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Date: November 9, 2005
Refer to: ER2005-0854

Mr. James Bearzi
NMED – Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

RECEIVED
NOV 2005
Hazardous Waste Bureau

**SUBJECT: ANALYTICAL DATA FOR THE INLET AND THE OUTLETS OF THE STORMWATER MANAGEMENT SYSTEM THAT WAS INSTALLED IN MARTIN SPRING CANYON**

Dear Mr. Bearzi:

Enclosed please find a CD containing analytical data for quarterly samples taken at Martin Spring and the sampling ports of the two stormfilters (location IDs = 16-06706, which is the downgradient sampling port of the filter containing granular activated carbon, and 16-06707, which is the downgradient sampling port of the filter containing a barium-specific resin) of the Stormwater Management System pilot units that were deployed downgradient of Martin Spring in 2001. Also attached are two figures showing the concentrations of RDX, HMX, and barium at Martin Spring (inlet) and the sampling ports of the units as a function of time. Note that Martin Spring was dry for several sampling rounds during the drought of 2003-2005, so no data are available for several quarters during that time frame. These data were requested by Ms. Darlene Goering of your staff in a phone call on October 27, 2005.

If you have any questions, please contact Donald Hickmott at 505-667-8753 (dhickmott@lanl.gov) or Lance Woodworth at 505-665-5820 (lwoodworth@doeal.gov).

Sincerely,

David McInroy, Deputy Program Director
Environmental Remediation & Surveillance
Los Alamos National Laboratory

Sincerely,

for David Gregory, Federal Project Director
Department of Energy
Los Alamos Site Office



6582

Enclosures: 1) CD containing quarterly sampling data from the inlet (Martin spring) and sampling ports of the Stormwater Management System deployed in Martin Spring Canyon
2) Figures showing the concentrations of RDX , barium, and HMX at the inlet and sampling ports of the Stormwater Management System as a function of time

Cy:(w/enc)
D. Hickmott, ENV-ECR, MS M992
J. English, ENV-SWRC, MS M992
D. Gregory, DOE LASO, MS A316
L. Woodworth, LASO, MS A316
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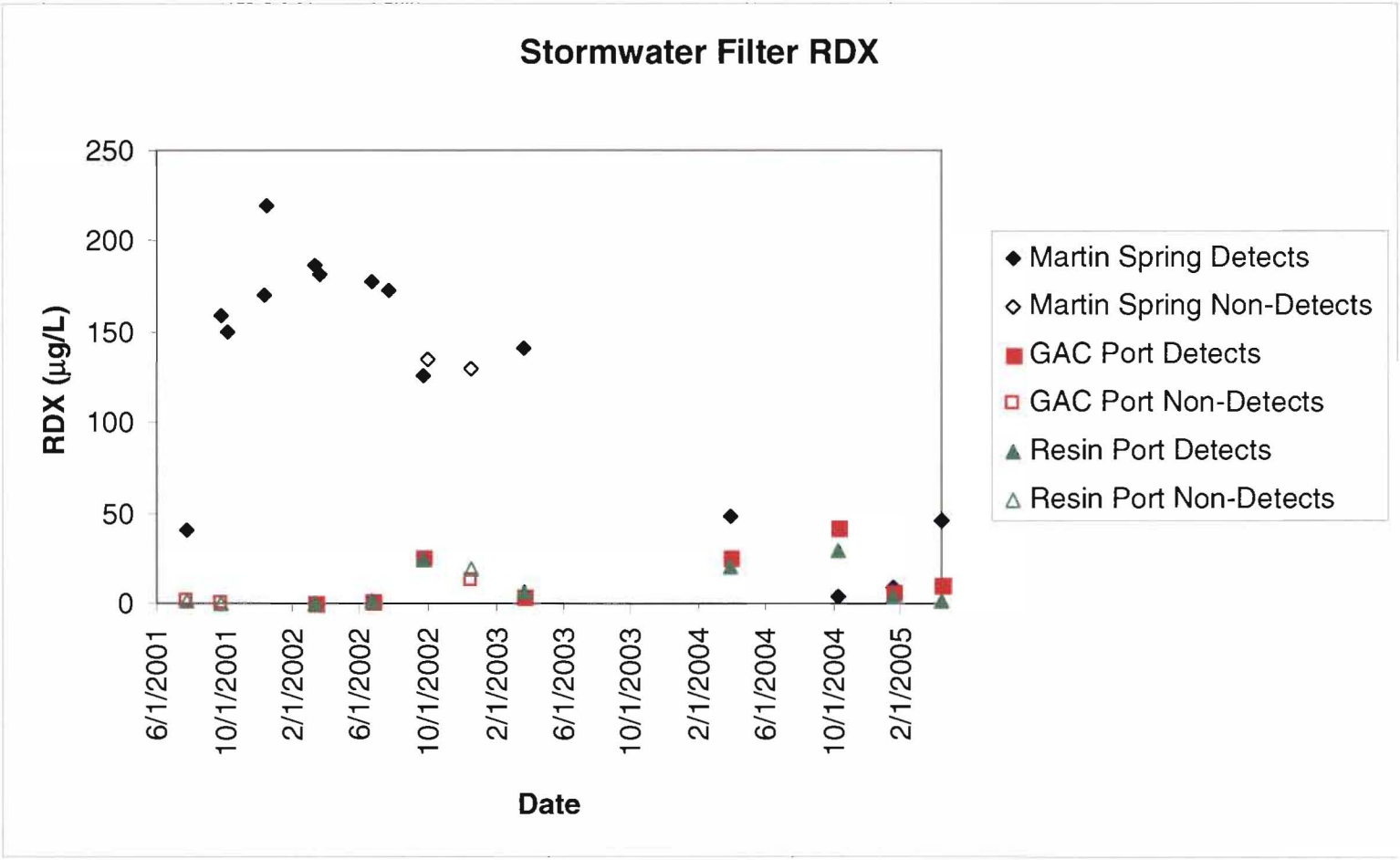
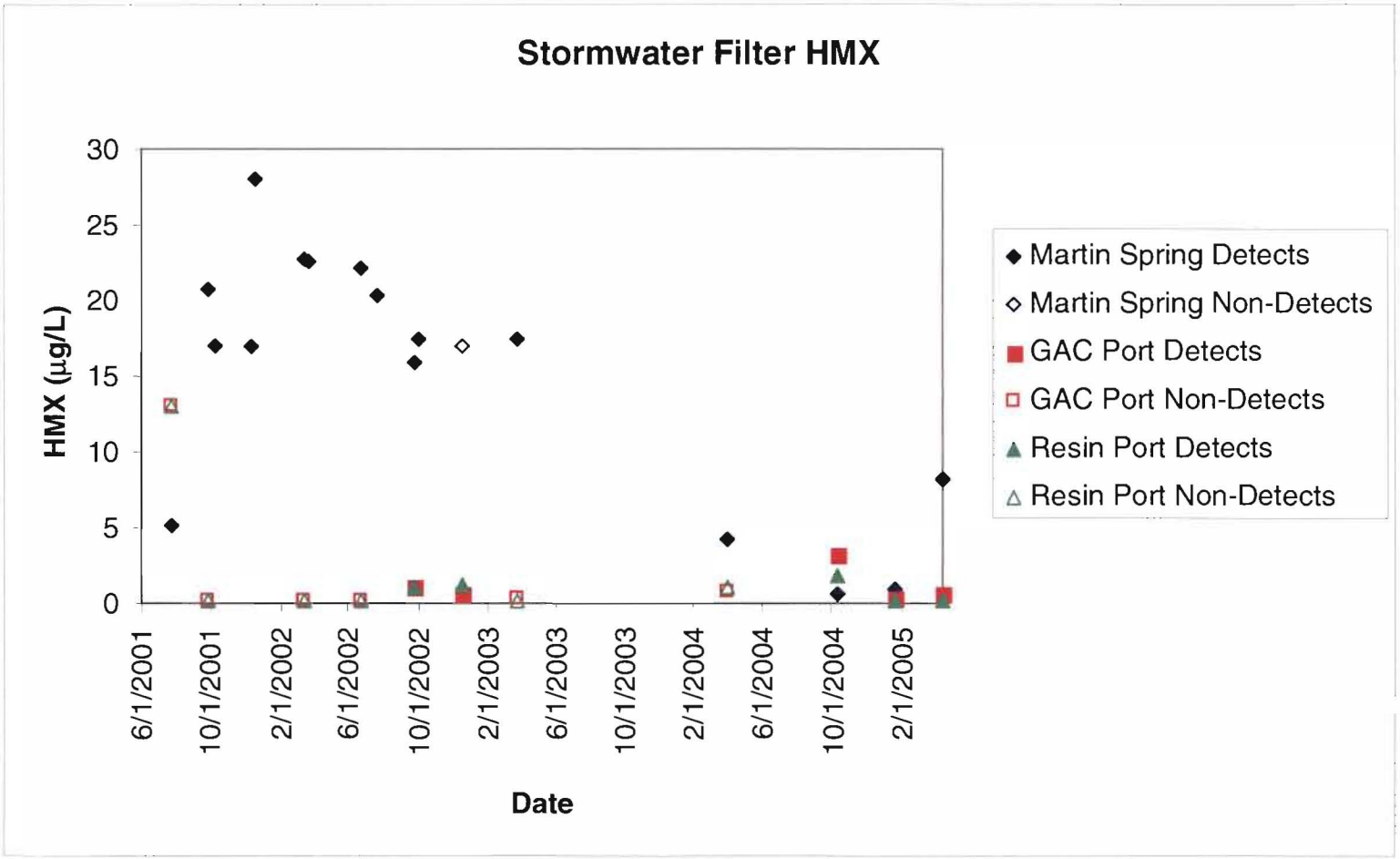
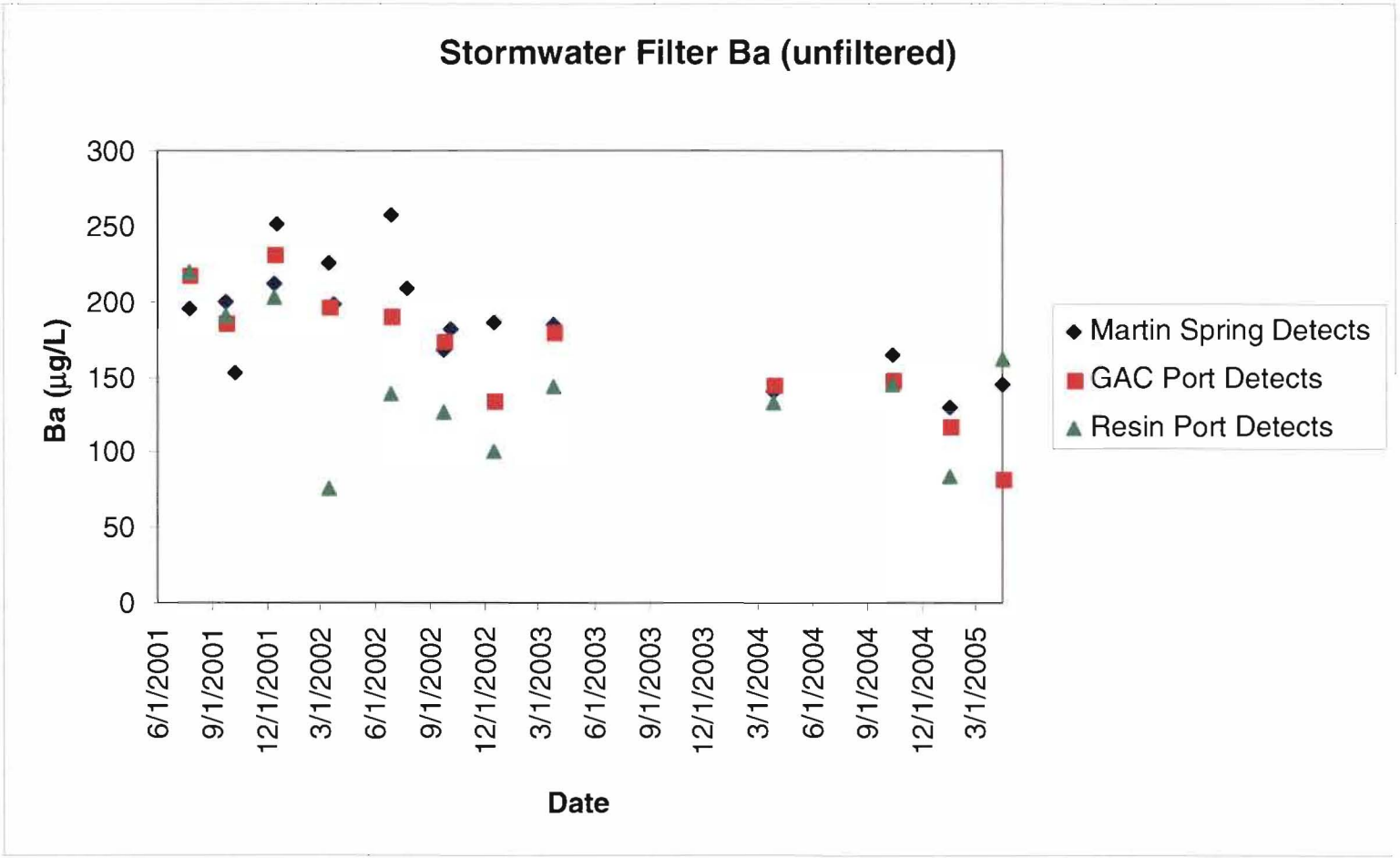
IM-9, MS A150


Stormwater Filter RDX
RDX (µg/L)
250
200
150
100
50
0
6/1/2001
10/1/2001
2/1/2002
6/1/2002
10/1/2002
2/1/2003
6/1/2003
10/1/2003
2/1/2004
6/1/2004
10/1/2004
2/1/2005
Date
Martin Spring Detects
Martin Spring Non-Detects
GAC Port Detects
GAC Port Non-Detects
Resin Port Detects
Resin Port Non-Detects


Stormwater Filter HMX
HMX (µg/L)
30
25
20
15
10
5
0
6/1/2001
10/1/2001
2/1/2002
6/1/2002
10/1/2002
2/1/2003
6/1/2003
10/1/2003
2/1/2004
6/1/2004
10/1/2004
2/1/2005
Date
Martin Spring Detects
Martin Spring Non-Detects
GAC Port Detects
GAC Port Non-Detects
Resin Port Detects
Resin Port Non-Detects


Stormwater Filter Ba (unfiltered)
Ba (µg/L)
300
250
200
150
100
50
0
6/1/2001
9/1/2001
12/1/2001
3/1/2002
6/1/2002
9/1/2002
12/1/2002
3/1/2003
6/1/2003
9/1/2003
12/1/2003
3/1/2004
6/1/2004
9/1/2004
12/1/2004
3/1/2005
Date
Martin Spring Detects
GAC Port Detects
Resin Port Detects

| | | |

| Sample ID | Location ID | Depth (ft) | Media | Alkalinity | Anions | Cyanide | METALS | PERCHLORATE | High-Explosive | SVOCs | VOCs | Tritium |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PRS** | | | | | | | | | | | | |
| RE16-01-3180 | 16-06706 | 0-0 | Groundwater, springs | 9427R | 9428R | - | 9427R | - | 9426R | - | 9425R | 9430R |
| RE16-01-3181 | 16-06706 | 0-0 | Groundwater, springs | - | - | - | 9427R | - | - | - | - | - |
| RE16-01-3219 | 16-06706 | 0-0 | Groundwater, springs | 9867R | 9868R | - | 9867R | - | 9870R | - | 9866R | 9891R |
| RE16-01-3220 | 16-06706 | 0-0 | Groundwater, springs | - | - | - | 9867R | - | - | - | - | - |
| RE16-01-3310 | 16-06706 | 0-0 | Groundwater, springs | 377S | 378S | - | 377S | - | 376S | - | 375S | 382S |
| RE16-01-3311 | 16-06706 | 0-0 | Groundwater, springs | - | - | - | 377S | - | - | - | - | - |
| RE16-02-45246 | 16-06706 | 0-0 | Groundwater, springs | - | - | - | 656S | - | - | - | - | - |
| RE16-02-45247 | 16-06706 | 0-0 | Groundwater, springs | 656S | 656S | - | 656S | - | 655S | - | 654S | 658S |
| RE16-02-45899 | 16-06706 | 0-0 | Groundwater, springs | 912S | 912S | - | 912S | - | 911S | - | 910S | 918S |
| RE16-02-45906 | 16-06706 | 0-0 | Groundwater, springs | - | - | - | 912S | - | - | - | - | - |
| RE16-02-49392 | 16-06706 | 0-0 | Groundwater, springs | 1253S | 1253S | - | 1253S | - | 1252S | 1251S | 1251S | 1254S |
| RE16-02-49393 | 16-06706 | 0-0 | Groundwater, springs | - | - | - | 1253S | - | - | - | - | - |
| RE16-03-49866 | 16-06706 | 0-0 | Groundwater, springs | - | - | - | 1470S | - | - | - | - | - |
| RE16-03-49873 | 16-06706 | 0-0 | Groundwater, springs | 1470S | 1470S | - | 1470S | - | 1469S | - | 1468S | 1478S |
| RE16-03-50741 | 16-06706 | 0-0 | Groundwater, springs | 1672S | 1672S | - | 1672S | - | 1671S | - | 1670S | 1674S |
| RE16-03-50742 | 16-06706 | 0-0 | Groundwater, springs | - | - | - | 1672S | - | - | - | - | - |
| RE16-04-53122 | 16-06706 | 0-0 | Groundwater, springs | 2050S | 2050S | 2050S | 2050S | 2048S | 2048S | 2048S | 2048S | 2061S |
| RE16-04-53123 | 16-06706 | 0-0 | Groundwater, springs | - | - | - | 2050S | - | - | - | - | - |
| RE16-04-53745 | 16-06706 | 0-0 | Groundwater, springs | 2455S | 2455S | 2455S | 2455S | 2454S | 2454S | - | 2454S | 2457S |
| RE16-04-53746 | 16-06706 | 0-0 | Groundwater, springs | - | - | - | 2455S | - | - | - | - | - |
| RE16-05-57370 | 16-06706 | 0-0 | Groundwater, springs | 2780S | 2780S | 2780S | 2780S | 2780S | 2780S | 2780S | 2780S | 2778S |
| RE16-05-57371 | 16-06706 | 0-0 | Groundwater, springs | - | - | - | 2780S | - | - | - | - | - |
| RE16-05-58522 | 16-06706 | 0-0 | Groundwater, springs | 3116S | 3116S | 3116S | 3116S | 3116S | 3116S | - | 3116S | 3129S |
| RE16-05-58523 | 16-06706 | 0-0 | Groundwater, springs | - | - | - | 3116S | - | - | - | - | - |
| RE16-01-3182 | 16-06707 | 0-0 | Groundwater, springs | 9427R | 9428R | - | 9427R | - | 9426R | - | 9425R | 9430R |
| RE16-01-3183 | 16-06707 | 0-0 | Groundwater, springs | - | - | - | 9427R | - | - | - | - | - |
| RE16-01-3221 | 16-06707 | 0-0 | Groundwater, springs | 9867R | 9868R | - | 9867R | - | 9870R | - | 9866R | 9891R |
| RE16-01-3222 | 16-06707 | 0-0 | Groundwater, springs | - | - | - | 9867R | - | - | - | - | - |
| RE16-01-3312 | 16-06707 | 0-0 | Groundwater, springs | 377S | 378S | - | 377S | - | 376S | - | 375S | 382S |
| RE16-01-3313 | 16-06707 | 0-0 | Groundwater, springs | - | - | - | 377S | - | - | - | - | - |
| RE16-02-45248 | 16-06707 | 0-0 | Groundwater, springs | - | - | - | 656S | - | - | - | - | - |
| RE16-02-45249 | 16-06707 | 0-0 | Groundwater, springs | 656S | 656S | - | 656S | - | 655S | - | 654S | 658S |
| RE16-02-45900 | 16-06707 | 0-0 | Groundwater, springs | 912S | 912S | - | 912S | - | 911S | - | 910S | 918S |
| RE16-02-45907 | 16-06707 | 0-0 | Groundwater, springs | - | - | - | 912S | - | - | - | - | - |
| RE16-02-49394 | 16-06707 | 0-0 | Groundwater, springs | 1253S | 1253S | - | 1253S | - | 1252S | 1251S | 1251S | 1254S |
| RE16-02-49395 | 16-06707 | 0-0 | Groundwater, springs | - | - | - | 1253S | - | - | - | - | - |
| RE16-03-49867 | 16-06707 | 0-0 | Groundwater, springs | - | - | - | 1470S | - | - | - | - | - |
| RE16-03-49874 | 16-06707 | 0-0 | Groundwater, springs | 1470S | 1470S | - | 1470S | - | 1469S | - | 1468S | 1478S |
| RE16-03-50743 | 16-06707 | 0-0 | Groundwater, springs | 1672S | 1672S | - | 1672S | - | 1671S | - | 1670S | 1674S |
| RE16-03-50744 | 16-06707 | 0-0 | Groundwater, springs | - | - | - | 1672S | - | - | - | - | - |
| RE16-04-53124 | 16-06707 | 0-0 | Groundwater, springs | 2050S | 2050S | 2050S | 2050S | 2048S | 2048S | 2048S | 2048S | 2061S |
| RE16-04-53125 | 16-06707 | 0-0 | Groundwater, springs | - | - | - | 2050S | - | - | - | - | - |
| RE16-04-53747 | 16-06707 | 0-0 | Groundwater, springs | 2455S | 2455S | 2455S | 2455S | 2454S | 2454S | - | 2454S | 2457S |
| RE16-04-53748 | 16-06707 | 0-0 | Groundwater, springs | - | - | - | 2455S | - | - | - | - | - |
| RE16-05-57372 | 16-06707 | 0-0 | Groundwater, springs | 2780S | 2780S | 2780S | 2780S | 2780S | 2780S | 2780S | 2780S | 2778S |
| RE16-05-57373 | 16-06707 | 0-0 | Groundwater, springs | - | - | - | 2780S | - | - | - | - | - |
| RE16-05-58524 | 16-06707 | 0-0 | Groundwater, springs | 3116S | 3116S | 3116S | 3116S | 3116S | 3116S | - | 3116S | 3129S |
| RE16-05-58525 | 16-06707 | 0-0 | Groundwater, springs | - | - | - | 3116S | - | - | - | - | - |

| Sample ID | Location ID | Depth (ft) | Media | Alkalinity | Anions | Cyanide | METALS | High-Explosive | NVC | SVOCs | VOCs | STABLE_ISOTOPES | Gamma Spectroscopy | Tritium | Isotopic Plutonium | Strontium-90 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RE16-01-3178 | 16-02650 | 0-0 | Groundwater, springs | 9427R | 9428R | - | 9427R | 9426R | - | - | 9425R | 9429R | - | 9430R | - | - |
| RE16-01-3179 | 16-02650 | 0-0 | Groundwater, springs | - | - | - | 9427R | - | - | - | - | - | - | - | - | - |
| RE16-01-3217 | 16-02650 | 0-0 | Groundwater, springs | 9867R | 9868R | - | 9867R | 9869R | - | - | 9866R | 9890R | - | 9891R | - | - |
| RE16-01-3218 | 16-02650 | 0-0 | Groundwater, springs | - | - | - | 9867R | - | - | - | - | - | - | - | - | - |
| RE16-01-3257 | 16-02650 | 0-0 | Groundwater, springs | 48S | 49S | - | 48S | 47S | - | - | - | - | - | - | - | - |
| RE16-01-3258 | 16-02650 | 0-0 | Groundwater, springs | - | - | - | 48S | - | - | - | - | - | - | - | - | - |
| RE16-01-3308 | 16-02650 | 0-0 | Groundwater, springs | 377S | 378S | - | 377S | 376S | - | - | 375S | 381S | - | 382S | - | - |
| RE16-01-3309 | 16-02650 | 0-0 | Groundwater, springs | - | - | - | 377S | - | - | - | - | - | - | - | - | - |
| RE16-01-3328 | 16-02650 | 0-0 | Groundwater, springs | 396S | 396S | - | 396S | 394S | - | - | - | - | - | - | - | - |
| RE16-01-3329 | 16-02650 | 0-0 | Groundwater, springs | - | - | - | 396S | - | - | - | - | - | - | - | - | - |
| RE16-01-3336 | 16-02650 | 0-0 | Groundwater, springs | - | - | - | - | - | - | - | - | - | 379S | - | 379S | 379S |
| RE16-02-45252 | 16-02650 | 0-0 | Groundwater, springs | - | - | - | 656S | - | - | - | - | - | - | - | - | - |
| RE16-02-45253 | 16-02650 | 0-0 | Groundwater, springs | 656S | 656S | - | 656S | 655S | - | - | 654S | 657S | - | 658S | - | - |
| RE16-02-45254 | 16-02650 | 0-0 | Groundwater, springs | - | - | - | 676S | - | - | - | - | - | - | - | - | - |
| RE16-02-45255 | 16-02650 | 0-0 | Groundwater, springs | 676S | 676S | - | 676S | 675S | - | - | - | - | - | - | - | - |
| RE16-02-45894 | 16-02650 | 0-0 | Groundwater, springs | 893S | 893S | - | 893S | 892S | - | - | 891S | 894S | - | 895S | - | - |
| RE16-02-45901 | 16-02650 | 0-0 | Groundwater, springs | - | - | - | 1001S | - | - | - | - | - | - | - | - | - |
| RE16-02-45908 | 16-02650 | 0-0 | Groundwater, springs | 1001S | 1001S | - | 1001S | 999S | - | - | - | 1009S | - | - | - | - |
| RE16-02-45910 | 16-02650 | 0-0 | Groundwater, springs | - | - | - | 893S | - | - | - | - | - | - | - | - | - |
| RE16-02-49382 | 16-02650 | 0-0 | Groundwater, springs | 1253S | 1253S | - | 1253S | 1252S | - | 1251S | 1251S | 1265S | - | 1254S | - | - |
| RE16-02-49383 | 16-02650 | 0-0 | Groundwater, springs | - | - | - | 1253S | - | - | - | - | - | - | - | - | - |
| RE16-02-49396 | 16-02650 | 0-0 | Groundwater, springs | 1312S | 1312S | - | 1312S | 1311S | - | - | - | - | - | - | - | - |
| RE16-02-49397 | 16-02650 | 0-0 | Groundwater, springs | - | - | - | 1309S | - | - | - | - | - | - | - | - | - |
| RE16-03-49861 | 16-02650 | 0-0 | Groundwater, springs | - | - | - | 1470S | - | - | - | - | - | - | - | - | - |
| RE16-03-49868 | 16-02650 | 0-0 | Groundwater, springs | 1470S | 1470S | - | 1470S | 1469S | - | - | 1468S | 1477S | - | 1478S | - | - |
| RE16-03-50723 | 16-02650 | 0-0 | Groundwater, springs | 1672S | 1672S | - | 1672S | 1671S | - | - | 1670S | 1673S | - | 1674S | - | - |
| RE16-03-50724 | 16-02650 | 0-0 | Groundwater, springs | - | - | - | 1672S | - | - | - | - | - | - | - | - | - |
| RE16-03-50727 | 16-02650 | 0-0 | Groundwater, springs | 1672S | 1672S | - | 1672S | 1671S | - | - | 1670S | 1673S | - | 1674S | - | - |
| RE16-03-50728 | 16-02650 | 0-0 | Groundwater, springs | - | - | - | 1672S | - | - | - | - | - | - | - | - | - |
| RE16-04-53112 | 16-02650 | 0-0 | Groundwater, springs | 2050S | 2050S | 2050S | 2050S | 2049S | 2048S | 2048S | 2048S | 2051S | - | 2061S | - | - |
| RE16-04-53113 | 16-02650 | 0-0 | Groundwater, springs | - | - | - | 2050S | - | - | - | - | - | - | - | - | - |
| RE16-04-53733 | 16-02650 | 0-0 | Groundwater, springs | 2455S | 2455S | 2455S | 2455S | - | 2454S | 2454S | 2454S | 2456S | - | 2457S | - | - |
| RE16-04-53734 | 16-02650 | 0-0 | Groundwater, springs | - | - | - | 2455S | - | - | - | - | - | - | - | - | - |
| RE16-05-57368 | 16-02650 | 0-0 | Groundwater, springs | 2780S | 2780S | 2780S | 2780S | 2779S | 2780S | 2780S | 2780S | 2777S | - | 2778S | - | - |
| RE16-05-57369 | 16-02650 | 0-0 | Groundwater, springs | - | - | - | 2780S | - | - | - | - | - | - | - | - | - |
| RE16-05-58512 | 16-02650 | 0-0 | Groundwater, springs | 3116S | 3116S | 3116S | 3116S | - | 3116S | 3116S | 3116S | 3130S | - | 3129S | - | - |
| RE16-05-58513 | 16-02650 | 0-0 | Groundwater, springs | - | - | - | 3116S | - | - | - | - | - | - | - | - | - |

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