APPENDIX 3 - SURVEY METHODOLOGY

3.1 GEOPHYSICAL SURVEYS

Ground Magnetics

All ground magnetic surveys are effected by Normandy NFM personnel.

Total Magnetic Intensity (TMI) readings are taken at 10m intervals using a G856 proton precession magnetometer and a pole height of 1.8m. Diurnal measurements are taken using a second magnetometer as a base station, with readings taken every 30 seconds. On completion of the survey, diurnal variations are removed from the data using the MAGPAC program.

Data is collected over the surveyed lines which are pegged every 100m and clearly annotated with the line number and location coordinates. Traverses are established using a Trimble Global Positioning System combined with a Racal differential GPS attachment.

Line origins are estimated to be within +/-50m of the AMG co-ordinates listed.

Electrical Surveys

Transient Electromagnetic surveys are undertaken by Contractors.

Gravity Surveys

Small-scale Gravity surveys are undertaken by NFM personnel using Autograv gravity meter hired from Scintrex (Scintrex CG-3). The relative gravity field is measured by closed loop format within a 90 second time window. Each station is marked by wooden peg bearing the station number and the prefix GR, and flagging tape. Each survey is related to a local base station (tabled below), tied to the base station at The Granites (BMR Station Number 002).

Base station	BMR No	STN	E	N	RL	Observed Gravity
The Granites	9489.000N	002	633983.04	7728259.70	381.23	978566.57mgal
Wilsons		LL1	510859.4	7764854.6	419.099	978540.72mgal
Billabong		11111	685167.3	7733021.0	372.04	978564.42mgal

Horizontal and vertical survey co-ordinates are provided by Daishsat Pty Ltd using the kinematic mode GPS technique (three Trimble GPS receivers used in the kinematic mode, with two Trimble Navigation GPS receivers employed for navigational purposes). Horizontal co-ordinates are measured in AMG while elevations are Australian Height Datum (AHD). The instrument is regularly calibrated to minimise drift, and tidal corrections are programmed into the Autograv meter. Gravity readings are reduced to Bouguer anomalies using Geoterrex gravity data reduction software (a Lotus macro program using a Bouguer density of 2.67gm/cc).

3.2 LOCATION SURVEYS

Gridding

Grids are established by NFM Surveyors.

If the grid is located within one to two days traversing from an existing grid with first to third order control, the original grid is used to determine positioning. If the grid is isolated, single point GPS (Trimble Pathfinder) precision is adopted (+/-300m due to military and atmospheric errors).

Drillhole Locations

All diamond and RC drillhole collars are accurately located by Company surveyors utilising thedolite/EDM equipment with reference to pre-established x,y,z control.

RAB drillholes are located with reference to an established grid by measurement from the nearest peg. The positions of isolated reconnaissance drillholes are determined by the geologist at the time of drilling, using a vehicle mounted Trimble Ensign. Other GPS equipment in use by the company include a Trimble Scoutmaster, a Trimble Navigator and a Magellan 5000.

Sample Locations

When collected within a gridded area, sample sites are located with reference to the grid. Outside a grid, sample locations are determined by vehicle mounted GPS equipment.