

be scanned for gross gamma radiations. The types of instruments used for scanning and their typical performance characteristics are provided in Table 4-2.

**Table 4-2: IDENTIFICATION OF RADIATION DETECTION INSTRUMENTS
FOR THE FINAL STATUS SURVEYS OF THE SEQUOYAH FACILITY**

Measurement	Instrumentation		Background ¹ (cpm)	4 π ¹ Efficiency (%)	Detection Sensitivity ^{2, 3}
	Detector	Meter			
Scan alpha Direct alpha	Large area gas prop., Ludlum Meas., Inc., Model 239-1F.	Count rate meter and digital scaler, Ludlum Meas., Inc., Model 2221.	16	20	80 dpm/100cm ² 36 dpm/100cm ²
Scan beta/gamma Direct beta/gamma	Large area gas prop., Ludlum Meas., Inc., Model 239-1F.	Count rate meter and digital scaler, Ludlum Meas., Inc., Model 2221.	1220	20	3050 dpm/100cm ² 275 dpm/100cm ²
Removable	Gas proportional, 80 μ g/cm ² window	Tennelec, Model LB5100	α β/Γ 1 3	α β/Γ 30 30	67 α 110 β/Γ
Scan Soil	Nal scintillation Ludlum Meas., Inc., Model 44-10	Count rate meter, Ludlum Meas., Inc., Model 2221.	10000	n/a	80 pCi/g as natural uranium

- ¹ Nominal values.
² Monitoring audible signal during scanning.
³ One minute integrated count for direct measurements.
n/a not applicable

Direct Measurements

Direct measurements will be made to determine average activity in a survey area or unit. Direct measurements will only be made of structural surfaces. Direct measurements will be limited to alpha and beta/gamma measurements. The types of instruments used for direct measurements and their typical performance characteristics are provided in Table 4-2.

Sampling

Sampling will be limited to land areas. Samples of soil will be collected and analyzed for the radionuclides of concern, as applicable. The analysis technique and typical detection limit for each radionuclide of concern is provided in Table 4-3.

9902120167 990204
PDR ADOCK 04008027
C PDR