Initial exploration of the Mud Tank Carbonatite took place in 1940. The mining lease, surveyed specifically to permit mining areas of both vermiculite and zircon, was excised from the Alcoota Pastoral Lease. The area is surrounded by the Alcoota Pastoral Lease, but is accessed from the Plenty Highway via a public road. In addition to the more usual environmental protection measures, certain procedures to protect the zircon resource in the area and the interests of zircon fossickers, tourists and tourism operators were proposed and accepted. These procedures now form an integral part of the Mine Management Plan.

An exploration title was applied for in January 1986 which was subsequently granted in June of the same year and the exploration programme identified a worthwhile resource of vermiculite occupying the slopes of Zircon Hill. The development involved the construction of a processing plant to produce vermiculite concentrate supplied from a small, open pit mining operation established on the site in 1996. The desert conditions are ideal for a dry beneficiation plant. One unique advantage AVI has over its competitors is that the management team that initially developed the mine and processing plant has remained the same. This means that supply and production problems can be quickly identified and ameliorated. It also gives customers direct access to the mine and management, with personal attention.

Vermiculite is mined by open pit techniques and after extraction it is crushed and upgraded to a concentrate by wet or dry processing methods. The process at Mud Tank is a dry beneficiation plant. Concentrate contains around 90 - 99% vermiculite flake compared with a range of 70 - 75% in the original deposit. The concentrate is graded and marketed according to flake size, with the larger flake grades commanding higher prices. The identified reserves indicate a mine life of approximately 20 years.

The product is classified into six different size fractions, then the concentrate product is packed in plastic-lined Bulka bags to weigh 1 to 1.2mt. These are transported by road to Alice Springs, by road and rail within Australia, and by ship from Adelaide and Melbourne for export.
Mud Tank processing plant