

# *Participating Laboratories - GrF18*

| <i>Lab_Code</i> | <i>Lab_Name</i>   |
|-----------------|---|
| ADEM01          | Alabama Department of Environmental Management                    |
| AFOH01          | AFIOH/SDRR  |
| ANLA01          | Argonne National Laboratory/Analytical Chemistry Lab.             |
| ANTE01          | Paragon Analytics a Division of DataChem Laboratories, Inc.       |
| ARSL01          | American Radiation Services Inc.                                  |
| ATLI01          | ATL International, Inc.   |
| AY1201          | BWXT Y-12, Analytical Chemistry Organization Laboratory           |
| CDHS01          | California Department of Public Health                            |
| CESL01          | Lawrence Livermore National Laboratory - EMRL                     |
| CMRC01          | Carlsbad Environmental Monitoring and Research Center             |
| DEHS01          | Department of Environmental Health & Safety                       |
| DRMG01          | BWXT Pantex - D&RMG   |
| ENES01          | Energy Northwest Environmental Services                           |
| EPAL01          | U. S. EPA Office of Radiation and Indoor Air                      |
| ERCL01          | Washington State Public Health Laboratories                       |
| ERHD99          | Radiation Protection Bureau ERHD NMS                              |
| ERLG01          | Environmental Radiation Laboratory                                |
| FDHE01          | Florida Dept of Health Environmental Laboratory                   |
| FDOH01          | Florida Dept. of Health, Mobile Environmental Radiological Lab    |
| FMEC99          | Food and Environment Monitoring Center                            |
| FNAL01          | Fermi National Accelerator Laboratory (FermiLab)                  |
| GENE01          | GEL Laboratories, LLC   |
| GPLP01          | GPL Laboratories, LLLP  |
| HCAL01          | Hazards Control Analytical Lab                                    |
| HECR01          | SC Dept. Health and Environmental Control Radiological Laboratory |
| HERR01          | Washington Closure Hanford  |
| ISUP01          | ISU - Department of Physics/Health Physics/EAL                    |
| JAEC99          | Radiation Measurements Laboratory                                 |
| KDHE01          | Kansas Dept. of Health & Environment                              |
| KSCF01          | Kennedy Space Center, HP Laboratory                               |
| LOCK01          | ICP Analytical Laboratories Department                            |
| LOCK03          | Reactor Technology Complex (RTC) Radioanalytical Laboratory       |
| MART02          | United States Enrichment Corporation                              |
| MART03          | Radioactive Material Analysis Laboratory                          |
| MDPH01          | MDPH-Radiation Control Program                                    |
| MKME01          | MKM Engineers, Inc  |
| MSTH99          | Radioecology  |
| NARL01          | National Air and Radiation Environmental Laboratory               |
| NESI01          | BWXT Services-Radioisotope & Analytical Chemistry Laboratory      |
| NJDH01          | New Jersey Dept. of Health & Senior Services, PHEL, ECLS          |
| NTSI01          | Nuclear Technology Services, Inc.                                 |
| OBGL01          | Life Science Laboratories, Inc.                                   |

***Lab\_Code******Lab\_Name***

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|        |   |
|--------|---|
| ODHL01 | Ohio Department of Health Laboratory                                  |
| ORIS01 | ORISE/ESSAP   |
| OTLI01 | Outreach Technologies, Inc.   |
| PBRF01 | NASA Plum Brook Reactor Facility Lab                                  |
| QUAN01 | STL St. Louis   |
| QUAN03 | SEVERN TRENT LABORATORIES RICHLAND                                    |
| RMCL99 | Royal Scientific Society - Radiation Measurements Lab                 |
| RPCR01 | CH2M Hill RadCon Program Count Room                                   |
| RPSC01 | Radiation Protection Service  |
| RSAL01 | RSA Laboratories, Inc.  |
| SCAL01 | Sanford Cohen and Associates, Inc.                                    |
| SEML01 | SRS Environmental Monitoring Laboratory                               |
| SLDL01 | Scientific Laboratory Division  |
| SOUT01 | Southwest Research Institute  |
| SRPD01 | Sandia National Laboratories, Radiation Protection Sample Diagnostics |
| SSFL01 | Santa Susana Field Laboratory   |
| TDHL01 | Texas Department of State Health Services Laboratory                  |
| TELE01 | TELEDYNE BROWN ENGINEERING - ENVIRONMENTAL SERVICES                   |
| TELE02 | Environmental, Inc., Midwest Lab                                      |
| TMAE01 | Eberline Services, Inc.   |
| TMAO01 | EBERLINE SERVICES OAK RIDGE LABORATORY                                |
| TMAR01 | Eberline Services   |
| TNUT01 | FUSRAP  |
| URSL01 | UNLV Radioanalytical Services Laboratory                              |
| WEST03 | Waste Sampling and Characterization Facility                          |
| WEST04 | PACE ANALYTICAL SERVICES WALTZ MILL SITE                              |
| WIPP01 | WIPP Laboratories   |
| WSHL01 | Wisconsin State Laboratory of Hygiene                                 |
| WVDP01 | WVDP Environmental Laboratory   |
| WVPL01 | WVDP Radiation Protection Lab   |

| <b>Lab Code</b>               | <b>Lab Name</b>                              | <b>Standard</b> |
|-------------------------------|--|-----------------|
| <a href="#"><u>AFOH01</u></a> | USAFSAM/SDRR                                 | GrF             |
| <a href="#"><u>DRMG01</u></a> | BWXT Pantex - D&RMG                          | GrF             |
| <a href="#"><u>EPAL01</u></a> | U. S. EPA Office of Radiation and Indoor Air | GrF             |
| <a href="#"><u>GPLP01</u></a> | GPL Laboratories, LLLP                       | GrF             |
| <a href="#"><u>MSTH99</u></a> | Radioecology                                 | GrF             |
| <a href="#"><u>PBRF01</u></a> | NASA Plum Brook Reactor Facility Lab         | GrF             |
| <a href="#"><u>SSFL01</u></a> | Santa Susana Field Laboratory                | GrF             |

| Row | Lab Code | Lab Name  |
|-----|----------|---|
| 1   | ADEM01   | Alabama Department of Environmental Management                    |
| 2   | ANLA01   | Argonne National Laboratory/Analytical Chemistry Lab.             |
| 3   | ANTE01   | Paragon Analytics a Division of DataChem Laboratories, Inc.       |
| 4   | ARSL01   | American Radiation Services Inc.                                  |
| 5   | ATLI01   | ATL International, Inc.   |
| 6   | AY1201   | BWXT Y-12, Analytical Chemistry Organization Laboratory           |
| 7   | CDHS01   | California Department of Public Health                            |
| 8   | CESL01   | Lawrence Livermore National Laboratory - EMRL                     |
| 9   | CMRC01   | Carlsbad Environmental Monitoring and Research Center             |
| 10  | DEHS01   | Department of Environmental Health & Safety                       |
| 11  | ENES01   | Energy Northwest Environmental Services                           |
| 12  | ERCL01   | Washington State Public Health Laboratories                       |
| 13  | ERHD99   | Radiation Protection Bureau ERHD NMS                              |
| 14  | ERLG01   | Environmental Radiation Laboratory                                |
| 15  | FDHE01   | Florida Dept of Health Environmental Laboratory                   |
| 16  | FDOH01   | Florida Dept. of Health, Mobile Environmental Radiological Lab    |
| 17  | FMEC99   | Food and Environment Monitoring Center                            |
| 18  | FNAL01   | Fermi National Accelerator Laboratory (FermiLab)                  |
| 19  | GENE01   | GEL Laboratories, LLC   |
| 20  | HCAL01   | Hazards Control Analytical Lab                                    |
| 21  | HECR01   | SC Dept. Health and Environmental Control Radiological Laboratory |
| 22  | HERR01   | Washington Closure Hanford  |
| 23  | ISUP01   | ISU - Department of Physics/Health Physics/EAL                    |
| 24  | JAEC99   | Radiation Measurements Laboratory                                 |
| 25  | KDHE01   | Kansas Dept. of Health & Environment                              |
| 26  | KSCF01   | Kennedy Space Center, HP Laboratory                               |
| 27  | LOCK01   | ICP Analytical Services Laboratories                              |
| 28  | LOCK03   | Reactor Technology Complex (RTC) Radioanalytical Laboratory       |
| 29  | MART02   | United States Enrichment Corporation                              |
| 30  | MART03   | Radioactive Material Analysis Laboratory                          |
| 31  | MDPH01   | MDPH-Radiation Control Program                                    |
| 32  | MKME01   | MKM Engineers, Inc  |
| 33  | NARL01   | National Air and Radiation Environmental Laboratory               |
| 34  | NESI01   | BWXT Services-Radioisotope & Analytical Chemistry Laboratory      |
| 35  | NJDH01   | New Jersey Dept. of Health & Senior Services, PHEL, ECLS          |
| 36  | NTSI01   | Nuclear Technology Services, Inc.                                 |
| 37  | OBGL01   | Life Science Laboratories, Inc.                                   |
| 38  | ODHL01   | Ohio Department of Health Laboratory                              |

|               |        |   |
|---------------|--------|---|
| <b>39</b>     | ORIS01 | ORISE/ESSAP   |
| <b>40</b>     | OTLI01 | Outreach Technologies, Inc.   |
| <b>41</b>     | QUAN01 | STL St. Louis   |
| <b>42</b>     | QUAN03 | TestAmerica   |
| <b>43</b>     | RMCL99 | Royal Scientific Society - Radiation Measurements Lab                 |
| <b>44</b>     | RPCR01 | CH2M Hill RadCon Program Count Room                                   |
| <b>45</b>     | RPSC01 | Radiation Protection Service  |
| <b>46</b>     | RSAL01 | RSA Laboratories, Inc.  |
| <b>47</b>     | SCAL01 | GPL Laboratories Alabama, LLC   |
| <b>48</b>     | SEML01 | SRS Environmental Monitoring Laboratory                               |
| <b>49</b>     | SLDL01 | Scientific Laboratory Division  |
| <b>50</b>     | SOUT01 | Southwest Research Institute  |
| <b>51</b>     | SRPD01 | Sandia National Laboratories, Radiation Protection Sample Diagnostics |
| <b>52</b>     | TDHL01 | Texas Department of State Health Services Laboratory                  |
| <b>53</b>     | TELE01 | TELEDYNE BROWN ENGINEERING - ENVIRONMENTAL SERVICES                   |
| <b>54</b>     | TELE02 | Environmental, Inc., Midwest Lab                                      |
| <b>55</b>     | TMAE01 | Eberline Services, Inc.   |
| <b>56</b>     | TMAO01 | EBERLINE SERVICES OAK RIDGE LABORATORY                                |
| <b>57</b>     | TMAR01 | Eberline Services   |
| <b>58</b>     | TNUT01 | FUSRAP  |
| <b>59</b>     | URSL01 | UNLV Radioanalytical Services Laboratory                              |
| <b>60</b>     | WEST03 | Waste Sampling and Characterization Facility                          |
| <b>61</b>     | WEST04 | PACE ANALYTICAL SERVICES WALTZ MILL SITE                              |
| <b>62</b>     | WIPP01 | WIPP Laboratories   |
| <b>63</b>     | WSHL01 | Wisconsin State Laboratory of Hygiene                                 |
| <b>64</b>     | WVDP01 | WVDP Environmental Laboratory   |
| <b>65</b>     | WVPL01 | WVDP Radiation Protection Lab   |
| <b>Total:</b> |        |   |

| <b>Study</b>   | <b>Analyte Name</b> | <b>Reference Value</b> | <b>RESL Uncertainty</b> |
|----------------|---------------------|------------------------|-------------------------|
| MAPEP-07-GrF18 | Gross alpha         | 0.348                  | 0.005                   |
| MAPEP-07-GrF18 | Gross beta          | 0.286                  | 0.004                   |

## Sample Statistical Summary

MAPEP-07-GrF18

| Analyte      | T(1) | A(2) | Grand(3)<br>Mean | Std<br>Dev | Ref<br>Value | Ref<br>Unc | Acceptance<br>Range |
|--------------|------|------|------------------|------------|--------------|------------|---------------------|
| Radiological |      |      |                  |            |              |            | Units: (Bq/sample)  |
| Gross alpha  | 64   | 64   | 0.199            | 0.102      | 0.348        | 0.005      | >0.0 - 0.696        |
| Gross beta   | 65   | 59   | 0.320            | 0.040      | 0.286        | 0.004      | 0.143 - 0.429       |

**Note:** (1) T = Total number of laboratories reporting analyte.  
(2) A = Number of laboratories with 'Acceptable' performance.

### Gross Alpha Criteria:

Acceptable Result: Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

### Gross Beta Criteria:

Acceptable Result: Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

# Flag Summary Report

Generated April 24, 2008

MAPEP-07-GrF18

| <b>Radiological</b> |          |          |           |          |
|---------------------|----------|----------|-----------|----------|
| <b>Analyte</b>      | <b>A</b> | <b>W</b> | <b>RW</b> | <b>N</b> |
| Gross alpha         | 64       |          |           |          |
| Gross beta          | 59       |          |           | 6        |



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 Alabama Department of Environmental Management (ADEM01)  
 Montgomery Laboratory  
 Montgomery, AL 36110

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.15   | 0.348     | A    |       | -56.9 | >0.0 - 0.696       | 0.01      |          |
| Gross beta   | 0.30   | 0.286     | A    |       | 4.9   | 0.143 - 0.429      | 0.01      |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

*Laboratory Results For MAPEP-07-GrF18*

Argonne National Laboratory/Analytical Chemistry Lab. (ANLA01)

9700 S. Cass Avenue

Argonne, IL 60439-4803

| Radiological |        |           |      |       |       |                  | Units: (Bq/sample) |          |
|--------------|--------|-----------|------|-------|-------|------------------|--------------------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range | Unc Value          | Unc Flag |
| Gross alpha  | 0.13   | 0.348     | A    |       | -62.6 | >0.0 - 0.696     | 0.02               |          |
| Gross beta   | 0.46   | 0.286     | N    |       | 60.8  | 0.143 - 0.429    | 0.02               |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

*Laboratory Results For MAPEP-07-GrF18*

Paragon Analytics a Division of DataChem Laboratories, Inc. (ANTE01)

225 Commerce Drive

Fort Collins, CO 80524-1416

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.097  | 0.348     | A    |       | -72.1 | >0.0 - 0.696       | 0.017     |          |
| Gross beta   | 0.329  | 0.286     | A    |       | 15.0  | 0.143 - 0.429      | 0.04      |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 American Radiation Services Inc. (ARSL01)  
 2609 North River Road  
 Port Allen, LA 70767

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.158  | 0.348     | A    |       | -54.6 | >0.0 - 0.696       | 0.034     | H        |
| Gross beta   | 0.375  | 0.286     | A    |       | 31.1  | 0.143 - 0.429      | 0.044     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

*Laboratory Results For MAPEP-07-GrF18*

ATL International, Inc. (ATLI01)

20010 Century Blvd, Suite 500

Germantown, MD 20874

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.1827 | 0.348     | A    |       | -47.5 | >0.0 - 0.696       | 0.0167    |          |
| Gross beta   | 0.3000 | 0.286     | A    |       | 4.9   | 0.143 - 0.429      | 0.0224    |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

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Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

*Laboratory Results For MAPEP-07-GrF18*

BWXT Y-12, Analytical Chemistry Organization Laboratory (AY1201)

Y12, NSC, Bldg. 9995, Rm 142

Oak Ridge, TN 37831-8189

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.242  | 0.348     | A    |       | -30.5 | >0.0 - 0.696       | 0.020     |          |
| Gross beta   | 0.353  | 0.286     | A    |       | 23.4  | 0.143 - 0.429      | 0.026     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 California Department of Public Health (CDHS01)  
 Sanitation & Radiation Lab.  
 Richmond, CA 94804-6403

| Radiological |        |           |      |       |      | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.3815 | 0.348     | A    |       | 9.6  | >0.0 - 0.696       | 0.0320    |          |
| Gross beta   | 0.3231 | 0.286     | A    |       | 13.0 | 0.143 - 0.429      | 0.0199    |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty > 2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias > +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq$  2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty > 2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 Lawrence Livermore National Laboratory - EMRL (CESL01)  
 7000 East Avenue  
 Livermore, CA 94551

| Radiological |          |           |      |       |       |                  | Units: (Bq/sample) |          |
|--------------|----------|-----------|------|-------|-------|------------------|--------------------|----------|
| Analyte      | Result   | Ref Value | Flag | Notes | Bias  | Acceptance Range | Unc Value          | Unc Flag |
| Gross alpha  | 9.97E-02 | 0.348     | A    |       | -71.4 | >0.0 - 0.696     | 1.89E-             | L        |
| Gross beta   | 3.20E-01 | 0.286     | A    |       | 11.9  | 0.143 - 0.429    | 4.36E-             | L        |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 Carlsbad Environmental Monitoring and Research Center (CMRC01)  
 1400 University Dr.  
 Carlsbad, NM 88220

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | .215   | 0.348     | A    |       | -38.2 | >0.0 - 0.696       | .004      | L        |
| Gross beta   | .273   | 0.286     | A    |       | -4.5  | 0.143 - 0.429      | .006      | L        |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 Department of Environmental Health & Safety (DEHS01)  
 North Carolina State Univ.  
 Raleigh, NC 27695-8007

| Radiological |        |           |      |       |      | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.37   | 0.348     | A    |       | 6.3  | >0.0 - 0.696       | 0.04      |          |
| Gross beta   | 0.29   | 0.286     | A    |       | 1.4  | 0.143 - 0.429      | 0.02      |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty > 2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias > +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq$  2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty > 2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias > +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq$  2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 Energy Northwest Environmental Services (ENES01)  
 350 Hills St., Suite 107  
 Richland, WA 99354

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.105  | 0.348     | A    |       | -69.8 | >0.0 - 0.696       | 0.006     |          |
| Gross beta   | .242   | 0.286     | A    |       | -15.4 | 0.143 - 0.429      | .008      |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq \pm 100\%$  with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $> \pm 100\%$  or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq \pm 50\%$  with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $> \pm 50\%$  or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 Washington State Public Health Laboratories (ERCL01)  
 1610 N.E. 150 th Srteet  
 Shoreline, WA 98155-9701

| Radiological |        |           |      |       |       |                  | Units: (Bq/sample) |          |
|--------------|--------|-----------|------|-------|-------|------------------|--------------------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range | Unc Value          | Unc Flag |
| Gross alpha  | 0.24   | 0.348     | A    |       | -31.0 | >0.0 - 0.696     | 0.02               |          |
| Gross beta   | 0.31   | 0.286     | A    |       | 8.4   | 0.143 - 0.429    | 0.01               |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18  
 Radiation Protection Bureau ERHD NMS (ERHD99)  
 775 Brookfield Road AL6302D1  
 Ottawa, Ontario K1A 1C1

| Radiological |        |           |      |       |      | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias | Acceptance Range   | Unc Value | Unc Flag |
| Gross beta   | 0.2949 | 0.286     | A    |       | 3.1  | 0.143 - 0.429      | 0.0153    |          |
| Gross alpha  | NR     | 0.348     |      |       |      | >0.0 - 0.696       |           |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq \pm 100\%$  with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $> \pm 100\%$  or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq \pm 50\%$  with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $> \pm 50\%$  or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 Environmental Radiation Laboratory (ERLG01)  
 Georgia Institute of Tech.  
 Atlanta, GA 30332

| Radiological |        |           |      |       |      | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | .33    | 0.348     | A    |       | -5.2 | >0.0 - 0.696       | .05       |          |
| Gross beta   | .27    | 0.286     | A    |       | -5.6 | 0.143 - 0.429      | .05       |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 Florida Dept of Health Environmental Laboratory (FDHE01)  
 PO Box 680069  
 Orlando, FL 32868-0069

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.07   | 0.348     | A    |       | -79.9 | >0.0 - 0.696       | 0.01      |          |
| Gross beta   | 0.33   | 0.286     | A    |       | 15.4  | 0.143 - 0.429      | 0.02      |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty > 2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias > +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq$  2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty > 2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias > +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq$  2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 Florida Dept. of Health, Mobile Environmental Radiological Lab (FDOH01)  
 PO Box 680069  
 Orlando, FL 32868-0069

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.053  | 0.348     | A    |       | -84.8 | >0.0 - 0.696       | 0.007     |          |
| Gross beta   | 0.405  | 0.286     | A    |       | 41.6  | 0.143 - 0.429      | 0.044     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 Food and Environment Monitoring Center (FMEC99)  
 Ministry of Regional Municipalities  
 Muscat, Sultanate of Oman 113

| Radiological |         |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|---------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result  | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.15886 | 0.348     | A    |       | -54.4 | >0.0 - 0.696       | 0.003     | L        |
| Gross beta   | 0.27274 | 0.286     | A    |       | -4.6  | 0.143 - 0.429      | 0.01      |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq \pm 100\%$  with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $> \pm 100\%$  or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq \pm 50\%$  with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $> \pm 50\%$  or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 Fermi National Accelerator Laboratory (FermiLab) (FNAL01)  
 PO Box 500, MS325  
 Batavia, IL 60510

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.211  | 0.348     | A    |       | -39.4 | >0.0 - 0.696       | 0.032     |          |
| Gross beta   | 0.327  | 0.286     | A    |       | 14.3  | 0.143 - 0.429      | 0.049     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18

GEL Laboratories, LLC (GENE01)

2040 Savage Road

Charleston, SC 29407

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.143  | 0.348     | A    |       | -58.9 | >0.0 - 0.696       | 0.0256    |          |
| Gross beta   | 0.321  | 0.286     | A    |       | 12.2  | 0.143 - 0.429      | 0.0287    |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 Hazards Control Analytical Lab (HCAL01)  
 Lawrence Livermore National  
 Livermore, CA 94551

| Radiological |        |           |      |       |       |                  | Units: (Bq/sample) |          |
|--------------|--------|-----------|------|-------|-------|------------------|--------------------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range | Unc Value          | Unc Flag |
| Gross alpha  | .198   | 0.348     | A    |       | -43.1 | >0.0 - 0.696     | .025               |          |
| Gross beta   | .39    | 0.286     | A    |       | 36.4  | 0.143 - 0.429    | .027               |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 SC Dept. Health and Environmental Control Radiological Laboratory (HECR01)  
 2600 Bull St.  
 Columbia, SC 29201

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.113  | 0.348     | A    |       | -67.5 | >0.0 - 0.696       | 0.025     | H        |
| Gross beta   | 0.352  | 0.286     | A    |       | 23.1  | 0.143 - 0.429      | 0.039     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 Washington Closure Hanford (HERR01)  
 Radiological Counting Facility  
 Richland, WA 99352

| Radiological |        |           |      |       |       |                  | Units: (Bq/sample) |          |
|--------------|--------|-----------|------|-------|-------|------------------|--------------------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range | Unc Value          | Unc Flag |
| Gross alpha  | 0.186  | 0.348     | A    |       | -46.6 | >0.0 - 0.696     | .0066              |          |
| Gross beta   | 0.410  | 0.286     | A    |       | 43.4  | 0.143 - 0.429    | 0.0092             | L        |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 ISU - Department of Physics/Health Physics/EAL (ISUP01)  
 785 S. 8th Ave, Rm 120  
 Pocatello, ID 83209-8106

| Radiological |        |           |      |       |       |                  | Units: (Bq/sample) |          |
|--------------|--------|-----------|------|-------|-------|------------------|--------------------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range | Unc Value          | Unc Flag |
| Gross alpha  | 0.10   | 0.348     | A    |       | -71.3 | >0.0 - 0.696     | 0.01               |          |
| Gross beta   | 0.28   | 0.286     | A    |       | -2.1  | 0.143 - 0.429    | 0.01               |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 Radiation Measurements Laboratory (JAEC99)  
 Jordan Atomic Energy Commission  
 Amman, Jordan 00962 6

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.18   | 0.348     | A    |       | -48.3 | >0.0 - 0.696       | 0.022     |          |
| Gross beta   | 0.127  | 0.286     | N    |       | -55.6 | 0.143 - 0.429      | 0.013     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq \pm 100\%$  with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $> \pm 100\%$  or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq \pm 50\%$  with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $> \pm 50\%$  or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 Kansas Dept. of Health & Environment (KDHE01)  
 Forbes Bldg. 740  
 Topeka, KS 66620

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.2443 | 0.348     | A    |       | -29.8 | >0.0 - 0.696       | 0.0829    | H        |
| Gross beta   | 0.2373 | 0.286     | A    |       | -17.0 | 0.143 - 0.429      | 0.0261    |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 Kennedy Space Center, HP Laboratory (KSCF01)  
 CHS-022  
 Kennedy Space Center, FL 32899

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.1737 | 0.348     | A    |       | -50.1 | >0.0 - 0.696       | 0.007     |          |
| Gross beta   | 0.4377 | 0.286     | N    |       | 53.0  | 0.143 - 0.429      | 0.015     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 ICP Analytical Services Laboratories (LOCK01)  
 CH2M-WG Idaho, LLC  
 Idaho Falls, ID 83415-5210

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.157  | 0.348     | A    |       | -54.9 | >0.0 - 0.696       | 0.009     |          |
| Gross beta   | 0.337  | 0.286     | A    |       | 17.8  | 0.143 - 0.429      | 0.012     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 Reactor Technology Complex (RTC) Radioanalytical Laboratory (LOCK03)  
 INL/Battelle Energy Alliance, LLC  
 Scoville, ID 83415-7111

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | .113   | 0.348     | A    |       | -67.5 | >0.0 - 0.696       | .020      |          |
| Gross beta   | .333   | 0.286     | A    |       | 16.4  | 0.143 - 0.429      | .030      |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18  
 United States Enrichment Corporation (MART02)  
 PO Box 1410  
 Paducah, KY 42002

| Radiological |        |           |      |       |       |                  | Units: (Bq/sample) |          |
|--------------|--------|-----------|------|-------|-------|------------------|--------------------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range | Unc Value          | Unc Flag |
| Gross alpha  | 0.138  | 0.348     | A    |       | -60.3 | >0.0 - 0.696     | 0.0169             |          |
| Gross beta   | 0.340  | 0.286     | A    |       | 18.9  | 0.143 - 0.429    | 0.0154             |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 Radioactive Material Analysis Laboratory (MART03)  
 ORNL  
 Oak Ridge, TN 37831-6223

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.205  | 0.348     | A    |       | -41.1 | >0.0 - 0.696       | 0.0205    |          |
| Gross beta   | 0.343  | 0.286     | A    |       | 19.9  | 0.143 - 0.429      | 0.0343    |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 MDPH-Radiation Control Program (MDPH01)  
 MERL-Room 002  
 Jamaica Plain, MA 02130-3597

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.29   | 0.348     | A    |       | -16.7 | >0.0 - 0.696       | 0.01      |          |
| Gross beta   | 0.67   | 0.286     | N    |       | 134.3 | 0.143 - 0.429      | 0.02      | L        |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18

MKM Engineers, Inc (MKME01)

5025 Arnold Ave

McClellan, CA 95652

| Radiological |        |           |      |       |        | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|--------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias   | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.200  | 0.348     | A    |       | -42.5  | >0.0 - 0.696       | 0.138     | H        |
| Gross beta   | 4.234  | 0.286     | N    |       | 1380.4 | 0.143 - 0.429      | .138      |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18  
 National Air and Radiation Environmental Laboratory (NARL01)  
 540 S. Morris Ave.  
 Montgomery, AL 36115-2601

| Radiological |        |           |      |       |      | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.47   | 0.348     | A    |       | 35.1 | >0.0 - 0.696       | 0.11      | H        |
| Gross beta   | 0.295  | 0.286     | A    |       | 3.1  | 0.143 - 0.429      | 0.041     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 BWXT Services-Radioisotope & Analytical Chemistry Laboratory (NESI01)  
 Lynchburg Technology Center  
 Lynchburg, VA 24504-5447

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.29   | 0.348     | A    |       | -16.7 | >0.0 - 0.696       | .02       |          |
| Gross beta   | 0.34   | 0.286     | A    |       | 18.9  | 0.143 - 0.429      | 0.01      | L        |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18  
 New Jersey Dept. of Health & Senior Services, PHEL, ECLS (NJDH01)  
 Market and Warren Streets  
 Trenton, NJ 08625-0361

| Radiological |        |           |      |       |      | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.402  | 0.348     | A    |       | 15.5 | >0.0 - 0.696       | 0.012     | L        |
| Gross beta   | 0.3053 | 0.286     | A    |       | 6.7  | 0.143 - 0.429      | 0.0064    | L        |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18  
 Nuclear Technology Services, Inc. (NTSI01)  
 635 Hembree Parkway  
 Roswell, GA 30076

| Radiological |        |           |      |       |       |                  | Units: (Bq/sample) |          |
|--------------|--------|-----------|------|-------|-------|------------------|--------------------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range | Unc Value          | Unc Flag |
| Gross alpha  | 0.11   | 0.348     | A    |       | -68.4 | >0.0 - 0.696     | 0.01               |          |
| Gross beta   | 0.42   | 0.286     | A    |       | 46.9  | 0.143 - 0.429    | 0.02               |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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*Laboratory Results For MAPEP-07-GrF18*

Life Science Laboratories, Inc. (OBGL01)

5000 Brittonfield Pkwy, Ste. 200

East Syracuse, NY 13057

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.1641 | 0.348     | A    |       | -52.8 | >0.0 - 0.696       | 0.0338    | H        |
| Gross beta   | 0.3041 | 0.286     | A    |       | 6.3   | 0.143 - 0.429      | 0.0427    |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18  
 Ohio Department of Health Laboratory (ODHL01)  
 8995 E Main Street  
 Reynoldsburg, OH 43068

| Radiological |        |           |      |       |      | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.354  | 0.348     | A    |       | 1.7  | >0.0 - 0.696       | 0.014     |          |
| Gross beta   | 0.344  | 0.286     | A    |       | 20.3 | 0.143 - 0.429      | 0.005     | L        |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18

ORISE/ESSAP (ORIS01)

PO Box 117

Oak Ridge, TN 37831-0117

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.28   | 0.348     | A    |       | -19.5 | >0.0 - 0.696       | 0.01      |          |
| Gross beta   | 0.34   | 0.286     | A    |       | 18.9  | 0.143 - 0.429      | 0.02      |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18

Outreach Technologies, Inc. (OTLI01)

311 N. Aspen

Broken Arrow, OK 74012-

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | .272   | 0.348     | A    |       | -21.8 | >0.0 - 0.696       | .036      |          |
| Gross beta   | 0.428  | 0.286     | A    |       | 49.7  | 0.143 - 0.429      | 0.041     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18

STL St. Louis (QUAN01)

13715 Rider Trail North

Earth City, MO 63045-

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.1158 | 0.348     | A    |       | -66.7 | >0.0 - 0.696       | 0.0058    |          |
| Gross beta   | 0.3519 | 0.286     | A    |       | 23.0  | 0.143 - 0.429      | 0.0014    | L        |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty > 2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias > +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq$  2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty > 2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias > +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq$  2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18

TestAmerica (QUAN03)

2800 GEORGE WASHINGTON WAY

RICHLAND, WA 99354-

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.115  | 0.348     | A    |       | -67.0 | >0.0 - 0.696       | 0.0137    |          |
| Gross beta   | 0.34   | 0.286     | A    |       | 18.9  | 0.143 - 0.429      | 0.0282    |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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*Laboratory Results For MAPEP-07-GrF18*

Royal Scientific Society - Radiation Measurements Lab (RMCL99)

Ahmad Al-Tarawneh Str.

Al-Jubaiha, Amman 11941

| Radiological |        |           |      |       |      | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.424  | 0.348     | A    |       | 21.8 | >0.0 - 0.696       | 0.039     |          |
| Gross beta   | 0.300  | 0.286     | A    |       | 4.9  | 0.143 - 0.429      | 0.018     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 CH2M Hill RadCon Program Count Room (RPCR01)  
 2440 Steven Drive  
 Richland, WA 99352

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.113  | 0.348     | A    |       | -67.5 | >0.0 - 0.696       | 0.003     | L        |
| Gross beta   | 0.339  | 0.286     | A    |       | 18.5  | 0.143 - 0.429      | 0.007     | L        |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

*Laboratory Results For MAPEP-07-GrF18*

Radiation Protection Service (RPSC01)

Ontario Ministry of Labour

Weston, Ontario M9P 3T1

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.10   | 0.348     | A    |       | -71.3 | >0.0 - 0.696       | 0.02      |          |
| Gross beta   | 0.33   | 0.286     | A    |       | 15.4  | 0.143 - 0.429      | 0.07      | H        |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18

RSA Laboratories, Inc. (RSAL01)

PO Box 61

Hebron, CT 06248

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.17   | 0.348     | A    |       | -51.1 | >0.0 - 0.696       | 0.03      |          |
| Gross beta   | 1.90   | 0.286     | N    |       | 564.3 | 0.143 - 0.429      | 0.07      |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18  
 GPL Laboratories Alabama, LLC (SCAL01)  
 1000 Monticello Court  
 Montgomery, AL 36117-

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.112  | 0.348     | A    |       | -67.8 | >0.0 - 0.696       | 0.030     | H        |
| Gross beta   | 0.314  | 0.286     | A    |       | 9.8   | 0.143 - 0.429      | 0.049     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18  
 SRS Environmental Monitoring Laboratory (SEML01)  
 Bldg 735-B  
 Aiken, SC 29808

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.145  | 0.348     | A    |       | -58.3 | >0.0 - 0.696       | 0.0185    |          |
| Gross beta   | 0.297  | 0.286     | A    |       | 3.8   | 0.143 - 0.429      | 0.024     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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*Laboratory Results For MAPEP-07-GrF18*

Scientific Laboratory Division (SLDL01)

700 Camino de Salud NE

Albuquerque, NM 87196-4700

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.20   | 0.348     | A    |       | -42.5 | >0.0 - 0.696       | 0.064     | H        |
| Gross beta   | 0.29   | 0.286     | A    |       | 1.4   | 0.143 - 0.429      | 0.09      | H        |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18

Southwest Research Institute (SOUT01)

6220 Culebra Rd.

San Antonio, TX 78228-0510

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross beta   | 0.296  | 0.286     | A    |       | 3.5   | 0.143 - 0.429      | 0.022     |          |
| Gross alpha  | 0.190  | 0.348     | A    |       | -45.4 | >0.0 - 0.696       | 0.020     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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*Laboratory Results For MAPEP-07-GrF18*

Sandia National Laboratories, Radiation Protection Sample Diagnostics (SRPD01)

PO Box 5800, MS1103

Albuquerque, NM 87185-0305

| Radiological |        |           |      |       |      | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | .388   | 0.348     | A    |       | 11.5 | >0.0 - 0.696       | .040      |          |
| Gross beta   | 0.269  | 0.286     | A    |       | -5.9 | 0.143 - 0.429      | 0.020     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18  
 Texas Department of State Health Services Laboratory (TDHL01)  
 1100 W 49th Street  
 Austin, TX 78756

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | .259   | 0.348     | A    |       | -25.6 | >0.0 - 0.696       | .030      |          |
| Gross beta   | .344   | 0.286     | A    |       | 20.3  | 0.143 - 0.429      | .026      |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18

TELEDYNE BROWN ENGINEERING - ENVIRONMENTAL SERVICES (TELE01)

2508 Quality Lane

Knoxville, TN 37931-6819

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.131  | 0.348     | A    |       | -62.4 | >0.0 - 0.696       | 0.029     | H        |
| Gross beta   | 0.261  | 0.286     | A    |       | -8.7  | 0.143 - 0.429      | 0.037     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18  
 Environmental, Inc., Midwest Lab (TELE02)  
 700 Landwehr Road  
 Northbrook, IL 60062-

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross beta   | 0.34   | 0.286     | A    |       | 18.9  | 0.143 - 0.429      | 0.039     |          |
| Gross alpha  | 0.11   | 0.348     | A    |       | -68.4 | >0.0 - 0.696       | 0.026     | H        |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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*Laboratory Results For MAPEP-07-GrF18*

Eberline Services, Inc. (TMAE01)

7021 Pan American Freeway N.E.

Albuquerque, NM 87109-

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.104  | 0.348     | A    |       | -70.1 | >0.0 - 0.696       | 0.012     |          |
| Gross beta   | 0.308  | 0.286     | A    |       | 7.7   | 0.143 - 0.429      | 0.028     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-07-GrF18  
 EBERLINE SERVICES OAK RIDGE LABORATORY (TMAO01)  
 601 SCARBORO RD  
 OAK RIDGE, TN 37830-

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.154  | 0.348     | A    |       | -55.7 | >0.0 - 0.696       | 0.014     |          |
| Gross beta   | 0.345  | 0.286     | A    |       | 20.6  | 0.143 - 0.429      | 0.014     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18

Eberline Services (TMAR01)

2030 Wright Ave

Richmond, CA 94804-0040

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.260  | 0.348     | A    |       | -25.3 | >0.0 - 0.696       | 0.031     |          |
| Gross beta   | 0.302  | 0.286     | A    |       | 5.6   | 0.143 - 0.429      | 0.019     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty > 2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias > +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq$  2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty > 2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias > +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq$  2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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*Laboratory Results For MAPEP-07-GrF18*

FUSRAP (TNUT01)  
 8945 LATTY AVE  
 BERKELEY, MO 63134-

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.112  | 0.348     | A    |       | -67.8 | >0.0 - 0.696       | 0.01      |          |
| Gross beta   | 0.286  | 0.286     | A    |       | 0.0   | 0.143 - 0.429      | 0.017     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18  
 UNLV Radioanalytical Services Laboratory (URSL01)  
 Campus Mail Stop 453037  
 Las Vegas, NV 89154-3037

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.183  | 0.348     | A    |       | -47.4 | >0.0 - 0.696       | 0.027     |          |
| Gross beta   | 0.304  | 0.286     | A    |       | 6.3   | 0.143 - 0.429      | .034      |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18  
 Waste Sampling and Characterization Facility (WEST03)  
 PO Box 1000, S3-30  
 Richland, WA 99352

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.109  | 0.348     | A    |       | -68.7 | >0.0 - 0.696       | 0.276     | H        |
| Gross beta   | 0.326  | 0.286     | A    |       | 14.0  | 0.143 - 0.429      | 0.209     | H        |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18  
 PACE ANALYTICAL SERVICES WALTZ MILL SITE (WEST04)  
 P.O. BOX 158  
 MADISON, PA 15663-0158

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.290  | 0.348     | A    |       | -16.7 | >0.0 - 0.696       | 0.054     |          |
| Gross beta   | 0.294  | 0.286     | A    |       | 2.8   | 0.143 - 0.429      | 0.055     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18

WIPP Laboratories (WIPP01)

1400 University Drive

Carlsbad, NM 88220

| Radiological |          |           |      |       |      | Units: (Bq/sample) |           |          |
|--------------|----------|-----------|------|-------|------|--------------------|-----------|----------|
| Analyte      | Result   | Ref Value | Flag | Notes | Bias | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 4.51E-01 | 0.348     | A    |       | 29.6 | >0.0 - 0.696       | 1.19E-    | H        |
| Gross beta   | 3.13E-01 | 0.286     | A    |       | 9.4  | 0.143 - 0.429      | 1.30E-    | H        |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18  
 Wisconsin State Laboratory of Hygiene (WSHL01)  
 2601 Agriculture Drive  
 Madison, WI 53718

| Radiological |        |           |      |       |       |                  | Units: (Bq/sample) |          |
|--------------|--------|-----------|------|-------|-------|------------------|--------------------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range | Unc Value          | Unc Flag |
| Gross alpha  | 0.31   | 0.348     | A    |       | -10.9 | >0.0 - 0.696     | 0.08               | H        |
| Gross beta   | 0.29   | 0.286     | A    |       | 1.4   | 0.143 - 0.429    | 0.04               |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty > 2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias > +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq$  2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty > 2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias > +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq$  2, i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18  
 WVDP Environmental Laboratory (WVDP01)  
 10282 Rock Springs Road  
 West Valley, NY 14171

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | .0926  | 0.348     | A    |       | -73.4 | >0.0 - 0.696       | .00478    |          |
| Gross beta   | .300   | 0.286     | A    |       | 4.9   | 0.143 - 0.429      | .00934    |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).



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Laboratory Results For MAPEP-07-GrF18  
 WVDP Radiation Protection Lab (WVPL01)  
 10282 Rock Springs Rd  
 West Valley, NY 14171

| Radiological |        |           |      |       |       | Units: (Bq/sample) |           |          |
|--------------|--------|-----------|------|-------|-------|--------------------|-----------|----------|
| Analyte      | Result | Ref Value | Flag | Notes | Bias  | Acceptance Range   | Unc Value | Unc Flag |
| Gross alpha  | 0.097  | 0.348     | A    |       | -72.1 | >0.0 - 0.696       | 0.011     |          |
| Gross beta   | 0.278  | 0.286     | A    |       | -2.8  | 0.143 - 0.429      | 0.018     |          |

Gross Alpha Flags:

A = Result acceptable, Bias  $\leq$  +/- 100% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

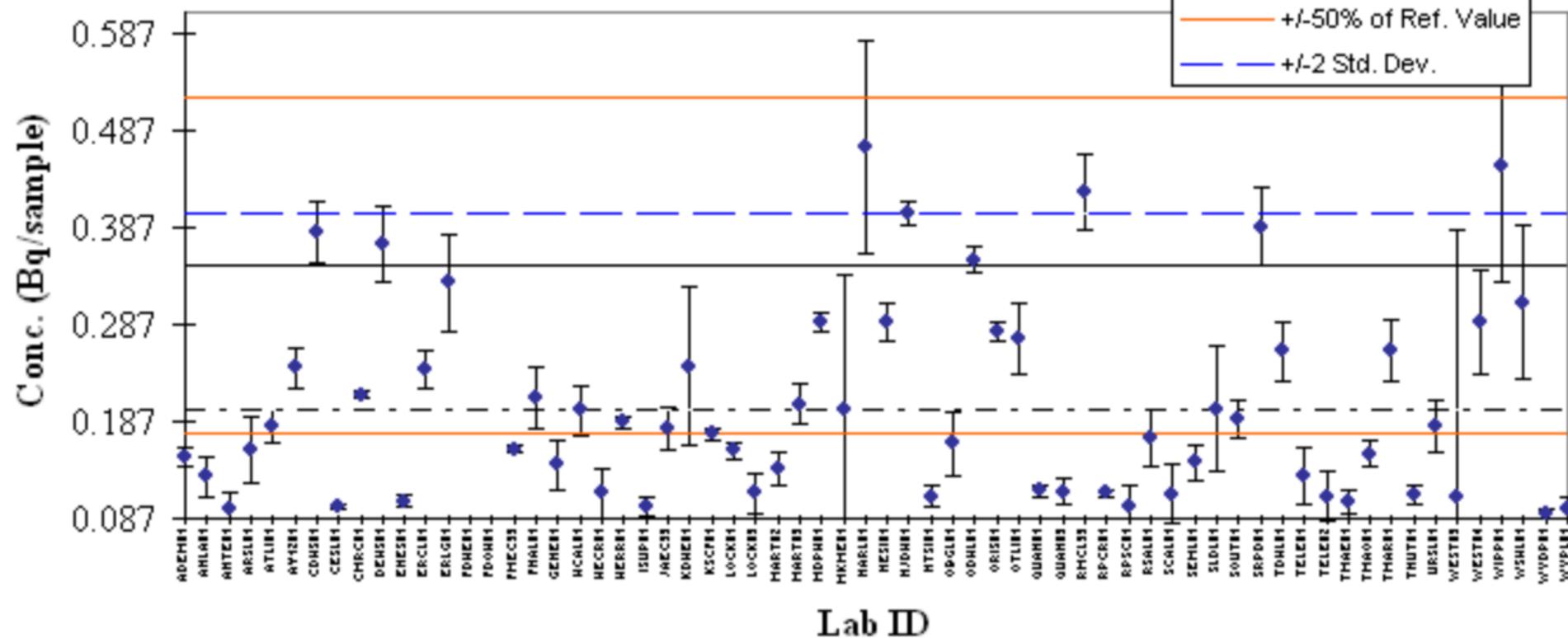
N = Result not acceptable, Bias  $>$  +/- 100% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

Gross Beta Flags:

A = Result acceptable, Bias  $\leq$  +/- 50% with a statistically positive result at two standard deviations (Result/Uncertainty  $> 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, does not include zero).

N = Result not acceptable, Bias  $>$  +/- 50% or the reported result is not statistically positive at two standard deviations (Result/Uncertainty  $\leq 2$ , i.e., the range encompassing the result, plus or minus the total uncertainty at two standard deviations, includes zero).

# Gross alpha MAPEP-07-GrF18



# Gross beta MAPEP-07-GrF18

