

Table A-19. Groundwater Recharge and Discharge Zones at Savannah River Plant

Formation	Recharge	Discharge	Confining layers
Barnwell (and Upland Unit)	Winter rainfall 31.2 cm/yr; total recharge about 38 cm/yr.	Onsite streams. Recharge through tan clay to McBean.	Tan clay at base; generally absent in M-Area.
McBean	From Barnwell (through tan clay in central SRP); offsite areas.	Upper Three Runs Creek and Four Mile Creek. Almost no recharge through "green clay" to Congaree in central SRP; appreciable recharge in A- and M-Areas.	Tan clay at top; absent in A- and M-Areas. Green clay at base; discontinuous in A- and M-Areas.
Congaree	Principally in offsite areas; appreciable recharge from McBean in A- and M-Areas.	Savannah River and wetlands along Upper Three Runs Creek. Little recharge downward through basal clay and upper Ellenton clay to Ellenton sands, or upward through green clay.	Green clay at top; discontinuous in A- and M-Areas. Pisolitic clay at base. Top of Ellenton.
Ellenton	From underlying Cretaceous sediments and offsite areas; some recharge from Congaree.	Upper clay layer of Cretaceous sediments may be discontinuous or contain sandy zones that permit communication.	Lower pisolitic clay of Congaree. Upper clay layer of Ellenton. Upper clay layer of Cretaceous sediments; usually not effective confining layer.
Cretaceous sediments	Principally from offsite areas; outcrop area 15-50 km wide in South Carolina near fall line and in major stream valleys.	Upper Cretaceous sediments aquifer to lower unit of Ellenton. Groundwater beneath SRP flows to sink along Savannah River.	Upper clay layer of Ellenton. Upper clay layer of Cretaceous sediments; usually not effective confining layer. Middle clay layer. Basal clay layer.