



**Figure 9-1: Longitudinal section along the STSF showing ERI and drillholes**

NML is evaluating the prospect of restoring the NTSF to service as an upstream construction facility and maintaining STSF operations in a similar manner. In so doing, it should recognise that members of the ITRB take a more precautionary view with respect to upstream construction than has prevailed on site in the past (Morgenstern, 2018). The following quote from this reference outlines this more precautionary view in detail which assumes at the outset of a design that liquefiable material be assumed to do so;

*"However, I side with the views of Martin and McRoberts (1999) and others before them (e.g., Lenhart (1950); Vick (1992)) that there is nothing wrong with upstream tailings dams provided that key principles are adhered to in the design, construction, and operation of such dams. Some 12 principles are outlined that should be recognised when upstream dams are proposed. In my practice, I advocate for purposes of preliminary design that liquefiable deposits that can liquefy be assumed to do so and that containment be provided by a buttress of non-liquefiable unsaturated tailings and/or compacted dilatant material. In addition, it is essential to continually demonstrate by monitoring that the assumed unsaturated conditions in the buttress persist if relied upon in the design and that the buttress is behaving as intended."*