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7295 Highway 94 South
St. Charles, MO 63304

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▸▸AUTHOR STEFFEN, DOUGLAS E. ▸▸TO MCCRACKEN, STEPHEN H. ▸▸DATE 6-14-99

▸▸SUBJECT CODE/WORK PACKAGE NUMBER 65050/WP-505J

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83926

JUNE 14 1999

U.S. Department of Energy
Weldon Spring Site Remedial Action Project
ATTN: Mr. Stephen H. McCracken
DOE Project Director
7295 Highway 94 South
St. Charles, MO 63304

SUBJECT: Contract No. DE-AC05-86OR21548
**WP-505J SOUTHEAST DRAINAGE ANALYTICAL DATA**

Dear Mr. McCracken:

A summary of the analytical data from the WP-505J post-remediation Southeast Drainage sampling is attached (Table A). Characterization was completed in accordance with the *Engineering Soils Sampling Plan for Army and MDC Vicinity Properties: Addendum 5; Rev.1*, April, 1999. In total, nine samples were taken from Southeast Drainage Locations 60, 101, and 132. Each sample represented a depth interval of 0 to 6 in. For reference, we have also included the post-remediation data from 1998 (Table B).

We will await Argonne National Laboratories revised risk calculation to complete the closeout documentation for the drainage. If you have any questions or require additional information, please contact Eric Ripp at extension 3122.

Sincerely,

Douglas E. Steffen
Project Director

DES/glv/emr

Attachment

Cc: Pamela Thompson

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# Table A Southeast Drainage WP-505J Remediation Summary (09JUN99)

| WSSRAP Sample ID # | Location | Date Sampled | Ra-226 (pCi/g) | Ra-228 (pCi/g) | Th-230 (pCi/g) | U-238 (pCi/g) | Northing | Easting | Elevation |
|---|---|---|---|---|---|---|---|---|---|
| SO-499001-01 | 101& 132 | 4/19/99 | 5.34 | < 0.98 | 39.0 | 8.41 | 1038956.71 | 756337.85 | 540.42 |
| SO-499002-01 | 101 | 4/19/99 | 7.49 | 1.13 | 36.7 | < 4.48 | 1038931.41 | 756334.05 | 541.25 |
| SO-499003-01 | 101 | 4/19/99 | 3.11 | < 0.92 | 15.9 | 3.45 | 1038928.23 | 756345.06 | 541.22 |
| SO-499004-01 | 101 | 4/19/99 | 7.01 | < 0.83 | 50.1 | < 5.27 | 1038908.42 | 756337.26 | 540.20 |
| SO-499005-02 | 60 | 4/29/99 | 11.1 | < 1.08 | 44.5 | 9.17 | 1035523.74 | 757574.58 | 467.06 |
| SO-499006-02 | 60 | 4/29/99 | 12.7 | 0.76 | 15.2 | < 4.91 | 1035523.24 | 757590.73 | 468.29 |
| SO-499007-01 | 60 | 4/29/99 | 18.0 | < 1.32 | 107 | < 6.88 | 1035527.78 | 757577.83 | 467.72 |
| SO-499008-01 | 60 | 4/29/99 | 21.2 | 1.86 | 54.8 | 33.5 | 1035525.69 | 757562.94 | 467.96 |
| SO-499009-01 | 60 | 4/29/99 | 30.8 | 1.79 | 76.9 | 23.8 | 1035519.23 | 757572.16 | 467.73 |

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# TABLE B

## SOUTHEAST DRAINAGE POST-REMEDIATION DATA RESULTS

6-22-99

| LOCATION[1] | PARAMETER | CONC[1] | DETECTION | UNITS |
|---|---|---|---|---|
| 1 | Radium-226 | 12.30 | 0.75 | pCi/g |
| 1 | Radium-228 | 1.66 | 0.92 | pCi/g |
| 1 | Thorium-230 | 4.72 | 0.62 | pCi/g |
| 1 | Uranium-238 | 37.80 | 7.77 | pCi/g |
| 5 | Radium-226 | 4.73 | 0.36 | pCi/g |
| 5 | Radium-228 | 2.86 | 0.77 | pCi/g |
| 5 | Thorium-230 | 22.90 | 0.62 | pCi/g |
| 5 | Uranium-238 | 10.90 | 5.95 | pCi/g |
| 12 | Radium-226 | 1.68 | 0.37 | pCi/g |
| 12 | Radium-228 | 1.07 | 0.37 | pCi/g |
| 12 | Thorium-230 | 2.19 | 0.62 | pCi/g |
| 12 | Uranium-238 | ND | 4.32 | pCi/g |
| 25a | Radium-226 | 24.90 | 1.06 | pCi/g |
| 25b | Radium-226 | 3.55 | 0.33 | pCi/g |
| 25a | Radium-228 | 1.33 | 1.12 | pCi/g |
| 25b | Radium 228 | 1.25 | 0.49 | pCi/g |
| 25a | Thorium-230 | 29.10 | 0.62 | pCi/g |
| 25b | Thorium-230 | 5.64 | 0.62 | pCi/g |
| 25a | Uranium-238 | 142.00 | 12.5 | pCi/g |
| 25b | Uranium-238 | 5.46 | 2.70 | pCi/g |
| 27 | Radium-226 | 23.00 | 1.14 | pCi/g |
| 27 | Radium-228 | 6.55 | 1.62 | pCi/g |
| 27 | Thorium-230 | 14.60 | 0.62 | pCi/g |
| 27 | Uranium-238 | 26.70 | 9.67 | pCi/g |
| 25 | Radium-226 | 11.30 | 0.40 | pCi/g |
| 25 | Radium-228 | ND | 1.29 | pCi/g |
| 25 | Thorium-230 | 3.20 | 0.62 | pCi/g |
| 25 | Uranium-238 | 3.69 | 5.06 | pCi/g |
| 55 | Radium-226 | 4.30 | 0.42 | pCi/g |
| 55 | Radium-228 | 0.99 | 0.49 | pCi/g |
| 55 | Thorium-230 | 5.63 | 0.62 | pCi/g |
| 55 | Uranium-238 | 8.82 | 2.36 | pCi/g |
| 56 | Radium-226 | 4.99 | 0.43 | pCi/g |
| 56 | Radium-228 | 1.21 | 0.46 | pCi/g |
| 56 | Thorium-230 | 2.91 | 0.62 | pCi/g |
| 56 | Uranium-238 | 4.96 | 2.48 | pCi/g |
| 59 | Radium-226 | 4.86 | 0.48 | pCi/g |
| 59 | Radium-228 | ND | 1.40 | pCi/g |
| 59 | Thorium-230 | 46.47 | 0.62 | pCi/g |
| 59 | Uranium-238 | 10.42 | 5.30 | pCi/g |
| 60a | Radium-226 | 2.18 | 0.25 | pCi/g |
| 60b | Radium-226 | 239.00 | 3.03 | pCi/g |
| 60a | Radium-228 | ND | 0.81 | pCi/g |
| 60b | Radium-228 | 17.40 | 2.90 | pCi/g |
| 60a | Thorium-230 | 3.02 | 0.62 | pCi/g |
| 60b | Thorium-230 | 5090.00 | 0.62 | pCi/g |
| 60a | Uranium-238 | 7.54 | 2.56 | pCi/g |
| 60b | Uranium-238 | 150.00 | 19.3 | pCi/g |
| 61 | Radium-226 | 26.90 | 0.70 | pCi/g |
| 61 | Radium-228 | 0.99 | 0.81 | pCi/g |
| 61 | Thorium-230 | 17.60 | 0.62 | pCi/g |
| 61 | Uranium-238 | 70.20 | 6.86 | pCi/g |
| 62 | Radium-226 | 1.25 | 0.25 | pCi/g |
| 62 | Radium-228 | 1.06 | 0..36 | pCi/g |
| 62 | Thorium-230 | 1.25 | 0.62 | pCi/g |
| 62 | Uranium-238 | ND | 2.33 | pCi/g |
| 63 | Radium-226 | 10.75 | 0.40 | pCi/g |
| 63 | Radium-228 | ND | 1.46 | pCi/g |
| 63 | Thorium-230 | 3.16 | 0.62 | pCi/g |
| 63 | Uranium-238 | 6.05 | 4.68 | pCi/g |
| 64a | Radium-226 | 2.14 | 0.33 | pCi/g |
| 64b | Radium -226 | 3.56 | 0.34 | pCi/g |



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# TABLE B

## SOUTHEAST DRAINAGE POST-REMEDIATION DATA RESULTS

6-22-99

| LOCATION[a] | PARAMETER | CONC[b] | DETECTION | UNITS |
|---|---|---|---|---|
| 64a | Radium-226 | 1.44 | 0.52 | pCi/g |
| 64b | Radium-226 | 1.10 | 0.52 | pCi/g |
| 64a | Thorium-230 | 3.96 | 0.62 | pCi/g |
| 64b | Thorium-230 | 5.43 | 0.62 | pCi/g |
| 64a | Uranium-238 | 7.48 | 4.44 | pCi/g |
| 64b | Uranium 238 | 12.80 | 3.36 | pCi/g |
| 65a | Radium-226 | 3.64 | 0.41 | pCi/g |
| 65b | Radium-226 | 19.60 | 0.65 | pCi/g |
| 65a | Raduim-228 | 1.25 | 0.64 | pCi/g |
| 65b | Radium-228 | 4.18 | 0.88 | pCi/g |
| 65a | Thorium-230 | 8.04 | 0.62 | pCi/g |
| 65b | Thorium-230 | 49.20 | 0.62 | pCi/g |
| 65a | Uranium 238 | 16.90 | 4.84 | pCi/g |
| 65b | Uranium 238 | 58.90 | 6.74 | pCi/g |
| 66 | Radium-226 | 10.10 | 0.76 | pCi/g |
| 66 | Radium-228 | 1.54 | 0.84 | pCi/g |
| 66 | Thorium-230 | 70.40 | 0.62 | pCi/g |
| 66 | Uranium-238 | 15.70 | 7.08 | pCi/g |
| 67 | Radium-226 | 1.50 | 0.35 | pCi/g |
| 67 | Radium-228 | 1.23 | 0.43 | pCi/g |
| 67 | Thorium-230 | 1.34 | 0.62 | pCi/g |
| 67 | Uranium-238 | ND | 3.94 | pCi/g |
| 68 | Radium-226 | 1.54 | 0.24 | pCi/g |
| 68 | Radium-228 | 1.23 | 0.32 | pCi/g |
| 68 | Thorium-230 | 1.32 | 0.62 | pCi/g |
| 68 | Uranium-238 | 2.08 | 1.87 | pCi/g |
| 72a | Radium-226 | 11.10 | 0.44 | pCi/g |
| 72b | Radium-226 | 11.60 | 0.74 | pCi/g |
| 72a | Radium-228 | 1.79 | 0.73 | pCi/g |
| 72b | Radium-228 | 1.85 | 1.04 | pCi/g |
| 72a | Thorium-230 | 16.30 | 0.62 | pCi/g |
| 72b | Thorium-230 | 16.80 | 0.62 | pCi/g |
| 72a | Uranium-238 | 19.00 | 4.10 | pCi/g |
| 72b | Uranium-238 | 15.80 | 7.22 | pCi/g |
| 92 | Radium-226 | 5.43 | 0.36 | pCi/g |
| 92 | Radium-228 | 1.53 | 0.61 | pCi/g |
| 92 | Thorium-230 | 38.40 | 0.62 | pCi/g |
| 92 | Uranium-238 | 80.00 | 5.31 | pCi/g |
| 93 | Radium-226 | 1.95 | 0.45 | pCi/g |
| 93 | Radium-228 | 1.24 | 0.68 | pCi/g |
| 93 | Thorium-230 | 0.76 | 0.62 | pCi/g |
| 93 | Uranium-238 | 76.30 | 5.69 | pCi/g |
| 94 | Radium-226 | 3.80 | 0.34 | pCi/g |
| 94 | Radium-228 | 1.20 | 0.58 | pCi/g |
| 94 | Thorium-230 | 8.89 | 0.62 | pCi/g |
| 94 | Uranium-238 | 17.40 | 3.65 | pCi/g |
| 98a | Radium-226 | 2.44 | 0.38 | pCi/g |
| 98b | Radium-226 | 2.51 | 0.31 | pCi/g |
| 98a | Radium-228 | 1.13 | 0.42 | pCi/g |
| 98b | Radium-228 | 1.07 | 0.48 | pCi/g |
| 98a | Thorium230 | 5.38 | 0.62 | pCi/g |
| 98b | Thorium-230 | 2.10 | 0.62 | pCi/g |
| 98a | Uranium-238 | 2.65 | 2.26 | pCi/g |
| 98b | Uranium-238 | 2.48 | 4.08 | pCi/g |
| 99 | Radium-226 | 2.51 | 0.32 | pCi/g |
| 99 | Radium-228 | 1.22 | 0.36 | pCi/g |
| 99 | Thorium-230 | 2.53 | 0.62 | pCi/g |
| 99 | Uranium-238 | 2.99 | 2.55 | pCi/g |
| 101 | Radium-226 | 89.25 | 1.76 | pCi/g |
| 101 | Radium-228 | 6.79 | 1.74 | pCi/g |
| 101 | Thorium-230 | 1916.25 | 0.62 | pCi/g |
| 101 | Uranium-238 | 18.93 | 12.8 | pCi/g |



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# TABLE B

## SOUTHEAST DRAINAGE POST-REMEDIATION DATA RESULTS

6-22-99

| LOCATION[a] | PARAMETER | CONC[b] | DETECTION | UNITS |
|---|---|---|---|---|
| 102.1 | Radium-226 | 1.40 | 0.22 | pCi/g |
| 102 | Radium-226 | 2.76 | 0.31 | pCi/g |
| 102.1 | Radium-228 | 1.40 | 0.43 | pCi/g |
| 102 | Radium-228 | 1.26 | 0.35 | pCi/g |
| 102.1 | Thorium-230 | 1.69 | 0.62 | pCi/g |
| 102 | Thorium-230 | 6.35 | 0.62 | pCi/g |
| 102.1 | Uranium-238 | ND | 3.65 | pCi/g |
| 102 | Uranium-238 | 9.93 | 2.58 | pCi/g |
| 103 | Radium-226 | 1.33 | 0.35 | pCi/g |
| 103 | Radium-226 | 0.77 | 0.44 | pCi/g |
| 103 | Thorium-230 | 1.51 | 0.62 | pCi/g |
| 103 | Uranium-238 | ND | 2.72 | pCi/g |
| 104a | Radium-226 | 2.17 | 0.40 | pCi/g |
| 104b | Radium-226 | 6.05 | 0.44 | pCi/g |
| 104a | Radium-228 | 0.93 | 0.60 | pCi/g |
| 104b | Radium-228 | 1.15 | 0.49 | pCi/g |
| 104a | Thorium-230 | 1.48 | 0.62 | pCi/g |
| 104b | Thorium-230 | 17.40 | 0.62 | pCi/g |
| 104a | Uranium-238 | 6.72 | 3.47 | pCi/g |
| 104b | Uranium-238 | 15.40 | 3.24 | pCi/g |
| 105 | Radium-226 | 16.20 | 0.81 | pCi/g |
| 105 | Radium-228 | 0.82 | 0.82 | pCi/g |
| 105 | Thorium-230 | 3.57 | 0.62 | pCi/g |
| 105 | Uranium-238 | 29.30 | 7.71 | pCi/g |
| 106 | Radium-226 | 1.26 | 0.27 | pCi/g |
| 106 | Radium-228 | 1.29 | 0.37 | pCi/g |
| 106 | Thorium-230 | 1.33 | 0.62 | pCi/g |
| 106 | Uranium-238 | ND | 2.91 | pCi/g |
| 107 | Radium-226 | 33.87 | 1.14 | pCi/g |
| 107 | Radium-228 | 1.83 | 1.36 | pCi/g |
| 107 | Thorium-230 | 44.50 | 0.62 | pCi/g |
| 107 | Uranium-238 | 40.10 | 8.23 | pCi/g |
| 108.1 | Radium-226 | 7.05 | 0.40 | pCi/g |
| 108 | Radium-226 | 5.29 | 0.41 | pCi/g |
| 108.1 | Radium-228 | 0.98 | 1.13 | pCi/g |
| 108 | Radium-228 | 1.06 | 0.52 | pCi/g |
| 108.1 | Thorium-230 | 3.33 | 0.62 | pCi/g |
| 108 | Thorium-230 | 4.74 | 0.62 | pCi/g |
| 108.1 | Uranium-238 | 9.64 | 7.37 | pCi/g |
| 108 | Uranium-238 | 10.70 | 3.00 | pCi/g |
| 110 | Radium-226 | 4.26 | 0.39 | pCi/g |
| 110.1 | Radium-226 | 1.82 | 0.39 | pCi/g |
| 110 | Radium-228 | 1.15 | 0.55 | pCi/g |
| 110.1 | Radium-228 | ND | 1.19 | pCi/g |
| 110 | Thorium-230 | 2.85 | 0.62 | pCi/g |
| 110.1 | Thorium-230 | 2.07 | 0.62 | pCi/g |
| 110 | Uranium-238 | 24.00 | 3.36 | pCi/g |
| 110.1 | Uranium-238 | 5.55 | 3.17 | pCi/g |
| 111a | Radium-226 | 7.43 | 0.44 | pCi/g |
| 111b | Radium-226 | 1.74 | 0.28 | pCi/g |
| 111a | Radium-228 | 0.92 | 0.55 | pCi/g |
| 111b | Radium-228 | 1.46 | 0.61 | pCi/g |
| 111a | Thorium-230 | 42.10 | 0.62 | pCi/g |
| 111b | Thorium-230 | 1.55 | 0.62 | pCi/g |
| 111a | Uranium-238 | 29.40 | 4.41 | pCi/g |
| 111b | Uranium-238 | ND | 4.13 | pCi/g |
| 112 | Radium-226 | 11.20 | 0.50 | pCi/g |
| 112 | Radium-228 | ND | 0.95 | pCi/g |
| 112 | Thorium-230 | 10.30 | 0.62 | pCi/g |
| 112 | Uranium-238 | 9.13 | 4.33 | pCi/g |
| 113 | Radium-226 | 36.20 | 1.12 | pCi/g |
| 113 | Radium-228 | 0.96 | 1.30 | pCi/g |



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TABLE B

SOUTHEAST DRAINAGE POST-REMEDIATION DATA RESULTS

6-22-99

| LOCATION[a] | PARAMETER | CONC[b] | DETECTION | UNITS |
|---|---|---|---|---|
| 113 | Thorium-230 | 11.40 | 0.62 | pCi/g |
| 113 | Uranium-238 | 11.40 | 9.43 | pCi/g |
| 114a | Radium-226 | 1.36 | 0.24 | pCi/g |
| 114b | Radium-226 | 2.99 | 0.43 | pCi/g |
| 114c | Radium-226 | 3.75 | 0.40 | pCi/g |
| 114a | Radium-228 | ND | 0.71 | pCi/g |
| 114b | Radium-228 | 0.86 | 0.35 | pCi/g |
| 114c | Radium-228 | 1.23 | 0.48 | pCi/g |
| 114a | Thorium-230 | 1.40 | 0.62 | pCi/g |
| 114b | Thorium-230 | 2.33 | 0.62 | pCi/g |
| 114c | Thorium-230 | 2.38 | 0.62 | pCi/g |
| 114a | Uranium-238 | 10.40 | 2.26 | pCi/g |
| 114b | Uranium-238 | 6.31 | 3.58 | pCi/g |
| 114c | Uranium-238 | 12.10 | 2.89 | pCi/g |
| 115 | Radium-226 | 4.64 | 0.49 | pCi/g |
| 115 | Radium-228 | 0.93 | 0.64 | pCi/g |
| 115 | Thorium-230 | 7.25 | 0.62 | pCi/g |
| 115 | Uranium-238 | 7.26 | 4.33 | pCi/g |
| 116 | Radium-226 | 2.15 | 0.22 | pCi/g |
| 116 | Radium-228 | 1.35 | 0.47 | pCi/g |
| 116 | Thorium-230 | 1.78 | 0.62 | pCi/g |
| 116 | Uranium-238 | 5.29 | 2.07 | pCi/g |
| 117a | Radium-226 | 17.50 | 0.71 | pCi/g |
| 117b | Radium-226 | 1.04 | 0.22 | pCi/g |
| 117a | Radium-228 | 4.57 | 1.23 | pCi/g |
| 117b | Radium-228 | ND | 0.74 | pCi/g |
| 117a | Thorium-230 | 23.00 | 0.62 | pCi/g |
| 117b | Thorium-230 | 1.04 | 0.62 | pCi/g |
| 117a | Uranium-238 | 18.90 | 7.56 | pCi/g |
| 117b | Uranium-238 | 1.16 | 1.71 | pCi/g |
| 118 | Radium-226 | 17.10 | 0.87 | pCi/g |
| 118 | Radium-228 | 6.66 | 1.45 | pCi/g |
| 118 | Thorium-230 | 60.00 | 0.62 | pCi/g |
| 118 | Uranium-238 | 69.50 | 9.91 | pCi/g |
| 119 | Radium-226 | 1.52 | 0.38 | pCi/g |
| 119 | Radium-228 | 0.99 | 0.57 | pCi/g |
| 119 | Thorium-230 | 0.69 | 0.62 | pCi/g |
| 119 | Uranium-238 | 10.60 | 3.99 | pCi/g |
| 120 | Radium-226 | 6.78 | 0.66 | pCi/g |
| 120 | Radium-228 | 0.62 | 0.71 | pCi/g |
| 120 | Thorium-230 | 2.37 | 0.62 | pCi/g |
| 120 | Uranium-238 | ND | 5.67 | pCi/g |
| 121 | Radium-226 | 14.85 | 0.47 | pCi/g |
| 121 | Radium-228 | 1.06 | 0.64 | pCi/g |
| 121 | Thorium-230 | 7.80 | 0.62 | pCi/g |
| 121 | Uranium-238 | 10.60 | 3.72 | pCi/g |
| 122 | Radium-226 | 1.56 | 0.25 | pCi/g |
| 122 | Radium-228 | 1.40 | 0.42 | pCi/g |
| 122 | Thorium-230 | 1.10 | 0.62 | pCi/g |
| 122 | Uranium-238 | 2.66 | 2.47 | pCi/g |
| 123 | Radium-226 | 5.04 | 0.36 | pCi/g |
| 123 | Radium-228 | 1.11 | 0.54 | pCi/g |
| 123 | Thorium-230 | 7.10 | 0.62 | pCi/g |
| 123 | Uranium-238 | 3.81 | 3.16 | pCi/g |
| 124 | Radium-226 | 6.70 | 0.45 | pCi/g |
| 124 | Radium-228 | 1.56 | 0.55 | pCi/g |
| 124 | Thorium-230 | 12.40 | 0.62 | pCi/g |
| 124 | Uranium-238 | 9.38 | 3.72 | pCi/g |
| 132 | Radium-226 | 65.30 | 1.51 | pCi/g |
| 132 | Radium-228 | ND | 2.57 | pCi/g |
| 132 | Thorium-230 | 124.00 | 0.62 | pCi/g |
| 132 | Uranium-238 | 14.70 | 9.88 | pCi/g |



REISSUED

TABLE B

SOUTHEAST DRAINAGE POST-REMEDIATION DATA RESULTS

6-22-99

| LOCATION[a] | PARAMETER | CONC[b] | DETECTION | UNITS |
|---|---|---|---|---|
| 141 | Radium-226 | 2.14 | 0.31 | pCi/g |
| 141 | Radium-228 | 0.92 | 0.40 | pCi/g |
| 141 | Thorium-230 | 4.89 | 0.62 | pCi/g |
| 141 | Uranium-238 | 2.91 | 2.59 | pCi/g |
| 149 | Radium-226 | 10.40 | 0.55 | pCi/g |
| 149 | Radium-228 | 1.39 | 0.99 | pCi/g |
| 149 | Thorium-230 | 18.20 | 0.62 | pCi/g |
| 149 | Uranium-238 | 34.20 | 5.78 | pCi/g |
| 153 | Radium-226 | 7.27 | 0.39 | pCi/g |
| 153 | Radium-228 | 1.23 | 0.55 | pCi/g |
| 153 | Thorium-230 | 3.47 | 0.62 | pCi/g |
| 153 | Uranium-238 | 6.41 | 3.26 | pCi/g |
| 154 | Radium-226 | 5.08 | 0.38 | pCi/g |
| 154 | Radium-228 | 1.70 | 0.44 | pCi/g |
| 154 | Thorium-230 | 8.58 | 0.62 | pCi/g |
| 154 | Uranium-238 | 8.33 | 4.10 | pCi/g |

a Locations include several sub-locations for sampling due to size of area. Locations also mirror original sampling locations shown in the EE/CA.

b Risk levels are 13 pCi/g for Radium-226, 13 pCi/g for Radium-228, 290 pCi/g for Uranium-238, and 350 pCi/g for Thorium-230.



REISSUED