## Declination values found

Refraction values as given in the Nautical Almanac and mean lunar parallax (57′.04) are applied.
The value for the lunar perturbation, Δ, is often approximated to ± 9′ arc.
More accurately ± 8′.6 or ± 10′ as follows:-

| | | At the Major Standstill | | At the Minor Standstill | |
|---|---|---|---|---|---|
| Moon to the north | + Δ | quarters | +8′.6 | full moon | +10′ |
| Moon to the north | - Δ | full moon | -10′ | quarters | -8′.6 |
| Moon to the south | + Δ | full moon | +10′ | quarters | +8′.6 |
| Moon to the south | - Δ | quarters | -8′.6 | full moon | -10′ |

The value of ± 9′ arc for Δ was used. It was found that using the more correct values for Δ makes little difference. All of the measured declinations fall within ±2′ arc of a theoretical value, which, from the start, was taken as the limit of acceptable error. (See 'Method' above). Nearly all sites had multiple visits for the purpose of declination measurement[7]. On each occasion three or four sets of timed sunsights were made and the azimuths found averaged.

| Site | Declination found | Theoretical Value - for Δ (a) ± 9' | (b) ± 8'.6/10' | Differences – from:- (a) ± 9' | (b) ± 8'.6/10' |
|---|---|---|---|---|---|
| **Onich (1)** | **-28º 38'.7** | **-28º 38'.5** | **-28º 37'.5** | **-0'.2** | **-1'.2** |
| **Achara(2)** | **+29º 08'.5** | **+29º 09'.5** | **+29º 08'.5** | **-1'.0** | **0'.0** |
| **Sluggan (12)** | **-18º 19'.7** | **-18º 21'.1** | **-18º 21'.5** | **+1'.4** | **+1'.8** |
| **Salachary(14)** | **-28º 38'.7** | **-28º 38'.5** | **-28º 37'.5** | **-0'2** | **-1'.2** |
| **Salachary(14)** | **-29º 27'.7** | **-29º 27'.5** | **-29º 27'.1** | **-0'.2** | **-0'.6** |
| **Ford (16)** | **+28º 56'.2** | **+28º 56'.5** | **+28º 56'.1** | **-0'.3** | **+0'.1** |
| **Glennan(18)** | **-18º 21'.4** | **-18º 21'.1** | **-18º 21'.5** | **-0'.3** | **+0'.1** |
| **Carnasserie(19)** | **Approx. (-29º 28'.5)** | **-29º 27'.5** | **-29º 27'.1** | **(-1'.0)** | **(-1'.4)** |
| **Nether Largie (20)** | **+28º 56'.7** | **+28º 56'.5** | **+28º 56'.1** | **+0'.2** | **+0'.6** |
| **Ballymeanach (21)** | **+29º 27'.6** | **+29º 27'.5** | **+29º 27'.1** | **+0'.1** | **+0'.5** |
| **Torbhlaran(24)** | **+28º 56'.2** | **+28º 56'.5** | **+28º 56'.1** | **-0'.3** | **+0'.1** |
| **Achnabreac(29)** | **Approx. (-28º 38' )** | **-28º 38'.5** | **-28º 37'.5** | **(-0'.5)** | **(+0'.5)** |
| **Barnashaig(32)** | **+29º 28'.9** | **+29º 27'.5** | **+29º 27'.1** | **+1'.4** | **+1'.8** |
| **'Lower Fernoch' (34)** | **-28º 37'.1** | **-28º 38'.5** | **-28º 37'.5** | **+1'.4** | **+0'.4** |
| | | | **RMS** | **0'.78** | **0'.95** |