CERRO MATOSO S.A.
TAILINGS FACILITY INFORMATION

Tailings Storage Facility (TSF) Information (GISTM Requirement 15.1 B1 & B5)

The Cerro Matoso S.A. (CMSA) mining complex is located in the north-west of Colombia, approximately 22 km southwest of Montelíbano in the province of Córdoba. The Sajana TSF is located 5 km from the mine on the south-eastern side, as shown in figure 1.

Figure 1: Sajana TSF Location

The Sajana TSF was designed between 2005 and 2007 and its construction and operation took place between 2007 and 2015. The tailings were produced by grinding the granulated slag to recover the ore by magnetic separation. Flocculant was the only reagent used in the process for particle separation with tailings the deposited within the TSF hydraulically.

The TSF was constructed using the upstream method, commenced with the construction of nine compacted soil embankments (dams), designated 'A' to 'I', and a series of perimeter embankments, leaving dams A, B, C and D partially embedded as part of the north and south perimeter embankments. The perimeter embankment and dams A, B, C and D, referred to as the starter dams, closed the ground depressions in the storage area and served for the initial containment of the tailings. Tailings deposition ceased in 2015 with only one third of the available storage volume consumed.

Dams E, F G and H were constructed on the north-west perimeter of the deposit to intercept and store run-off and contact water from the tailings body drains and filters. Dams E, F and G are connected by drainage channels to maintain the same level in these three ponds, while dam H operates independently. Dams E and H each have an overflow weir for the control of the reservoir level.

Dam I was built in the central sector of the deposit, creating a decanting pond with a double function: (i) containment of tailings material and (ii) impoundment of runoff water and water used to transport the tailings through pipes from the metabolic network reactor (MNR) plant to the Sajana TSF and its subsequent recirculation. Reservoir I currently has an overflow control channel located in the southern sector near elevation 69 metres above sea level (m.a.s.l).

Table 1 summarises the construction history of the TSF Sajana and its associated structures.

Monitoring of the TSF incorporates a structured combination of visual inspections, monitoring of piezometers installed in dams and embankments, scheduled interferometric synthetic aperture radar (InSAR) and drone surveys, and control of surface and depth displacements by means of topographic control monuments and inclinometers, respectively.

Figure 2: Sajana TSF Configuration

Description	Year	Method	Height (toe to crest) [m]	Crest Elevation [m.a.s.l.]

Starter Dam A	2007	Compacted Soil	13.0	64.4
Starter Dam B	2007	Compacted Soil	12.5	65.0
Starter Dam C	2007	Compacted Soil	12.4	65.0
Starter Dam D	2007	Compacted Soil	19.2	69.9
Dam E	2007	Compacted Soil	5.6	56.2
Dam F	2007	Compacted Soil	5.7	56.2
Dam G	2007	Compacted Soil	6.5	56.4
Dam H	2007	Compacted Soil	8.2	58.7
Dam I	2007	Compacted Soil	20.7	74.2
North Embankment	2015	Upstream	38.2	94.0
South Embankment	2015	Upstream	20.1	79.0

Table 1: Sajana TSF Construction History