | MERCURY | 0.05 | U | 0.0519 | J | 0.05 | U | 0.05 | U |
| | NICKEL | 16.7 | | 17.6 | | 11.7 | | 15.3 | |
| | POTASSIUM | 4230 | | 3910 | | 3310 | | 4100 | |
| | SELENIUM | 0.449 | UJ | 0.449 | UJ | 0.449 | UJ | 0.493 | |
| | SODIUM | 463 | | 497 | | 476 | | 563 | |
| | VANADIUM | 29.3 | | 29.5 | | 27.3 | | 33.5 | |
| | ZINC | 80 | | 74.2 | | 58.5 | | 73.9 | |

*Table ___. Summary of Analytes Detected in Soil for the Small Arms Firing Range (SWMU 8)*

*Drainage Area - Subsurface Soil*

| Group | Analytes | SAB-95-01B 3 ft | | SAB-95-02B 3 ft | | SAB-95-03B 3 ft | | SAB-95-04B 3 ft | | SAB-95-05B 3 ft | | SAB-95-06B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 5980 | | 18500 | | 22100 | | 24700 | | 19700 | | 6830 | |
| | ARSENIC | 4.47 | | 6.38 | | 7.99 | | 8.09 | | 6.71 | | 5 | |
| | BARIUM | 67 | | 165 | | 266 | | 241 | | 228 | | 64.4 | |
| | BERYLLIUM | 0.427 | U | 0.691 | | 0.978 | | 1.12 | | 0.961 | | 0.427 | U |
| | CALCIUM | 26600 | | 49100 | | 53300 | | 38000 | | 48300 | | 25200 | |
| | CHROMIUM | 9.12 | | 20.1 | | 24.9 | | 28.9 | | 23.5 | | 13 | |
| | COBALT | 2.89 | | 6.64 | | 8.47 | | 8.31 | | 8.2 | | 2.94 | |
| | COPPER | 6.79 | | 14 | | 16.3 | | 21.4 | | 18.4 | | 6.66 | |
| | IRON | 10000 | | 23900 | | 23300 | | 25400 | | 22100 | | 10700 | |
| | LEAD | 7.44 | U | 26 | | 16.8 | | 18.7 | | 24.6 | | 7.44 | U |
| | MAGNESIUM | 6010 | | 11900 | | 14000 | | 14500 | | 12600 | | 5550 | |
| | MANGANESE | 29.6 | U | 363 | | 453 | | 560 | | 481 | | 29.6 | U |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.0611 | J | 0.05 | U | 0.05 | U |
| | NICKEL | 7.66 | | 17.8 | | 17.1 | | 20.4 | | 20.3 | | 8.06 | |
| | POTASSIUM | 283 | U | 3510 | | 3240 | | 6680 | | 4660 | | 283 | U |
| | SODIUM | 519 | | 672 | | 1590 | | 663 | | 501 | | 576 | |
| | VANADIUM | 15.7 | | 32.7 | | 36.7 | | 40.4 | | 32.6 | | 19.7 | |
| | ZINC | 27.9 | | 75.4 | | 71.8 | | 101 | | 84.8 | | 28.7 | |

*Summary of Analytes Detected in Soil for the Small Arms Firing Range (SWMU 8)*

*Drainage Area - Subsurface Soil*

| Group | Analytes | SAB-95-07B 3 ft | | SAB-95-08B 3 ft | | SAB-95-09B 3 ft | | SAB-95-10B 3 ft | | SAB-95-10B 3 ft (dup) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 14100 | | 20200 | | 17300 | | 10900 | | 11900 | |
| | ARSENIC | 3.51 | | 5.86 | | 2.5 | U | 5.33 | | 6.02 | |
| | BARIUM | 162 | | 231 | | 234 | | 144 | | 152 | |
| | BERYLLIUM | 0.616 | | 0.966 | | 0.735 | | 0.427 | U | 0.541 | |
| | CALCIUM | 33500 | | 62000 | | 39100 | | 70000 | | 32800 | |
| | CHROMIUM | 20.5 | | 23.3 | | 18.2 | | 18.3 | | 20.6 | |
| | COBALT | 6.15 | | 8.5 | | 6.57 | | 5.42 | | 7.02 | |
| | COPPER | 12.6 | | 16.5 | | 12.7 | | 11.4 | | 12.4 | |
| | IRON | 18700 | | 22600 | | 17900 | | 15600 | | 16600 | |
| | LEAD | 15.7 | | 18.5 | | 12.7 | | 14.7 | | 14.9 | |
| | MAGNESIUM | 9630 | | 13100 | | 10200 | | 9330 | | 8950 | |
| | MANGANESE | 380 | | 381 | | 271 | | 298 | | 301 | |
| | MERCURY | 0.05 | U | 0.0824 | J | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 16 | | 17.5 | | 13.3 | | 12.5 | | 12.8 | |
| | POTASSIUM | 2540 | | 3480 | | 3250 | | 2680 | | 2820 | |
| | SODIUM | 1030 | | 1970 | | 1680 | | 463 | | 492 | |
| | VANADIUM | 24.4 | | 34.9 | | 25.1 | | 27.4 | | 28.8 | |
| | ZINC | 52.5 | | 76.4 | | 56 | | 56.2 | | 55.4 | |

All values are in µg/g (equal to ppm)
NA = Not analyzed
U = Not detected; value is the Certified Reporting Limit.
Dup = Duplicate analysis
J = Value is estimated

*Summary of Analytes Detected in Soil for the Tire Disposal Area (SWMU 13)*

*Surface Soil*

| Group | Analytes | TDP-94-01A 0.5 ft | | TDP-94-02A 0.5 ft | | TDP-94-03A 0.5 ft | | TDP-94-04A 0.5 ft | | TDP-94-05A 0.5 ft | | TDP-94-06A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 647 | U | 4,160 | | 8,600 | | 12,600 | | 7,540 | | 779 | U |
| | ARSENIC | 6.93 | | 4.25 | | 4.84 | | 6.1 | | 4.03 | | 2.5 | U |
| | BARIUM | 42.2 | | 54.9 | | 74.8 | | 84.7 | | 73.2 | | 7.32 | U |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.518 | | 0.427 | U | 0.427 | U |
| | CALCIUM | 30,100 | | 35,200 | | 46,900 | | 70,000 | | 52,600 | | 43,000 | |
| | CHROMIUM | 4.91 | | 5.95 | | 11.6 | | 26.5 | | 14.5 | | 3.41 | |
| | COBALT | 2.5 | U | 2.5 | U | 3.43 | | 4.74 | | 3.33 | | 2.5 | U |
| | COPPER | 3.38 | | 4.17 | | 7.77 | | 20 | | 9.05 | | 3.72 | |
| | IRON | 985 | U | 5,310 | | 9,340 | | 13,300 | | 9,070 | | 5,580 | |
| | LEAD | 14.7 | | 10 | | 7.44 | U | 23 | | 11.7 | | 7.44 | U |
| | MAGNESIUM | 3,540 | | 4,110 | | 4,750 | | 7,690 | | 8,460 | | 3,670 | |
| | MANGANESE | 20.8 | U | 121 | | 170 | | 200 | | 204 | | 17.5 | U |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.0563 | J | 0.05 | U | 0.05 | U |
| | NICKEL | 2.74 | U | 2.74 | U | 5.33 | | 9.16 | | 6.32 | | 3.55 | |
| | POTASSIUM | 878 | | 1,160 | | 2,520 | | 3,340 | | 1,910 | | 184 | U |
| | SODIUM | 199 | | 192 | | 263 | | 256 | | 258 | | 70.2 | |
| | VANADIUM | 1.56 | U | 1.56 | U | 15.7 | | 21.6 | | 15.9 | | 1.56 | U |
| | ZINC | 25 | | 21.8 | | 29.2 | | 49.9 | | 36.4 | | 13.5 | |
| SEMIVOLATILES | BIS (2-ETHYLHEXYL) PHTHALATE | 0.48 | U | 0.48 | U | 0.48 | U | 0.48 | U | 0.48 | U | 0.48 | U |
| | CHRYSENE | 0.088 | | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U |
| | FLUORANTHENE | 0.091 | | 0.053 | | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U |
| | PHENANTHRENE | 0.074 | | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U |
| VOLATILES | 1,1,1-TRICHLOROETHANE | 0.21 | | 0.2 | U | 0.2 | U | 0.2 | U | 0.2 | U | 0.2 | U |
| | 1,3-DICHLOROBENZENE | 0.14 | U | 0.14 | U | 0.14 | U | 0.14 | U | 0.14 | U | 0.14 | U |
| | CHLOROMETHANE | 0.96 | U | 0.96 | U | 0.96 | U | 0.96 | U | 0.96 | U | 0.96 | U |
| | DICHLOROBENZENE - NONSPEC | 0.2 | U | 0.2 | U | 0.2 | U | 0.2 | U | 0.2 | U | 0.2 | U |

*Summary of Analytes Detected in Soil for the Tire Disposal Area (SWMU 13)*

*Surface Soil (continued)*

| Group | Analytes | TDP-94-07A 0.5 ft | | TDP-94-08A 0.5 ft | | TDP-94-09A 0.5 ft | | TDP-94-09A 0.5 ft (dup) | | TDP-94-10A 0.5 ft | | TDP-94-11A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 6,940 | | 1,170 | U | 1,170 | U | 779 | U | 1,170 | U | 1,170 | U |
| | ARSENIC | 2.75 | | 2.81 | | 2.81 | | 2.53 | | 4 | | 3.06 | |
| | BARIUM | 54.6 | | 10.5 | U | 10.5 | U | 7.32 | U | 10.5 | U | 10.5 | U |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CALCIUM | 32,000 | | 43,900 | | 24,700 | | 25,300 | | 30,600 | | 32,700 | |
| | CHROMIUM | 8.61 | | 4.85 | | 4.82 | | 6.03 | | 7.21 | | 3.22 | |
| | COBALT | 3.5 | | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | COPPER | 6.39 | | 6.08 | | 6.81 | | 5.31 | | 9.05 | | 8.91 | |
| | IRON | 9,060 | | 1,610 | U | 1,610 | U | 4,870 | | 1,610 | U | 1,610 | U |
| | LEAD | 7.78 | | 7.44 | U | 7.44 | U | 7.44 | U | 10.6 | | 9.24 | |
| | MAGNESIUM | 4,440 | | 3,970 | | 2,630 | | 2,330 | | 3,740 | | 4,400 | |
| | MANGANESE | 160 | | 31.5 | U | 31.5 | U | 17.5 | U | 31.5 | U | 31.5 | U |
| | MERCURY | 0.05 | U | 0.05 | U | 0.0691 | J | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 5.53 | | 7.84 | U | 7.84 | U | 2.74 | U | 7.84 | U | 7.84 | U |
| | POTASSIUM | 1,650 | | 239 | U | 239 | U | 184 | U | 239 | U | 239 | U |
| | SODIUM | 154 | | 112 | | 72.1 | | 134 | | 119 | | 71.4 | |
| | VANADIUM | 12.2 | | 2.93 | U | 2.93 | U | 1.56 | U | 2.93 | U | 2.93 | U |
| | ZINC | 26.8 | | 31.7 | | 2.8 | U | 13.9 | | 18.7 | | 59.3 | |
| SEMIVOLATILES | BIS (2-ETHYLHEXYL) PHTHALATE | 0.48 | U | 20 | | 0.48 | U | 0.48 | U | 0.48 | U | 20 | |
| | CHRYSENE | 0.032 | U | 0.3 | U | 0.032 | U | 0.032 | U | 0.032 | U | 0.3 | U |
| | FLUORANTHENE | 0.032 | U | 0.3 | U | 0.032 | U | 0.032 | U | 0.032 | U | 0.3 | U |
| | PHENANTHRENE | 0.032 | U | 0.3 | U | 0.032 | U | 0.032 | U | 0.032 | U | 0.3 | U |
| VOLATILES | 1,1,1-TRICHLOROETHANE | 0.2 | U | 0.2 | U | 0.2 | U | 0.2 | U | 0.2 | U | 0.2 | U |
| | 1,3-DICHLOROBENZENE | 0.14 | U | 0.14 | U | 0.14 | U | 0.14 | U | 0.14 | U | 0.14 | U |
| | CHLOROMETHANE | 0.96 | U | 0.96 | U | 0.96 | U | 0.96 | U | 0.96 | U | 0.96 | U |
| | DICHLOROBENZENE - NONSPEC | 0.2 | U | 0.2 | U | 0.2 | U | 0.2 | U | 0.2 | U | 0.2 | U |

*Summary of Analytes Detected in Soil for the Tire Disposal Area (SWMU 13)*

*Surface Soil (continued)*

| Group | Analytes | TDP-94-12A 0.5 ft | | TDP-94-13A 0.5 ft | | TDP-94-14A 0.5 ft | | TDP-94-15A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 6,770 | | 8,180 | | 9,960 | | 779 | U |
| | ARSENIC | 3.95 | | 3.88 | | 4.76 | | 2.5 | U |
| | BARIUM | 54.5 | | 59.3 | | 80.1 | | 7.32 | U |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CALCIUM | 35,400 | | 31,400 | | 29,400 | | 30,500 | |
| | CHROMIUM | 7.61 | | 10.9 | | 11.9 | | 5.82 | |
| | COBALT | 2.5 | U | 3.39 | | 3.65 | | 2.5 | U |
| | COPPER | 12.4 | | 8.6 | | 8.3 | | 6.71 | |
| | IRON | 1,610 | U | 9,770 | | 10,700 | | 5,710 | |
| | LEAD | 7.98 | | 10.4 | | 8.45 | | 10.2 | |
| | MAGNESIUM | 4,250 | | 4,420 | | 5,040 | | 3,570 | |
| | MANGANESE | 31.5 | U | 147 | | 209 | | 105 | |
| | MERCURY | 0.0579 | J | 0.05 | U | 0.0573 | J | 0.05 | U |
| | NICKEL | 7.84 | U | 6.08 | | 5.98 | | 3.87 | |
| | POTASSIUM | 1,560 | | 2,050 | | 2,310 | | 184 | U |
| | SODIUM | 131 | | 165 | | 208 | | 120 | |
| | VANADIUM | 2.93 | U | 14.1 | | 15.7 | | 1.56 | U |
| | ZINC | 30.1 | | 37.2 | | 38 | | 21.7 | |
| SEMIVOLATILES | BIS (2-ETHYLHEXYL) PHTHALATE | 0.48 | U | 0.48 | U | 0.48 | U | 0.48 | U |
| | CHRYSENE | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U |
| | FLUORANTHENE | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U |
| | PHENANTHRENE | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U |
| VOLATILES | 1,1,1-TRICHLOROETHANE | 0.2 | U | 0.2 | U | 0.2 | U | 0.2 | U |
| | 1,3-DICHLOROBENZENE | 0.14 | U | 0.16 | | 0.14 | U | 0.14 | U |
| | CHLOROMETHANE | 0.96 | U | 0.7 | | 0.96 | U | 0.96 | U |
| | DICHLOROBENZENE - NONSPEC | 0.2 | U | 3.3 | | 0.2 | U | 0.2 | U |

*Summary of Analytes Detected in Soil for the Tire Disposal Area (SWMU 13)*

*Subsurface Soil*

| Group | Analytes | TDP-94-01B 5 ft | | TDP-94-02B 5 ft | | TDP-94-03B 5 ft | | TDP-94-04B 5 ft | | TDP-94-05B 5 ft | | TDP-94-06B 5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ARSENIC | 2.5 | U | 2.57 | | 3.04 | | 2.5 | U | 2.5 | U | 2.5 | U |
| | CALCIUM | 48,800 | | 29,600 | | 42,600 | | 36,800 | | 28,300 | | 32,100 | |
| | CHROMIUM | 2.02 | | 1.99 | | 14.2 | | 4.1 | | 4.31 | | 3.62 | |
| | COBALT | 2.5 | U | 2.5 | U | 2.83 | | 2.5 | U | 2.5 | U | 2.5 | U |
| | COPPER | 2.84 | U | 2.84 | U | 2.84 | U | 2.84 | U | 3.52 | | 2.84 | U |
| | IRON | 985 | U | 985 | U | 9,110 | | 6,400 | | 4,860 | | 963 | U |
| | MAGNESIUM | 4,490 | | 1,620 | | 4,220 | | 3,860 | | 3,260 | | 2,540 | |
| | MANGANESE | 20.8 | U | 20.8 | U | 104 | | 17.5 | U | 17.5 | U | 17.5 | U |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.0519 | J | 0.05 | U | 0.05 | U |
| | NICKEL | 2.74 | U | 2.74 | U | 3.72 | | 5.06 | | 3.73 | | 3.23 | |
| | SODIUM | 141 | | 232 | | 167 | | 187 | | 138 | | 109 | |
| | VANADIUM | 1.56 | U | 1.56 | U | 22.4 | | 1.56 | U | 1.56 | U | 1.56 | U |
| | ZINC | 2.86 | U | 2.86 | U | 17.5 | | 12.2 | | 11 | | 7.52 | |
| SEMIVOLATILES | DIETHYL PHTHALATE | 0.24 | U | 0.24 | U | 0.24 | U | 0.36 | | 0.24 | U | 0.24 | U |
| | DI-N-BUTYL PHTHALATE | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U |

*Summary of Analytes Detected in Soil for the Tire Disposal Area (SWMU 13)*

*Subsurface Soil (continued)*

| Group | Analytes | TDP-94-07B 5 ft | | TDP-94-08B 5 ft | | TDP-94-09B 5 ft | | TDP-94-09B 5 ft (dup) | | TDP-94-10B 5 ft | | TDP-94-11B 5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ARSENIC | 2.5 | U | 3.87 | | 2.5 | U | 2.5 | U | 2.5 | U | 3.39 | |
| | CALCIUM | 8,810 | | 33,200 | | 39,700 | | 33,100 | | 32,600 | | 38,500 | |
| | CHROMIUM | 2.48 | | 3.32 | | 5.52 | | 5 | | 8.72 | | 15.7 | |
| | COBALT | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.66 | |
| | COPPER | 2.84 | U | 3.19 | | 3.43 | | 2.84 | U | 3.78 | | 3.94 | |
| | IRON | 963 | U | 1,610 | U | 1,610 | U | 963 | U | 1,610 | U | 9,760 | |
| | MAGNESIUM | 974 | | 2,840 | | 5,910 | | 3,180 | | 4,560 | | 5,700 | |
| | MANGANESE | 17.5 | U | 31.5 | U | 31.5 | U | 17.5 | U | 31.5 | U | 31.5 | U |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 2.74 | U | 7.84 | U | 7.84 | U | 2.74 | U | 7.84 | U | 7.84 | U |
| | SODIUM | 66.5 | | 74.4 | | 101 | | 201 | | 99 | | 126 | |
| | VANADIUM | 1.56 | U | 2.93 | U | 2.93 | U | 1.56 | U | 2.93 | U | 25.2 | |
| | ZINC | 3.21 | | 2.8 | U | 2.8 | U | 8.76 | | 2.8 | U | 17.2 | |
| SEMIVOLATILES | DIETHYL PHTHALATE | 0.24 | U | 0.24 | U | 0.24 | U | 0.24 | U | 0.24 | U | 0.24 | U |
| | DI-N-BUTYL PHTHALATE | 1.3 | U | 1.3 | U | 1.7 | | 1.3 | U | 1.3 | U | 1.3 | U |

*Summary of Analytes Detected in Soil for the Tire Disposal Area (SWMU 13)*

*Subsurface Soil (continued)*

| Group | Analytes | TDP-94-12B 5 ft | | TDP-94-13B 5 ft | | TDP-94-14B 5 ft | | TDP-94-15B 5 ft | |
|---|---|---|---|---|---|---|---|---|---|
| METALS | ARSENIC | 2.5 | U | 2.5 | U | 2.5 | U | 3.97 | |
| | CALCIUM | 11,300 | | 14,200 | | 35,200 | | 37,300 | |
| | CHROMIUM | 1.38 | | 2.12 | | 9.32 | | 12 | |
| | COBALT | 2.5 | U | 2.5 | U | 2.5 | U | 3.08 | |
| | COPPER | 2.84 | U | 2.84 | U | 2.84 | U | 2.84 | U |
| | IRON | 1,610 | U | 963 | U | 6,910 | | 8,700 | |
| | MAGNESIUM | 1,710 | | 1,640 | | 4,150 | | 4,120 | |
| | MANGANESE | 31.5 | U | 17.5 | U | 17.5 | U | 97.4 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 7.84 | U | 2.74 | U | 4.08 | | 4.65 | |
| | SODIUM | 74.5 | | 59.1 | | 167 | | 110 | |
| | VANADIUM | 2.93 | U | 1.56 | U | 14.5 | | 18.8 | |
| | ZINC | 2.8 | U | 4.06 | | 13.7 | | 15.4 | |
| SEMIVOLATILES | DIETHYL PHTHALATE | 0.24 | U | 60 | | 0.24 | U | 0.24 | U |
| | DI-N-BUTYL PHTHALATE | 1.3 | U | 10 | U | 1.3 | U | 1.3 | U |

All values are in µg/g (equal to ppm)

NA = Not analyzed

U = Not detected; value is the Certified Reporting Limit

Dup = Duplicate analysis

J = Value is estimated

*Summary of Analytes Detected in Soil for the Building 1303 Washout Pond (SWMU 22)*

*Surface Soil*

| Group | Analytes | BWS-92-01 0.5 ft | | BWS-92-02 0.5 ft | | BWS-92-03 0.5 ft | | BWS-92-04 0.5 ft | | BWS-92-05 0.5 ft | | BWS-92-06 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CYANIDE | CYANIDE | 5 | U | 17.5 | | 5 | U | 5 | U | 5 | U | 5 | U |
| ANIONS | NITRATE | 4.08 | | 3.36 | U | 3.16 | | 2.79 | | 2.15 | | 2.68 | |
| | NITRITE | 3.16 | U | 4.37 | | 3.16 | U | 3.16 | U | 3.16 | U | 3.16 | U |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 2.96 | | 3.5 | U | 3.5 | U | 0.352 | U | 0.352 | U | 0.352 | U |
| | 2,4-DINITROTOLUENE | 0.744 | U | 74 | U | 7.4 | U | 0.744 | U | 0.744 | U | 0.744 | U |
| | 2,4,6-TRINITROTOLUENE | 150 | | 32,000 | | 1,200 | | 45 | | 0.931 | U | 0.931 | U |
| | HMX | 42 | | 58 | | 7.6 | U | 0.755 | U | 0.755 | U | 0.755 | U |
| | RDX | 210 | | 1,600 | | 4.4 | U | 1.19 | | 0.445 | U | 0.445 | U |
| METALS | ALUMINUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ARSENIC | 24 | U | 240 | U | 24 | U | 24 | U | 24 | U | 24 | U |
| | BARIUM | 68 | | 100 | | 39 | | 48 | | 58 | | 62 | |
| | CADMIUM | 4.2 | U | 4.2 | U | 0.424 | U | 0.424 | U | 0.424 | U | 0.424 | U |
| | CALCIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | CHROMIUM | 74 | | 47.5 | | 7.1 | | 8.76 | | 7.42 | | 7.67 | |
| | COBALT | NA | | NA | | NA | | NA | | NA | | NA | |
| | COPPER | 38 | | 74 | | 30 | | 11.9 | | 6.54 | | 5.55 | |
| | IRON | 46,000 | | 65,000 | | 8,000 | | 8,400 | | 8,900 | | 9,900 | |
| | LEAD | 99 | | 100 | | 15 | | 19 | | 10 | | 9.2 | |
| | MAGNESIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | MANGANESE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NICKEL | 130 | | 19.1 | | 2.46 | U | 2.46 | U | 2.46 | U | 2.46 | U |
| | POTASSIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | SILVER | 0.0848 | | 0.16 | | 0.119 | | 0.234 | | 0.0336 | | 0.0335 | |
| | SODIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | VANADIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ZINC | 850 | | 600 | | 47 | | 75 | | 28 | | 28 | |

*Summary of Analytes Detected in Soil for the Building 1303 Washout Pond (SWMU 22)*

*Surface Soil (continued)*

| Group | Analytes | BWS-92-07 0.5 ft | | BWS-92-08 0.5 ft | | BWS-92-09 0.5 ft | | BWS-92-10 0.5 ft | | BWB-94-01A 0.5 ft | | BWB-94-02A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CYANIDE | CYANIDE | 5 | U | 5 | U | 5 | U | 5 | U | 0.25 | U | 0.3 | |
| ANIONS | NITRATE | 3.88 | | 2.35 | | 2.62 | | 2.56 | | NA | | NA | |
| | NITRITE | 3.16 | U | 3.16 | U | 3.16 | U | 3.16 | U | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.352 | U | 0.352 | U | 0.352 | U | 0.352 | U | 0.922 | U | 2.96 | |
| | 2,4-DINITROTOLUENE | 0.744 | U | 0.744 | U | 0.744 | U | 0.744 | U | 2.5 | U | 3.53 | |
| | 2,4,6-TRINITROTOLUENE | 0.931 | U | 9.11 | | 0.931 | U | 0.931 | U | 6.4 | | 1500 | |
| | HMX | 0.755 | U | 0.755 | U | 0.755 | U | 0.755 | U | 22.2 | | 4.95 | |
| | RDX | 0.445 | U | 0.445 | U | 0.445 | U | 0.445 | U | 40.6 | | 43.4 | |
| METALS | ALUMINUM | NA | | NA | | NA | | NA | | 7,020 | | 1,220 | U |
| | ARSENIC | 24 | U | 24 | U | 24 | U | 24 | U | 4.61 | | 4.58 | |
| | BARIUM | 55 | | 58 | | 67 | | 70 | | 58.9 | | 10.7 | U |
| | CADMIUM | 0.424 | U | 0.424 | U | 0.424 | U | 0.424 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | NA | | NA | | NA | | NA | | 4510 | | 5160 | |
| | CHROMIUM | 7.98 | | 8.16 | | 8.63 | | 9.3 | | 17.6 | | 36.2 | |
| | COBALT | NA | | NA | | NA | | NA | | 16.8 | | 2.78 | |
| | COPPER | 5.78 | | 6.73 | | 5.56 | | 6.05 | | 18.2 | | 7.5 | |
| | IRON | 6,600 | | 10,000 | | 9,900 | | 11,000 | | 17,900 | | 8,880 | |
| | LEAD | 20 | | 16 | | 11 | | 13 | | 28.5 | | 43.1 | |
| | MAGNESIUM | NA | | NA | | NA | | NA | | 2180 | | 1410 | |
| | MANGANESE | NA | | NA | | NA | | NA | | 226 | | 28.5 | U |
| | NICKEL | 2.46 | U | 2.46 | U | 2.46 | U | 2.46 | U | 10.3 | | 6.93 | |
| | POTASSIUM | NA | | NA | | NA | | NA | | 2930 | | 1190 | |
| | SILVER | 0.0327 | | 0.0291 | | 0.0336 | | 0.0259 | | 0.803 | U | 0.803 | U |
| | SODIUM | NA | | NA | | NA | | NA | | 167 | | 97.1 | |
| | VANADIUM | NA | | NA | | NA | | NA | | 3.74 | U | 3.74 | U |
| | ZINC | 36 | | 35 | | 31 | | 39 | | 369 | | 92.8 | |

*Summary of Analytes Detected in Soil for the Building 1303 Washout Pond (SWMU 22)*

*Surface Soil (continued)*

| Group | Analytes | BWB-94-03A 0.5 ft | | BWS-94-01 .5 ft | | BWS-94-02 .5 ft | | BWS-94-03 .5 ft | | BWS-94-04 .5 ft | | BWS-94-05 .5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CYANIDE | CYANIDE | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U |
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NITRITE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U |
| | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 7.05 | | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| METALS | ALUMINUM | 6,440 | | 4,710 | | 6,390 | | 5,480 | | 6,020 | | 5,030 | |
| | ARSENIC | 3.55 | | 4.88 | | 4.47 | | 4.24 | | 3.69 | | 3.02 | |
| | BARIUM | 10.7 | U | 49.9 | | 66 | | 49.5 | | 55.7 | | 52 | |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 5,360 | | 20,400 | | 2,700 | | 18,000 | | 13,600 | | 5,860 | |
| | CHROMIUM | 13.9 | | 10.1 | | 6.96 | | 8.37 | | 8 | | 5.34 | |
| | COBALT | 4.59 | | 3.27 | | 3.38 | | 2.94 | | 3.09 | | 3.24 | |
| | COPPER | 8.63 | | 12.6 | | 6.65 | | 10.4 | | 10.6 | | 8.24 | |
| | IRON | 1,730 | U | 8,740 | | 9,010 | | 8,040 | | 8,600 | | 7,610 | |
| | LEAD | 13.1 | | 45.8 | | 10.1 | | 31.5 | | 29.1 | | 15.2 | |
| | MAGNESIUM | 1,910 | | 2,840 | | 2,500 | | 2,980 | | 3,100 | | 2,630 | |
| | MANGANESE | 28.5 | U | 162 | | 214 | | 166 | | 192 | | 180 | |
| | NICKEL | 5 | | 3.68 | | 4.26 | | 3.24 | | 3.19 | | 3.04 | |
| | POTASSIUM | 1,410 | | 1,270 | | 1,660 | | 2,060 | | 1,610 | | 1,310 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 2.63 | | 0.803 | U | 0.803 | U |
| | SODIUM | 96.6 | | 164 | | 132 | | 138 | | 148 | | 174 | |
| | VANADIUM | 3.74 | U | 1.56 | U | 9.16 | | 9.23 | | 9.35 | | 8.49 | |
| | ZINC | 45.6 | | 57.4 | | 27.1 | | 50.8 | | 60.9 | | 25 | |

*Summary of Analytes Detected in Soil for the Building 1303 Washout Pond (SWMU 22)*

*Surface Soil (continued)*

| Group | Analytes | BWS-94-06 0.5 ft | | BWS-94-07 .5 ft | | BWS-94-08 0.5 ft | | BWS-94-09 0.5 ft | | BWS-94-09 0.5 ft (dup) | | BWS-94-10 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CYANIDE | CYANIDE | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U |
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NITRITE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U |
| | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| METALS | ALUMINUM | 4,730 | | 5,250 | | 6,560 | | 5,060 | | 6,060 | | 6,380 | |
| | ARSENIC | 3.27 | | 3.5 | | 3.7 | | 3.78 | | 4.18 | | 3.31 | |
| | BARIUM | 47.5 | | 46.1 | | 62.9 | | 48.4 | | 55.4 | | 57.8 | |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 2,990 | | 3,380 | | 6,800 | | 3,030 | | 3,240 | | 2,220 | |
| | CHROMIUM | 5.82 | | 5.95 | | 7.22 | | 5.44 | | 8.77 | | 7.75 | |
| | COBALT | 3.08 | | 3.72 | | 3.68 | | 3.02 | | 3.28 | | 4 | |
| | COPPER | 9.11 | | 5.62 | | 8.26 | | 9.48 | | 8.95 | | 7.29 | |
| | IRON | 7,290 | | 7,690 | | 9,050 | | 7,700 | | 8,340 | | 9,350 | |
| | LEAD | 19.3 | | 9.64 | | 14.2 | | 18.7 | | 54.7 | | 8.94 | |
| | MAGNESIUM | 2,050 | | 1,970 | | 2,810 | | 2,100 | | 2,340 | | 2,350 | |
| | MANGANESE | 168 | | 153 | | 202 | | 156 | | 172 | | 178 | |
| | NICKEL | 2.79 | | 2.74 | U | 3.69 | | 2.74 | U | 3.85 | | 3.8 | |
| | POTASSIUM | 1,300 | | 1,340 | | 1,740 | | 1,260 | | 1,510 | | 1,700 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 156 | | 111 | | 152 | | 105 | | 109 | | 150 | |
| | VANADIUM | 1.56 | U | 8.12 | | 9.69 | | 1.56 | U | 8.52 | | 10.7 | |
| | ZINC | 22.8 | | 21.4 | | 32.4 | | 34.9 | | 106 | | 25.9 | |

*Summary of Analytes Detected in Soil for the Building 1303 Washout Pond (SWMU 22)*

*Surface Soil (continued)*

| Group | Analytes | BWS-94-11 0.5 ft | | BWS-94-12 0.5 ft | | BWS-94-13 0.5 ft | | BWS-94-14 0.5 ft | | BWS-94-15 0.5 ft | | BWS-94-16 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CYANIDE | CYANIDE | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U | 0.25 | U |
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NITRITE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U |
| | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| METALS | ALUMINUM | 5,530 | | 6,400 | | 6,170 | | 5,040 | | 5,410 | | 5,450 | |
| | ARSENIC | 3.25 | | 4.28 | | 3.46 | | 3.97 | | 3.7 | | 4.51 | |
| | BARIUM | 47.8 | | 58.1 | | 58.5 | | 54.3 | | 49.1 | | 52.9 | |
| | CADMIUM | 1.54 | | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 2,350 | | 4,970 | | 22,700 | | 26,600 | | 11,900 | | 3,750 | |
| | CHROMIUM | 7.51 | | 8.82 | | 14.8 | | 7.03 | | 7.02 | | 7.34 | |
| | COBALT | 3.77 | | 3.29 | | 3.4 | | 3.12 | | 2.78 | | 3.68 | |
| | COPPER | 8.05 | | 11 | | 16.5 | | 8.1 | | 9.81 | | 10.2 | |
| | IRON | 8,650 | | 10,000 | | 8,940 | | 6,970 | | 7,310 | | 7,890 | |
| | LEAD | 12.5 | | 36.1 | | 77.5 | | 16.9 | | 22.3 | | 21.6 | |
| | MAGNESIUM | 2,040 | | 2,720 | | 3,580 | | 3,410 | | 2,650 | | 2,330 | |
| | MANGANESE | 152 | | 189 | | 195 | | 151 | | 151 | | 173 | |
| | NICKEL | 3.22 | | 4.5 | | 4.74 | | 3.34 | | 3.39 | | 3.61 | |
| | POTASSIUM | 1,370 | | 1,460 | | 1,630 | | 1,410 | | 1,370 | | 1,440 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 113 | | 140 | | 153 | | 133 | | 140 | | 140 | |
| | VANADIUM | 9.78 | | 9.32 | | 9.62 | | 8.16 | | 8.07 | | 8.15 | |
| | ZINC | 29.3 | | 94 | | 76.1 | | 31.9 | | 29.9 | | 49.1 | |

*Summary of Analytes Detected in Soil for the Building 1303 Washout Pond (SWMU 22)*

*Surface Soil (continued)*

| Group | Analytes | BWS-94-17 0.5 ft | |
|---|---|---|---|
| CYANIDE | CYANIDE | 0.25 | U |
| ANIONS | NITRATE | NA | |
| | NITRITE | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | U |
| | 2,4-DINITROTOLUENE | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U |
| | HMX | 2 | U |
| | RDX | 1.28 | U |
| METALS | ALUMINUM | 6,320 | |
| | ARSENIC | 5.54 | |
| | BARIUM | 51.6 | |
| | CADMIUM | 1.2 | U |
| | CALCIUM | 2,620 | |
| | CHROMIUM | 7.49 | |
| | COBALT | 3.11 | |
| | COPPER | 7.82 | |
| | IRON | 8,490 | |
| | LEAD | 13.3 | |
| | MAGNESIUM | 2,320 | |
| | MANGANESE | 165 | |
| | NICKEL | 3.45 | |
| | POTASSIUM | 1,540 | |
| | SILVER | 0.803 | U |
| | SODIUM | 109 | |
| | VANADIUM | 9.46 | |
| | ZINC | 32 | |

*Summary of Analytes Detected in Soil for the Building 1303 Washout Pond (SWMU 22)*

*Subsurface Soil*

| Group | Analytes | BWB-94-01B 4 ft | | BWB-94-01C 10 ft | | BWB-94-02B 4 ft | | BWB-94-02C 10 ft | | BWB-94-03B 4 ft | | BWB-94-03C 10 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EXPLOSIVES | 2,4,6-TRINITROTOLUENE | 4.47 | | 2 | U | 65.7 | | 15 | | 2.09 | | 2 | U |
| | RDX | 2.18 | | 1.28 | U | 1.82 | | 1.28 | U | 1.28 | U | 1.28 | U |
| METALS | ARSENIC | 4.7 | | 2.5 | U | 2.93 | | 2.5 | U | 3.96 | | 3.79 | |
| | BARIUM | 54.5 | | 66.4 | | 10.7 | U | 10.7 | U | 10.7 | U | 10.7 | U |
| | CALCIUM | 42,800 | | 28,000 | | 27,000 | | 24,100 | | 14,500 | | 21,000 | |
| | CHROMIUM | 56.9 | | 26.2 | | 54.9 | | 24.6 | | 49.7 | | 31 | |
| | COBALT | 3.05 | | 3.45 | | 2.5 | U | 4.14 | | 2.5 | U | 2.5 | U |
| | COPPER | 4.81 | | 4.89 | | 3.3 | | 6.86 | | 4.63 | | 4.54 | |
| | IRON | 1,730 | U | 1,730 | U | 1,730 | U | 9,660 | | 1,730 | U | 1,730 | U |
| | LEAD | 8.13 | | 7.44 | U | 7.44 | U | 10.4 | | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 5,400 | | 1,470 | | 1,870 | | 3,200 | | 1,230 | | 3,090 | |
| | MANGANESE | 184 | | 28.5 | U | 28.5 | U | 28.5 | U | 28.5 | U | 28.5 | U |
| | MERCURY | 0.0754 | | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 10.6 | | 6.07 | | 3.99 | | 12.2 | | 4.65 | | 4.67 | |
| | POTASSIUM | 1,280 | | 235 | U | 235 | U | 235 | U | 235 | U | 235 | U |
| | SODIUM | 178 | | 210 | | 104 | | 194 | | 110 | | 95.4 | |
| | VANADIUM | 3.74 | U | 33.6 | | 3.74 | U | 37.7 | | 21.1 | J | 3.74 | U |

All values are in µg/g (equal to ppm)

NA = Not analyzed

U = Not detected; value is the Certified Reporting Limit

Dup = Duplicate analysis

J = Value is estimated.

*Summary of Analytes Detected in Soil for the Bomb and Shell Reconditioning Building (SWMU 23)*

*Building 1343 Outfall - Surface Soil*

| Group | Analytes | BRB-94-12A 0.5 ft | | BRD-92-01 0 ft | | BRS-92-08 0 ft | | BRS-92-09 0 ft | |
|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | 3.36 | U | 5.11 | | 5.92 | |
| METALS | ALUMINUM | 8090 | | NA | | NA | | NA | |
| | ARSENIC | 5.9 | | 48 | U | 48 | U | 48 | U |
| | BARIUM | 95.6 | | 130 | | 120 | | 160 | |
| | CALCIUM | 69000 | | NA | | NA | | NA | |
| | CHROMIUM | 23.1 | | 17 | | 13 | | 22 | |
| | COBALT | 3.74 | | NA | | NA | | NA | |
| | COPPER | 16.7 | | 170 | | 66 | | 160 | |
| | IRON | 12200 | | 28000 | | 13000 | | 20000 | |
| | LEAD | 24.3 | | 80 | | 29 | | 70 | |
| | MAGNESIUM | 4490 | | NA | | NA | | NA | |
| | MANGANESE | 248 | | NA | | NA | | NA | |
| | MERCURY | 0.61 | U | 0.145 | | 0.0915 | | 0.199 | |
| | NICKEL | 8.42 | | 8 | | 4.9 | U | 4.9 | U |
| | POTASSIUM | 2240 | | NA | | NA | | NA | |
| | SILVER | 0.803 | U | 0.0293 | | 1.8 | | 0.115 | |
| | SODIUM | 332 | | NA | | NA | | NA | |
| | ZINC | 48.1 | | 280 | | 240 | | 460 | |
| PESTICIDES/PCBS | PCB 1254 | 0.0479 | U | NA | | NA | | NA | |
| SEMIVOLATILES | BENZYL ALCOHOL | 0.06 | | 0.66 | UJ | 6.6 | UJ | 0.66 | U |
| | BUTYLBENZYL PHTHALATE | 1.8 | U | 0.47 | | 6.6 | UJ | 0.66 | UJ |
| | DIMETHYL PHTHALATE | 0.23 | | 0.66 | U | 6.6 | U | 0.66 | U |
| | PCB 1254 | 0.32 | UJ | 0.646 | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Bomb and Shell Reconditioning Building (SWMU 23)*

*Building 1343 Outfall - Subsurface Soil*

| Group | Analytes | BRB-94-12B 3 ft | BRB-94-12C 5 ft | BRB-94-16A 3 ft | BRB-94-16B 5 ft | BRB-94-17A 3 ft | BRB-94-17B 5 ft |
|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 8100 | 1220 U | 4680 | 857 U | 857 U | 857 U |
| | ARSENIC | 5.34 | 3.57 | 3.83 | 4.26 | 3.44 | 3.58 |
| | BARIUM | 78.2 | 10.7 U | 50.4 | 50.8 | 8.43 U | 8.43 U |
| | CADMIUM | 2.24 | 1.2 U | 1.2 U | 1.2 U | 1.2 U | 1.2 U |
| | CALCIUM | 28800 | 13000 | 13100 | 36800 | 22600 | 24100 |
| | CHROMIUM | 54.6 | 14.3 | 14.7 | 23.8 | 36.7 | 16.1 |
| | COBALT | 5.83 | 3.4 | 4.14 | 3.09 | 4.57 | 2.93 |
| | COPPER | 20.6 | 6.41 | 9.79 | 5.38 | 9.36 | 6.89 |
| | IRON | 13800 | 1730 U | 7790 | 6820 | 6790 | 6580 |
| | LEAD | 31 | 7.44 U | 8.04 | 8.06 | 7.44 U | 7.44 U |
| | MAGNESIUM | 4730 | 1540 | 2140 | 3370 | 1810 | 2750 |
| | MANGANESE | 224 | 28.5 U | 30.2 U | 30.2 U | 30.2 U | 30.2 U |
| | MERCURY | 0.61 U | 0.61 U | 0.0535 | 0.05 U | 0.05 U | 0.05 U |
| | NICKEL | 9.86 | 3.9 | 7.74 | 5.74 | 7.55 | 5.71 |
| | POTASSIUM | 2050 | 235 U | 1170 | 207 U | 207 U | 207 U |
| | SILVER | 5.05 | 0.803 U | 0.975 | 0.803 U | 1.24 | 0.803 U |
| | SODIUM | 445 | 283 | 241 | 225 | 186 | 278 |
| | VANADIUM | 23.8 J | 3.74 UJ | 18.9 | 16.9 | 19.7 | 22.1 |
| | ZINC | 44.9 | 6.69 U | 24.7 | 3.55 U | 20.1 | 3.55 U |
| SEMIVOLATILES | BIS (2-ETHYHEXYL) PHTHALATE | 0.9 | 0.48 U | 0.48 U | 0.48 U | 0.48 U | 0.48 U |
| | FLUORANTHENE | 0.032 U | 0.032 U | 0.032 U | 0.032 U | 0.16 | 0.054 |
| CARCINOGENIC PAHS | BENZO [A] ANTHRACENE | 0.041 U | 0.041 U | 0.041 U | 0.041 U | 0.14 | 0.041 U |
| | CHRYSENE | 0.032 U | 0.032 U | 0.032 U | 0.032 U | 0.11 | 0.032 U |
| | B(A)P-EQUIVALENTS | 0.128 U | 0.128 U | 0.128 U | 0.128 U | 0.014 | 0.128 U |

*Summary of Analytes Detected in Soil for the Bomb and Shell Reconditioning Building (SWMU 23)*

*Building 1344 Outfall - Surface Soil*

| Group | Analytes | BRB-94-11A 0.5 ft | | BRS-92-07 0 ft | |
|---|---|---|---|---|---|
| METALS | ALUMINUM | 5560 | | NA | |
| | ARSENIC | 5.65 | | 24 | U |
| | BARIUM | 57.2 | | 40 | |
| | CADMIUM | 2.66 | | 1.82 | |
| | CALCIUM | 19100 | | NA | |
| | CHROMIUM | 39.2 | | 43.6 | |
| | COBALT | 3.45 | | NA | |
| | COPPER | 18.1 | | 17.8 | |
| | IRON | 9850 | | 8200 | |
| | LEAD | 115 | | 100 | |
| | MAGNESIUM | 3120 | | NA | |
| | MANGANESE | 169 | | NA | |
| | NICKEL | 7.64 | | 3.65 | |
| | POTASSIUM | 1270 | | NA | |
| | SILVER | 0.803 | U | 0.0737 | |
| | SODIUM | 143 | | NA | |
| | VANADIUM | 12.8 | | NA | |
| | ZINC | 90 | | 150 | |
| PESTICIDES/PCBS | PCB 1254 | 0.0981 | | NA | |
| SEMIVOLATILES | ACENEPHTHENE | 0.33 | | 8.2 | U |
| | BENZO [G,H,I] PERYLENE | 2.2 | | 4.8 | U |
| | FLUORANTHENE | 2.9 | | 10.4 | U |
| | FLUORENE | 0.18 | | 6.6 | UJ |
| | PHENANTHRENE | 2.4 | | 8.2 | U |
| | PCB 1254 | 0.32 | UJ | NA | |
| | PYRENE | 4.1 | | 8.4 | U |
| CARCINOGENIC PAHS | BENZO [A] ANTHRACENE | 2.8 | | 6 | U |
| | BENZO [B] FLUORANTHENE | 3.8 | | 7.2 | U |
| | BENZO [K] FLUORANTHENE | 1.4 | | 16 | U |
| | CHRYSENE | 3.1 | | 9 | U |
| | B(A)P-EQUIVALENTS | 0.677 | | 0.965 | U |

*Summary of Analytes Detected in Soil for the Bomb and Shell Reconditioning Building (SWMU 23)*

*Building 1344 Outfall - Subsurface Soil*

| Group | Analytes | BRB-94-11B 3 ft | | BRB-94-11C 5 ft | | BRB-94-14A 3 ft | | BRB-94-14B 5 ft | |
|---|---|---|---|---|---|---|---|---|---|
| METALS | ARSENIC | 5.81 | | 4.99 | | 4.15 | | 4.25 | |
| | CALCIUM | 16300 | | 29100 | | 39600 | | 48500 | |
| | CHROMIUM | 537 | | 36.3 | | 127 | | 42.4 | |
| | COBALT | 3.81 | | 2.5 | U | 2.5 | U | 2.5 | U |
| | COPPER | 11.8 | | 5.98 | | 5.51 | | 4.94 | |
| | IRON | 11700 | | 6150 | | 7240 | | 1120 | U |
| | LEAD | 13.6 | | 12.3 | | 8.67 | | 7.44 | U |
| | MAGNESIUM | 1280 | | 2430 | | 2780 | | 1710 | |
| | MERCURY | 0.05 | U | 0.0596 | | 0.05 | U | 0.05 | U |
| | NICKEL | 19.8 | | 5.9 | | 12.4 | | 6.13 | |
| | SODIUM | 154 | | 155 | | 240 | | 249 | |
| | VANADIUM | 18.2 | | 11.7 | | 2.23 | U | 21.2 | |
| | ZINC | 19.6 | | 3.55 | U | 3.55 | U | 3.55 | U |
| SEMIVOLATILES | ACENEPHTHENE | 0.041 | U | 0.12 | | 0.041 | U | 0.041 | U |
| | FLUORANTHENE | 0.2 | | 0.51 | | 0.032 | U | 0.032 | U |
| | PHENANTHRENE | 0.18 | | 0.61 | | 0.032 | U | 0.032 | U |
| | PYRENE | 0.28 | | 0.62 | | 0.083 | U | 0.083 | U |
| CARCINOGENIC PAHS | BENZO [A] ANTHRACENE | 0.21 | | 0.45 | | 0.041 | U | 0.041 | U |
| | BENZO [B] FLUORANTHENE | 0.31 | U | 0.6 | | 0.31 | U | 0.31 | U |
| | BENZO [K] FLUORANTHENE | 0.13 | U | 0.3 | | 0.13 | U | 0.13 | U |
| | CHRYSENE | 0.23 | | 0.49 | | 0.032 | U | 0.032 | U |
| | B(A)P-EQUIVALENTS | 0.021 | | 0.108 | | 0.128 | U | 0.128 | U |

*Summary of Analytes Detected in Soil for the Bomb and Shell Reconditioning Building (SWMU 23)*

*Building 1345 Outfall - Surface Soil*

| Group | Analytes | BRB-94-10A 0.5 ft | | BRD-92-02 0 ft (dup) | | BRD-92-02 0 ft | | BRP-94-06A 0.5 ft | | BRP-94-07A 0.5 ft | | BRP-94-08A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | 7.27 | | NA | | NA | | NA | |
| CYANIDE | CYANIDE | 1.12 | | NA | | 41.1 | | 0.25 | U | 0.25 | U | 1.71 | |
| METALS | ALUMINUM | 8820 | | NA | | NA | | 9600 | | 11100 | | 857 | U |
| | ARSENIC | 4.19 | | NA | | 24 | U | 6.14 | | 6.11 | | 3.93 | |
| | BARIUM | 84.5 | | NA | | 82 | | 119 | | 91.3 | | 57.3 | |
| | CADMIUM | 5.08 | | NA | | 2.8 | | 4.85 | | 1.2 | U | 16.9 | |
| | CALCIUM | 7680 | | NA | | NA | | 39100 | | 19800 | | 12500 | |
| | CHROMIUM | 39 | | NA | | 470 | | 36.8 | | 36 | | 79.4 | |
| | COBALT | 4.38 | | NA | | NA | | 4.49 | | 5.08 | | 3.49 | |
| | COPPER | 14.3 | | NA | | 99 | | 25.5 | | 14.8 | | 18.8 | |
| | IRON | 11900 | | NA | | 35000 | | 17200 | | 13300 | | 8840 | |
| | LEAD | 79.1 | | NA | | 860 | | 99.3 | | 51.6 | | 252 | |
| | MAGNESIUM | 3750 | | NA | | NA | | 6580 | | 4360 | | 3710 | |
| | MANGANESE | 30.2 | U | NA | | NA | | 292 | | 227 | | 30.2 | U |
| | NICKEL | 7.51 | | NA | | 8.15 | | 7.84 | U | 7.3 | | 5.43 | |
| | POTASSIUM | 2100 | | NA | | NA | | 2830 | | 2690 | | 207 | U |
| | SILVER | 0.803 | U | NA | | 0.81 | | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 227 | | NA | | NA | | 208 | | 293 | | 157 | |
| | VANADIUM | 15.2 | | NA | | NA | | 16.8 | | 23.1 | UJ | 12.1 | |
| | ZINC | 727 | | NA | | 1100 | | 81.4 | | 92.2 | | 160 | |
| PESTICIDES/PCBS | PCB 1248 | 0.1 | UJ | NA | | 5.2 | | NA | | NA | | 0.925 | |
| | PCB 1254 | 0.235 | | NA | | NA | | NA | | NA | | 0.0479 | U |
| SEMIVOLATILES | 2-METHYLNAPHTHALENE | 0.032 | U | NA | | 0.66 | U | 0.032 | U | 0.032 | U | 0.032 | U |
| | ACENAPHTHYLENE | 0.033 | U | NA | | 0.92 | U | 0.033 | U | 0.033 | U | 0.033 | U |
| | ACENEPHTHENE | 0.55 | | NA | | 0.427 | | 0.041 | U | 0.12 | | 0.041 | U |
| | ANTHRACENE | 0.71 | U | NA | | 1.08 | U | 0.71 | U | 0.71 | U | 0.71 | U |
| | BENZO [G,H,I] PERYLENE | 0.66 | | NA | | 0.427 | | 0.38 | | 0.18 | U | 0.18 | U |
| | BENZYL ALCOHOL | 0.032 | U | NA | | 0.66 | UJ | 0.083 | | 0.068 | | 0.07 | UJ |
| | BIS (2-ETHYHEXYL) PHTHALATE | 0.48 | U | NA | | 2.13 | | 1.3 | | 1.1 | | 3.4 | |
| | DIBENZOFURAN | 0.38 | U | NA | | 0.66 | U | 0.38 | U | 0.38 | U | 0.38 | U |
| | DIETHYL PHTHALATE | 0.24 | U | NA | | 0.66 | U | 0.24 | U | 0.24 | U | 0.24 | U |
| | DIMETHYL PHTHALATE | 0.46 | | NA | | 0.66 | UJ | 0.13 | | 0.063 | U | 0.14 | |
| | DI-N-BUTYL PHTHALATE | 1.3 | U | NA | | 0.66 | U | 1.3 | U | 1.3 | U | 1.9 | |
| | FLUORANTHENE | 1.5 | | NA | | 1.28 | | 0.4 | | 0.32 | | 0.18 | |
| | FLUORENE | 0.29 | | NA | | 0.66 | UJ | 0.065 | U | 0.065 | U | 0.065 | U |

*Summary of Analytes Detected in Soil for the Bomb and Shell Reconditioning Building (SWMU 23)*

*Building 1345 Outfall - Surface Soil (continued)*

| Group | Analytes | BRB-94-10A 0.5 ft | | BRD-92-02 0 ft (dup) | | BRD-92-02 0 ft | | BRP-94-06A 0.5 ft | | BRP-94-07A 0.5 ft | | BRP-94-08A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SEMIVOLATILES | PHENANTHRENE | 2.3 | | NA | | 1.71 | | 0.36 | | 0.42 | | 0.18 | |
| | PCB 1248 | 0.32 | UJ | NA | | 4.8 | | 0.32 | UJ | 0.32 | UJ | 0.32 | UJ |
| | PCB 1254 | 0.32 | UJ | NA | | NA | | 0.32 | UJ | 0.32 | UJ | 0.32 | UJ |
| | PYRENE | 2 | | NA | | 2.13 | | 0.94 | | 0.56 | | 0.41 | |
| CARCINOGENIC PAHS | BENZO [A] ANTHRACENE | 1 | | NA | | 0.854 | | 0.44 | | 0.25 | | 0.17 | |
| | BENZO [A] PYRENE | 1.2 | U | NA | | 0.64 | | 1.2 | U | 1.2 | U | 1.2 | U |
| | BENZO [B] FLUORANTHENE | 1.2 | | NA | | 0.64 | | 0.7 | | 0.31 | U | 0.31 | U |
| | BENZO [K] FLUORANTHENE | 0.58 | | NA | | 1.6 | U | 0.27 | | 0.13 | U | 0.13 | U |
| | CHRYSENE | 1.2 | | NA | | 1.07 | | 0.85 | | 0.35 | | 0.28 | |
| | DIBENZ [AH] ANTHRACENE | 0.31 | U | NA | | 0.4 | U | 0.31 | U | 0.31 | U | 0.31 | U |
| | INDENO [1,2,3-C,D] PYRENE | 2.4 | U | NA | | 0.427 | | 2.4 | U | 2.4 | U | 2.4 | U |
| | B(A)P-EQUIVALENTS | 0.227 | | NA | | 0.833 | | 0.118 | | 0.025 | | 0.017 | |

*Summary of Analytes Detected in Soil for the Bomb and Shell Reconditioning Building (SWMU 23)*

*Building 1345 Outfall - Surface Soil (continued)*

| Group | Analytes | BRP-94-09A 0.5 ft (dup) | | BRP-94-09A 0.5 ft | | BRS-92-01 0 ft | | BRS-94-06 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | 3.36 | U | NA | |
| CYANIDE | CYANIDE | 13 | | 13 | | 5 | U | 0.25 | U |
| METALS | ALUMINUM | 5440 | | 1220 | U | NA | | 9850 | |
| | ARSENIC | 3.27 | | 3.11 | | 240 | U | 6.98 | |
| | BARIUM | 126 | | 126 | | 260 | | 119 | |
| | CADMIUM | 52.4 | | 46 | | 0.424 | U | 1.2 | U |
| | CALCIUM | 27300 | | 21900 | | NA | | 8320 | |
| | CHROMIUM | 160 | | 163 | | 90 | | 9.83 | |
| | COBALT | 10.5 | | 10.2 | | NA | | 4.84 | |
| | COPPER | 73.4 | | 58.6 | | 19.3 | | 9.73 | |
| | IRON | 20500 | | 16900 | | 25000 | | 12000 | |
| | LEAD | 292 | | 469 | | 130 | | 9.84 | |
| | MAGNESIUM | 4010 | | 3650 | | NA | | 6470 | |
| | MANGANESE | 198 | | 174 | | NA | | 396 | |
| | NICKEL | 16 | | 12.4 | | 2.46 | U | 5.76 | |
| | POTASSIUM | 1270 | | 1300 | | NA | | 3080 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.179 | | 0.803 | U |
| | SODIUM | 226 | | 237 | | NA | | 352 | |
| | VANADIUM | 13.7 | | 3.74 | UJ | NA | | 14.3 | |
| | ZINC | 1050 | | 1010 | | 2200 | | 39.1 | |
| PESTICIDES/PCBS | PCB 1248 | 34 | | 28 | | NA | | NA | |
| | PCB 1254 | 0.48 | U | 0.48 | U | NA | | NA | |
| SEMIVOLATILES | 2-METHYLNAPHTHALENE | 0.056 | | 0.032 | U | 0.66 | U | 0.49 | |
| | ACENAPHTHYLENE | 0.033 | U | 0.033 | U | 0.92 | U | 0.085 | |
| | ACENEPHTHENE | 0.041 | U | 0.041 | U | 0.82 | U | 3.4 | |
| | ANTHRACENE | 0.71 | U | 0.71 | U | 1.08 | U | 3.6 | |
| | BENZO [G,H,I] PERYLENE | 0.37 | J | 0.18 | U | 0.48 | U | 2.3 | |
| | BENZYL ALCOHOL | 0.032 | U | 0.032 | U | 0.66 | UJ | 0.032 | U |
| | BIS (2-ETHYHEXYL) PHTHALATE | 7.2 | | 3.7 | | 0.78 | U | 0.48 | U |
| | DIBENZOFURAN | 0.38 | U | 0.38 | U | 0.66 | U | 0.65 | |
| | DIETHYL PHTHALATE | 0.24 | U | 0.24 | U | 0.66 | U | 0.53 | |
| | DIMETHYL PHTHALATE | 0.11 | | 0.32 | | 0.66 | UJ | 0.063 | U |
| | DI-N-BUTYL PHTHALATE | 1.5 | | 1.3 | U | 0.66 | U | 1.3 | U |
| | FLUORANTHENE | 0.34 | | 0.22 | | 1.04 | U | 5.5 | |
| | FLUORENE | 0.065 | U | 0.065 | U | 0.66 | U | 2 | |

*Summary of Analytes Detected in Soil for the Bomb and Shell Reconditioning Building (SWMU 23)*

*Building 1345 Outfall - Surface Soil (continued)*

| Group | Analytes | BRP-94-09A 0.5 ft (dup) | | BRP-94-09A 0.5 ft | | BRS-92-01 0 ft | | BRS-94-06 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|
| SEMIVOLATILES | PHENANTHRENE | 0.3 | | 0.18 | | 0.82 | U | 9.5 | |
| | PCB 1248 | 0.32 | UJ | 0.32 | UJ | NA | | 0.32 | UJ |
| | PCB 1254 | 0.32 | UJ | 0.32 | UJ | NA | | 0.32 | UJ |
| | PYRENE | 0.84 | | 0.42 | | 0.84 | U | 10 | |
| CARCINOGENIC PAHS | BENZO [A] ANTHRACENE | 0.35 | | 0.28 | | 0.6 | U | 5.3 | |
| | BENZO [A] PYRENE | 1.2 | U | 1.2 | U | 0.76 | U | 4.7 | |
| | BENZO [B] FLUORANTHENE | 0.73 | | 0.31 | U | 0.72 | U | 5.6 | |
| | BENZO [K] FLUORANTHENE | 0.33 | UJ | 0.13 | U | 1.6 | U | 2.3 | |
| | CHRYSENE | 0.62 | | 0.39 | | 0.9 | U | 6.4 | |
| | DIBENZ [AH] ANTHRACENE | 0.31 | U | 0.31 | U | 0.4 | U | 0.58 | |
| | INDENO [1,2,3-C,D] PYRENE | 2.4 | U | 2.4 | U | 0.42 | U | 2.4 | U |
| | B(A)P-EQUIVALENTS | 0.112 | | NA | | 0.096 | U | 6.399 | |

*Summary of Analytes Detected in Soil for the Bomb and Shell Reconditioning Building (SWMU 23)*

*Building 1345Outfall - Subsurface Soil*

| Group | Analytes | BRB-94-10B 3 ft | | BRB-94-10C 5 ft | | BRB-94-15A 3 ft | | BRB-94-15B 5 ft | | BRP-94-06B 3 ft | | BRP-94-06C 5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 857 | U | 857 | U | 857 | U | 857 | U | 6470 | | 1170 | U |
| | ARSENIC | 5.91 | | 3.32 | | 4.57 | | 3.01 | | 8.21 | | 5.23 | |
| | BARIUM | 8.43 | U | 8.43 | U | 46.3 | | 8.43 | U | 54.8 | | 10.5 | U |
| | CALCIUM | 20800 | | 36600 | | 18200 | | 27800 | | 8430 | | 22600 | |
| | CHROMIUM | 58.1 | | 66.6 | | 47.1 | | 20.7 | | 8.89 | | 3.81 | |
| | COBALT | 3.18 | | 3.49 | | 2.5 | U | 2.5 | U | 3.26 | | 2.5 | U |
| | COPPER | 10.1 | | 16.2 | | 5.11 | | 4.27 | | 13.7 | | 5.23 | |
| | IRON | 11400 | | 12700 | | 9600 | | 6700 | | 12000 | | 1610 | U |
| | LEAD | 9.84 | | 7.44 | U | 9.65 | | 7.44 | U | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 3930 | | 2830 | | 1930 | | 2460 | | 2310 | | 2380 | |
| | MANGANESE | 30.2 | U | 30.2 | U | 30.2 | U | 30.2 | U | 158 | | 31.5 | U |
| | MERCURY | 0.0551 | | 0.05 | U | 0.05 | U | 0.05 | U | 0.61 | U | 0.61 | U |
| | NICKEL | 9.73 | | 30 | | 6.72 | | 4.88 | | 7.84 | U | 7.84 | U |
| | POTASSIUM | 207 | U | 207 | U | 207 | U | 207 | U | 1460 | | 239 | U |
| | SODIUM | 177 | | 128 | | 259 | | 219 | | 159 | | 121 | |
| | VANADIUM | 20 | | 16.5 | | 14.8 | | 11.9 | | 16 | | 2.93 | U |
| | ZINC | 43.4 | | 19.8 | | 26.8 | | 22.9 | | 19.3 | | 2.8 | U |
| PESTICIDES/PCBS | PCB 1248 | 0.1 | UJ | 0.1 | UJ | 0.1 | UJ | 0.1 | UJ | NA | | NA | |
| SEMIVOLATILES | BENZYL ALCOHOL | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U |
| | PCB 1248 | 0.32 | UJ | 0.32 | UJ | 0.32 | UJ | 0.32 | UJ | 0.32 | UJ | 0.32 | UJ |

*Summary of Analytes Detected in Soil for the Bomb and Shell Reconditioning Building (SWMU 23)*

*Building 1345Outfall - Subsurface Soil (continued)*

| Group | Analytes | BRP-94-07B 3 ft | | BRP-94-07C 5 ft | | BRP-94-08B 3 ft | | BRP-94-08C 5 ft | | BRP-94-09B 3 ft (dup) | | BRP-94-09B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 1220 | U | 1220 | U | 857 | U | 857 | U | 857 | U | 1220 | U |
| | ARSENIC | 4.98 | | 2.98 | | 3.71 | | 2.88 | | 6.67 | | 7.03 | |
| | BARIUM | 10.7 | U | 10.7 | U | 8.43 | U | 8.43 | U | 8.43 | U | 10.7 | U |
| | CALCIUM | 21800 | | 20100 | | 17900 | | 20000 | | 19100 | | 20800 | |
| | CHROMIUM | 1.69 | U | 1.69 | U | 8.61 | | 8.5 | | 12.7 | | 13.9 | |
| | COBALT | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | COPPER | 6.02 | | 3.96 | | 4.45 | | 5.2 | | 6.5 | | 8.53 | |
| | IRON | 8780 | | 1730 | U | 1120 | U | 6250 | | 6380 | | 1730 | U |
| | LEAD | 8.9 | | 7.44 | U | 9.78 | | 7.44 | U | 21.8 | | 18 | |
| | MAGNESIUM | 2150 | | 1380 | | 1180 | | 2420 | | 2120 | | 2290 | |
| | MANGANESE | 28.5 | U | 28.5 | U | 30.2 | U | 30.2 | U | 30.2 | U | 28.5 | U |
| | MERCURY | 0.61 | U | 0.61 | U | 0.61 | U | 0.61 | U | 0.61 | U | 0.61 | U |
| | NICKEL | 3.87 | | 3.99 | | 3.82 | | 5.91 | | 5.35 | | 3.87 | |
| | POTASSIUM | 235 | U | 235 | U | 207 | U | 207 | U | 207 | U | 235 | U |
| | SODIUM | 109 | | 173 | | 117 | | 396 | | 157 | | 318 | |
| | VANADIUM | 3.74 | UJ | 3.74 | UJ | 2.23 | U | 11.2 | | 2.23 | U | 3.74 | UJ |
| | ZINC | 6.69 | U | 6.69 | U | 25.3 | | 3.55 | U | 46.4 | | 41.3 | |
| PESTICIDES/PCBS | PCB 1248 | NA | | NA | | 0.1 | UJ | 0.1 | UJ | 0.184 | | 0.117 | |
| SEMIVOLATILES | BENZYL ALCOHOL | 0.032 | U | 0.032 | U | 0.065 | J | 0.032 | U | 0.032 | U | 0.032 | U |
| | PCB 1248 | 0.32 | UJ | 0.32 | UJ | 0.32 | UJ | 0.32 | UJ | 0.32 | UJ | 0.32 | UJ |

*Summary of Analytes Detected in Soil for the Bomb and Shell Reconditioning Building (SWMU 23)*

*Building 1345Outfall - Subsurface Soil (continued)*

| Group | Analytes | BRP-94-09C 5 ft (dup) | | BRP-94-09C 5 ft | |
|---|---|---|---|---|---|
| METALS | ALUMINUM | 857 | U | 857 | U |
| | ARSENIC | 4.6 | | 4.84 | |
| | BARIUM | 8.43 | U | 8.43 | U |
| | CALCIUM | 24200 | | 16600 | |
| | CHROMIUM | 10.7 | | 12.1 | |
| | COBALT | 2.5 | U | 2.5 | U |
| | COPPER | 5.31 | | 5.61 | |
| | IRON | 6660 | | 7200 | |
| | LEAD | 13 | | 10.3 | |
| | MAGNESIUM | 1420 | | 1440 | |
| | MANGANESE | 30.2 | U | 30.2 | U |
| | MERCURY | 0.61 | U | 0.61 | U |
| | NICKEL | 5.52 | | 6.23 | |
| | POTASSIUM | 207 | U | 207 | U |
| | SODIUM | 157 | | 172 | |
| | VANADIUM | 2.23 | U | 11.2 | |
| | ZINC | 20 | | 22.1 | |
| PESTICIDES/PCBS | PCB 1248 | 0.1 | UJ | 0.1 | UJ |
| SEMIVOLATILES | BENZYL ALCOHOL | 0.083 | J | 0.065 | J |
| | PCB 1248 | 0.32 | UJ | 0.32 | UJ |

*Summary of Analytes Detected in Soil for the Bomb and Reconditioning Building (SWMU 23)*

*Asphalt Area - Surface Soil*

| Group | Analytes | BRB-94-02A 0.5 ft | | BRB-94-04A 0.5 ft | | BRB-94-05A 0.5 ft | | BRP-94-13A 0.5 ft | | BRS-92-06 0 ft | | BRS-94-01 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | 28 | | NA | |
| METALS | ALUMINUM | 7900 | | 7470 | | 6530 | | 7350 | | NA | | 3700 | |
| | ARSENIC | 3.96 | | 4.07 | | 5.94 | | 3.29 | | 72 | U | 4.28 | |
| | BARIUM | 79.7 | | 70.4 | | 70.4 | | 68.4 | | 13.5 | | 49.4 | |
| | CALCIUM | 46300 | | 29200 | | 23200 | | 30800 | | NA | | 29400 | |
| | CHROMIUM | 70.5 | | 28 | | 162 | | 8.9 | | 18 | | 11 | |
| | COBALT | 3.49 | | 2.5 | U | 3.58 | | 3.75 | | NA | | 3.17 | |
| | COPPER | 8.12 | | 14.3 | | 10.7 | | 7.2 | | 77 | | 13.9 | |
| | IRON | 11100 | | 9010 | | 19000 | | 9380 | | 23000 | | 6940 | |
| | LEAD | 10.3 | | 7.44 | U | 7.44 | U | 10.6 | | 43 | | 27.6 | |
| | MAGNESIUM | 5930 | | 4900 | | 4540 | | 4470 | | NA | | 3320 | |
| | MANGANESE | 227 | | 171 | | 186 | | 175 | | NA | | 142 | |
| | MERCURY | 0.61 | U | 0.61 | U | 0.61 | U | 0.61 | U | 0.174 | | 0.05 | U |
| | NICKEL | 7.47 | | 7.84 | U | 7.84 | U | 5.57 | | 7.4 | U | 3 | |
| | POTASSIUM | 2070 | | 1960 | | 1770 | | 1700 | | NA | | 169 | U |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.0615 | | 0.803 | U |
| | SODIUM | 336 | | 256 | | 175 | | 243 | | NA | | 213 | |
| | VANADIUM | 3.74 | UJ | 2.93 | U | 2.93 | U | 3.74 | UJ | NA | | 8.14 | |
| | ZINC | 6.69 | U | 23.7 | | 22.7 | | 6.69 | U | 76 | | 26.9 | |
| SEMIVOLATILES | 2-METHYLNAPHTHALENE | 0.032 | U | 0.05 | | 0.032 | U | 0.032 | U | 0.66 | U | 0.032 | U |
| | ACENEPHTHENE | 0.041 | U | 0.041 | U | 0.11 | | 0.041 | U | 0.82 | U | 0.36 | |
| | BENZO [G,H,I] PERYLENE | 0.18 | U | 0.18 | U | 0.18 | U | 0.18 | U | 0.839 | | 0.97 | |
| | BENZYL ALCOHOL | 0.032 | U | 0.07 | | 0.032 | U | 0.032 | U | 0.66 | UJ | 0.045 | |
| | FLUORANTHENE | 0.061 | | 0.08 | | 0.45 | | 0.032 | U | 1.68 | | 1.7 | |
| | FLUORENE | 0.065 | U | 0.065 | U | 0.065 | U | 0.065 | U | 0.66 | UJ | 0.2 | |
| | PHENANTHRENE | 0.11 | | 0.21 | | 0.57 | | 0.032 | U | 1.05 | | 1.8 | |
| | PYRENE | 0.22 | | 0.6 | | 0.92 | | 0.083 | U | 2.1 | | 3 | |
| CARCINOGENIC PAHS | BENZO [A] ANTHRACENE | 0.041 | U | 0.21 | | 0.42 | | 0.041 | U | 1.47 | | 1.4 | |
| | BENZO [A] PYRENE | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.26 | | 1.2 | U |
| | BENZO [B] FLUORANTHENE | 0.31 | U | 0.31 | U | 0.31 | U | 0.31 | U | 1.05 | | 1.9 | |
| | BENZO [K] FLUORANTHENE | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 1.26 | | 0.86 | |
| | CHRYSENE | 0.15 | | 0.46 | | 0.67 | | 0.032 | U | 1.47 | | 2.1 | |
| | INDENO [1,2,3-C,D] PYRENE | 2.4 | U | 2.4 | U | 2.4 | U | 2.4 | U | 0.839 | | 2.4 | U |
| | B(A)P-EQUIVALENTS | 0.0002 | | 0.021 | | 0.043 | | 0.128 | | 1.61 | | 0.341 | |

*Summary of Analytes Detected in Soil for the Bomb and Reconditioning Building (SWMU 23)*

*Asphalt Area - Subsurface Soil*

| Group | Analytes | BRB-94-02B 3 ft | | BRB-94-02C 5 ft | | BRB-94-04B 3 ft | | BRB-94-04C 5 ft | | BRB-94-05B 3 ft | | BRB-94-05C 5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 1220 | U | 1220 | U | 7290 | | 1170 | U | 1170 | U | 1170 | U |
| | ARSENIC | 2.5 | U | 4.96 | | 3.27 | | 3.31 | | 7.22 | | 2.58 | |
| | BARIUM | 10.7 | U | 10.7 | U | 68.7 | | 10.5 | U | 10.5 | U | 10.5 | U |
| | CALCIUM | 32900 | | 54000 | | 95000 | | 28600 | | 25900 | | 45100 | |
| | CHROMIUM | 78.2 | | 27.6 | | 27.4 | | 14.5 | | 116 | | 16.6 | |
| | COBALT | 3.38 | | 2.5 | U | 2.5 | U | 2.5 | U | 5.41 | | 4.69 | |
| | COPPER | 8.72 | | 4.03 | | 14 | | 6.24 | | 7.15 | | 4.19 | |
| | IRON | 1730 | U | 1730 | U | 8800 | | 1610 | U | 11300 | | 1610 | U |
| | LEAD | 7.44 | U | 14 | | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 3700 | | 3570 | | 4790 | | 3230 | | 4080 | | 2540 | |
| | MANGANESE | 28.5 | U | 28.5 | U | 167 | | 31.5 | U | 31.5 | U | 31.5 | U |
| | NICKEL | 7.34 | | 4.78 | | 7.84 | U | 7.84 | U | 7.84 | U | 7.84 | U |
| | POTASSIUM | 235 | U | 235 | U | 1910 | | 239 | U | 239 | U | 239 | U |
| | SILVER | 1.39 | | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 222 | | 108 | | 250 | | 227 | | 134 | | 100 | |
| | VANADIUM | 22.9 | J | 3.74 | UJ | 2.93 | U | 2.93 | U | 16.9 | | 47.2 | |
| | ZINC | 6.69 | U | 6.69 | U | 23.1 | | 2.8 | U | 15 | | 2.8 | U |
| SEMIVOLATILES | 2-METHYLNAPHTHALENE | 0.22 | | 0.032 | U | 0.082 | | 0.25 | | 0.032 | U | 0.032 | U |
| | BENZO [G,H,I] PERYLENE | 0.49 | | 0.18 | U | 0.18 | U | 0.94 | | 0.18 | U | 0.18 | U |
| | BENZYL ALCOHOL | 0.06 | | 0.067 | | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U |
| | FLUORANTHENE | 0.14 | | 0.032 | U | 0.064 | | 0.2 | | 0.051 | | 0.032 | U |
| | PHENANTHRENE | 0.69 | | 0.032 | U | 0.38 | | 1.2 | | 0.14 | | 0.032 | U |
| | PYRENE | 2.4 | | 0.083 | U | 1.3 | | 4.3 | | 0.42 | | 0.083 | U |
| CARCINOGENIC PAHS | BENZO [A] ANTHRACENE | 0.85 | | 0.041 | U | 0.35 | | 1.5 | | 0.14 | | 0.041 | U |
| | BENZO [B] FLUORANTHENE | 0.31 | U | 0.31 | U | 0.31 | U | 0.65 | | 0.31 | U | 0.31 | U |
| | CHRYSENE | 1.6 | | 0.032 | U | 0.88 | | 2.5 | | 0.27 | | 0.032 | U |
| | B(A)P-EQUIVALENTS | 0.087 | | 0.128 | U | 0.036 | | 0.218 | | 0.014 | | 0.128 | U |

*Summary of Analytes Detected in Soil for the Bomb and Reconditioning Building (SWMU 23)*

*Asphalt Area - Subsurface Soil (continued)*

| Group | Analytes | BRP-94-13B 3 ft | | BRP-94-13C 5 ft | |
|---|---|---|---|---|---|
| METALS | ALUMINUM | 1220 | U | 1220 | U |
| | ARSENIC | 5.25 | | 2.5 | U |
| | BARIUM | 10.7 | U | 10.7 | U |
| | CALCIUM | 35000 | | 42300 | |
| | CHROMIUM | 1.69 | U | 1.69 | U |
| | COBALT | 2.5 | U | 2.66 | |
| | COPPER | 3.94 | | 2.84 | U |
| | IRON | 1730 | U | 1730 | U |
| | LEAD | 7.44 | U | 8.12 | |
| | MAGNESIUM | 2640 | | 3030 | |
| | MANGANESE | 28.5 | U | 28.5 | U |
| | NICKEL | 3.73 | | 2.74 | U |
| | POTASSIUM | 235 | U | 235 | U |
| | SILVER | 0.803 | U | 0.803 | U |
| | SODIUM | 163 | | 252 | |
| | VANADIUM | 3.74 | UJ | 3.74 | UJ |
| | ZINC | 6.69 | U | 6.69 | U |
| SEMIVOLATILES | 2-METHYLNAPHTHALENE | 0.032 | U | 0.032 | U |
| | BENZO [G,H,I] PERYLENE | 0.18 | U | 0.18 | U |
| | BENZYL ALCOHOL | 0.032 | U | 0.032 | U |
| | FLUORANTHENE | 0.032 | U | 0.032 | U |
| | PHENANTHRENE | 0.032 | U | 0.032 | U |
| | PYRENE | 0.083 | U | 0.083 | U |
| CARCINOGENIC PAHS | BENZO [A] ANTHRACENE | 0.041 | U | 0.041 | U |
| | BENZO [B] FLUORANTHENE | 0.31 | U | 0.31 | U |
| | CHRYSENE | 0.032 | U | 0.032 | U |
| | B(A)P-EQUIVALENTS | 0.128 | U | 0.128 | U |

*Summary of Analytes Detected in Soil for the Bomb and Reconditioning Building (SWMU 23)*

*Perimeter Area - Surface Soil*

| Group | Analytes | BRP-94-01A 0.5 ft | | BRP-94-03A 0.5 ft | | BRS-92-02 0 ft | | BRS-92-03 0 ft | | BRS-92-04 0 ft | | BRS-92-05 0 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | 3.36 | U | 3.36 | U | 6.59 | | 5.95 | |
| METALS | ALUMINUM | 13200 | | 13600 | | NA | | NA | | NA | | NA | |
| | ARSENIC | 4.58 | | 5.25 | | 24 | U | 48 | U | 24 | U | 24 | U |
| | BARIUM | 118 | | 101 | | 74 | | 31 | | 110 | | 76 | |
| | BERYLLIUM | 0.573 | | 0.57 | | 0.078 | U | 0.16 | U | 0.078 | U | 0.078 | U |
| | CADMIUM | 1.2 | U | 1.2 | U | 0.515 | | 0.85 | U | 0.424 | U | 0.424 | U |
| | CALCIUM | 22400 | | 3300 | | NA | | NA | | NA | | NA | |
| | CHROMIUM | 23.3 | | 18.9 | | 80 | | 22 | | 70 | | 23.6 | |
| | COBALT | 5.15 | | 5.26 | | NA | | NA | | NA | | NA | |
| | COPPER | 20.6 | | 11.6 | | 27 | | 7.2 | | 29 | | 52 | |
| | IRON | 15300 | | 14600 | | 12000 | | 6200 | | 21000 | | 16000 | |
| | LEAD | 34 | | 14.8 | | 140 | | 40 | | 240 | | 110 | |
| | MAGNESIUM | 7260 | | 3990 | | NA | | NA | | NA | | NA | |
| | MANGANESE | 375 | | 313 | | NA | | NA | | NA | | NA | |
| | MERCURY | 0.61 | U | 0.61 | U | 0.0259 | U | 0.0259 | U | 0.0259 | U | 0.0259 | U |
| | NICKEL | 8.64 | | 7.94 | | 2.46 | U | 4.9 | U | 26.3 | | 25.8 | |
| | POTASSIUM | 3660 | | 3410 | | NA | | NA | | NA | | NA | |
| | SILVER | 0.803 | U | 0.803 | U | 0.234 | | 0.0476 | | 0.0992 | | 0.0765 | |
| | SODIUM | 300 | | 226 | | NA | | NA | | NA | | NA | |
| | VANADIUM | 21 | J | 22.3 | J | NA | | NA | | NA | | NA | |
| | ZINC | 61.9 | | 43.5 | | 300 | | 40 | | 140 | | 120 | |
| SEMIVOLATILES | BENZYL ALCOHOL | 0.032 | U | 0.053 | | 6.6 | UJ | 0.33 | UJ | 6.6 | UJ | 6.6 | UJ |
| | FLUORANTHENE | 0.032 | U | 0.032 | U | 10.4 | U | 0.52 | U | 10.4 | U | 10.4 | U |
| | PHENANTHRENE | 0.032 | U | 0.032 | U | 8.2 | U | 0.41 | U | 8.2 | U | 8.2 | U |

*Summary of Analytes Detected in Soil for the Bomb and Reconditioning Building (SWMU 23)*

*Perimeter Area - Surface Soil (continued)*

| Group | Analytes | BRS-94-02 0.5 ft | | BRS-94-03 0.5 ft | | BRS-94-04 0.5 ft | | BRS-94-05 0.5 ft | | BRS-94-07 0.5 ft | | BRS-94-08 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| METALS | ALUMINUM | 11900 | | 6630 | | 11300 | | 5460 | | 8230 | | 13100 | |
| | ARSENIC | 5.56 | | 4.35 | | 4.52 | | 5.3 | | 6.08 | | 7.17 | |
| | BARIUM | 120 | | 80.1 | | 113 | | 63.6 | | 84.8 | | 143 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 4470 | | 34800 | | 3640 | | 33000 | | 25200 | | 14400 | |
| | CHROMIUM | 12 | | 10.2 | | 12.4 | | 7.3 | | 19.2 | | 15.1 | |
| | COBALT | 5.6 | | 3.61 | | 5.28 | | 3.4 | | 4.46 | | 5.62 | |
| | COPPER | 11.9 | | 9.95 | | 10.6 | | 9.96 | | 11.6 | | 14.4 | |
| | IRON | 13800 | | 9700 | | 13200 | | 7940 | | 11800 | | 15600 | |
| | LEAD | 14.5 | | 15 | | 13.3 | | 14 | | 30.1 | | 13.1 | |
| | MAGNESIUM | 5480 | | 5080 | | 5080 | | 4550 | | 4310 | | 8060 | |
| | MANGANESE | 372 | | 239 | | 351 | | 181 | | 239 | | 465 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 7.65 | | 4.76 | | 6.76 | | 3.14 | | 5.65 | | 8.81 | |
| | POTASSIUM | 3210 | | 1670 | | 3060 | | 1290 | | 1840 | | 4210 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 226 | | 244 | | 229 | | 311 | | 194 | | 284 | |
| | VANADIUM | 15.5 | | 12.3 | | 14.8 | | 8.71 | | 16.3 | | 19.9 | |
| | ZINC | 41.7 | | 30.3 | | 42.8 | | 29.1 | | 48.2 | | 50.2 | |
| SEMIVOLATILES | BENZYL ALCOHOL | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U |
| | FLUORANTHENE | 0.032 | U | 0.032 | U | 0.045 | | 0.032 | U | 0.032 | U | 0.032 | U |
| | PHENANTHRENE | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U | 0.032 | U |

*Summary of Analytes Detected in Soil for the Bomb and Reconditioning Building (SWMU 23)*

*Perimeter Area - Surface Soil (continued)*

| Group | Analytes | BRS-94-09 0.5 ft | | BRS-94-10 0.5 ft | |
|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | |
| METALS | ALUMINUM | 5190 | | 7850 | |
| | ARSENIC | 5.9 | | 2.92 | |
| | BARIUM | 74.3 | | 96.2 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U |
| | CADMIUM | 1.2 | U | 1.2 | U |
| | CALCIUM | 19800 | | 18700 | |
| | CHROMIUM | 8.57 | | 10.6 | |
| | COBALT | 2.98 | | 3.93 | |
| | COPPER | 24.9 | | 20.4 | |
| | IRON | 9030 | | 11100 | |
| | LEAD | 12.6 | | 13.2 | |
| | MAGNESIUM | 4060 | | 4880 | |
| | MANGANESE | 144 | | 229 | |
| | MERCURY | 0.0529 | | 0.05 | U |
| | NICKEL | 3.55 | | 4.85 | |
| | POTASSIUM | 1380 | | 2160 | |
| | SILVER | 0.803 | U | 0.803 | U |
| | SODIUM | 303 | | 350 | |
| | VANADIUM | 9.04 | | 13.3 | |
| | ZINC | 76.4 | | 66 | |
| SEMIVOLATILES | BENZYL ALCOHOL | 0.032 | U | 0.032 | U |
| | FLUORANTHENE | 0.032 | U | 0.032 | U |
| | PHENANTHRENE | 0.18 | | 0.15 | |

## *Summary of Analytes Detected in Soil for the Bomb and Reconditioning Building (SWMU 23)*

### *Perimeter Area - Subsurface Soil*

| Group | Analytes | BRP-94-01B 3 ft | | BRP-94-01C 5 ft | | BRP-94-03B 3 ft | | BRP-94-03C 5 ft | |
|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 1220 | U | 8110 | | 1220 | U | 1220 | U |
| | ARSENIC | 4.7 | | 7.29 | | 7.22 | | 4.57 | |
| | BARIUM | 10.7 | U | 80.4 | | 55.5 | | 10.7 | U |
| | CALCIUM | 13900 | | 36100 | | 23700 | | 24600 | |
| | CHROMIUM | 9.09 | | 12.2 | | 18.3 | | 18.1 | |
| | COBALT | 3.19 | | 3.59 | | 3.29 | | 3.18 | |
| | COPPER | 6.83 | | 9.11 | | 5.54 | | 5.34 | |
| | IRON | 8930 | | 12700 | | 10200 | | 1730 | U |
| | LEAD | 7.44 | U | 12.6 | | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 1490 | | 4030 | | 2070 | | 2160 | |
| | MANGANESE | 28.5 | U | 275 | | 179 | | 28.5 | U |
| | NICKEL | 5.53 | | 9.92 | | 6.76 | | 4.46 | |
| | POTASSIUM | 235 | U | 1410 | | 235 | U | 235 | U |
| | SODIUM | 127 | | 212 | | 159 | | 139 | |
| | VANADIUM | 3.74 | UJ | 19.1 | J | 3.74 | UJ | 3.74 | UJ |
| SEMIVOLATILES | BENZYL ALCOHOL | 0.066 | | 0.046 | | 0.032 | U | 0.032 | U |

All values are in µg/g (equal to ppm)
NA = Not analyzed
U = Not detected; value is the Certified Reporting Limit
Dup = Duplicate analysis
B(a)P = Benzo(a)pyrene
J = Value is estimated.

## *Summary of Analytes Detected in Soil for the Former Transformer Boxing Area (SWMU 31)*

### *Surface Soil*

| Group | Analytes | TBS-94-01 0.5 ft | TBS-94-02 0.5 ft | TBS-94-03 0.5 ft | TBS-94-04 0.5 ft | TBS-94-05 0.5 ft | TBS-94-06 0.5 ft |
|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | NA | NA | 6,640 | NA | NA | 5,670 |
| | ARSENIC | NA | NA | 10.2 | NA | NA | 7.57 |
| | BARIUM | NA | NA | 65.4 | NA | NA | 59.4 |
| | CALCIUM | NA | NA | 49,400 | NA | NA | 76,000 |
| | CHROMIUM | NA | NA | 14.1 | NA | NA | 11.7 |
| | COBALT | NA | NA | 2.74 | NA | NA | 2.5 U |
| | COPPER | NA | NA | 11.9 | NA | NA | 9.25 |
| | IRON | NA | NA | 1,390 U | NA | NA | 1,390 U |
| | LEAD | NA | NA | 40.4 | NA | NA | 31.3 |
| | MAGNESIUM | NA | NA | 5,260 | NA | NA | 5,440 |
| | MANGANESE | NA | NA | 149 | NA | NA | 131 |
| | NICKEL | NA | NA | 5.13 | NA | NA | 4.14 |
| | POTASSIUM | NA | NA | 1,750 | NA | NA | 1,490 |
| | SODIUM | NA | NA | 294 | NA | NA | 284 |
| | VANADIUM | NA | NA | 2.91 U | NA | NA | 2.91 U |
| | ZINC | NA | NA | 52.6 | NA | NA | 41.2 |
| SEMIVOLATILES | BIS (2-ETHYHEXYL) PHTHALATE | NA | NA | 0.48 U | NA | NA | 0.93 |
| | FLUORANTHENE | NA | NA | 0.36 | NA | NA | 0.23 |
| | PHENANTHRENE | NA | NA | 0.34 | NA | NA | 0.23 |
| | PYRENE | NA | NA | 0.56 | NA | NA | 0.32 |
| c-PAHs | BENZO [A] ANTHRACENE | NA | NA | 0.27 | NA | NA | 0.16 |
| | BENZO [B] FLUORANTHENE | NA | NA | 0.62 | NA | NA | 0.31 U |
| | CHRYSENE | NA | NA | 0.39 | NA | NA | 0.24 |
| | B(a)P-equivalent c-PAH concentration | NA | NA | 0.0894 | NA | NA | 0.0162 |

*Summary of Analytes Detected in Soil for the Former Transformer Boxing Area (SWMU 31)*

*Surface Soil (continued)*

| Group | Analytes | TBS-94-07 0.5 ft | TBS-94-08 0.5 ft | TBS-94-09 0.5 ft | TBS-94-09 0.5 ft (dup) | TBS-94-10 0.5 ft | TBS-94-11 0.5 ft |
|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | NA | NA | 8,250 | 8,290 | NA | NA |
| | ARSENIC | NA | NA | 8.99 | 9.74 | NA | NA |
| | BARIUM | NA | NA | 83.6 | 82.2 | NA | NA |
| | CALCIUM | NA | NA | 48,300 | 49,900 | NA | NA |
| | CHROMIUM | NA | NA | 15.7 | 15.1 | NA | NA |
| | COBALT | NA | NA | 3.29 | 2.99 | NA | NA |
| | COPPER | NA | NA | 14.4 | 14.5 | NA | NA |
| | IRON | NA | NA | 8,600 | 7,970 | NA | NA |
| | LEAD | NA | NA | 37.2 | 36.4 | NA | NA |
| | MAGNESIUM | NA | NA | 5,910 | 5,400 | NA | NA |
| | MANGANESE | NA | NA | 195 | 193 | NA | NA |
| | NICKEL | NA | NA | 7.02 | 6.23 | NA | NA |
| | POTASSIUM | NA | NA | 2,180 | 2,270 | NA | NA |
| | SODIUM | NA | NA | 369 | 317 | NA | NA |
| | VANADIUM | NA | NA | 2.91 U | 2.91 U | NA | NA |
| | ZINC | NA | NA | 62.5 | 62.8 | NA | NA |
| SEMIVOLATILES | BIS (2-ETHYHEXYL) PHTHALATE | NA | NA | 1.8 | 0.82 | NA | NA |
| | FLUORANTHENE | NA | NA | 0.14 | 0.2 | NA | NA |
| | PHENANTHRENE | NA | NA | 0.18 | 0.23 | NA | NA |
| | PYRENE | NA | NA | 0.34 | 0.28 | NA | NA |
| c-PAHs | BENZO [A] ANTHRACENE | NA | NA | 0.14 | 0.15 | NA | NA |
| | BENZO [B] FLUORANTHENE | NA | NA | 0.31 U | 0.31 U | NA | NA |
| | CHRYSENE | NA | NA | 0.2 | 0.2 | NA | NA |
| | B(a)P-equivalent c-PAH concentration | NA | NA | 0.0142 | 0.0152 | NA | NA |

*Summary of Analytes Detected in Soil for the Former Transformer Boxing Area (SWMU 31)*

*Surface Soil (continued)*

| Group | Analytes | TBS-94-12 0.5 ft | | TBS-94-13 0.5 ft | TBS-94-14 0.5 ft | TBS-94-15 0.5 ft | | TBS-94-16 0.5 ft | TBS-94-17 0.5 ft |
|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 11,600 | | NA | NA | 7,170 | | NA | NA |
| | ARSENIC | 10.4 | | NA | NA | 8.96 | | NA | NA |
| | BARIUM | 104 | | NA | NA | 71.8 | | NA | NA |
| | CALCIUM | 45,300 | | NA | NA | 47,500 | | NA | NA |
| | CHROMIUM | 17.7 | | NA | NA | 14.2 | | NA | NA |
| | COBALT | 3.58 | | NA | NA | 2.5 | U | NA | NA |
| | COPPER | 15.3 | | NA | NA | 11.1 | | NA | NA |
| | IRON | 10,500 | | NA | NA | 7,530 | | NA | NA |
| | LEAD | 32.3 | | NA | NA | 30.3 | | NA | NA |
| | MAGNESIUM | 6,100 | | NA | NA | 5,740 | | NA | NA |
| | MANGANESE | 238 | | NA | NA | 161 | | NA | NA |
| | NICKEL | 6.55 | | NA | NA | 5.07 | | NA | NA |
| | POTASSIUM | 3,250 | | NA | NA | 1,980 | | NA | NA |
| | SODIUM | 354 | | NA | NA | 308 | | NA | NA |
| | VANADIUM | 18.1 | | NA | NA | 2.91 | U | NA | NA |
| | ZINC | 57.6 | | NA | NA | 51.4 | | NA | NA |
| SEMIVOLATILES | BIS (2-ETHYHEXYL) PHTHALATE | 0.48 | U | NA | NA | 0.48 | U | NA | NA |
| | FLUORANTHENE | 0.043 | | NA | NA | 0.14 | | NA | NA |
| | PHENANTHRENE | 0.032 | U | NA | NA | 0.14 | | NA | NA |
| | PYRENE | 0.083 | U | NA | NA | 0.19 | | NA | NA |
| c-PAHs | BENZO [A] ANTHRACENE | 0.041 | U | NA | NA | 0.11 | | NA | NA |
| | BENZO [B] FLUORANTHENE | 0.31 | U | NA | NA | 0.31 | U | NA | NA |
| | CHRYSENE | 0.059 | | NA | NA | 0.14 | | NA | NA |
| | B(a)P-equivalent c-PAH concentration | 0.0001 | | NA | NA | 0.0111 | | NA | NA |

*Summary of Analytes Detected in Soil for the Former Transformer Boxing Area (SWMU 31)*

*Surface Soil (continued)*

| Group | Analytes | TBS-94-18 0.5 ft | | TBS-94-19 0.5 ft | TBS-94-20 0.5 ft | TBS-94-21 0.5 ft | |
|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 8,360 | | NA | NA | 7,120 | |
| | ARSENIC | 8.41 | | NA | NA | 9.07 | |
| | BARIUM | 83.5 | | NA | NA | 74.1 | |
| | CALCIUM | 67,000 | | NA | NA | 78,000 | |
| | CHROMIUM | 14 | | NA | NA | 16.1 | |
| | COBALT | 2.81 | | NA | NA | 2.5 | U |
| | COPPER | 13 | | NA | NA | 13.2 | |
| | IRON | 8,140 | | NA | NA | 8,310 | |
| | LEAD | 26.3 | | NA | NA | 25.4 | |
| | MAGNESIUM | 5,240 | | NA | NA | 5,720 | |
| | MANGANESE | 193 | | NA | NA | 177 | |
| | NICKEL | 6.37 | | NA | NA | 6.66 | |
| | POTASSIUM | 2,200 | | NA | NA | 1,850 | |
| | SODIUM | 327 | | NA | NA | 250 | |
| | VANADIUM | 2.91 | U | NA | NA | 2.91 | U |
| | ZINC | 72.7 | | NA | NA | 45.7 | |
| SEMIVOLATILES | BIS (2-ETHYHEXYL) PHTHALATE | 0.48 | U | NA | NA | 0.48 | U |
| | FLUORANTHENE | 0.032 | U | NA | NA | 0.067 | |
| | PHENANTHRENE | 0.032 | U | NA | NA | 0.075 | |
| | PYRENE | 0.083 | U | NA | NA | 0.083 | U |
| c-PAHs | BENZO [A] ANTHRACENE | 0.041 | U | NA | NA | 0.041 | U |
| | BENZO [B] FLUORANTHENE | 0.31 | U | NA | NA | 0.31 | U |
| | CHRYSENE | 0.032 | U | NA | NA | 0.09 | |
| | B(a)P-equivalent c-PAH concentration | 0.0059 | U | NA | NA | 0.0001 | |

All values are in µg/g (equal to ppm)

NA = Not analyzed

U = Not detected; value is the Certified Reporting Limit

Dup = Duplicate analysis

c-PAH = carcinogenic polycyclic aromatic hydrocarbons

B(a)P = benzo(a)pyrene

*Summary of Analytes Detected in Soil for the PCB Spill Area (SWMU 32)*

*Surface Soil*

| Group | Analytes | PPB-94-01A 0.5 ft | | PPB-94-02A 0.5 ft | PPB-94-03A 0.5 ft | | PPB-94-04A 0.5 ft | PPB-94-05A 0.5 ft | PPB-94-06A 0.5 ft |
|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 16,800 | | NA | 12,900 | | NA | NA | NA |
| | ARSENIC | 10.9 | | NA | 7.4 | | NA | NA | NA |
| | BARIUM | 175 | | NA | 125 | | NA | NA | NA |
| | BERYLLIUM | 0.744 | | NA | 0.53 | | NA | NA | NA |
| | CADMIUM | 1.2 | U | NA | 1.2 | U | NA | NA | NA |
| | CALCIUM | 41300 | | NA | 82000 | | NA | NA | NA |
| | CHROMIUM | 34.8 | | NA | 26.7 | | NA | NA | NA |
| | COBALT | 5.95 | | NA | 4.57 | | NA | NA | NA |
| | COPPER | 20.2 | | NA | 14.6 | | NA | NA | NA |
| | IRON | 15800 | | NA | 10800 | | NA | NA | NA |
| | LEAD | 27.7 | | NA | 18.9 | | NA | NA | NA |
| | MAGNESIUM | 10100 | | NA | 9530 | | NA | NA | NA |
| | MANGANESE | 463 | | NA | 290 | | NA | NA | NA |
| | MERCURY | 0.055 | J | NA | 0.05 | U | NA | NA | NA |
| | NICKEL | 11.8 | | NA | 8.52 | | NA | NA | NA |
| | POTASSIUM | 5030 | | NA | 3790 | | NA | NA | NA |
| | SODIUM | 347 | | NA | 274 | | NA | NA | NA |
| | VANADIUM | 21.5 | | NA | 23.2 | | NA | NA | NA |
| | ZINC | 61.9 | | NA | 43.8 | | NA | NA | NA |
| SEMIVOLATILES | BENZYL ALCOHOL | 0.032 | U | NA | 0.072 | J | NA | NA | NA |
| | FLUORANTHENE | 0.032 | U | NA | 0.032 | UJ | NA | NA | NA |

*Summary of Analytes Detected in Soil for the PCB Spill Area (SWMU 32)*

*Surface Soil (continued)*

| Group | Analytes | PPB-94-07A 0.5 ft | PPB-94-08A 0.5 ft | | PPS-94-01 0.5 ft | PPS-94-02 0.5 ft | PPS-94-03 0.5 ft | PPS-94-04 0.5 ft |
|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | NA | 12,200 | | NA | NA | NA | NA |
| | ARSENIC | NA | 7.21 | | NA | NA | NA | NA |
| | BARIUM | NA | 140 | | NA | NA | NA | NA |
| | BERYLLIUM | NA | 0.54 | | NA | NA | NA | NA |
| | CADMIUM | NA | 1.2 | U | NA | NA | NA | NA |
| | CALCIUM | NA | 84000 | | NA | NA | NA | NA |
| | CHROMIUM | NA | 23.8 | | NA | NA | NA | NA |
| | COBALT | NA | 4.22 | | NA | NA | NA | NA |
| | COPPER | NA | 16.6 | | NA | NA | NA | NA |
| | IRON | NA | 11400 | | NA | NA | NA | NA |
| | LEAD | NA | 23.7 | | NA | NA | NA | NA |
| | MAGNESIUM | NA | 9580 | | NA | NA | NA | NA |
| | MANGANESE | NA | 332 | | NA | NA | NA | NA |
| | MERCURY | NA | 0.055 | J | NA | NA | NA | NA |
| | NICKEL | NA | 10.1 | | NA | NA | NA | NA |
| | POTASSIUM | NA | 4000 | | NA | NA | NA | NA |
| | SODIUM | NA | 310 | | NA | NA | NA | NA |
| | VANADIUM | NA | 18 | | NA | NA | NA | NA |
| | ZINC | NA | 49.7 | | NA | NA | NA | NA |
| SEMIVOLATILES | BENZYL ALCOHOL | NA | 0.032 | U | NA | NA | NA | NA |
| | FLUORANTHENE | NA | 0.032 | U | NA | NA | NA | NA |

*Summary of Analytes Detected in Soil for the PCB Spill Area (SWMU 32)*

*Surface Soil (continued)*

| Group | Analytes | PPS-94-04 0.5 ft (dup) | PPS-94-05 0.5 ft | | PPS-94-06 0.5 ft | PPS-94-07 0.5 ft |
|---|---|---|---|---|---|---|
| METALS | ALUMINUM | NA | 11000 | | NA | NA |
| | ARSENIC | NA | 16.1 | | NA | NA |
| | BARIUM | NA | 113 | | NA | NA |
| | BERYLLIUM | NA | 0.491 | | NA | NA |
| | CADMIUM | NA | 4.01 | | NA | NA |
| | CALCIUM | NA | 48600 | | NA | NA |
| | CHROMIUM | NA | 19.7 | | NA | NA |
| | COBALT | NA | 3.96 | | NA | NA |
| | COPPER | NA | 26.2 | | NA | NA |
| | IRON | NA | 10900 | | NA | NA |
| | LEAD | NA | 70.6 | | NA | NA |
| | MAGNESIUM | NA | 7800 | | NA | NA |
| | MANGANESE | NA | 305 | | NA | NA |
| | MERCURY | NA | 0.05 | U | NA | NA |
| | NICKEL | NA | 8.74 | | NA | NA |
| | POTASSIUM | NA | 3390 | | NA | NA |
| | SODIUM | NA | 234 | | NA | NA |
| | VANADIUM | NA | 17.9 | | NA | NA |
| | ZINC | NA | 83.7 | | NA | NA |
| SEMIVOLATILES | BENZYL ALCOHOL | NA | 0.048 | J | NA | NA |
| | FLUORANTHENE | NA | 0.047 | J | NA | NA |

*Summary of Analytes Detected in Soil for the PCB Spill Area (SWMU 32)*

*Subsurface Soil*

| Group | Analytes | PPB-94-01B 5 ft | | PPB-94-01C 11 ft | | PPB-94-02B 5 ft | PPB-94-02C 10 ft | PPB-94-03B 5 ft | | PPB-94-03C 11 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 779 | U | 779 | U | NA | NA | 4,030 | | 779 | U |
| | ARSENIC | 4.73 | | 4.38 | | NA | NA | 6.04 | | 4.8 | |
| | BARIUM | 33.9 | | 15.8 | | NA | NA | 66.9 | | 26.1 | |
| | CALCIUM | 140000 | | 140000 | | NA | NA | 120000 | | 130000 | |
| | CHROMIUM | 38.3 | | 40.2 | | NA | NA | 18.1 | | 35.4 | |
| | COBALT | 2.5 | U | 2.5 | U | NA | NA | 2.5 | U | 2.5 | U |
| | COPPER | 4.12 | | 3.24 | | NA | NA | 7.97 | | 5.91 | |
| | IRON | 963 | U | 963 | U | NA | NA | 963 | U | 963 | U |
| | LEAD | 7.44 | U | 7.44 | U | NA | NA | 14.1 | | 7.44 | U |
| | MAGNESIUM | 8,310 | | 6,310 | | NA | NA | 7,760 | | 7,960 | |
| | MANGANESE | 114 | | 17.5 | U | NA | NA | 123 | | 103 | |
| | NICKEL | 6.22 | | 6.65 | | NA | NA | 6.01 | | 7.83 | |
| | POTASSIUM | 184 | U | 184 | U | NA | NA | 1,200 | | 1,170 | |
| | SODIUM | 114 | | 72.3 | | NA | NA | 137 | | 96.2 | |
| | VANADIUM | 11.7 | | 10.9 | | NA | NA | 21.6 | | 21.3 | |
| | ZINC | 10.9 | | 15.7 | | NA | NA | 26.2 | | 21.2 | |
| SEMIVOLATILES | BENZYL ALCOHOL | 0.032 | U | 0.032 | U | NA | NA | 0.069 | J | 0.032 | U |
| | DI-N-BUTYL PHTHALATE | 1.3 | U | 1.3 | U | NA | NA | 1.3 | U | 1.3 | U |

*Summary of Analytes Detected in Soil for the PCB Spill Area (SWMU 32)*

*Subsurface Soil (continued)*

| Group | Analytes | PPB-94-04B 5 ft | PPB-94-04C 11 ft | PPB-94-05B 5 ft | PPB-94-05C 11 ft | PPB-94-06B 5 ft | PPB-94-06C 11 ft |
|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | NA | NA | NA | NA | NA | NA |
| | ARSENIC | NA | NA | NA | NA | NA | NA |
| | BARIUM | NA | NA | NA | NA | NA | NA |
| | CALCIUM | NA | NA | NA | NA | NA | NA |
| | CHROMIUM | NA | NA | NA | NA | NA | NA |
| | COBALT | NA | NA | NA | NA | NA | NA |
| | COPPER | NA | NA | NA | NA | NA | NA |
| | IRON | NA | NA | NA | NA | NA | NA |
| | LEAD | NA | NA | NA | NA | NA | NA |
| | MAGNESIUM | NA | NA | NA | NA | NA | NA |
| | MANGANESE | NA | NA | NA | NA | NA | NA |
| | NICKEL | NA | NA | NA | NA | NA | NA |
| | POTASSIUM | NA | NA | NA | NA | NA | NA |
| | SODIUM | NA | NA | NA | NA | NA | NA |
| | VANADIUM | NA | NA | NA | NA | NA | NA |
| | ZINC | NA | NA | NA | NA | NA | NA |
| SEMIVOLATILES | BENZYL ALCOHOL | NA | NA | NA | NA | NA | NA |
| | DI-N-BUTYL PHTHALATE | NA | NA | NA | NA | NA | NA |

*Summary of Analytes Detected in Soil for the PCB Spill Area (SWMU 32)*

*Subsurface Soil (continued)*

| Group | Analytes | PPB-94-07B 5 ft | PPB-94-07C 10 ft | PPB-94-08B 5 ft | PPB-94-08C 13 ft |
|---|---|---|---|---|---|
| METALS | ALUMINUM | NA | NA | 8,320 | 5,510 |
| | ARSENIC | NA | NA | 7.22 | 5.78 |
| | BARIUM | NA | NA | 87.9 | 50.2 |
| | CALCIUM | NA | NA | 98000 | 130000 |
| | CHROMIUM | NA | NA | 33.3 | 54 |
| | COBALT | NA | NA | 2.72 | 2.5 U |
| | COPPER | NA | NA | 10.4 | 5.49 |
| | IRON | NA | NA | 7,320 | 5,230 |
| | LEAD | NA | NA | 15 | 7.44 U |
| | MAGNESIUM | NA | NA | 8430 | 10900 |
| | MANGANESE | NA | NA | 182 | 140 |
| | NICKEL | NA | NA | 7.04 | 11.9 |
| | POTASSIUM | NA | NA | 2600 | 1790 |
| | SODIUM | NA | NA | 206 | 146 |
| | VANADIUM | NA | NA | 13.9 | 17.5 |
| | ZINC | NA | NA | 31.3 | 22.4 |
| SEMIVOLATILES | BENZYL ALCOHOL | NA | NA | 0.032 U | 0.032 U |
| | DI-N-BUTYL PHTHALATE | NA | NA | 1.3 U | 1.8 |

All values are in µg/g (equal to ppm)

NA = Not analyzed

U = Not detected; value is the Certified Reporting Limit

Dup = Duplicate analysis

J = Value is estimated

*Summary of Analytes Detected in Soil for the Wastewater Spreading Area (SWMU 35)*

*Surface Soil*

| Group | Analytes | WSS-92-01 0 ft | | WSS-92-02 0 ft | | WSS-92-03 0 ft | | WSS-92-04 0 ft | | WSS-92-05 0 ft | | WSS-92-06 0 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | 6.15 | | 5.14 | | 2.6 | | 23 | | 4.8 | | 4.6 | |
| METALS | ALUMINUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ARSENIC | 240 | U | 240 | U | 72 | U | 72 | U | 24 | U | 240 | U |
| | BARIUM | 150 | | 120 | | 99 | | 170 | | 120 | | 120 | |
| | BERYLLIUM | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U |
| | CADMIUM | 0.424 | U | 0.424 | U | 0.424 | U | 0.424 | U | 0.424 | U | 0.424 | U |
| | CHROMIUM | 18.4 | | 18.1 | | 14.7 | | 20.6 | | 16.2 | | 15.7 | |
| | COBALT | NA | | NA | | NA | | NA | | NA | | NA | |
| | COPPER | 21 | | 28 | | 12.5 | | 8.98 | | 22.5 | | 15.6 | |
| | IRON | 19000 | | 17000 | | 13000 | | 22000 | | 14000 | | 16000 | |
| | LEAD | 82 | | 77 | | 35 | | 17 | | 130 | | 57 | |
| | MAGNESIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | MANGANESE | NA | | NA | | NA | | NA | | NA | | NA | |
| | MERCURY | 0.026 | U | 0.026 | U | 0.026 | U | 0.026 | U | 0.036 | | 0.026 | U |
| | NICKEL | 2.46 | U | 2.46 | U | 2.46 | U | 2.46 | U | 2.46 | U | 2.46 | U |
| | POTASSIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | SILVER | 0.252 | | 0.355 | | 0.24 | | 0.345 | | 0.479 | | 0.234 | |
| | SODIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | VANADIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ZINC | 110 | | 120 | | 53 | | 62 | | 200 | | 95 | |

## *Summary of Analytes Detected in Soil for the Wastewater Spreading Area (SWMU 35)*

### *Surface Soil (continued)*

| Group | Analytes | WSS-92-01 0 ft | | WSS-92-02 0 ft | | WSS-92-03 0 ft | | WSS-92-04 0 ft | | WSS-92-05 0 ft | | WSS-92-06 0 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PESTICIDES | ALDRIN | NA | | NA | | NA | | NA | | NA | | NA | |
| | ALPHA CHLORDANE | NA | | NA | | NA | | NA | | NA | | NA | |
| | ALPHA-ENDOSULFAN | NA | | NA | | NA | | NA | | NA | | NA | |
| | BETA-BENZENEHEXACHLORIDE | NA | | NA | | NA | | NA | | NA | | NA | |
| | BETA-ENDOSULFAN | NA | | NA | | NA | | NA | | NA | | NA | |
| | DELTA-BENZENEHEXACHLORIDE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIELDRIN | NA | | NA | | NA | | NA | | NA | | NA | |
| | ENDOSULFAN SULFATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | ENDRIN | NA | | NA | | NA | | NA | | NA | | NA | |
| | ENDRIN ALDEHYDE | NA | | NA | | NA | | NA | | NA | | NA | |
| | ENDRIN KETONE | NA | | NA | | NA | | NA | | NA | | NA | |
| | GAMMA-CHLORDANE | NA | | NA | | NA | | NA | | NA | | NA | |
| | HEPTACHLOR | NA | | NA | | NA | | NA | | NA | | NA | |
| | HEPTACHLOREPOXIDE | NA | | NA | | NA | | NA | | NA | | NA | |
| | LINDANE | NA | | NA | | NA | | NA | | NA | | NA | |
| | PPDDD | NA | | NA | | NA | | NA | | NA | | NA | |
| | PPDDE | NA | | NA | | NA | | NA | | NA | | NA | |
| | PPDDT | NA | | NA | | NA | | NA | | NA | | NA | |
| SEMIVOLATILES | ALDRIN | 0.29 | UJ | 0.29 | U | 0.29 | U | 0.29 | U | 0.29 | U | 0.29 | U |
| | ALPHA CHLORDANE | 1 | UR | 10 | J | 1 | UJ | 1 | UJ | 1 | UJ | 1 | UJ |
| | ALPHA-ENDOSULFAN | 1 | UJ | 1 | UJ | 1 | UJ | 1 | UJ | 1 | UJ | 1 | UJ |
| | BETA-BENZENEHEXACHLORIDE | 0.36 | U | 0.36 | U | 0.36 | U | 0.36 | U | 0.36 | U | 0.36 | U |
| | BETA-ENDOSULFAN | 0.2 | UJ | 0.2 | UJ | 0.2 | UJ | 0.2 | UJ | 0.2 | UJ | 0.2 | UJ |
| | BUTYLBENZYL PHTHALATE | 0.52 | | 0.33 | UJ | 0.28 | | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ |
| | DELTA-BENZENEHEXACHLORIDE | 0.29 | U | 0.29 | U | 0.29 | U | 0.29 | U | 0.29 | U | 0.29 | U |
| | DIELDRIN | 0.3 | U | 0.3 | U | 0.3 | U | 0.3 | U | 0.3 | U | 0.3 | U |
| | ENDOSULFAN SULFATE | 0.2 | UJ | 0.2 | UJ | 0.2 | UJ | 0.2 | UJ | 0.2 | UJ | 0.2 | UJ |
| | ENDRIN | 0.41 | U | 0.41 | UJ | 0.41 | U | 0.41 | U | 0.41 | U | 0.41 | U |
| | ENDRIN KETONE | 0.2 | UJ | 0.2 | UJ | 0.2 | UJ | 0.2 | UJ | 0.2 | UJ | 0.2 | UJ |
| | GAMMA CHLORDANE | NA | | 10 | J | NA | | | | | | | |
| | HEPTACHLOR | 0.28 | U | 0.28 | U | 0.28 | U | 0.28 | U | 0.28 | U | 0.28 | U |
| | HEPTACHLOREPOXIDE | 0.36 | U | 0.36 | U | 0.36 | U | 0.36 | U | 0.36 | U | 0.36 | U |
| | LINDANE | 0.43 | U | 0.43 | U | 0.43 | U | 0.43 | U | 0.43 | U | 0.43 | U |
| | PPDDD | 0.18 | UJ | 0.18 | UJ | 0.18 | UJ | 0.18 | UJ | 0.18 | UJ | 0.18 | UJ |
| | PPDDE | 0.22 | UJ | 0.22 | UJ | 0.22 | UJ | 0.22 | UJ | 0.22 | UJ | 0.22 | UJ |
| | PPDDT | 0.41 | U | 0.41 | UJ | 0.41 | U | 0.41 | U | 0.41 | U | 0.41 | U |

*Summary of Analytes Detected in Soil for the Wastewater Spreading Area (SWMU 35)*

*Surface Soil (continued)*

| Group | Analytes | WSS-94-01 0.5 ft | WSS-94-02 0.5 ft | WSS-94-03 0.5 ft | WSS-94-04 0.5 ft | WSS-94-05 0.5 ft | WSS-94-06 0.5 ft |
|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | NA | NA | NA | NA | NA |
| METALS | ALUMINUM | NA | NA | NA | NA | NA | NA |
| | ARSENIC | NA | NA | NA | NA | NA | NA |
| | BARIUM | NA | NA | NA | NA | NA | NA |
| | BERYLLIUM | NA | NA | NA | NA | NA | NA |
| | CADMIUM | NA | NA | NA | NA | NA | NA |
| | CHROMIUM | NA | NA | NA | NA | NA | NA |
| | COBALT | NA | NA | NA | NA | NA | NA |
| | COPPER | NA | NA | NA | NA | NA | NA |
| | IRON | NA | NA | NA | NA | NA | NA |
| | LEAD | NA | NA | NA | NA | NA | NA |
| | MAGNESIUM | NA | NA | NA | NA | NA | NA |
| | MANGANESE | NA | NA | NA | NA | NA | NA |
| | MERCURY | NA | NA | NA | NA | NA | NA |
| | NICKEL | NA | NA | NA | NA | NA | NA |
| | POTASSIUM | NA | NA | NA | NA | NA | NA |
| | SILVER | NA | NA | NA | NA | NA | NA |
| | SODIUM | NA | NA | NA | NA | NA | NA |
| | VANADIUM | NA | NA | NA | NA | NA | NA |
| | ZINC | NA | NA | NA | NA | NA | NA |

*Summary of Analytes Detected in Soil for the Wastewater Spreading Area (SWMU 35)*

*Surface Soil (continued)*

| Group | Analytes | WSS-94-01 0.5 ft | | WSS-94-02 0.5 ft | | WSS-94-03 0.5 ft | | WSS-94-04 0.5 ft | | WSS-94-05 0.5 ft | | WSS-94-06 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PESTICIDES | ALDRIN | 0.001 | UJ | 0.002 | | 0.018 | J | 0.001 | U | 0.001 | U | 0.001 | UJ |
| | ALPHA CHLORDANE | 0.013 | | 0.004 | UJ | 0.243 | | 0.004 | UJ | 0.004 | UJ | 0.051 | |
| | ALPHA-ENDOSULFAN | 0.001 | UJ | 0.001 | U | 0.012 | J | 0.001 | U | 0.001 | U | 0.003 | J |
| | BETA-BENZENEHEXACHLORIDE | 0.008 | UJ | 0.008 | U | 0.008 | UJ | 0.008 | U | 0.008 | U | 0.008 | UJ |
| | BETA-ENDOSULFAN | 0.001 | UJ | 0.001 | U | 0.018 | J | 0.001 | U | 0.001 | U | 0.001 | UJ |
| | DELTA-BENZENEHEXACHLORIDE | 0.009 | UJ | 0.009 | U | 0.039 | J | 0.009 | U | 0.009 | U | 0.009 | UJ |
| | DIELDRIN | 0.002 | J | 0.002 | U | 0.003 | J | 0.002 | U | 0.002 | U | 0.002 | UJ |
| | ENDOSULFAN SULFATE | 0.001 | UJ | 0.001 | UJ | 0.016 | J | 0.001 | UJ | 0.001 | UJ | 0.001 | UJ |
| | ENDRIN | 0.015 | J | 0.007 | U | 0.16 | J | 0.007 | U | 0.007 | U | 0.019 | J |
| | ENDRIN ALDEHYDE | 0.001 | UJ | 0.001 | U | 0.007 | J | 0.001 | U | 0.001 | U | 0.001 | UJ |
| | ENDRIN KETONE | 0.001 | UJ | 0.001 | UJ | 0.001 | J | 0.001 | UJ | 0.001 | UJ | 0.001 | UJ |
| | GAMMA-CHLORDANE | 0.015 | | 0.004 | UJ | 0.203 | | 0.004 | UJ | 0.004 | UJ | 0.037 | |
| | HEPTACHLOR | 0.002 | UJ | 0.002 | U | 0.002 | UJ | 0.002 | U | 0.002 | U | 0.002 | UJ |
| | HEPTACHLOREPOXIDE | 0.001 | UJ | 0.001 | U | 0.014 | J | 0.001 | U | 0.001 | U | 0.01 | J |
| | LINDANE | 0.001 | UJ | 0.001 | U | 0.014 | J | 0.001 | U | 0.001 | U | 0.001 | UJ |
| | PPDDD | 0.01 | J | 0.026 | | 0.012 | J | 0.005 | | 0.007 | | 0.014 | J |
| | PPDDE | 0.011 | J | 0.036 | | 0.036 | J | 0.028 | | 0.062 | | 1.3 | J |
| | PPDDT | 0.042 | J | 0.049 | | 0.01 | J | 0.015 | | 0.037 | | 0.075 | J |
| SEMIVOLATILES | ALDRIN | NA | | NA | | NA | | NA | | NA | | NA | |
| | ALPHA CHLORDANE | NA | | NA | | NA | | NA | | NA | | NA | |
| | ALPHA-ENDOSULFAN | NA | | NA | | NA | | NA | | NA | | NA | |
| | BETA-BENZENEHEXACHLORIDE | NA | | NA | | NA | | NA | | NA | | NA | |
| | BETA-ENDOSULFAN | NA | | NA | | NA | | NA | | NA | | NA | |
| | BUTYLBENZYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DELTA-BENZENEHEXACHLORIDE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIELDRIN | NA | | NA | | NA | | NA | | NA | | NA | |
| | ENDOSULFAN SULFATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | ENDRIN | NA | | NA | | NA | | NA | | NA | | NA | |
| | ENDRIN KETONE | NA | | NA | | NA | | NA | | NA | | NA | |
| | GAMMA CHLORDANE | NA | | NA | | NA | | NA | | NA | | NA | |
| | HEPTACHLOR | NA | | NA | | NA | | NA | | NA | | NA | |
| | HEPTACHLOREPOXIDE | NA | | NA | | NA | | NA | | NA | | NA | |
| | LINDANE | NA | | NA | | NA | | NA | | NA | | NA | |
| | PPDDD | NA | | NA | | NA | | NA | | NA | | NA | |
| | PPDDE | NA | | NA | | NA | | NA | | NA | | NA | |
| | PPDDT | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Wastewater Spreading Area (SWMU 35)*

*Surface Soil (continued)*

| Group | Analytes | WSS-94-07 0.5 ft | WSS-94-08 0.5 ft | WSS-94-09 0.5 ft | WSS-94-09 0.5 ft (dup) | WSS-94-10 0.5 ft | WSS-94-11 0.5 ft |
|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | NA | NA | NA | NA | NA |
| METALS | ALUMINUM | NA | NA | NA | NA | NA | NA |
| | ARSENIC | NA | NA | NA | NA | NA | NA |
| | BARIUM | NA | NA | NA | NA | NA | NA |
| | BERYLLIUM | NA | NA | NA | NA | NA | NA |
| | CADMIUM | NA | NA | NA | NA | NA | NA |
| | CHROMIUM | NA | NA | NA | NA | NA | NA |
| | COBALT | NA | NA | NA | NA | NA | NA |
| | COPPER | NA | NA | NA | NA | NA | NA |
| | IRON | NA | NA | NA | NA | NA | NA |
| | LEAD | NA | NA | NA | NA | NA | NA |
| | MAGNESIUM | NA | NA | NA | NA | NA | NA |
| | MANGANESE | NA | NA | NA | NA | NA | NA |
| | MERCURY | NA | NA | NA | NA | NA | NA |
| | NICKEL | NA | NA | NA | NA | NA | NA |
| | POTASSIUM | NA | NA | NA | NA | NA | NA |
| | SILVER | NA | NA | NA | NA | NA | NA |
| | SODIUM | NA | NA | NA | NA | NA | NA |
| | VANADIUM | NA | NA | NA | NA | NA | NA |
| | ZINC | NA | NA | NA | NA | NA | NA |
| | | NA | NA | NA | NA | NA | NA |

*Summary of Analytes Detected in Soil for the Wastewater Spreading Area (SWMU 35)*

*Surface Soil (continued)*

| Group | Analytes | WSS-94-07 0.5 ft | | WSS-94-08 0.5 ft | | WSS-94-09 0.5 ft | | WSS-94-09 0.5 ft (dup) | | WSS-94-10 0.5 ft | | WSS-94-11 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PESTICIDES | ALDRIN | 0.001 | UJ | 0.001 | UJ | 0.001 | UJ | 0.001 | UJ | 0.001 | U | 0.001 | U |
| | ALPHA CHLORDANE | 0.187 | | 0.105 | | 0.008 | | 0.009 | | 0.004 | UJ | 0.004 | UJ |
| | ALPHA-ENDOSULFAN | 0.38 | J | 0.006 | J | 0.001 | UJ | 0.001 | UJ | 0.001 | U | 0.001 | U |
| | BETA-BENZENEHEXACHLORIDE | 0.16 | J | 0.008 | UJ | 0.008 | UJ | 0.008 | UJ | 0.008 | U | 0.008 | U |
| | BETA-ENDOSULFAN | 0.001 | UJ | 0.001 | UJ | 0.001 | UJ | 0.001 | UJ | 0.001 | U | 0.001 | U |
| | DELTA-BENZENEHEXACHLORIDE | 2.4 | J | 0.009 | UJ | 0.009 | UJ | 0.009 | UJ | 0.009 | U | 0.009 | U |
| | DIELDRIN | 0.034 | J | 0.007 | J | 0.002 | UJ | 0.002 | UJ | 0.002 | U | 0.002 | U |
| | ENDOSULFAN SULFATE | 0.037 | J | 0.001 | UJ | 0.001 | UJ | 0.001 | UJ | 0.001 | UJ | 0.001 | UJ |
| | ENDRIN | 4 | J | 0.042 | J | 0.007 | UJ | 0.007 | UJ | 0.007 | U | 0.007 | U |
| | ENDRIN ALDEHYDE | 0.016 | J | 0.001 | UJ | 0.001 | UJ | 0.001 | UJ | 0.001 | U | 0.001 | U |
| | ENDRIN KETONE | 0.009 | J | 0.001 | UJ | 0.001 | UJ | 0.001 | UJ | 0.001 | UJ | 0.001 | UJ |
| | GAMMA-CHLORDANE | 0.158 | | 0.078 | | 0.006 | | 0.007 | | 0.004 | UJ | 0.004 | UJ |
| | HEPTACHLOR | 0.15 | J | 0.002 | UJ | 0.002 | UJ | 0.002 | UJ | 0.002 | U | 0.002 | U |
| | HEPTACHLOREPOXIDE | 0.25 | J | 0.007 | J | 0.001 | UJ | 0.002 | J | 0.001 | U | 0.001 | U |
| | LINDANE | 0.041 | J | 0.001 | UJ | 0.001 | UJ | 0.001 | UJ | 0.001 | U | 0.001 | U |
| | PPDDD | 0.11 | J | 0.003 | UJ | 0.003 | UJ | 0.003 | UJ | 0.003 | U | 0.003 | U |
| | PPDDE | 0.68 | J | 0.02 | J | 0.006 | J | 0.007 | J | 0.019 | | 0.003 | U |
| | PPDDT | 0.026 | J | 0.007 | J | 0.006 | J | 0.007 | J | 0.008 | | 0.004 | U |
| SEMIVOLATILES | ALDRIN | NA | | NA | | NA | | NA | | NA | | NA | |
| | ALPHA CHLORDANE | NA | | NA | | NA | | NA | | NA | | NA | |
| | ALPHA-ENDOSULFAN | NA | | NA | | NA | | NA | | NA | | NA | |
| | BETA-BENZENEHEXACHLORIDE | NA | | NA | | NA | | NA | | NA | | NA | |
| | BETA-ENDOSULFAN | NA | | NA | | NA | | NA | | NA | | NA | |
| | BUTYLBENZYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DELTA-BENZENEHEXACHLORIDE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIELDRIN | NA | | NA | | NA | | NA | | NA | | NA | |
| | ENDOSULFAN SULFATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | ENDRIN | NA | | NA | | NA | | NA | | NA | | NA | |
| | ENDRIN KETONE | NA | | NA | | NA | | NA | | NA | | NA | |
| | GAMMA CHLORDANE | NA | | NA | | NA | | NA | | NA | | NA | |
| | HEPTACHLOR | NA | | NA | | NA | | NA | | NA | | NA | |
| | HEPTACHLOREPOXIDE | NA | | NA | | NA | | NA | | NA | | NA | |
| | LINDANE | NA | | NA | | NA | | NA | | NA | | NA | |
| | PPDDD | NA | | NA | | NA | | NA | | NA | | NA | |
| | PPDDE | NA | | NA | | NA | | NA | | NA | | NA | |
| | PPDDT | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Wastewater Spreading Area (SWMU 35)*

*Surface Soil (continued)*

| Group | Analytes | WSS-94-12 0.5 ft | | WSS-94-13 0.5 ft | | WSS-94-14 0.5 ft | | WSS-94-15 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | |
| METALS | ALUMINUM | 19200 | | 14000 | | 15100 | | 19500 | |
| | ARSENIC | 32 | | 16.3 | | 19.1 | | 15.6 | |
| | BARIUM | 179 | | 153 | | 162 | | 195 | |
| | BERYLLIUM | 0.736 | | 0.621 | | 0.653 | | 0.918 | |
| | CADMIUM | 1.32 | | 1.2 | U | 1.43 | | 1.2 | U |
| | CHROMIUM | 15700 | | 39000 | | 23200 | | 43300 | |
| | COBALT | 18.9 | | 14.4 | | 16 | | 19.8 | |
| | COPPER | 7.27 | | 5.78 | | 6.11 | | 7.8 | |
| | IRON | 23.3 | | 17.7 | | 22.5 | | 20.6 | |
| | LEAD | 20000 | | 15800 | | 17000 | | 20900 | |
| | MAGNESIUM | 69 | | 39.6 | | 59.5 | | 49.6 | |
| | MANGANESE | 10800 | | 9850 | | 9480 | | 11700 | |
| | MERCURY | 663 | | 475 | | 579 | | 564 | |
| | NICKEL | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | POTASSIUM | 13.9 | | 11.8 | | 13.1 | | 15.1 | |
| | SILVER | 6850 | | 4960 | | 5760 | | 7030 | |
| | SODIUM | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | VANADIUM | 252 | | 221 | | 244 | | 269 | |
| | ZINC | 19.5 | | 17.3 | | 16.2 | | 20.4 | |
| | | 139 | | 75.2 | | 125 | | 101 | |

*Summary of Analytes Detected in Soil for the Wastewater Spreading Area (SWMU 35)*

*Surface Soil (continued)*

| Group | Analytes | WSS-94-12 0.5 ft | | WSS-94-13 0.5 ft | | WSS-94-14 0.5 ft | | WSS-94-15 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|
| PESTICIDES | ALDRIN | 0.001 | U | 0.001 | U | 0.001 | U | 0.001 | U |
| | ALPHA CHLORDANE | 0.004 | UJ | 0.004 | UJ | 0.004 | UJ | 0.004 | UJ |
| | ALPHA-ENDOSULFAN | 0.001 | U | 0.001 | U | 0.001 | U | 0.001 | U |
| | BETA-BENZENEHEXACHLORIDE | 0.008 | U | 0.008 | U | 0.008 | U | 0.008 | U |
| | BETA-ENDOSULFAN | 0.001 | U | 0.001 | U | 0.001 | U | 0.001 | U |
| | DELTA-BENZENEHEXACHLORIDE | 0.009 | U | 0.009 | U | 0.009 | U | 0.009 | U |
| | DIELDRIN | 0.002 | U | 0.002 | U | 0.002 | U | 0.002 | U |
| | ENDOSULFAN SULFATE | 0.001 | UJ | 0.001 | UJ | 0.001 | UJ | 0.001 | UJ |
| | ENDRIN | 0.007 | U | 0.007 | U | 0.007 | U | 0.007 | U |
| | ENDRIN ALDEHYDE | 0.001 | U | 0.001 | U | 0.001 | U | 0.001 | U |
| | ENDRIN KETONE | 0.001 | UJ | 0.001 | UJ | 0.001 | UJ | 0.001 | UJ |
| | GAMMA-CHLORDANE | 0.004 | UJ | 0.004 | UJ | 0.004 | UJ | 0.004 | UJ |
| | HEPTACHLOR | 0.002 | U | 0.002 | U | 0.002 | U | 0.002 | U |
| | HEPTACHLOREPOXIDE | 0.001 | U | 0.001 | U | 0.001 | U | 0.001 | U |
| | LINDANE | 0.001 | U | 0.001 | U | 0.001 | U | 0.001 | U |
| | PPDDD | 0.003 | U | 0.003 | U | 0.003 | U | 0.003 | U |
| | PPDDE | 0.015 | | 0.003 | U | 0.009 | | 0.003 | U |
| | PPDDT | 0.016 | | 0.004 | U | 0.011 | | 0.004 | U |
| SEMIVOLATILES | ALDRIN | NA | | NA | | NA | | NA | |
| | ALPHA CHLORDANE | NA | | NA | | NA | | NA | |
| | ALPHA-ENDOSULFAN | NA | | NA | | NA | | NA | |
| | BETA-BENZENEHEXACHLORIDE | NA | | NA | | NA | | NA | |
| | BETA-ENDOSULFAN | NA | | NA | | NA | | NA | |
| | BUTYLBENZYL PHTHALATE | NA | | NA | | NA | | NA | |
| | DELTA-BENZENEHEXACHLORIDE | NA | | NA | | NA | | NA | |
| | DIELDRIN | NA | | NA | | NA | | NA | |
| | ENDOSULFAN SULFATE | NA | | NA | | NA | | NA | |
| | ENDRIN | NA | | NA | | NA | | NA | |
| | ENDRIN KETONE | NA | | NA | | NA | | NA | |
| | GAMMA CHLORDANE | NA | | NA | | NA | | NA | |
| | HEPTACHLOR | NA | | NA | | NA | | NA | |
| | HEPTACHLOREPOXIDE | NA | | NA | | NA | | NA | |
| | LINDANE | NA | | NA | | NA | | NA | |
| | PPDDD | NA | | NA | | NA | | NA | |
| | PPDDE | NA | | NA | | NA | | NA | |
| | PPDDT | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Wastewater Spreading Area (SWMU 35)*

*Subsurface Soil*

| Group | Analytes | WSB-92-01 2 ft | | WSB-92-02 4 ft | | WSB-92-03 2 ft | | WSB-92-04 3 ft | | WSB-92-05 2 ft | | WSB-92-06 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | 5.07 | | 3.99 | | 3.36 | U | 3.36 | U |
| METALS | BARIUM | 170 | | 130 | | 73 | | 53 | | 40 | | 31 | |
| | CHROMIUM | 18.6 | | 14.2 | | 13.3 | | 9.32 | | 7.94 | | 6.82 | |
| | COPPER | 9.58 | | 5.09 | | 9.11 | | 4.56 | | 4.5 | | 3.25 | |
| | IRON | 20000 | | 13000 | | 10000 | | 7300 | | 6800 | | 5000 | |
| | LEAD | 15 | | 9.5 | | 19 | | 9.9 | | 8.1 | | 7.5 | |
| | SILVER | 0.07 | | 0.036 | | 0.164 | | 0.17 | | 0.029 | | 0.029 | |
| | ZINC | 46 | | 38 | | 46 | | 17.9 | | 16.8 | | 11.6 | |
| SEMIVOLATILES | ALDRIN | 0.29 | U | 0.29 | U | 0.29 | U | 0.29 | U | 0.29 | U | 0.29 | U |
| | ALPHA CHLORDANE | 1 | UJ | 1 | UJ | 1 | UJ | 1 | UJ | 1 | UJ | 1 | UJ |
| | DELTA-BENZENEHEXACHLORIDE | 0.29 | U | 0.29 | U | 0.29 | U | 0.29 | U | 0.29 | U | 0.29 | U |
| | GAMMA CHLORDANE | NA | | NA | | 5 | UJ | 5 | UJ | 5 | UJ | 5 | UJ |
| | PPDDD | 0.18 | UJ | 0.18 | UJ | 0.18 | U | 0.18 | U | 0.18 | U | 0.18 | U |
| | PPDDE | 0.22 | UJ | 0.22 | UJ | 0.22 | U | 0.22 | U | 0.22 | U | 0.22 | U |
| | PPDDT | 0.41 | U | 0.41 | U | 0.41 | U | 0.41 | U | 0.41 | U | 0.41 | U |

*Summary of Analytes Detected in Soil for the Wastewater Spreading Area (SWMU 35)*

*Subsurface Soil (continued)*

| Group | Analytes | WSB-92-07 2 ft | | WSB-92-08 4 ft | | WSB-92-09 6 ft | | WSB-94-01 1.5 ft | | WSP-94-02 3 ft | | WSP-94-03 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | 7.05 | | 5.84 | | 3.36 | U | NA | | NA | | NA | |
| METALS | BARIUM | 230 | | 93 | | 80 | | NA | | NA | | NA | |
| | CHROMIUM | 17.3 | | 16 | | 11 | | NA | | NA | | NA | |
| | COPPER | 15 | | 10.7 | | 5.5 | | NA | | NA | | NA | |
| | IRON | 27000 | | 17000 | | 12000 | | NA | | NA | | NA | |
| | LEAD | 21 | | 14 | | 14 | | NA | | NA | | NA | |
| | SILVER | 0.036 | | 0.015 | U | 0.015 | U | NA | | NA | | NA | |
| | ZINC | 78 | | 49 | | 27 | | NA | | NA | | NA | |
| SEMIVOLATILES | ALDRIN | 0.29 | U | 0.29 | U | 0.29 | U | 0.001 | U | 0.001 | U | 0.002 | |
| | ALPHA CHLORDANE | 1 | UJ | 1 | UJ | 1 | UJ | 0.004 | U | 0.004 | U | 0.06 | |
| | DELTA-BENZENEHEXACHLORIDE | 0.29 | U | 0.29 | U | 0.29 | U | 0.009 | U | 0.009 | U | 0.01 | |
| | GAMMA CHLORDANE | 5 | UJ | 5 | UJ | 5 | UJ | 0.004 | U | 0.004 | U | 0.067 | |
| | PPDDD | 0.18 | U | 0.18 | U | 0.18 | U | 0.003 | U | 0.003 | U | 0.003 | U |
| | PPDDE | 0.22 | U | 0.22 | U | 0.22 | U | 0.003 | | 0.008 | | 0.003 | U |
| | PPDDT | 0.41 | U | 0.41 | U | 0.41 | U | 0.007 | | 0.008 | | 0.004 | U |

## *Summary of Analytes Detected in Soil for the Wastewater Spreading Area (SWMU 35)*

### *Subsurface Soil (continued)*

| Group | Analytes | WSP-94-04 3 ft | | WSB-94-05 2 ft | | WSB-94-06 3 ft | | WSP-94-07 3 ft | | WSP-94-08 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | |
| METALS | BARIUM | NA | | NA | | NA | | NA | | NA | |
| | CHROMIUM | NA | | NA | | NA | | NA | | NA | |
| | COPPER | NA | | NA | | NA | | NA | | NA | |
| | IRON | NA | | NA | | NA | | NA | | NA | |
| | LEAD | NA | | NA | | NA | | NA | | NA | |
| | SILVER | NA | | NA | | NA | | NA | | NA | |
| | ZINC | NA | | NA | | NA | | NA | | NA | |
| SEMIVOLATILES | ALDRIN | 0.001 | U | 0.001 | U | 0.001 | U | 0.001 | U | 0.001 | U |
| | ALPHA CHLORDANE | 0.06 | | 0.004 | U | 0.004 | U | 0.004 | U | 0.004 | U |
| | DELTA-BENZENEHEXACHLORIDE | 0.009 | U | 0.009 | U | 0.009 | U | 0.009 | U | 0.009 | U |
| | GAMMA CHLORDANE | 0.06 | | 0.004 | U | 0.004 | U | 0.004 | U | 0.004 | U |
| | PPDDD | 0.003 | U | 0.003 | U | 0.003 | U | 0.003 | U | 0.003 | U |
| | PPDDE | 0.005 | | 0.01 | | 0.003 | U | 0.003 | U | 0.003 | U |
| | PPDDT | 0.004 | U | 0.008 | | 0.004 | U | 0.004 | U | 0.004 | U |

All values are in µg/g (equal to ppm)

NA = Not analyzed

U = Not detected; value is the Certified Reporting Limit.

Dup = Duplicate analysis

J = Value is estimated

*Summary of Analytes Detected in Soil for the Old Burn Staging Area (SWMU 36)*

*Surface Soil*

| Group | Analytes | OSS-92-05 0.5 ft | | OSS-92-06 0.5 ft | | OSS-92-07 0.5 ft | | OSS-92-08 0.5 ft | | OSS-92-09 0.5 ft | | OSS-92-10 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ARSENIC | 24 | U | 24 | U | 24 | U | 72 | U | 24 | U | 24 | U |
| | BARIUM | 580 | | 400 | | 47 | | 40 | | 120 | | 110 | |
| | BERYLLIUM | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U | 0.078 | U |
| | CADMIUM | 0.424 | U | 0.424 | U | 0.424 | U | 0.424 | U | 0.424 | U | 0.424 | U |
| | CALCIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | CHROMIUM | 7.73 | | 8.55 | | 3.9 | U | 3.9 | U | 13.6 | | 37.1 | |
| | COBALT | NA | | NA | | NA | | NA | | NA | | NA | |
| | COPPER | 430 | | 2,300 | | 5.54 | | 18.3 | | 12.9 | | 10.5 | |
| | IRON | 15,000 | | 13,000 | | 5,900 | | 10,000 | | 16,000 | | 15,000 | |
| | LEAD | 1,200 | | 1,500 | | 8.3 | | 16 | | 18 | | 18 | |
| | MAGNESIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | MANGANESE | NA | | NA | | NA | | NA | | NA | | NA | |
| | MERCURY | 0.026 | U | 0.026 | U | 0.026 | U | 0.026 | U | 0.026 | U | 0.026 | U |
| | NICKEL | 5.55 | | 2.46 | U | 2.46 | U | 2.46 | U | 2.46 | U | 8.03 | |
| | POTASSIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | SILVER | 0.301 | | 0.181 | | 0.035 | | 0.063 | | 0.076 | | 0.051 | |
| | SODIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | VANADIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ZINC | 370 | | 370 | | 30 | | 74 | | 81 | | 52 | |
| SEMIVOLATILES | BUTYLBENZYL PHTHALATE | 0.09 | U | 0.09 | U | 0.33 | UJ | 0.054 | | 0.33 | UJ | 0.022 | |
| | DI-N-BUTYL PHTHALATE | 0.33 | UJ | 0.055 | | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ |

*Summary of Analytes Detected in Soil for the Old Burn Staging Area (SWMU 36)*

*Surface Soil (continued)*

| Group | Analytes | OSS-92-11 0.5 ft | | OSS-92-12 0.5 ft | | OSS-92-13 0.5 ft | | OSP-94-01A 0.5 ft | | OSP-94-02A 0.5 ft | | OSP-94-03A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | NA | | NA | | NA | | 857 | U | 857 | U | 4360 | |
| | ARSENIC | 24 | U | 24 | U | 24 | U | 3.8 | | 3.27 | | 4.13 | |
| | BARIUM | 120 | | 100 | | 400 | | 8.43 | U | 8.43 | U | 58.8 | |
| | BERYLLIUM | 0.078 | U | 0.078 | U | 0.078 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CADMIUM | 0.424 | U | 0.424 | U | 20 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | NA | | NA | | NA | | 65,000 | | 63,000 | | 40,800 | |
| | CHROMIUM | 12.6 | | 16.2 | | 22.3 | | 3.14 | | 4.6 | | 6.72 | |
| | COBALT | NA | | NA | | NA | | 2.5 | U | 2.5 | U | 2.5 | U |
| | COPPER | 18.6 | | 12.3 | | 150 | | 3.53 | | 10.3 | | 17.9 | |
| | IRON | 15,000 | | 15,000 | | 54,000 | | 1,120 | U | 6,110 | | 9,100 | |
| | LEAD | 21 | | 16 | | 1,900 | | 7.44 | U | 20.9 | | 17.7 | |
| | MAGNESIUM | NA | | NA | | NA | | 6,780 | | 6,450 | | 6,280 | |
| | MANGANESE | NA | | NA | | NA | | 30.2 | U | 30.2 | U | 30.2 | U |
| | MERCURY | 0.027 | | 0.026 | U | 0.026 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 2.46 | U | 2.46 | U | 12.8 | | 3.8 | | 4.15 | | 5.83 | |
| | POTASSIUM | NA | | NA | | NA | | 207 | U | 207 | U | 207 | U |
| | SILVER | 0.122 | | 0.062 | | 1.7 | | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | NA | | NA | | NA | | 92.2 | | 116 | | 171 | |
| | VANADIUM | NA | | NA | | NA | | 2.23 | U | 2.23 | U | 2.23 | U |
| | ZINC | 70 | | 66 | | 1500 | | 15.4 | | 45.2 | | 108 | |
| SEMIVOLATILES | BUTYLBENZYL PHTHALATE | 0.025 | | 0.33 | UJ | 0.047 | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | 0.33 | UJ | 0.33 | UJ | 0.049 | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Staging Area (SWMU 36)*

*Surface Soil (continued)*

| Group | Analytes | OSP-94-04A 0.5 ft | | OSP-94-05A 0.5 ft | | OSP-94-06A 0.5 ft | | OSS-94-01 0.5 ft | | OSS-94-02 0.5 ft | | OSS-94-03 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 857 | U | 14,800 | | 14,300 | | 881 | U | 881 | U | 23,300 | |
| | ARSENIC | 4.63 | | 5.57 | | 5.1 | | 4.04 | | 5.19 | | 6.51 | |
| | BARIUM | 49.9 | | 147 | | 120 | | 55.5 | | 63.3 | | 204 | |
| | BERYLLIUM | 0.427 | U | 0.647 | | 0.593 | | 0.427 | U | 0.427 | U | 0.989 | |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 34,900 | | 5,950 | | 4,830 | | 40,400 | | 51,900 | | 43,000 | |
| | CHROMIUM | 3.73 | | 18.2 | | 17.1 | | 1.21 | U | 1.21 | U | 23.1 | |
| | COBALT | 2.5 | U | 4.99 | | 4.67 | | 2.5 | U | 2.5 | U | 7.4 | |
| | COPPER | 9.65 | | 21.9 | | 16.7 | | 17.3 | | 11 | | 32.3 | |
| | IRON | 1,120 | U | 15,200 | | 14,000 | | 1,260 | U | 7,460 | | 22,600 | |
| | LEAD | 21.1 | | 57.4 | | 30.6 | | 20.3 | | 26.1 | | 28.8 | |
| | MAGNESIUM | 3,820 | | 4,860 | | 4,470 | | 4,370 | | 10,200 | | 14,400 | |
| | MANGANESE | 30.2 | U | 369 | | 339 | | 24.6 | U | 172 | | 482 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 3.96 | | 8.05 | | 7.14 | | 2.74 | U | 4.39 | | 14.4 | |
| | POTASSIUM | 207 | U | 4040 | | 3880 | | 203 | U | 203 | U | 6920 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 229 | | 328 | | 292 | | 70.2 | | 94.9 | | 332 | |
| | VANADIUM | 2.23 | U | 22.6 | J | 21.9 | J | 2.71 | U | 2.71 | U | 27.5 | |
| | ZINC | 38.5 | | 78.2 | | 66 | | 31.8 | | 39.1 | | 105 | |
| SEMIVOLATILES | BUTYLBENZYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Staging Area (SWMU 36)*

*Surface Soil (continued)*

| Group | Analytes | OSS-94-04 0.5 ft | | OSS-94-05 0.5 ft | | OSS-94-06 0.5 ft | | OSS-94-07 0.5 ft | | OSS-94-08 0.5 ft | | OSS-94-09 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 881 | U | 881 | U | 5,150 | | 881 | U | 881 | U | 881 | U |
| | ARSENIC | 7.32 | | 4.41 | | 4.91 | | 4.59 | | 9.21 | | 5.17 | |
| | BARIUM | 198 | | 49.3 | | 81.3 | | 60.6 | | 9.05 | U | 55.6 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CADMIUM | 1.59 | | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 44,100 | | 42,900 | | 58,000 | | 40,200 | | 68,000 | | 70,000 | |
| | CHROMIUM | 11.6 | | 1.21 | U | 9.2 | | 8.03 | | 1.21 | U | 1.21 | U |
| | COBALT | 3.97 | | 2.5 | U | 2.5 | U | 2.57 | | 2.5 | U | 2.5 | U |
| | COPPER | 39.4 | | 12.7 | | 20 | | 27.4 | | 13.1 | | 4.95 | |
| | IRON | 26,100 | | 6,970 | | 9,870 | | 14,000 | | 11,800 | | 6,810 | |
| | LEAD | 112 | | 31.1 | | 34.6 | | 19.7 | | 26.2 | | 8.91 | |
| | MAGNESIUM | 5,500 | | 4,470 | | 7,350 | | 4,390 | | 10,800 | | 6,930 | |
| | MANGANESE | 218 | | 24.6 | U | 177 | | 155 | | 196 | | 24.6 | U |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 5.63 | | 4.14 | | 6.85 | | 6.59 | | 6.89 | | 4.53 | |
| | POTASSIUM | 203 | U | 203 | U | 1190 | | 203 | U | 203 | U | 203 | U |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 119 | | 88.7 | | 185 | | 116 | | 67.2 | | 65.6 | |
| | VANADIUM | 2.71 | U | 2.71 | U | 2.71 | U | 2.71 | U | 2.71 | U | 2.71 | U |
| | ZINC | 122 | | 52.3 | | 122 | | 84.1 | | 61.9 | | 26.9 | |
| SEMIVOLATILES | BUTYLBENZYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Staging Area (SWMU 36)*

*Surface Soil (continued)*

| Group | Analytes | OSS-94-09 0.5 ft (dup) | | OSS-94-10 0.5 ft | | OSS-94-11 0.5 ft | | OSS-94-12 0.5 ft | | OSS-94-13 0.5 ft | | OSS-94-14 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 881 | U | 881 | U | 5530 | | 881 | U | 7,350 | | 12,500 | |
| | ARSENIC | 3.15 | | 4.65 | | 4.7 | | 4.86 | | 4.41 | | 4.78 | |
| | BARIUM | 63.7 | | 9.05 | U | 63.7 | | 262 | | 85.9 | | 138 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.54 | |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 64,000 | | 59,000 | | 38,600 | | 70,000 | | 37,000 | | 7,180 | |
| | CHROMIUM | 1.21 | U | 1.21 | U | 8.39 | | 6.77 | | 8.52 | | 15.7 | |
| | COBALT | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.92 | | 4.35 | |
| | COPPER | 5.12 | | 5.93 | | 9.71 | | 139 | | 13.2 | | 25.3 | |
| | IRON | 6,500 | | 1,260 | U | 9,490 | | 10,700 | | 11,900 | | 15,400 | |
| | LEAD | 12.6 | | 7.44 | U | 11.6 | | 1400 | | 29.7 | | 41.8 | |
| | MAGNESIUM | 6,810 | | 6,470 | | 6,080 | | 6,380 | | 6,760 | | 4,770 | |
| | MANGANESE | 266 | | 24.6 | U | 166 | | 170 | | 230 | | 377 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 6.53 | | 4.51 | | 5.88 | | 5.84 | | 6.13 | | 8.56 | |
| | POTASSIUM | 203 | U | 203 | U | 1400 | | 203 | U | 1960 | | 3410 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 47.8 | | 61.3 | | 133 | | 89.3 | | 139 | | 173 | |
| | VANADIUM | 2.71 | U | 2.71 | U | 2.71 | U | 2.71 | U | 13.6 | | 20 | |
| | ZINC | 26.2 | | 20.4 | | 44 | | 172 | | 63.2 | | 76.1 | |
| SEMIVOLATILES | BUTYLBENZYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Staging Area (SWMU 36)*

*Surface Soil (continued)*

| Group | Analytes | OSS-94-15 0.5 ft | | OSS-94-16 0.5 ft | |
|---|---|---|---|---|---|
| METALS | ALUMINUM | 13,300 | | 11,700 | |
| | ARSENIC | 4.78 | | 4.53 | |
| | BARIUM | 113 | | 116 | |
| | BERYLLIUM | 0.57 | | 0.58 | |
| | CADMIUM | 1.2 | U | 1.2 | U |
| | CALCIUM | 3,840 | | 4,370 | |
| | CHROMIUM | 15.7 | | 16.2 | |
| | COBALT | 4.48 | | 4.98 | |
| | COPPER | 13.4 | | 14.7 | |
| | IRON | 15,200 | | 15,600 | |
| | LEAD | 16.4 | | 25.1 | |
| | MAGNESIUM | 4,580 | | 4,660 | |
| | MANGANESE | 358 | | 362 | |
| | MERCURY | 0.05 | U | 0.054 | |
| | NICKEL | 8.64 | | 9.18 | |
| | POTASSIUM | 3,540 | | 3,140 | |
| | SILVER | 0.803 | U | 0.803 | U |
| | SODIUM | 164 | | 130 | |
| | VANADIUM | 19.6 | | 17.5 | |
| | ZINC | 52.4 | | 57.6 | |
| SEMIVOLATILES | BUTYLBENZYL PHTHALATE | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | |

*Summary of Analytes Detected in Soil for the Old Burn Staging Area (SWMU 36)*

*Subsurface Soil*

| Group | Analytes | OSP-94-01B 3 ft | | OSP-94-01C 5 ft | | OSP-94-02B 3 ft | | OSP-94-02C 5 ft | | OSP-94-03B 3 ft | | OSP-94-03C 5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 857 | U | 857 | U | 857 | U | 857 | U | 857 | U | 857 | U |
| | ARSENIC | 3.56 | | 2.5 | U | 3.09 | | 3.54 | | 3.86 | | 4.33 | |
| | BARIUM | 8.43 | U | 8.43 | U | 8.43 | U | 8.43 | U | 8.43 | U | 8.43 | U |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 45,000 | | 35,700 | | 63,000 | | 66,000 | | 45,700 | | 37,200 | |
| | CHROMIUM | 3.65 | | 2.55 | | 3.78 | | 2.99 | | 3.14 | | 2.52 | |
| | COBALT | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | COPPER | 2.84 | U | 2.84 | U | 2.84 | U | 2.84 | U | 2.84 | U | 2.84 | U |
| | IRON | 1,120 | U | 1,120 | U | 1,120 | U | 1,120 | U | 1,120 | U | 1,120 | U |
| | LEAD | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 3,640 | | 2,800 | | 3,870 | | 3,710 | | 4,090 | | 3,100 | |
| | MANGANESE | 30.2 | U | 30.2 | U | 30.2 | U | 30.2 | U | 30.2 | U | 30.2 | U |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 4.22 | | 3.39 | | 4.43 | | 3.77 | | 3.69 | | 3.52 | |
| | POTASSIUM | 207 | U | 207 | U | 207 | U | 207 | U | 207 | U | 207 | U |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 127 | | 69.8 | | 157 | | 64.5 | | 167 | | 96.3 | |
| | VANADIUM | 2.23 | U | 2.23 | U | 2.23 | U | 2.23 | U | 2.23 | U | 2.23 | U |

*Summary of Analytes Detected in Soil for the Old Burn Staging Area (SWMU 36)*

*Subsurface Soil (continued)*

| Group | Analytes | OSP-94-04B 3 ft | | OSP-94-04C 5 ft | | OSP-94-04C 5 ft (dup) | | OSP-94-05B 3 ft | | OSP-94-05C 5 ft | | OSP-94-06B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| METALS | ALUMINUM | 857 | U | 857 | U | 857 | U | 6,820 | | 1,220 | U | 1,220 | U |
| | ARSENIC | 3.9 | | 3.72 | | 3.97 | | 4.28 | | 2.95 | | 3.89 | |
| | BARIUM | 8.43 | U | 8.43 | U | 8.43 | U | 64.2 | | 10.7 | U | 56.9 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 43,800 | | 63,000 | | 44,500 | | 13,700 | | 29,200 | | 15,000 | |
| | CHROMIUM | 2.94 | | 4.23 | | 3.66 | | 9.3 | | 1.69 | U | 8.45 | |
| | COBALT | 2.5 | U | 2.5 | U | 2.5 | U | 3.32 | | 2.5 | U | 3.26 | |
| | COPPER | 2.84 | U | 2.84 | U | 2.84 | U | 6.39 | | 3.21 | | 7.21 | |
| | IRON | 1,120 | U | 1,120 | U | 1,120 | U | 9,300 | | 1,730 | U | 9,540 | |
| | LEAD | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 3,910 | | 4,310 | | 3,750 | | 2,450 | | 3,620 | | 2,280 | |
| | MANGANESE | 30.2 | U | 30.2 | U | 30.2 | U | 168 | | 28.5 | U | 28.5 | U |
| | MERCURY | 0.091 | | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 3.47 | | 4.1 | | 3.69 | | 5.58 | | 3.17 | | 5.43 | |
| | POTASSIUM | 207 | U | 207 | U | 207 | U | 1,330 | | 235 | U | 235 | U |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 236 | | 195 | | 125 | | 207 | | 227 | | 155 | |
| | VANADIUM | 2.23 | U | 2.23 | U | 2.23 | U | 3.74 | UJ | 3.74 | UJ | 3.74 | UJ |

*Summary of Analytes Detected in Soil for the Old Burn Staging Area (SWMU 36)*

*Subsurface Soil (continued)*

| Group | Analytes | OSP-94-06C 5 ft | |
|---|---|---|---|
| METALS | ALUMINUM | 1,220 | U |
| | ARSENIC | 3.56 | |
| | BARIUM | 10.7 | U |
| | BERYLLIUM | 0.427 | U |
| | CADMIUM | 1.2 | U |
| | CALCIUM | 42,800 | |
| | CHROMIUM | 11.7 | |
| | COBALT | 2.62 | |
| | COPPER | 2.84 | U |
| | IRON | 1,730 | U |
| | LEAD | 7.44 | U |
| | MAGNESIUM | 3,760 | |
| | MANGANESE | 28.5 | U |
| | MERCURY | 0.05 | U |
| | NICKEL | 3.93 | |
| | POTASSIUM | 235 | U |
| | SILVER | 0.803 | U |
| | SODIUM | 174 | |
| | VANADIUM | 3.74 | UJ |

All values are in µg/g (equal to ppm)

NA = Not analyzed

U = Not detected; value is the Certified Reporting Limit.

Dup = Duplicate analysis

J = Value is estimated

## *Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

### *Surface Soil*

| Group | Analytes | ARS-92-101 0 ft | | ARS-92-201 0 ft | | ARS-92-301 0 ft | | ARS-92-401 0 ft | | ARS-92-B01 0 ft | | ARS-92-B02 0 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | 5.05 | | 4.3 | | 11.2 | | 5.12 | | 7.04 | | 3.36 | U |
| | NITRITE | 3.16 | U | 3.16 | U | 3.16 | U | 3.16 | U | 3.16 | U | 3.16 | U |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.352 | U | 0.352 | U | 0.352 | U | 0.352 | U | 0.352 | U | 0.352 | U |
| | 2,4-DINITROTOLUENE | 0.744 | U | 0.744 | U | 0.744 | U | 1.41 | | 0.744 | U | 0.744 | U |
| | 2,4,6-TRINITROTOLUENE | 0.931 | U | 0.931 | U | 0.931 | U | 0.931 | U | 0.931 | U | 0.931 | U |
| | 2,6-DINITROTOLUENE | 0.83 | U | 0.83 | U | 0.83 | U | 0.83 | U | 0.83 | U | 0.83 | U |
| | HMX | 0.755 | U | 3.82 | | 1 | U | 6 | | 1 | U | 1 | U |
| | NITROGUANIDINE | NA | | NA | | NA | | NA | | NA | | NA | |
| | RDX | 0.445 | U | 1.45 | | 0.445 | U | 44 | | 0.445 | U | 0.445 | U |
| | TETRYL | 1.04 | U | 1.04 | U | 1.04 | U | 1.04 | U | 1.04 | U | 1.04 | U |
| METALS | ALUMINUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ARSENIC | 240 | U | 240 | U | 24 | U | 240 | U | 24 | U | 24 | U |
| | BARIUM | 43 | | 110 | | 82 | | 76 | | 85 | | 130 | |
| | BERYLLIUM | 0.078 | UJ | 0.078 | UJ | 0.078 | UJ | 0.078 | UJ | 0.078 | UJ | 0.078 | UJ |
| | CADMIUM | 0.424 | UJ | 0.424 | UJ | 0.424 | UJ | 1.42 | J | 0.424 | UJ | 4.6 | 'J |
| | CALCIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | CHROMIUM | 8.16 | | 10.4 | | 9.44 | | 14.4 | | 9.69 | | 12.4 | |
| | COBALT | NA | | NA | | NA | | NA | | NA | | NA | |
| | COPPER | 5.65 | J | 24 | J | 50 | J | 82 | J | 10 | J | 160 | J |
| | IRON | 5500 | | 13000 | | 11,000 | | 11,000 | | 10,000 | | 12,000 | |
| | LEAD | 17 | | 11 | | 130 | | 19 | | 110 | | 1300 | |
| | MAGNESIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | MANGANESE | NA | | NA | | NA | | NA | | NA | | NA | |
| | MERCURY | 0.026 | U | 0.026 | U | 0 | U | 0 | U | 0 | U | 0 | U |
| | NICKEL | 2.46 | U | 2.46 | U | 2.46 | U | 2.46 | U | 2.46 | U | 2.46 | U |
| | POTASSIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | SILVER | 0.082 | | 0.066 | | 0.93 | | 0.55 | | 0.074 | | 0.121 | |
| | SODIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | VANADIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ZINC | 19.7 | | 150 | | 150 | | 170 | | 30 | | 180 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U |
| | 2,6-DINITROTOLUENE | 0.53 | U | 0.53 | U | 0.53 | U | 0.53 | U | 0.53 | U | 0.53 | U |
| | DIETHYL PHTHALATE | 0.33 | UJ | 0.33 | UJ | 0.939 | | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ |
| | DIMETHYL PHTHALATE | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ |
| | DI-N-BUTYL PHTHALATE | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.167 | | 0.33 | UJ | 0.33 | UJ |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Surface Soil (continued)*

| Group | Analytes | ARS-92-B03 0 ft | | ARS-92-B04 0 ft | | ARS-92-R21 0 ft | | ARS-92-R31 0 ft | | ARS-92-R61 0 ft | | ARP-94-01A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | 4.34 | | 5.74 | | 3.36 | U | 3.36 | U | 3.36 | U | NA | |
| | NITRITE | 3.16 | U | 3.16 | U | 3.16 | U | 3.16 | U | 3.16 | U | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.352 | U | 0.352 | U | 0.352 | U | 0.352 | U | 0.352 | U | 0.922 | U |
| | 2,4-DINITROTOLUENE | 0.744 | U | 0.744 | U | 0.744 | U | 0.744 | U | 0.744 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 0.931 | U | 0.931 | U | 0.931 | U | 0.931 | U | 6.84 | | 2 | U |
| | 2,6-DINITROTOLUENE | 0.83 | U | 0.83 | U | 0.83 | U | 0.83 | U | 0.83 | U | 2 | U |
| | HMX | 0.755 | U | 0.755 | U | 1 | U | 1 | | 1 | U | 2 | U |
| | NITROGUANIDINE | NA | | NA | | NA | | NA | | NA | | NA | |
| | RDX | 0.445 | U | 0.445 | U | 0.445 | U | 0.445 | U | 0.445 | U | 1.28 | U |
| | TETRYL | 1.04 | U | 1.04 | U | 1.04 | U | 1.04 | U | 1.04 | U | 2.11 | U |
| METALS | ALUMINUM | NA | | NA | | NA | | NA | | NA | | 10100 | |
| | ARSENIC | 24 | U | 24 | U | 24 | U | 24 | U | 24 | U | 9.03 | |
| | BARIUM | 77 | | 84 | | 100 | | 58 | | 91 | | 86.4 | |
| | BERYLLIUM | 0.078 | UJ | 0.078 | UJ | 0.078 | UJ | 0.078 | UJ | 0.078 | UJ | 0.427 | U |
| | CADMIUM | 0.424 | UJ | 0.424 | UJ | 0.424 | UJ | 0.424 | UJ | 0.424 | UJ | 1.2 | U |
| | CALCIUM | NA | | NA | | NA | | NA | | NA | | 30600 | |
| | CHROMIUM | 11.8 | | 10.1 | | 12 | | 6.71 | | 10.5 | | 12.7 | |
| | COBALT | NA | | NA | | NA | | NA | | NA | | 3 | |
| | COPPER | 13.3 | J | 12.2 | J | 13.2 | J | 7.11 | J | 13.8 | J | 9.21 | |
| | IRON | 11000 | | 11000 | | 13,000 | | 7,200 | | 12,000 | | 10,400 | |
| | LEAD | 190 | | 140 | | 21 | | 42 | | 18 | | 20.6 | |
| | MAGNESIUM | NA | | NA | | NA | | NA | | NA | | 6960 | |
| | MANGANESE | NA | | NA | | NA | | NA | | NA | | 229 | |
| | MERCURY | 0.026 | U | 0.026 | U | 0 | U | 0 | U | 0 | U | 0 | U |
| | NICKEL | 2.46 | U | 2.46 | U | 2.46 | U | 2.46 | U | 2.46 | U | 5.71 | |
| | POTASSIUM | NA | | NA | | NA | | NA | | NA | | 2960 | |
| | SILVER | 0.048 | | 0.108 | | 0.078 | | 0.52 | | 0.048 | | 0.803 | U |
| | SODIUM | NA | | NA | | NA | | NA | | NA | | 206 | |
| | VANADIUM | NA | | NA | | NA | | NA | | NA | | 17.7 | |
| | ZINC | 34 | | 57 | | 43 | | 55 | | 39 | | 44.2 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U | NA | |
| | 2,6-DINITROTOLUENE | 0.53 | U | 0.53 | U | 0.53 | U | 0.53 | U | 0.53 | U | NA | |
| | DIETHYL PHTHALATE | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | NA | |
| | DIMETHYL PHTHALATE | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | NA | |
| | DI-N-BUTYL PHTHALATE | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | 0.33 | UJ | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Surface Soil (continued)*

| Group | Analytes | ARP-94-02A 0.5 ft | | ARP-94-03A 0.5 ft | | ARP-94-04A 0.5 ft | | ARP-94-05A 0.5 ft | | ARP-94-06A 0.5 ft | | ARP-94-07A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NITRITE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U |
| | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | NITROGUANIDINE | NA | | NA | | NA | | NA | | NA | | NA | |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 15800 | | 18100 | | 12900 | | 17100 | | 13400 | | 17100 | |
| | ARSENIC | 4.71 | | 5.49 | | 4.28 | | 5.43 | | 4.48 | | 4.49 | |
| | BARIUM | 133 | | 153 | | 108 | | 138 | | 123 | | 156 | |
| | BERYLLIUM | 0.607 | | 0.73 | | 0.52 | | 0.623 | | 0.542 | | 0.659 | |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 11900 | | 10900 | | 6820 | | 8350 | | 8400 | | 13600 | |
| | CHROMIUM | 17.3 | | 19 | | 13.9 | | 18.1 | | 13.9 | | 16.6 | |
| | COBALT | 4.38 | | 6.22 | | 3.73 | | 5.26 | | 3.74 | | 4.95 | |
| | COPPER | 13.8 | | 30.1 | | 14.5 | | 19.8 | | 14.8 | | 13 | |
| | IRON | 15700 | | 18300 | | 13000 | | 16300 | | 13900 | | 16400 | |
| | LEAD | 9.55 | | 33.6 | | 12.2 | | 21.3 | | 13.8 | | 8.31 | |
| | MAGNESIUM | 7890 | | 7420 | | 5620 | | 6790 | | 7370 | | 9340 | |
| | MANGANESE | 397 | | 441 | | 310 | | 382 | | 412 | | 484 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 8.94 | | 10.5 | | 7.09 | | 8.51 | | 6.82 | | 9.39 | |
| | POTASSIUM | 5240 | | 5480 | | 3960 | | 5310 | | 4580 | | 5900 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 320 | | 321 | | 280 | | 455 | | 265 | | 414 | |
| | VANADIUM | 25.8 | | 27.4 | | 20.4 | | 29.2 | | 20.5 | | 26 | |
| | ZINC | 83.5 | | 67.4 | | 45.9 | | 48.6 | | 45.1 | | 50.5 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIMETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Surface Soil (continued)*

| Group | Analytes | ARP-94-08A 0.5 ft | | ARP-94-09A 0.5 ft | | ARP-94-09A 0.5 ft (dup) | | ARP-94-10A 0.5 ft | | ARP-94-11A 0.5 ft | | ARP-94-12A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NITRITE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U |
| | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | NITROGUANIDINE | NA | | NA | | NA | | NA | | NA | | NA | |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 18500 | | 12800 | | 13600 | | 8940 | | 11800 | | 13100 | |
| | ARSENIC | 5.03 | | 3.59 | | 4.56 | | 3.38 | | 4.87 | | 6 | |
| | BARIUM | 171 | | 115 | | 119 | | 72 | | 98.4 | | 112 | |
| | BERYLLIUM | 0.689 | | 0.507 | | 0.52 | | 0.427 | U | 0.477 | | 0.54 | |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 18100 | | 6540 | | 8310 | | 6030 | | 4690 | | 10600 | |
| | CHROMIUM | 18.4 | | 13.9 | | 14.7 | | 11.3 | | 13.4 | | 14.2 | |
| | COBALT | 5.31 | | 3.88 | | 4.07 | | 3.2 | | 3.19 | | 3.32 | |
| | COPPER | 15.6 | | 23.8 | | 22.4 | | 11.8 | | 10.2 | | 17.8 | |
| | IRON | 16700 | | 13100 | | 14000 | | 12500 | | 13100 | | 14900 | |
| | LEAD | 12.5 | | 23.2 | | 19.9 | | 9.42 | | 9.76 | | 16.2 | |
| | MAGNESIUM | 9760 | | 5310 | | 5660 | | 3440 | | 5080 | | 6040 | |
| | MANGANESE | 499 | | 343 | | 347 | | 200 | | 285 | | 317 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 9 | | 6.51 | | 7.71 | | 6.25 | | 7.79 | | 9.51 | |
| | POTASSIUM | 6300 | | 4050 | | 4140 | | 2430 | | 3420 | | 4270 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 519 | | 350 | | 407 | | 212 | | 211 | | 233 | |
| | VANADIUM | 29.4 | | 20.4 | | 22.8 | | 17.4 | | 19.8 | | 22.1 | |
| | ZINC | 52.2 | | 51.5 | | 48.3 | | 29.4 | | 35.5 | | 42.5 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIMETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Surface Soil (continued)*

| Group | Analytes | ARP-94-13A 0.5 ft | | ARP-94-14A 0.5 ft | | ARP-94-15A 0.5 ft | | ARP-94-16A 0.5 ft | | ARP-94-17A 0.5 ft | | ARP-94-18A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NITRITE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | UJ | 0.922 | UJ | 0.922 | UJ |
| | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | NITROGUANIDINE | NA | | NA | | NA | | NA | | NA | | NA | |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 17500 | | 8380 | | 5530 | | 10900 | | 18200 | | 17300 | |
| | ARSENIC | 14.3 | | 7.22 | | 5.64 | | 5.03 | | 5.08 | | 5.57 | |
| | BARIUM | 176 | | 80.9 | | 63.8 | | 108 | | 150 | | 134 | |
| | BERYLLIUM | 0.848 | | 0.427 | U | 0.427 | U | 0.485 | | 0.632 | | 0.655 | |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 76000 | | 27400 | | 21100 | | 16000 | | 16500 | | 12600 | |
| | CHROMIUM | 18.2 | | 15.5 | | 7.72 | | 12 | | 18.8 | | 17.9 | |
| | COBALT | 8.78 | | 3 | | 2.5 | U | 3.4 | | 4.55 | | 5.44 | |
| | COPPER | 40.8 | | 7.54 | | 6.47 | | 10 | | 11.9 | | 12.6 | |
| | IRON | 23200 | | 11200 | | 7980 | | 13400 | | 16000 | | 17100 | |
| | LEAD | 48.4 | | 18 | | 9.19 | | 12.7 | | 11.5 | | 10.9 | |
| | MAGNESIUM | 10200 | | 4580 | | 2870 | | 6990 | | 8790 | | 8460 | |
| | MANGANESE | 344 | | 149 | | 21.9 | U | 310 | | 397 | | 392 | |
| | MERCURY | 0.096 | | 0.05 | U | 0.058 | | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 17.7 | | 7.78 | | 5.01 | | 7.84 | | 9.14 | | 11 | |
| | POTASSIUM | 4130 | | 2140 | | 1430 | | 3560 | | 5970 | | 5690 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 502 | | 229 | | 192 | | 204 | | 513 | | 359 | |
| | VANADIUM | 29 | | 18.7 | | 2.51 | U | 18.7 | | 27.3 | | 25.5 | |
| | ZINC | 63.7 | | 29.4 | | 17.5 | | 38.3 | | 45.3 | | 50.1 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIMETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Surface Soil (continued)*

| Group | Analytes | ARP-94-19A 0.5 ft | | ARP-94-20A 0.5 ft | | ARP-94-21A 0.5 ft | | ARP-94-22A 0.5 ft | | ARP-94-23A 0.5 ft | | ARP-94-24A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NITRITE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | UJ | 0.922 | UJ | 0.922 | UJ | 0.922 | UR | 0.922 | UR | 0.922 | UR |
| | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | UR | 2.5 | UR | 2.5 | UR |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | UR | 2 | UR | 2 | UR |
| | 2,6-DINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | UR | 2 | UR | 2 | UR |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | UR | 2 | UR | 2 | UR |
| | NITROGUANIDINE | NA | | NA | | NA | | NA | | NA | | NA | |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | UR | 1.28 | UR | 1.28 | UR |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | UR | 2.11 | UR | 2.11 | UR |
| METALS | ALUMINUM | 6430 | | 9760 | | 15400 | | 12400 | | 9160 | | 7190 | |
| | ARSENIC | 5.92 | | 4.05 | | 9.41 | | 5.44 | | 5.1 | | 5.31 | |
| | BARIUM | 81.9 | | 93 | | 124 | | 119 | | 100 | | 75.2 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.564 | | 0.608 | | 0.518 | | 0.427 | U |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 33100 | | 18400 | | 16600 | | 25300 | | 11600 | | 16600 | |
| | CHROMIUM | 9.47 | | 11.7 | | 17 | | 13.7 | | 11.9 | | 9.68 | |
| | COBALT | 2.98 | | 3.3 | | 4.48 | | 5.15 | | 3.15 | | 3.53 | |
| | COPPER | 9.26 | | 9.17 | | 16.1 | | 14.4 | | 25.9 | | 9.3 | |
| | IRON | 10200 | | 12000 | | 16600 | | 15700 | | 14900 | | 10500 | |
| | LEAD | 7.44 | U | 9.25 | | 17.2 | | 11.4 | | 34.4 | | 7.44 | U |
| | MAGNESIUM | 2760 | | 5070 | | 6640 | | 6950 | | 5620 | | 3620 | |
| | MANGANESE | 130 | | 223 | | 326 | | 291 | | 320 | | 197 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 6.27 | | 6.68 | | 9.08 | | 9.63 | J | 9.46 | J | 6.69 | J |
| | POTASSIUM | 1760 | | 3410 | | 4990 | | 4370 | | 3070 | | 2120 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 103 | | 582 | | 310 | | 201 | | 119 | | 108 | |
| | VANADIUM | 15.8 | | 18.5 | | 25 | | 20 | | 16.9 | | 14.6 | |
| | ZINC | 25.4 | | 31.2 | | 51 | | 47.5 | | 60.4 | | 28.3 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIMETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |

## *Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

### *Surface Soil (continued)*

| Group | Analytes | ARP-94-25A 0.5 ft | | ARP-94-26A 0.5 ft | | ARP-94-27A 0.5 ft | | ARP-94-28A 0.5 ft | | ARP-94-29A 0.5 ft | | ARP-94-29A 0.5 ft (dup) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NITRITE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | UR | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U |
| | 2,4-DINITROTOLUENE | 2.5 | UR | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | UR | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 2 | UR | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | UR | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | NITROGUANIDINE | NA | | NA | | NA | | NA | | NA | | NA | |
| | RDX | 1.28 | UR | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | UR | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 8400 | | 13200 | | 8270 | | 11300 | | 12400 | | 12400 | |
| | ARSENIC | 6.65 | | 6.18 | | 4.82 | | 5.65 | | 5.25 | | 4.99 | |
| | BARIUM | 97.7 | | 123 | | 75.8 | | 101 | | 104 | | 101 | |
| | BERYLLIUM | 0.427 | U | 0.668 | | 0.427 | U | 0.561 | | 0.552 | | 0.427 | U |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 28000 | | 16500 | | 6140 | | 19900 | | 14600 | | 14100 | |
| | CHROMIUM | 10.4 | | 14.4 | | 9.99 | | 14.1 | | 14.6 | | 15.1 | |
| | COBALT | 3.58 | | 3.28 | | 2.84 | | 3.62 | | 3.6 | | 3.68 | |
| | COPPER | 12.5 | | 12.7 | | 10.2 | | 11.3 | | 10.5 | | 9.99 | |
| | IRON | 12700 | | 15400 | | 10700 | | 12700 | | 13400 | | 13200 | |
| | LEAD | 10.2 | | 8.88 | | 9.08 | | 14.1 | | 8.52 | | 7.44 | U |
| | MAGNESIUM | 5330 | | 7330 | | 4070 | | 4770 | | 5560 | | 5390 | |
| | MANGANESE | 226 | | 351 | | 233 | | 207 | | 265 | | 255 | |
| | MERCURY | 0.058 | | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 7.49 | J | 8.74 | J | 7.11 | J | 8.48 | J | 7.52 | J | 7.04 | J |
| | POTASSIUM | 2500 | | 4700 | | 2840 | | 3460 | | 3960 | | 4000 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 124 | | 172 | | 117 | | 199 | | 198 | | 203 | |
| | VANADIUM | 16.7 | | 20.6 | | 14.4 | | 20.3 | | 20.9 | | 21.2 | |
| | ZINC | 36.7 | | 45 | | 31.5 | | 37.5 | | 37 | | 35 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIMETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Surface Soil (continued)*

| Group | Analytes | ARP-94-30A 0.5 ft | | ARP-94-31A 0.5 ft | | ARP-94-32A 0.5 ft | | ARP-94-33A 0.5 ft | | ARP-94-34A 0.5 ft | | ARP-94-35A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NITRITE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U |
| | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | NITROGUANIDINE | NA | | NA | | NA | | NA | | NA | | NA | |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 8810 | | 13000 | | 9300 | | 11500 | | 5620 | | 5020 | |
| | ARSENIC | 5.5 | | 11.7 | | 4.77 | J | 4.15 | J | 6.89 | J | 11.1 | J |
| | BARIUM | 97.5 | | 91.1 | | 89.5 | | 95.9 | | 248 | | 73.4 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.487 | | 0.427 | U | 0.427 | U |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 16400 | | 85000 | | 20000 | | 14700 | | 26300 | | 38800 | |
| | CHROMIUM | 10.9 | | 15.4 | | 12.1 | | 14.5 | | 10.7 | | 8.83 | |
| | COBALT | 3.61 | | 3.72 | | 3.91 | | 3.41 | | 3.47 | | 2.5 | U |
| | COPPER | 11.5 | | 9.74 | | 8.48 | | 8.61 | | 182 | | 9.46 | |
| | IRON | 13000 | | 13900 | | 12100 | | 12500 | | 9940 | | 8300 | |
| | LEAD | 12.7 | | 10.4 | | 7.44 | U | 9.24 | | 1600 | | 36.6 | |
| | MAGNESIUM | 5210 | | 10300 | | 4930 | | 4690 | | 4680 | | 5450 | |
| | MANGANESE | 243 | | 212 | | 212 | | 226 | | 176 | | 158 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 8.06 | J | 11.50 | J | 6.88 | | 6.67 | | 5.23 | | 6.08 | |
| | POTASSIUM | 2690 | | 3270 | | 2900 | | 3550 | | 1890 | | 1420 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 132 | | 2830 | | 155 | | 192 | | 88.1 | | 90.3 | |
| | VANADIUM | 16.8 | | 25.3 | | 18.8 | | 20.9 | | 2.99 | U | 2.99 | U |
| | ZINC | 36.7 | | 33.3 | | 30.9 | | 33.3 | | 162 | | 41.7 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIMETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |

## *Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

### *Surface Soil (continued)*

| Group | Analytes | ARP-94-36A 0.5 ft | | ARP-94-37A 0.5 ft | | ARP-94-38A 0.5 ft | | ARP-94-39A 0.5 ft | | ARP-94-40A 0.5 ft | | ARP-94-41A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NITRITE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U |
| | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 4.62 | | 2 | U | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 3 | | 2 | U | 2 | U | 2 | U |
| | NITROGUANIDINE | NA | | NA | | NA | | NA | | NA | | NA | |
| | RDX | 1.28 | U | 1.28 | U | 2.31 | | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 968 | U | 5300 | | 7880 | | 7560 | | 6540 | | 6530 | |
| | ARSENIC | 3.85 | J | 4.17 | J | 4.47 | J | 4.52 | J | 12.60 | J | 4.23 | J |
| | BARIUM | 55.1 | | 69.2 | | 87.8 | | 86.6 | | 88.5 | | 95.1 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CADMIUM | 1.2 | U | 1.2 | U | 2.77 | | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 15800 | | 16600 | | 13300 | | 21600 | | 39200 | | 24100 | |
| | CHROMIUM | 5.39 | | 7.81 | | 9.72 | | 8.47 | | 8.24 | | 7.67 | |
| | COBALT | 2.5 | U | 3.55 | | 3.71 | | 3.53 | | 3.35 | | 3.58 | |
| | COPPER | 143 | | 26.3 | | 30.5 | | 7.95 | | 12.1 | | 7.37 | |
| | IRON | 7360 | | 8900 | | 11100 | | 10700 | | 9830 | | 9760 | |
| | LEAD | 20.4 | | 10.1 | | 19.8 | | 8.11 | | 36.9 | | 7.44 | U |
| | MAGNESIUM | 2520 | | 3430 | | 5020 | | 5110 | | 5790 | | 4460 | |
| | MANGANESE | 21.8 | U | 143 | | 255 | | 213 | | 246 | | 184 | |
| | MERCURY | 0.058 | J | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.059 | J |
| | NICKEL | 5.35 | | 4.57 | | 5.73 | | 5.74 | | 6.52 | | 5.34 | |
| | POTASSIUM | 818 | | 1600 | | 2490 | | 2660 | | 2100 | | 2530 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 77.4 | | 84.1 | | 107 | | 120 | | 96.6 | | 128 | |
| | VANADIUM | 2.99 | U | 2.99 | U | 2.99 | U | 2.99 | U | 2.99 | U | 2.99 | U |
| | ZINC | 95.8 | | 33.3 | | 61.1 | | 29.2 | | 59.9 | | 28.1 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIMETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Surface Soil (continued)*

| Group | Analytes | ARP-94-42A 0.5 ft | | ARP-94-43A 0.5 ft | | ARP-94-44A 0.5 ft | | ARP-94-45A 0.5 ft | | ARP-94-46A 0.5 ft | | ARP-94-47A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NITRITE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U |
| | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | NITROGUANIDINE | NA | | NA | | NA | | NA | | NA | | NA | |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 7770 | | 12100 | | 6830 | | 15900 | | 13200 | | 16000 | |
| | ARSENIC | 4.36 | J | 4.09 | J | 4.79 | J | 8.89 | | 7.28 | | 4.73 | |
| | BARIUM | 93.7 | | 114 | | 101 | | 300 | | 112 | | 123 | |
| | BERYLLIUM | 0.478 | | 0.536 | | 0.427 | U | 0.606 | | 0.522 | | 0.594 | |
| | CADMIUM | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U |
| | CALCIUM | 18200 | | 31200 | | 27600 | | 1E+05 | | 23400 | | 14800 | |
| | CHROMIUM | 8.63 | | 13.1 | | 8.02 | | 13.4 | | 14.6 | | 18.3 | |
| | COBALT | 3.59 | | 3.85 | | 3.73 | | 3.57 | | 4.77 | | 4.33 | |
| | COPPER | 9.2 | | 9.26 | | 8.99 | | 11.1 | | 13.2 | | 13.8 | |
| | IRON | 11700 | | 13300 | | 11500 | | 10900 | | 12600 | | 14600 | |
| | LEAD | 8.15 | | 7.44 | U | 7.44 | U | 7.44 | U | 16.5 | | 16.3 | |
| | MAGNESIUM | 5660 | | 6500 | | 4680 | | 51800 | | 5940 | | 6230 | |
| | MANGANESE | 266 | | 227 | | 215 | | 269 | | 252 | | 303 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.065 | J |
| | NICKEL | 6.39 | | 7.4 | | 6.69 | | 9.5 | | 8.17 | | 8.4 | |
| | POTASSIUM | 2870 | | 3770 | | 2590 | | 4630 | | 4390 | | 5220 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 102 | | 270 | | 350 | | 9970 | | 382 | | 420 | |
| | VANADIUM | 2.99 | U | 19.6 | | 2.99 | U | 25 | | 21.6 | | 26.3 | |
| | ZINC | 33.4 | | 35.9 | | 30.3 | | 37.8 | | 48.3 | | 44.5 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIMETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |

## *Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

### *Surface Soil (continued)*

| Group | Analytes | ARP-94-48A 0.5 ft | | ARP-94-49A 0.5 ft | | ARP-94-49A 0.5 ft (dup) | | ARP-94-50A 0.5 ft | | ARP-94-51A 0.5 ft | | ARP-94-52A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NITRITE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 3.27 | | 0.922 | U |
| | 2,4-DINITROTOLUENE | 8.15 | | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 14.4 | | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 485 | | 2 | U | 2 | U | 2 | U | 20 | U | 7.05 | |
| | NITROGUANIDINE | NA | | NA | | NA | | NA | | NA | | NA | |
| | RDX | 3200 | | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 9.29 | |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 17200 | | 11400 | | 11700 | | 7320 | | 9180 | | 9230 | |
| | ARSENIC | 4.29 | | 7.36 | | 10.1 | | 5.75 | | 10.5 | | 4.44 | |
| | BARIUM | 2800 | | 96.3 | | 112 | | 67.6 | | 87.6 | | 88 | |
| | BERYLLIUM | 0.427 | U | 0.481 | | 0.536 | | 0.427 | U | 0.427 | U | 0.427 | U |
| | CADMIUM | 3.6 | | 1.2 | U | 1.2 | U | 1.2 | U | 3.13 | | 2.37 | |
| | CALCIUM | 9890 | | 21700 | | 26200 | | 34200 | | 22200 | | 20200 | |
| | CHROMIUM | 44.3 | | 13.3 | | 12.4 | | 10.1 | | 10.9 | | 16.7 | |
| | COBALT | 3.89 | | 5.02 | | 6.19 | | 2.63 | | 2.97 | | 3.92 | |
| | COPPER | 43.6 | | 11.5 | | 14.3 | | 12.4 | | 14.9 | | 224 | |
| | IRON | 13200 | | 13200 | | 14200 | | 8720 | | 11100 | | 12300 | |
| | LEAD | 18.6 | | 15.3 | | 21.3 | | 15.6 | | 16.4 | | 25.8 | |
| | MAGNESIUM | 4640 | | 4970 | | 6010 | | 4420 | | 4300 | | 4820 | |
| | MANGANESE | 26.7 | U | 229 | | 286 | | 163 | | 197 | | 208 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 25 | | 9.03 | | 9.32 | | 4.84 | | 7.82 | | 9.34 | |
| | POTASSIUM | 3830 | | 3340 | | 3550 | | 1910 | | 2580 | | 3400 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 761 | | 240 | | 191 | | 206 | | 230 | | 671 | |
| | VANADIUM | 49.6 | | 19.5 | | 18.6 | | 3.29 | U | 16.7 | | 16.5 | |
| | ZINC | 665 | | 40.4 | | 50.6 | | 40.8 | | 31 | | 157 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIMETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Surface Soil (continued)*

| Group | Analytes | ARP-94-53A 0.5 ft | | ARP-94-54A 0.5 ft | | ARP-94-55A 0.5 ft | | ARP-94-56A 0.5 ft | | ARP-94-57A 0.5 ft | | ARP-94-58A 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | NITRITE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | UR | 0.922 | UR |
| | 2,4-DINITROTOLUENE | 2.5 | U | 3.63 | | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 3.76 | | 2 | U | 2 | U | 2 | U | 2 | U |
| | NITROGUANIDINE | NA | | NA | | NA | | NA | | NA | | NA | |
| | RDX | 1.28 | U | 10.2 | | 2.48 | | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 9450 | | 8480 | | 9450 | | 8430 | | 7820 | | 15700 | |
| | ARSENIC | 4.91 | | 5.21 | | 4.59 | | 17.9 | | 4.47 | | 4.8 | |
| | BARIUM | 80.2 | | 74.9 | | 86.2 | | 96.8 | | 68.5 | | 140 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.691 | |
| | CADMIUM | 1.2 | U | 6.31 | | 1.2 | U | 2.11 | | 1.2 | U | 1.2 | U |
| | CALCIUM | 31200 | | 12100 | | 15600 | | 33700 | | 6950 | | 6020 | |
| | CHROMIUM | 13 | | 12.8 | | 10.9 | | 11.4 | | 11.1 | | 17.1 | |
| | COBALT | 2.73 | | 2.6 | | 3.66 | | 2.5 | U | 3.33 | | 5.26 | |
| | COPPER | 22.3 | | 53.2 | | 17.1 | | 65.3 | | 10.4 | | 16.1 | |
| | IRON | 11300 | | 11200 | | 11800 | | 9550 | | 10900 | | 17000 | |
| | LEAD | 14.4 | | 18.5 | | 11.8 | | 66.5 | | 11 | | 10.6 | |
| | MAGNESIUM | 4890 | | 4400 | | 5090 | | 6490 | | 4130 | | 7930 | |
| | MANGANESE | 205 | | 220 | | 248 | | 223 | | 206 | | 462 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 6.5 | | 8.23 | | 7.93 | | 5.89 | | 4.8 | | 9.37 | |
| | POTASSIUM | 2650 | | 2450 | | 3170 | | 2390 | | 2340 | | 5280 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 254 | | 137 | | 154 | | 169 | | 131 | | 252 | |
| | VANADIUM | 17.2 | | 3.29 | U | 16.8 | | 3.29 | U | 3.56 | UJ | 24.60 | J |
| | ZINC | 49.5 | | 237 | | 34.5 | | 86.1 | | 28.4 | | 50.7 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DIMETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Surface Soil (continued)*

| Group | Analytes | ARP-94-59A 0.5 ft | | ARP-94-60A 0.5 ft | | ARP-95-01A 0.5 ft | | ARP-95-02A 0.5 ft | | ARP-95-03A 0.5 ft | | ARS-95-01 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | 1 | U |
| | NITRITE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | UR | 0.922 | UR | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U |
| | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | NITROGUANIDINE | NA | | NA | | NA | | NA | | NA | | 0.081 | |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 14800 | | 10200 | | NA | | NA | | NA | | NA | |
| | ARSENIC | 2.54 | | 4.38 | | NA | | NA | | NA | | NA | |
| | BARIUM | 132 | | 77.8 | | NA | | NA | | NA | | NA | |
| | BERYLLIUM | 0.624 | | 0.427 | U | NA | | NA | | NA | | NA | |
| | CADMIUM | 1.2 | U | 1.2 | U | NA | | NA | | NA | | NA | |
| | CALCIUM | 6280 | | 5840 | | NA | | NA | | NA | | NA | |
| | CHROMIUM | 17.4 | | 13.9 | | NA | | NA | | NA | | NA | |
| | COBALT | 6.75 | | 2.5 | U | NA | | NA | | NA | | NA | |
| | COPPER | 15.7 | | 13.2 | | NA | | NA | | NA | | NA | |
| | IRON | 15800 | | 12100 | | NA | | NA | | NA | | NA | |
| | LEAD | 18.1 | | 14.4 | | NA | | NA | | NA | | NA | |
| | MAGNESIUM | 6670 | | 4510 | | NA | | NA | | NA | | NA | |
| | MANGANESE | 395 | | 227 | | NA | | NA | | NA | | NA | |
| | MERCURY | 0.05 | U | 0.05 | U | NA | | NA | | NA | | NA | |
| | NICKEL | 9.14 | | 6.12 | | NA | | NA | | NA | | NA | |
| | POTASSIUM | 4620 | | 3200 | | NA | | NA | | NA | | NA | |
| | SILVER | 0.803 | U | 0.803 | U | NA | | NA | | NA | | NA | |
| | SODIUM | 269 | | 183 | | NA | | NA | | NA | | NA | |
| | VANADIUM | 25.6 | J | 19.80 | J | NA | | NA | | NA | | NA | |
| | ZINC | 47.2 | | 34.2 | | NA | | NA | | NA | | NA | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | 1.4 | U |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | 0.32 | U |
| | DIETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | 0.24 | U |
| | DIMETHYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | 0.063 | U |
| | DI-N-BUTYL PHTHALATE | NA | | NA | | NA | | NA | | NA | | 1.3 | U |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Surface Soil (continued)*

| Group | Analytes | ARS-95-02 0.5 ft | | ARS-95-03 0.5 ft | | ARS-95-04 0.5 ft | | ARS-95-05 0.5 ft | | ARS-95-06 0.5 ft | | ARS-95-07 0.5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | 3.88 | | 1.09 | | 1 | U | 5.55 | | 7.45 | | 1.91 | |
| | NITRITE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U |
| | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 4.74 | | 2 | U |
| | NITROGUANIDINE | 0.045 | U | 0.045 | U | 0.045 | U | 0.209 | | 0.045 | U | 0.045 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 2.78 | | 45.3 | | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ARSENIC | NA | | NA | | NA | | NA | | NA | | NA | |
| | BARIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | BERYLLIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | CADMIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | CALCIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | CHROMIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | COBALT | NA | | NA | | NA | | NA | | NA | | NA | |
| | COPPER | NA | | NA | | NA | | NA | | NA | | NA | |
| | IRON | NA | | NA | | NA | | NA | | NA | | NA | |
| | LEAD | NA | | NA | | NA | | NA | | NA | | NA | |
| | MAGNESIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | MANGANESE | NA | | NA | | NA | | NA | | NA | | NA | |
| | MERCURY | NA | | NA | | NA | | NA | | NA | | NA | |
| | NICKEL | NA | | NA | | NA | | NA | | NA | | NA | |
| | POTASSIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | SILVER | NA | | NA | | NA | | NA | | NA | | NA | |
| | SODIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | VANADIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ZINC | NA | | NA | | NA | | NA | | NA | | NA | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U |
| | 2,6-DINITROTOLUENE | 0.32 | U | 0.32 | U | 0.32 | U | 0.32 | U | 0.32 | U | 0.32 | U |
| | DIETHYL PHTHALATE | 0.24 | U | 0.24 | U | 0.24 | U | 6.8 | | 0.24 | U | 5.8 | |
| | DIMETHYL PHTHALATE | 0.063 | U | 0.063 | U | 0.063 | U | 8.5 | | 0.16 | | 0.063 | U |
| | DI-N-BUTYL PHTHALATE | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U |

## *Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

### *Surface Soil (continued)*

| Group | Analytes | ARS-95-08 0.5 ft | | ARS-95-09 0.5 ft | | ARS-95-10 0.5 ft | | ARS-95-10 0.5 ft (dup) | |
|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | 1 | U | 2.89 | | 1.63 | | 1 | U |
| | NITRITE | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 1,3,5-TRINITROBENZENE | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U |
| | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U |
| | 2,6-DINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 3.15 | |
| | NITROGUANIDINE | 0.045 | U | 0.35 | | 0.148 | | 0.235 | |
| | RDX | 1.28 | U | 1.28 | U | 5.63 | | 43.2 | |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 8.03 | |
| METALS | ALUMINUM | NA | | NA | | NA | | NA | |
| | ARSENIC | NA | | NA | | NA | | NA | |
| | BARIUM | NA | | NA | | NA | | NA | |
| | BERYLLIUM | NA | | NA | | NA | | NA | |
| | CADMIUM | NA | | NA | | NA | | NA | |
| | CALCIUM | NA | | NA | | NA | | NA | |
| | CHROMIUM | NA | | NA | | NA | | NA | |
| | COBALT | NA | | NA | | NA | | NA | |
| | COPPER | NA | | NA | | NA | | NA | |
| | IRON | NA | | NA | | NA | | NA | |
| | LEAD | NA | | NA | | NA | | NA | |
| | MAGNESIUM | NA | | NA | | NA | | NA | |
| | MANGANESE | NA | | NA | | NA | | NA | |
| | MERCURY | NA | | NA | | NA | | NA | |
| | NICKEL | NA | | NA | | NA | | NA | |
| | POTASSIUM | NA | | NA | | NA | | NA | |
| | SILVER | NA | | NA | | NA | | NA | |
| | SODIUM | NA | | NA | | NA | | NA | |
| | VANADIUM | NA | | NA | | NA | | NA | |
| | ZINC | NA | | NA | | NA | | NA | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U |
| | 2,6-DINITROTOLUENE | 0.32 | U | 0.32 | U | 0.32 | U | 0.32 | U |
| | DIETHYL PHTHALATE | 0.24 | U | 0.24 | U | 3.1 | | 0.24 | U |
| | DIMETHYL PHTHALATE | 0.063 | U | 0.063 | U | 0.063 | U | 0.063 | U |
| | DI-N-BUTYL PHTHALATE | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Surface Soil (continued)*

| Group | Analytes | ARP-92-101 9 ft | | ARP-92-201 7 ft | | ARP-92-301 10 ft | | ARP-92-401 2.7 ft | | ARP-92-402 8.5 ft | | ARP-94-01B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | 3.36 | U | 3.36 | U | 3.36 | U | 115 | | 3.36 | U | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 0.744 | U | 0.744 | U | 0.744 | U | 2.91 | | 0.744 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 0.931 | U | 0.931 | U | 0.931 | U | 2.86 | | 0.931 | U | 2 | U |
| | HMX | 0.755 | U | 0.755 | U | 0.755 | U | 2.37 | | 0.755 | U | 2 | U |
| | RDX | 0.445 | U | 0.445 | U | 0.808 | | 34 | | 0.445 | U | 1.28 | U |
| | TETRYL | 1.04 | U | 1.04 | U | 1.04 | U | 18 | | 1.04 | U | 2.11 | U |
| METALS | ALUMINUM | NA | | NA | | NA | | NA | | NA | | 6430 | |
| | ARSENIC | 24 | U | 48 | U | 24 | U | 72 | U | 24 | U | 2.82 | |
| | BARIUM | 46 | | 14 | | 24 | | 110 | | 34 | | 69.9 | |
| | BERYLLIUM | 0.078 | UJ | 0.16 | UJ | 0.078 | UJ | 0.078 | U | 0.078 | UJ | 0.427 | U |
| | CALCIUM | NA | | NA | | NA | | NA | | NA | | 11800 | |
| | CHROMIUM | 6.22 | | 7.8 | U | 3.9 | U | 11 | | 6.32 | | 8.37 | |
| | COBALT | NA | | NA | | NA | | NA | | NA | | 2.5 | U |
| | COPPER | 3.9 | J | 3.9 | UR | 3.14 | J | 180 | | 5.36 | J | 5.36 | |
| | IRON | 8100 | | 10000 | | 4700 | | 15000 | | 8900 | | 7310 | |
| | LEAD | 5.2 | | 2.5 | | 5.6 | | 51 | | 8.1 | | 7.44 | U |
| | MAGNESIUM | NA | | NA | | NA | | NA | | NA | | 2740 | |
| | MANGANESE | NA | | NA | | NA | | NA | | NA | | 22.6 | U |
| | MERCURY | 0.026 | U | 0.026 | U | 0.031 | | 0.026 | U | 0.026 | U | 0.05 | U |
| | NICKEL | 2.46 | U | 4.9 | U | 2.46 | U | 2.46 | U | 2.46 | U | 3.69 | |
| | POTASSIUM | NA | | NA | | NA | | NA | | NA | | 1780 | |
| | SILVER | 0.02 | | 0.015 | U | 0.024 | | 0.77 | | 0.025 | | 0.803 | U |
| | SODIUM | NA | | NA | | NA | | NA | | NA | | 332 | |
| | VANADIUM | NA | | NA | | NA | | NA | | NA | | 13.7 | |
| | ZINC | 16.1 | | 16 | U | 11.5 | | 56 | | 16.7 | | 20.8 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U | 0.39 | U | NA | |
| | 2,6-DINITROTOLUENE | 0.53 | U | 0.53 | U | 0.53 | U | 0.53 | U | 0.53 | U | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Subsurface Soil (continued)*

| Group | Analytes | ARP-94-01C 5 ft | | ARP-94-02B 3 ft | | ARP-94-02C 5 ft | | ARP-94-03B 3 ft | | ARP-94-03C 5 ft | | ARP-94-04B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 6640 | | 8300 | | 6930 | | 9000 | | 1060 | U | 11300 | |
| | ARSENIC | 3.83 | | 2.94 | | 3.23 | | 3.79 | | 3.18 | | 4.06 | |
| | BARIUM | 57.7 | | 76.2 | | 67.8 | | 94.3 | | 9.83 | U | 103 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CALCIUM | 19100 | | 16900 | | 12700 | | 15700 | | 5320 | | 22400 | |
| | CHROMIUM | 12.5 | | 11.1 | | 9.1 | | 10.9 | | 6.21 | | 13.1 | |
| | COBALT | 2.92 | | 3.07 | | 2.5 | U | 3.22 | | 2.5 | U | 3.17 | |
| | COPPER | 5.7 | | 6.77 | | 6.87 | | 10.6 | | 5 | | 8.62 | |
| | IRON | 10100 | | 9760 | | 8420 | | 11300 | | 1450 | U | 12200 | |
| | LEAD | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 3560 | | 3450 | | 3230 | | 4750 | | 1780 | | 5050 | |
| | MANGANESE | 125 | | 119 | | 116 | | 205 | | 22.6 | U | 208 | |
| | MERCURY | 0.065 | J | 0.125 | J | 0.056 | J | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 5.99 | | 5.03 | | 4.14 | | 6.97 | | 3.45 | | 6.5 | |
| | POTASSIUM | 1840 | | 2160 | | 1920 | | 2720 | | 184 | U | 3360 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 285 | | 313 | | 343 | | 180 | | 352 | | 307 | |
| | VANADIUM | 21.7 | | 19.1 | | 15.4 | | 18.2 | | 10.9 | | 20.6 | |
| | ZINC | 23.8 | | 26.5 | | 21.1 | | 34.8 | | 3.89 | U | 32.1 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Subsurface Soil (continued)*

| Group | Analytes | ARP-94-04C 5 ft | | ARP-94-05B 3 ft | | ARP-94-05C 5 ft | | ARP-94-06B 3 ft | | ARP-94-06C 5 ft | | ARP-94-07B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 1060 | U | 13100 | | 12500 | | 15900 | | 12100 | | 18400 | |
| | ARSENIC | 9.14 | | 5.26 | | 5.39 | | 3.48 | | 5.5 | | 4.71 | |
| | BARIUM | 9.83 | U | 134 | | 103 | | 147 | | 110 | | 171 | |
| | BERYLLIUM | 0.427 | U | 0.533 | | 0.427 | U | 0.588 | | 0.525 | | 0.722 | |
| | CALCIUM | 30300 | | 27200 | | 15100 | | 40900 | | 20400 | | 38400 | |
| | CHROMIUM | 7.79 | | 14.2 | | 13.2 | | 15.2 | | 13.2 | | 16.6 | |
| | COBALT | 4.42 | | 5.26 | | 4.41 | | 3.26 | | 3.18 | | 5.78 | |
| | COPPER | 6.32 | | 11.1 | | 12.6 | | 11.5 | | 9.74 | | 14.4 | |
| | IRON | 13300 | | 16600 | | 21000 | | 14400 | | 14200 | | 17600 | |
| | LEAD | 10.9 | | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 3950 | | 7310 | | 6230 | | 9750 | | 5600 | | 11000 | |
| | MANGANESE | 22.6 | U | 276 | | 198 | | 331 | | 250 | | 408 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 6.05 | | 8.32 | | 10.4 | | 7.99 | | 7.75 | | 9.31 | |
| | POTASSIUM | 184 | U | 3890 | | 2440 | | 5470 | | 3500 | | 6020 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 326 | | 938 | | 441 | | 1430 | | 1140 | | 2080 | |
| | VANADIUM | 12.3 | | 28.5 | | 20.8 | | 24.1 | | 23.3 | | 29 | |
| | ZINC | 3.89 | U | 45.7 | | 43 | | 41.9 | | 38.5 | | 52.6 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Subsurface Soil (continued)*

| Group | Analytes | ARP-94-07C 5 ft | | ARP-94-08B 3 ft | | ARP-94-08C 5 ft | | ARP-94-09B 3 ft | | ARP-94-09B 3 ft (dup) | | ARP-94-09C 5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 10100 | | 16900 | | 11000 | | 13500 | | 17300 | | 10300 | |
| | ARSENIC | 7.65 | | 3.87 | | 4.86 | | 5.11 | | 5.03 | | 4.39 | |
| | BARIUM | 122 | | 173 | | 102 | | 145 | | 168 | | 119 | |
| | BERYLLIUM | 0.427 | U | 0.731 | | 0.481 | | 0.534 | | 0.665 | | 0.427 | U |
| | CALCIUM | 21500 | | 31000 | | 19400 | | 31800 | | 35600 | | 49900 | |
| | CHROMIUM | 9.73 | | 15.8 | | 12.4 | | 13 | | 16.9 | | 10 | |
| | COBALT | 3.4 | | 5.73 | | 3.89 | | 5.06 | | 5.32 | | 3.6 | |
| | COPPER | 12 | | 16.4 | | 9.58 | | 9.43 | | 11.1 | | 11.3 | |
| | IRON | 12800 | | 18100 | | 13900 | | 15400 | | 15800 | | 14100 | |
| | LEAD | 7.44 | U | 7.44 | U | 8.16 | | 7.44 | U | 8.17 | | 7.44 | U |
| | MAGNESIUM | 6960 | | 9510 | | 5300 | | 7050 | | 8180 | | 6450 | |
| | MANGANESE | 303 | | 382 | | 235 | | 262 | | 283 | | 245 | |
| | MERCURY | 0.05 | U | 0.071 | J | 0.05 | U | 0.053 | J | 0.062 | J | 0.05 | U |
| | NICKEL | 7.21 | | 11.3 | | 9.81 | | 8.44 | | 9.3 | | 6.71 | |
| | POTASSIUM | 3510 | | 6100 | | 3140 | | 3310 | | 4420 | | 2690 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 1300 | | 1220 | | 961 | | 339 | | 496 | | 283 | |
| | VANADIUM | 16.6 | | 24.3 | | 22.4 | | 23.6 | | 29.4 | | 17.6 | |
| | ZINC | 42.1 | | 64.3 | | 37.7 | | 39.2 | | 46.6 | | 37.4 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Subsurface Soil (continued)*

| Group | Analytes | ARP-94-09C 5 ft (dup) | | ARP-94-10B 3 ft | | ARP-94-10C 5 ft | | ARP-94-11B 3 ft | | ARP-94-11C 5 ft | | ARP-94-12B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 16000 | | 6730 | | 6680 | | 7880 | | 5720 | | 6860 | |
| | ARSENIC | 4.7 | | 4.72 | | 4.09 | | 4.41 | | 5.42 | | 4.97 | |
| | BARIUM | 142 | | 72.8 | | 59.6 | | 76.6 | | 60.2 | | 79.8 | |
| | BERYLLIUM | 0.615 | | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CALCIUM | 29700 | | 20200 | | 31800 | | 17100 | | 14200 | | 19600 | |
| | CHROMIUM | 16 | | 7.9 | | 9.29 | | 10.7 | | 8.26 | | 9.58 | |
| | COBALT | 4.92 | | 3.69 | | 5.34 | | 3.42 | | 2.75 | | 2.94 | |
| | COPPER | 11.3 | | 7.16 | | 7.86 | | 5.27 | | 5.67 | | 5.96 | |
| | IRON | 15800 | | 10700 | | 13000 | | 10200 | | 9350 | | 9590 | |
| | LEAD | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 8.81 | | 7.44 | U |
| | MAGNESIUM | 7340 | | 3330 | | 3520 | | 2710 | | 2800 | | 3390 | |
| | MANGANESE | 301 | | 187 | | 146 | | 150 | | 142 | | 21.9 | U |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.126 | |
| | NICKEL | 8.54 | | 5.98 | | 6.68 | | 5.68 | | 5.54 | | 5.44 | |
| | POTASSIUM | 4270 | | 1520 | | 1310 | | 1950 | | 1460 | | 1710 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 560 | | 96.6 | | 205 | | 215 | | 145 | | 280 | |
| | VANADIUM | 29.9 | | 14.3 | | 15.3 | | 18.6 | | 13.6 | | 15.4 | |
| | ZINC | 42.9 | | 27 | | 31.2 | | 23.8 | | 22.6 | | 20.9 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |

## *Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

### *Subsurface Soil (continued)*

| Group | Analytes | ARP-94-12C 5 ft | | ARP-94-13B 3 ft | | ARP-94-13C 5 ft | | ARP-94-14B 3 ft | | ARP-94-14C 5 ft | | ARP-94-15B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 6340 | | 989 | U | 5640 | | 989 | U | 989 | U | 6760 | |
| | ARSENIC | 7 | | 5.24 | | 6.14 | | 4.08 | | 5.39 | | 6.44 | |
| | BARIUM | 55.8 | | 49.7 | | 53.1 | | 8.86 | U | 8.86 | U | 68.4 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CALCIUM | 18400 | | 30900 | | 18200 | | 6420 | | 276 | U | 42000 | |
| | CHROMIUM | 8.12 | | 6.7 | | 14.3 | | 7.11 | | 6.68 | | 8.78 | |
| | COBALT | 3.26 | | 2.67 | | 3.97 | | 2.92 | | 2.5 | U | 3.51 | |
| | COPPER | 7.25 | | 6.23 | | 5.72 | | 4.23 | | 3.8 | | 6.57 | |
| | IRON | 11000 | | 8940 | | 12200 | | 8780 | | 8000 | | 10800 | |
| | LEAD | 10.6 | | 15.3 | | 7.44 | U | 9.68 | | 7.96 | | 12.6 | |
| | MAGNESIUM | 4670 | | 6690 | | 4310 | | 1820 | | 922 | | 8880 | |
| | MANGANESE | 141 | | 143 | | 135 | | 21.9 | U | 21.9 | U | 163 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 8.04 | | 4.7 | | 5.88 | | 6.04 | | 3.96 | | 7.22 | |
| | POTASSIUM | 1400 | | 198 | U | 198 | U | 198 | U | 198 | U | 1370 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 569 | | 208 | | 860 | | 165 | | 94.7 | | 879 | |
| | VANADIUM | 14 | | 2.51 | U | 26.9 | | 2.51 | U | 13.9 | | 14.1 | |
| | ZINC | 27.2 | | 20.6 | | 26 | | 17.4 | | 3.25 | U | 25.7 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Subsurface Soil (continued)*

| Group | Analytes | ARP-94-15C 5 ft | | ARP-94-16B 3 ft | | ARP-94-16C 5 ft | | ARP-94-17B 3 ft | | ARP-94-17C 5 ft | | ARP-94-18B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 989 | U | 10000 | | 7090 | | 9920 | | 7840 | | 6970 | |
| | ARSENIC | 5.31 | | 6.77 | | 7.73 | | 8.46 | | 6 | | 4.64 | |
| | BARIUM | 57.8 | | 91 | | 116 | | 115 | | 108 | | 66.2 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CALCIUM | 19200 | | 46900 | | 40500 | | 64000 | | 34200 | | 14200 | |
| | CHROMIUM | 10.1 | | 12.6 | | 9.12 | | 12.7 | | 9.76 | | 9.84 | |
| | COBALT | 3.05 | | 3.41 | | 3.44 | | 3.37 | | 2.79 | | 2.9 | |
| | COPPER | 4.98 | | 6.79 | | 8.26 | | 7.06 | | 6.41 | | 5.6 | |
| | IRON | 9990 | | 12400 | | 11700 | | 12700 | | 10100 | | 8540 | |
| | LEAD | 7.44 | U | 9.29 | | 12.8 | | 12 | | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 3580 | | 8500 | | 7350 | | 10500 | | 6730 | | 2380 | |
| | MANGANESE | 135 | | 193 | | 179 | | 198 | | 140 | | 121 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.075 | | 0.094 | | 0.05 | U |
| | NICKEL | 5.44 | | 9.8 | | 7.91 | | 10.2 | | 8.39 | | 5.06 | |
| | POTASSIUM | 198 | U | 2140 | | 1530 | | 2270 | | 1820 | | 1700 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 1080 | | 2080 | | 2080 | | 2190 | | 2310 | | 364 | |
| | VANADIUM | 18.8 | | 21.2 | | 14.5 | | 19.4 | | 13.1 | | 16.5 | |
| | ZINC | 19.5 | | 29 | | 27.6 | | 32.3 | | 21.3 | | 3.25 | U |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Subsurface Soil (continued)*

| Group | Analytes | ARP-94-18C 5 ft | | ARP-94-19B 3 ft | | ARP-94-19C 5 ft | | ARP-94-20B 3 ft | | ARP-94-20C 5 ft | | ARP-94-21B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 10300 | | 13000 | | 10500 | | 7660 | | 9110 | | 8690 | |
| | ARSENIC | 11.1 | | 9.45 | | 9.21 | | 10.1 | | 8.06 | | 3.93 | |
| | BARIUM | 105 | | 116 | | 96 | | 84.9 | | 181 | | 81.4 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CALCIUM | 20800 | | 81000 | | 34300 | | 50800 | | 67000 | | 13800 | |
| | CHROMIUM | 12.6 | | 17.3 | | 13 | | 10.3 | | 11.2 | | 11.2 | |
| | COBALT | 3.71 | | 3.71 | | 4.09 | | 3.46 | | 3.5 | | 3.49 | |
| | COPPER | 7.86 | | 10.4 | | 7.59 | | 6.39 | | 8.41 | | 7.89 | |
| | IRON | 14800 | | 14600 | | 12100 | | 11000 | | 12300 | | 10700 | |
| | LEAD | 12.4 | | 14.7 | | 10.9 | | 9.89 | | 11.7 | | 8.62 | |
| | MAGNESIUM | 4550 | | 10100 | | 6450 | | 5980 | | 10700 | | 4100 | |
| | MANGANESE | 220 | | 254 | | 173 | | 121 | | 178 | | 172 | |
| | MERCURY | 0.069 | | 0.065 | | 0.395 | | 0.05 | U | 0.05 | U | 0.077 | |
| | NICKEL | 12.4 | | 13.7 | | 10.7 | | 9.69 | | 9.34 | | 6.29 | |
| | POTASSIUM | 2080 | | 2940 | | 2240 | | 1510 | | 1800 | | 2640 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 1490 | | 1410 | | 1280 | | 3150 | | 2440 | | 1020 | |
| | VANADIUM | 23.1 | | 23.5 | | 24.3 | | 18.4 | | 17.4 | | 18 | |
| | ZINC | 33.3 | | 48.3 | | 27.9 | | 27.5 | | 28.3 | | 30.2 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Subsurface Soil (continued)*

| Group | Analytes | ARP-94-21C 5 ft | | ARP-94-22B 3 ft | | ARP-94-22C 5 ft | | ARP-94-23B 3 ft | | ARP-94-23C 5 ft | | ARP-94-24B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | UR | 2.5 | UR | 2.5 | UR | 2.5 | UR | 2.5 | UR |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | UR | 2 | UR | 2 | UR | 2 | UR | 2 | UR |
| | HMX | 2 | U | 2 | UR | 2 | UR | 2 | UR | 2 | UR | 2 | UR |
| | RDX | 1.28 | U | 1.28 | UR | 1.28 | UR | 1.28 | UR | 1.28 | UR | 1.28 | UR |
| | TETRYL | 2.11 | U | 2.11 | UR | 2.11 | UR | 2.11 | UR | 2.11 | UR | 2.11 | UR |
| METALS | ALUMINUM | 989 | U | 6210 | | 705 | U | 5660 | | 5250 | | 9630 | |
| | ARSENIC | 4.86 | | 10.6 | | 6.06 | | 4.46 | | 19.2 | | 5.41 | |
| | BARIUM | 45.8 | | 86.4 | | 32.4 | | 49.9 | | 148 | | 73.8 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.61 | |
| | CALCIUM | 6620 | | 15200 | | 17800 | | 11700 | | 45900 | | 26400 | |
| | CHROMIUM | 7.75 | | 9.57 | | 1.18 | U | 8.69 | | 8.57 | | 12.8 | |
| | COBALT | 2.76 | | 3.84 | | 2.5 | U | 2.78 | | 3.85 | | 4.35 | |
| | COPPER | 5.77 | | 9.8 | | 3.58 | | 6.25 | | 6.72 | | 12.2 | |
| | IRON | 9080 | | 11800 | | 5820 | | 8760 | | 12800 | | 16900 | |
| | LEAD | 7.44 | U | 8.61 | | 7.44 | U | 7.44 | U | 8.95 | | 13.6 | |
| | MAGNESIUM | 2390 | | 3560 | | 1700 | | 3010 | | 6340 | | 7680 | |
| | MANGANESE | 119 | | 132 | | 99.9 | | 108 | | 262 | | 163 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.077 | | 0.05 | U | 0.085 | | 0.05 | U |
| | NICKEL | 5.23 | | 10.2 | | 3.12 | J | 4.53 | J | 10.9 | J | 14.1 | J |
| | POTASSIUM | 1120 | | 1280 | | 193 | U | 1410 | | 193 | U | 1690 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 697 | | 1580 | | 432 | | 731 | | 1280 | | 2500 | |
| | VANADIUM | 14.8 | | 18.8 | | 8.89 | | 15 | | 17.7 | | 23.6 | |
| | ZINC | 20.7 | | 25.5 | | 2.72 | U | 19 | | 28.6 | | 36.2 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Subsurface Soil (continued)*

| Group | Analytes | ARP-94-24C 5 ft | | ARP-94-25B 3 ft | | ARP-94-25C 5 ft | | ARP-94-26B 3 ft | | ARP-94-26C 5 ft | | ARP-94-27B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | UR | 2.5 | UR | 2.5 | UR | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | UR | 2 | UR | 2 | UR | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | UR | 2 | UR | 2 | UR | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | UR | 1.28 | UR | 1.28 | UR | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | UR | 2.11 | UR | 2.11 | UR | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 6330 | | 7000 | | 8850 | | 4360 | | 705 | U | 4400 | |
| | ARSENIC | 9.97 | | 4.66 | | 4.68 | | 9.64 | | 6.59 | | 3.98 | |
| | BARIUM | 83.9 | | 78.1 | | 95.5 | | 81.7 | | 63.3 | | 64.1 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.503 | | 0.427 | U | 0.427 | U | 0.427 | U |
| | CALCIUM | 43400 | | 11400 | | 27400 | | 57000 | | 27900 | | 18100 | |
| | CHROMIUM | 9.81 | | 8.89 | | 10.7 | | 6.66 | | 7.89 | | 5.99 | |
| | COBALT | 4.09 | | 2.88 | | 4.1 | | 3.16 | | 2.95 | | 2.5 | U |
| | COPPER | 10.1 | | 13 | | 12 | | 6.29 | | 4.59 | | 5.12 | |
| | IRON | 14800 | | 11000 | | 12900 | | 10700 | | 8110 | | 7950 | |
| | LEAD | 13 | | 10.5 | | 11.7 | | 11.1 | | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 7770 | | 4510 | | 5250 | | 10600 | | 3120 | | 2660 | |
| | MANGANESE | 135 | | 245 | | 223 | | 183 | | 89 | | 146 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.064 | | 0.05 | U | 0.05 | U |
| | NICKEL | 8.78 | J | 6.6 | J | 8.55 | J | 8.33 | J | 4.31 | J | 4.41 | J |
| | POTASSIUM | 1150 | | 2540 | | 2720 | | 193 | U | 193 | U | 1440 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 1990 | | 138 | | 129 | | 1390 | | 1010 | | 103 | |
| | VANADIUM | 19.6 | | 13.6 | | 17.1 | | 13.7 | | 19.7 | | 9.53 | |
| | ZINC | 34 | | 36.8 | | 36.8 | | 27.1 | | 16.7 | | 20.6 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Subsurface Soil (continued)*

| Group | Analytes | ARP-94-27C 5 ft | | ARP-94-28B 3 ft | | ARP-94-28C 5 ft | | ARP-94-29B 3 ft | | ARP-94-29B 3 ft (dup) | | ARP-94-29C 5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 5160 | | 9610 | | 10800 | | 8980 | | 9610 | | 3770 | |
| | ARSENIC | 3.87 | | 5.07 | | 4.27 | | 4.28 | | 4.08 | | 5.06 | |
| | BARIUM | 51.9 | | 89.1 | | 98.6 | | 90.9 | | 87.4 | | 36.4 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CALCIUM | 11000 | | 7860 | | 17400 | | 25900 | | 24500 | | 11200 | |
| | CHROMIUM | 8.77 | | 12.7 | | 13.4 | | 10.9 | | 11.6 | | 1.18 | U |
| | COBALT | 3.11 | | 3.7 | | 3.6 | | 3.84 | | 3.45 | | 2.5 | U |
| | COPPER | 5.59 | | 14.8 | | 8.43 | | 8.01 | | 7.45 | | 4.6 | |
| | IRON | 8850 | | 12600 | | 12300 | | 11800 | | 11300 | | 6150 | |
| | LEAD | 7.44 | U | 14.1 | | 8.02 | | 7.44 | U | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 2210 | | 4470 | | 4750 | | 5050 | | 4630 | | 2410 | |
| | MANGANESE | 124 | | 260 | | 208 | | 207 | | 179 | | 15.2 | U |
| | MERCURY | 0.09 | | 0.05 | U | 0.072 | | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 4.53 | J | 8.02 | J | 7.2 | J | 8.7 | J | 8.04 | J | 3.76 | J |
| | POTASSIUM | 1250 | | 2920 | | 3300 | | 2810 | | 2890 | | 1030 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 142 | | 172 | | 235 | | 316 | | 349 | | 292 | |
| | VANADIUM | 14.6 | | 18.2 | | 20.8 | | 16.9 | | 18 | | 9.58 | |
| | ZINC | 20.1 | | 37.1 | | 35.3 | | 30.5 | | 27 | | 2.72 | U |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Subsurface Soil (continued)*

| Group | Analytes | ARP-94-29C 5 ft (dup) | | ARP-94-30B 3 ft | | ARP-94-30C 5 ft | | ARP-94-31B 3 ft | | ARP-94-31C 5 ft | | ARP-94-32B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 5730 | | 10500 | | 9920 | | 4890 | | 705 | U | 6830 | |
| | ARSENIC | 4.79 | | 4.52 | | 10.5 | | 8.11 | | 4.27 | | 3.45 | J |
| | BARIUM | 45.5 | | 84.3 | | 113 | | 128 | | 5.7 | U | 72.8 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CALCIUM | 10700 | | 8660 | | 60000 | | 34600 | | 24300 | | 14900 | |
| | CHROMIUM | 8.19 | | 14.7 | | 12.6 | | 7.59 | | 9.94 | | 9.91 | |
| | COBALT | 2.5 | U | 3.94 | | 3.72 | | 4.23 | | 2.5 | U | 2.72 | |
| | COPPER | 7.36 | | 8.3 | | 6.33 | | 7.73 | | 4.74 | | 4.92 | |
| | IRON | 9060 | | 13300 | | 12000 | | 11800 | | 8850 | | 9650 | |
| | LEAD | 7.44 | U | 7.44 | U | 11 | | 10.7 | | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 2970 | | 4170 | | 6780 | | 6790 | | 3770 | | 2830 | |
| | MANGANESE | 88.3 | | 182 | | 112 | | 181 | | 96.4 | | 160 | |
| | MERCURY | 0.05 | U | 0.063 | | 0.058 | | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 3.87 | J | 8.97 | J | 8.04 | J | 8.8 | J | 4.74 | J | 5.39 | |
| | POTASSIUM | 1420 | | 2950 | | 2350 | | 972 | | 193 | U | 1780 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 379 | | 462 | | 1250 | | 2840 | | 682 | | 142 | |
| | VANADIUM | 15.1 | | 21.3 | | 18.7 | | 11.3 | | 15.5 | | 16.4 | |
| | ZINC | 20.1 | | 31.7 | | 27.5 | | 28.2 | | 16.2 | | 25.4 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Subsurface Soil (continued)*

| Group | Analytes | ARP-94-32C 5 ft | | ARP-94-33B 3 ft | | ARP-94-33C 5 ft | | ARP-94-34B 3 ft | | ARP-94-34C 5 ft | | ARP-94-35B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 4950 | | 8370 | | 5010 | | 968 | U | 7150 | | 5050 | |
| | ARSENIC | 2.93 | J | 6.02 | J | 6.33 | J | 3.67 | J | 5.78 | J | 4.63 | J |
| | BARIUM | 9.56 | U | 72.8 | | 9.56 | U | 61.1 | | 9.56 | U | 65.5 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CALCIUM | 4740 | | 19000 | | 23000 | | 11700 | | 7570 | | 21900 | |
| | CHROMIUM | 10.5 | | 12.2 | | 10.5 | | 8.22 | | 13.8 | | 6.99 | |
| | COBALT | 2.85 | | 3.94 | | 3.31 | | 3.21 | | 4.12 | | 2.79 | |
| | COPPER | 4.51 | | 6.55 | | 4.79 | | 5.45 | | 5.04 | | 4.47 | |
| | IRON | 9120 | | 12100 | | 10400 | | 9300 | | 12100 | | 8710 | |
| | LEAD | 7.44 | U | 11.1 | | 7.44 | U | 7.44 | U | 8.95 | | 7.44 | U |
| | MAGNESIUM | 1720 | | 5270 | | 4580 | | 2470 | | 2790 | | 3200 | |
| | MANGANESE | 149 | | 150 | | 118 | | 133 | | 135 | | 132 | |
| | MERCURY | 0.05 | U | 0.07 | | 0.05 | U | 0.05 | U | 0.063 | | 0.05 | U |
| | NICKEL | 4.32 | | 8.48 | | 5.76 | | 4.84 | | 6.39 | | 4.06 | |
| | POTASSIUM | 1060 | | 2040 | | 1150 | | 1280 | | 1460 | | 1410 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 84.4 | | 878 | | 789 | | 151 | | 299 | | 109 | |
| | VANADIUM | 2.99 | U | 19.3 | | 19.1 | | 2.99 | U | 23.6 | | 2.99 | U |
| | ZINC | 19.9 | | 25 | | 20.7 | | 20.3 | | 23.6 | | 20.2 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Subsurface Soil (continued)*

| Group | Analytes | ARP-94-35C 5 ft | | ARP-94-36B 3 ft | | ARP-94-36C 5 ft | | ARP-94-37B 3 ft | | ARP-94-37C 5 ft | | ARP-94-38B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 5720 | | 968 | U | 968 | U | 6060 | | 968 | U | 968 | U |
| | ARSENIC | 3.89 | J | 5.45 | J | 10 | J | 12.3 | J | 11.2 | J | 7.3 | J |
| | BARIUM | 71.1 | | 61.3 | | 56.4 | | 91.7 | | 56.9 | | 61 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CALCIUM | 13800 | | 28300 | | 26600 | | 21700 | | 27300 | | 25200 | |
| | CHROMIUM | 8.59 | | 6.84 | | 6.85 | | 8.64 | | 6.16 | | 4.72 | |
| | COBALT | 3.02 | | 3.82 | | 3.44 | | 3.95 | | 4.03 | | 3.11 | |
| | COPPER | 4.71 | | 6.14 | | 11.8 | | 6.3 | | 6.62 | | 4.53 | |
| | IRON | 9520 | | 10200 | | 10500 | | 11700 | | 10400 | | 7230 | |
| | LEAD | 7.44 | U | 8.57 | | 11.4 | | 7.44 | U | 10.8 | | 7.44 | U |
| | MAGNESIUM | 2820 | | 6100 | | 4850 | | 5440 | | 4700 | | 4240 | |
| | MANGANESE | 131 | | 163 | | 109 | | 159 | | 112 | | 132 | |
| | MERCURY | 0.078 | | 0.061 | J | 0.168 | J | 0.05 | U | 0.085 | J | 0.059 | J |
| | NICKEL | 3.72 | | 7.94 | | 8.65 | | 8.14 | | 7.78 | | 3.9 | |
| | POTASSIUM | 1530 | | 785 | | 155 | U | 1380 | | 155 | U | 155 | U |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 158 | | 484 | | 557 | | 133 | | 67.3 | | 317 | |
| | VANADIUM | 2.99 | U | 2.99 | U | 2.99 | U | 18.5 | | 2.99 | U | 2.99 | U |
| | ZINC | 21.9 | | 24 | | 29.5 | | 22.9 | | 25.1 | | 3.53 | U |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Subsurface Soil (continued)*

| Group | Analytes | ARP-94-38C 5 ft | | ARP-94-39B 3 ft | | ARP-94-39C 5 ft | | ARP-94-40B 3 ft | | ARP-94-40C 5 ft | | ARP-94-41B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 968 | U | 968 | U | 968 | U | 968 | U | 968 | U | 968 | U |
| | ARSENIC | 9.69 | J | 3.33 | J | 5.06 | J | 3.83 | J | 3.91 | J | 4.58 | J |
| | BARIUM | 77.5 | | 9.56 | U | 9.56 | U | 49 | | 50.7 | | 9.56 | U |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CALCIUM | 37300 | | 13200 | | 18900 | | 8640 | | 18400 | | 20300 | |
| | CHROMIUM | 7.05 | | 5.6 | | 2.67 | | 5.75 | | 5.26 | | 4.81 | |
| | COBALT | 3.87 | | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | COPPER | 6.07 | | 3.56 | | 4.75 | | 4.53 | | 4.53 | | 7.28 | |
| | IRON | 9680 | | 1410 | U | 1410 | U | 1410 | U | 8440 | | 8370 | |
| | LEAD | 7.98 | | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 5530 | | 1850 | | 1730 | | 2340 | | 2600 | | 3370 | |
| | MANGANESE | 151 | | 21.8 | U | 111 | | 21.8 | U | 21.8 | U | 114 | |
| | MERCURY | 0.061 | J | 0.05 | U | 0.084 | J | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 6.21 | | 2.74 | U | 3.79 | | 3.26 | | 4.19 | | 3.95 | |
| | POTASSIUM | 155 | U | 155 | U | 155 | U | 974 | | 892 | | 818 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 153 | | 279 | | 298 | | 231 | | 387 | | 643 | |
| | VANADIUM | 2.99 | U | 2.99 | U | 2.99 | U | 2.99 | U | 2.99 | U | 2.99 | U |
| | ZINC | 23.1 | | 3.53 | U | 3.53 | U | 3.53 | U | 19.1 | | 18.9 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |

## *Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

### *Subsurface Soil (continued)*

| Group | Analytes | ARP-94-41C 5 ft | | ARP-94-42B 3 ft | | ARP-94-42C 5 ft | | ARP-94-43B 3 ft | | ARP-94-43C 5 ft | | ARP-94-44B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 968 | U | 968 | U | 968 | U | 968 | U | 968 | U | 11300 | |
| | ARSENIC | 6.07 | J | 5.48 | J | 4.75 | J | 10.6 | J | 2.66 | J | 5.71 | J |
| | BARIUM | 9.56 | U | 9.56 | U | 9.56 | U | 9.56 | U | 9.56 | U | 143 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.628 | |
| | CALCIUM | 6830 | | 12500 | | 18800 | | 28700 | | 28200 | | 44400 | |
| | CHROMIUM | 6.45 | | 4.27 | | 4.01 | | 3 | | 3.07 | | 11.6 | |
| | COBALT | 2.85 | | 2.5 | U | 2.9 | | 2.5 | U | 2.5 | U | 6.03 | |
| | COPPER | 5.99 | | 4.27 | | 3.86 | | 3.83 | | 4.24 | | 9.51 | |
| | IRON | 9080 | | 1410 | U | 1410 | U | 7730 | | 7520 | | 15400 | |
| | LEAD | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 15 | |
| | MAGNESIUM | 2050 | | 1660 | | 2000 | | 3110 | | 3650 | | 6840 | |
| | MANGANESE | 21.8 | U | 21.8 | U | 21.8 | U | 21.8 | U | 21.8 | U | 244 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.059 | J | 0.05 | U | 0.054 | J | 0.058 | J |
| | NICKEL | 4.41 | | 2.74 | U | 5.59 | | 4.95 | | 4.07 | | 10.7 | |
| | POTASSIUM | 985 | | 155 | U | 155 | U | 155 | U | 155 | U | 3430 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 730 | | 95.7 | | 116 | | 156 | | 218 | | 1790 | |
| | VANADIUM | 2.99 | U | 2.99 | U | 2.99 | U | 2.99 | U | 2.99 | U | 19.1 | |
| | ZINC | 19.3 | | 3.53 | U | 3.53 | U | 3.53 | U | 3.53 | U | 37.9 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Subsurface Soil (continued)*

| Group | Analytes | ARP-94-44C 5 ft | | ARP-94-45B 3 ft | | ARP-94-45C 5 ft | | ARP-94-46B 3 ft | | ARP-94-46C 5 ft | | ARP-94-47B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.42 | | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 7810 | | 8970 | | 1060 | U | 1060 | U | 1060 | U | 1060 | U |
| | ARSENIC | 4.45 | J | 10.4 | | 19.5 | | 3.52 | | 3.03 | | 2.87 | |
| | BARIUM | 79.6 | | 92.3 | | 10 | U | 10 | U | 51 | | 10 | U |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CALCIUM | 21900 | | 27900 | | 32900 | | 12000 | | 32400 | | 13800 | |
| | CHROMIUM | 9.7 | | 9.87 | | 1.63 | U | 1.63 | U | 1.63 | U | 1.63 | U |
| | COBALT | 3.63 | | 3.62 | | 7.11 | | 3.55 | | 3.07 | | 2.77 | |
| | COPPER | 8.01 | | 7.45 | | 12.6 | | 5.54 | | 4.32 | | 4.06 | |
| | IRON | 12600 | | 12700 | | 22700 | | 1630 | U | 1630 | U | 1630 | U |
| | LEAD | 7.44 | U | 7.44 | U | 15.1 | | 7.44 | U | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 4300 | | 5160 | | 5600 | | 1900 | | 4290 | | 2580 | |
| | MANGANESE | 187 | | 173 | | 26.7 | U | 26.7 | U | 26.7 | U | 26.7 | U |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.06 | J | 0.05 | U |
| | NICKEL | 7.52 | | 7.88 | | 9.75 | | 4.95 | | 4.43 | | 3.68 | |
| | POTASSIUM | 2310 | | 2850 | | 269 | U | 269 | U | 269 | U | 269 | U |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 680 | | 413 | | 312 | | 388 | | 280 | | 265 | |
| | VANADIUM | 15.8 | | 16.5 | | 3.29 | U | 16.5 | | 3.29 | U | 3.29 | U |
| | ZINC | 25.4 | | 32.7 | | 24.1 | | 4.59 | U | 4.59 | U | 4.59 | U |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |

## *Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

### *Subsurface Soil (continued)*

| Group | Analytes | ARP-94-47C 5 ft | | ARP-94-48B 3 ft | | ARP-94-48C 5 ft | | ARP-94-49B 3 ft | | ARP-94-49B 3 ft (dup) | | ARP-94-49C 5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.69 | | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 1060 | U | 5320 | | 1060 | U | 1060 | U | 1060 | U | 1060 | U |
| | ARSENIC | 4.25 | | 3.75 | | 3.65 | | 15.9 | | 8.8 | | 6.74 | |
| | BARIUM | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CALCIUM | 13800 | | 7820 | | 12300 | | 34700 | | 28300 | | 45300 | |
| | CHROMIUM | 8.46 | | 8.71 | | 1.63 | U | 1.63 | U | 8.89 | | 1.63 | U |
| | COBALT | 3.57 | | 2.93 | | 2.81 | | 4.05 | | 4.06 | | 2.5 | U |
| | COPPER | 4.7 | | 4.85 | | 4.85 | | 5.26 | | 6.97 | | 2.84 | U |
| | IRON | 1630 | U | 1630 | U | 1630 | U | 13500 | | 15300 | | 1630 | U |
| | LEAD | 7.44 | U | 7.44 | U | 7.44 | U | 12.4 | | 9.48 | | 7.44 | U |
| | MAGNESIUM | 2510 | | 2080 | | 2130 | | 7340 | | 3810 | | 4470 | |
| | MANGANESE | 26.7 | U | 26.7 | U | 26.7 | U | 26.7 | U | 26.7 | U | 26.7 | U |
| | MERCURY | 0.058 | J | 0.057 | J | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 3.68 | | 5.21 | | 3.67 | | 6.06 | | 7.59 | | 2.74 | U |
| | POTASSIUM | 1380 | | 1490 | | 269 | U | 269 | U | 269 | U | 269 | U |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 392 | | 375 | | 469 | | 116 | | 159 | | 99.6 | |
| | VANADIUM | 17 | | 3.29 | U | 3.29 | U | 3.29 | U | 3.29 | U | 3.29 | U |
| | ZINC | 4.59 | U | 4.59 | U | 4.59 | U | 4.59 | U | 4.59 | U | 4.59 | U |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Subsurface Soil (continued)*

| Group | Analytes | ARP-94-49C 5 ft (dup) | | ARP-94-50B 3 ft | | ARP-94-50C 5 ft | | ARP-94-51B 3 ft | | ARP-94-51C 5 ft | | ARP-94-52B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.72 | |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 1060 | U | 1060 | U | 1060 | U | 1060 | U | 1060 | U | 9910 | |
| | ARSENIC | 3.72 | | 2.5 | U | 2.5 | U | 3.75 | | 8.09 | | 3.79 | |
| | BARIUM | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 88.1 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CALCIUM | 36300 | | 36000 | | 47800 | | 34200 | | 46100 | | 17400 | |
| | CHROMIUM | 1.63 | U | 1.63 | U | 1.63 | U | 1.63 | U | 1.63 | U | 11.4 | |
| | COBALT | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 3.76 | |
| | COPPER | 3.37 | | 4.31 | | 3.59 | | 16.5 | | 3.7 | | 9.18 | |
| | IRON | 1630 | U | 1630 | U | 1630 | U | 9020 | | 1630 | U | 11600 | |
| | LEAD | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 3690 | | 1700 | | 2840 | | 4160 | | 2730 | | 4700 | |
| | MANGANESE | 26.7 | U | 26.7 | U | 26.7 | U | 26.7 | U | 26.7 | U | 197 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.052 | J |
| | NICKEL | 3.39 | | 4.09 | | 3.93 | | 6.94 | | 4.79 | | 7.17 | |
| | POTASSIUM | 269 | U | 269 | U | 269 | U | 269 | U | 269 | U | 3200 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 131 | | 217 | | 158 | | 75.3 | | 96.1 | | 544 | |
| | VANADIUM | 3.29 | U | 3.29 | U | 3.29 | U | 3.29 | U | 3.29 | U | 18.5 | |
| | ZINC | 4.59 | U | 4.59 | U | 4.59 | U | 4.59 | U | 4.59 | U | 33.2 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Subsurface Soil (continued)*

| Group | Analytes | ARP-94-52C 5 ft | | ARP-94-53B 3 ft | | ARP-94-53C 5 ft | | ARP-94-54B 3 ft | | ARP-94-54C 5 ft | | ARP-94-55B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 7260 | | 1060 | U | 5440 | | 5740 | | 1060 | U | 7250 | |
| | ARSENIC | 3.93 | | 3.61 | | 3.44 | | 5.9 | | 3.5 | | 3.3 | |
| | BARIUM | 68.6 | | 10 | U | 10 | U | 60.8 | | 10 | U | 73.2 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CALCIUM | 13100 | | 8720 | | 15800 | | 34600 | | 37400 | | 17400 | |
| | CHROMIUM | 9.53 | | 1.63 | U | 8.19 | | 1.63 | U | 1.63 | U | 8.87 | |
| | COBALT | 3.35 | | 2.5 | U | 2.5 | U | 4.37 | | 4.2 | | 2.81 | |
| | COPPER | 9.7 | | 5.73 | | 5.04 | | 6.58 | | 7.81 | | 5.75 | |
| | IRON | 9940 | | 1630 | U | 9550 | | 12500 | | 11100 | | 9610 | |
| | LEAD | 8.2 | | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 3580 | | 1850 | | 3100 | | 4650 | | 3510 | | 3160 | |
| | MANGANESE | 150 | | 26.7 | U | 26.7 | U | 138 | | 26.7 | U | 149 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 5.89 | | 4.3 | | 5.36 | | 9.06 | | 7.12 | | 5.11 | |
| | POTASSIUM | 2160 | | 269 | U | 269 | U | 1530 | | 269 | U | 2000 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 621 | | 168 | | 399 | | 251 | | 123 | | 175 | |
| | VANADIUM | 18.5 | | 3.29 | U | 3.29 | U | 3.29 | U | 3.29 | U | 3.29 | U |
| | ZINC | 24.2 | | 4.59 | U | 4.59 | U | 27 | | 4.59 | U | 25.4 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Subsurface Soil (continued)*

| Group | Analytes | ARP-94-55C 5 ft | | ARP-94-56B 3 ft | | ARP-94-56C 5 ft | | ARP-94-57B 3 ft | | ARP-94-57C 5 ft | | ARP-94-58B 3 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | NA | |
| EXPLOSIVES | 2,4-DINITROTOLUENE | NA | | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | NA | | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | NA | | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | NA | | 3.03 | | 2.09 | | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | NA | | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 7060 | | 1060 | U | 1060 | U | 6680 | | 5500 | | 7350 | |
| | ARSENIC | 4.73 | | 3.46 | | 4.4 | | 3.72 | | 3.48 | | 4.99 | |
| | BARIUM | 71.4 | | 10 | U | 10 | U | 70.2 | | 54.7 | | 84.4 | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U |
| | CALCIUM | 16900 | | 18000 | | 18300 | | 17900 | | 7480 | | 33100 | |
| | CHROMIUM | 9.04 | | 1.63 | U | 10.3 | | 7.83 | | 9.89 | | 8.47 | |
| | COBALT | 2.93 | | 2.94 | | 2.8 | | 2.78 | | 3.38 | | 2.5 | U |
| | COPPER | 6.14 | | 4.86 | | 4.38 | | 4.56 | | 6.64 | | 6.91 | |
| | IRON | 9760 | | 1630 | U | 9930 | | 8940 | | 9870 | | 9880 | |
| | LEAD | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U |
| | MAGNESIUM | 3500 | | 2790 | | 2500 | | 3230 | | 2550 | | 4280 | |
| | MANGANESE | 149 | | 26.7 | U | 26.7 | U | 151 | | 128 | | 159 | |
| | MERCURY | 0.05 | U | 0.05 | U | 0.082 | J | 0.05 | U | 0.05 | U | 0.05 | U |
| | NICKEL | 6.07 | | 4.62 | | 5.57 | | 4.63 | | 5.29 | | 4.94 | |
| | POTASSIUM | 1970 | | 269 | U | 269 | U | 1790 | | 302 | U | 1990 | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U |
| | SODIUM | 178 | | 179 | | 84.1 | | 159 | | 241 | | 175 | |
| | VANADIUM | 3.29 | U | 3.29 | U | 20.3 | | 3.56 | UJ | 22.6 | UJ | 3.56 | UJ |
| | ZINC | 25.2 | | 4.59 | U | 4.59 | U | 22.9 | | 21.2 | | 26.7 | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Subsurface Soil (continued)*

| Group | Analytes | ARP-94-58C 5 ft | | ARP-94-59B 3 ft | | ARP-94-59C 5 ft | | ARP-94-60B 3 ft | | ARP-94-60C 5 ft | | ARB-95-01B 2 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | NA | | NA | | NA | | NA | | NA | | 1 | U |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | 1100 | U | 6230 | | 1100 | U | 9930 | | 1100 | U | NA | |
| | ARSENIC | 29.3 | | 4.68 | | 4.87 | | 13.3 | | 4.38 | | NA | |
| | BARIUM | 10.1 | U | 62.1 | | 10.1 | U | 144 | | 10.1 | U | NA | |
| | BERYLLIUM | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | 0.427 | U | NA | |
| | CALCIUM | 52700 | | 12100 | | 8980 | | 93000 | | 17300 | | NA | |
| | CHROMIUM | 6.78 | | 10.2 | | 1.16 | U | 11.5 | | 5.96 | | NA | |
| | COBALT | 3.36 | | 3.35 | | 2.5 | U | 5.98 | | 2.5 | U | NA | |
| | COPPER | 5.48 | | 5.4 | | 2.84 | U | 7.96 | | 3.66 | | NA | |
| | IRON | 9920 | | 9310 | | 1490 | U | 14100 | | 1490 | U | NA | |
| | LEAD | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | 7.44 | U | NA | |
| | MAGNESIUM | 5770 | | 2100 | | 1810 | | 8790 | | 4700 | | NA | |
| | MANGANESE | 25.4 | U | 25.4 | U | 25.4 | U | 206 | | 25.4 | U | NA | |
| | MERCURY | 0.072 | J | 0.05 | U | 0.106 | J | 0.074 | J | 0.05 | U | NA | |
| | NICKEL | 6.12 | | 4.18 | | 2.74 | U | 10.8 | | 3.4 | | NA | |
| | POTASSIUM | 302 | U | 1560 | | 302 | U | 2450 | | 302 | U | NA | |
| | SILVER | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | 0.803 | U | NA | |
| | SODIUM | 200 | | 194 | | 247 | | 2450 | | 725 | | NA | |
| | VANADIUM | 3.56 | UJ | 18.3 | J | 3.56 | UJ | 18.6 | J | 3.56 | UJ | NA | |
| | ZINC | 20.1 | | 3.92 | U | 3.92 | U | 28.7 | | 3.92 | U | NA | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | 1.4 | U |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | | 0.32 | U |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Subsurface Soil (continued)*

| Group | Analytes | ARB-95-02B 2 ft | | ARB-95-03B 2 ft | | ARB-95-04B 1 ft | | ARB-95-05B 2 ft | | ARP-95-01B 3 ft | | ARP-95-01C 5 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | 1 | U | 1 | U | 1 | U | 1 | U | 0.922 | U | 0.922 | U |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2 | U | 2 | U |
| | 2,4,6-TRINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2.5 | U | 2.5 | U |
| | HMX | 2 | U | 2 | U | 2 | U | 2 | U | NA | | NA | |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ARSENIC | NA | | NA | | NA | | NA | | NA | | NA | |
| | BARIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | BERYLLIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | CALCIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | CHROMIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | COBALT | NA | | NA | | NA | | NA | | NA | | NA | |
| | COPPER | NA | | NA | | NA | | NA | | NA | | NA | |
| | IRON | NA | | NA | | NA | | NA | | NA | | NA | |
| | LEAD | NA | | NA | | NA | | NA | | NA | | NA | |
| | MAGNESIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | MANGANESE | NA | | NA | | NA | | NA | | NA | | NA | |
| | MERCURY | NA | | NA | | NA | | NA | | NA | | NA | |
| | NICKEL | NA | | NA | | NA | | NA | | NA | | NA | |
| | POTASSIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | SILVER | NA | | NA | | NA | | NA | | NA | | NA | |
| | SODIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | VANADIUM | NA | | NA | | NA | | NA | | NA | | NA | |
| | ZINC | NA | | NA | | NA | | NA | | NA | | NA | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | NA | | NA | |
| | 2,6-DINITROTOLUENE | 0.32 | U | 0.32 | U | 0.32 | U | 0.32 | U | NA | | NA | |

*Summary of Analytes Detected in Soil for the AED Test Range (SWMU 40)*

*Subsurface Soil (continued)*

| Group | Analytes | ARP-95-02B 3 ft | | ARP-95-02C 5 ft | | ARP-95-03B 3 ft | | ARP-95-03C 5 ft | | ARP-95-03C 5 ft (dup) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIONS | NITRATE | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U | 0.922 | U |
| EXPLOSIVES | 2,4-DINITROTOLUENE | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| | 2,4,6-TRINITROTOLUENE | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| | HMX | NA | | NA | | NA | | NA | | NA | |
| | RDX | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U | 1.28 | U |
| | TETRYL | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U | 2.11 | U |
| METALS | ALUMINUM | NA | | NA | | NA | | NA | | NA | |
| | ARSENIC | NA | | NA | | NA | | NA | | NA | |
| | BARIUM | NA | | NA | | NA | | NA | | NA | |
| | BERYLLIUM | NA | | NA | | NA | | NA | | NA | |
| | CALCIUM | NA | | NA | | NA | | NA | | NA | |
| | CHROMIUM | NA | | NA | | NA | | NA | | NA | |
| | COBALT | NA | | NA | | NA | | NA | | NA | |
| | COPPER | NA | | NA | | NA | | NA | | NA | |
| | IRON | NA | | NA | | NA | | NA | | NA | |
| | LEAD | NA | | NA | | NA | | NA | | NA | |
| | MAGNESIUM | NA | | NA | | NA | | NA | | NA | |
| | MANGANESE | NA | | NA | | NA | | NA | | NA | |
| | MERCURY | NA | | NA | | NA | | NA | | NA | |
| | NICKEL | NA | | NA | | NA | | NA | | NA | |
| | POTASSIUM | NA | | NA | | NA | | NA | | NA | |
| | SILVER | NA | | NA | | NA | | NA | | NA | |
| | SODIUM | NA | | NA | | NA | | NA | | NA | |
| | VANADIUM | NA | | NA | | NA | | NA | | NA | |
| | ZINC | NA | | NA | | NA | | NA | | NA | |
| SEMIVOLATILES | 2,4-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | |
| | 2,6-DINITROTOLUENE | NA | | NA | | NA | | NA | | NA | |

All values are in µg/g (equal to ppm)
NA = Not analyzed
U = Not detected; value is the Certified Reporting Limit.
Dup = Duplicate analysis
J = Value is estimated
R = Data rejected