

## *Geomagnetic Survey along the Traverse Route Syowa-South Pole*

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### **1. Introduction**

This is the report of the magnetic surveys carried out during the JARE traverse 1967-68 between Syowa-Plateau and the JARE traverse 1968-69 between Syowa-South Pole (see Table 1). Since the route to and from the South Pole was the same, we were able to make observations at numerous points on this route. Stress was laid on the measurement of total intensity, in order to clarify the crustal structure under the ice sheet. The observation was carried out, at as many stations as possible, and the results were compared with those of seismic investigation and gravity survey. It seems that there is no large local magnetic anomaly area along the traverse route.

*Table 1. Number of observations.*

| Traverse  | Data obtained   | Number of stations |
|---|-----------------|--------------------|
| JARE traverse 1967-68<br>(Nov. 1967-Jan. 1968)  | D, I            | 27                 |
| JARE traverse 1968-69<br>(Sept. 1968-Feb. 1969) | F, D, I<br>D, I | 146<br>5           |
|   | F               | 757                |

F : Total magnetic intensity.

D : Magnetic declination.

I : Magnetic inclination.

The detailed analysis is now under way. No reduction has been applied to the values given in the present report.

### **2. Instrument**

A GSI type magnetometer was used for declination (D) and inclination (I) measurements, and a proton magnetometer GEONIX Model PMM 611G\*\*\* for total intensity (F) measurement. On the JARE traverse 1967-68, two components, D and I, were observed; on the JARE traverse 1968-69, the observation was

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made of three components, D, I, and F. The accuracies for D, I, and F were  $0.1'$ ,  $0.1'$ , and  $1'$ , respectively. Since no reduction has been applied for cancelling the transient variations,  $1'$  in angle and  $10^r$  in intensity are adopted as units in the final list.

### 3. Method of Observation

One or two observations of D and I were made at every station, setting the GSI type magnetometer at a point about 30 metres from the snow vehicle. After this, the sensor of the proton magnetometer was set at the same position and connected to the recorder in the snow vehicle with a cable about 40 m long.

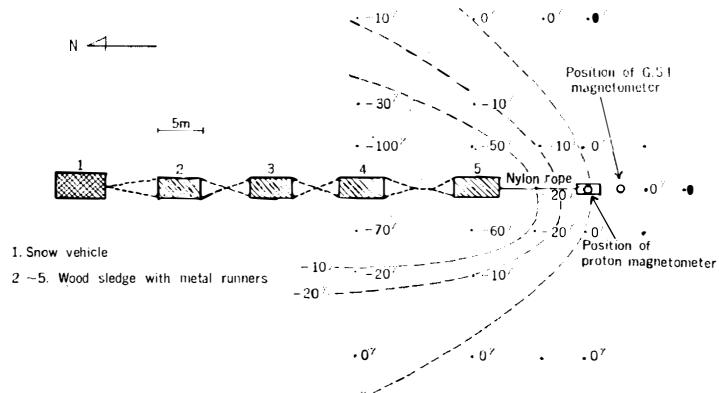


Fig. 1. Distortion of magnetic field produced by snow vehicle and sledges.

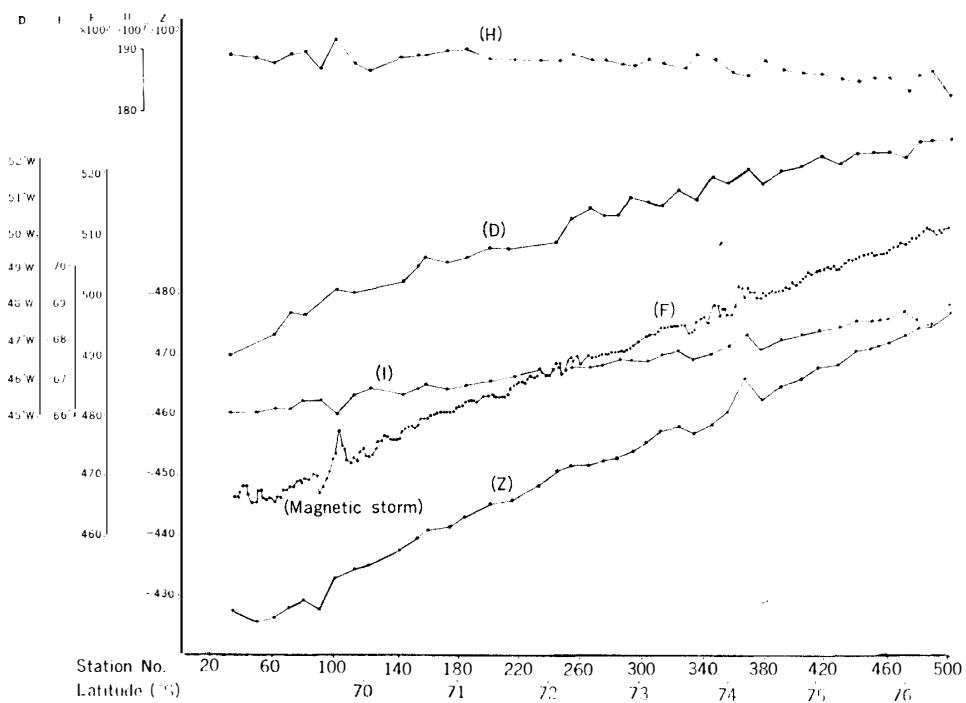


Fig. 2a. Magnetic profiles (Sts. 31-500).

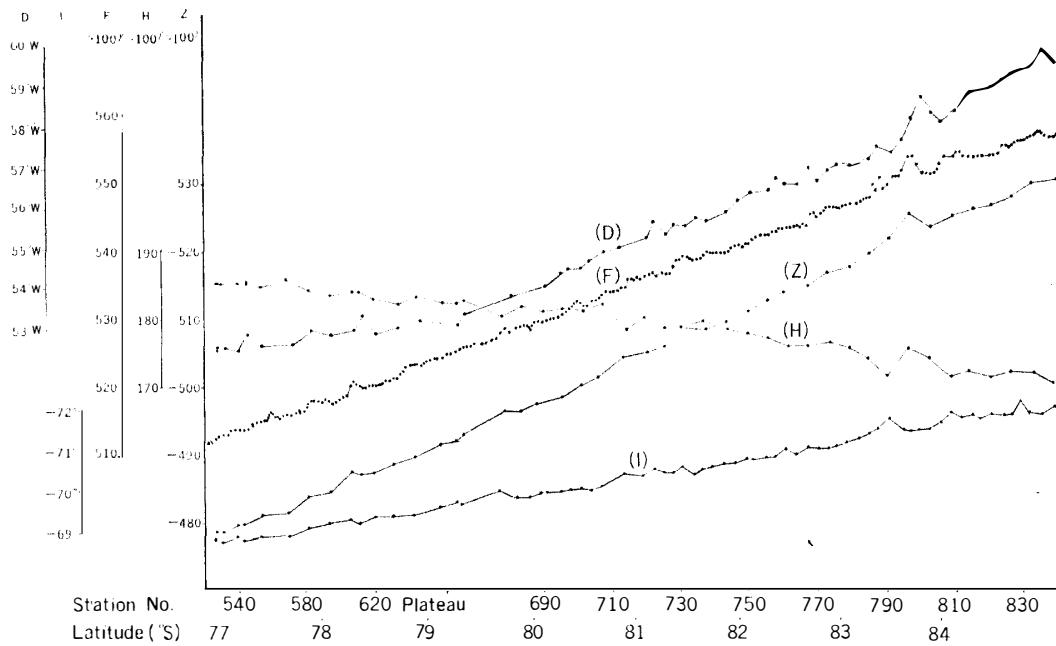


Fig. 2b. Magnetic profiles (Sts. 500-830).

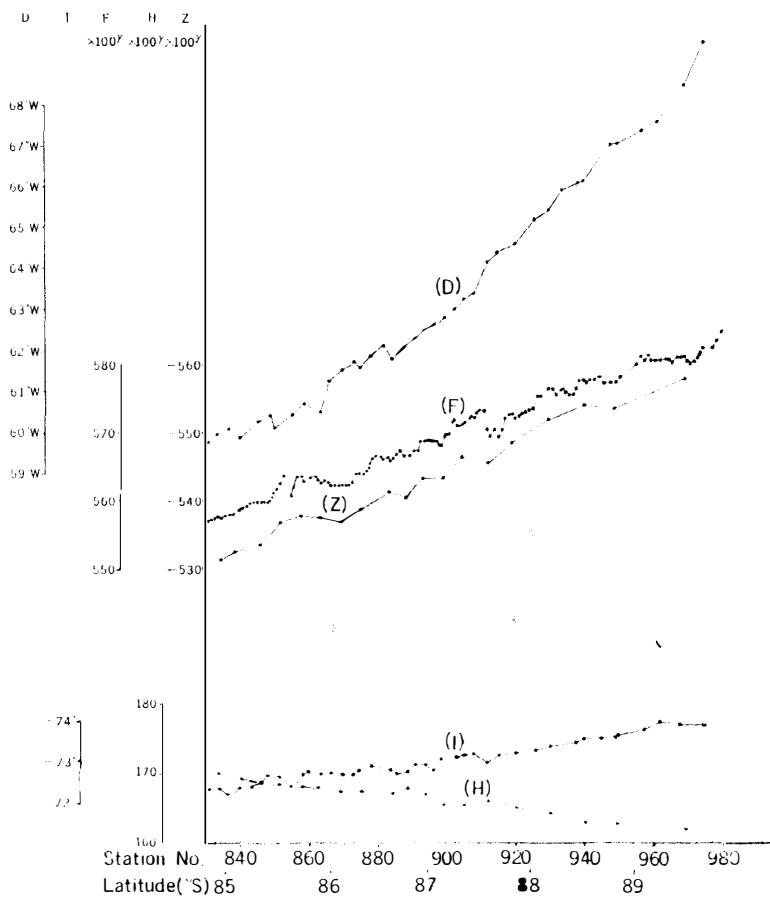


Fig. 2c. Magnetic profiles (Sts. 830-980).

The observations were made 5 to 10 times at an interval of 6 seconds. The mean values of these 5 to 10 observations are given in the table. The azimuth was determined by measurements, repeated 3 to 5 times, of the sun before or after the magnetic observations.

The observation of the total intensity at every station on the way back from the South Pole was made in a different way: the sensor of the magnetometer was mounted on a small sledge trailed by a snow vehicle; the signals were able to be read during the 5 minute stop of the snow vehicle (Fig. 1). In order to observe the three components D, I, and F, however, one had to adopt the procedure described earlier.

The results of survey are summarized in Table 2.

*Table 2a. Magnetic survey data during the JARE traverse,  
from November 1967 to January 1968.*

| Station No. | Latitude | Longitude | Date       | GMT     | D       | I       |
|-------------|----------|-----------|------------|---------|---------|---------|
| 31          | 69°03'3S | 40°43'E   | m 01 12 68 | m 07 30 | 46°42'W | -66°12' |
| 60          | 69 04.6  | 40 08     | d 01 10 68 | d 08 18 | 47 09W  | -66 11  |
| 90          | 69 27.7  | 42 51     | d 01 09 68 | d 08 40 | 48 15W  | -66 22  |
| 122         | 70 01.1  | 43 06     | d 01 08 68 | d 08 15 | 48 36W  | -66 50  |
| 154         | 70 34.0  | 43 05     | d 01 07 68 | d 08 06 | 48 59W  | -66 41  |
| 184         | 71 03.0  | 42 57     | d 01 06 68 | d 07 54 | 49 27W  | -66 50  |
| 216         | 71 35.7  | 43 04     | d 01 04 68 | d 16 13 | 49 30W  | -67 08  |
| 244         | 72 04.2  | 43 09     | d 11 22 67 | d 12 44 | 50 06W  | -67 18  |
| 274         | 72 34.5  | 43 05     | d 01 01 68 | d 18 12 | 50 28W  | -67 18  |
| 302         | 73 03.5  | 42 58     | d 11 26 67 | d 08 03 | 50 38W  | -67 35  |
| 323         | 73 25.3  | 42 55     | d 12 31 67 | d 11 20 | 51 46W  | -67 52  |
| 344         | 73 47.0  | 42 54     | d 11 28 67 | d 07 57 | 51 18W  | -68 06  |
| 367         | 74 10.8  | 42 52     | d 12 30 67 | d 07 54 | 51 44W  | -68 06  |
| 389         | 74 33.7  | 42 51     | d 11 30 67 | d 08 00 | 51 33W  | -68 22  |
| 414         | 74 59.7  | 42 50     | d 12 03 67 | d 12 44 | 51 55W  | -68 18  |
| 438         | 75 24.4  | 42 37     | d 12 27 67 | d 07 51 | 52 08W  | -68 34  |
| 467         | 75 54.4  | 42 25     | d 12 06 67 | d 07 34 | 52 20W  | -68 40  |
| 498         | 76 26.2  | 42 08     | d 12 25 67 | d 08 00 | 52 25W  | -68 49  |
| 518         | 76 46.7  | 41 55     | d 12 08 67 | d 07 39 | 52 50W  | -69 14  |
| 552         | 77 21.8  | 41 33     | d 12 23 67 | d 07 58 | 52 58W  | -69 22  |
| 568         | 77 38.5  | 41 24     | d 12 10 67 | d 07 28 | 53 04W  | -69 17  |
| 580         | 77 50.7  | 41 15     | d 12 22 67 | d 07 43 | 53 19W  | -69 23  |
| 593         | 78 03.6  | 41 08     | d 12 11 67 | d 10 17 | 52 48W  | -69 24  |
| 610         | 78 20.6  | 40 53     | d 12 21 67 | d 07 44 | 53 10W  | -69 33  |
| 628         | 78 39.0  | 40 44     | d 12 13 67 | d 07 34 | 53 29W  | -69 52  |
| 638         | 78 49.2  | 40 39     | d 12 20 67 | d 07 42 | 54 02W  | -69 50  |
| Plateau St. | 79 14.8  | 40 30     | d 12 16 67 | d 14 01 | 53 20W  | -69 46  |

*Table 2b. Magnetic survey data during the JARE South Pole Traverse,  
from September 1968 to February 1969.*

| Station No. | Latitude   | Longitude | Date<br>m d y | GMT<br>h m | F<br>$\times 10^7$ | D       | I        | H<br>$\times 10^7$ | Z<br>$\times 10^7$ |
|-------------|------------|-----------|---------------|------------|--------------------|---------|----------|--------------------|--------------------|
| 31          | 69° 03' 3S | 40° 43'E  | 02 13 69      | 16 17      | 4673               |         | -66° 06' | 1893               | -4273              |
| 32          | 69 03.6    | 40 46     |               |            |                    |         |          |                    |                    |
| 33          | 69 03.9    | 40 48     | 02 13 69      | 15 52      | 4665               |         |          |                    |                    |
| 34          | 69 04.2    | 40 51     | 02 13 69      | 15 35      | 4664               |         |          |                    |                    |
| 35          | 69 04.4    | 40 54     | 02 13 69      | 15 22      | 4670               |         |          |                    |                    |
| 36          | 69 04.8    | 40 56     | 02 13 69      | 15 07      | 4666               |         |          |                    |                    |
| 37          | 69 04.8    | 40 59     | 09 29 68      | 15 16      | 4662               |         |          |                    |                    |
|             |            |           | 02 13 69      | 14 56      | 4663               |         |          |                    |                    |
| 38          | 69 04.9    | 41 02     | 02 13 69      | 14 37      | 4674               |         |          |                    |                    |
| 39          | 69 04.8    | 41 05     | 02 13 69      | 14 26      | 4679               |         |          |                    |                    |
| 40          | 69 04.7    | 41 07     | 02 13 69      | 13 05      | 4684               |         |          |                    |                    |
| 41          | 69 04.6    | 41 10     | 02 13 69      | 12 50      | 4693               |         |          |                    |                    |
| 42          | 69 04.6    | 41 13     | 02 13 69      | 12 35      | 4682               |         |          |                    |                    |
| 43          | 69 04.5    | 41 15     | 02 13 69      | 12 15      | 4670               |         |          |                    |                    |
| 44          | 69 04.3    | 41 18     | 02 13 69      | 12 00      | 4668               |         |          |                    |                    |
| 45          | 69 04.4    | 41 21     | 02 13 69      | 11 40      | 4664               |         |          |                    |                    |
| 46          | 69 04.5    | 41 24     | 02 13 69      | 11 20      | 4654               |         |          |                    |                    |
| 47          | 69 04.3    | 41 26     | 02 13 69      | 11 06      | 4651               |         |          |                    |                    |
| 48          | 69 04.2    | 41 29     | 02 13 69      | 10 36      | 4657               |         | -66 05   | 1888               | -4257              |
| 49          | 69 04.2    | 41 32     | 02 13 69      | 10 11      | 4667               |         |          |                    |                    |
| 50          | 69 04.2    | 41 35     | 09 30 68      | 06 50      | 4674               |         |          |                    |                    |
|             |            |           | 2 13 69       | 10 02      | 4679               |         |          |                    |                    |
| 51          | 69 04.1    | 41 37     | 02 13 69      | 09 51      | 4682               |         |          |                    |                    |
| 52          | 69 04.1    | 41 40     | 02 13 69      | 08 54      | 4676               |         |          |                    |                    |
| 53          | 69 04.0    | 41 43     | 02 13 69      | 08 44      | 4670               |         |          |                    |                    |
| 54          | 69 04.1    | 41 46     | 02 13 69      | 08 23      | 4664               |         |          |                    |                    |
| 55          | 69 04.2    | 41 48     | 02 13 69      | 08 12      | 4660               |         |          |                    |                    |
| 56          | 69 03.7    | 41 51     | 02 13 69      | 07 56      | 4659               |         |          |                    |                    |
| 57          | 69 03.8    | 41 54     | 02 13 69      | 07 45      | 4662               |         |          |                    |                    |
| 58          | 69 04.2    | 41 57     | 09 30 68      | 15 01      | 4673               |         |          |                    |                    |
|             |            |           | 02 13 69      | 05 39      | 4666               |         |          |                    |                    |
| 59          | 69 04.4    | 41 59     | 02 13 69      | 07 24      | 4660               |         |          |                    |                    |
| 60          | 69 04.6    | 42 02     | 02 13 69      | 07 54      | 4659               | 47°16'W | -66 13   | 1879               | -4263              |
| 61          | 69 05.0    | 42 04     | 02 13 69      | 06 27      | 4663               |         |          |                    |                    |
| 62          | 69 05.2    | 42 07     | 02 13 69      | 06 04      | 4665               |         |          |                    |                    |
| 63          | 69 05.3    | 42 09     | 02 13 69      | 05 52      | 4666               |         |          |                    |                    |
| 64          | 69 05.5    | 42 12     | 02 13 69      | 05 37      | 4666               |         |          |                    |                    |

| Station No. | Latitude  | Longi-<br>tude | Date<br><small>m d y</small> | GMT<br><small>h m</small> | F    | D       | I       | H             | Z             |
|-------------|-----------|----------------|------------------------------|---------------------------|------|---------|---------|---------------|---------------|
| 65          | 69°05' 8S | 42°15'E        | 02 13 69                     | 0 523                     | 4674 |         |         | $\times 10^7$ | $\times 10^7$ |
| 66          | 69 05.9   | 42 18          | 02 13 69                     | 05 01                     | 4676 |         |         |               |               |
| 67          | 69 06.0   | 42 21          | 02 13 69                     | 04 48                     | 4675 |         |         |               |               |
| 68          | 69 06.2   | 42 23          | 02 13 69                     | 04 32                     | 4676 |         |         |               |               |
| 69          | 69 06.4   | 42 26          | 02 13 69                     | 04 21                     | 4680 |         |         |               |               |
| 70          | 69 06.9   | 42 29          | 10 01 68                     | 13 43                     | 4687 |         |         |               |               |
|             |           |                | 02 12 69                     | 11 15                     | 4683 | 47°50'W | -66°09' | 1893          | -4283         |
| 71          | 69 07.9   | 42 29          | 02 12 69                     | 10 59                     | 4685 |         |         |               |               |
| 72          | 69 09.0   | 42 30          | 02 12 69                     | 10 41                     | 4684 |         |         |               |               |
| 73          | 69 10.0   | 42 30          | 02 12 69                     | 09 44                     | 4686 |         |         |               |               |
| 74          | 69 11.0   | 42 31          | 02 12 69                     | 09 30                     | 4689 |         |         |               |               |
| 75          | 69 12.1   | 42 32          | 02 12 69                     | 09 11                     | 4692 |         |         |               |               |
| 76          | 69 13.1   | 42 32          | 02 12 69                     | 08 51                     | 4690 |         |         |               |               |
| 77          | 69 14.2   | 42 33          | 02 12 69                     | 08 35                     | 4684 |         |         |               |               |
| 78          | 69 15.2   | 42 34          | 10 02 68                     | 07 55                     | 4686 | 47°45'W | -66 24  | 1876          | -4294         |
| 79          | 69 16.2   | 42 34          | 02 12 69                     | 07 54                     | 4691 |         |         |               |               |
| 80          | 69 17.3   | 42 35          | 02 12 69                     | 07 26                     | 4694 |         | -66 07  | 1900          | -4291         |
| 81          | 69 18.4   | 42 36          | 02 12 69                     | 07 00                     | 4696 |         |         |               |               |
| 82          | 69 19.4   | 42 36          | 02 12 69                     | 06 40                     | 4691 |         |         |               |               |
| 83          | 69 20.5   | 42 37          | 02 12 69                     | 06 25                     | 4698 |         |         |               |               |
| 84          | 69 21.5   | 42 38          | 02 12 69                     | 06 05                     | 4699 |         |         |               |               |
| 85          | 69 22.5   | 42 38          | 02 12 69                     | 05 49                     | 4700 |         |         |               |               |
| 86          | 69 23.5   | 42 39          | 02 12 69                     | 05 20                     | 4704 |         |         |               |               |
| 87          | 69 24.6   | 42 40          | 02 12 69                     | 05 04                     | 4704 |         |         |               |               |
| 88          | 69 25.6   | 42 41          | 02 12 69                     | 04 42                     | 4698 |         |         |               |               |
| 89          | 69 26.7   | 42 41          | 02 12 69                     | 04 23                     | 4703 |         |         |               |               |
| 90          | 69 27.7   | 42 42          | 02 11 69                     | 15 52                     | 4666 |         | -66 23  | 1870          | -4276         |
| 91          | 69 28.8   | 42 43          | 02 11 69                     | 15 33                     | 4667 |         |         |               |               |
| 92          | 69 29.8   | 42 43          | 02 11 69                     | 15 17                     | 4682 |         |         |               |               |
| 93          | 69 30.9   | 42 44          | 02 11 69                     | 15 01                     | 4686 |         |         |               |               |
| 94          | 69 31.9   | 42 45          | 10 02 68                     | 14 56                     | 4715 |         |         |               |               |
|             |           |                | 02 11 69                     | 14 42                     | 4693 |         |         |               |               |
| 95          | 69 32.8   | 42 46          | 02 11 69                     | 14 19                     | 4703 |         |         |               |               |
| 96          | 69 33.9   | 42 47          | 02 11 69                     | 14 00                     | 4708 |         |         |               |               |
| 97          | 69 34.9   | 42 48          | 02 11 69                     | 13 44                     | 4722 |         |         |               |               |
| 98          | 69 36.0   | 42 48          | 02 11 69                     | 13 29                     | 4728 |         |         |               |               |
| 99          | 69 37.0   | 42 49          | 02 11 69                     | 13 14                     | 4729 |         |         |               |               |
| 100         | 69 38.1   | 42 50          | 02 11 69                     | 13 42                     | 4734 | 48°36'W | -66 04  | 1921          | -4327         |
| 101         | 69 39.1   | 42 50          | 02 11 69                     | 13 12                     | 4750 |         |         |               |               |

| Station No. | Latitude   | Longitude | Date<br>m d y | GMT<br>h m | F<br>×10 <sup>7</sup> | D       | I       | H<br>×10 <sup>7</sup> | Z<br>×10 <sup>7</sup> |
|-------------|------------|-----------|---------------|------------|-----------------------|---------|---------|-----------------------|-----------------------|
| 102         | 69° 40' 1S | 42°, 3'E  | 10 02 68      | 18 02      | 4772                  |         |         |                       |                       |
|             |            |           | 02 11 69      | 11 45      | 4774                  |         |         |                       |                       |
| 103         | 69 41.1    | 42 52     | 02 11 69      | 11 29      | 4759                  |         |         |                       |                       |
| 104         | 69 42.2    | 42 52     | 02 11 69      | 11 12      | 4749                  |         |         |                       |                       |
| 105         | 69 43.2    | 42 53     | 02 11 69      | 10 54      | 4727                  |         |         |                       |                       |
| 106         | 69 44.3    | 42 54     | 02 11 69      | 10 04      | 4742                  |         |         |                       |                       |
| 107         | 69 45.4    | 42 55     | 02 11 69      | 09 44      | 4731                  |         |         |                       |                       |
| 108         | 69 46.4    | 42 55     | 02 11 69      | 09 04      | 4722                  |         |         |                       |                       |
| 109         | 69 47.5    | 42 56     | 02 11 69      | 08 49      | 4719                  |         |         |                       |                       |
| 110         | 69 48.5    | 42 56     | 02 11 69      | 08 18      | 4723                  |         |         |                       |                       |
| 111         | 69 49.5    | 42 57     | 02 11 69      | 08 04      | 4739                  |         |         |                       |                       |
| 112         | 69 50.6    | 42 58     | 02 11 69      | 07 32      | 4732                  | 48°31'W | -66°36' | 1880                  | -4343                 |
| 113         | 69 51.7    | 42 59     | 02 11 69      | 07 02      | 4721                  |         |         |                       |                       |
| 114         | 69 52.7    | 43 00     | 02 11 69      | 06 49      | 4725                  |         |         |                       |                       |
| 115         | 69 53.8    | 43 01     | 02 11 69      | 06 34      | 4743                  |         |         |                       |                       |
| 116         | 69 54.8    | 43 02     | 02 11 69      | 06 16      | 4742                  |         |         |                       |                       |
| 117         | 69 55.9    | 43 03     | 02 11 69      | 06 03      | 4729                  |         |         |                       |                       |
| 118         | 69 56.9    | 43 03     | 02 11 69      | 05 41      | 4743                  |         |         |                       |                       |
| 119         | 69 58.0    | 43 04     | 02 11 69      | 05 27      | 4744                  |         |         |                       |                       |
| 120         | 69 59.0    | 43 04     | 02 11 69      | 04 52      | 4735                  |         |         |                       |                       |
| 121         | 70 00.1    | 43 05     | 02 11 69      | 04 36      | 4738                  |         |         |                       |                       |
| 122         | 70 01.1    | 43 06     | 02 10 69      | 10 09      | 4737                  |         | -66 45  | 1869                  | -43.2                 |
| 123         | 70 02.1    | 43 06     | 02 10 69      | 09 59      | 4732                  |         |         |                       |                       |
| 124         | 70 03.2    | 43 06     | 02 10 69      | 09 05      | 4737                  |         |         |                       |                       |
| 125         | 70 04.2    | 43 07     | 02 10 69      | 08 52      | 4737                  |         |         |                       |                       |
| 126         | 70 05.2    | 43 07     | 02 10 69      | 08 28      | 4746                  |         |         |                       |                       |
| 127         | 70 06.3    | 43 06     | 02 10 69      | 08 13      | 4760                  |         |         |                       |                       |
| 128         | 70 07.3    | 43 06     | 02 10 69      | 07 55      | 4760                  |         |         |                       |                       |
| 129         | 70 08.4    | 43 06     | 02 10 69      | 07 41      | 4754                  |         |         |                       |                       |
| 130         | 70 09.5    | 43 06     | 02 10 69      | 07 26      | 4760                  |         |         |                       |                       |
| 131         | 70 10.4    | 43 06     | 02 10 69      | 07 10      | 4764                  |         |         |                       |                       |
| 132         | 70 11.5    | 43 06     | 10 09 68      | 17 26      | 4769                  |         |         |                       |                       |
|             |            |           | 02 10 69      | 06 27      | 4766                  |         |         |                       |                       |
| 133         | 70 12.5    | 43 06     | 02 10 69      | 06 14      | 476.5                 |         |         |                       |                       |
| 134         | 70 13.5    | 43 06     | 02 10 69      | 05 47      | 4763                  |         |         |                       |                       |
| 135         | 70 14.6    | 43 06     | 02 10 69      | 05 30      | 4760                  |         |         |                       |                       |
| 136         | 70 15.6    | 43 06     | 02 10 69      | 05 14      | 4760                  |         |         |                       |                       |
| 137         | 70 16.7    | 43 06     | 02 10 69      | 05 01      | 4761                  |         |         |                       |                       |
| 138         | 70 17.7    | 43 06     | 02 10 69      | 04 42      | 4760                  |         |         |                       |                       |

| Station No. | Latitude | Longi-tude | Date<br>m d y | GMT<br>h m | F<br>$\times 10^7$ | D       | I       | H<br>$\times 10^7$ | Z<br>$\times 10^7$ |
|-------------|----------|------------|---------------|------------|--------------------|---------|---------|--------------------|--------------------|
| 139         | 70°18'7S | 43°06'E    | 02 10 69      | 04 26      | 4758               |         |         |                    |                    |
| 140         | 70 19.8  | 43 06      | 02 09 69      | 16 08      | 4760               |         |         |                    |                    |
| 141         | 70 20.9  | 43 06      | 02 09 69      | 15 57      | 4762               |         |         |                    |                    |
| 142         | 70 21.9  | 43 06      | 10 10 68      | 14 18      | 4765               | 48°31'W | -66°35' | 1893               | -4373              |
|             |          |            | 02 09 69      | 15 26      | 4766               | 48 45W  | -66 35  | 1894               | -4373              |
| 143         | 70 22.9  | 43 06      | 02 09 69      | 14 56      | 4772               |         |         |                    |                    |
| 144         | 70 24.0  | 43 06      | 02 09 69      | 14 36      | 4776               |         |         |                    |                    |
| 145         | 70 25.0  | 43 06      | 02 09 69      | 14 22      | 4778               |         |         |                    |                    |
| 146         | 70 26.1  | 43 06      | 02 09 69      | 14 09      | 4778               |         |         |                    |                    |
| 147         | 70 27.1  | 43 06      | 02 09 69      | 13 57      | 4778               |         |         |                    |                    |
| 148         | 70 28.1  | 43 06      | 02 09 69      | 13 41      | 4779               |         |         |                    |                    |
| 149         | 70 29.2  | 43 06      | 02 09 69      | 13 27      | 4782               |         |         |                    |                    |
| 150         | 70 30.0  | 43 04      | 02 09 69      | 12 56      | 4782               |         |         |                    |                    |
| 151         | 70 31.0  | 43 04      | 02 09 69      | 12 42      | 4781               |         |         |                    |                    |
| 152         | 70 31.9  | 43 06      | 02 09 69      | 12 05      | 4781               |         |         |                    |                    |
| 153         | 70 32.9  | 43 05      | 02 09 69      | 11 51      | 4782               |         |         |                    |                    |
| 154         | 70 34.0  | 43 05      | 02 09 69      | 11 21      | 4784               | 49 02W  | -66 44  | 1890               | -4395              |
| 155         | 70 35.0  | 43 05      | 02 09 69      | 10 51      | 4788               |         |         |                    |                    |
| 156         | 70 36.1  | 43 06      | 02 09 69      | 10 34      | 4795               |         |         |                    |                    |
| 157         | 70 37.1  | 43 06      | 02 09 69      | 10 19      | 4798               |         |         |                    |                    |
| 158         | 70 38.2  | 43 06      | 10 11 68      | 13 35      | 4797               | 49 22W  | -66 52  | 1885               | -4411              |
|             |          |            | 02 09 69      | 09 51      | 4795               |         |         |                    |                    |
| 159         | 70 39.2  | 43 06      | 02 09 69      | 09 36      | 4795               |         |         |                    |                    |
| 160         | 70 40.2  | 43 06      | 02 09 69      | 08 47      | 4794               |         |         |                    |                    |
| 161         | 70 41.2  | 43 06      | 02 09 69      | 08 31      | 4798               |         |         |                    |                    |
| 162         | 70 42.3  | 43 06      | 10 11 68      | 13 26      | 4801               |         |         |                    |                    |
|             |          |            | 02 09 69      | 08 12      | 4800               |         |         |                    |                    |
| 163         | 70 43.3  | 43 07      | 02 09 69      | 06 53      | 4802               |         |         |                    |                    |
| 164         | 70 44.3  | 43 07      | 02 09 69      | 06 25      | 4800               |         |         |                    |                    |
| 165         | 70 45.3  | 43 07      | 02 09 69      | 06 04      | 4803               |         |         |                    |                    |
| 166         | 70 46.4  | 43 07      | 10 11 68      | 17 32      | 4804               |         |         |                    |                    |
|             |          |            | 02 09 69      | 05 35      | 4806               |         |         |                    |                    |
| 167         | 70 47.4  | 43 07      | 02 09 61      | 05 19      | 4806               |         |         |                    |                    |
| 168         | 70 48.4  | 43 07      | 02 09 69      | 04 56      | 4802               |         |         |                    |                    |
| 169         | 70 49.4  | 43 07      | 02 09 69      | 04 40      | 4801               |         |         |                    |                    |
| 170         | 70 50.5  | 43 07      | 02 08 69      | 15 21      | 4804               |         |         |                    |                    |
| 171         | 70 51.1  | 43 05      |               |            |                    |         |         |                    |                    |
| 172         | 70 51.6  | 43 02      | 02 08 69      | 13 54      | 4805               | 49 09W  | -66 46  | 1896               | -4415              |
| 173         | 70 52.2  | 43 00      | 02 08 69      | 13 39      | 4808               |         |         |                    |                    |

| Station No. | Latitude  | Longitude | Date     | GMT   | F             | D        | I        | H             | Z             |
|-------------|-----------|-----------|----------|-------|---------------|----------|----------|---------------|---------------|
|             |           |           | m d y    | h m   | $\times 10^7$ |          |          | $\times 10^7$ | $\times 10^7$ |
| 174         | 70°52' 8S | 42°57'E   | 02 08 69 | 13 15 | 4804          |          |          |               |               |
| 175         | 70 53.8   | 42 56     | 02 08 69 | 12 56 | 4805          |          |          |               |               |
| 176         | 70 54.8   | 42 56     | 02 08 69 | 12 37 | 4805          |          |          |               |               |
| 177         | 70 55.8   | 42 56     | 02 08 69 | 12 06 | 4808          |          |          |               |               |
| 178         | 70 56.8   | 42 56     | 10 13 68 | 11 02 | 4813          |          |          |               |               |
|             |           |           | 02 08 69 | 11 44 | 4805          |          |          |               |               |
| 179         | 70 57.9   | 42 56     | 02 08 69 | 11 27 | 4808          |          |          |               |               |
| 180         | 70 58.9   | 42 57     | 02 08 69 | 11 08 | 4813          |          |          |               |               |
| 181         | 70 59.9   | 42 57     | 02 08 69 | 10 51 | 4816          |          |          |               |               |
| 182         | 71 00.9   | 42 57     | 10 13 68 | 13 45 | 4822          |          |          |               |               |
|             |           |           | 02 08 69 | 10 18 | 4821          |          |          |               |               |
| 183         | 71 01.9   | 42 57     | 02 08 69 | 09 56 | 4823          |          |          |               |               |
| 184         | 71 03.0   | 42 57     | 02 08 69 | 07 57 | 4825          | 49° 22'W | -66° 49' | 1899          | -4436         |
| 185         | 71 04.0   | 42 57     | 02 08 69 | 07 41 | 4832          |          |          |               |               |
| 186         | 71 05.0   | 42 58     | 02 08 69 | 07 26 | 4825          |          |          |               |               |
| 187         | 71 06.0   | 42 58     | 02 08 69 | 07 11 | 4816          |          |          |               |               |
| 188         | 71 07.0   | 42 58     | 02 08 69 | 06 14 | 4813          |          |          |               |               |
| 189         | 71 08.1   | 42 58     | 02 08 69 | 05 54 | 4813          |          |          |               |               |
| 190         | 71 09.1   | 42 58     | 02 08 69 | 05 00 | 4823          |          |          |               |               |
| 192         | 71 11.2   | 42 58     | 02 07 69 | 19 52 | 4818          |          |          |               |               |
| 193         | 71 12.2   | 42 59     | 02 07 69 | 19 27 | 4851          |          |          |               |               |
| 194         | 71 13.2   | 42 59     | 02 07 69 | 19 02 | 4822          |          |          |               |               |
| 195         | 71 14.2   | 42 59     | 02 07 69 | 18 33 | 4828          |          |          |               |               |
| 196         | 71 15.3   | 42 59     |          |       |               |          |          |               |               |
| 197         | 71 16.3   | 43 00     | 02 07 69 | 17 37 | 4832          |          |          |               |               |
| 198         | 71 17.3   | 43 00     | 10 14 68 | 12 49 | 4830          |          |          |               |               |
|             |           |           | 02 07 69 | 17 05 | 4831          |          |          |               |               |
| 199         | 71 18.3   | 43 00     | 02 07 69 | 16 36 | 4832          |          |          |               |               |
| 200         | 71 19.4   | 43 00     | 02 07 69 | 15 42 | 4833          | 49 31W   | -67 01   | 1887          | -4449         |
| 201         | 71 20.4   | 43 00     | 02 07 69 | 14 54 | 4834          |          |          |               |               |
| 202         | 71 21.4   | 43 00     | 10 14 68 | 14 58 | 4836          |          |          |               |               |
|             |           |           | 02 07 69 | 14 13 | 4830          |          |          |               |               |
| 203         | 71 22.4   | 43 01     | 02 07 69 | 13 50 | 4832          |          |          |               |               |
| 204         | 71 23.5   | 43 01     | 02 07 69 | 13 29 | 4831          |          |          |               |               |
| 205         | 71 24.5   | 43 01     | 02 07 69 | 13 12 | 4829          |          |          |               |               |
| 206         | 71 25.5   | 43 01     | 02 07 69 | 12 43 | 4828          |          |          |               |               |
| 207         | 71 26.5   | 43 02     | 02 07 69 | 12 20 | 4829          |          |          |               |               |
| 208         | 71 27.5   | 43 02     | 02 07 69 | 11 52 | 4832          |          |          |               |               |
| 209         | 71 28.5   | 43 02     | 02 07 69 | 11 30 | 4832          |          |          |               |               |

| Station No. | Latitude  | Longi-tude | Date              | GMT          | F                        | D       | I       | H                | Z                |
|-------------|-----------|------------|-------------------|--------------|--------------------------|---------|---------|------------------|------------------|
| 210         | 71°29' 6S | 43°03'E    | m d y<br>02 07 69 | h m<br>11 03 | ×10 <sup>7</sup><br>4832 |         |         | ×10 <sup>7</sup> | ×10 <sup>7</sup> |
| 211         | 71 30.6   | 43 03      | 02 07 69          | 10 36        | 4833                     |         |         |                  |                  |
| 212         | 71 31.6   | 43 03      | 02 07 69          | 10 05        | 4837                     |         |         |                  |                  |
| 213         | 71 32.6   | 43 03      | 02 07 69          | 09 48        | 4841                     |         |         |                  |                  |
| 214         | 71 33.7   | 43 03      | 10 15 68          | 08 15        | 4844                     |         |         |                  |                  |
|             |           |            | 02 07 69          | 09 23        | 4844                     |         |         |                  |                  |
| 215         | 71 34.7   | 43 04      | 02 07 69          | 09 07        | 4846                     |         |         |                  |                  |
| 216         | 71 35.7   | 43 04      | 02 07 69          | 07 51        | 4844                     | 49°33'W | -67°06' | 1885             | -4462            |
| 217         | 71 36.7   | 43 04      | 02 07 69          | 07 35        | 4842                     |         |         |                  |                  |
| 218         | 71 37.7   | 43 04      | 02 07 69          | 06 21        | 4850                     |         |         |                  |                  |
| 219         | 71 38.7   | 43 04      | 02 07 69          | 05 57        | 4854                     |         |         |                  |                  |
| 220         | 71 39.7   | 43 04      | 02 07 69          | 05 28        | 4856                     |         |         |                  |                  |
| 221         | 71 40.8   | 43 05      | 02 07 69          | 05 05        | 4857                     |         |         |                  |                  |
| 222         | 71 41.8   | 43 05      | 02 07 69          | 04 30        | 4855                     |         |         |                  |                  |
| 223         | 71 42.8   | 43 05      | 02 07 69          | 03 59        | 4855                     |         |         |                  |                  |
| 224         | 71 43.8   | 43 05      | 02 07 69          | 03 33        | 4853                     |         |         |                  |                  |
| 225         | 71 44.8   | 43 05      | 02 06 69          | 19 15        | 4858                     |         |         |                  |                  |
| 226         | 71 45.8   | 43 06      | 02 06 69          | 18 43        | 4862                     |         |         |                  |                  |
| 227         | 71 46.8   | 43 06      | 02 06 69          | 18 26        | 4865                     |         |         |                  |                  |
| 228         | 71 47.8   | 43 06      | 02 06 69          | 18 06        | 4866                     |         |         |                  |                  |
| 229         | 71 48.9   | 43 06      | 02 06 69          | 17 50        | 4865                     |         |         |                  |                  |
| 230         | 71 49.9   | 43 06      | 10 16 68          | 09 10        | 4857                     |         |         |                  |                  |
|             |           |            | 02 06 69          | 17 26        | 4864                     |         |         |                  |                  |
| 231         | 71 50.9   | 43 07      | 02 06 69          | 17 09        | 4862                     |         |         |                  |                  |
| 232         | 71 51.9   | 43 07      | 02 06 69          | 16 42        | 4864                     | -67 16  | 1880    | -4486            |                  |
| 233         | 71 53.0   | 43 07      | 02 06 69          | 16 09        | 4867                     |         |         |                  |                  |
| 234         | 71 54.0   | 43 08      | 10 16 68          | 12 30        | 4869                     |         |         |                  |                  |
|             |           |            | 02 06 69          | 15 41        | 4869                     |         |         |                  |                  |
| 235         | 71 55.0   | 43 08      | 02 06 69          | 15 14        | 4869                     |         |         |                  |                  |
| 236         | 71 56.0   | 43 08      | 02 06 69          | 14 47        | 4868                     |         |         |                  |                  |
| 237         | 71 57.0   | 43 08      | 02 06 69          | 14 34        | 4866                     |         |         |                  |                  |
| 238         | 71 58.1   | 43 08      | 10 16 68          | 14 32        | 4865                     |         |         |                  |                  |
|             |           |            | 02 06 69          | 14 06        | 4864                     |         |         |                  |                  |
| 239         | 71 59.1   | 43 08      | 02 06 69          | 13 49        | 4862                     |         |         |                  |                  |
| 240         | 72 00.1   | 43 08      | 02 06 69          | 13 21        | 4865                     |         |         |                  |                  |
| 241         | 72 01.1   | 43 09      | 02 06 69          | 13 00        | 4869                     |         |         |                  |                  |
| 242         | 72 02.2   | 43 08      | 10 16 68          | 16 22        | 4877                     |         |         |                  |                  |
|             |           |            | 02 06 69          | 12 41        | 4875                     |         |         |                  |                  |
| 243         | 72 03.2   | 43 09      | 02 06 69          | 12 19        | 4882                     |         |         |                  |                  |

| Station No. | Latitude   | Longi-tude | Date     | GMT   | F                        | D        | I        | H                        | Z                         |
|-------------|------------|------------|----------|-------|--------------------------|----------|----------|--------------------------|---------------------------|
| 244         | 72° 04' 2S | 43° 09'E   | 02 06 69 | 11 23 | ×10 <sup>2</sup><br>4887 | 49° 45'W | -67° 22' | ×10 <sup>2</sup><br>1881 | ×10 <sup>2</sup><br>-4510 |
| 246         | 72 06.2    | 43 09      | 02 06 69 | 10 32 | 4885                     |          |          |                          |                           |
| 247         | 72 07.2    | 43 09      | 02 06 69 | 10 08 | 4877                     |          |          |                          |                           |
| 248         | 72 08.2    | 43 09      | 02 06 69 | 09 36 | 4866                     |          |          |                          |                           |
| 249         | 72 09.2    | 43 09      | 02 06 69 | 09 18 | 4866                     |          |          |                          |                           |
| 250         | 72 10.3    | 43 09      | 02 06 69 | 08 54 | 4874                     |          |          |                          |                           |
| 251         | 72 11.2    | 43 08      | 02 06 69 | 08 40 | 4885                     |          |          |                          |                           |
| 252         | 72 12.2    | 43 08      | 02 06 69 | 08 23 | 4889                     |          |          |                          |                           |
| 253         | 72 13.2    | 43 08      | 02 06 69 | 08 10 | 4891                     |          |          |                          |                           |
| 254         | 72 14.2    | 43 08      | 10 18 68 | 09 42 | 4893                     |          |          |                          |                           |
|             |            |            | 02 06 69 | 07 40 | 4893                     | 50 27W   | -67 18   | 1889                     | -4514                     |
| 255         | 72 15.2    | 43 08      | 02 06 69 | 07 10 | 4877                     |          |          |                          |                           |
| 256         | 72 16.2    | 43 07      | 02 06 69 | 06 45 | 4888                     |          |          |                          |                           |
| 257         | 72 17.5    | 43 07      | 02 06 69 | 06 21 | 4884                     |          |          |                          |                           |
| 258         | 72 18.2    | 43 07      | 10 18 68 | 15 41 | 4896                     |          |          |                          |                           |
|             |            |            | 02 06 69 | 06 02 | 4896                     |          |          |                          |                           |
| 259         | 72 19.2    | 43 07      | 02 06 69 | 05 40 | 4886                     |          |          |                          |                           |
| 260         | 72 20.3    | 43 07      | 02 06 69 | 05 18 | 4882                     |          |          |                          |                           |
| 261         | 72 21.3    | 43 07      | 02 06 69 | 04 46 | 4883                     |          |          |                          |                           |
| 262         | 72 22.3    | 43 07      | 10 19 68 | 11 30 | 4891                     |          |          |                          |                           |
|             |            |            | 02 06 69 | 04 15 | 4881                     |          |          |                          |                           |
| 263         | 72 23.3    | 43 07      | 02 06 69 | 03 48 | 4874                     |          |          |                          |                           |
| 264         | 72 24.3    | 43 07      |          |       |                          |          |          |                          |                           |
| 265         | 72 25.3    | 43 07      | 02 05 69 | 16 50 | 4893                     | 50 42W   | -67 22   | 1882                     | -4516                     |
| 266         | 72 26.3    | 43 07      | 02 05 69 | 16 33 | 4894                     |          |          |                          |                           |
| 267         | 72 27.3    | 43 07      | 02 05 69 | 16 17 | 4890                     |          |          |                          |                           |
| 268         | 72 28.4    | 43 06      | 02 05 69 | 16 00 | 4892                     |          |          |                          |                           |
| 269         | 72 29.4    | 43 06      | 02 05 69 | 15 45 | 4892                     |          |          |                          |                           |
| 270         | 72 30.4    | 43 06      | 02 05 69 | 14 49 | 4892                     |          |          |                          |                           |
| 271         | 72 31.5    | 43 06      | 02 05 69 | 14 29 | 4893                     |          |          |                          |                           |
| 272         | 72 32.5    | 43 06      | 02 05 69 | 14 08 | 4894                     |          |          |                          |                           |
| 273         | 72 33.5    | 43 05      | 02 05 69 | 13 49 | 4896                     |          |          |                          |                           |
| 274         | 72 34.5    | 43 05      | 02 05 69 | 12 49 | 4898                     | 50 33W   | -67 26   | 1880                     | -4523                     |
| 275         | 72 35.6    | 43 05      | 02 05 69 | 12 32 | 4899                     |          |          |                          |                           |
| 276         | 72 36.6    | 43 05      | 02 05 69 | 12 12 | 4900                     |          |          |                          |                           |
| 277         | 72 37.9    | 43 05      | 02 05 69 | 11 55 | 4902                     |          |          |                          |                           |
| 278         | 72 38.7    | 43 05      | 02 05 69 | 11 29 | 4901                     |          |          |                          |                           |
| 279         | 72 39.7    | 43 04      | 02 05 69 | 11 11 | 4902                     |          |          |                          |                           |
| 280         | 72 40.8    | 43 04      | 02 05 69 | 10 52 | 4903                     |          |          |                          |                           |

| Station No. | Latitude   | Longi-tude | Date              | GMT          | F                        | D        | I        | H                | Z                |
|-------------|------------|------------|-------------------|--------------|--------------------------|----------|----------|------------------|------------------|
| 281         | 72° 41' 9S | 43° 04'E   | m d y<br>02 05 69 | h m<br>10 27 | ×10 <sup>7</sup><br>4904 |          |          | ×10 <sup>7</sup> | ×10 <sup>7</sup> |
| 282         | 72 42.9    | 43 04      | 02 05 69          | 10 12        | 4903                     |          |          |                  |                  |
| 283         | 72 43.9    | 43 03      | 02 05 69          | 09 30        | 4903                     | 50° 32'W | -67° 29' | 1877             | -4529            |
| 284         | 72 44.9    | 43 03      | 02 05 69          | 09 00        | 4902                     |          |          |                  |                  |
| 285         | 72 46.0    | 43 03      | 02 05 69          | 08 42        | 4903                     |          |          |                  |                  |
| 286         | 72 47.0    | 43 02      | 02 05 69          | 08 23        | 4904                     |          |          |                  |                  |
| 287         | 72 48.1    | 43 02      | 02 05 69          | 08 03        | 4902                     |          |          |                  |                  |
| 288         | 72 49.1    | 43 02      | 02 05 69          | 07 47        | 4903                     |          |          |                  |                  |
| 289         | 72 50.1    | 43 02      | 02 05 69          | 07 31        | 4904                     |          |          |                  |                  |
| 290         | 72 51.1    | 43 02      | 10 21 68          | 10 14        | 4908                     |          |          |                  |                  |
|             |            |            | 02 05 69          | 07 13        | 4907                     |          |          |                  |                  |
| 291         | 72 52.1    | 43 01      | 02 05 69          | 06 59        | 4908                     |          |          |                  |                  |
| 292         | 72 53.1    | 43 01      | 02 05 69          | 06 26        | 4912                     | 50 58W   | -67 33   | 1876             | -4540            |
| 293         | 72 54.2    | 43 01      | 02 05 69          | 05 56        | 4917                     |          |          |                  |                  |
| 294         | 72 55.3    | 43 01      | 10 21 68          | 12 11        | 4914                     |          |          |                  |                  |
|             |            |            | 02 05 69          | 05 33        | 4918                     |          |          |                  |                  |
| 295         | 72 56.3    | 43 00      | 02 05 69          | 05 13        | 4919                     |          |          |                  |                  |
| 297         | 72 58.3    | 43 00      | 02 05 69          | 04 23        | 4931                     |          |          |                  |                  |
| 298         | 72 59.3    | 43 00      | 10 21 68          | 14 39        | 4923                     |          |          |                  |                  |
|             |            |            | 02 05 69          | 04 05        | 4937                     |          |          |                  |                  |
| 302         | 73 03.5    | 42 58      | 10 21 68          | 17 32        | 4928                     |          |          |                  |                  |
|             |            |            | 02 04 69          | 17 10        | 4934                     | 50 49W   | -67 32   | 1885             | -4559            |
| 303         | 73 04.5    | 42 58      | 02 04 69          | 16 54        | 4932                     |          |          |                  |                  |
| 304         | 73 05.6    | 42 57      | 02 04 69          | 16 39        | 4932                     |          |          |                  |                  |
| 305         | 73 06.6    | 42 57      | 02 04 69          | 16 22        | 4934                     |          |          |                  |                  |
| 306         | 73 07.7    | 42 57      | 10 22 68          | 04 43        | 4932                     |          |          |                  |                  |
|             |            |            | 02 04 69          | 16 04        | 4935                     |          |          |                  |                  |
| 307         | 73 08.7    | 42 57      | 02 04 69          | 15 45        | 4934                     |          |          |                  |                  |
| 308         | 73 09.7    | 42 57      | 02 04 69          | 15 28        | 4936                     |          |          |                  |                  |
| 309         | 73 10.8    | 42 57      | 02 04 69          | 15 11        | 4936                     |          |          |                  |                  |
| 310         | 73 11.9    | 42 57      | 02 04 69          | 14 46        | 4938                     |          |          |                  |                  |
| 312         | 73 13.9    | 42 57      | 02 04 69          | 13 20        | 4943                     | 50 44W   | -67 41   | 1877             | -4573            |
| 313         | 73 14.9    | 42 57      | 02 04 69          | 13 02        | 4942                     |          |          |                  |                  |
| 314         | 73 15.9    | 42 56      | 10 22 68          | 08 41        | 4942                     |          |          |                  |                  |
|             |            |            | 02 04 69          | 12 45        | 4942                     |          |          |                  |                  |
| 315         | 73 17.0    | 42 56      | 02 04 69          | 12 24        | 4942                     |          |          |                  |                  |
| 316         | 73 18.0    | 42 56      | 02 04 69          | 12 03        | 4944                     |          |          |                  |                  |
| 317         | 73 19.0    | 42 56      | 02 04 69          | 11 41        | 4945                     |          |          |                  |                  |
| 318         | 73 20.1    | 42 56      | 10 22 68          | 11 16        | 4945                     |          |          |                  |                  |

## Geomagnetic Survey along the Traverse Route Syowa-South Pole

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| Station No. | Latitude | Longitude | Date     | GMT   | F             | D       | I       | II            | Z             |
|-------------|----------|-----------|----------|-------|---------------|---------|---------|---------------|---------------|
|             |          |           | m d y    | h m   | $\times 10^7$ |         |         | $\times 10^7$ | $\times 10^7$ |
| 318         |          |           | 02 04 69 | 11 05 | 4946          |         |         |               |               |
| 319         | 73°21'1S | 42°56'E   | 02 04 69 | 10 47 | 4946          |         |         |               |               |
| 320         | 73 22.2  | 42 55     | 02 04 69 | 10 24 | 4946          |         |         |               |               |
| 321         | 73 23.2  | 42 55     | 02 04 69 | 10 07 | 4945          |         |         |               |               |
| 322         | 73 24.2  | 42 55     | 10 22 68 | 13 09 | 4948          |         |         |               |               |
|             |          |           | 02 04 69 | 09 49 | 4944          |         |         |               |               |
| 323         | 73 25.3  | 42 55     | 02 04 69 | 08 56 | 4945          | 51°13'W | -67°47' | 1869          | -4578         |
| 324         | 73 26.3  | 42 55     | 02 04 69 | 08 14 | 4944          |         |         |               |               |
| 325         | 73 27.3  | 42 55     | 02 04 69 | 07 58 | 4947          |         |         |               |               |
| 326         | 73 28.3  | 42 55     | 10 22 68 | 15 20 | 4949          |         |         |               |               |
|             |          |           | 02 04 69 | 07 31 | 4947          |         |         |               |               |
| 327         | 73 29.4  | 42 55     | 02 04 69 | 07 13 | 4946          |         |         |               |               |
| 328         | 73 30.4  | 42 55     | 02 04 69 | 06 50 | 4948          |         |         |               |               |
| 329         | 73 31.5  | 42 55     | 02 04 69 | 06 31 | 4954          |         |         |               |               |
| 330         | 73 32.5  | 42 55     | 02 03 69 | 20 06 | 4934          |         |         |               |               |
| 331         | 73 33.5  | 42 55     | 02 03 69 | 19 47 | 4929          |         |         |               |               |
| 332         | 73 34.5  | 42 55     | 02 03 69 | 19 26 | 4938          |         |         |               |               |
| 333         | 73 35.6  | 42 55     | 02 03 69 | 19 00 | 4934          |         |         |               |               |
| 334         | 73 36.6  | 42 55     | 02 03 69 | 18 20 | 4938          | 50°57'W | -67 32  | 1886          | -4563         |
| 335         | 73 37.7  | 42 55     | 02 03 69 | 17 48 | 4940          |         |         |               |               |
| 336         | 73 38.7  | 42 55     | 02 03 69 | 17 25 | 4959          |         |         |               |               |
| 337         | 73 39.7  | 42 55     | 02 03 69 | 16 59 | 4958          |         |         |               |               |
| 338         | 73 40.8  | 42 55     | 02 03 69 | 16 36 | 4960          |         |         |               |               |
| 339         | 73 41.8  | 42 55     | 02 03 69 | 16 14 | 4960          |         |         |               |               |
| 340         | 73 42.8  | 42 55     | 02 03 69 | 15 49 | 4959          |         |         |               |               |
| 341         | 73 43.9  | 42 55     | 10 23 68 | 13 00 | 4961          |         |         |               |               |
|             |          |           | 02 03 69 | 15 23 | 4963          |         |         |               |               |
| 342         | 73 44.9  | 42 54     | 02 03 69 | 15 04 | 4952          |         |         |               |               |
| 343         | 73 46.0  | 42 54     | 02 03 69 | 14 34 | 4959          |         |         |               |               |
| 344         | 73 47.0  | 42 54     | 02 03 69 | 14 06 | 4958          | 51°32'W | -67 40  | 1885          | -4586         |
| 345         | 73 48.0  | 42 54     | 02 03 69 | 13 34 | 4967          |         |         |               |               |
| 346         | 73 49.1  | 42 54     | 02 03 69 | 13 18 | 4981          |         |         |               |               |
| 347         | 73 50.1  | 42 54     | 02 03 69 | 13 00 | 4978          |         |         |               |               |
| 348         | 73 51.1  | 42 54     | 02 03 69 | 12 39 | 4977          |         |         |               |               |
| 349         | 73 52.2  | 42 54     | 02 03 69 | 12 23 | 4976          |         |         |               |               |
| 350         | 73 53.3  | 42 53     | 10 24 68 | 06 27 | 4968          |         |         |               |               |
|             |          |           | 02 03 69 | 12 06 | 4971          |         |         |               |               |
| 351         | 73 54.2  | 42 53     | 02 03 69 | 11 34 | 4979          |         |         |               |               |
| 352         | 73 55.3  | 42 53     | 02 03 69 | 11 14 | 4975          |         |         |               |               |

| Station No. | Latitude  | Longi-tude | Date<br>m d y | GMT<br>h m | F<br>$\times 10^7$ | D       | I<br>$\times 10^7$ | II<br>$\times 10^7$ | Z<br>$\times 10^7$ |
|-------------|-----------|------------|---------------|------------|--------------------|---------|--------------------|---------------------|--------------------|
| 353         | 73°56' 3S | 42°53'E    | 02 03 69      | 10 57      | 4974               |         |                    |                     |                    |
| 354         | 73 57.3   | 42 53      | 10 24 68      | 08 14      | 4973               |         |                    |                     |                    |
|             |           |            | 02 03 69      | 10 39      | 4967               |         |                    |                     |                    |
| 355         | 73 58.4   | 42 53      | 02 03 69      | 10 26      | 4967               |         |                    |                     |                    |
| 356         | 73 59.4   | 42 53      | 02 03 69      | 09 52      | 4966               | 51°24'W | -67°57'            | 1865                | -4603              |
| 357         | 74 00.4   | 42 53      | 02 03 69      | 09 02      | 4965               |         |                    |                     |                    |
| 358         | 74 01.5   | 42 53      | 10 24 68      | 12 02      | 4976               |         |                    |                     |                    |
|             |           |            | 02 03 69      | 08 48      | 4965               |         |                    |                     |                    |
| 359         | 74 02.6   | 42 53      | 02 03 69      | 08 25      | 4974               |         |                    |                     |                    |
| 360         | 74 03.6   | 42 53      | 02 03 69      | 08 08      | 4981               |         |                    |                     |                    |
| 361         | 74 04.6   | 42 53      | 02 03 69      | 07 51      | 5002               |         |                    |                     |                    |
| 362         | 74 05.6   | 42 53      | 10 24 68      | 13 56      | 4981               |         |                    |                     |                    |
|             |           |            | 02 03 69      | 07 34      | 5015               |         |                    |                     |                    |
| 363         | 74 06.7   | 42 53      | 02 03 69      | 07 18      | 5008               |         |                    |                     |                    |
| 364         | 74 07.7   | 42 53      | 02 03 69      | 06 56      | 5013               |         |                    |                     |                    |
| 365         | 74 08.8   | 42 52      | 02 03 69      | 06 41      | 5027               |         |                    |                     |                    |
| 366         | 74 09.8   | 42 52      | 10 24 68      | 15 55      | 4986               |         |                    |                     |                    |
|             |           |            | 02 03 69      | 06 19      | 5015               |         |                    |                     |                    |
| 367         | 74 10.8   | 42 52      | 02 03 69      | 05 40      | 5015               | 51 47W  | -68 16             | 1856                | -4659              |
| 368         | 74 11.9   | 42 52      | 02 03 69      | 05 11      | 5016               |         |                    |                     |                    |
| 369         | 74 12.9   | 42 52      | 02 03 69      | 04 53      | 5005               |         |                    |                     |                    |
| 370         | 74 13.9   | 42 52      | 10 24 68      | 18 16      | 4979               |         |                    |                     |                    |
|             |           |            | 02 03 69      | 04 39      | 5004               |         |                    |                     |                    |
| 371         | 74 15.0   | 42 52      | 02 03 69      | 04 19      | 5008               |         |                    |                     |                    |
| 372         | 74 16.0   | 42 52      | 02 03 69      | 04 05      | 5003               |         |                    |                     |                    |
| 374         | 74 18.1   | 42 52      | 02 02 69      | 16 24      | 4991               |         |                    |                     |                    |
| 375         | 74 19.1   | 42 52      | 02 02 69      | 16 09      | 4992               |         |                    |                     |                    |
| 376         | 74 20.2   | 42 52      | 02 02 69      | 15 54      | 4993               |         |                    |                     |                    |
| 377         | 74 21.2   | 42 52      | 02 02 69      | 15 39      | 4989               |         |                    |                     |                    |
| 378         | 74 22.3   | 42 52      | 10 25 68      | 05 54      | 5001               |         |                    |                     |                    |
|             |           |            | 02 02 69      | 15 10      | 4994               | 51 19W  | -67 52             | 1882                | -4625              |
| 379         | 74 23.3   | 42 52      | 02 02 69      | 14 41      | 4994               |         |                    |                     |                    |
| 380         | 74 24.3   | 42 52      | 02 02 69      | 14 21      | 4995               |         |                    |                     |                    |
| 381         | 74 25.4   | 42 52      | 02 02 69      | 14 01      | 4997               |         |                    |                     |                    |
| 382         | 74 26.4   | 42 52      | 10 25 68      | 07 43      | 4994               |         |                    |                     |                    |
|             |           |            | 02 02 69      | 13 18      | 5000               |         |                    |                     |                    |
| 383         | 74 27.5   | 42 51      | 02 02 69      | 13 19      | 5002               |         |                    |                     |                    |
| 384         | 74 28.7   | 42 51      | 02 02 69      | 13 00      | 5004               |         |                    |                     |                    |
| 385         | 74 29.6   | 42 51      | 02 02 69      | 12 44      | 5005               |         |                    |                     |                    |

| Station No. | Latitude | Longi-<br>tude | Date        | GMT          | F                        | D       | I       | H                | Z                |
|-------------|----------|----------------|-------------|--------------|--------------------------|---------|---------|------------------|------------------|
| 386         | 74°30'6S | 42°51'E        | 10 m d 68 y | 09 h m<br>45 | ×10 <sup>7</sup><br>4997 |         |         | ×10 <sup>7</sup> | ×10 <sup>7</sup> |
|             |          |                | 02 02 69    | 12 29        | 5006                     |         |         |                  |                  |
| 387         | 74 31.6  | 42 51          | 02 02 69    | 12 13        | 5006                     |         |         |                  |                  |
| 388         | 74 32.7  | 42 51          | 02 02 69    | 11 58        | 5006                     |         |         |                  |                  |
| 389         | 74 33.7  | 42 51          | 02 02 69    | 11 30        | 5006                     | 51°41'W | -68°07' | 1866             | -4645            |
| 390         | 74 34.8  | 42 51          | 10 25 68    | 12 17        | 5009                     |         |         |                  |                  |
|             |          |                | 02 02 69    | 10 51        | 5005                     |         |         |                  |                  |
| 391         | 74 35.8  | 42 51          | 02 02 69    | 10 36        | 5004                     |         |         |                  |                  |
| 392         | 74 36.9  | 42 51          | 02 02 69    | 10 18        | 5006                     |         |         |                  |                  |
| 393         | 74 37.9  | 42 51          | 02 02 69    | 10 03        | 5006                     |         |         |                  |                  |
| 394         | 74 38.9  | 42 51          | 10 25 68    | 13 49        | 5013                     |         |         |                  |                  |
|             |          |                | 02 02 69    | 09 48        | 5008                     |         |         |                  |                  |
| 395         | 74 39.9  | 42 51          | 02 02 69    | 09 35        | 5009                     |         |         |                  |                  |
| 396         | 74 41.0  | 42 51          | 02 02 69    | 09 11        | 5012                     |         |         |                  |                  |
| 397         | 74 42.0  | 42 51          | 02 02 69    | 08 57        | 5013                     |         |         |                  |                  |
| 398         | 74 43.1  | 42 51          | 10 25 68    | 15 32        | 5020                     |         |         |                  |                  |
|             |          |                | 02 02 69    | 08 33        | 5013                     |         |         |                  |                  |
| 399         | 74 44.2  | 42 51          | 02 02 69    | 08 19        | 5013                     |         |         |                  |                  |
| 400         | 74 45.2  | 42 51          | 02 02 69    | 08 03        | 5014                     |         |         |                  |                  |
| 402         | 74 47.3  | 42 51          | 10 26 68    | 05 10        | 5022                     |         |         |                  |                  |
|             |          |                | 02 02 69    | 07 23        | 5019                     | 51 52W  | -68 13  | 1862             | -4661            |
| 403         | 74 48.3  | 42 51          | 02 02 69    | 06 52        | 5024                     |         |         |                  |                  |
| 404         | 74 49.3  | 42 51          | 02 02 69    | 06 34        | 5026                     |         |         |                  |                  |
| 405         | 74 50.4  | 42 51          | 02 02 69    | 06 20        | 5027                     |         |         |                  |                  |
| 406         | 74 51.4  | 42 51          | 10 26 68    | 06 42        | 5029                     |         |         |                  |                  |
|             |          |                | 02 02 69    | 05 53        | 5030                     |         |         |                  |                  |
| 407         | 74 52.5  | 42 51          | 02 02 69    | 05 36        | 5032                     |         |         |                  |                  |
| 408         | 74 53.5  | 42 51          | 02 02 69    | 05 17        | 5034                     |         |         |                  |                  |
| 409         | 74 54.5  | 42 51          | 02 02 69    | 04 58        | 5035                     |         |         |                  |                  |
| 410         | 74 55.6  | 42 51          | 10 26 68    | 08 36        | 5032                     |         |         |                  |                  |
| 414         | 74 59.7  | 42 50          | 10 26 68    | 10 55        | 5034                     |         |         |                  |                  |
|             |          |                | 01 30 69    | 15 36        | 5037                     | 52 04W  | -68 19  | 1861             | -4681            |
| 415         | 75 00.7  | 42 50          | 01 30 69    | 15 16        | 5037                     |         |         |                  |                  |
| 416         | 75 01.8  | 42 49          | 01 30 69    | 14 47        | 5037                     |         |         |                  |                  |
| 417         | 75 02.8  | 42 48          | 01 30 69    | 14 25        | 5038                     |         |         |                  |                  |
| 418         | 75 03.8  | 42 48          | 10 28 68    | 06 15        | 5038                     |         |         |                  |                  |
|             |          |                | 01 30 69    | 13 59        | 5039                     |         |         |                  |                  |
| 419         | 75 04.8  | 42 47          | 01 30 69    | 13 39        | 5038                     |         |         |                  |                  |
| 420         | 75 05.9  | 42 47          | 01 30 69    | 13 14        | 5038                     |         |         |                  |                  |

| Station No. | Latitude  | Longi-tude | Date              | GMT          | F    | D        | I       | H    | Z     |
|-------------|-----------|------------|-------------------|--------------|------|----------|---------|------|-------|
| 421         | 75°06' 9S | 42°46'E    | m d y<br>01 30 69 | h m<br>12 52 | +10' |          |         | +10' | +10'  |
| 422         | 75 07.9   | 42 46      | 10 28 68          | 07 57        | 5036 |          |         |      |       |
|             |           |            | 01 30 69          | 12 13        | 5039 |          |         |      |       |
| 423         | 75 09.0   | 42 45      | 01 30 69          | 11 52        | 5041 |          |         |      |       |
| 424         | 75 10.0   | 42 44      | 01 30 69          | 11 25        | 5042 |          |         |      |       |
| 425         | 75 11.0   | 42 44      | 01 30 69          | 11 03        | 5041 |          |         |      |       |
| 426         | 75 12.0   | 42 43      | 10 28 68          | 10 21        | 5045 |          |         |      |       |
|             |           |            | 01 30 69          | 10 29        | 5040 | 51° 55'W | -68°26' | 1852 | -4687 |
| 427         | 75 13.1   | 42 43      | 01 30 69          | 09 55        | 5039 |          |         |      |       |
| 428         | 75 14.1   | 42 42      | 01 30 69          | 09 30        | 5042 |          |         |      |       |
| 429         | 75 15.1   | 42 42      | 01 30 69          | 08 59        | 5045 |          |         |      |       |
| 430         | 75 16.2   | 42 41      | 10 28 68          | 12 36        | 5049 |          |         |      |       |
|             |           |            | 01 30 69          | 08 28        | 5047 |          |         |      |       |
| 431         | 75 17.2   | 42 41      | 01 30 69          | 08 12        | 5048 |          |         |      |       |
| 432         | 75 18.2   | 42 40      | 01 30 69          | 07 56        | 5050 |          |         |      |       |
| 433         | 75 19.3   | 42 40      | 01 30 69          | 07 36        | 5051 |          |         |      |       |
| 434         | 75 20.3   | 42 39      | 10 28 68          | 14 58        | 5056 |          |         |      |       |
|             |           |            | 01 30 69          | 07 16        | 5053 |          |         |      |       |
| 435         | 75 21.3   | 42 38      | 01 30 69          | 06 49        | 5054 |          |         |      |       |
| 436         | 75 22.3   | 42 38      | 01 30 69          | 06 27        | 5054 |          |         |      |       |
| 437         | 75 23.4   | 42 37      | 01 30 69          | 06 08        | 5055 |          |         |      |       |
| 438         | 75 24.4   | 42 37      | 10 28 68          | 17 04        | 5060 |          |         |      |       |
|             |           |            | 01 30 69          | 05 22        | 5057 | 52 10W   | -68 36  | 1846 | -4708 |
| 439         | 75 25.4   | 42 36      | 01 30 69          | 05 00        | 5060 |          |         |      |       |
| 440         | 75 26.5   | 42 36      | 01 30 69          | 04 39        | 5060 |          |         |      |       |
| 441         | 75 27.5   | 42 36      | 01 30 69          | 04 17        | 5061 |          |         |      |       |
| 442         | 75 28.5   | 42 35      | 01 30 69          | 03 56        | 5062 |          |         |      |       |
| 443         | 75 29.6   | 42 35      | 01 30 69          | 03 32        | 5064 |          |         |      |       |
| 444         | 75 30.6   | 42 34      | 01 29 69          | 16 53        | 5068 |          |         |      |       |
| 445         | 75 31.6   | 42 34      | 01 29 69          | 16 32        | 5069 |          |         |      |       |
| 446         | 75 32.7   | 42 34      | 01 29 69          | 15 59        | 5069 |          |         |      |       |
| 447         | 75 33.7   | 42 33      | 01 29 69          | 15 34        | 5069 |          |         |      |       |
| 448         | 75 34.7   | 42 33      | 01 29 69          | 14 35        | 5068 | 52 11W   | -68 33  | 1854 | -4717 |
| 449         | 75 35.8   | 42 32      | 01 29 69          | 14 13        | 5068 |          |         |      |       |
| 450         | 75 36.8   | 42 32      | 10 30 68          | 08 23        | 5065 |          |         |      |       |
|             |           |            | 01 29 69          | 13 49        | 5066 |          |         |      |       |
| 451         | 75 37.8   | 42 32      | 01 29 69          | 13 25        | 5065 |          |         |      |       |
| 452         | 75 38.9   | 42 31      | 10 30 68          | 10 38        | 5065 |          | -68 33  | 1852 | -4714 |
|             |           |            | 01 29 69          | 13 02        | 5065 |          |         |      |       |

| Station No. | Latitude | Longitude | Date           | GMT       | F                | D       | I       | H                | Z                |
|-------------|----------|-----------|----------------|-----------|------------------|---------|---------|------------------|------------------|
| 453         | 75°39'9S | 42°31'E   | 01 m 29 d 69 y | 12 h 37 m | ×10 <sup>7</sup> | 5066    |         | +10 <sup>7</sup> | ×10 <sup>7</sup> |
| 454         | 75 41.0  | 42 30     | 10 30 68       | 13 30     | 5058             |         |         |                  |                  |
|             |          |           | 01 29 69       | 12 13     | 5067             |         |         |                  |                  |
| 455         | 75 42.0  | 42 30     | 01 29 69       | 11 33     | 5068             |         |         |                  |                  |
| 456         | 75 43.0  | 42 30     | 01 29 69       | 11 06     | 5068             |         |         |                  |                  |
| 457         | 75 44.1  | 42 29     | 01 29 69       | 10 41     | 5070             |         |         |                  |                  |
| 458         | 75 45.1  | 42 29     | 10 30 68       | 15 12     | 5064             |         |         |                  |                  |
|             |          |           | 01 29 69       | 10 09     | 5071             | 52°10'W | -68°34' | 1854             | -4720            |
| 459         | 75 46.1  | 42 28     | 01 29 69       | 09 33     | 5073             |         |         |                  |                  |
| 460         | 75 47.2  | 42 28     | 01 29 69       | 08 59     | 5075             |         |         |                  |                  |
| 461         | 75 48.2  | 42 28     | 01 29 69       | 08 38     | 5076             |         |         |                  |                  |
| 462         | 75 49.2  | 42 27     | 10 30 68       | 17 22     | 5077             |         |         |                  |                  |
|             |          |           | 01 29 69       | 08 07     | 5078             |         |         |                  |                  |
| 463         | 75 50.3  | 42 27     | 01 29 69       | 05 59     | 5079             |         |         |                  |                  |
| 464         | 75 51.3  | 42 26     | 01 29 69       | 05 36     | 5082             |         |         |                  |                  |
| 465         | 75 52.3  | 42 26     | 01 29 69       | 05 11     | 5082             |         |         |                  |                  |
| 466         | 75 53.4  | 42 25     | 10 30 68       | 19 55     | 5076             |         |         |                  |                  |
|             |          |           | 01 29 69       | 04 48     | 5083             |         |         |                  |                  |
| 467         | 75 54.4  | 42 25     | 01 29 69       | 04 23     | 5085             |         |         |                  |                  |
| 468         | 75 55.4  | 42 24     | 01 29 69       | 03 52     | 5085             |         |         |                  |                  |
| 469         | 75 56.5  | 42 24     | 01 29 69       | 03 33     | 5086             |         |         |                  |                  |
| 470         | 75 57.5  | 42 23     | 10 30 68       | 21 42     | 5079             | 52°05'W | -68 51  | 1833             | -4737            |
|             |          |           | 01 28 69       | 10 13     | 5085             |         |         |                  |                  |
| 471         | 75 58.5  | 42 23     | 01 28 69       | 09 44     | 5086             |         |         |                  |                  |
| 472         | 75 59.5  | 42 22     | 01 28 69       | 08 54     | 5088             |         |         |                  |                  |
| 473         | 75 00.6  | 42 22     | 01 28 69       | 08 30     | 5089             |         |         |                  |                  |
| 474         | 75 01.6  | 42 21     | 11 01 68       | 08 37     | 5090             |         |         |                  |                  |
|             |          |           | 01 28 69       | 08 07     | 5091             |         |         |                  |                  |
| 475         | 75 02.6  | 42 21     | 01 28 69       | 07 45     | 5091             |         |         |                  |                  |
| 476         | 75 03.6  | 42 20     | 01 28 69       | 07 21     | 5093             |         |         |                  |                  |
| 477         | 75 04.7  | 42 20     | 01 28 69       | 06 57     | 5094             |         |         |                  |                  |
| 478         | 76 05.7  | 42 19     | 11 01 68       | 10 50     | 5093             |         |         |                  |                  |
|             |          |           | 01 28 69       | 06 03     | 5095             | 52°28'W | -68 38  | 1856             | -4745            |
| 480         | 76 07.7  | 42 18     | 01 28 69       | 05 13     | 5098             |         |         |                  |                  |
| 481         | 76 08.8  | 42 17     | 01 28 69       | 04 51     | 5102             |         |         |                  |                  |
| 482         | 76 09.8  | 42 17     | 11 01 68       | 12 49     | 5073             |         |         |                  |                  |
|             |          |           | 01 28 69       | 04 28     | 5104             |         |         |                  |                  |
| 483         | 76 10.8  | 42 16     | 01 28 69       | 04 07     | 5105             |         |         |                  |                  |
| 484         | 76 11.8  | 42 16     | 01 28 69       | 03 35     | 5106             |         |         |                  |                  |

| Station<br>No. | Latitude  | Longi-<br>tude | Date     | GMT   | F             | D       | I       | H             | Z             |
|----------------|-----------|----------------|----------|-------|---------------|---------|---------|---------------|---------------|
|                |           |                | m d y    | h m   | $\times 10^7$ |         |         | $\times 10^7$ | $\times 10^7$ |
| 485            | 76°12'9 S | 42°15'E        | 01 27 69 | 16 39 | 5100          |         |         |               |               |
| 486            | 76 13.9   | 42 15          | 01 27 69 | 16 02 | 5100          | 52°29'W | -68°32' | 1866          | -4746         |
| 487            | 76 14.9   | 42 14          | 01 27 69 | 15 26 | 5100          |         |         |               |               |
| 488            | 76 15.9   | 42 14          | 01 27 69 | 14 50 | 5099          |         |         |               |               |
| 489            | 76 17.0   | 42 13          | 01 27 69 | 14 25 | 5096          |         |         |               |               |
| 490            | 76 18.0   | 42 12          | 11 01 68 | 17 37 | 5081          |         |         |               |               |
|                |           |                | 01 27 69 | 13 56 | 5100          |         |         |               |               |
| 491            | 76 19.0   | 42 12          | 01 27 69 | 13 25 | 5106          |         |         |               |               |
| 492            | 76 20.0   | 42 12          | 01 27 69 | 12 55 | 5105          |         |         |               |               |
| 493            | 76 21.1   | 42 11          | 01 27 69 | 12 28 | 5104          |         |         |               |               |
| 494            | 76 22.1   | 42 10          | 11 01 68 | 19 50 | 5098          |         |         |               |               |
|                |           |                | 01 27 69 | 11 50 | 5106          |         |         |               |               |
| 495            | 76 23.1   | 42 10          | 01 27 69 | 11 25 | 5105          |         |         |               |               |
| 496            | 76 24.1   | 42 09          | 01 27 69 | 10 59 | 5107          |         |         |               |               |
| 497            | 76 25.2   | 42 09          | 01 27 69 | 10 36 | 5104          |         |         |               |               |
| 498            | 76 26.2   | 42 08          | 11 03 68 | 06 37 | 5131          |         |         |               |               |
|                |           |                | 01 27 69 | 10 10 | 5106          |         |         |               |               |
| 499            | 76 27.2   | 42 09          | 01 27 69 | 08 08 | 5106          | 52°31'W | -69 03  | 1825          | -4768         |
| 500            | 76 28.3   | 42 07          | 01 27 69 | 07 42 | 5110          |         |         |               |               |
| 501            | 76 29.4   | 42 07          | 01 27 69 | 07 21 | 5108          |         |         |               |               |
| 502            | 76 30.4   | 42 06          | 01 27 69 | 06 46 | 5116          |         |         |               |               |
| 503            | 76 31.4   | 42 05          | 01 27 69 | 06 23 | 5120          |         |         |               |               |
| 504            | 76 32.4   | 42 04          | 01 27 69 | 05 54 | 5123          |         |         |               |               |
| 505            | 76 33.4   | 42 04          | 01 27 69 | 05 28 | 5120          |         |         |               |               |
| 506            | 76 34.4   | 42 03          | 11 03 68 | 11 40 | 5123          | 52°35'W | -68 51  | 1849          | -4778         |
|                |           |                | 01 27 69 | 05 01 | 5121          |         |         |               |               |
| 507            | 76 35.4   | 42 02          | 01 27 69 | 04 40 | 5123          |         |         |               |               |
| 508            | 76 36.4   | 42 02          | 01 27 69 | 04 19 | 5124          |         |         |               |               |
| 509            | 76 37.4   | 42 01          | 01 27 69 | 03 50 | 5124          |         |         |               |               |
| 510            | 76 38.4   | 42 00          | 11 04 68 | 12 16 | 5134          |         |         |               |               |
|                |           |                | 01 26 69 | 17 48 | 5123          | 52°35'W | -68 47  | 1853          | -4776         |
| 511            | 76 39.5   | 41 59          | 01 26 69 | 16 26 | 5122          |         |         |               |               |
| 513            | 76 41.5   | 41 58          | 01 26 69 | 16 33 | 5122          |         |         |               |               |
| 514            | 76 42.5   | 41 58          | 11 04 68 | 15 41 | 5124          |         |         |               |               |
|                |           |                | 01 26 69 | 16 50 | 5122          |         |         |               |               |
| 515            | 76 43.5   | 41 57          | 01 26 69 | 15 39 | 5124          |         |         |               |               |
| 516            | 76 44.5   | 41 56          | 11 04 68 | 17 35 | 5133          |         |         |               |               |
|                |           |                | 01 26 69 | 15 10 | 5129          |         |         |               |               |
| 517            | 76 45.6   | 41 56          | 01 26 69 | 14 46 | 5132          |         |         |               |               |

| Station No. | Latitude | Longitude | Date                          | GMT                   | F                                | D       | I       | H                        | Z     |
|-------------|----------|-----------|-------------------------------|-----------------------|----------------------------------|---------|---------|--------------------------|-------|
| 518         | 76°46'7S | 41°55'E   | m d y<br>11 04 68<br>01 26 69 | h m<br>19 22<br>13 52 | ×10 <sup>7</sup><br>5135<br>5137 | 52°31'W | -68°53' | ×10 <sup>7</sup><br>1850 | —4792 |
| 519         | 76 47.7  | 41 55     | 01 26 69                      | 13 08                 | 5133                             |         |         |                          |       |
| 520         | 76 48.7  | 41 55     | 11 05 68                      | 06 17                 | 5134                             |         |         |                          |       |
|             |          |           | 01 26 69                      | 12 43                 | 5136                             |         |         |                          |       |
| 521         | 76 49.7  | 41 54     | 01 26 69                      | 12 16                 | 5138                             |         |         |                          |       |
| 522         | 76 50.8  | 41 54     | 11 05 68                      | 10 30                 | 5135                             | 52 54W  | -68 51  | 1852                     | —4789 |
|             |          |           | 01 26 69                      | 11 51                 | 5136                             |         |         |                          |       |
| 523         | 76 51.7  | 41 52     | 01 26 69                      | 11 26                 | 5136                             |         |         |                          |       |
| 524         | 76 52.8  | 41 52     | 01 26 69                      | 10 58                 | 5133                             |         |         |                          |       |
| 525         | 76 53.8  | 41 51     | 01 26 69                      | 10 31                 | 5135                             |         |         |                          |       |
| 526         | 76 54.9  | 41 51     | 11 05 68                      | 14 23                 | 5140                             |         |         |                          |       |
|             |          |           | 01 26 69                      | 09 55                 | 5135                             |         |         |                          |       |
| 527         | 76 55.9  | 41 50     | 01 26 69                      | 09 32                 | 5137                             |         |         |                          |       |
| 528         | 76 56.9  | 41 49     | 01 26 69                      | 09 04                 | 5138                             |         |         |                          |       |
| 529         | 76 58.0  | 41 48     | 01 26 69                      | 08 38                 | 5140                             |         |         |                          |       |
| 530         | 76 59.0  | 41 48     | 11 05 68                      | 17 10                 | 5147                             |         |         |                          |       |
|             |          |           | 01 26 69                      | 08 16                 | 5141                             |         |         |                          |       |
| 531         | 77 00.1  | 41 47     | 01 26 69                      | 07 53                 | 5143                             |         |         |                          |       |
| 532         | 77 01.1  | 41 46     | 01 26 69                      | 07 15                 | 5145                             | 52 39W  | -69 00  | 1844                     | —4804 |
| 533         | 77 02.2  | 41 46     | 01 26 69                      | 06 40                 | 5148                             |         |         |                          |       |
| 534         | 77 03.2  | 41 45     | 11 06 68                      | 06 46                 | 5148                             |         |         |                          |       |
|             |          |           | 01 26 69                      | 06 02                 | 5149                             |         |         |                          |       |
| 535         | 77 04.2  | 41 44     | 01 26 69                      | 05 36                 | 5155                             |         |         |                          |       |
| 536         | 77 05.2  | 41 44     | 01 26 69                      | 05 10                 | 5155                             |         |         |                          |       |
| 537         | 77 06.3  | 41 43     | 01 26 69                      | 04 45                 | 5160                             |         |         |                          |       |
| 538         | 77 07.4  | 41 42     | 01 26 69                      | 04 18                 | 5162                             |         |         |                          |       |
| 540         | 77 09.3  | 41 41     | 01 25 69                      | 19 33                 | 5139                             |         |         |                          |       |
| 541         | 77 10.3  | 41 40     | 01 25 69                      | 19 12                 | 5134                             |         |         |                          |       |
| 542         | 77 11.3  | 41 39     | 11 06 68                      | 13 40                 | 5155                             |         |         |                          |       |
|             |          |           | 01 25 69                      | 18 30                 | 5142                             |         |         |                          |       |
| 543         | 77 12.3  | 41 38     | 01 25 69                      | 18 03                 | 5140                             |         |         |                          |       |
| 544         | 77 13.3  | 41 38     | 01 25 69                      | 17 27                 | 5140                             |         |         |                          |       |
| 545         | 77 14.4  | 41 37     | 01 25 69                      | 17 01                 | 5138                             |         |         |                          |       |
| 546         | 77 15.4  | 41 36     | 11 06 68                      | 16 18                 | 5163                             |         |         |                          |       |
|             |          |           | 01 25 69                      | 16 33                 | 5138                             |         |         |                          |       |
| 547         | 77 16.5  | 41 36     | 01 25 69                      | 16 05                 |                                  |         |         |                          |       |
| 548         | 77 17.5  | 41 35     | 01 25 69                      | 15 27                 | 5156                             | 52 46W  | -68 54  | 1856                     | —4810 |
| 549         | 77 18.6  | 41 35     | 01 25 69                      | 14 49                 | 5157                             |         |         |                          |       |

| Station No. | Latitude | Longi-tude | Date<br>m d y        | GMT<br>h m     | F<br>$\times 10^7$ | D       | I       | H<br>$\times 10^7$ | Z<br>$\times 10^7$ |
|-------------|----------|------------|----------------------|----------------|--------------------|---------|---------|--------------------|--------------------|
| 550         | 77°19'7S | 41°34'E    | 11 06 68<br>01 25 69 | 19 23<br>14 09 | 5167<br>5158       |         |         |                    |                    |
| 551         | 77 20.7  | 41 33      | 01 25 69             | 13 45          | 5148               |         |         |                    |                    |
| 552         | 77 21.8  | 41 33      | 01 25 69             | 13 19          | 5162               |         |         |                    |                    |
| 553         | 77 22.8  | 41 32      | 01 25 69             | 12 56          | 5172               |         |         |                    |                    |
| 554         | 77 23.8  | 41 32      | 01 25 69             | 12 18          | 5166               |         |         |                    |                    |
| 555         | 77 24.9  | 41 32      | 01 25 69             | 11 55          | 5172               |         |         |                    |                    |
| 556         | 77 26.0  | 41 32      | 01 24 69             | 08 17          | 5167               |         |         |                    |                    |
| 557         | 77 27.0  | 41 32      | 01 24 69             | 07 52          | 5169               |         |         |                    |                    |
| 558         | 77 28.1  | 41 31      | 11 07 68<br>01 24 69 | 10 30<br>07 17 | 5172<br>5170       |         |         |                    |                    |
| 559         | 77 29.1  | 41 31      | 01 24 69             | 06 50          | 5172               |         |         |                    |                    |
| 560         | 77 30.2  | 41 30      | 01 24 69             | 06 08          | 5173               | 52°59'W | -69°09' | 1842               | -4834              |
| 561         | 77 31.2  | 41 29      | 01 24 69             | 05 27          | 5174               |         |         |                    |                    |
| 562         | 77 32.2  | 41 28      | 11 07 68<br>01 24 69 | 13 33<br>05 00 | 5176<br>5174       |         |         |                    |                    |
| 563         | 77 33.3  | 41 27      | 01 24 69             | 04 33          | 5175               |         |         |                    |                    |
| 564         | 77 34.4  | 41 27      | 01 24 69             | 04 04          | 5176               |         |         |                    |                    |
| 565         | 77 35.4  | 41 26      | 01 24 69             | 03 36          | 5175               |         |         |                    |                    |
| 566         | 77 36.5  | 41 25      | 11 07 68<br>01 23 69 | 16 12<br>16 10 | 5175<br>5174       |         |         |                    |                    |
| 567         | 77 37.5  | 41 24      | 01 23 69             | 15 42          | 5177               |         |         |                    |                    |
| 568         | 77 38.5  | 41 24      | 12 10 67<br>01 23 69 | 12 10<br>15 14 |                    | 53°04'W | -69 17  |                    |                    |
| 569         | 77 39.5  | 41 22      | 01 23 69             | 14 39          | 5177               |         |         |                    |                    |
| 570         | 77 40.6  | 41 21      | 11 07 68<br>01 23 69 | 22 05<br>14 11 | 5180<br>5176       |         |         |                    |                    |
| 571         | 77 41.6  | 41 20      | 01 23 69             | 13 41          | 5175               |         |         |                    |                    |
| 572         | 77 42.6  | 41 19      | 01 23 69             | 12 54          | 5176               | 52°56'W | -69 15  | 1834               | -4840              |
| 573         | 77 43.7  | 41 18      | 01 23 69             | 12 30          | 5176               |         |         |                    |                    |
| 574         | 77 44.7  | 41 17      | 11 08 68<br>01 23 69 | 11 30<br>11 50 | 5169<br>5176       |         |         |                    |                    |
| 575         | 77 45.8  | 41 17      | 01 23 69             | 11 26          | 5176               |         |         |                    |                    |
| 576         | 77 46.9  | 41 16      | 01 23 69             | 10 55          | 5178               |         |         |                    |                    |
| 577         | 77 47.8  | 41 16      | 01 23 69             | 10 27          | 5179               |         |         |                    |                    |
| 578         | 77 48.9  | 41 16      | 11 08 68<br>01 23 69 | 13 03<br>10 00 | 5181<br>5181       |         |         |                    |                    |
| 579         | 77 50.0  | 41 16      | 01 23 69             | 09 33          | 5182               |         |         |                    |                    |
| 580         | 77 51.0  | 41 15      | 01 23 69             | 08 24          | 5184               |         |         |                    |                    |

| Station No. | Latitude | Longi-tude | Date<br>m d y | GMT<br>h m | F<br>$\times 10^7$ | D       | I       | H<br>$\times 10^7$ | Z<br>$\times 10^7$ |
|-------------|----------|------------|---------------|------------|--------------------|---------|---------|--------------------|--------------------|
| 581         | 77°52'1S | 41°15'E    | 01 23 69      | 08 01      | 5188               |         |         |                    |                    |
| 582         | 77 53.1  | 41 15      | 11 08 68      | 15 27      | 5175               |         |         |                    |                    |
|             |          |            | 01 23 69      | 07 18      | 5191               |         |         |                    |                    |
| 583         | 77 54.2  | 41 14      | 01 23 69      | 06 54      | 5194               |         |         |                    |                    |
| 584         | 77 55.2  | 41 13      | 01 23 69      | 05 56      | 5202               | 43°00'W | -69°21' | 1834               | -4868              |
| 585         | 77 56.3  | 41 13      | 01 23 69      | 05 31      | 5204               |         |         |                    |                    |
| 586         | 77 57.4  | 41 12      | 11 08 68      | 17 48      | 5188               |         |         |                    |                    |
|             |          |            | 01 23 69      | 05 07      | 5204               |         |         |                    |                    |
| 588         | 77 59.5  | 41 11      | 01 23 69      | 04 10      | 5200               |         |         |                    |                    |
| 589         | 78 00.5  | 41 10      | 01 23 69      | 03 41      | 5199               |         |         |                    |                    |
| 590         | 78 01.5  | 41 10      | 11 09 68      | 12 33      | 5200               | 53 25W  | -69 18  | 1838               | -4864              |
|             |          |            | 01 22 69      | 18 42      | 5197               |         |         |                    |                    |
| 591         | 78 02.6  | 41 09      | 01 22 69      | 18 18      | 5196               |         |         |                    |                    |
| 592         | 78 03.6  | 41 08      | 01 22 69      | 17 54      | 5197               |         |         |                    |                    |
| 593         | 78 04.6  | 41 07      | 01 22 69      | 17 23      | 5197               |         |         |                    |                    |
| 594         | 78 05.6  | 41 06      | 11 09 68      | 15 05      | 5199               |         |         |                    |                    |
|             |          |            | 01 22 69      | 16 58      | 5197               |         |         |                    |                    |
| 595         | 78 06.6  | 41 05      | 01 22 69      | 16 33      | 5197               |         |         |                    |                    |
| 596         | 78 07.6  | 41 04      | 01 22 69      | 16 07      | 5198               |         |         |                    |                    |
| 598         | 78 09.5  | 41 02      | 11 09 68      | 17 34      | 5202               |         |         |                    |                    |
|             |          |            | 01 22 69      | 14 52      | 5200               | 52 53W  | -69 26  | 1827               | -4868              |
| 599         | 78 10.5  | 41 01      | 01 22 69      | 14 13      | 5200               |         |         |                    |                    |
| 600         | 78 11.5  | 41 01      | 01 22 69      | 13 45      | 5201               |         |         |                    |                    |
| 601         | 78 12.5  | 41 00      | 01 22 69      | 13 17      | 5202               |         |         |                    |                    |
| 602         | 78 13.4  | 40 59      | 11 10 68      | 04 47      | 5199               |         |         |                    |                    |
|             |          |            | 01 22 69      | 12 51      | 5203               |         |         |                    |                    |
| 603         | 78 14.4  | 40 59      | 01 22 69      | 12 23      | 5204               |         |         |                    |                    |
| 604         | 78 15.4  | 40 58      | 01 22 69      | 12 00      | 5208               |         |         |                    |                    |
| 605         | 78 16.3  | 40 56      | 01 22 69      | 11 27      | 5209               |         |         |                    |                    |
| 606         | 78 17.3  | 40 56      | 11 10 68      | 07 29      | 5213               |         |         |                    |                    |
|             |          |            | 01 22 69      | 10 50      | 5209               |         |         |                    |                    |
| 607         | 78 18.3  | 40 55      | 01 22 69      | 10 23      | 5209               |         |         |                    |                    |
| 608         | 78 19.3  | 40 55      | 01 22 69      | 09 53      | 5210               |         |         |                    |                    |
| 610         | 78 21.3  | 40 53      | 11 10 68      | 09 38      | 5214               |         |         |                    |                    |
|             |          |            | 01 22 69      | 07 58      | 5212               | 53 06W  | -69 32  | 1822               | -4883              |
| 611         | 78 22.3  | 40 53      | 01 22 69      | 07 17      | 5213               |         |         |                    |                    |
| 612         | 78 23.3  | 40 53      | 01 22 69      | 06 44      | 5213               |         |         |                    |                    |
| 613         | 78 24.2  | 40 52      | 01 22 69      | 06 18      | 5216               |         |         |                    |                    |
| 614         | 78 25.2  | 40 51      | 11 10 68      | 11 48      | 5219               |         |         |                    |                    |

| Station No. | Latitude   | Longi-tude | Date<br>m d y | GMT<br>h m | F                     | D       | I       | H             | Z     |
|-------------|------------|------------|---------------|------------|-----------------------|---------|---------|---------------|-------|
| 614         |            |            | 01 22 69      | 05 39      | $\times 10^7$<br>5220 |         |         | $\times 10^7$ |       |
| 615         | 78° 26' 2S | 40° 51'E   | 01 22 69      | 05 14      | 5222                  |         |         |               |       |
| 616         | 78 27.2    | 40 50      | 01 22 69      | 04 46      | 5224                  |         |         |               |       |
| 617         | 78 28.1    | 40 49      | 01 22 69      | 04 20      | 5226                  |         |         |               |       |
| 618         | 78 29.1    | 40 49      | 01 22 69      | 03 55      | 5228                  |         |         |               |       |
| 619         | 78 30.2    | 40 49      | 01 22 69      | 03 30      | 5229                  |         |         |               |       |
| 620         | 78 31.1    | 40 48      | 01 21 69      | 17 50      | 5228                  |         |         |               |       |
| 621         | 78 32.1    | 40 48      | 01 21 69      | 17 27      | 5228                  |         |         |               |       |
| 622         | 78 33.1    | 40 48      | 11 10 68      | 16 42      | 5228                  |         |         |               |       |
|             |            |            | 01 21 69      | 16 45      | 5227                  | 53°15'W | -69°30' | 1830          | -4896 |
| 623         | 78 34.1    | 40 48      | 01 21 69      | 16 06      | 5229                  |         |         |               |       |
| 624         | 78 35.1    | 40 47      | 01 21 69      | 15 36      | 5229                  |         |         |               |       |
| 625         | 78 36.1    | 40 47      | 01 21 69      | 15 10      | 5229                  |         |         |               |       |
| 626         | 78 37.1    | 40 46      | 11 10 68      | 19 22      | 5231                  |         |         |               |       |
|             |            |            | 01 21 69      | 14 43      | 5230                  |         |         |               |       |
| 628         | 78 39.0    | 40 44      | 01 21 69      | 13 57      | 5233                  |         |         |               |       |
| 629         | 78 40.0    | 40 44      | 01 21 69      | 13 31      | 5233                  |         |         |               |       |
| 630         | 78 41.0    | 40 44      | 11 11 68      | 05 33      | 5247                  |         |         |               |       |
|             |            |            | 01 21 69      | 12 56      | 5233                  |         |         |               |       |
| 631         | 78 42.1    | 40 43      | 01 21 69      | 12 28      | 5233                  |         |         |               |       |
| 632         | 78 43.1    | 40 42      | 01 21 69      | 12 01      | 5234                  |         |         |               |       |
| 633         | 78 44.1    | 40 41      | 01 21 69      | 11 35      | 5234                  |         |         |               |       |
| 634         | 78 45.2    | 40 40      | 11 11 68      | 07 50      | 5245                  |         |         |               |       |
|             |            |            | 01 21 69      | 11 05      | 5233                  |         |         |               |       |
| 635         | 78 46.2    | 40 40      | 01 21 69      | 10 36      | 5236                  |         |         |               |       |
| 636         | 78 47.2    | 40 40      | 01 21 69      | 10 09      | 5236                  |         |         |               |       |
| 637         | 78 48.2    | 40 40      | 01 21 69      | 09 42      | 5235                  |         |         |               |       |
| 638         | 78 49.2    | 40 39      | 11 11 68      | 10 40      | 5245                  |         |         |               |       |
|             |            |            | 01 21 69      | 08 27      | 5240                  | 53 30W  | -69 41  | 1819          | -4914 |
| 639         | 78 50.3    | 40 39      | 01 21 69      | 07 52      | 5242                  |         |         |               |       |
| 640         | 78 51.3    | 40 39      | 01 21 69      | 07 32      | 5242                  |         |         |               |       |
| 641         | 78 52.3    | 40 39      | 01 21 69      | 07 07      | 5246                  |         |         |               |       |
| 642         | 78 53.4    | 40 39      | 11 11 68      | 12 40      | 5250                  |         |         |               |       |
|             |            |            | 01 21 69      | 06 42      | 5245                  |         |         |               |       |
| 643         | 78 54.4    | 40 38      | 01 21 69      | 06 06      | 5245                  |         |         |               |       |
| 644         | 78 55.4    | 40 38      | 01 21 69      | 05 44      | 5248                  |         |         |               |       |
| 645         | 78 56.4    | 40 38      | 01 21 69      | 05 22      | 5247                  |         |         |               |       |
| 646         | 78 57.4    | 40 38      | 11 11 68      | 14 27      | 5244                  | 53 11W  | -69 45  | 1815          | -4919 |
|             |            |            | 01 21 69      | 04 45      | 5247                  |         |         |               |       |

| Station No. | Latitude | Longi-tude | Date<br>m d y | GMT<br>h m | F<br>$\times 10^7$ | D                  | I       | H<br>$\times 10^7$ | Z<br>$\times 10^7$ |
|-------------|----------|------------|---------------|------------|--------------------|--------------------|---------|--------------------|--------------------|
| 647         | 78°58'4S | 40°37'E    |               |            |                    |                    |         |                    |                    |
| 648         | 78 59.5  | 40 37      | 01 21 69      | 03 55      | 5250               |                    |         |                    |                    |
| 649         | 79 00.5  | 40 35      | 01 21 69      | 03 31      | 5252               |                    |         |                    |                    |
| 650         | 79 01.5  | 40 35      | 01 20 69      | 15 46      | 5252               | 53°26'W            | -69°39' | 1827               | -4925              |
| 651         | 79 02.5  | 40 35      | 11 12 68      | 00 46      | 5246               |                    |         |                    |                    |
|             |          |            | 01 20 69      | 15 20      | 5255               |                    |         |                    |                    |
| 652         | 79 03.5  | 40 34      | 01 20 69      | 14 56      | 5257               |                    |         |                    |                    |
| 653         | 79 04.6  | 40 34      | 01 20 69      | 14 30      | 5255               |                    |         |                    |                    |
| 654         | 79 05.6  | 40 33      | 11 12 68      | 02 32      | 5254               |                    |         |                    |                    |
|             |          |            | 01 20 69      | 14 05      | 5258               |                    |         |                    |                    |
| 655         | 79 06.7  | 40 33      | 01 20 69      | 13 12      | 5255               |                    |         |                    |                    |
| 656         | 79 07.7  | 40 32      | 01 20 69      | 12 43      | 5255               |                    |         |                    |                    |
| 657         | 79 08.7  | 40 30      | 01 20 69      | 12 14      | 5254               |                    |         |                    |                    |
| 658         | 79 09.7  | 40 32      | 11 12 68      | 04 25      | 5259               |                    |         |                    |                    |
|             |          |            | 01 20 69      | 11 37      | 5253               |                    |         |                    |                    |
| 659         | 79 10.8  | 40 32      | 01 20 69      | 11 11      | 5254               |                    |         |                    |                    |
| 660         | 79 11.8  | 40 31      | 01 20 69      | 10 36      | 5254               |                    |         |                    |                    |
| 661         | 79 12.8  | 40 31      |               |            |                    |                    |         |                    |                    |
| 662         | 79 13.9  | 40 31      | 11 12 68      | 07 29      | 5259               |                    |         |                    |                    |
| 663         | 79 14.8  | 40 30      | 11 14 68      | 15 00      | 5260               | ( Plateau Station) |         |                    |                    |
|             |          |            | 01 17 69      | 07 04      | 5263               |                    |         |                    |                    |
| 664         | 79 16.7  | 40 30      | 01 14 69      | 12 26      | 5269               |                    |         |                    |                    |
| 665         | 79 18.6  | 40 31      | 11 16 68      | 06 25      | 5272               |                    |         |                    |                    |
| 666         | 79 20.5  | 40 31      | 01 14 69      | 07 49      | 5283               | 53 39W             | -70 04  | 1801               | -4966              |
| 667         | 79 22.5  | 40 32      |               |            |                    |                    |         |                    |                    |
| 668         | 79 24.4  | 40 32      | 01 14 69      | 06 05      | 5289               |                    |         |                    |                    |
| 669         | 79 26.3  | 40 32      | 11 16 68      | 11 27      | 5276               | 53 51W             | -69 52  | 1815               | -4954              |
| 670         | 79 28.2  | 40 33      |               |            |                    |                    |         |                    |                    |
| 671         | 79 30.1  | 40 33      | 11 16 68      | 13 30      | 5283               |                    |         |                    |                    |
| 672         | 79 32.0  | 40 33      | 01 13 69      | 18 12      | 5288               | 54 53W             | -69 53  | 1818               | -4965              |
| 673         | 79 33.9  | 40 34      | 11 16 68      | 15 35      | 5290               |                    |         |                    |                    |
|             |          |            | 01 13 69      | 17 36      | 5290               |                    |         |                    |                    |
| 674         | 79 35.8  | 40 34      | 01 13 69      | 16 49      | 5288               |                    |         |                    |                    |
| 675         | 79 37.8  | 40 34      | 11 16 68      | 19 39      | 5283               | 53 59W             | -69 54  | 1816               | -4961              |
|             |          |            | 01 13 69      | 16 06      | 5290               |                    |         |                    |                    |
| 676         | 79 39.7  | 40 35      | 01 13 69      | 15 17      | 5290               |                    |         |                    |                    |
| 677         | 79 41.6  | 40 35      | 11 17 68      | 06 29      | 5300               |                    |         |                    |                    |
|             |          |            | 01 13 69      | 14 38      | 5291               |                    |         |                    |                    |
| 678         | 79 44.0  | 40 36      | 01 13 69      | 13 38      | 5292               | 54 06W             | -70 00  | 1810               | -4973              |

| Station No. | Latitude | Longitude | Date<br>m d y | GMT<br>h m | F<br>$\times 10^7$ | D       | I       | H<br>$\times 10^7$ | Z<br>$\times 10^7$ |
|-------------|----------|-----------|---------------|------------|--------------------|---------|---------|--------------------|--------------------|
| 679         | 79°45'4S | 40°36'E   | 11 17 68      | 09 26      | 5285               |         |         |                    |                    |
|             |          |           | 01 13 69      | 12 51      | 5292               |         |         |                    |                    |
| 680         | 79 47.4  | 40 36     | 01 13 69      | 12 10      | 5293               |         |         |                    |                    |
| 681         | 79 49.3  | 40 37     | 11 17 68      | 12 21      | 5297               | 54°08'W | -70°02' | 1809               | -4978              |
|             |          |           | 01 13 69      | 11 22      | 5292               |         |         |                    |                    |
| 682         | 79 51.3  | 40 37     | 01 13 69      | 10 42      | 5294               |         |         |                    |                    |
| 683         | 79 53.3  | 40 38     | 11 17 68      | 14 14      | 5304               |         |         |                    |                    |
|             |          |           | 01 13 69      | 08 07      | 5299               |         |         |                    |                    |
| 684         | 79 55.2  | 40 38     | 01 13 69      | 06 48      | 5302               | 54 26W  | -70 02  | 1810               | -4983              |
| 685         | 79 57.2  | 40 38     | 01 13 69      | 06 18      | 5307               |         |         |                    |                    |
| 686         | 79 59.1  | 40 39     | 01 13 69      | 05 38      | 5312               |         |         |                    |                    |
| 687         | 80 01.1  | 40 39     | 11 18 68      | 06 32      |                    | 54 29W  | -70 05  |                    |                    |
|             |          |           | 01 13 69      | 05 51      | 5315               |         |         |                    |                    |
| 688         | 80 03.1  | 40 39     | 01 13 69      | 04 13      | 5321               |         |         |                    |                    |
| 689         | 80 05.1  | 40 39     | 01 13 69      | 03 04      | 5324               |         |         |                    |                    |
| 690         | 80 07.1  | 40 39     | 01 12 69      | 18 51      | 5320               | 54 32W  | -70 06  | 1811               | -5003              |
| 691         | 80 09.0  | 40 39     | 01 12 69      | 18 09      | 5314               |         |         |                    |                    |
| 692         | 80 11.0  | 40 38     | 01 12 69      | 17 31      | 5314               |         |         |                    |                    |
| 693         | 80 13.0  | 40 38     | 11 18 68      | 16 45      |                    | 54 42W  | -70 04  |                    |                    |
| 694         | 80 15.0  | 40 38     | 01 12 69      | 16 19      | 5325               |         |         |                    |                    |
| 695         | 80 17.0  | 40 38     | 01 12 69      | 15 35      | 5324               |         |         |                    |                    |
| 696         | 80 19.0  | 40 38     | 01 12 69      | 14 22      | 5332               | 54 55W  | -70 10  | 1809               | -5015              |
| 697         | 80 21.0  | 40 38     | 01 12 69      | 13 45      | 5337               |         |         |                    |                    |
| 698         | 80 23.0  | 40 38     | 01 12 69      | 13 08      | 5340               |         |         |                    |                    |
| 699         | 80 24.9  | 40 38     | 01 12 69      | 12 23      | 5337               |         |         |                    |                    |
| 700         | 80 26.9  | 40 38     | 01 12 69      | 11 41      | 5337               |         |         |                    |                    |
| 701         | 80 28.9  | 40 38     | 01 12 69      | 11 01      | 5337               |         |         |                    |                    |
| 702         | 80 30.9  | 40 38     | 01 12 69      | 09 23      | 5347               | 55 01W  | -70 32  | 1782               | -5041              |
| 703         | 80 32.9  | 40 37     | 01 12 69      | 08 34      | 5348               |         |         |                    |                    |
| 704         | 80 34.9  | 40 37     | 01 12 69      | 08 05      | 5362               |         |         |                    |                    |
| 705         | 80 36.9  | 40 37     | 01 12 69      | 05 07      | 5359               |         |         |                    |                    |
| 706         | 80 38.9  | 40 37     | 01 12 69      | 04 25      | 5355               |         |         |                    |                    |
| 707         | 80 40.8  | 40 37     | 01 12 69      | 03 38      | 5361               |         |         |                    |                    |
| 708         | 80 42.8  | 40 37     | 01 11 69      | 16 38      | 5355               | 55 13W  | -70 24  | 1797               | -5044              |
| 709         | 80 44.8  | 40 37     | 01 11 69      | 15 45      | 5359               |         |         |                    |                    |
| 710         | 80 46.8  | 40 37     | 01 11 69      | 15 05      | 5361               |         |         |                    |                    |
| 711         | 80 48.8  | 40 37     | 11 20 68      | 09 31      |                    | 55 43W  | -70 33  |                    |                    |
|             |          |           | 01 11 69      | 14 21      | 5364               |         |         |                    |                    |
| 712         | 80 50.8  | 40 36     | 01 11 69      | 12 26      | 5358               |         |         |                    |                    |

| Station No. | Latitude   | Longitude | Date     | GMT   | F             | D       | I       | H             | Z             |
|-------------|------------|-----------|----------|-------|---------------|---------|---------|---------------|---------------|
|             |            |           | m d y    | h m   | $\times 10^7$ |         |         | $\times 10^7$ | $\times 10^7$ |
| 713         | 80° 52' 8S | 40° 36'E  | 01 11 69 | 11 57 | 5360          |         |         |               |               |
| 714         | 80 54.7    | 40 36     | 01 11 69 | 11 12 | 5363          | 55°18'W | -70°32' | 1786          | -5056         |
| 715         | 80 56.7    | 40 36     | 01 11 69 | 10 15 | 5364          |         |         |               |               |
| 716         | 80 58.7    | 40 36     | 01 11 69 | 09 31 | 5365          |         |         |               |               |
| 717         | 81 00.7    | 40 36     | 11 21 68 | 06 24 |               | 55 35W  | -70 33  |               |               |
|             |            |           | 01 11 69 | 08 25 | 5377          |         |         |               |               |
| 718         | 81 02.7    | 40 36     | 01 11 69 | 07 50 | 5386          |         |         |               |               |
| 719         | 81 04.7    | 40 36     | 01 11 69 | 07 12 | 5387          |         |         |               |               |
| 720         | 81 06.7    | 40 36     | 01 11 69 | 06 20 | 5389          | 55 33W  | -70 39  | 1785          | -5085         |
| 721         | 81 08.7    | 40 36     | 01 11 69 | 05 39 | 5383          |         |         |               |               |
| 722         | 81 10.7    | 40 36     | 01 11 69 | 04 57 | 5383          |         |         |               |               |
| 723         | 81 12.8    | 40 36     | 11 21 68 | 18 07 |               | 55 44W  | -70 24  |               |               |
|             |            |           | 01 11 69 | 04 20 | 5381          |         |         |               |               |
| 724         | 81 14.8    | 40 36     | 01 11 69 | 03 39 | 5384          |         |         |               |               |
| 725         | 81 16.8    | 40 36     | 01 10 69 | 18 31 | 5387          | 55 29W  | -70 36  |               |               |
| 726         | 81 18.8    | 40 36     | 01 10 69 | 18 00 | 5390          | 55 42W  | -70 34  | 1793          | -5083         |
| 727         | 81 20.8    | 40 36     | 01 10 69 | 17 15 | 5393          |         |         |               |               |
| 728         | 81 22.8    | 40 36     | 11 22 68 | 09 51 |               | 55 51W  | -70 41  |               |               |
|             |            |           | 01 10 69 | 16 44 | 5394          |         |         |               |               |
| 729         | 81 24.8    | 40 36     | 01 10 69 | 16 12 | 5394          |         |         |               |               |
| 730         | 81 26.9    | 40 36     | 01 10 69 | 15 37 | 5396          |         |         |               |               |
| 731         | 81 28.9    | 40 36     | 01 10 69 | 14 53 | 5395          |         |         |               |               |
| 732         | 81 31.0    | 40 36     | 01 10 69 | 13 56 | 5395          | 55 53W  | -70 43  | 1781          | -5092         |
| 733         | 81 33.0    | 40 36     | 01 10 69 | 12 57 | 5397          |         |         |               |               |
| 734         | 81 35.1    | 40 37     | 01 10 69 | 12 25 | 5403          |         |         |               |               |
| 735         | 81 37.1    | 40 37     | 11 22 68 | 16 55 |               | 56 08W  | -70 48  |               |               |
|             |            |           | 01 10 69 | 11 50 | 5404          |         |         |               |               |
| 736         | 81 39.1    | 40 37     | 01 10 69 | 11 18 | 5405          |         |         |               |               |
| 737         | 81 41.2    | 40 37     | 01 10 69 | 10 47 | 5401          |         |         |               |               |
| 738         | 81 43.2    | 40 37     | 01 10 69 | 10 19 | 5405          | 56 22W  | -70 49  | 1776          | -5104         |
| 739         | 81 45.3    | 40 37     | 01 10 69 | 09 02 | 5404          |         |         |               |               |
| 740         | 81 47.3    | 40 37     | 11 23 68 | 09 51 |               | 56 20W  | -70 53  |               |               |
|             |            |           | 01 10 69 | 08 33 | 5410          |         |         |               |               |
| 741         | 81 49.1    | 40 37     | 01 10 69 | 07 49 | 5419          |         |         |               |               |
| 742         | 81 51.0    | 40 37     | 01 10 69 | 07 18 | 5421          |         |         |               |               |
| 743         | 81 52.8    | 40 37     | 01 10 69 | 06 46 | 5420          |         |         |               |               |
| 744         | 81 54.6    | 40 37     | 01 10 69 | 06 04 | 5420          | 56 26W  | -70 55  | 1772          | -5122         |
| 745         | 81 56.4    | 40 37     | 01 10 69 | 05 26 | 5422          |         |         |               |               |
| 746         | 81 58.3    | 40 37     | 01 10 69 | 04 47 | 5425          |         |         |               |               |

| Station No. | Latitude | Longi-<br>tude | Date<br><small>m d y</small> | GMT<br><small>h m</small> | F<br><small>×10<sup>7</sup></small> | D       | I       | II   | Z<br><small>×10<sup>7</sup></small> |
|-------------|----------|----------------|------------------------------|---------------------------|-------------------------------------|---------|---------|------|-------------------------------------|
| 747         | 82°00'1S | 40°37'E        | 11 24 68                     | 07 32                     | 5424                                | 56°43'W | -70°56' |      |                                     |
|             |          |                | 01 10 69                     | 04 08                     |                                     |         |         |      |                                     |
| 748         | 82 02.1  | 40 37          | 01 10 69                     | 03 34                     | 5427                                |         |         |      |                                     |
| 749         | 82 04.1  | 40 37          | 01 09 69                     | 18 25                     | 5428                                |         |         |      |                                     |
| 750         | 82 06.1  | 40 36          | 01 09 69                     | 17 46                     | 5428                                | 56 35W  | -71 04  | 1761 | -5135                               |
| 751         | 82 08.1  | 40 36          | 01 09 69                     | 16 55                     | 5429                                |         |         |      |                                     |
| 752         | 82 10.1  | 40 36          | 01 09 69                     | 16 20                     | 5430                                |         |         |      |                                     |
| 753         | 82 12.1  | 40 36          | 11 24 68                     | 18 15                     |                                     | 56 38W  | -70 58  |      |                                     |
|             |          |                | 01 09 69                     | 14 13                     | 5433                                |         |         |      |                                     |
| 754         | 82 14.0  | 40 36          | 01 09 69                     | 13 27                     | 5431                                |         |         |      |                                     |
| 755         | 82 16.0  | 40 35          | 01 09 69                     | 13 02                     | 5435                                |         |         |      |                                     |
| 756         | 82 18.0  | 40 35          | 01 09 69                     | 08 26                     | 5437                                | 56 58W  | -71 08  | 1758 | -5145                               |
| 757         | 82 20.0  | 40 35          | 01 09 69                     | 07 54                     | 5452                                |         |         |      |                                     |
| 758         | 82 22.0  | 40 35          | 01 09 69                     | 07 21                     | 5451                                |         |         |      |                                     |
| 759         | 82 24.0  | 40 35          | 11 25 68                     | 10 54                     |                                     | 56 44W  | -71 07  |      |                                     |
|             |          |                | 01 08 69                     | 17 47                     | 5449                                |         |         |      |                                     |
| 760         | 82 26.0  | 40 34          | 01 08 69                     | 17 17                     | 5452                                |         |         |      |                                     |
| 761         | 82 28.0  | 40 34          | 01 08 69                     | 16 50                     | 5455                                |         |         |      |                                     |
| 762         | 82 30.1  | 40 34          | 01 08 69                     | 15 59                     | 5459                                | 56 57W  | -71 08  | 1765 | -5166                               |
| 763         | 82 32.1  | 40 34          | 01 08 69                     | 15 04                     | 5459                                |         |         |      |                                     |
| 764         | 82 34.1  | 40 34          | 01 08 69                     | 14 21                     | 5460                                |         |         |      |                                     |
| 765         | 82 36.1  | 40 33          | 11 25 68                     | 17 09                     |                                     | 57 03W  | -71 12  |      |                                     |
|             |          |                | 01 08 69                     | 13 44                     | 5460                                |         |         |      |                                     |
| 766         | 82 38.2  | 40 33          | 01 08 69                     | 13 07                     | 5457                                |         |         |      |                                     |
| 767         | 82 40.2  | 40 33          | 01 08 69                     | 12 34                     | 5459                                |         |         |      |                                     |
| 768         | 82 42.2  | 40 33          | 01 08 69                     | 11 40                     | 5462                                | 57 03W  | -71 15  | 1755 | -5172                               |
| 769         | 82 44.2  | 40 33          | 01 08 69                     | 10 58                     | 5465                                |         |         |      |                                     |
| 771         | 82 48.3  | 40 32          | 11 26 68                     | 11 06                     |                                     | 57 12W  | -71 20  |      |                                     |
|             |          |                | 01 07 69                     | 15 24                     | 5467                                |         |         |      |                                     |
| 772         | 82 50.3  | 40 32          | 01 07 69                     | 14 54                     | 5470                                |         |         |      |                                     |
| 773         | 82 52.3  | 40 32          | 01 07 69                     | 14 18                     | 5473                                |         |         |      |                                     |
| 774         | 82 54.3  | 40 32          | 01 07 69                     | 13 12                     | 5474                                | 57 16W  | -71 26  | 1742 | -5189                               |
| 775         | 82 56.4  | 40 31          | 01 07 69                     | 12 33                     | 5474                                |         |         |      |                                     |
| 776         | 82 58.4  | 40 31          | 01 07 69                     | 11 57                     | 5496                                |         |         |      |                                     |
| 777         | 83 00.4  | 40 31          | 11 27 68                     | 08 13                     |                                     | 57 31W  | -71 33  |      |                                     |
|             |          |                | 01 07 69                     | 11 26                     | 5488                                |         |         |      |                                     |
| 778         | 83 02.5  | 40 31          | 01 07 69                     | 10 43                     | 5504                                |         |         |      |                                     |
| 779         | 83 04.5  | 40 31          | 01 07 69                     | 10 03                     | 5487                                |         |         |      |                                     |
| 780         | 83 06.6  | 40 32          | 01 07 69                     | 09 40                     | 5491                                | 57 20W  | -71 50  | 1713 | -5217                               |

| Station No. | Latitude | Longi-tude | Date<br>m d y | GMT<br>h m | F<br>$\times 10^7$ | D       | I       | H<br>$\times 10^7$ | Z<br>$\times 10^7$ |
|-------------|----------|------------|---------------|------------|--------------------|---------|---------|--------------------|--------------------|
| 781         | 83°08'7S | 40°32'E    | 01 07 69      | 08 14      | 5505               |         |         |                    |                    |
| 782         | 83 10.7  | 40 32      | 01 07 69      | 07 42      | 5503               |         |         |                    |                    |
| 783         | 83 12.8  | 40 32      | 11 27 68      | 17 10      |                    | 57°38'W | -71°31' |                    |                    |
|             |          |            | 01 07 69      | 06 56      | 5506               |         |         |                    |                    |
| 784         | 83 14.9  | 40 32      | 01 07 69      | 06 22      | 5515               |         |         |                    |                    |
| 785         | 83 16.9  | 40 33      | 01 07 69      | 05 53      | 5530               |         |         |                    |                    |
| 786         | 83 19.0  | 40 33      | 01 07 69      | 05 06      | 5534               | 58 16W  | -71 32  | 1752               | -5249              |
| 787         | 83 21.1  | 40 33      | 01 07 69      | 04 20      | 5535               |         |         |                    |                    |
| 788         | 83 23.1  | 40 33      |               |            |                    |         |         |                    |                    |
| 789         | 83 25.2  | 40 33      | 11 28 68      | 09 35      |                    | 58 43W  | -71 38  |                    |                    |
|             |          |            | 01 06 69      | 16 01      | 5523               |         |         |                    |                    |
| 790         | 83 27.3  | 40 34      | 01 06 69      | 15 24      | 5516               |         |         |                    |                    |
| 791         | 83 29.3  | 40 34      | 01 06 69      | 14 34      | 5511               |         |         |                    |                    |
| 792         | 83 31.4  | 40 34      | 01 06 69      | 13 52      | 5510               | 58 26W  | -71 36  | 1738               | -5228              |
| 793         | 83 33.4  | 40 34      | 01 06 69      | 13 02      | 5511               |         |         |                    |                    |
| 794         | 83 35.5  | 40 34      | 01 06 69      | 12 22      | 5515               |         |         |                    |                    |
| 795         | 83 37.5  | 40 35      | 11 28 68      | 15 59      |                    | 58 12W  | -71 41  |                    |                    |
|             |          |            | 01 06 69      | 11 52      | 5524               |         |         |                    |                    |
| 796         | 83 39.6  | 40 35      | 01 06 69      | 08 10      | 5526               |         |         |                    |                    |
| 797         | 83 41.6  | 40 35      | 01 06 69      | 07 40      | 5520               |         |         |                    |                    |
| 798         | 83 43.7  | 40 35      | 01 06 69      | 07 13      | 5518               | 59 06W  | -71 59  | 1707               | -5248              |
| 799         | 83 45.7  | 40 35      | 01 06 69      | 06 12      | 5526               |         |         |                    |                    |
| 800         | 83 47.8  | 40 36      | 01 06 69      | 05 27      | 5532               |         |         |                    |                    |
| 801         | 83 49.8  | 40 36      | 11 29 68      | 10 13      |                    | 58 24W  | -71 52  |                    |                    |
|             |          |            | 01 06 69      | 04 48      | 5538               |         |         |                    |                    |
| 804         | 83 55.9  | 40 36      | 01 05 69      | 15 21      | 5536               | 58 56W  | -71 54  | 1720               | -5262              |
| 805         | 83 57.9  | 40 37      | 01 05 69      | 14 53      | 5540               |         |         |                    |                    |
| 806         | 84 00.0  | 40 37      | 01 05 69      | 14 07      | 5538               |         |         |                    |                    |
| 807         | 84 02.0  | 40 37      | 11 29 68      | 16 11      |                    | 58 58W  | -71 50  |                    |                    |
|             |          |            | 01 05 69      | 13 30      | 5536               |         |         |                    |                    |
| 808         | 84 04.0  | 40 37      | 01 05 69      | 12 57      | 5536               |         |         |                    |                    |
| 809         | 84 06.1  | 40 37      |               |            |                    |         |         |                    |                    |
| 810         | 84 08.2  | 40 36      | 01 05 69      | 11 35      | 5535               | 58 58W  | -71 59  | 1712               | -5263              |
| 811         | 84 10.2  | 40 36      | 01 05 69      | 10 47      | 5538               |         |         |                    |                    |
| 812         | 84 12.2  | 40 36      | 01 05 69      | 10 14      | 5543               |         |         |                    |                    |
| 813         | 84 14.3  | 40 36      | 11 30 68      | 16 31      |                    | 59 10W  | -71 56  |                    |                    |
|             |          |            | 01 05 69      | 09 33      | 5552               |         |         |                    |                    |
| 814         | 84 16.4  | 40 36      | 01 05 69      | 08 36      | 5550               |         |         |                    |                    |
| 815         | 84 18.4  | 40 35      | 01 05 69      | 07 51      | 5548               |         |         |                    |                    |

| Station No. | Latitude   | Longitude | Date<br>m d y | GMT<br>h m | F<br>$\times 10^7$ | D        | I        | II   | Z<br>$\times 10^7$ |
|-------------|------------|-----------|---------------|------------|--------------------|----------|----------|------|--------------------|
| 816         | 84° 20' 4S | 40° 35'E  | 01 05 69      | 06 56      | 5550               | 59° 22'W | -71° 56' | 1721 | -5276              |
| 817         | 84 22.5    | 40 35     | 01 05 69      | 06 14      | 5554               |          |          |      |                    |
| 818         | 84 24.6    | 40 35     | 01 05 69      | 05 36      | 5559               |          |          |      |                    |
| 819         | 84 26.6    | 40 35     | 12 01 68      | 10 13      |                    | 59 26W   | -72 17   |      |                    |
|             |            |           | 01 05 69      | 05 07      | 5563               |          |          |      |                    |
| 822         | 84 32.8    | 40 34     | 01 04 69      | 19 17      | 5565               | 59 32W   | -72 02   | 1716 | -5294              |
| 823         | 84 34.8    | 40 34     | 01 04 69      | 18 37      | 5569               |          |          |      |                    |
| 824         | 84 36.8    | 40 34     | 01 04 69      | 17 58      | 5572               |          |          |      |                    |
| 825         | 84 38.9    | 40 33     | 12 01 68      | 16 28      |                    | 59 56W   | -72 06   |      |                    |
|             |            |           | 01 04 69      | 17 34      | 5567               |          |          |      |                    |
| 826         | 84 41.0    | 40 33     | 01 04 69      | 16 58      | 5566               |          |          |      |                    |
| 827         | 84 43.0    | 40 33     | 01 04 69      | 16 18      | 5565               |          |          |      |                    |
| 828         | 84 45.0    | 40 33     | 01 04 69      | 15 28      | 5567               | 59 38W   | -72 11   | 1703 | -5300              |
| 829         | 84 47.1    | 40 33     | 01 04 69      | 14 44      | 5571               |          |          |      |                    |
| 830         | 84 49.2    | 40 32     | 01 04 69      | 14 05      | 5574               |          |          |      |                    |
| 831         | 84 51.2    | 40 32     | 12 02 68      | 10 19      |                    | 59 51W   | -72 20   |      |                    |
|             |            |           | 01 04 69      | 13 25      | 5577               |          |          |      |                    |
| 832         | 84 53.2    | 40 32     | 01 04 69      | 12 50      | 5578               |          |          |      |                    |
| 833         | 84 55.2    | 40 32     | 01 04 69      | 12 21      | 5578               |          |          |      |                    |
| 834         | 84 57.2    | 40 32     | 01 04 69      | 11 20      | 5579               | 59 58W   | -72 17   | 1697 | -5315              |
| 835         | 84 59.3    | 40 31     | 01 04 69      | 10 40      | 5577               |          |          |      |                    |
| 837         | 85 03.3    | 40 31     | 12 02 68      | 16 37      |                    | 60 08W   | -72 12   |      |                    |
|             |            |           | 01 02 69      | 14 45      | 5584               |          |          |      |                    |
| 838         | 85 05.3    | 40 30     | 01 02 69      | 14 10      | 5585               |          |          |      |                    |
| 839         | 85 07.4    | 40 29     | 01 02 69      | 13 33      | 5586               |          |          |      |                    |
| 840         | 85 09.4    | 40 28     | 01 02 69      | 12 45      | 5592               | 59 45W   | -72 23   | 1692 | -5330              |
| 841         | 85 11.4    | 40 27     | 01 02 69      | 12 03      | 5595               |          |          |      |                    |
| 842         | 85 13.4    | 40 26     | 01 02 69      | 11 25      | 5597               |          |          |      |                    |
| 843         | 85 15.5    | 40 25     | 12 04 68      | 17 28      |                    |          | -72 22   |      |                    |
|             |            |           | 01 02 69      | 10 51      | 5599               |          |          |      |                    |
| 844         | 85 17.5    | 40 24     | 01 02 69      | 10 13      | 5601               |          |          |      |                    |
| 845         | 85 19.5    | 40 23     | 01 02 69      | 09 46      | 5601               |          |          |      |                    |
| 846         | 85 21.5    | 40 22     | 01 02 69      | 08 35      | 5600               | 60 20W   | -72 29   | 1685 | -5340              |
| 847         | 85 23.6    | 40 21     | 01 02 69      | 08 02      | 5600               |          |          |      |                    |
| 848         | 85 25.6    | 40 20     | 12 05 68      | 08 38      |                    | 60 26W   | -72 38   |      |                    |
|             |            |           | 01 02 69      | 07 33      | 5600               |          |          |      |                    |
| 849         | 85 27.7    | 40 19     | 01 02 69      | 07 08      | 5605               |          |          |      |                    |
| 850         | 85 29.8    | 40 18     | 01 02 69      | 06 30      | 5610               |          |          |      |                    |
| 851         | 85 31.9    | 40 17     | 01 02 69      | 05 53      | 5622               |          |          |      |                    |

| Station No. | Latitude | Longitude | Date              | GMT          | F                        | D       | I       | H                        | Z                         |
|-------------|----------|-----------|-------------------|--------------|--------------------------|---------|---------|--------------------------|---------------------------|
| 852         | 85°34'0S | 40°16'E   | m d y<br>01 02 69 | h m<br>05 14 | ×10 <sup>7</sup><br>5630 | 60°12'W | -72°34' | ×10 <sup>7</sup><br>1687 | ×10 <sup>7</sup><br>-5371 |
| 853         | 85 36.1  | 40 15     | 01 02 69          | 04 16        | 5641                     |         |         |                          |                           |
| 855         | 85 40.4  | 40 12     | 12 05 68          | 16 05        |                          | 60 32W  | -72 25  |                          |                           |
|             |          |           | 01 01 69          | 08 49        | 5611                     |         |         |                          |                           |
| 856         | 85 42.5  | 40 11     | 01 01 69          | 08 15        | 5624                     |         |         |                          |                           |
| 857         | 85 44.6  | 40 10     | 01 01 69          | 07 45        | 5640                     |         |         |                          |                           |
| 858         | 85 46.7  | 40 09     | 01 01 69          | 07 00        | 5639                     | 60 46W  | -72 38  | 1683                     | -5382                     |
| 859         | 85 48.8  | 40 08     | 01 01 69          | 06 18        | 5632                     |         |         |                          |                           |
| 860         | 85 50.9  | 40 07     | 12 06 68          | 08 40        |                          |         | -72 47  |                          |                           |
| 861         | 85 52.9  | 40 06     | 01 01 69          | 03 03        | 5639                     |         |         |                          |                           |
| 862         | 85 54.9  | 40 05     | 01 01 69          | 02 28        | 5639                     |         |         |                          |                           |
| 863         | 85 56.9  | 40 04     | 01 01 69          | 01 36        | 5637                     | 60 37W  | -72 39  | 1681                     | -5380                     |
| 864         | 85 59.0  | 40 03     | 01 01 69          | 00 54        | 5632                     |         |         |                          |                           |
| 865         | 86 01.0  | 40 02     | 01 01 69          | 00 18        | 5634                     |         |         |                          |                           |
| 866         | 86 03.0  | 40 01     | 12 31 68          | 23 30        | 5631                     |         |         |                          |                           |
| 867         | 86 05.0  | 40 00     | 12 06 68          |              |                          | 61 22W  | -72 40  |                          |                           |
|             |          |           | 12 31 68          | 22 46        | 5623                     |         |         |                          |                           |
| 868         | 86 07.1  | 39 59     | 12 31 68          | 22 00        | 5625                     |         |         |                          |                           |
| 869         | 86 09.2  | 39 58     | 12 31 68          | 21 14        | 5626                     |         |         |                          |                           |
| 870         | 86 11.3  | 39 58     | 12 31 68          | 20 37        | 5628                     | 61 36W  | -72 42  | 1675                     | -5373                     |
| 871         | 86 13.4  | 39 57     | 12 31 68          | 19 03        | 5629                     |         |         |                          |                           |
| 872         | 86 15.5  | 39 56     | 12 31 68          | 18 30        | 5627                     |         |         |                          |                           |
| 873         | 86 17.5  | 39 55     | 12 07 68          | 17 28        |                          | 61 48W  | -72 38  |                          |                           |
|             |          |           | 12 31 68          | 17 50        | 5629                     |         |         |                          |                           |
| 874         | 86 19.6  | 39 55     | 12 31 68          | 13 13        | 5645                     |         |         |                          |                           |
| 875         | 86 21.7  | 39 54     | 12 31 68          | 11 52        | 5645                     | 61 40W  | -72 45  | 1674                     | -5391                     |
| 876         | 86 23.8  | 39 53     | 12 31 68          | 11 01        | 5646                     |         |         |                          |                           |
| 877         | 86 25.9  | 39 52     | 12 31 68          | 10 33        | 5651                     |         |         |                          |                           |
| 878         | 86 28.0  | 39 52     | 12 08 68          | 08 38        |                          | 61 57W  | -72 55  |                          |                           |
|             |          |           | 12 31 68          | 10 06        | 5658                     |         |         |                          |                           |
| 879         | 86 30.1  | 39 51     | 12 31 68          | 09 22        | 5666                     |         |         |                          |                           |
| 880         | 86 32.3  | 39 50     | 12 31 68          | 08 26        | 5672                     |         |         |                          |                           |
| 881         | 86 34.4  | 39 49     | 12 31 68          | 07 56        | 5669                     |         |         |                          |                           |
| 882         | 86 36.6  | 39 48     | 12 31 68          | 07 16        | 5666                     |         |         |                          |                           |
| 883         | 86 38.7  | 39 48     | 12 31 68          | 06 28        | 5670                     | 62 08W  | -72 50  | 1673                     | -5417                     |
| 884         | 86 40.8  | 39 47     | 12 31 68          | 05 34        | 5668                     |         |         |                          |                           |
| 885         | 86 43.0  | 39 46     | 12 08 68          | 16 26        |                          | 61 50W  | -72 46  |                          |                           |
|             |          |           | 12 31 68          | 04 56        | 5671                     |         |         |                          |                           |
| 886         | 86 45.1  | 39 45     | 12 31 68          | 04 25        | 5676                     |         |         |                          |                           |

| Station No. | Latitude   | Longi-tude | Date              | GMT          | F                        | D        | I        | H                | Z                |
|-------------|------------|------------|-------------------|--------------|--------------------------|----------|----------|------------------|------------------|
| 887         | 86° 47' 2S | 39° 45'E   | m d y<br>12 31 68 | h m<br>03 46 | ×10 <sup>7</sup><br>5677 |          |          | ×10 <sup>7</sup> | ×10 <sup>7</sup> |
| 888         | 86 49.4    | 39 44      | 12 30 68          | 18 57        | 5666                     | 62° 05'W | -72° 45' | 1680             | -5411            |
| 889         | 86 51.5    | 39 43      | 12 30 68          | 18 28        | 5670                     |          |          |                  |                  |
| 890         | 86 53.7    | 39 42      | 12 30 68          | 17 47        | 5670                     |          |          |                  |                  |
| 891         | 86 55.8    | 39 42      | 12 09 68          | 09 54        |                          | 62 21W   | -72 56   |                  |                  |
|             |            |            | 12 30 68          | 17 11        | 5684                     |          |          |                  |                  |
| 892         | 86 57.9    | 39 41      | 12 30 68          | 16 38        | 5682                     |          |          |                  |                  |
| 893         | 87 00.0    | 39 40      | 12 30 68          | 16 10        | 5689                     |          |          |                  |                  |
| 894         | 87 02.1    | 39 39      | 12 30 68          | 15 26        | 5690                     | 62 30W   | -72 54   | 1672             | -5438            |
| 895         | 87 04.2    | 39 38      | 12 30 68          | 14 37        | 5689                     |          |          |                  |                  |
| 896         | 87 06.3    | 39 38      | 12 30 68          | 14 03        | 5688                     |          |          |                  |                  |
| 897         | 87 08.4    | 39 37      | 12 09 68          | 17 06        |                          | 62 40W   | -72 48   |                  |                  |
|             |            |            | 12 30 68          | 12 42        | 5689                     |          |          |                  |                  |
| 898         | 87 10.4    | 39 40      | 12 30 68          | 12 11        | 5690                     |          |          |                  |                  |
| 899         | 87 12.3    | 39 42      | 12 30 68          | 11 43        | 5685                     | 62 48W   | -73 04   | 1655             | -5439            |
| 900         | 87 14.3    | 39 45      | 12 30 68          | 10 43        | 5698                     |          |          |                  |                  |
| 901         | 87 16.3    | 39 47      | 12 30 68          | 09 09        | 5703                     |          |          |                  |                  |
| 902         | 87 18.3    | 39 50      | 12 30 68          | 09 35        | 5720                     |          |          |                  |                  |
| 903         | 87 20.2    | 39 52      | 12 10 68          | 16 33        |                          | 63 05W   | -73 00   |                  |                  |
|             |            |            | 12 30 68          | 08 58        | 5713                     |          |          |                  |                  |
| 904         | 87 22.2    | 39 55      | 12 30 68          | 08 23        | 5715                     |          |          |                  |                  |
| 905         | 87 24.2    | 39 57      | 12 30 68          | 07 33        | 5717                     | 63 17W   | -73 10   | 1656             | -5472            |
| 906         | 87 26.2    | 40 00      | 12 30 68          | 06 44        | 5720                     |          |          |                  |                  |
| 907         | 87 28.1    | 40 02      | 12 30 68          | 06 04        | 5724                     |          |          |                  |                  |
| 908         | 87 30.1    | 40 05      | 12 11 68          | 08 49        |                          | 63 26W   | -73 10   |                  |                  |
|             |            |            | 12 30 68          | 05 32        | 5724                     |          |          |                  |                  |
| 909         | 87 32.1    | 40 07      | 12 30 68          | 05 54        | 5728                     |          |          |                  |                  |
| 910         | 87 34.2    | 40 10      | 12 30 68          | 04 08        | 5733                     |          |          |                  |                  |
| 911         | 87 36.2    | 40 12      | 12 30 68          | 13 36        | 5736                     |          |          |                  |                  |
| 912         | 87 38.2    | 40 15      | 12 29 68          | 18 04        | 5710                     | 64 08W   | -73 02   | 1666             | -5461            |
| 913         | 87 40.3    | 40 17      | 12 29 68          | 17 40        | 5699                     |          |          |                  |                  |
| 914         | 87 42.3    | 40 20      | 12 29 68          | 17 18        | 5710                     |          |          |                  |                  |
| 915         | 87 44.3    | 40 23      | 12 11 68          | 17 12        |                          | 64 26W   | -73 10   |                  |                  |
|             |            |            | 12 29 68          | 16 44        | 5696                     |          |          |                  |                  |
| 916         | 87 46.4    | 40 25      | 12 29 68          | 16 08        | 5710                     |          |          |                  |                  |
| 917         | 87 48.4    | 40 28      | 12 29 68          | 15 36        | 5726                     |          |          |                  |                  |
| 918         | 87 50.4    | 40 30      | 12 29 68          | 15 03        | 5729                     |          |          |                  |                  |
| 919         | 87 52.5    | 40 33      | 12 29 68          | 14 16        | 5731                     | 64 32W   | -73 14   | 1654             | -5488            |
| 920         | 87 54.5    | 40 35      | 12 12 68          | 09 35        |                          | 64 42W   | -73 18   |                  |                  |

| Station No. | Latitude | Longitude | Date     | GMT   | F             | D       | I       | H             | Z             |
|-------------|----------|-----------|----------|-------|---------------|---------|---------|---------------|---------------|
|             |          |           | m d y    | h m   | $\times 10^7$ |         |         | $\times 10^7$ | $\times 10^7$ |
| 921         | 87°56'5S | 40°38'E   | 12 29 68 | 12 59 | 5726          |         |         |               |               |
| 922         | 87 58.5  | 40 40     | 12 29 68 | 11 12 | 5732          |         |         |               |               |
| 923         | 88 00.5  | 40 43     | 12 29 68 | 11 27 | 5736          |         |         |               |               |
| 924         | 88 02.4  | 40 45     | 12 29 68 | 11 00 | 5737          |         |         |               |               |
| 925         | 88 04.4  | 40 48     | 12 29 68 | 10 30 | 5738          |         |         |               |               |
| 926         | 88 06.4  | 40 51     |          |       |               |         |         |               |               |
| 927         | 88 08.4  | 40 53     | 12 12 68 | 17 04 |               | 65°16'W | -73°19' |               |               |
|             |          |           | 12 28 68 | 15 47 | 5754          |         |         |               |               |
| 928         | 88 10.4  | 40 54     | 12 28 68 | 15 12 | 5754          |         |         |               |               |
| 930         | 88 14.5  | 40 54     | 12 28 68 | 14 07 | 5766          | 65 32W  | -73 26  | 16 44         | -5527         |
| 931         | 88 16.5  | 40 55     | 12 28 68 | 13 17 | 5764          |         |         |               |               |
| 932         | 88 18.6  | 40 56     | 12 28 68 | 12 40 | 5756          |         |         |               |               |
| 933         | 88 20.6  | 40 56     | 12 13 68 | 17 11 |               | 65 58W  | -73 07  |               |               |
| 934         | 88 22.7  | 40 56     | 12 28 68 | 11 31 | 5767          |         |         |               |               |
| 935         | 88 24.7  | 40 57     | 12 28 68 | 10 52 | 5761          |         |         |               |               |
| 936         | 88 26.7  | 40 58     | 12 28 68 | 10 13 | 5762          |         |         |               |               |
| 937         | 88 28.8  | 40 58     | 12 28 68 | 09 39 | 5763          |         |         |               |               |
| 938         | 88 30.8  | 40 58     | 12 14 68 | 08 44 |               | 66 08W  | -73 30  |               |               |
|             |          |           | 12 28 68 | 08 37 | 5770          |         |         |               |               |
| 939         | 88 32.8  | 40 59     | 12 28 68 | 07 57 | 5780          |         |         |               |               |
| 940         | 88 34.8  | 41 00     | 12 28 68 | 07 08 | 5779          | 66 10W  | -73 35  | 1633          | -5544         |
| 941         | 88 36.8  | 41 00     | 12 28 68 | 06 27 | 5775          |         |         |               |               |
| 942         | 88 38.8  | 41 00     | 12 28 68 | 05 59 | 5779          |         |         |               |               |
| 943         | 88 40.8  | 41 01     | 12 28 68 | 05 25 | 5782          |         |         |               |               |
| 944         | 88 42.8  | 41 02     | 12 28 68 | 04 45 | 5783          |         |         |               |               |
| 945         | 88 44.9  | 41 02     | 12 14 68 | 16 34 |               |         | -73 36  |               |               |
|             |          |           | 12 28 68 | 04 09 | 5785          |         |         |               |               |
| 946         | 88 46.9  | 41 02     |          |       |               |         |         |               |               |
| 947         | 88 48.9  | 41 03     | 12 27 68 | 21 54 | 5773          |         |         |               |               |
| 948         | 88 50.9  | 41 04     | 12 27 68 | 16 05 | 5775          | 67 03W  | -73 37  | 1629          | -5540         |
| 949         | 88 52.9  | 41 04     |          |       |               |         |         |               |               |
| 950         | 88 54.9  | 41 04     | 12 15 68 | 08 45 |               | 67 05W  | -73 42  |               |               |
|             |          |           | 12 27 68 | 15 02 | 5774          |         |         |               |               |
| 956         | 89 06.8  | 41 08     | 12 27 68 | 10 57 | 5805          |         |         |               |               |
| 957         | 89 08.8  | 41 08     | 12 15 68 | 17 31 |               | 67 24W  | -73 46  |               |               |
|             |          |           | 12 27 68 | 07 58 | 5816          |         |         |               |               |
| 958         | 89 10.8  | 41 12     | 12 27 68 | 07 22 | 5811          |         |         |               |               |
| 959         | 89 12.8  | 41 15     | 12 27 68 | 06 46 | 5821          |         |         |               |               |

| Station No. | Latitude  | Longi-tude | Date<br>m d y | GMT<br>h m | F<br>$\times 10^7$<br>5811 | D       | I       | H    | Z<br>$\times 10^7$ |
|-------------|-----------|------------|---------------|------------|----------------------------|---------|---------|------|--------------------|
| 960         | 89°14' 8S | 41°19'E    | 12 27 68      | 05 49      |                            |         |         |      |                    |
| 962         | 89 18.8   | 41 26      | 12 16 68      | 09 34      |                            | 67°41'W | -73°59' |      |                    |
| 963         | 89 20.8   | 41 30      | 12 26 68      | 05 27      | 5809                       |         |         |      |                    |
| 964         | 89 22.9   | 41 34      | 12 26 68      | 04 31      | 5811                       |         |         |      |                    |
| 965         | 89 24.9   | 41 37      |               |            |                            |         |         |      |                    |
| 966         | 89 27.0   | 41 41      | 12 26 68      | 03 11      | 5812                       |         |         |      |                    |
| 967         | 89 29.0   | 41 45      | 12 16 68      | 16 41      |                            | 69 02W  | -73 53  |      |                    |
|             |           |            | 12 26 68      | 02 36      | 5814                       |         |         |      |                    |
| 968         | 89 31.1   | 41 48      | 12 26 68      | 02 00      | 5815                       |         |         |      |                    |
| 969         | 89 33.1   | 41 52      | 12 26 68      | 01 09      | 5815                       | 68 36W  | -73 48  | 1622 | -5585              |
| 970         | 89 35.2   | 41 56      | 12 25 68      | 23 33      | 5809                       |         |         |      |                    |
| 971         | 89 37.2   | 41 59      | 12 25 68      | 22 46      | 5804                       |         |         |      |                    |
| 972         | 89 39.3   | 42 03      | 12 25 68      | 21 57      | 5810                       |         |         |      |                    |
| 973         | 89 41.3   | 42 07      |               |            |                            |         |         |      |                    |
| 974         | 89 43.4   | 42 10      | 12 25 68      | 20 48      | 5813                       |         |         |      |                    |
| 975         | 89 45.4   | 42 14      | 12 16 68      | 23 43      |                            | 69 35W  | -73 50  |      |                    |
|             |           |            | 12 25 68      | 10 22      | 5828                       |         |         |      |                    |
| 978         | 89 51.4   | 42 15      | 12 25 68      | 07 52      | 5831                       |         |         |      |                    |
| 979         | 89 53.4   | 42 15      | 12 25 68      | 07 00      | 5843                       |         |         |      |                    |
| 980         | 89 55.4   | 42 15      | 12 25 68      | 06 07      | 5851                       |         |         |      |                    |