

Cabrera Services, Inc. Responses to US NRC Questions  
Interim Removal Action Work Plan and EE/CA  
September 19, 2002

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1. *“What are the release criteria for the facility? Is it if the activity is below DCGLs, or until the subsurface samples have the same activity as the reference background activity or both?”*

CABRERA Response:

Based on the second sentence of Question #1, “release criteria” in this context is assumed to mean the basis for release of the property after the FSS is completed; not surface contamination criteria used during routine surveys, e.g. “dpm/100<sup>2</sup>.”

The answer to your question is “both.” The surface soil samples taken during the FSS (including those from the background reference area) will be evaluated using the Wilcoxon Rank Sum Test. The Cleanup Goals listed in Table 5-3 of the IRA will serve as the “DCGL<sub>w</sub>” as described in the MARSSIM. In addition, the subsurface samples will be directly compared to the results of the background reference area for the sake of verifying appropriate use of the Interim Soil Screening Values (i.e. contamination is within first 15 cm of soil). This is discussed in Section 7.3 and Appendix A (FSS Plan) of the IRA.

2. *“Detection limits of the instrumentation that will be used to analyze soil samples (MDC). What type of instrumentation?”*

CABRERA Response:

We required the chosen analytical laboratory (Paragon Analytics, Ft. Collins, CO) to be able to achieve MDCs equal to half the established Cleanup Goal for each radionuclide of concern. Below is a summary table:

Nuclide	MDA (pCi/g)	Cleanup Goal (pCi/g)	MDA / Limit	Laboratory
H-3	1	110	0.009	Paragon Analytics, Fort Collins, CO
C-14*	3	5.57	0.539	Paragon Analytics, Fort Collins, CO
Ni-63	10	2100	0.005	Paragon Analytics, Fort Collins, CO
	sum of fractions		0.552	

\* For 3 pCi/g MDA have limitation for soil having carbeneous materials at <60mg/g soil.

It is assumed that these ROCs will be analyzed using either liquid scintillation or low-energy proportional counters after appropriate radiochemistry preparatory procedures are performed.