**DOE Oversight Bureau, New Mexico Environment Department**

# Groundwater Monitoring at Sandia National Laboratories/New Mexico Technical Area-V Groundwater Area of Concern

**Conducted by the**
**New Mexico Environment Department DOE Oversight Bureau**
**for FFY 2017 Q-2**

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**Final Report**

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The purpose of this communication is to transmit groundwater quality data collected by New Mexico Environment Department DOE Oversight Bureau from Technical Area-V Groundwater Area of Concern monitoring wells during the second quarter of Federal Fiscal Year 2017.

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## ***Introduction***

The New Mexico Environment Department (NMED) DOE Oversight Bureau (DOE-OB or Bureau) has compiled and assessed groundwater data collected during February and March 2017. The Bureau collected groundwater samples from Technical Area-V (TAV) Groundwater Area of Concern (AOC) monitoring wells LWDS-MW1, TAV-MW10, TAV-MW12, TAV-MW14 (plus duplicate), TAV-MW15 and TAV-MW16. Split samples were collected using standard Sandia National Laboratories/New Mexico (SNL/NM) sampling procedures and equipment. This was the first set of samples collected from monitoring wells TAV-MW15 and TAV-MW16 since they were installed. Samples from TAV-MW15 and TAV-MW16 wells were analyzed for metals, anions, alkalinity, nitrate-nitrite as nitrogen (N), volatile organic compounds (VOCs) and radionuclides. Samples collected from LWDS-MW1, TAV-MW10, TAV-MW12, and TAV-MW14 wells were analyzed for nitrate-nitrite as N and VOCs only. The Bureau used ALS Environmental Laboratory located in Fort Collins, Colorado to analyze and report data results from samples collected at TAV AOC. ALS Environmental is an independent analytical laboratory under contract with the NMED.

Nitrate levels exceeded the U.S. Environmental Protection Agency (EPA) maximum contaminant level (MCL), or drinking water standard of 10 mg/L at monitoring wells LWDS-MW1 and TAV-MW10. Trichloroethene (TCE) concentrations also exceeded the EPA MCL of 5 µg/L at monitoring wells LWDS-MW1, TAV-MW10 and TAV-MW12.

## ***Data Assessment***

All groundwater samples were collected and analyzed in accordance with U.S. EPA protocols. Data results are compared to applicable MCLs established by the U.S. EPA National Primary Drinking Water Regulations (40 CFR 141), National Primary Drinking Water Standards, EPA, July 2002.

## ***Results***

Analytical results for total (unfiltered) and dissolved (filtered) target analyte list (TAL) metals plus uranium are presented in Table-1 and Table-2, respectively. All metal concentrations were below established MCLs.

Analytical results for anions (bromide, chloride, fluoride and sulfate), alkalinity, nitrate-nitrite as N are summarized in Table-3. All anions were below MCLs. Nitrate levels exceeded the EPA MCL of 10 mg/L at monitoring wells LWDS-MW1 (12 mg/L) and TAV-MW10 (12.2 mg/L). All other samples analyzed for nitrates were detected below the EPA MCL.

VOCs detected at concentrations above the method detection limits (MDLs) are listed in Table-4. Compounds detected above the laboratory MDLs include dichloroethene [cis-, 2-] and TCE. No VOCs were detected above their

associated MCL, except for TCE. TCE was detected above the EPA MCL of 5 µg/L at TAV monitoring wells LWDS-MW1 (19 µg/L), TAV-MW10 (11 µg/L) and TAV-MW12 (6.6 µg/L). Table-5 summarizes the laboratory MDLs for the remaining VOCs analyzed from samples collected at TAV.

Analytical results for radionuclides are presented in Table-6 and used to screen for potential radiological contamination. Samples were analyzed for gross alpha, gross beta, gamma emitting isotopes and tritium. All radionuclide results were below established EPA MCLs.

## ***Conclusion***

The DOE-OB collected split samples from a total of six (6) TAV groundwater monitoring wells during the second quarter of FFY 2017. Samples were analyzed by ALS Environmental for metals, anions, nitrates, VOCs and radionuclides. Nitrate concentrations exceeded the EPA MCL of 10 mg/L in samples collected from monitoring wells LWDS-MW1 and TAV-MW10. TCE concentrations also exceeded the EPA MCL of 5 µg/L at monitoring wells LWDS-MW1, TAV-MW10 and TAV-MW12.

Both nitrate and TCE have been identified as contaminants of concern at TAV. Historically, nitrate and TCE have been detected above the EPA drinking water standards in several wells and the Bureau's results for this reporting period are consistent with past results.

The DOE-OB will continue to collect split samples with SNL/NM from TAV groundwater monitoring wells and continue to independently monitor TAV wells for contaminants of concern.

**Table-1 New Mexico Environment Department DOE Oversight Bureau FFY 2017 Q-2 Technical Area-V Groundwater Quality Results: Total Target Analyte List Metals plus Uranium**

| Monitoring Well/ Sample Date | Analyte | Result (mg/L) | EPA MCL (mg/L) | Laboratory Detection Limit (mg/L) | MDL (mg/L) | Laboratory Qualifier | Analytical Method |
|---|---|---|---|---|---|---|---|
| **TAV-MW15** 15-Feb-17 | Aluminum | 0.081 | NE | 0.1 | 0.014 | J | SW-846:6020 |
| | Antimony | 0.000084 | 0.006 | 0.001 | 8E-05 | U | SW-846:6020 |
| | Arsenic | 0.00018 | 0.01 | 0.002 | 0.0002 | U | SW-846:6020 |
| | Barium | 0.086 | 2 | 0.005 | 0.0002 | | SW-846:6020 |
| | Beryllium | 0.00034 | 0.004 | 0.0005 | 0.0003 | J | SW-846:6020 |
| | Cadmium | 0.000099 | 0.005 | 0.002 | 1E-04 | U | SW-846:6020 |
| | Calcium | 71 | NE | 1 | 0.061 | | SW-846:6020 |
| | Chromium | 0.0011 | 0.1 | 0.01 | 0.0011 | U | SW-846:6020 |
| | Cobalt | 0.00085 | NE | 0.005 | 7E-05 | J | SW-846:6020 |
| | Copper | 0.0011 | NE | 0.02 | 0.0011 | U | SW-846:6020 |
| | Iron | 0.19 | NE | 0.1 | 0.0053 | | SW-846:6020 |
| | Lead | 0.00016 | NE | 0.002 | 0.0002 | U | SW-846:6020 |
| | Magnesium | 24 | NE | 0.1 | 0.02 | | SW-846:6020 |
| | Manganese | 0.36 | NE | 0.005 | 0.0003 | B | SW-846:6020 |
| | Mercury | 0.00006 | 0.002 | 0.0001 | 6E-05 | U | SW-846:7470A |
| | Nickel | 0.0042 | NE | 0.02 | 0.0042 | U | SW-846:6020 |
| | Potassium | 4.5 | NE | 1 | 0.32 | | SW-846:6020 |
| | Selenium | 0.0025 | 0.05 | 0.01 | 0.0007 | J | SW-846:6020 |
| | Silver | 0.000039 | NE | 0.0005 | 4E-05 | U | SW-846:6020 |
| | Sodium | 69 | NE | 1 | 0.19 | | SW-846:6020 |
| | Thallium | 0.000014 | 0.002 | 0.0001 | 1E-05 | U | SW-846:6020 |
| | Uranium | 0.0066 | 0.03 | 0.0001 | 3E-05 | | SW-846:6020 |
| | Vanadium | 0.00095 | NE | 0.005 | 0.0006 | J | SW-846:6020 |
| | Zinc | 0.015 | NE | 0.1 | 0.0091 | J | SW-846:6020 |

B = Compound was found in the blank and sample.

J = the reported value was obtained from a reading that was less than the Reporting Limit but greater than or equal to the Method Detection Limit (MDL).

NE = Not Established

U = the analyte was analyzed for but not detected

**Table-1 New Mexico Environment Department DOE Oversight Bureau FFY 2017 Q-2 Technical Area-V Groundwater Quality Results: Total Target Analyte List Metals plus Uranium**

| Monitoring Well/ Sample Date | Analyte | Result (mg/L) | EPA MCL (mg/L) | Laboratory Detection Limit (mg/L) | MDL (mg/L) | Laboratory Qualifier | Analytical Method |
|---|---|---|---|---|---|---|---|
| **TAV-MW16** 16-Feb-17 | Aluminum | 0.064 | NE | 0.1 | 0.014 | J | SW-846:6020 |
| | Antimony | 0.000084 | 0.006 | 0.001 | 8E-05 | U | SW-846:6020 |
| | Arsenic | 0.00055 | 0.01 | 0.002 | 0.0002 | J | SW-846:6020 |
| | Barium | 0.075 | 2 | 0.005 | 0.0002 | | SW-846:6020 |
| | Beryllium | 0.00039 | 0.004 | 0.0005 | 0.0003 | J | SW-846:6020 |
| | Cadmium | 0.000099 | 0.005 | 0.002 | 1E-04 | U | SW-846:6020 |
| | Calcium | 81 | NE | 1 | 0.061 | | SW-846:6020 |
| | Chromium | 0.0011 | 0.1 | 0.01 | 0.0011 | U | SW-846:6020 |
| | Cobalt | 0.00037 | NE | 0.005 | 7E-05 | J | SW-846:6020 |
| | Copper | 0.0011 | NE | 0.02 | 0.0011 | U | SW-846:6020 |
| | Iron | 0.13 | NE | 0.1 | 0.0053 | | SW-846:6020 |
| | Lead | 0.00016 | NE | 0.002 | 0.0002 | U | SW-846:6020 |
| | Magnesium | 27 | NE | 0.1 | 0.02 | | SW-846:6020 |
| | Manganese | 0.13 | NE | 0.005 | 0.0003 | B | SW-846:6020 |
| | Mercury | 0.00006 | 0.002 | 0.0001 | 6E-05 | U | SW-846:7470A |
| | Nickel | 0.0042 | NE | 0.02 | 0.0042 | U | SW-846:6020 |
| | Potassium | 4.7 | NE | 1 | 0.32 | | SW-846:6020 |
| | Selenium | 0.0024 | 0.05 | 0.01 | 0.0007 | J | SW-846:6020 |
| | Silver | 0.000039 | NE | 0.0005 | 4E-05 | U | SW-846:6020 |
| | Sodium | 76 | NE | 1 | 0.19 | | SW-846:6020 |
| | Thallium | 0.000014 | 0.002 | 0.0001 | 1E-05 | U | SW-846:6020 |
| | Uranium | 0.0066 | 0.03 | 0.0001 | 3E-05 | | SW-846:6020 |
| | Vanadium | 0.0029 | NE | 0.005 | 0.0006 | J | SW-846:6020 |
| | Zinc | 0.0091 | NE | 0.1 | 0.0091 | U | SW-846:6020 |

B = Compound was found in the blank and sample.

J = the reported value was obtained from a reading that was less than the Reporting Limit but greater than or equal to the Method Detection Limit (MDL).

NE = Not Established

U = the analyte was analyzed for but not detected

**Table-2 New Mexico Environment Department DOE Oversight Bureau FFY 2017 Q-2 Technical Area-V Groundwater Quality Results: Dissolved Target Analyte List Metals plus Uranium**

| Monitoring Well/ Sample Date | Analyte | Result (mg/L) | EPA MCL (mg/L) | Laboratory Detection Limit (mg/L) | MDL (mg/L) | Laboratory Qualifier | Analytical Method |
|---|---|---|---|---|---|---|---|
| **TAV-MW15** 15-Feb-17 | Aluminum | 0.014 | NE | 0.1 | 0.014 | U | SW-846:6020 |
| | Antimony | 0.000084 | 0.006 | 0.001 | 8E-05 | U | SW-846:6020 |
| | Arsenic | 0.00018 | 0.01 | 0.002 | 0.0002 | U | SW-846:6020 |
| | Barium | 0.083 | 2 | 0.005 | 0.0002 | | SW-846:6020 |
| | Beryllium | 0.00027 | 0.004 | 0.0005 | 0.0003 | U | SW-846:6020 |
| | Cadmium | 0.000099 | 0.005 | 0.002 | 1E-04 | U | SW-846:6020 |
| | Calcium | 68 | NE | 1 | 0.061 | | SW-846:6020 |
| | Chromium | 0.0011 | 0.1 | 0.01 | 0.0011 | U | SW-846:6020 |
| | Cobalt | 0.00068 | NE | 0.005 | 7E-05 | J | SW-846:6020 |
| | Copper | 0.0011 | NE | 0.02 | 0.0011 | U | SW-846:6020 |
| | Iron | 0.0053 | NE | 0.1 | 0.0053 | U | SW-846:6020 |
| | Lead | 0.00016 | NE | 0.002 | 0.0002 | U | SW-846:6020 |
| | Magnesium | 23 | NE | 0.1 | 0.02 | | SW-846:6020 |
| | Manganese | 0.36 | NE | 0.005 | 0.0003 | B | SW-846:6020 |
| | Mercury | 0.00006 | 0.002 | 0.0001 | 6E-05 | U | SW-846:7470A |
| | Nickel | 0.0042 | NE | 0.02 | 0.0042 | U | SW-846:6020 |
| | Potassium | 4.3 | NE | 1 | 0.32 | | SW-846:6020 |
| | Selenium | 0.0023 | 0.05 | 0.01 | 0.0007 | J | SW-846:6020 |
| | Silver | 0.000039 | NE | 0.0005 | 4E-05 | U | SW-846:6020 |
| | Sodium | 70 | NE | 1 | 0.19 | | SW-846:6020 |
| | Thallium | 0.000014 | 0.002 | 0.0001 | 1E-05 | U | SW-846:6020 |
| | Uranium | 0.0065 | 0.03 | 0.0001 | 3E-05 | | SW-846:6020 |
| | Vanadium | 0.00069 | NE | 0.005 | 0.0006 | J | SW-846:6020 |
| | Zinc | 0.011 | NE | 0.1 | 0.0091 | J | SW-846:6020 |

B = Compound was found in the blank and sample.

J = the reported value was obtained from a reading that was less than the Reporting Limit but greater than or equal to the Method Detection Limit (MDL).

NE = Not Established

U = the analyte was analyzed for but not detected

**Table-2 New Mexico Environment Department DOE Oversight Bureau FFY 2017 Q-2 Technical Area-V Groundwater Quality Results: Dissolved Target Analyte List Metals plus Uranium**

| Monitoring Well/ Sample Date | Analyte | Result (mg/L) | EPA MCL (mg/L) | Laboratory Detection Limit (mg/L) | MDL (mg/L) | Laboratory Qualifier | Analytical Method |
|---|---|---|---|---|---|---|---|
| **TAV-MW16** 16-Feb-17 | Aluminum | 0.014 | NE | 0.1 | 0.014 | U | SW-846:6020 |
| | Antimony | 0.000084 | 0.006 | 0.001 | 8E-05 | U | SW-846:6020 |
| | Arsenic | 0.00019 | 0.01 | 0.002 | 0.0002 | J | SW-846:6020 |
| | Barium | 0.074 | 2 | 0.005 | 0.0002 | | SW-846:6020 |
| | Beryllium | 0.00027 | 0.004 | 0.0005 | 0.0003 | U | SW-846:6020 |
| | Cadmium | 0.000099 | 0.005 | 0.002 | 1E-04 | U | SW-846:6020 |
| | Calcium | 80 | NE | 1 | 0.061 | | SW-846:6020 |
| | Chromium | 0.0011 | 0.1 | 0.01 | 0.0011 | U | SW-846:6020 |
| | Cobalt | 0.00031 | NE | 0.005 | 7E-05 | J | SW-846:6020 |
| | Copper | 0.0011 | NE | 0.02 | 0.0011 | U | SW-846:6020 |
| | Iron | 0.025 | NE | 0.1 | 0.0053 | J | SW-846:6020 |
| | Lead | 0.00016 | NE | 0.002 | 0.0002 | U | SW-846:6020 |
| | Magnesium | 27 | NE | 0.1 | 0.02 | | SW-846:6020 |
| | Manganese | 0.12 | NE | 0.005 | 0.0003 | B | SW-846:6020 |
| | Mercury | 0.00006 | 0.002 | 0.0001 | 6E-05 | U | SW-846:7470A |
| | Nickel | 0.0042 | NE | 0.02 | 0.0042 | U | SW-846:6020 |
| | Potassium | 4.7 | NE | 1 | 0.32 | | SW-846:6020 |
| | Selenium | 0.0025 | 0.05 | 0.01 | 0.0007 | J | SW-846:6020 |
| | Silver | 0.000039 | NE | 0.0005 | 4E-05 | U | SW-846:6020 |
| | Sodium | 76 | NE | 1 | 0.19 | | SW-846:6020 |
| | Thallium | 0.000014 | 0.002 | 0.0001 | 1E-05 | U | SW-846:6020 |
| | Uranium | 0.0065 | 0.03 | 0.0001 | 3E-05 | | SW-846:6020 |
| | Vanadium | 0.0029 | NE | 0.005 | 0.0006 | J | SW-846:6020 |
| | Zinc | 0.0091 | NE | 0.1 | 0.0091 | U | SW-846:6020 |

B = Compound was found in the blank and sample.

J = the reported value was obtained from a reading that was less than the Reporting Limit but greater than or equal to the Method Detection Limit (MDL).

NE = Not Established

U = the analyte was analyzed for but not detected

**Table-3 New Mexico Environment Department DOE Oversight Bureau FFY 2017 Q-2 Technical Area-V Groundwater Quality Results: Alkalinity, Anions, Nitrate-Nitrite as Nitrogen and Perchlorate**

| Monitoring Well/ Sample Date | Analyte | Result (mg/L) | EPA MCL (mg/L) | Laboratory Detection Limit (mg/L) | MDL (mg/L) | Laboratory Qualifier | Analytical Method |
|---|---|---|---|---|---|---|---|
| **LWDS-MW1** 3-Mar-17 | Nitrate-Nitrite as Nitrogen | **12** | 10 | 0.1 | 0.03 | | EPA:353.2 |
| **TAV-MW10** 28-Feb-17 | Nitrate-Nitrite as Nitrogen | **12.2** | 10 | 0.5 | 0.02 | | EPA:353.2 |
| **TAV-MW12** 22-Feb-17 | Nitrate-Nitrite as Nitrogen | 7.03 | 10 | 0.25 | 0.02 | H | EPA:353.2 |
| **TAV-MW14** 23-Feb-17 | Nitrate-Nitrite as Nitrogen | 9.14 | 10 | 0.25 | 0.02 | | EPA:353.2 |
| **TAV-MW14** 23-Feb-17 DUP | Nitrate-Nitrite as Nitrogen | 9.09 | 10 | 0.25 | 0.02 | | EPA:353.2 |
| **TAV-MW15** 15-Feb-17 | Alkalinity-CO3 | 20 | NE | 20 | 20 | U | EPA:310.1 |
| | Alkalinity-CO3+HCO3 | 240 | NE | 20 | 20 | | EPA:310.1 |
| | Alkalinity-HCO3 | 240 | NE | 20 | 20 | | EPA:310.1 |
| | Bromide | 0.06 | NE | 0.2 | 0.06 | U | EPA:300.0 |
| | Chloride | 81 | NE | 2 | 0.6 | | EPA:300.0 |
| | Fluoride | 0.89 | NE | 0.1 | 0.03 | | EPA:300.0 |
| | Nitrate-Nitrite as Nitrogen | 1.4 | 10 | 0.01 | 0.003 | | EPA:353.2 |
| | Perchlorate | 0.0012 | NE | 0.004 | 0.0012 | U | EPA314.0 |
| | Sulfate | 57 | NE | 1 | 0.3 | | EPA:300.0 |
| **TAV-MW16** 16-Feb-17 | Alkalinity-CO3 | 20 | NE | 20 | 20 | U | EPA:310.1 |
| | Alkalinity-CO3+HCO3 | 270 | NE | 20 | 20 | | EPA:310.1 |
| | Alkalinity-HCO3 | 270 | NE | 20 | 20 | | EPA:310.1 |
| | Bromide | 0.06 | NE | 0.2 | 0.06 | U | EPA:300.0 |
| | Chloride | 94 | NE | 2 | 0.6 | | EPA:300.0 |
| | Fluoride | 0.84 | NE | 0.1 | 0.03 | | EPA:300.0 |
| | Nitrate-Nitrite as Nitrogen | 1.8 | 10 | 0.01 | 0.003 | | EPA:353.2 |
| | Perchlorate | 0.0012 | NE | 0.004 | 0.0012 | U | EPA314.0 |
| | Sulfate | 58 | NE | 1 | 0.3 | | EPA:300.0 |

H = Sample was received past holding time. The analysis was performed as soon as possible after receipt by the laboratory. The data was flagged to indicate the holding time violation.

NE = Not Established

U = the analyte was analyzed for but not detected

**Table-4 New Mexico Environment Department DOE Oversight Bureau FFY 2017 Q-2 Technical Area-V Groundwater Quality Results: Detected Volatile Organic Compounds**

| Monitoring Well/ Sample Date | Analyte | Result (µg/L) | EPA MCL (µg/L) | Laboratory Detection Limit (µg/L) | MDL (µg/L) | Laboratory Qualifier | Analytical Method |
|---|---|---|---|---|---|---|---|
| **LWDS-MW1** 3-Mar-17 | Dichloroethene[cis-1,2-] | 4.1 | 70 | 1 | 0.3 | | SW-846:8260B_25 |
| | Trichloroethene | **19** | 5 | 1 | 0.3 | | SW-846:8260B_25 |
| **TAV-MW10** 28-Feb-17 | Dichloroethene[cis-1,2-] | 2.2 | 70 | 1 | 0.3 | | SW-846:8260B_25 |
| | Trichloroethene | **11** | 5 | 1 | 0.3 | | SW-846:8260B_25 |
| **TAV-MW12** 22-Feb-17 | Dichloroethene[cis-1,2-] | 0.37 | 70 | 1 | 0.3 | J | SW-846:8260B_25 |
| | Trichloroethene | **6.6** | 5 | 1 | 0.3 | | SW-846:8260B_25 |
| **TAV-MW14** 23-Feb-17 | Dichloroethene[cis-1,2-] | 0.62 | 70 | 1 | 0.3 | J | SW-846:8260B_25 |
| | Trichloroethene | 4.9 | 5 | 1 | 0.3 | | SW-846:8260B_25 |
| **TAV-MW14** 23-Feb-17 DUP | Dichloroethene[cis-1,2-] | 0.6 | 70 | 1 | 0.3 | J | SW-846:8260B_25 |
| | Trichloroethene | 4.8 | 5 | 1 | 0.3 | | SW-846:8260B_25 |

J = The reported value was obtained from the reading that was less than the Reporting Limit but greater than or equal to the Method Detection Limit (MDL).

**Table-5 New Mexico Environment Department DOE Oversight Bureau FFY 2017 Q-2 Technical Area-V Groundwater Quality Results: Method Detection Limits for Volatile Organic Compounds by Method SW-846:8260B_25**

| Analyte | MDL (µg/L) |
|---|---|
| Acetone | 3 |
| Benzene | 0.3 |
| Bromobenzene | 0.3 |
| Bromochloromethane | 0.3 |
| Bromodichloromethane | 0.3 |
| Bromoform | 0.3 |
| Bromomethane | 0.3 |
| Butanone[2-] | 3 |
| Butylbenzene[n-] | 0.3 |
| Butylbenzene[sec-] | 0.3 |
| Butylbenzene[tert-] | 0.3 |
| Carbon Disulfide | 0.3 |
| Carbon Tetrachloride | 0.3 |
| Chlorobenzene | 0.3 |
| Chlorodibromomethane | 0.3 |
| Chloroethane | 0.3 |
| Chloroform | 0.3 |
| Chlorohexane[1-] | 0.3 |
| Chloromethane | 0.3 |
| Chlorotoluene[2-] | 0.3 |
| Chlorotoluene[4-] | 0.3 |
| Dibromo-3-Chloropropane[1,2-] | 0.4 |
| Dibromoethane[1,2-] | 0.3 |
| Dibromomethane | 0.3 |
| Dichlorobenzene[1,2-] | 0.3 |
| Dichlorobenzene[1,3-] | 0.3 |
| Dichlorobenzene[1,4-] | 0.3 |
| Dichlorodifluoromethane | 0.3 |
| Dichloroethane[1,1-] | 0.3 |
| Dichloroethane[1,2-] | 0.3 |
| Dichloroethene[1,1-] | 0.3 |
| Dichloroethene[cis-1,2-] | 0.3 |
| Dichloroethene[trans-1,2-] | 0.3 |
| Dichloropropane[1,2-] | 0.3 |
| Dichloropropane[1,3-] | 0.3 |

| Analyte | MDL (µg/L) |
|---|---|
| Dichloropropane[2,2-] | 0.3 |
| Dichloropropene[1,1-] | 0.3 |
| Dichloropropene[cis-1,3-] | 0.3 |
| Dichloropropene[trans-1,3-] | 0.3 |
| Ethylbenzene | 0.3 |
| Hexachlorobutadiene | 0.3 |
| Hexanone[2-] | 3 |
| Iodomethane | 0.38 |
| Isopropylbenzene | 0.3 |
| Isopropyltoluene[4-] | 0.3 |
| Methyl tert-Butyl Ether | 0.3 |
| Methyl-2-pentanone[4-] | 3 |
| Methylene Chloride | 0.44 |
| Naphthalene | 0.3 |
| Propylbenzene[1-] | 0.3 |
| Styrene | 0.3 |
| Tetrachloroethane[1,1,1,2-] | 0.3 |
| Tetrachloroethane[1,1,2,2-] | 0.3 |
| Tetrachloroethene | 0.2 |
| Toluene | 0.3 |
| Trichloro-1,2,2-trifluoroethane[1,1,2-] | 0.3 |
| Trichlorobenzene[1,2,3-] | 0.3 |
| Trichlorobenzene[1,2,4-] | 0.3 |
| Trichloroethane[1,1,1-] | 0.3 |
| Trichloroethane[1,1,2-] | 0.3 |
| Trichloroethene | 0.3 |
| Trichlorofluoromethane | 0.3 |
| Trichloropropane[1,2,3-] | 0.3 |
| Trimethylbenzene[1,2,4-] | 0.3 |
| Trimethylbenzene[1,3,5-] | 0.3 |
| Vinyl acetate | 0.3 |
| Vinyl Chloride | 0.3 |
| Xylene[1,2-] | 0.3 |
| Xylene[1,3-]+Xylene[1,4-] | 0.3 |

**Table-6 New Mexico Environment Department DOE Oversight Bureau FFY 2017 Q-2 Technical Area-V Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy and Tritium**

| Monitoring Well/ Sample Date | Analyte | Activity[a] (pCi/L) | | | MDA (pCi/L) | Laboratory Qualifier | Analytical Method |
|---|---|---|---|---|---|---|---|
| **TAV-MW15** 15-Feb-17 | Actinium-228 | 17 | ± | 4.7 | 19 | U | EPA:901.1 |
| | Americium-241 | 13 | ± | 15 | 49 | U | EPA:901.1 |
| | Beryllium-7 | -4.4 | ± | 11 | 39 | U | EPA:901.1 |
| | Bismuth-212 | 52 | ± | 22 | 70 | U | EPA:901.1 |
| | Bismuth-214 | 18 | ± | 6.3 | 20 | U | EPA:901.1 |
| | Cesium-134 | -0.64 | ± | 1.4 | 4.8 | U | EPA:901.1 |
| | Cesium-137 | 0.24 | ± | 1.4 | 4.9 | U | EPA:901.1 |
| | Cobalt-60 | -1.8 | ± | 1.6 | 5.6 | U | EPA:901.1 |
| | Gross alpha | 6.9 | ± | 0.87 | 1.7 | | EPA:900 |
| | Gross beta | 4.3 | ± | 0.75 | 2.1 | | EPA:900 |
| | Iodine-131 | -3.4 | ± | 3.1 | 10 | U | EPA:901.1 |
| | Lead-212 | 3.1 | ± | 2.1 | 6.9 | U | EPA:901.1 |
| | Lead-214 | 12 | ± | 5 | 16 | U | EPA:901.1 |
| | Potassium-40 | -77 | ± | 53 | 180 | U | EPA:901.1 |
| | Protactinium-234m | 210 | ± | 250 | 850 | U | EPA:901.1 |
| | Sodium-22 | -0.58 | ± | 1.4 | 5 | U | EPA:901.1 |
| | Thallium-208 | 5.7 | ± | 1.5 | 4.7 | | EPA:901.1 |
| | Thorium-234 | 29 | ± | 42 | 140 | U | EPA:901.1 |
| | Tritium | -29 | ± | 83 | 280 | U | EPA:906.0 |

U = Result is less than the sample specific Minimum Detectable Activity (MDA).

[a] = A negative value indicates that the sample count rate was below that of the instrument background; result is below the Minimum Detectable Activity (MDA).

**Table-6 New Mexico Environment Department DOE Oversight Bureau FFY 2017 Q-2 Technical Area-V Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy and Tritium**

| Monitoring Well/ Sample Date | Analyte | Activity[a] (pCi/L) | | | MDA (pCi/L) | Laboratory Qualifier | Analytical Method |
|---|---|---|---|---|---|---|---|
| **TAV-MW16** 16-Feb-17 | Actinium-228 | -3.1 | ± | 13 | 44 | U | EPA:901.1 |
| | Americium-241 | 3.1 | ± | 49 | 170 | U | EPA:901.1 |
| | Beryllium-7 | -10 | ± | 9.3 | 32 | U | EPA:901.1 |
| | Bismuth-212 | -3.2 | ± | 17 | 58 | U | EPA:901.1 |
| | Bismuth-214 | 24 | ± | 5.8 | 23 | | EPA:901.1 |
| | Cesium-134 | -0.98 | ± | 1.3 | 4.3 | U | EPA:901.1 |
| | Cesium-137 | -0.29 | ± | 1.3 | 4.4 | U | EPA:901.1 |
| | Cobalt-60 | -0.16 | ± | 1.3 | 4.6 | U | EPA:901.1 |
| | Gross alpha | 8.7 | ± | 1 | 1.8 | | EPA:900 |
| | Gross beta | 5 | ± | 0.78 | 2.1 | | EPA:900 |
| | Iodine-131 | -0.85 | ± | 2.3 | 7.9 | U | EPA:901.1 |
| | Lead-212 | 7.1 | ± | 4.1 | 14 | U | EPA:901.1 |
| | Lead-214 | 28 | ± | 4.9 | 17 | | EPA:901.1 |
| | Potassium-40 | 19 | ± | 39 | 130 | U | EPA:901.1 |
| | Protactinium-234m | 190 | ± | 230 | 750 | U | EPA:901.1 |
| | Sodium-22 | -0.52 | ± | 1.3 | 4.4 | U | EPA:901.1 |
| | Thallium-208 | 4.4 | ± | 1.3 | 4 | | EPA:901.1 |
| | Thorium-234 | -4.3 | ± | 70 | 230 | U | EPA:901.1 |
| | Tritium | -23 | ± | 84 | 280 | U | EPA:906.0 |

U = Result is less than the sample specific Minimum Detectable Activity (MDA).

[a] = A negative value indicates that the sample count rate was below that of the instrument background; result is below the Minimum Detectable Activity (MDA).

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