Abstract:

Adelaide Resources Limited was awarded funding as part of the inaugural 2009 (Year 1) 'Bringing Forward Discovery' collaborative drilling initiative with the Northern Territory Government. Three rotary mud precollared diamond holes were drilled within Exploration Licence SEL 27372 (Rover) to test previously untested geophysical targets for Tennant Creek-style Au-Cu mineralisation. SEL 27372 is located 75km southwest of Tennant Creek centered on the Rover area where Tennant Creek-style mineralised ironstones have been identified within a basement inlier of Palaeoproterozoic Warramunga Formation metasediments and intercalated volcanics beneath the Palaeozoic-Cambrian Wiso Basin. The potential of the Rover area to host mineral deposits similar to the 'Tennant Creek Field' was first recognised in the late 1960s. Peko Mines Ltd actively explored in the region from 1971 until 1982 targeting Tennant Creek-style bullseye magnetic anomalies and identified significant Cu-Au-Bi mineralisation at a number of prospects, most notable at Rover 1. The tenement is located on Aboriginal Freehold Title and the work was carried out with the consent of the Traditional Owners and the Central Land Council as defined under a Deed of Exploration. Drilling operations commenced in early June 2009. Three rotary mud precollared diamond holes (1,305.8m total drilling) were completed with one hole at each of the Rover 2, Rover 27 and Rover 1 North prospects. Drill hole locations were based on geophysical modeling of high quality helimagnetic and gravity data. Altered porphyritic volcanic rocks with weak to moderate magnetic susceptibilities were intersected at the Rover 2 and Rover 27 prospects. This was confirmed by three component down hole magnetic surveying of the Rover 2 drill hole with the data interpreted to show that the causative magnetic body has likely been intersected. No down hole surveying was possible at Rover 27 due to blockage in the hole. At Rover 1 North the hole intersected a sequence of highly altered metasediments and tuffaceous lithologies comparable with defined metasedimentary sequences of the Warramunga Formation. No magnetic rocks were intersected and down hole magnetic surveying suggested there are no magnetic bodies in close proximity to the drill hole. The target was difficult to model due to its close proximity to the Rover 1 magnetic anomaly. Selected intervals of drill core from the Rover 2 and Rover 1 North holes were submitted for geochemical analysis. No significant mineralisation was intersected but Rover 1 North recorded several elevated intervals of a number of the key elements associated with the Tennant Creek style of mineralisation and further work at this prospect appears to be warranted.