

**ISRA 009 – IEL-2.
Soil Sampling for Radionuclides.
Results and Statistical Analysis.
Waste Certification.**

This data package provides the laboratory results and statistical analysis of the 8 samples taken at the ISRA Outfall 009, IEL-2 area. This analysis and data interpretation complies with the procedure approved by the California Department of Public Health¹.

Samples taken for waste disposal characterization were analyzed for strontium-90, tritium and gamma emitting radionuclides by gamma spectroscopy, using an off-site laboratory. Minimum detectable activity (MDA) for cesium-137 and strontium-90 averaged ~0.033 pCi/g and ~0.043 pCi/g respectively. Minimum detectable activity for tritium averaged ~1.0 pCi/g. The gamma spectroscopy library also included the following contaminants-of-concern:

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Strontium-90 - Based on the results of the statistical analysis of Appendix 1, soil to be excavated from IEL-2 does not exceed the local background for Sr-90, indeed is all non-detect. The incremental dose from Sr-90 above background is therefore zero mrem/y. The highest Sr-90 result is 0.025 pCi/g which is non-detect and less than the highest background result of 0.13 pCi/g. The highest non-background subtracted, non-detect Sr-90 result is equivalent to an effective dose of 0.0077 mrem/y⁶.

Tritium - All tritium results are non-detect, the average tritium result is -0.38 pCi/g and the highest tritium result is 0.0 pCi/g. The highest non-detected, non-background subtracted tritium result is equivalent to an effective dose of 0.0 mrem/y⁶ 65e Alt d (-35 T -.084 -e)5(d d15 Tsp)5T 18.6s of (tectil1ty permitso)-1(se of 0.0 mrem/y)T10EMC /Span <</MCI



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Public Health) to perform verification sampling of decommissioned material or to provide approval for disposal of specific decommissioned material shipped offsite (e.g., to Class I or II landfills). The California DPH has not imposed a requirement that Boeing or the Department of Energy (DOE) seek DPH verification sampling or approval of all decommissioned material destined for Class I or II landfills in compliance with the Governor's Executive Order."

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Wilcoxon Rank Sum Test -- (Cesium-137)

General Information:

Instruction on how to use this template:

Test Result:
Survey sample concentrations do not exceed those in the background by more than the DCGL

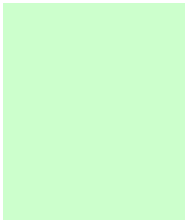
Bkgd Ref (R) Survey (S)

No.	Soil ID	Cs-137	Adjusted Cs-137	Area	Ranks	Reference Ranks
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No.	Soil ID	Cs-137	Adjusted Cs-137	Area	Ranks	Reference Ranks
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No.	Soil ID	Sr-90	Adjusted Sr-90	Area	Ranks	Reference Ranks
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Appendix 2
Radionuclide Results

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