

Figure 1. The deeper 9C survey areas: an equatorial plane projection with the N. pole at the centre. The Declination circles are at intervals of $10^{\circ}$ and the Galactic plane is shown.

Table 1. The areas complete to $\approx 10 \mathrm{mJy}$

| Field | RA $\left({ }^{\mathrm{hm} \mathrm{s}}\right)$ to RA $\left({ }^{\mathrm{hm} \mathrm{s}}\right)$ | $\operatorname{Dec}\left({ }^{\circ}{ }^{\prime \prime \prime}\right)$ to $\operatorname{Dec}\left({ }^{\circ}{ }^{\prime \prime \prime}\right)$ |  |
| :---: | :---: | :---: | :---: |
| $0020+2947$ | 000648.2 | 003304.6 | $+263755+325520$ |
| $0303+2629$ | 024936.5 | 031603.3 | $+242619+283204$ |
| $0731+5427$ | 072205.0 | 074001.2 | $+530929+554420$ |
| $0938+3218$ | 092938.0 | 094608.0 | $+304345+335155$ |
| $1228+5301$ | 121708.5 | 123843.9 | $+512716+543345$ |
| $1535+4305$ | 152216.7 | 154710.1 | $+404316+452552$ |
| $1737+4215$ | 172940.3 | 174357.2 | $+411324+431730$ |

## 1 THE SURVEY AREAS

The seven areas of the survey presented here are centred at: $0020+2947,0303+2629,0731+5427,0938+3218,1228+5301$, $1535+4305,1737+4215\left(\right.$ RA $\left({ }^{\mathrm{hm}}\right)$ Dec. $\left({ }^{\circ}{ }^{\prime}\right)$, J2000.0), as indicated in Figure 1. They are situated away from the Galactic plane and are widely spaced in RA, their positions having been determined by the choice of fields for the observations of the VSA. The RA and Dec. ranges are given in Table 1. The total area amounts to $114.7 \mathrm{deg}^{2}$ and within this our source list is complete to $\approx 10 \mathrm{mJy}$. In each field there are also some much more sensitive areas; this was partly because deeper surveying was required near the centre of the VSA primary beam and partly because on some days there were particularly favourable observing conditions. For the purpose of this paper, in order assemble a complete sample of a useful size, we have selected a number of sub-areas with $\approx 5.5 \mathrm{mJy}$ completeness, which form a total area of $29.1 \mathrm{deg}^{2}$ (Figure 2). These are of various shapes and sizes, so in Table 2 we have described them in terms of small constituent areas bounded by specific RA and Dec. ranges. Although our completeness limit in these regions is $\approx 5.5 \mathrm{mJy}$, we have detected many fainter sources, the faintest being only 1 mJy .

Table 2. The areas complete to $\approx 5.5 \mathrm{mJy}$

| Field | $\operatorname{RA}\left({ }^{\text {m m s }}\right.$ ) to RA ( ${ }^{\text {m m s }}$ ) | $\operatorname{Dec}\left({ }^{\prime \prime} \prime \prime\right)$ to $\operatorname{Dec}\left(0^{\prime \prime}{ }^{\prime \prime}\right)$ |
| :---: | :---: | :---: |
| 0020+2947 | 001155.7002008 .0 | +27 0939.0 +29 1604 |
|  | 002008.0002245 .5 | +284343.0 +291604 |
|  | 002500.8003054 .6 | +315324.0 +32 2407 |
| 0303+2629 | 025527.2025826 .5 | +245603.0 +25 2756 |
|  | 025826.5030123 .7 | +25 2756.0 +25 5827 |
|  | 025821.7030422 .8 | +262955.0 +265931 |
| 0731+5427 | 072205.0073104 .6 | +53 0929.0 +53 4027 |
|  | 072633.2074001 .2 | +53 4027.0 +55 1328 |
|  | 072205.0073117 .7 | +551328.0 +554420 |
| 0938+3218 | 092938.0094046 .9 | +304345.0 +32 4953 |
|  | 094301.8094608 .0 | +311444.0 +314605 |
|  | 094046.9094335 .0 | +321715.0 +32 4955 |
|  | 093208.6093523 .3 | +324953.0 +332131 |
|  | 093738.7094046 .9 | +32 4953.0 +33 2116 |
| $1228+5301$ | 122119.2122544 .9 | +515814.0 +523036 |
|  | 122544.9123001 .0 | +515814.0 +540256 |
|  | 123422.2123848 .0 | +515821.0 +52 3043 |
|  | 122054.5122544 .9 | +53 3151.0 +54 0256 |
| $1535+4305$ | 153428.4154407 .5 | +404316.0 +42 4911 |
|  | 154407.5154710 .1 | +42 1813.0 +42 4911 |
|  | 152216.7152844 .7 | +42 4844.0 +43 1948 |
|  | 152216.7152532 .3 | +431948.0 +435107 |
|  | 154059.3154446 .9 | +44 $2359.0+445540$ |
|  | 152445.0153150 .2 | +445451.0 +45 2552 |
| $1737+4215$ | 172940.3174357 .2 | +41 $1324.0+421551$ |
|  | 172940.3173316 .0 | +42 $1551.0+424640$ |
|  | 173650.1174357 .2 | +42 1551.0 +42 4640 |



Figure 2. The seven fields, centred at $0020+2947,0303+2629,0731+5427,0938+3218,1228+5301,1535+4305$ and $1737+4215$. The total areas are complete to $\approx 10 \mathrm{mJy}$ and the deeper areas (shown in paler grey) to $\approx 5.5 \mathrm{mJy}$.

