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**JOB:** G2129  
**CLIENT:** FALCON MINERALS  
**AREA:** SPRINGSURE, QUEENSLAND  
**DATE:** JUNE  
**CREW:** LAURIE MURPHY (CREW CHIEF)  
JAYSON GREGG (OPERATOR)  
**PROCESSOR:** PETER JOHNSON

### **Summary of Base Ties and Base Station Establishment**

At the request of Ray Muskett (Falcon Minerals), the survey was not tied directly to either the Queensland state survey network or the AGSO fundamental gravity network as it was considered unnecessary for the purpose of the current survey. The following procedures were adopted for data reduction.

#### **GRAVITY**

The primary base station for the survey was RAYMOND, situated within the northern area. A secondary base DALLAREEN was established for surveying within the southern area. DALLAREEN was tied by a single loop tie to RAYMOND and can be considered to be relatively tied to an accuracy of better than 0.05mGals. Base station RAYMOND has an arbitrary value of 978850mGal. Base station DALLAREEN has a difference of +2.4mGal to RAYMOND with a gravity value relative to RAYMOND of 978852.4mGal.

#### **GPS**

Two GPS base stations were also established immediately adjacent the gravity base stations RAYMOND and DALLAREEN. Base station DALLAREEN was established via a static tie to RAYMOND and has an accuracy better than 0.1m in X, Y and Z. Base station RAYMOND was established by use of the AUSPOS GPS processing service giving coordinates of accuracy better than 0.1m absolute (GDA94 datum). The AHD elevation and RAYMOND, DALLAREEN and all field stations was established by use of the AUSGEOID98 N-value. The absolute accuracy of this method is 0.3 to 0.5m but the relative accuracy is approximately 3<sup>rd</sup> order (better than 0.05 on a 30km baseline).

#### **Equipment**

The present survey was completed using a Scintrex CG-3 gravity meter and Trimble 4000Ssi dual frequency receivers. Data was collected and post processed using a 10 second logging time. Surveying was completed using a single crew operating from a 4WD vehicle.

If further work was completed at the site, base station RAYMOND could be tied to the state survey network and AGSO fundamental gravity network and the data from this survey reprocessed.