

SAO Special Report No. 68

CATALOGUE OF SATELLITE OBSERVATIONS

No. C-24

Prepared by D. V. Mechau

FACILITY FORM 602

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 Astrophysical Observatory
 Cambridge 38, Massachusetts

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CATALOGUE OF SATELLITE OBSERVATIONS, NO. C-24

Prepared by D. V. Mechau¹

INTRODUCTION

The Smithsonian Astrophysical Observatory has tracking responsibility for a certain number of satellites, the responsibility and number being governed by requirements of the National Aeronautics and Space Administration (NASA). Observations of these satellites, of other satellites whose orbits are of unusual interest for analysis, and of satellites which have offered challenge to optical tracking techniques, are usually published.

The particular satellites covered by this report and the periods during which the observations were made are specified in the table of contents.

The observations of Satellites 1960 Omicron and 1960 Sigma were made in cooperation with the U. S. Air Force to test the lights carried aboard these satellites which were programmed to turn on over selected SAO Baker-Nunn stations.

Listings also contain observations made by U. S. and foreign observatories, military installations, Phototrack stations, and miscellaneous observers. A number of observations have been received from the National Space Surveillance Control Center (NSSCC), under an arrangement involving an exchange of observations of artificial earth satellites. Minitrack and Doppler data received by SAO are not included.

Units

The date given lists the month and day of the observation; the time (U. T.) is given in hours, minutes, and seconds; right ascension is in hours, minutes, and seconds; declination, azimuth, and altitude are in degrees, minutes, and seconds; azimuth is measured from north through east; the range is in kilometers.

An explanation of the Index Number appears on pages 3 and 4.

¹

Administrative Assistant, Computations Division, Smithsonian Astrophysical Observatory.

EXPLANATION OF INDEX NUMBER

The index number in the column to the extreme right consists of six digits. The first digit indicates the precision of the time of the observation; the second and third digits, the precision of position; the fourth digit, the coordinate system and corrections; the fifth digit, the equator and equinox; the sixth digit, the type of instrumentation used in making the observation.

Precision of Time (1st digit)

| Code number | Standard error in timing (σ_t) | Code number | Standard error in timing (σ_t) |
|-------------|---|-------------|---|
| 0 | No estimate | 5 | $.02^S < \sigma_t \leq .05^S$ |
| 1 | $\sigma_t \leq .0005^S$ | 6 | $.05^S < \sigma_t \leq .2^S$ |
| 2 | $.0005^S < \sigma_t \leq .002^S$ | 7 | $.2^S < \sigma_t \leq .5^S$ |
| 3 | $.002^S < \sigma_t \leq .005^S$ | 8 | $.5^S < \sigma_t \leq 2^S$ |
| 4 | $.005^S < \sigma_t \leq .02^S$ | 9 | $\sigma_t > 2^S$ |

Precision of Position (2nd and 3rd digits)

| Code number* | Standard error in direction (σ_D) | Code number* | Standard error in direction (σ_D) | Code number* | Standard error in direction (σ_D) |
|--------------|--|--------------|--|--------------|--|
| 00 | No estimate | 17 | $16''.5 < \sigma_D \leq 17''.5$ | 34 | $21' < \sigma_D \leq 31.5'$ |
| 01 | $\sigma_D \leq 1''.5$ | 18 | $17''.5 < \sigma_D \leq 18''.5$ | 35 | $31.5' < \sigma_D \leq 41.4'$ |
| 02 | $1''.5 < \sigma_D \leq 2''.5$ | 19 | $18''.5 < \sigma_D \leq 19''.5$ | 36 | $41.4' < \sigma_D \leq 51.8'$ |
| 03 | $2''.5 < \sigma_D \leq 3''.5$ | 20 | $19''.5 < \sigma_D \leq 20''.5$ | 37 | $51.8' < \sigma_D \leq 71.5'$ |
| 04 | $3''.5 < \sigma_D \leq 4''.5$ | 21 | $20''.5 < \sigma_D \leq 22''$ | 38 | $71.5' < \sigma_D \leq 91.7'$ |
| 05 | $4''.5 < \sigma_D \leq 5''.5$ | 22 | $22'' < \sigma_D \leq 23''.5$ | 39 | $91.7' < \sigma_D \leq 131'$ |
| 06 | $5''.5 < \sigma_D \leq 6''.5$ | 23 | $23''.5 < \sigma_D \leq 26''$ | 40 | $131' < \sigma_D \leq 171'$ |
| 07 | $6''.5 < \sigma_D \leq 7''.5$ | 24 | $26'' < \sigma_D \leq 29''$ | 41 | $171' < \sigma_D \leq 221'$ |
| 08 | $7''.5 < \sigma_D \leq 8''.5$ | 25 | $29'' < \sigma_D \leq 33''$ | 42 | $221' < \sigma_D \leq 281'$ |
| 09 | $8''.5 < \sigma_D \leq 9''.5$ | 26 | $33'' < \sigma_D \leq 38''$ | 43 | $281' < \sigma_D \leq 371'$ |
| 10 | $9''.5 < \sigma_D \leq 10''.5$ | 27 | $38'' < \sigma_D \leq 45''$ | 44 | $371' < \sigma_D \leq 491'$ |
| 11 | $10''.5 < \sigma_D \leq 11''.5$ | 28 | $45'' < \sigma_D \leq 54''$ | 45 | $491' < \sigma_D \leq 1^{\circ}1'$ |
| 12 | $11''.5 < \sigma_D \leq 12''.5$ | 29 | $54'' < \sigma_D \leq 1^{\circ}1'$ | 46 | $1^{\circ}1' < \sigma_D \leq 1^{\circ}4'$ |
| 13 | $12''.5 < \sigma_D \leq 13''.5$ | 30 | $1^{\circ}1' < \sigma_D \leq 1^{\circ}3'$ | 47 | $1^{\circ}4' < \sigma_D \leq 1^{\circ}8'$ |
| 14 | $13''.5 < \sigma_D \leq 14''.5$ | 31 | $1^{\circ}3' < \sigma_D \leq 1^{\circ}7'$ | 48 | $1^{\circ}8' < \sigma_D \leq 2^{\circ}4'$ |
| 15 | $14''.5 < \sigma_D \leq 15''.5$ | 32 | $1^{\circ}7' < \sigma_D \leq 2^{\circ}1'$ | 49 | $2^{\circ}4' < \sigma_D$ |
| 16 | $15''.5 < \sigma_D \leq 16''.5$ | 33 | $2^{\circ}1' < \sigma_D \leq 2^{\circ}7'$ | | |

* For electronic instruments, these code numbers (2nd and 3rd digits of the index in table 6) are increased by 50.

Coordinate System and Corrections (4th digit)

| Code number | Coordinate System |
|-------------|--|
| 0 | Right ascension and declination corrected for refraction or not known to be corrected. |
| 1 | Azimuth and altitude corrected for refraction. |
| 2 | Right ascension and declination not corrected for refraction. |
| 3 | Azimuth and altitude not corrected for refraction or not known to be corrected. |

Equator and Equinox (5th digit)

| Code number | Equator and Equinox |
|-------------|---------------------|
| 0 | Of date given |
| 1 | 1855.0 |
| 2 | 1875.0 |
| 3 | 1900.0 |
| 4 | 1950.0 |

Type of Instrumentation (6th digit)

| Code number | Optical Observations | Code number | Electronic Observations |
|-------------|--|-------------|---|
| 0 | Naked eye and binoculars, visual. | 0 | Minitrack Mark 1. |
| 1 | Standard Moonwatch telescope, visual. | 1 | Minitrack Mark 2. |
| 2 | Apogee telescope, astronomical refractor or reflector, theodolite, visual. | 2 | Interferometer observations from radio observatories. |
| 3 | Baker-Nunn camera, photographic. | 3 | Doppler observations from radio observatories. |
| 4 | Small missile telecamera, tracking cameras with focal length 20 inches or greater, photographic. | 4 | Microlock. |
| 5 | Cinetheodolite, tracking cameras with focal length less than 20 inches, photographic. | 5 | Doppler observations from communications systems. |
| 6 | Harvard meteor camera (Super-Schmidt) photographic. | 6 | Doppler observations from missile ranges. |
| 7 | Stationary telescope or camera with focal length equal to or less than 10 inches, photographic. | 7 | Radar. |
| 8 | Stationary telescope or camera with focal length greater than 10 inches, photographic. | 8 | Unused digit. |
| 9 | Other instruments, or instrument unknown. | 9 | Miscellaneous. |

1960 BETA 1

| OBS NO | STATION | STA NO | DATE | TIME | R. A. | DECL. | AZIMUTH | ALTITUDE | RANGE | INDEX |
|--------|---------------|--------|------|------------|----------|-------|---------|----------|-------|--------|
| 50019 | POTSDAM, GER. | 2729 | 9 14 | 19 54 37.6 | 20 27 30 | 17 14 | | | | 834049 |
| 50020 | POTSDAM, GER. | 2729 | 9 14 | 19 54 51.3 | 20 55 00 | 17 20 | | | | 834049 |
| 50021 | POTSDAM, GER. | 2729 | 9 16 | 19 50 16.0 | 18 57 48 | 16 36 | | | | 834049 |
| 50022 | POTSDAM, GER. | 2729 | 9 16 | 19 51 14.1 | 20 58 06 | 16 16 | | | | 834049 |
| 50023 | POTSDAM, GER. | 2729 | 9 18 | 19 46 30.6 | 18 52 42 | 13 04 | | | | 834049 |
| 50024 | POTSDAM, GER. | 2729 | 9 18 | 19 47 15.8 | 20 18 36 | 10 52 | | | | 834049 |
| 50025 | POTSDAM, GER. | 2729 | 9 21 | 18 49 02.1 | 18 07 24 | 11 57 | | | | 834049 |
| 50026 | POTSDAM, GER. | 2729 | 9 21 | 18 50 06.2 | 20 02 18 | 7 38 | | | | 834049 |
| 50027 | POTSDAM, GER. | 2729 | 9 21 | 18 50 46.4 | 21 04 24 | 4 11 | | | | 834049 |

1960 BETA 1

ADDITIONS TO OBSERVATION LISTINGS PREVIOUSLY PUBLISHED IN SAO
SPECIAL REPORTS FOR THE YEAR 1960.

| OBS NO | STATION | STA NO | DATE | TIME | R. A. | DECL. | AZIMUTH | ALTITUDE | RANGE | INDEX |
|--------|---------------|--------|------|------------|----------|--------|---------|----------|-------|--------|
| 50001 | POTSDAM, GER. | 2729 | 4 20 | 2 08 29.4 | 16 58 48 | 16 33 | | | | 834009 |
| 50002 | POTSDAM, GER. | 2729 | 4 20 | 2 09 29.8 | 18 50 18 | 16 47 | | | | 834009 |
| 50003 | POTSDAM, GER. | 2729 | 4 25 | 1 09 30.3 | 16 10 24 | 18 19 | | | | 834009 |
| 50004 | POTSDAM, GER. | 2729 | 4 25 | 1 10 14.6 | 17 33 48 | 15 43 | | | | 834009 |
| 50005 | POTSDAM, GER. | 2729 | 4 29 | 1 04 59.9 | 16 24 48 | 2 58 | | | | 834009 |
| 50006 | POTSDAM, GER. | 2729 | 4 29 | 1 05 49.5 | 17 27 48 | - 1 19 | | | | 834009 |
| 50007 | POTSDAM, GER. | 2729 | 5 01 | 22 23 23.6 | 13 28 48 | 19 19 | | | | 834009 |
| 50008 | POTSDAM, GER. | 2729 | 5 01 | 22 24 22.4 | 15 23 48 | 17 09 | | | | 834009 |
| 50009 | POTSDAM, GER. | 2729 | 5 02 | 21 30 08.8 | 13 07 24 | 17 40 | | | | 834009 |
| 50010 | POTSDAM, GER. | 2729 | 5 02 | 21 31 44.0 | 15 51 12 | 15 34 | | | | 834009 |
| 50011 | POTSDAM, GER. | 2729 | 5 03 | 20 36 56.2 | 12 47 00 | 13 34 | | | | 834009 |
| 50012 | POTSDAM, GER. | 2729 | 5 03 | 20 38 54.4 | 15 43 36 | 13 39 | | | | 834009 |
| 50013 | POTSDAM, GER. | 2729 | 5 04 | 21 27 15.7 | 13 10 06 | 19 41 | | | | 834009 |
| 50014 | POTSDAM, GER. | 2729 | 5 04 | 21 29 06.1 | 16 05 12 | 11 32 | | | | 834009 |
| 50015 | POTSDAM, GER. | 2729 | 5 05 | 20 34 03.6 | 12 49 54 | 18 59 | | | | 834009 |
| 50016 | POTSDAM, GER. | 2729 | 5 05 | 20 35 55.6 | 15 41 48 | 13 31 | | | | 834009 |
| 50017 | POTSDAM, GER. | 2729 | 5 06 | 21 24 43.7 | 13 55 42 | 12 43 | | | | 834009 |
| 50018 | POTSDAM, GER. | 2729 | 5 06 | 21 25 42.0 | 15 20 00 | 7 46 | | | | 834009 |

1960 BETA 1

CORRECTIONS TO OBSERVATION LISTINGS PREVIOUSLY PUBLISHED IN SAO
SPECIAL REPORTS FOR THE YEAR 1960.

| OBS NO | STATION | STA NO | DATE | TIME | R. A. | DECL. | AZIMUTH | ALTITUDE | RANGE | INDEX |
|--------|---------------------|--------|------|-------------|-------|-------|---------|----------|-------|--------|
| 00049 | LAREDO RADAR, TEXAS | 4012 | 4 07 | 18 34 29 | | | 357 00 | 53 18 | 824 | 895307 |
| 00262 | SACRAMENTO, CAL. | 8517 | 4 12 | 12 16 58.2 | | | 0 00 | 50 01 | | 641301 |
| 00264 | SACRAMENTO, CAL. | 8517 | 4 13 | 11 23 13.0 | | | 0 00 | 74 07 | | 641301 |
| 00267 | SACRAMENTO, CAL. | 8517 | 4 14 | 12 14 33.4 | | | 0 00 | 35 27 | | 641301 |
| 00199 | SACRAMENTO, CAL. | 8517 | 4 26 | 10 14 06.9 | | | 0 00 | 29 33 | | 641301 |
| 00367 | TERRE HAUTE, IND. | 8127 | 4 29 | 2 27 36.2 | | | 140 | 49 45 | | 845302 |
| 00371 | SACRAMENTO, CAL. | 8517 | 4 29 | 5 49 12.8 | | | 0 00 | 61 37 | | 641301 |
| 00377 | SACRAMENTO, CAL. | 8517 | 4 30 | 4 55 15.7 | | | 180 00 | 86 14 | | 641301 |
| 00468 | LAREDO RADAR, TEXAS | 4012 | 5 13 | 21 40 40.25 | | | 283 24 | 52 30 | 902 | 895307 |
| 00515 | LAREDO RADAR, TEXAS | 4012 | 5 23 | 17 58 33.5 | | | 321 00 | 63 06 | 791 | 895307 |
| 00513 | LAREDO RADAR, TEXAS | 4012 | 5 24 | 1 00 19.0 | | | 34 54 | 38 18 | 1117 | 895307 |
| 00514 | LAREDO RADAR, TEXAS | 4012 | 5 24 | 1 00 34.0 | | | 34 54 | 38 18 | 1115 | 895307 |
| 00543 | LAREDO RADAR, TEXAS | 4012 | 5 26 | 0 57 28.0 | | | 40 12 | 75 48 | 774 | 895307 |
| 00544 | LAREDO RADAR, TEXAS | 4012 | 5 26 | 0 57 41.0 | | | 40 12 | 75 48 | 711 | 895307 |

1960 BETA 2

| OBS NO | STATION | STA NO | DATE | TIME | R. A. | DECL. | AZIMUTH | ALTITUDE | RANGE | INDEX |
|--------|----------------------|--------|------|------------|----------|-------|---------|----------|-------|--------|
| 10160 | SAN FERNANDO BN, SP. | 9004 | 9 02 | 2 56 56.50 | 13 04 06 | 76 11 | | | | 434013 |

| OBS NO | STATION | STA NO | DATE | TIME | R. A. | DECL. | AZIMUTH | ALTITUDE | RANGE | INDEX |
|--------|-----------------------|--------|------|-------------|----------|--------|-----------|----------|-------|--------|
| 10161 | SAN FERNANDO'BN, SP. | 9004 | 9 02 | 4 41 57.80 | 5 31 36 | 71 27 | | | | 434013 |
| 10162 | SAN FERNANDO'BN, SP. | 9004 | 9 03 | 3 48 32.20 | 7 52 18 | 75 02 | | | | 434013 |
| 30227 | N. CANTON, OHIO | 8565 | 9 03 | 8 44 39.2 | 22 32 00 | 70 18 | | | | 845043 |
| 30228 | N. CANTON, OHIO | 8565 | 9 03 | 8 46 37.8 | 5 43 30 | 42 09 | | | | 845043 |
| 30229 | WICHITA, KAN. | 0028 | 9 03 | 10 26 37.2 | 2 38 41 | 68 39 | | | | 845043 |
| 30230 | WICHITA, KAN. | 0028 | 9 03 | 10 26 38.8 | 2 45 39 | 68 20 | | | | 845043 |
| 30231 | WICHITA, KAN. | 0028 | 9 03 | 10 26 39.0 | 2 45 34 | 68 19 | | | | 845043 |
| 10165 | SHIRAZ'BN, IRAN | 9008 | 9 05 | 0 30 24.48 | 6 05 12 | 62 50 | | | | 434013 |
| 10163 | SAN FERNANDO'BN, SP. | 9004 | 9 05 | 3 46 13.20 | 4 48 54 | 59 25 | | | | 434013 |
| 30234 | ALBUQUERQUE, N.M. | 0041 | 9 05 | 10 23 00.5 | 5 42 | 65 48 | | | | 845043 |
| 10164 | SAN FERNANDO'BN, SP. | 9004 | 9 06 | 4 36 21.20 | 1 00 42 | 9 17 | | | | 434013 |
| 10168 | MAUI'BN, HAWAII | 9012 | 9 06 | 5 46 37.08 | 19 45 00 | 10 03 | | | | 434013 |
| 10167 | JUPITER'BN, FLA. | 9010 | 9 06 | 9 36 28.09 | 4 27 30 | 30 50 | | | | 434013 |
| 10211 | NAINI TAL-BN, INDIA | 9006 | 9 06 | 14 02 58.99 | 19 16 42 | -28 16 | | | | 434023 |
| 10169 | SAN FERNANDO'BN, SP. | 9004 | 9 06 | 20 44 02.40 | 19 13 42 | -1 13 | | | | 434013 |
| 10212 | NAINI TAL-BN, INDIA | 9006 | 9 06 | 22 49 35.36 | 3 32 48 | 13 31 | | | | 434013 |
| 10213 | SHIRAZ-BN, IRAN | 9008 | 9 07 | 0 27 45.16 | 2 43 42 | 33 39 | | | | 434013 |
| 10172 | MAUI'BN, HAWAII | 9012 | 9 07 | 6 36 59.67 | 14 29 12 | 52 31 | | | | 434013 |
| 10170 | NAINI TAL'BN, INDIA | 9006 | 9 07 | 14 54 38.98 | 16 58 54 | 50 59 | | | | 434013 |
| 10171 | SHIRAZ'BN, IRAN | 9008 | 9 07 | 16 33 29.24 | 17 37 18 | 45 27 | | | | 434013 |
| 30241 | CHINA LAKE, CAL. | 0098 | 9 08 | 4 09 47.4 | | | 325 36 00 | 81 23 24 | | 641303 |
| 30242 | SACRAMENTO, CAL. | 8517 | 9 08 | 4 09 55.2 | 21 05 12 | 17 13 | | | | 434013 |
| 10174 | MAUI'BN, HAWAII | 9012 | 9 08 | 5 43 40.05 | 15 57 24 | 47 00 | | | | 434013 |
| 10175 | SAN FERNANDO'BN, SP. | 9004 | 9 08 | 20 41 43.10 | 17 49 12 | 42 00 | | | | 434013 |
| 30244 | N. CANTON, OHIO | 8536 | 9 09 | 1 39 51.3 | 19 25 | 17 00 | | | | 641034 |
| 30246 | ROCHESTER, N.Y. | 8564 | 9 09 | 1 40 49.4 | 19 35 42 | 16 15 | | | | 845033 |
| 30274 | KAGOSHIMA, JAPAN | 0218 | 9 09 | 11 34 53 | 14 38 | 76 30 | | | | 845002 |
| 10186 | MAUI'BN, HAWAII | 9012 | 9 09 | 15 22 25.70 | 0 29 54 | -26 41 | | | | 434023 |
| 10182 | SHIRAZ'BN, IRAN | 9008 | 9 09 | 16 31 23.36 | 14 19 12 | 72 37 | | | | 434013 |
| 10176 | SAN FERNANDO'BN, SP. | 9004 | 9 09 | 19 48 46.70 | 19 35 36 | 21 42 | | | | 434013 |
| 10177 | SAN FERNANDO'BN, SP. | 9004 | 9 09 | 21 32 46.40 | 13 55 42 | 70 06 | | | | 434013 |
| 30249 | WICHITA, KAN. | 0028 | 9 10 | 2 27 34.2 | 19 13 32 | 55 06 | | | | 845043 |
| 30250 | SACRAMENTO, CAL. | 8517 | 9 10 | 4 06 38.4 | 18 27 54 | 45 47 | | | | 641013 |
| 10185 | MAUI'BN, HAWAII | 9012 | 9 10 | 5 41 49.27 | 13 04 30 | 68 42 | | | | 434013 |
| 10181 | AREQUIPA'BN, PERU | 9007 | 9 10 | 9 41 16.85 | 6 54 42 | 27 07 | | | | 434013 |
| 30275 | ASAHIKAWA, JAPAN | 0201 | 9 10 | 10 44 48 | 19 45 | 27 | | | | 845002 |
| 10183 | SHIRAZ'BN, IRAN | 9008 | 9 10 | 15 37 50.30 | 16 56 36 | 62 40 | | | | 434013 |
| 10178 | SAN FERNANDO'BN, SP. | 9004 | 9 10 | 20 39 43.80 | 15 52 24 | 78 00 | | | | 434013 |
| 30251 | ST. LOUIS, MO. | 0140 | 9 11 | 1 35 26.7 | 18 51 12 | 42 42 | | | | 845033 |
| 30253 | MILWAUKEE, WISC. | 0074 | 9 11 | 1 36 01.4 | 18 58 30 | 16 11 | | | | 641004 |
| 30254 | MILWAUKEE, WISC. | 0074 | 9 11 | 1 36 02 | 19 01 48 | 16 30 | | | | 641004 |
| 30252 | ST. LOUIS, MO. | 0140 | 9 11 | 1 36 21.8 | 21 39 30 | 51 45 | | | | 845033 |
| 30255 | SACRAMENTO, CAL. | 8517 | 9 11 | 3 13 24.7 | 19 20 00 | 19 43 | | | | 641013 |
| 30256 | SACRAMENTO, CAL. | 8517 | 9 11 | 4 57 43.4 | 13 50 24 | 79 42 | | | | 641013 |
| 10180 | SAN FERNANDO'BN, SP. | 9004 | 9 11 | 19 46 17.20 | 18 19 24 | 64 12 | | | | 434013 |
| 30258 | DENVER, COLO. | 8582 | 9 12 | 2 23 21 | | | 330 15 00 | 82 30 | | 845303 |
| 10187 | OLIFANTSFMNTN'BN,S.AF | 9002 | 9 12 | 3 03 11.80 | 6 09 36 | 25 45 | | | | 434013 |
| 30259 | CHINA LAKE, CAL. | 0098 | 9 12 | 4 05 33.7 | | | 0 00 | 27 52 48 | | 641303 |
| 50075 | SPOKANE, WASH. | 8142 | 9 12 | 4 05 34.9 | 19 37 34 | 23 21 | | | | 845002 |
| 10189 | AREQUIPA'BN, PERU | 9007 | 9 12 | 9 38 37.78 | 4 49 24 | -5 29 | | | | 434013 |
| 10188 | SAN FERNANDO'BN, SP. | 9004 | 9 12 | 20 37 11.30 | 11 16 30 | 78 32 | | | | 434013 |
| 30260 | TERRE HAUTE, IND. | 8127 | 9 13 | 1 33 56.6 | | | | 48 20 | | 845303 |
| 30261 | STATE COLLEGE, PA. | 0060 | 9 13 | 1 35 33.6 | | | 346 24 | 42 48 | | 845303 |
| 30262 | ROCHESTER, N.Y. | 8564 | 9 13 | 1 36 09.4 | 20 58 30 | 75 30 | | | | 845033 |
| 10191 | SAN FERNANDO'BN, SP. | 9004 | 9 13 | 21 27 32.30 | 11 24 06 | 69 28 | | | | 434013 |
| 30264 | N. CANTON, OHIO | 8584 | 9 14 | 0 41 38.9 | 19 00 30 | 68 56 | | | | 845033 |
| 30266 | MILWAUKEE, WISC. | 0074 | 9 14 | 2 23 42 | | | 0 | 48 36 | | 641303 |
| 30267 | ST. LOUIS, MO. | 0140 | 9 14 | 2 23 45.6 | 11 04 30 | 78 15 | | | | 845032 |
| 10193 | AREQUIPA'BN, PERU | 9007 | 9 14 | 9 35 43.79 | 1 22 30 | -39 10 | | | | 434023 |
| 10192 | SAN FERNANDO'BN, SP. | 9004 | 9 14 | 20 34 32.20 | 9 52 00 | 74 40 | | | | 434013 |
| 30268 | N. CANTON, OHIO | 8544 | 9 15 | 1 32 41.4 | 5 09 | 85 45 | | | | 845032 |
| 10195 | VILLA DOLORES'BN,ARG | 9011 | 9 15 | 8 47 11.15 | 6 23 36 | -0 27 | | | | 434013 |
| 10203 | TOKYO'BN, JAPAN | 9005 | 9 15 | 11 29 51.00 | 7 58 48 | 73 03 | | | | 434013 |
| 10198 | WOOMERA'BN, AUSTR. | 9003 | 9 16 | 19 30 39.59 | 3 43 12 | -35 02 | | | | 434023 |
| 10201 | SAN FERNANDO'BN, SP. | 9004 | 9 16 | 20 32 13.80 | 7 54 06 | 74 14 | | | | 434013 |
| 10197 | OLIFANTSFMNTN'BN,S.AF | 9002 | 9 17 | 2 05 41.30 | 5 22 42 | -41 02 | | | | 434023 |
| 10204 | VILLA DOLORES'BN,ARG | 9011 | 9 17 | 8 43 46.37 | 3 45 18 | -26 32 | | | | 434023 |
| 10199 | WOOMERA'BN, AUSTR. | 9003 | 9 17 | 18 38 33.88 | 6 41 00 | -23 22 | | | | 434023 |
| 10202 | SAN FERNANDO'BN, SP. | 9004 | 9 17 | 19 39 06.70 | 5 59 24 | 74 41 | | | | 434013 |
| 10205 | VILLA DOLORES'BN,ARG | 9011 | 9 18 | 7 51 54.41 | 6 42 30 | -19 20 | | | | 434013 |
| 10200 | WOOMERA'BN, AUSTR. | 9003 | 9 18 | 19 28 02.20 | 0 43 54 | -61 35 | | | | 434023 |
| 10206 | WOOMERA'BN, AUSTR. | 9003 | 9 19 | 18 35 25.89 | 4 54 18 | -60 53 | | | | 434023 |
| 10207 | SAN FERNANDO'BN, SP. | 9004 | 9 19 | 19 36 29.30 | 5 34 24 | 72 42 | | | | 434013 |
| 30278 | YOKKAICHI, JAPAN | 0258 | 9 20 | 10 29 19 | 6 59 | 81 | | | | 845002 |
| 10208 | SAN FERNANDO'BN, SP. | 9004 | 9 20 | 20 27 21.40 | 4 55 12 | 74 05 | | | | 434013 |
| 10210 | VILLA DOLORES'BN,ARG | 9011 | 9 21 | 8 38 37.64 | 22 15 30 | -66 51 | | | | 434023 |
| 10209 | SAN FERNANDO'BN, SP. | 9004 | 9 21 | 19 33 41.40 | 5 26 30 | 73 45 | | | | 434013 |

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| 30282 | YATSUSHIRO, JAPAN | 0272 | 9 29 | 11 12 53 | | | 180 00 | 52 00 | | 845302 |
| 50068 | STALINABAD, USSR | 1047 | 9 29 | 14 23 06.0 | 16 23 30 | 52 30 | | | | 845009 |
| 50067 | STALINABAD, USSR | 1047 | 9 29 | 14 23 12.0 | 15 57 00 | 58 54 | | | | 845009 |
| 50066 | STALINABAD, USSR | 1047 | 9 29 | 14 23 43.0 | 15 46 00 | 62 48 | | | | 845009 |
| 30281 | MUSASHINO, JAPAN | 0233 | 9 30 | 10 18 47.8 | | | 225 | 43 30 | | 845302 |
| 50064 | LAREDO RADAR, TEX. | 4012 | 10 01 | 1 08 28.5 | | | 13 06 | 36 06 | 1087 | 895307 |
| 50065 | LAREDO RADAR, TEX. | 4012 | 10 01 | 17 13 28.5 | | | 204 48 00 | 63 18 00 | 817 | 895307 |
| 50069 | LAREDO RADAR, TEX. | 4012 | 10 04 | 0 12 24 | | | 10 30 | 41 30 | 990 | 895307 |
| 30279 | TOWNSVILLE, AUSTR. | 8578 | 10 09 | 9 25 50.4 | | | 77 21 | 84 35 | | 845302 |
| 30280 | TOWNSVILLE, AUSTR. | 8578 | 10 09 | 9 25 52.7 | | | 92 25 | 83 53 | | 845302 |
| 50071 | LAREDO RADAR, TEX. | 4012 | 10 15 | 20 27 22.0 | | | 316 30 00 | 64 24 00 | 770 | 895307 |

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| 50076 | POTSDAM, GER. | 2729 | 4 19 | 1 20 18.0 | 16 28 42 | 1 40 | | | | 834009 |
| 50077 | POTSDAM, GER. | 2729 | 4 19 | 1 21 54.5 | 18 48 48 | 8 40 | | | | 834009 |
| 50078 | POTSDAM, GER. | 2729 | 4 20 | 2 11 00.3 | 17 02 00 | 16 48 | | | | 834009 |
| 50079 | POTSDAM, GER. | 2729 | 4 20 | 2 13 00.6 | 20 16 12 | 13 40 | | | | 834009 |
| 50080 | POTSDAM, GER. | 2729 | 4 25 | 1 12 51.3 | 16 11 18 | 18 07 | | | | 834009 |
| 50081 | POTSDAM, GER. | 2729 | 4 25 | 1 14 28.6 | 18 49 12 | 10 14 | | | | 834009 |
| 50082 | POTSDAM, GER. | 2729 | 5 01 | 22 27 52.0 | 13 24 00 | 19 17 | | | | 834009 |
| 50083 | POTSDAM, GER. | 2729 | 5 01 | 22 28 38.9 | 14 57 24 | 18 32 | | | | 834009 |
| 50084 | POTSDAM, GER. | 2729 | 5 02 | 21 34 52.5 | 13 07 30 | 18 10 | | | | 834009 |
| 50085 | POTSDAM, GER. | 2729 | 5 02 | 21 36 22.0 | 15 45 18 | 16 16 | | | | 834009 |
| 50086 | POTSDAM, GER. | 2729 | 6 28 | 23 32 50.2 | 18 49 54 | 5 01 | | | | 834009 |
| 50087 | POTSDAM, GER. | 2729 | 6 28 | 23 34 39.9 | 21 47 18 | 10 59 | | | | 834009 |
| 50088 | POTSDAM, GER. | 2729 | 7 01 | 22 36 59.8 | 18 08 06 | 8 04 | | | | 834009 |
| 50089 | POTSDAM, GER. | 2729 | 7 01 | 22 38 37.6 | 20 53 42 | 12 08 | | | | 834009 |
| 50090 | POTSDAM, GER. | 2729 | 7 04 | 23 25 07.1 | 19 09 12 | 14 48 | | | | 834009 |
| 50091 | POTSDAM, GER. | 2729 | 7 04 | 23 26 39.8 | 21 36 06 | 6 53 | | | | 834009 |

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|--------|------------------------|--------|------|-------------|---------|--------|---------|----------|-------|--------|
| 00199 | SACRAMENTO, CAL. | 8517 | 4 13 | 11 24 45.9 | | | 0 00 | 73 17 | | 641301 |
| 00206 | SACRAMENTO, CAL. | 8517 | 4 16 | 12 13 55.2 | | | 0 00 | 29 00 | | 641301 |
| 00079 | VILLA DOLORES, BN, ARG | 9011 | 4 19 | 23 55 25.96 | 6 37 36 | -36 48 | | | | 434023 |
| 00269 | TERRE HAUTE, IND. | 8127 | 4 29 | 2 31 39.4 | | | 140 | 52 45 | | 845302 |
| 00219 | SACRAMENTO, CAL. | 8517 | 5 02 | 4 57 44.2 | | | 0 00 | 52 42 | | 641301 |
| 00384 | LAREDO RADAR, TEXAS | 4012 | 5 23 | 18 07 42.5 | | | 322 06 | 53 36 | 867 | 895307 |
| 00385 | LAREDO RADAR, TEXAS | 4012 | 5 23 | 18 07 58.0 | | | 322 06 | 53 36 | 8722 | 895307 |
| 00382 | LAREDO RADAR, TEXAS | 4012 | 5 24 | 1 09 33.0 | | | 36 06 | 44 12 | 1020 | 895307 |
| 00383 | LAREDO RADAR, TEXAS | 4012 | 5 24 | 1 09 47.75 | | | 36 06 | 44 12 | 1019 | 895307 |
| 00412 | LAREDO RADAR, TEXAS | 4012 | 5 26 | 1 07 08.5 | | | 40 12 | 90 00 | 757 | 895307 |
| 00413 | LAREDO RADAR, TEXAS | 4012 | 5 26 | 1 07 21.5 | | | 40 12 | 90 00 | 756 | 895307 |
| 00429 | LAREDO RADAR, TEXAS | 4012 | 5 31 | 14 29 35 | | | 136 54 | 67 54 | 745 | 895307 |
| 00430 | LAREDO RADAR, TEXAS | 4012 | 5 31 | 14 29 48.5 | | | 136 54 | 67 54 | 741 | 895307 |
| 00489 | LAREDO RADAR, TEX. | 4012 | 6 22 | 14 06 58.5 | | | 35 00 | 36 42 | 1082 | 895307 |
| 00580 | LAREDO RADAR, TEXAS | 4012 | 6 30 | 3 26 10.5 | | | 171 48 | 50 36 | 939 | 895307 |
| 00581 | LAREDO RADAR, TEXAS | 4012 | 6 30 | 3 26 28.5 | | | 171 48 | 50 36 | 893 | 895307 |
| 50001 | LAREDO RADAR, TEXAS | 4012 | 7 01 | 2 32 58 | | | 150 00 | 29 06 | 1339 | 895307 |
| 50002 | LAREDO RADAR, TEXAS | 4012 | 7 01 | 2 33 20 | | | 150 00 | 29 06 | 1296 | 895307 |

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| 50185 | POTSDAM, GER. | 2729 | 7 07 | 22 38 31.1 | 20 42 18 | - 1 16 | | | | 834009 |
| 50186 | POTSDAM, GER. | 2729 | 7 07 | 22 40 07.8 | 22 38 54 | 7 04 | | | | 834009 |
| 50187 | POTSDAM, GER. | 2729 | 7 08 | 0 16 44.1 | 20 41 06 | 29 01 | | | | 834009 |
| 50188 | POTSDAM, GER. | 2729 | 7 08 | 0 18 53.6 | 0 50 18 | 21 41 | | | | 834009 |
| 50189 | POTSDAM, GER. | 2729 | 7 09 | 21 54 55.8 | 19 07 24 | - 5 07 | | | | 834009 |
| 50190 | POTSDAM, GER. | 2729 | 7 09 | 21 56 48.2 | 21 31 06 | 6 13 | | | | 834009 |
| 50191 | POTSDAM, GER. | 2729 | 7 09 | 23 33 40.2 | 19 29 48 | 28 49 | | | | 834009 |
| 50192 | POTSDAM, GER. | 2729 | 7 09 | 23 35 56.0 | 0 06 06 | 23 16 | | | | 834009 |
| 50193 | POTSDAM, GER. | 2729 | 7 10 | 1 12 44.9 | 21 39 06 | 38 38 | | | | 834009 |
| 50194 | POTSDAM, GER. | 2729 | 7 10 | 1 14 19.0 | 0 54 54 | 19 05 | | | | 834009 |
| 50195 | POTSDAM, GER. | 2729 | 7 11 | 22 50 26.1 | 18 48 48 | 29 47 | | | | 834009 |
| 50196 | POTSDAM, GER. | 2729 | 7 11 | 22 52 54.4 | 23 40 00 | 22 39 | | | | 834009 |
| 50197 | POTSDAM, GER. | 2729 | 7 12 | 0 28 45.4 | 18 33 48 | 37 35 | | | | 834009 |
| 50198 | POTSDAM, GER. | 2729 | 7 12 | 0 31 27.6 | 0 33 54 | 15 45 | | | | 834009 |
| 50199 | POTSDAM, GER. | 2729 | 7 12 | 22 28 48.4 | 18 48 42 | 31 09 | | | | 834009 |
| 50200 | POTSDAM, GER. | 2729 | 7 12 | 22 30 41.9 | 22 51 00 | 26 00 | | | | 834009 |
| 50201 | POTSDAM, GER. | 2729 | 7 13 | 0 07 07.1 | 18 37 18 | 38 31 | | | | 834009 |
| 50202 | POTSDAM, GER. | 2729 | 7 13 | 0 08 50.8 | 23 12 48 | 26 00 | | | | 834009 |
| 50203 | POTSDAM, GER. | 2729 | 7 13 | 22 06 48.4 | 18 02 06 | 29 58 | | | | 834009 |
| 50204 | POTSDAM, GER. | 2729 | 7 13 | 22 09 11.6 | 22 54 18 | 24 07 | | | | 834009 |
| 50205 | POTSDAM, GER. | 2729 | 7 13 | 23 45 22.2 | 18 32 30 | 38 58 | | | | 834009 |
| 50206 | POTSDAM, GER. | 2729 | 7 13 | 23 48 07.2 | 0 04 54 | 14 00 | | | | 834009 |
| 50207 | POTSDAM, GER. | 2729 | 7 14 | 1 24 00.4 | 19 48 18 | 8 45 | | | | 834009 |
| 50208 | POTSDAM, GER. | 2729 | 7 14 | 1 26 14.6 | 23 12 12 | - 8 59 | | | | 834009 |
| 50209 | POTSDAM, GER. | 2729 | 7 16 | 21 00 53.2 | 17 24 42 | 32 01 | | | | 834009 |
| 50210 | POTSDAM, GER. | 2729 | 7 16 | 21 02 39.3 | 21 19 30 | 28 17 | | | | 834009 |
| 50211 | POTSDAM, GER. | 2729 | 7 16 | 22 39 53.2 | 19 17 36 | 38 55 | | | | 834009 |
| 50212 | POTSDAM, GER. | 2729 | 7 16 | 22 42 09.6 | 23 08 18 | 13 55 | | | | 834009 |
| 50213 | POTSDAM, GER. | 2729 | 7 18 | 21 56 02.2 | 20 17 24 | 33 07 | | | | 834009 |
| 50214 | POTSDAM, GER. | 2729 | 7 18 | 21 57 48.5 | 22 33 42 | 13 19 | | | | 834009 |
| 50215 | POTSDAM, GER. | 2729 | 7 18 | 23 33 22.6 | 18 02 42 | 10 12 | | | | 834009 |
| 50216 | POTSDAM, GER. | 2729 | 7 18 | 23 35 19.5 | 21 02 36 | - 4 55 | | | | 834009 |
| 50217 | POTSDAM, GER. | 2729 | 7 19 | 21 32 58.9 | 18 01 18 | 39 18 | | | | 834009 |
| 50218 | POTSDAM, GER. | 2729 | 7 19 | 21 35 26.9 | 22 12 36 | 13 43 | | | | 834009 |
| 50219 | POTSDAM, GER. | 2729 | 7 19 | 23 11 11.0 | 17 58 54 | 9 25 | | | | 834009 |
| 50220 | POTSDAM, GER. | 2729 | 7 19 | 23 12 46.2 | 20 26 12 | - 3 04 | | | | 834009 |
| 50221 | POTSDAM, GER. | 2729 | 7 22 | 20 25 34.2 | 17 12 36 | 39 07 | | | | 834009 |
| 50222 | POTSDAM, GER. | 2729 | 7 22 | 20 27 15.5 | 20 36 06 | 20 58 | | | | 834009 |
| 50223 | POTSDAM, GER. | 2729 | 7 23 | 21 40 00.7 | 15 08 42 | 14 25 | | | | 834009 |
| 50224 | POTSDAM, GER. | 2729 | 7 23 | 21 42 42.1 | 19 11 12 | - 2 40 | | | | 834009 |
| 50225 | POTSDAM, GER. | 2729 | 7 24 | 21 18 56.8 | 17 14 54 | 6 27 | | | | 834009 |
| 50226 | POTSDAM, GER. | 2729 | 7 24 | 21 19 13.2 | 17 47 30 | 3 37 | | | | 834009 |
| 50227 | POTSDAM, GER. | 2729 | 7 27 | 21 48 19.9 | 16 15 12 | -14 10 | | | | 834009 |
| 50228 | POTSDAM, GER. | 2729 | 7 27 | 21 49 09.0 | 16 55 18 | -19 00 | | | | 834009 |

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| 50153 | POTSDAM, GER. | 2729 | 5 02 | 2 03 48.7 | 17 56 30 | 30 48 | | | | 834009 |
| 50154 | POTSDAM, GER. | 2729 | 5 02 | 2 05 52.6 | 22 09 30 | 22 51 | | | | 834009 |
| 50155 | POTSDAM, GER. | 2729 | 5 04 | 1 38 22.8 | 18 27 12 | 36 31 | | | | 834009 |
| 50156 | POTSDAM, GER. | 2729 | 5 04 | 1 39 30.5 | 21 06 18 | 28 50 | | | | 834009 |
| 50157 | POTSDAM, GER. | 2729 | 5 05 | 1 25 18.8 | 17 56 48 | 38 16 | | | | 834009 |
| 50158 | POTSDAM, GER. | 2729 | 5 05 | 1 26 19.8 | 20 37 30 | 30 21 | | | | 834009 |
| 50159 | POTSDAM, GER. | 2729 | 5 06 | 1 10 50.5 | 13 42 30 | 23 40 | | | | 834009 |
| 50160 | POTSDAM, GER. | 2729 | 5 06 | 1 14 13.3 | 21 34 30 | 21 00 | | | | 834009 |
| 50161 | POTSDAM, GER. | 2729 | 5 07 | 0 57 33.2 | 13 10 24 | 22 31 | | | | 834009 |
| 50162 | POTSDAM, GER. | 2729 | 5 07 | 1 00 58.2 | 21 07 36 | 21 07 | | | | 834009 |
| 50163 | POTSDAM, GER. | 2729 | 5 08 | 0 43 35.0 | 13 17 36 | 27 09 | | | | 834009 |
| 50164 | POTSDAM, GER. | 2729 | 5 08 | 0 45 59.8 | 20 15 00 | 27 50 | | | | 834009 |
| 50165 | POTSDAM, GER. | 2729 | 5 09 | 0 31 40.8 | 14 02 24 | 34 27 | | | | 834009 |
| 50166 | POTSDAM, GER. | 2729 | 5 09 | 0 34 08.0 | 20 37 24 | 20 58 | | | | 834009 |
| 50167 | POTSDAM, GER. | 2729 | 5 09 | 2 10 21.5 | 14 56 18 | 19 10 | | | | 834009 |
| 50168 | POTSDAM, GER. | 2729 | 5 09 | 2 12 20.5 | 19 25 42 | 7 20 | | | | 834009 |
| 50169 | POTSDAM, GER. | 2729 | 5 11 | 0 04 31.3 | 13 25 06 | 33 09 | | | | 834009 |

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| 50170 | POTSDAM, GER. | 2729 | 5 11 | 0 05 50.0 | 18 03 00 | 33 49 | | | | 834009 |
| 50171 | POTSDAM, GER. | 2729 | 5 13 | 23 24 39.5 | 18 15 48 | 20 04 | | | | 834009 |
| 50172 | POTSDAM, GER. | 2729 | 5 13 | 23 24 55.4 | 19 38 00 | 16 22 | | | | 834009 |
| 50173 | POTSDAM, GER. | 2729 | 5 15 | 22 54 52.7 | 13 43 48 | 26 47 | | | | 834009 |
| 50174 | POTSDAM, GER. | 2729 | 5 15 | 22 55 54.0 | 16 57 30 | 18 07 | | | | 834009 |
| 50175 | POTSDAM, GER. | 2729 | 5 16 | 21 00 41.4 | 12 52 24 | 33 35 | | | | 834009 |
| 50176 | POTSDAM, GER. | 2729 | 5 16 | 21 02 56.5 | 18 28 42 | 15 40 | | | | 834009 |
| 50177 | POTSDAM, GER. | 2729 | 5 18 | 20 33 33.9 | 16 32 24 | 26 52 | | | | 834009 |
| 50178 | POTSDAM, GER. | 2729 | 5 18 | 20 34 19.0 | 17 41 12 | 17 31 | | | | 834009 |
| 50179 | POTSDAM, GER. | 2729 | 5 18 | 22 10 58.6 | 12 18 36 | 17 16 | | | | 834009 |
| 50180 | POTSDAM, GER. | 2729 | 5 18 | 22 11 59.2 | 15 02 42 | 11 25 | | | | 834009 |
| 50181 | POTSDAM, GER. | 2729 | 5 22 | 21 11 07.8 | 11 19 06 | 5 21 | | | | 834009 |
| 50182 | POTSDAM, GER. | 2729 | 5 22 | 21 13 02.1 | 15 25 12 | - 9 13 | | | | 834009 |
| 50183 | POTSDAM, GER. | 2729 | 5 23 | 20 55 50.0 | 11 04 42 | 2 34 | | | | 834009 |
| 50184 | POTSDAM, GER. | 2729 | 5 23 | 20 57 56.4 | 15 18 12 | -12 49 | | | | 834009 |

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| 50024 | POTSDAM, GER. | 2729 | 7 26 | 21 45 26.8 | 16 35 48 | 1 55 | | | | 834009 |
| 50025 | POTSDAM, GER. | 2729 | 7 26 | 21 47 16.2 | 18 47 24 | -10 43 | | | | 834009 |
| 50026 | POTSDAM, GER. | 2729 | 9 26 | 18 47 41.1 | 17 27 18 | 19 38 | | | | 834049 |
| 50027 | POTSDAM, GER. | 2729 | 9 26 | 18 48 54.7 | 21 52 42 | 31 04 | | | | 834049 |
| 50028 | POTSDAM, GER. | 2729 | 9 28 | 18 32 32.4 | 18 10 18 | 33 23 | | | | 834049 |
| 50029 | POTSDAM, GER. | 2729 | 9 28 | 18 33 49.6 | 23 15 06 | 27 37 | | | | 834049 |
| 50030 | POTSDAM, GER. | 2729 | 9 29 | 18 24 42.0 | 18 01 00 | 34 59 | | | | 834049 |
| 50031 | POTSDAM, GER. | 2729 | 9 29 | 18 25 43.7 | 22 14 42 | 31 01 | | | | 834049 |
| 50032 | POTSDAM, GER. | 2729 | 9 29 | 18 26 16.0 | 23 35 12 | 22 26 | | | | 834049 |
| 50033 | POTSDAM, GER. | 2729 | 10 02 | 18 01 21.4 | 19 17 36 | 31 55 | | | | 834049 |
| 50034 | POTSDAM, GER. | 2729 | 10 02 | 18 02 20.0 | 22 24 42 | 17 10 | | | | 834049 |
| 50035 | POTSDAM, GER. | 2729 | 10 02 | 18 02 44.3 | 23 02 24 | 11 43 | | | | 834049 |
| 50036 | POTSDAM, GER. | 2729 | 10 04 | 17 45 29.7 | 19 25 54 | 19 17 | | | | 834049 |
| 50037 | POTSDAM, GER. | 2729 | 10 04 | 17 46 32.1 | 21 59 12 | 5 55 | | | | 834049 |
| 50038 | POTSDAM, GER. | 2729 | 11 07 | 4 29 31.0 | 8 12 24 | 39 44 | | | | 834049 |

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| 50001 | POTSDAM, GER. | 2729 | 5 05 | 1 34 43.0 | 17 17 24 | 39 27 | | | | 834009 |
| 50002 | POTSDAM, GER. | 2729 | 5 05 | 1 36 11.9 | 21 02 36 | 29 29 | | | | 834009 |
| 50003 | POTSDAM, GER. | 2729 | 5 06 | 1 32 05.2 | 17 27 12 | 41 46 | | | | 834009 |
| 50004 | POTSDAM, GER. | 2729 | 5 06 | 1 33 57.1 | 21 30 06 | 23 28 | | | | 834009 |
| 50005 | POTSDAM, GER. | 2729 | 5 07 | 1 29 40.3 | 18 31 12 | 39 53 | | | | 834009 |
| 50006 | POTSDAM, GER. | 2729 | 5 07 | 1 31 00.2 | 21 08 48 | 23 41 | | | | 834009 |
| 50007 | POTSDAM, GER. | 2729 | 5 09 | 1 23 50.8 | 17 38 36 | 34 43 | | | | 834009 |
| 50008 | POTSDAM, GER. | 2729 | 5 09 | 1 25 24.4 | 20 40 00 | 16 32 | | | | 834009 |
| 50009 | POTSDAM, GER. | 2729 | 5 16 | 21 39 54.9 | 14 18 06 | 39 47 | | | | 834009 |
| 50010 | POTSDAM, GER. | 2729 | 5 18 | 21 33 34.3 | 14 42 24 | 32 55 | | | | 834009 |
| 50011 | POTSDAM, GER. | 2729 | 5 18 | 21 34 41.5 | 17 25 12 | 17 17 | | | | 834009 |
| 50012 | POTSDAM, GER. | 2729 | 7 14 | 0 41 24.9 | 21 22 30 | 33 05 | | | | 834009 |
| 50013 | POTSDAM, GER. | 2729 | 7 14 | 0 42 33.9 | 23 41 00 | 19 19 | | | | 834009 |
| 50014 | POTSDAM, GER. | 2729 | 7 19 | 0 13 27.2 | 20 52 54 | - 0 48 | | | | 834009 |
| 50015 | POTSDAM, GER. | 2729 | 7 19 | 0 14 35.8 | 22 14 48 | - 8 49 | | | | 834009 |
| 50016 | POTSDAM, GER. | 2729 | 7 19 | 22 27 17.8 | 19 17 36 | 36 52 | | | | 834009 |
| 50017 | POTSDAM, GER. | 2729 | 7 19 | 22 29 27.8 | 22 41 48 | 11 58 | | | | 834009 |
| 50018 | POTSDAM, GER. | 2729 | 7 20 | 0 06 57.7 | 19 34 18 | - 0 26 | | | | 834009 |
| 50019 | POTSDAM, GER. | 2729 | 7 20 | 0 08 23.5 | 21 22 12 | -10 24 | | | | 834009 |
| 50020 | POTSDAM, GER. | 2729 | 7 22 | 22 09 57.2 | 18 48 48 | 17 41 | | | | 834009 |

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| 50021 | POTSDAM, GER. | 2729 | 7 22 | 22 10 46.5 | 20 13 42 | 9 46 | | | | 834009 |
| 50022 | POTSDAM, GER. | 2729 | 7 23 | 22 04 11.6 | 18 45 48 | 10 34 | | | | 834009 |
| 50023 | POTSDAM, GER. | 2729 | 7 23 | 22 05 23.4 | 20 25 42 | 0 32 | | | | 834009 |

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| 00017 | MUFASHINO, JAPAN | 0233 | 4 22 | 18 04 39.0 | | | 135 | 49 30 | | 845301 |
| 00049 | WALNUT CREEK, CAL. | 8535 | 5 04 | 11 11 11.6 | 4 59 00 | 67 10 | | | | 845004 |
| 00069 | HANOVERIE, GER. | 0702 | 5 07 | 1 28 35 | 16 33 00 | 41 20 | | | | 845012 |

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| 30037 | EVANSTON | 0149 | 6 26 | 2 00 16.2 | | | 26 30 | 7 48 | | 845302 |
| 30038 | EVANSTON | 0149 | 5 27 | 4 46 50.8 | | | 38 00 | 79 | | 845302 |
| 30034 | KAGOSHIMA | 0218 | 6 30 | 13 51 22 | 15 18 | 72 | | | | 845002 |
| 30033 | YATSUSHIRO | 0272 | 6 30 | 13 52 25 | | | 357 00 | 61 00 | | 845302 |
| 30035 | KAGOSHIMA | 0218 | 7 05 | 12 28 49 | 18 38 | 40 48 | | | | 845002 |
| 30034 | KAGOSHIMA | 0218 | 7 05 | 12 28 54 | 18 39 | 38 24 | | | | 845002 |
| 10013 | WOMERA-BN | 9003 | 7 19 | 19 30 19.19 | 7 07 42 | -46 30 | | | | 434023 |
| 10014 | WOMERA-BN | 9003 | 7 19 | 19 33 50.43 | 5 56 54 | -11 39 | | | | 434013 |
| 50015 | ASCENSION, M 12 | 5900 | 7 28 | 18 02 00 | | | 344 48 | 7 18 | | 895307 |
| 50016 | ASCENSION, M 12 | 5900 | 7 28 | 18 03 00 | | | 346 06 | 12 42 | | 895307 |
| 50017 | ASCENSION, M 12 | 5900 | 7 28 | 18 04 00 | | | 348 06 | 12 48 | | 895307 |
| 50018 | ASCENSION, M 12 | 5900 | 7 28 | 18 05 00 | | | 352 06 | 30 36 | | 895307 |
| 50019 | ASCENSION, M 12 | 5900 | 7 28 | 18 06 00 | | | 1 54 | 48 18 | | 895307 |
| 50020 | ASCENSION, M 12 | 5900 | 7 28 | 18 07 00 | | | 54 06 | 70 42 | | 895307 |
| 50021 | ASCENSION, M 12 | 5900 | 7 28 | 18 07 30 | | | 108 30 | 66 42 | | 895307 |
| 50022 | ASCENSION, M 12 | 5900 | 7 28 | 18 08 00 | | | 131 30 | 54 00 | | 895307 |
| 50023 | ASCENSION, M 12 | 5900 | 7 28 | 18 09 00 | | | 145 30 | 33 36 | | 895307 |
| 50024 | ASCENSION, M 12 | 5900 | 7 28 | 18 10 00 | | | 150 18 | 21 06 | | 895307 |
| 50025 | ASCENSION, M 12 | 5900 | 7 28 | 18 11 00 | | | 152 48 | 73 00 | | 895307 |
| 30019 | ALBUQUERQUE, N.M. | 8579 | 8 03 | 10 38 35.1 | | | 89 | 21 30 | | 845303 |
| 30021 | CHINA LAKE, CAL. | 0098 | 8 06 | 11 27 02.3 | | | 170 36 36 | 32 10 12 | | 641303 |
| 16001 | HARVESTUA, NORWAY | 9115 | 8 13 | 23 38 54.86 | 2 38 06 | 14 30 | | | | 434013 |
| 16002 | HARVESTUA, NORWAY | 9115 | 8 14 | 1 08 07.25 | 19 32 12 | 31 53 | | | | 434013 |
| 30030 | MADISON, WISC. | 0148 | 8 15 | 7 18 20.0 | 3 16 48 | 18 54 | | | | 845042 |
| 30029 | MADISON, WISC. | 0148 | 8 15 | 7 18 57.8 | 3 46 24 | 23 57 | | | | 845042 |
| 30031 | MADISON, WISC. | 0148 | 8 15 | 9 04 39.5 | 10 31 12 | 76 00 | | | | 845042 |
| 50026 | LAREDO RADAR, TEX. | 4012 | 8 19 | 18 32 35.3 | | | 272 54 | 18 48 | 1400 | 895307 |
| 50010 | RODEWISCH, GER. | 2733 | 8 20 | 0 54 05.3 | 23 44 06 | 38 36 | | | | 834009 |
| 50014 | SPOKANE, WASH. | 8142 | 9 08 | 5 47 57.0 | 9 19 13 | 76 36 | | | | 845009 |
| 50073 | POTSDAM, GER. | 2729 | 9 08 | 21 01 01.5 | 17 42 36 | 41 34 | | | | 834049 |
| 50074 | POTSDAM, GER. | 2729 | 9 08 | 21 02 10.1 | 17 50 00 | 67 34 | | | | 834049 |
| 50075 | POTSDAM, GER. | 2729 | 9 08 | 21 03 01.4 | 18 48 30 | 86 49 | | | | 834049 |
| 50076 | POTSDAM, GER. | 2729 | 9 08 | 21 04 10.9 | 5 41 00 | 72 00 | | | | 834049 |
| 50077 | POTSDAM, GER. | 2729 | 9 09 | 20 44 35.7 | 17 40 06 | 35 32 | | | | 834049 |
| 50078 | POTSDAM, GER. | 2729 | 9 09 | 20 45 27.7 | 17 47 24 | 56 46 | | | | 834049 |
| 50079 | POTSDAM, GER. | 2729 | 9 09 | 20 46 15.4 | 18 05 30 | 71 56 | | | | 834049 |
| 50080 | POTSDAM, GER. | 2729 | 9 09 | 20 47 17.0 | 5 14 42 | 72 01 | | | | 834049 |
| 50081 | POTSDAM, GER. | 2729 | 9 11 | 20 09 51.7 | 17 29 42 | 30 55 | | | | 834049 |
| 50008 | FARNHAM, ENG. | 8048 | 9 11 | 20 10 12.4 | 22 32 18 | 46 04 | | | | 845009 |
| 50082 | POTSDAM, GER. | 2729 | 9 11 | 20 10 51.4 | 17 48 42 | 51 55 | | | | 834049 |
| 50083 | POTSDAM, GER. | 2729 | 9 11 | 20 12 00.0 | 19 19 48 | 78 29 | | | | 834049 |
| 50084 | POTSDAM, GER. | 2729 | 9 11 | 20 13 15.9 | 4 05 48 | 73 59 | | | | 834049 |
| 50085 | POTSDAM, GER. | 2729 | 9 12 | 19 52 21.6 | 17 19 42 | 20 19 | | | | 834049 |
| 50086 | POTSDAM, GER. | 2729 | 9 12 | 19 54 09.2 | 17 57 12 | 56 05 | | | | 834049 |
| 30032 | CHINA LAKE, CAL. | 0098 | 9 13 | 4 18 35.8 | | | 310 13 48 | 28 03 00 | | 641303 |
| 50027 | LAREDO RADAR, TEX. | 4012 | 9 13 | 11 34 54.0 | | | 131 00 | 40 18 | 945 | 895307 |
| 50087 | POTSDAM, GER. | 2729 | 9 13 | 19 36 04.2 | 17 24 54 | 28 35 | | | | 834049 |

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| 50009 | FARNHAM, ENG. | 8048 | 9 13 | 19 36 43.2 | 22 40 00 | 43 36 | | | | 845009 |
| 50028 | LAREDO*RADAR, TEX. | 4012 | 9 17 | 10 24 24.2 | | | 15 54 | 35 30 | 1048 | 895307 |
| 16003 | HARVESTUA, NORWAY | 9115 | 9 18 | 19 58 40.15 | 16 45 54 | 66 51 | | | | 434013 |
| 16004 | HARVESTUA, NORWAY | 9115 | 9 18 | 19 58 52.16 | 16 56 30 | 72 01 | | | | 434013 |
| 16005 | HARVESTUA, NORWAY | 9115 | 9 18 | 19 59 00.17 | 17 06 54 | 75 23 | | | | 434013 |
| 50040 | RIGA, USSR | 1040 | 10 12 | 18 29 11.7 | 15 10 00 | 69 54 | | | | 845009 |
| 50041 | RIGA, USSR | 1040 | 10 12 | 18 30 00.6 | 21 56 00 | 71 24 | | | | 845009 |
| 50042 | UFA, USSR | 1057 | 10 13 | 16 30 52.3 | 14 31 42 | 58 48 | | | | 845009 |
| 50043 | UFA, USSR | 1057 | 10 13 | 16 31 01.9 | 14 07 00 | 69 36 | | | | 845009 |
| 50044 | UFA, USSR | 1057 | 10 14 | 16 14 11.2 | 14 28 00 | 63 36 | | | | 845009 |
| 50045 | UFA, USSR | 1057 | 10 14 | 16 15 01.3 | 8 13 00 | 75 00 | | | | 845009 |
| 50029 | LAREDO*RADAR, TEX. | 4012 | 10 17 | 3 46 52.5 | | | 142 48 00 | 41 18 00 | 886 | 895307 |
| 50046 | SARATOV, USSR | 1044 | 10 17 | 15 21 43.9 | | | 180 00 | 28 12 | | 845309 |
| 50047 | IAKUTSK, USSR | 1066 | 10 18 | 10 01 21.2 | 19 11 30 | 41 24 | | | | 845009 |
| 30024 | ROCHESTER, N.Y. | 8564 | 10 18 | 23 38 05.4 | 3 29 06 | 42 48 | | | | 845034 |
| 50048 | BLAGOVESTCHENSK, USSR | 1010 | 10 19 | 9 46 08.9 | 3 29 00 | 57 42 | | | | 845009 |
| 50049 | BLAGOVESTCHENSK, USSR | 1010 | 10 19 | 9 48 30.7 | 1 28 00 | 18 00 | | | | 845009 |
| 50054 | TCHITA, USSR | 1064 | 10 20 | 11 12 13.9 | 22 54 00 | 56 00 | | | | 845009 |
| 50055 | TCHITA, USSR | 1064 | 10 20 | 11 12 24.1 | 23 01 48 | 49 48 | | | | 845009 |
| 50050 | SVERDLOVSK, USSR | 1045 | 10 20 | 14 33 49.8 | 18 25 00 | 59 00 | | | | 845009 |
| 50052 | ORENBURGH, USSR | 1063 | 10 20 | 14 33 51.1 | 4 44 00 | 75 48 | | | | 845009 |
| 50053 | ORENBURGH, USSR | 1063 | 10 20 | 14 34 00.3 | 3 50 00 | 73 54 | | | | 845009 |
| 50051 | SVERDLOVSK, USSR | 1045 | 10 20 | 14 35 06.6 | 21 41 00 | 27 42 | | | | 845009 |
| 50030 | LAREDO*RADAR, TEX. | 4012 | 10 26 | 1 11 10.5 | | | 101 36 | 29 18 | 1111 | 895307 |
| 50031 | LAREDO*RADAR, TEX. | 4012 | 10 28 | 0 34 27.0 | | | 26 30 00 | 25 48 00 | 1230 | 895307 |
| 50032 | LAREDO*RADAR, TEX. | 4012 | 10 28 | 15 18 27 | | | 259 42 | 42 06 | 1301 | 895307 |
| 50033 | LAREDO*RADAR, TEX. | 4012 | 10 29 | 0 20 11.3 | | | 93 42 00 | 24 54 00 | 1211 | 895307 |
| 50034 | LAREDO*RADAR, TEX. | 4012 | 11 01 | 14 10 40 | | | 243 12 | 49 36 | 1193 | 895307 |
| 50035 | LAREDO*RADAR, TEX. | 4012 | 11 02 | 13 53 39 | | | 237 54 | 51 06 | 1178 | 895307 |
| 50036 | LAREDO*RADAR, TEX. | 4012 | 11 04 | 13 19 48 | | | 226 00 | 53 36 | 1120 | 895307 |
| 50037 | LAREDO*RADAR, TEX. | 4012 | 11 07 | 23 12 21.0 | | | 284 00 00 | 29 30 00 | 1190 | 895307 |
| 50056 | EREVAN, USSR | 1018 | 11 12 | 2 42 34.2 | 6 28 54 | 55 36 | | | | 845009 |
| 50057 | EREVAN, USSR | 1018 | 11 12 | 2 42 43.7 | 6 32 30 | 59 42 | | | | 845009 |
| 30025 | CINCINNATI, OHIO | 0050 | 11 12 | 11 11 33.3 | | | 306 00 | 61 06 | | 845302 |
| 50060 | BLAGOVESTCHENSK, USSR | 1010 | 11 12 | 21 25 20.0 | 16 07 00 | 68 00 | | | | 845009 |
| 50061 | EREVAN, USSR | 1018 | 11 13 | 2 25 40.3 | 6 41 42 | 57 06 | | | | 845009 |
| 50062 | EREVAN, USSR | 1018 | 11 13 | 2 25 45.3 | 6 42 42 | 59 30 | | | | 845009 |
| 50058 | EREVAN, USSR | 1018 | 11 14 | 2 08 22.1 | 6 38 54 | 47 42 | | | | 845009 |
| 50059 | EREVAN, USSR | 1018 | 11 14 | 2 08 25.7 | 6 42 36 | 49 24 | | | | 845009 |
| 50063 | BLAGOVESTCHENSK, USSR | 1010 | 11 14 | 20 48 41.3 | 7 40 00 | 28 48 | | | | 845009 |
| 50064 | VOLOGDA, USSR | 1014 | 11 17 | 3 04 42.9 | 7 40 30 | 34 48 | | | | 845009 |
| 50065 | VOLOGDA, USSR | 1014 | 11 17 | 3 05 04.9 | 8 07 30 | 44 00 | | | | 845009 |
| 50088 | POTSDAM, GER. | 2729 | 11 17 | 4 44 11.2 | 5 16 06 | 25 10 | | | | 834049 |
| 50089 | POTSDAM, GER. | 2729 | 11 17 | 4 45 17.4 | 4 58 00 | 48 47 | | | | 834049 |
| 50011 | POTSDAM, GER. | 2729 | 11 17 | 4 45 01.5 | 4 04 42 | 69 06 | | | | 834009 |
| 50012 | POTSDAM | 2729 | 11 17 | 4 46 38.0 | 1 39 00 | 80 05 | | | | 834049 |
| 50013 | POTSDAM, GER. | 2729 | 11 17 | 4 46 53.0 | 23 04 00 | 84 12 | | | | 834009 |
| 10010 | WOOMERA*BN, AUSTR. | 9003 | 11 17 | 16 04 01.46 | 20 42 54 | -74 36 | | | | 834023 |
| 10011 | WOOMERA*BN, AUSTR. | 9003 | 11 17 | 16 06 06.27 | 3 44 30 | -80 47 | | | | 834023 |
| 10012 | WOOMERA*BN, AUSTR. | 9003 | 11 17 | 16 07 48.00 | 6 25 30 | -56 19 | | | | 834023 |
| 10004 | WOOMERA*BN, AUSTR. | 9003 | 11 18 | 15 48 19.02 | 22 58 00 | -84 13 | | | | 434023 |
| 10005 | WOOMERA*BN, AUSTR. | 9003 | 11 18 | 15 49 27.93 | 5 19 30 | -78 18 | | | | 434023 |
| 10006 | WOOMERA*BN, AUSTR. | 9003 | 11 18 | 15 50 11.86 | 6 13 12 | -67 44 | | | | 434023 |
| 50066 | SYKTYVKAR, USSR | 1049 | 11 20 | 2 15 46.3 | 7 28 00 | 51 42 | | | | 845009 |
| 50067 | SYKTYVKAR, USSR | 1049 | 11 20 | 2 16 05.6 | 8 12 00 | 60 30 | | | | 845009 |
| 50068 | IAKUTSK, USSR | 1066 | 11 24 | 21 31 17.0 | 1 12 00 | 75 18 | | | | 845009 |
| 50038 | LAREDO*RADAR, TEX. | 4012 | 11 26 | 17 49 36.8 | | | 14 00 | 36 00 | 984 | 895307 |
| 50039 | LAREDO*RADAR, TEX. | 4012 | 12 07 | 5 43 52.5 | | | 242 12 00 | 47 06 00 | 1098 | 895307 |
| 10007 | WOOMERA*BN, AUSTR. | 9003 | 12 11 | 11 04 58.52 | 23 37 06 | -31 01 | | | | 434023 |
| 50001 | BLAGOVESTCHENSK, USSR | 1010 | 12 11 | 21 57 58.0 | 14 04 00 | 70 00 | | | | 845009 |
| 50002 | BLAGOVESTCHENSK, USSR | 1010 | 12 11 | 21 59 11.9 | 14 43 00 | 27 12 | | | | 845009 |
| 10008 | VILLA DOLORES*BN, ARG | 9011 | 12 12 | 0 41 47.12 | 0 49 36 | 25 18 | | | | 434013 |
| 50003 | BLAGOVESTCHENSK, USSR | 1010 | 12 12 | 21 39 40.9 | 2 55 00 | 73 12 | | | | 845009 |
| 50004 | BLAGOVESTCHENSK, USSR | 1010 | 12 12 | 21 41 21.7 | 14 36 30 | 55 00 | | | | 845009 |
| 50005 | EREVAN, USSR | 1018 | 12 13 | 21 23 27.8 | 15 50 00 | 85 24 | | | | 845009 |
| 50006 | EREVAN, USSR | 1018 | 12 13 | 21 25 21.6 | 14 44 00 | 24 00 | | | | 845009 |
| 50069 | NOVOSIBIRSK, USSR | 1035 | 12 16 | 0 13 47.4 | 10 57 30 | 20 00 | | | | 845009 |

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| 10109 | CURACAO'BN, N.W.I. | 9009 | 12 16 | 23 27 14.19 | 4 42 24 | -27 58 | | | | 434023 |
| 50072 | LAREDO-RADAR, TEX. | 4012 | 12 22 | 12 11 34.5 | | | 324 24 00 | 47 00 00 | 940 | 895307 |
| 30026 | ROCHESTER, N.Y. | 8564 | 12 26 | 0 26 52.4 | 23 12 42 | 11 21 | | | | 845013 |
| 30027 | ROCHESTER, N.Y. | 5050 | 12 26 | 0 26 55.0 | 23 13 36 | 12 31 | | | | 845013 |
| 30028 | ROCHESTER, N.Y. | 8564 | 12 27 | 23 54 13.6 | 0 13 24 | 48 10 | | | | 845013 |
| 50070 | BLAGOVESTCHENSK,USSR | 1010 | 12 29 | 9 48 46.1 | 3 11 00 | 30 36 | | | | 845009 |
| 50071 | BLAGOVESTCHENSK,USSR | 1010 | 12 29 | 9 49 14.0 | 4 11 00 | 38 00 | | | | 845009 |

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| 50035 | PRINCE ALBERT-RADAR | 4450 | 6 22 | 7 31 20 | | | 277 | 34 30 | 1500 | 895307 |
| 50036 | PRINCE ALBERT-RADAR | 4450 | 6 22 | 7 31 40 | | | 273 | 35 40 | 1440 | 895307 |
| 50037 | PRINCE ALBERT-RADAR | 4450 | 6 22 | 7 32 00 | | | 265 | 36 30 | 1380 | 895307 |
| 50038 | PRINCE ALBERT-RADAR | 4450 | 6 22 | 7 32 20 | | | 258 15 | 38 00 | 1350 | 895307 |
| 50039 | PRINCE ALBERT-RADAR | 4450 | 6 22 | 7 32 40 | | | 251 | 38 10 | 1325 | 895307 |
| 50040 | PRINCE ALBERT-RADAR | 4450 | 6 22 | 7 33 00 | | | 243 10 | 38 20 | 1320 | 895307 |
| 50041 | PRINCE ALBERT-RADAR | 4450 | 6 22 | 7 33 20 | | | 235 20 | 37 20 | 1305 | 895307 |
| 50042 | PRINCE ALBERT-RADAR | 4450 | 6 22 | 7 33 40 | | | 228 40 | 36 40 | 1350 | 895307 |
| 50043 | PRINCE ALBERT-RADAR | 4450 | 6 22 | 7 34 00 | | | 221 30 | 35 00 | 1425 | 895307 |
| 50044 | PRINCE ALBERT-RADAR | 4450 | 6 22 | 7 34 20 | | | 216 10 | 32 50 | 1470 | 895307 |
| 50045 | PRINCE ALBERT-RADAR | 4450 | 6 22 | 7 34 40 | | | 210 10 | 31 20 | 1515 | 895307 |
| 50046 | PRINCE ALBERT-RADAR | 4450 | 6 22 | 7 35 00 | | | 206 | 29 10 | 1545 | 895307 |
| 50047 | PRINCE ALBERT-RADAR | 4450 | 6 22 | 7 35 20 | | | 201 | 26 50 | 1620 | 895307 |
| 50048 | PRINCE ALBERT-RADAR | 4450 | 6 22 | 7 35 40 | | | 197 | 24 30 | 1680 | 895307 |
| 50049 | PRINCE ALBERT-RADAR | 4450 | 6 22 | 7 36 00 | | | 193 40 | 22 10 | 1800 | 895307 |
| 50050 | PRINCE ALBERT-RADAR | 4450 | 6 22 | 7 36 20 | | | 190 30 | 20 10 | 1875 | 895307 |
| 50051 | PRINCE ALBERT-RADAR | 4450 | 6 22 | 7 36 40 | | | 188 20 | 18 10 | 1955 | 895307 |
| 50052 | PRINCE ALBERT-RADAR | 4450 | 6 22 | 7 37 00 | | | 185 50 | 16 10 | 2100 | 895307 |
| 50053 | PRINCE ALBERT-RADAR | 4450 | 6 22 | 7 37 20 | | | 184 | 14 25 | 2175 | 895307 |
| 50056 | PRINCE ALBERT-RADAR | 4450 | 6 22 | 7 37 40 | | | 182 53 | 13 45 | 2265 | 895307 |
| 30050 | MIYAZAKI | 0230 | 6 22 | 16 07 34 | 17 30 | 67 | | | | 845002 |
| 30033 | CHINA LAKE | 0098 | 6 23 | 7 15 56.7 | | | 359 45 00 | 21 52 48 | | 641303 |
| 30028 | SAPPORO | 0245 | 6 23 | 14 06 01 | 20 15 | 15 | | | | 845002 |
| 30065 | CHINA LAKE | 0098 | 6 24 | 6 59 01.1 | | | 0 00 | 20 42 00 | | 641303 |
| 30029 | ALBUQUERQUE | 0041 | 6 24 | 7 02 29.7 | 15 52 | 70 | | | | 845033 |
| 30023 | ALBUQUERQUE, N.M. | 0041 | 6 24 | 7 02 37 | 16 12 | 68 36 | | | | 845033 |
| 30034 | ALBUQUERQUE | 0041 | 6 24 | 7 02 42 | 16 16 | 68 12 | | | | 845033 |
| 30001 | CHINA LAKE, CAL. | 0098 | 6 24 | 8 44 06.4 | | | 293 59 24 | 20 40 12 | | 641303 |
| 30035 | CHINA LAKE | 0098 | 6 24 | 8 44 09.5 | | | 293 59 24 | 20 40 12 | | 641303 |
| 30036 | ALBUQUERQUE | 0041 | 6 25 | 6 45 44.4 | 16 40 | 70 | | | | 845033 |
| 30037 | ALBUQUERQUE | 0041 | 6 25 | 6 45 46.4 | 16 36 | 70 45 | | | | 845033 |
| 30002 | ALBUQUERQUE, N.M. | 0041 | 6 25 | 6 45 50.8 | 16 40 | 70 | | | | 845033 |
| 30008 | DAYTON, OHIO | 8557 | 6 26 | 4 44 48.5 | 12 24 | 77 18 | | | | 845003 |
| 30038 | DAYTON | 8557 | 6 26 | 4 44 54.6 | 12 24 | 77 18 | | | | 845043 |
| 30009 | DAYTON, OHIO | 8557 | 6 26 | 4 47 06.1 | | | 59 36 | 74 12 | | 845303 |
| 30039 | DAYTON | 8557 | 6 26 | 4 47 11.8 | | | 59 36 | 74 12 | | 845303 |
| 30010 | DAYTON, OHIO | 8557 | 6 26 | 4 47 29.1 | | | 91 45 | 71 18 | | 845303 |
| 30040 | DAYTON | 8557 | 6 26 | 4 47 34.4 | | | 92 03 | 71 06 | | 845303 |
| 50055 | SPOKANE | 8142 | 6 26 | 6 25 04.0 | | | 0 | 63 15 36 | | 845302 |
| 50002 | SPOKANE, WASH. | 8142 | 6 26 | 6 25 09.4 | | | 0 | 63 19 12 | | 845302 |
| 30042 | ALBUQUERQUE | 8579 | 6 26 | 6 29 18.1 | | | 0 00 | 59 54 | | 845303 |
| 30003 | ALBUQUERQUE, N.M. | 8579 | 6 26 | 6 29 24.3 | | | 0 00 | 59 54 | | 845303 |
| 30004 | CHINA LAKE, CAL. | 0098 | 6 26 | 8 10 31.2 | | | 296 52 48 | 22 01 12 | | 641303 |
| 30051 | YATSUSHIRO | 0272 | 6 26 | 14 58 04 | | | 330 00 | 66 00 | | 845302 |
| 30069 | CINCINNATI | 0050 | 6 27 | 4 30 27.5 | | | 74 30 | 67 | | 845302 |
| 30024 | CINCINNATI, OHIO | 0050 | 6 27 | 4 30 35 | | | 74 30 | 67 | | 845302 |
| 30007 | CHINA LAKE, CAL. | 0098 | 6 27 | 6 08 09.8 | | | 0 00 | 17 14 24 | | 641303 |
| 30043 | ALBUQUERQUE | 8579 | 6 27 | 6 12 11.6 | | | 0 00 | 53 42 | | 845303 |
| 30005 | ALBUQUERQUE, N.M. | 8579 | 6 27 | 6 12 20.2 | | | 0 00 | 53 42 | | 845303 |
| 30006 | CHINA LAKE, CAL. | 0098 | 6 27 | 7 53 32.9 | | | 298 28 12 | 22 34 48 | | 641303 |
| 30044 | CHINA LAKE | 0098 | 6 27 | 7 53 40.4 | | | 298 28 12 | 22 34 48 | | 641303 |
| 30045 | STATE COLLEGE | 0060 | 6 28 | 4 13 36.0 | | | 267 | 74 30 | | 845302 |
| 30011 | STATE COLLEGE, PA. | 0060 | 6 28 | 4 13 48.0 | | | 264 | 75 | | 845302 |
| 30046 | CHINA LAKE | 0098 | 6 28 | 5 54 55.0 | | | 51 10 48 | 30 37 12 | | 641303 |
| 30012 | CHINA LAKE, CAL. | 0098 | 6 28 | 5 55 03.9 | | | 51 10 48 | 30 37 12 | | 641303 |
| 30048 | ALBUQUERQUE | 8579 | 6 28 | 5 55 07.4 | | | 0 00 | 48 06 | | 845303 |
| 30014 | ALBUQUERQUE, N.M. | 8579 | 6 28 | 5 55 16.9 | | | 0 00 | 48 12 | | 845303 |
| 30047 | CHINA LAKE | 0098 | 6 28 | 7 36 41.0 | | | 300 12 36 | 23 04 12 | | 641303 |
| 30013 | CHINA LAKE, CAL. | 0098 | 6 28 | 7 36 49.9 | | | 300 12 36 | 23 04 12 | | 641303 |
| 30052 | STATE COLLEGE | 0060 | 6 29 | 3 57 04.1 | | | 267 | 77 | | 845302 |
| 30053 | STATE COLLEGE | 0060 | 6 29 | 3 57 13.2 | | | 263 | 80 | | 845302 |
| 30015 | ALBUQUERQUE, N.M. | 8579 | 6 29 | 5 38 13.7 | | | 0 00 | 44 12 | | 845303 |
| 30016 | CINCINNATI, OHIO | 8555 | 6 30 | 3 39 36 | | | 40 | 57 | | 845302 |

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| 30041 | ALBUQUERQUE | 8579 | 7 01 | 5 03 53.5 | | | 0 00 | 36 24 | | 845303 |
| 30017 | ALBUQUERQUE, N.M. | 8579 | 7 01 | 5 04 08.4 | | | 0 00 | 36 48 | | 845303 |
| 30018 | CHINA LAKE, CAL. | 0098 | 7 01 | 6 46 06.2 | | | 305 35 24 | 24 42 36 | | 641303 |
| 30066 | CHINA LAKE | 0098 | 7 01 | 6 46 19.3 | | | 305 35 24 | 24 42 36 | | 641303 |
| 30031 | KAGOSHIMA | 0218 | 7 01 | 13 34 34 | 16 30 | 69 06 | | | | 845002 |
| 30020 | KAGOSHIMA | 0218 | 7 01 | 13 34 45 | 16 57 | 65 30 | | | | 845002 |
| 30054 | YATSUSHIRO | 0272 | 7 01 | 13 36 17 | | | 0 00 | 57 00 | | 845302 |
| 30055 | MITAKA | 0229 | 7 02 | 11 33 45.1 | | | 41 06 | 24 36 | | 845303 |
| 30056 | KONKO | 0224 | 7 02 | 13 18 51 | 16 15 | 30 | | | | 845002 |
| 30058 | KAGOSHIMA | 0218 | 7 03 | 13 00 46 | 16 18 | 79 06 | | | | 845002 |
| 30057 | YATSUSHIRO | 0272 | 7 03 | 13 01 00 | | | 0 00 | 40 30 | | 845302 |
| 30059 | KAGOSHIMA | 0218 | 7 03 | 13 01 19 | 17 31 | 68 06 | | | | 845002 |
| 30060 | KONKO | 0224 | 7 03 | 13 01 55 | 16 09 | 34 24 | | | | 845002 |
| 30032 | KAGOSHIMA | 0218 | 7 03 | 13 02 11 | 18 28 | 38 54 | | | | 845002 |
| 30061 | YATSUSHIRO | 0272 | 7 03 | 13 02 24 | | | 0 00 | 44 30 | | 845302 |
| 30020 | KAGOSHIMA, JAPAN | 0218 | 7 03 | 13 02 29 | 18 26 | 38 36 | | | | 845002 |
| 30063 | DAYTON | 8557 | 7 04 | 2 27 05.0 | | | 349 42 | 24 24 | | 845302 |
| 30062 | KAGOSHIMA | 0218 | 7 04 | 12 45 42 | 18 34 | 38 48 | | | | 845002 |
| 30064 | ROANOKE | 0073 | 7 06 | 15 22 48 | 18 21 00 | 37 09 | | | | 845002 |
| 30019 | CHINA LAKE, CAL. | 0098 | 7 07 | 5 08 02.6 | | | 243 42 36 | 60 31 48 | | 641303 |
| 30049 | KAGOSHIMA | 0218 | 7 12 | 12 12 13 | 11 48 | 5 06 | | | | 845002 |
| 30067 | KAGOSHIMA | 0218 | 7 14 | 11 40 58 | 11 56 | 1 12 | | | | 845002 |
| 10007 | WOOMERA'BN, AUSTR. | 9003 | 7 22 | 20 23 07.29 | 23 08 12 | -56 30 | | | | 434023 |
| 10008 | WOOMERA'BN, AUSTR. | 9003 | 7 22 | 20 27 26.51 | 2 36 24 | 22 04 | | | | 434013 |
| 30068 | SYDNEY | 0602 | 7 28 | 8 04 46.0 | 15 32 | -27 48 | | | | 845042 |
| 10006 | WOOMERA'BN, AUSTR. | 9003 | 7 29 | 9 29 29.64 | 9 39 48 | -51 36 | | | | 434023 |
| 30021 | DENVER, COLO. | 8582 | 8 03 | 11 06 24.0 | | | 112 00 | 36 00 | | 845303 |
| 30022 | CHINA LAKE, CAL. | 0098 | 8 06 | 11 25 18.5 | | | 170 36 36 | 30 21 36 | | 641303 |
| 30026 | MADISON, WISC. | 0148 | 8 13 | 7 54 21.7 | 3 53 30 | 25 27 | | | | 845042 |
| 30027 | MADISON, WISC. | 0148 | 8 15 | 7 22 08.5 | 3 41 36 | 23 57 | | | | 845042 |
| 50004 | LAREDO'RADAR, TEX. | 4012 | 8 19 | 18 34 42.0 | | | 272 54 | 18 48 | 1611 | 895307 |
| 50005 | LAREDO'RADAR, TEX. | 4012 | 8 23 | 17 24 21.3 | | | 278 06 | 25 18 | 1363 | 895307 |
| 50029 | POTSDAM, GER. | 2729 | 9 12 | 19 49 36.2 | 17 58 36 | 46 37 | | | | 834049 |
| 50030 | POTSDAM, GER. | 2729 | 9 12 | 19 50 15.3 | 18 35 12 | 62 17 | | | | 834049 |
| 50031 | POTSDAM, GER. | 2729 | 9 13 | 19 32 28.0 | 17 53 48 | 42 22 | | | | 834049 |
| 50032 | POTSDAM, GER. | 2729 | 9 13 | 19 33 23.3 | 18 52 12 | 64 00 | | | | 834049 |
| 50003 | SPOKANE, WASH. | 8142 | 9 14 | 4 01 28.1 | 19 30 35 | 87 25 | | | | 845009 |
| 50033 | POTSDAM, GER. | 2729 | 9 14 | 19 15 32.9 | 17 57 18 | 43 02 | | | | 834049 |
| 50034 | POTSDAM, GER. | 2729 | 9 14 | 19 16 25.7 | 19 01 06 | 63 37 | | | | 834049 |
| 50018 | PETROZAVODSK, USSR | 1038 | 10 07 | 18 10 49.4 | 22 55 00 | 65 00 | | | | 845009 |
| 50017 | VOLOGDA, USSR | 1014 | 10 07 | 18 10 50.1 | 16 21 00 | 75 18 | | | | 845009 |
| 50019 | ARKHANGELSK, USSR | 1004 | 10 08 | 16 10 32.9 | 0 29 | 53 36 | | | | 845009 |
| 50020 | ARKHANGELSK, USSR | 1004 | 10 08 | 16 12 28.7 | 1 08 48 | 20 48 | | | | 845009 |
| 50021 | MOSKVA, USSR | 1072 | 10 08 | 17 54 44.8 | 5 20 30 | 70 12 | | | | 845009 |
| 50022 | ULJANOVSK, USSR | 1071 | 10 19 | 14 48 16.7 | 6 52 30 | 74 06 | | | | 845009 |
| 50023 | EREVAN, USSR | 1018 | 10 24 | 15 12 51.2 | 1 17 30 | 45 18 | | | | 845009 |
| 50024 | EREVAN, USSR | 1018 | 10 24 | 15 12 57.3 | 1 14 06 | 42 48 | | | | 845009 |
| 50025 | LVOV, USSR | 1031 | 10 24 | 16 52 16.0 | 17 55 00 | 45 00 | | | | 845009 |
| 50026 | LVOV, USSR | 1031 | 10 24 | 16 53 32.9 | 20 33 00 | 14 30 | | | | 845009 |
| 50006 | LAREDO'RADAR, TEX. | 4012 | 10 28 | 15 09 26.5 | | | 249 12 | 47 36 | 1210 | 895307 |
| 50007 | LAREDO'RADAR, TEX. | 4012 | 10 31 | 14 18 19.5 | | | 233 30 00 | 52 36 00 | 1136 | 895307 |
| 50008 | LAREDO'RADAR, TEX. | 4012 | 11 04 | 13 10 00.5 | | | 205 36 | 55 24 | 1098 | 895307 |
| 50009 | LAREDO'RADAR, TEX. | 4012 | 11 07 | 23 02 13.5 | | | 292 24 00 | 34 42 00 | 1020 | 895307 |
| 50010 | LAREDO'RADAR, TEX. | 4012 | 11 19 | 19 36 43 | | | 0 24 | 41 18 | 895 | 895307 |
| 50013 | LAREDO'RADAR, TEX. | 4012 | 12 07 | 5 29 10 | | | 212 24 | 52 42 | 1038 | 895307 |
| 50011 | LAREDO'RADAR, TEX. | 4012 | 12 10 | 4 37 43 | | | 192 30 | 51 48 | 1018 | 895307 |
| 50012 | LAREDO'RADAR, TEX. | 4012 | 12 10 | 15 20 36.0 | | | 289 00 00 | 34 00 00 | 1063 | 895307 |
| 50014 | LAREDO'RADAR, TEX. | 4012 | 12 15 | 13 54 41.3 | | | 312 42 00 | 44 18 00 | 903 | 895307 |
| 50001 | LAREDO'RADAR, TEX. | 4012 | 12 19 | 12 45 56.3 | | | 338 30 00 | 46 30 00 | 883 | 895307 |
| 30025 | ROCHESTER, N.Y. | 8564 | 12 20 | 10 44 16.4 | 9 26 18 | 24 19 | | | | 845013 |
| 50015 | LAREDO'RADAR, TEX. | 4012 | 12 22 | 11 54 19.5 | | | 356 24 00 | 44 06 00 | 945 | 895307 |

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| 50016 | LAREDO RADAR, TEX. | 4012 | 12 23 | 2 41 20.5 | | | 319 48 00 | 20 30 00 | 1620 | 895307 |

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| 30001 | CHINA LAKE, CAL. | 0098 | 6 23 | 7 11 16.8 | | | 0 00 00 | 19 33 00 | | 641303 |
| 30010 | SACRAMENTO, CAL. | 8517 | 6 23 | 7 12 20 | 23 58 | 66 36 | | | | 641042 |
| 30002 | SACRAMENTO, CAL. | 8517 | 6 23 | 7 13 54.3 | 22 24 00 | 42 21 | | | | 641013 |
| 30004 | MIZUKAIDO, JAPAN | 0231 | 6 23 | 14 00 00 | | | 45 00 | 35 00 | | 845302 |
| 30003 | SENDAI, JAPAN | 0246 | 6 23 | 14 00 19 | 21 33 | 30 | | | | 845002 |
| 30085 | CHINA LAKE, CAL. | 0098 | 6 24 | 6 49 54.6 | | | 0 00 | 16 58 48 | | 641303 |
| 30012 | SACRAMENTO, CAL. | 8517 | 6 24 | 8 34 45.6 | 13 33 | 37 48 | | | | 641042 |
| 30006 | CHINA LAKE, CAL. | 0098 | 6 24 | 8 35 31.7 | | | 293 59 24 | 24 40 12 | | 641303 |
| 30011 | SACRAMENTO, CAL. | 8517 | 6 24 | 8 35 37.2 | 14 23 00 | 30 16 | | | | 641013 |
| 30179 | HANNOVER, GER. | 8601 | 6 24 | 22 01 35.0 | 16 55 30 | 62 26 | | | | 845042 |
| 30015 | HANNOVER, GER. | 8069 | 6 24 | 22 02 34.4 | 18 22 30 | 29 36 | | | | 845002 |
| 30007 | SACRAMENTO, CAL. | 8517 | 6 25 | 6 32 06.7 | 22 14 18 | 36 32 | | | | 641013 |
| 30099 | SACRAMENTO, CAL. | 8517 | 6 25 | 6 32 36.0 | 22 14 | 30 24 | | | | 641042 |
| 30014 | ALBUQUERQUE HS, N.M. | 0041 | 6 25 | 6 33 02.9 | 19 41 | 73 12 | | | | 845032 |
| 30009 | ALBUQUERQUE, N.M. | 0041 | 6 25 | 6 33 08 | 19 43 | 72 12 | | | | 845032 |
| 30008 | SACRAMENTO, CAL. | 8517 | 6 25 | 8 13 58.9 | 13 23 30 | 42 00 | | | | 641043 |
| 30035 | DAYTON, OHIO | 8557 | 6 26 | 2 44 07.3 | | | 38 00 | 13 30 | | 845303 |
| 30036 | DAYTON, OHIO | 8557 | 6 26 | 4 28 17.8 | | | 0 00 | 38 00 | | 845303 |
| 30037 | DAYTON, OHIO | 8557 | 6 26 | 4 30 24.5 | | | 60 30 | 54 40 | | 845303 |
| 50019 | SPOKANE, WASH. | 8142 | 6 26 | 6 07 22.6 | | | 0 | 46 47 24 | | 845302 |
| 30020 | ALBUQUERQUE, N.M. | 8579 | 6 26 | 6 10 41.4 | | | 0 00 | 33 18 | | 845302 |
| 30021 | SACRAMENTO, CAL. | 8517 | 6 26 | 6 11 01.3 | 22 12 24 | 36 42 | | | | 641013 |
| 30022 | SACRAMENTO, CAL. | 8517 | 6 26 | 6 12 56.4 | 21 38 12 | 14 02 | | | | 641013 |
| 30023 | CHINA LAKE, CAL. | 0098 | 6 26 | 7 53 14.3 | | | 305 03 36 | 27 19 48 | | 641303 |
| 30130 | HANNOVER, GER. | 8601 | 6 26 | 21 19 52.7 | 18 24 00 | 59 06 | | | | 845042 |
| 30038 | DAYTON, OHIO | 8557 | 6 27 | 2 23 45.8 | | | 37 00 | 11 54 | | 845303 |
| 30039 | DAYTON, OHIO | 8557 | 6 27 | 4 06 50.2 | | | 1 24 | 33 00 | | 845303 |
| 30024 | CINCINNATI, OHIO | 0050 | 6 27 | 4 09 21 | | | 55 30 | 47 | | 845302 |
| 30040 | DAYTON, OHIO | 8557 | 6 27 | 4 09 25.4 | 20 40 06 | 45 08 | | | | 845001 |
| 30041 | DAYTON, OHIO | 8557 | 6 27 | 4 11 59.0 | | | 103 49 | 36 14 | | 845303 |
| 50020 | SPOKANE, WASH. | 8142 | 6 27 | 5 46 06.9 | 3 36 15 | 84 04 | | | | 845002 |
| 30025 | ALBUQUERQUE, N.M. | 8579 | 6 27 | 5 49 20 | | | 0 00 | 27 00 | | 845302 |
| 30026 | SACRAMENTO, CAL. | 8517 | 6 27 | 5 49 48.7 | 22 09 18 | 37 01 | | | | 641013 |
| 30034 | CHINA LAKE, CAL. | 0098 | 6 27 | 5 50 18.6 | | | 48 36 00 | 22 23 24 | | 641303 |
| 30027 | SACRAMENTO, CAL. | 8517 | 6 27 | 5 50 28.8 | 21 54 54 | 30 04 | | | | 641013 |
| 30028 | SACRAMENTO, CAL. | 8517 | 6 27 | 5 50 49.6 | 21 41 48 | 23 45 | | | | 641013 |
| 30029 | SACRAMENTO, CAL. | 8517 | 6 27 | 5 51 30.4 | 21 35 36 | 18 22 | | | | 641013 |
| 30042 | DAYTON, OHIO | 8557 | 6 27 | 5 51 34.2 | | | 275 49 | 22 05 | | 845303 |
| 30043 | DAYTON, OHIO | 8557 | 6 27 | 5 52 26.5 | 14 12 | 13 45 | | | | 845043 |
| 30030 | SACRAMENTO, CAL. | 8517 | 6 27 | 7 32 17.0 | 13 44 18 | 50 10 | | | | 641013 |
| 30031 | SACRAMENTO, CAL. | 8517 | 6 27 | 7 32 32.6 | 14 11 30 | 47 34 | | | | 641012 |
| 30032 | SACRAMENTO, CAL. | 8517 | 6 27 | 7 33 27.0 | 15 37 48 | 32 54 | | | | 641013 |
| 30033 | CHINA LAKE, CAL. | 0098 | 6 27 | 7 33 36.8 | | | 290 28 48 | 43 11 24 | | 641303 |
| 30044 | ALBUQUERQUE, N.M. | 8579 | 6 28 | 5 27 53.0 | | | 0 00 | 23 12 | | 845303 |
| 30045 | SACRAMENTO, CAL. | 8517 | 6 28 | 5 28 47.6 | 22 05 12 | 37 12 | | | | 641013 |
| 30050 | CHINA LAKE, CAL. | 0098 | 6 28 | 5 29 10.6 | | | 47 19 48 | 20 10 48 | | 641303 |
| 30046 | SACRAMENTO, CAL. | 8517 | 6 28 | 5 29 55.1 | 21 39 42 | 24 53 | | | | 641013 |
| 30047 | SACRAMENTO, CAL. | 8517 | 6 28 | 5 30 25.5 | 21 31 48 | 19 54 | | | | 641013 |
| 30048 | SACRAMENTO, CAL. | 8517 | 6 28 | 7 11 35.9 | 14 27 54 | 53 13 | | | | 641013 |
| 30051 | CHINA LAKE, CAL. | 0098 | 6 28 | 7 12 35.2 | | | 298 18 36 | 47 42 36 | | 641303 |
| 30049 | SACRAMENTO, CAL. | 8517 | 6 28 | 7 12 37.4 | 16 11 06 | 34 30 | | | | 641013 |
| 30142 | KANSAS CITY | 0036 | 6 29 | 3 37 44.8 | | | 35 36 | 22 18 | | 845303 |
| 30143 | KANSAS CITY | 0036 | 6 29 | 3 38 51.5 | | | 35 36 | 22 30 | | 845302 |
| 50021 | SPOKANE, WASH. | 8142 | 6 29 | 5 03 38.0 | | | 0 | 34 41 24 | | 845309 |
| 50022 | SPOKANE, WASH. | 8142 | 6 29 | 6 51 13.2 | | | 210 24 | 33 24 | | 845309 |
| 30052 | SACRAMENTO, CAL. | 8517 | 6 29 | 6 51 19.0 | 16 13 18 | 46 26 | | | | 641013 |
| 30053 | SACRAMENTO, CAL. | 8517 | 6 29 | 6 51 28.8 | 16 27 12 | 42 29 | | | | 641013 |
| 30054 | SACRAMENTO, CAL. | 8517 | 6 29 | 6 51 36.5 | 16 38 00 | 39 21 | | | | 641013 |
| 30055 | CINCINNATI, OHIO | 0050 | 6 30 | 4 49 40 | | | 262 30 | 36 | | 845302 |
| 30056 | SACRAMENTO, CAL. | 8517 | 6 30 | 6 29 53.7 | 16 07 24 | 60 14 | | | | 641013 |
| 30057 | SACRAMENTO, CAL. | 8517 | 6 30 | 6 30 13.0 | 16 39 18 | 53 08 | | | | 641013 |
| 30058 | SACRAMENTO, CAL. | 8517 | 6 30 | 6 30 49.9 | 17 24 30 | 37 15 | | | | 641013 |
| 30059 | SACRAMENTO, CAL. | 8517 | 6 30 | 6 30 52.4 | 17 27 24 | 35 54 | | | | 641013 |
| 30060 | ALBUQUERQUE, N.M. | 8579 | 7 01 | 4 23 42.0 | | | 0 00 | 14 12 | | 845303 |
| 50024 | SPOKANE, WASH. | 8142 | 7 01 | 6 07 52.7 | | | 239 00 | 50 36 | | 845309 |
| 30061 | SACRAMENTO, CAL. | 8517 | 7 01 | 6 09 32.3 | 17 43 24 | 47 38 | | | | 641013 |
| 30062 | SACRAMENTO, CAL. | 8517 | 7 01 | 6 09 56.1 | 18 02 18 | 36 19 | | | | 641013 |
| 50023 | SPOKANE, WASH. | 8142 | 7 01 | 6 11 09.2 | | | 177 00 | 20 42 | | 845309 |
| 30064 | DAYTON, OHIO | 8557 | 7 02 | 2 24 13.5 | | | 59 00 | 28 24 | | 845303 |
| 30063 | DAYTON, OHIO | 8557 | 7 02 | 4 06 51.3 | | | 284 00 | 40 40 | | 845303 |
| 50025 | SPOKANE, WASH. | 8142 | 7 02 | 5 48 53.2 | | | 180 | 32 46 48 | | 845309 |

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| 30065 | SACRAMENTO, CAL. | 8517 | 7 02 | 5 48 54.2 | 18 29 12 | 38 47 | | | | 641013 |
| 30066 | SACRAMENTO, CAL. | 8517 | 7 02 | 5 49 09.9 | 18 34 30 | 31 32 | | | | 641013 |
| 30067 | SACRAMENTO, CAL. | 8517 | 7 02 | 5 49 39.8 | 18 41 24 | 19 17 | | | | 641013 |
| 30068 | SACRAMENTO, CAL. | 8517 | 7 02 | 5 49 48.8 | 18 44 18 | 15 48 | | | | 641013 |
| 30072 | ASAHIKAWA, JAPAN | 0201 | 7 02 | 12 33 21 | 14 35 | 27 | | | | 845002 |
| 10001 | TOKYO-BN | 9005 | 7 02 | 12 34 12.80 | 16 28 00 | 66 37 | | | | 434013 |
| 30071 | MITAKA, JAPAN | 0229 | 7 02 | 12 34 29.4 | | | 6 36 | 65 00 | | 845303 |
| 30073 | SENDAI, JAPAN | 0246 | 7 02 | 12 34 44 | 16 34 | 36 | | | | 845002 |
| 30074 | KONKO, JAPAN | 0224 | 7 02 | 12 34 52 | | | 60 00 | 43 30 | | 845302 |
| 30075 | HIGASHIMATSUYAMA, JAP | 0210 | 7 02 | 12 35 04.5 | 17 39 | 42 36 | | | | 845003 |
| 30078 | ASAHIKAWA, JAPAN | 0201 | 7 03 | 12 12 24 | 14 53 | 30 | | | | 845002 |
| 30076 | MITAKA, JAPAN | 0229 | 7 03 | 12 13 15.4 | | | 14 18 | 56 18 | | 845302 |
| 10002 | TOKYO-BN, JAPAN | 9005 | 7 03 | 12 14 57.00 | 18 32 12 | 22 26 | | | | 434013 |
| 30077 | KONKO, JAPAN | 0224 | 7 03 | 12 15 09 | | | 90 00 | 32 00 | | 845302 |
| 30069 | DAYTON, OHIO | 8557 | 7 04 | 3 22 44.1 | | | 318 36 | 25 30 | | 845302 |
| 30070 | DAYTON, OHIO | 8557 | 7 04 | 3 26 47.0 | | | 209 24 | 55 42 | | 845302 |
| 30079 | SAPPORO, JAPAN | 0245 | 7 04 | 11 51 25 | 15 37 | 40 48 | | | | 845002 |
| 30141 | ROANOKE | 0073 | 7 05 | 16 15 | 35 18 | 83 12 | | | | 845002 |
| 30144 | ROANOKE | 0073 | 7 06 | 16 22 12 | 3 33 00 | 82 15 | | | | 845002 |
| 30080 | MITAKA, JAPAN | 0229 | 7 06 | 12 12 31.7 | | | 257 00 | 29 00 | | 845302 |
| 30082 | KAGOSHIMA, JAPAN | 0218 | 7 09 | 11 51 31 | 14 59 | 47 | | | | 845002 |
| 30081 | MIYAZAKI, JAPAN | 0230 | 7 09 | 11 53 28 | 16 25 | -7 | | | | 845002 |
| 10003 | TOKYO-BN, JAPAN | 9005 | 7 10 | 11 28 13.30 | 10 15 00 | 39 12 | | | | 434013 |
| 30083 | KAGOSHIMA, JAPAN | 0218 | 7 10 | 11 30 23 | 15 35 | 55 | | | | 845002 |
| 30086 | KAGOSHIMA, JAPAN | 0218 | 7 10 | 11 31 58 | 16 54 | 9 36 | | | | 845002 |
| 30084 | MIYAZAKI, JAPAN | 0230 | 7 10 | 11 32 12 | 16 40 | 1 12 | | | | 845002 |
| 30087 | KAGOSHIMA, JAPAN | 0218 | 7 10 | 11 33 43 | 17 33 | -22 06 | | | | 845002 |
| 30085 | MIYAZAKI, JAPAN | 0230 | 7 10 | 11 33 49 | 17 19 | -25 00 | | | | 845002 |
| 30090 | KAGOSHIMA, JAPAN | 0218 | 7 11 | 11 09 44 | 16 37 30 | 49 00 | | | | 845002 |
| 30089 | KONKO, JAPAN | 0224 | 7 11 | 11 10 05 | 15 20 | 13 42 | | | | 845002 |
| 30091 | KAGOSHIMA, JAPAN | 0218 | 7 11 | 11 11 18 | 17 26 | 3 54 | | | | 845002 |
| 30088 | NAGOYA, JAPAN | 0236 | 7 11 | 11 11 44 | | | 180 | 35 | | 845302 |
| 30092 | KAGOSHIMA, JAPAN | 0218 | 7 11 | 11 12 14 | 17 39 | -13 00 | | | | 845002 |
| 30093 | KAGOSHIMA, JAPAN | 0218 | 7 12 | 10 50 25 | 17 44 | 3 18 | | | | 845002 |
| 30095 | KAGOSHIMA, JAPAN | 0218 | 7 13 | 12 10 28 | 11 12 | 6 18 | | | | 845002 |
| 30094 | KAGOSHIMA, JAPAN | 0218 | 7 13 | 12 13 13 | 12 31 | -23 24 | | | | 845002 |
| 30096 | KAGOSHIMA, JAPAN | 0218 | 7 14 | 11 52 41 | 12 41 | -28 06 | | | | 845002 |
| 30097 | KAGOSHIMA, JAPAN | 0218 | 7 14 | 11 53 43 | 13 08 | -37 36 | | | | 845002 |
| 30098 | KAGOSHIMA, JAPAN | 0218 | 7 15 | 11 31 13 | 12 28 | -23 42 | | | | 845002 |
| 10004 | WOOMERA-BN | 9003 | 7 18 | 19 37 26.89 | 7 33 12 | -48 51 | | | | 434023 |
| 10005 | WOOMERA-BN | 9003 | 7 18 | 19 41 07.78 | 6 10 00 | -13 50 | | | | 434013 |
| 50029 | LAREDO-RADAR, TEX. | 4012 | 7 30 | 23 09 54.5 | | | 272 30 | 20 42 | 1611 | 895307 |
| 50026 | LAREDO-RADAR | 4012 | 8 01 | 22 27 47.3 | | | 277 54 | 28 00 | 1345 | 895307 |
| 50027 | LAREDO-RADAR, TEX. | 4012 | 8 02 | 20 25 12.5 | | | 78 06 | 15 42 | 1828 | 895307 |
| 50028 | LAREDO-RADAR, TEX. | 4012 | 8 02 | 22 06 42.8 | | | 282 06 | 32 18 | 1228 | 895307 |
| 50031 | POTSDAM, GER. | 2729 | 8 10 | 1 58 22.3 | 3 23 54 | 8 00 | | | | 834009 |
| 50032 | POTSDAM, GER. | 2729 | 8 10 | 1 58 44.7 | 3 42 30 | 11 24 | | | | 834009 |
| 50033 | POTSDAM, GER. | 2729 | 8 10 | 1 59 10.1 | 4 02 06 | 14 36 | | | | 834009 |
| 50034 | RODEWISCH, GER. | 2733 | 8 11 | 1 36 37.6 | 3 07 54 | 4 48 | | | | 834009 |
| 50035 | RODEWISCH, GER. | 2733 | 8 11 | 1 36 48.3 | 3 14 42 | 6 00 | | | | 834009 |
| 30136 | KAGOSHIMA, JAPAN | 0218 | 8 13 | 17 46 20.0 | 23 44 | 66 30 | | | | 845002 |
| 30135 | SAPPORO, JAPAN | 0245 | 8 13 | 17 50 00 | 22 10 | 70 | | | | 845002 |
| 50036 | RODEWISCH, GER. | 2733 | 8 14 | 2 16 58.5 | 0 04 36 | 32 12 | | | | 834009 |
| 50037 | RODEWISCH, GER. | 2733 | 8 14 | 2 17 30 | 0 18 18 | 36 36 | | | | 834009 |
| 30137 | YATSUSHIRO, JAPAN | 0272 | 8 14 | 17 26 27 | | | 18 00 | 42 00 | | 845302 |
| 30138 | MUSASHINO, JAPAN | 0233 | 8 15 | 17 05 14.4 | | | 315 | 57 | | 845302 |
| 30140 | HIGASHIMATSUYAMA, JAP | 0210 | 8 15 | 17 06 02.7 | 21 39 | 68 12 | | | | 845003 |
| 30139 | SAPPORO, JAPAN | 0245 | 8 15 | 17 07 34 | 23 23 | 62 | | | | 845002 |
| 50038 | LAREDO-RADAR, TEX. | 4012 | 8 24 | 16 06 54.0 | | | 7 24 | 42 24 | 911 | 895307 |
| 50049 | FARNHAM, ENG. | 8048 | 9 04 | 22 01 09.6 | 23 13 06 | 58 54 | | | | 845009 |
| 50039 | LAREDO-RADAR, TEX. | 4012 | 9 15 | 11 49 46.7 | | | 280 12 | 27 54 | 1270 | 895307 |
| 50040 | LAREDO-RADAR, TEX. | 4012 | 9 17 | 11 07 27.2 | | | 292 42 | 35 18 | 1062 | 895307 |
| 50041 | LAREDO-RADAR, TEX. | 4012 | 9 18 | 0 03 58.5 | | | 167 54 | 55 12 | 1172 | 895307 |
| 16001 | HARVESTUA, NORWAY | 9115 | 9 18 | 20 36 12.44 | 13 43 30 | 74 01 | | | | 434013 |
| 16002 | HARVESTUA, NORWAY | 9115 | 9 18 | 20 36 16.44 | 13 29 12 | 75 17 | | | | 434013 |
| 16003 | HARVESTUA, NORWAY | 9115 | 9 18 | 20 36 24.45 | 12 51 00 | 77 35 | | | | 434013 |
| 16004 | HARVESTUA, NORWAY | 9115 | 9 26 | 21 14 23.56 | 6 16 42 | 70 16 | | | | 434013 |
| 16005 | HARVESTUA, NORWAY | 9115 | 9 26 | 21 14 27.56 | 6 04 24 | 69 01 | | | | 434013 |

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| 16076 | HARVESTUA, NORWAY | 9115 | 9 26 | 21 14 31.56 | 5 52 54 | 67 38 | | | | 434013 |
| 50052 | PULKOVO, USSR | 1039 | 10 01 | 17 46 54.7 | 12 13 06 | 55 12 | | | | 845009 |
| 50053 | PULKOVO, USSR | 1039 | 10 01 | 17 47 58.5 | 9 38 18 | 68 30 | | | | 845009 |
| 50050 | VOLOGDA, USSR | 1014 | 10 01 | 17 50 30.0 | 5 11 00 | 59 24 | | | | 845009 |
| 50051 | RIGA, USSR | 1040 | 10 01 | 19 30 50.2 | 12 08 30 | 57 18 | | | | 845009 |
| 50058 | PULKOVO, USSR | 1039 | 10 03 | 17 05 27.8 | 9 37 | 67 30 | | | | 845009 |
| 50056 | VOLOGDA, USSR | 1014 | 10 03 | 17 06 24.7 | 10 27 30 | 64 36 | | | | 845009 |
| 50059 | PULKOVO, USSR | 1039 | 10 03 | 17 06 31.9 | 3 55 30 | 50 24 | | | | 845009 |
| 50057 | VOLOGDA, USSR | 1014 | 10 03 | 17 07 15.4 | 7 24 54 | 68 42 | | | | 845009 |
| 50054 | UFA, USSR | 1057 | 10 03 | 17 09 04.6 | 9 20 00 | 63 48 | | | | 845009 |
| 50055 | UFA, USSR | 1057 | 10 03 | 17 09 52.3 | 7 06 00 | 62 06 | | | | 845009 |
| 50060 | TARTU, USSR | 1051 | 10 03 | 18 51 16.1 | 4 13 30 | 53 12 | | | | 845009 |
| 50061 | RIGA, USSR | 1040 | 10 07 | 19 09 37.8 | 6 50 00 | 88 36 | | | | 845009 |
| 50042 | LAREDO RADAR, TEX. | 4012 | 10 08 | 5 27 11 | | | 14 06 | 36 54 | 913 | 895307 |
| 50062 | KRASNOIARSK, USSR | 1026 | 10 08 | 13 44 34.9 | 4 03 | 53 36 | | | | 845009 |
| 50069 | PULKOVO, USSR | 1039 | 10 08 | 17 02 56.8 | 11 37 30 | 55 36 | | | | 845009 |
| 50065 | ARKHANGELSK, USSR | 1004 | 10 08 | 17 03 18.4 | 14 42 18 | 40 42 | | | | 845009 |
| 50070 | PULKOVO, USSR | 1039 | 10 08 | 17 04 44.3 | 5 31 00 | 71 36 | | | | 845009 |
| 50063 | KAZAN, USSR | 1076 | 10 08 | 17 06 52.8 | 9 12 | 77 18 | | | | 845009 |
| 50066 | ARKHANGELSK, USSR | 1004 | 10 08 | 17 07 17.1 | 23 57 | 25 00 | | | | 845009 |
| 50064 | KAZAN, USSR | 1076 | 10 08 | 17 07 26.8 | 4 56 | 74 12 | | | | 845009 |
| 50067 | IRKUTSK, USSR | 1066 | 10 09 | 11 40 57.5 | 16 57 00 | 56 48 | | | | 845009 |
| 50068 | IRKUTSK, USSR | 1066 | 10 09 | 11 42 14.6 | 21 45 00 | 49 00 | | | | 845009 |
| 50043 | LAREDO RADAR, TEX. | 4012 | 10 11 | 4 26 12.0 | | | 94 36 00 | 23 42 00 | 1250 | 895307 |
| 50071 | RIGA, USSR | 1040 | 10 12 | 17 23 17.9 | 8 15 12 | 72 42 | | | | 845009 |
| 50072 | RIGA, USSR | 1040 | 10 12 | 17 24 17.0 | 3 38 00 | 64 36 | | | | 845009 |
| 50030 | FARNHAM, ENG. | 8048 | 10 12 | 19 06 28.6 | 4 54 18 | 53 24 | | | | 845009 |
| 50073 | SVERDLOVSK, USSR | 1045 | 10 13 | 15 23 36.7 | 0 52 54 | 50 54 | | | | 845009 |
| 50077 | RIGA, USSR | 1040 | 10 13 | 17 01 55.0 | 8 36 00 | 69 30 | | | | 845009 |
| 50076 | KAZAN, USSR | 1076 | 10 13 | 17 05 10.9 | 17 43 | 53 48 | | | | 845009 |
| 50075 | KAZAN, USSR | 1020 | 10 13 | 17 05 28.7 | 18 32 00 | 52 12 | | | | 845009 |
| 50074 | NOVOSIBIRSK, USSR | 1035 | 10 13 | 20 41 58.5 | 2 36 | 54 42 | | | | 845009 |
| 50078 | SVERDLOVSK, USSR | 1045 | 10 14 | 15 02 07.7 | 1 14 00 | 60 12 | | | | 845009 |
| 50079 | SVERDLOVSK, USSR | 1045 | 10 14 | 15 02 18.2 | 1 08 00 | 50 00 | | | | 845009 |
| 50080 | TARTU, USSR | 1051 | 10 14 | 16 41 46.3 | 3 28 30 | 73 12 | | | | 845009 |
| 50081 | TARTU, USSR | 1051 | 10 14 | 16 42 47.1 | 1 33 00 | 48 30 | | | | 845009 |
| 50101 | PULKOVO, USSR | 1039 | 10 16 | 15 59 30.4 | 2 03 00 | 81 24 | | | | 845009 |
| 50082 | IRKUTSK, USSR | 1066 | 10 17 | 10 35 39.3 | 16 42 00 | 34 12 | | | | 845009 |
| 50083 | BLAGOVESTCHENSK, USSR | 1010 | 10 17 | 10 37 33.1 | 7 22 00 | 80 54 | | | | 845009 |
| 50084 | BLAGOVESTCHENSK, USSR | 1010 | 10 17 | 10 38 56.0 | 1 18 00 | 51 24 | | | | 845009 |
| 50085 | IRKUTSK, USSR | 1079 | 10 17 | 12 16 57.4 | 16 55 | 81 48 | | | | 845009 |
| 50086 | IRKUTSK, USSR | 1079 | 10 17 | 12 17 29.6 | 22 08 | 71 48 | | | | 845009 |
| 50095 | MOSKVA, USSR | 1072 | 10 17 | 15 40 02.1 | 2 34 30 | 62 30 | | | | 845009 |
| 50089 | ULJANOVSK, USSR | 1071 | 10 17 | 15 40 12.1 | 12 37 30 | 76 30 | | | | 845009 |
| 50096 | MOSKVA, USSR | 1072 | 10 17 | 15 40 23.4 | 1 57 18 | 54 30 | | | | 845009 |
| 50087 | SARATOV, USSR | 1044 | 10 17 | 15 40 36.1 | | | 182 48 | 35 36 | | 845309 |
| 50088 | SARATOV, USSR | 1044 | 10 17 | 15 41 46.4 | | | 219 54 | 43 06 | | 845309 |
| 50099 | OMSK, USSR | 1037 | 10 18 | 13 38 14.4 | 0 55 00 | 86 48 | | | | 845009 |
| 50100 | OMSK, USSR | 1037 | 10 18 | 13 39 53.8 | 0 02 24 | 34 18 | | | | 845009 |
| 50097 | VOLOGDA, USSR | 1014 | 10 18 | 15 18 21.9 | 22 17 30 | 78 12 | | | | 845009 |
| 50098 | VOLOGDA, USSR | 1014 | 10 18 | 15 19 34.6 | 23 30 00 | 39 24 | | | | 845009 |
| 50104 | PULKOVO, USSR | 1039 | 10 18 | 17 01 26.7 | 18 48 00 | 32 30 | | | | 845009 |
| 50105 | PULKOVO, USSR | 1039 | 10 18 | 17 01 33.9 | 19 02 30 | 30 48 | | | | 845009 |
| 50102 | KIEV, USSR | 1023 | 10 18 | 17 03 01.1 | 23 14 00 | 75 06 | | | | 845009 |
| 50103 | KIEV, USSR | 1023 | 10 18 | 17 03 03.6 | 23 18 06 | 73 42 | | | | 845009 |
| 50106 | BLAGOVESTCHENSK, USSR | 1010 | 10 19 | 9 55 47.8 | 3 11 00 | 66 24 | | | | 845009 |
| 50107 | BLAGOVESTCHENSK, USSR | 1010 | 10 19 | 9 56 30.6 | 1 48 00 | 50 36 | | | | 845009 |
| 50108 | IRKUTSK, USSR | 1079 | 10 19 | 11 38 03.8 | 1 21 | 43 18 | | | | 845009 |
| 50111 | NOVOSIBIRSK, USSR | 1035 | 10 19 | 13 17 06.4 | 13 40 00 | 52 30 | | | | 845009 |
| 50117 | OMSK, USSR | 1037 | 10 19 | 13 17 58.1 | 0 27 00 | 56 24 | | | | 845009 |
| 50118 | OMSK, USSR | 1037 | 10 19 | 13 18 22.4 | 0 16 12 | 44 18 | | | | 845009 |
| 50113 | NOVOSIBIRSK, USSR | 1035 | 10 19 | 13 18 40.9 | 20 15 36 | 63 18 | | | | 845009 |
| 50112 | NOVOSIBIRSK, USSR | 1035 | 10 19 | 13 18 44.2 | 14 11 42 | 56 30 | | | | 845009 |
| 50114 | NOVOSIBIRSK, USSR | 1035 | 10 19 | 13 19 38.4 | 22 15 | 32 00 | | | | 845009 |
| 50115 | NOVOSIBIRSK, USSR | 1035 | 10 19 | 13 19 38.6 | 22 15 | 32 00 | | | | 845009 |
| 50116 | NOVOSIBIRSK, USSR | 1035 | 10 19 | 13 20 43.0 | 22 45 | 1 30 | | | | 845009 |
| 50119 | LVOV, USSR | 1031 | 10 19 | 16 40 21.7 | 6 16 00 | 70 24 | | | | 845009 |
| 50120 | LVOV, USSR | 1031 | 10 19 | 16 41 27.3 | 2 45 30 | 58 24 | | | | 845009 |
| 50109 | TCHERNOVITSY, USSR | 1062 | 10 19 | 16 41 38.3 | 3 32 | 63 12 | | | | 845009 |
| 50110 | TCHERNOVITSY, USSR | 1062 | 10 19 | 16 42 19.0 | 2 17 12 | 50 06 | | | | 845009 |
| 50121 | BLAGOVESTCHENSK, USSR | 1010 | 10 20 | 9 33 45.4 | 6 22 00 | 70 30 | | | | 845009 |
| 50122 | SVERDLOVSK, USSR | 1045 | 10 20 | 14 38 44.0 | 18 54 00 | 42 48 | | | | 845009 |
| 50123 | SVERDLOVSK, USSR | 1045 | 10 20 | 14 41 30.3 | 22 19 00 | - 6 30 | | | | 845009 |
| 50126 | KOMSOMOLSK, USSR | 1025 | 10 23 | 8 31 14.1 | 6 57 24 | 78 54 | | | | 845009 |
| 50127 | KOMSOMOLSK, USSR | 1025 | 10 23 | 8 31 41.2 | 3 07 36 | 77 18 | | | | 845009 |
| 50128 | IRKUTSK, USSR | 1079 | 10 24 | 11 34 05.9 | 15 34 30 | 35 54 | | | | 845009 |
| 50129 | IRKUTSK, USSR | 1079 | 10 24 | 11 34 42.5 | 16 39 30 | 31 18 | | | | 845009 |
| 50124 | EREVAN, USSR | 1018 | 10 24 | 15 00 08.8 | 1 20 00 | 45 12 | | | | 845009 |
| 50125 | EREVAN, USSR | 1018 | 10 24 | 15 00 34.5 | 1 01 12 | 35 12 | | | | 845009 |

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| 50135 | LVOV, USSR | 1031 | 10 24 | 16 40 09.6 | 19 58 00 | 27 30 | | | | 845009 |
| 50136 | LVOV, USSR | 1031 | 10 24 | 16 40 17.0 | 20 11 00 | 24 06 | | | | 845009 |
| 50132 | IRKUTSK, USSR | 1079 | 10 25 | 11 17 31.2 | 19 18 42 | 15 00 | | | | 845009 |
| 50130 | BLAGOVESTCHENSK, USSR | 1010 | 10 26 | 9 13 25.1 | 21 21 00 | 6 54 | | | | 845009 |
| 50131 | BLAGOVESTCHENSK, USSR | 1010 | 10 26 | 9 14 07.5 | 21 43 30 | - 5 00 | | | | 845009 |
| 50137 | IRKUTSK, USSR | 1079 | 10 26 | 10 52 51.0 | 17 31 30 | 34 36 | | | | 845009 |
| 50138 | IRKUTSK, USSR | 1079 | 10 26 | 10 53 12.4 | 18 20 00 | 29 18 | | | | 845009 |
| 50140 | ACHKHABAD, USSR | 1006 | 10 26 | 14 18 19.5 | 14 10 00 | 70 18 | | | | 845009 |
| 50139 | ACHKHABAD, USSR | 1006 | 10 26 | 14 18 28.9 | 15 18 00 | 74 18 | | | | 845009 |
| 50141 | ACHKHABAD, USSR | 1006 | 10 26 | 14 18 43.8 | 18 55 00 | 72 48 | | | | 845009 |
| 50142 | ACHKHABAD, USSR | 1006 | 10 26 | 14 22 51.9 | 21 59 54 | 24 48 | | | | 845009 |
| 50143 | EREVAN, USSR | 1018 | 10 27 | 15 40 17.8 | 17 32 12 | 9 30 | | | | 845009 |
| 50144 | EREVAN, USSR | 1018 | 10 27 | 15 40 22.2 | 17 37 24 | 8 00 | | | | 845009 |
| 50145 | ABASTUMANI, USSR | 1003 | 11 12 | 2 53 20.1 | 5 32 48 | 26 54 | | | | 845009 |
| 50146 | ABASTUMANI, USSR | 1003 | 11 12 | 2 55 08.3 | 4 29 00 | 72 30 | | | | 845009 |
| 50044 | LAREDO*RADAR, TEX. | 4012 | 11 12 | 21 56 04.5 | | | 278 48 | 26 12 | 1260 | 895307 |
| 50152 | TACHKENT, USSR | 1052 | 11 13 | 0 51 29.7 | 5 25 00 | 47 36 | | | | 845009 |
| 50153 | TACHKENT, USSR | 1052 | 11 13 | 0 51 55.4 | 5 22 30 | 56 42 | | | | 845009 |
| 50154 | EREVAN, USSR | 1018 | 11 13 | 2 33 06.3 | 4 39 30 | 52 06 | | | | 845009 |
| 50155 | EREVAN, USSR | 1018 | 11 13 | 2 33 09.9 | 4 37 48 | 53 00 | | | | 845009 |
| 50156 | ULAN UDE, USSR | 1056 | 11 13 | 22 52 37.9 | 5 39 12 | 50 00 | | | | 845009 |
| 50149 | EREVAN, USSR | 1018 | 11 14 | 2 11 54.4 | 5 02 06 | 54 18 | | | | 845009 |
| 50150 | EREVAN, USSR | 1018 | 11 14 | 2 12 12.5 | 4 53 54 | 61 54 | | | | 845009 |
| 50148 | ORENBURGH, USSR | 1063 | 11 14 | 2 13 59.6 | 5 57 30 | 20 12 | | | | 845009 |
| 50147 | ORENBURGH, USSR | 1063 | 11 14 | 2 14 07.2 | 5 58 00 | 48 00 | | | | 845009 |
| 50151 | ULJANOVSK, USSR | 1071 | 11 14 | 2 14 38.2 | 8 54 48 | 28 18 | | | | 845009 |
| 30100 | SACRAMENTO, CAL. | 8517 | 11 14 | 12 18 44.8 | 10 16 30 | 40 07 | | | | 641013 |
| 50158 | ULAN UDE, USSR | 1056 | 11 14 | 22 31 52.3 | 5 59 30 | 63 42 | | | | 845009 |
| 50159 | ULAN UDE, USSR | 1056 | 11 14 | 22 32 36.9 | 21 22 00 | 76 54 | | | | 845009 |
| 50162 | SAMARKAND, USSR | 1043 | 11 15 | 0 09 38.5 | 6 46 42 | 46 30 | | | | 845009 |
| 50160 | EREVAN, USSR | 1018 | 11 15 | 1 50 24.2 | 5 33 30 | 47 48 | | | | 845009 |
| 50161 | EREVAN, USSR | 1018 | 11 15 | 1 50 43.3 | 5 35 00 | 56 24 | | | | 845009 |
| 50157 | ORENBURGH, USSR | 1063 | 11 15 | 1 54 11.3 | 6 23 30 | 56 00 | | | | 845009 |
| 30101 | SACRAMENTO, CAL. | 8517 | 11 16 | 13 23 46.0 | | | 0 00 | 11 10 | | 641304 |
| 50167 | ABAKAN, USSR | 1001 | 11 16 | 23 31 15.6 | 5 03 00 | 41 12 | | | | 845009 |
| 50168 | KRASNOIARSK, USSR | 1026 | 11 16 | 23 31 45.1 | 5 43 00 | 39 12 | | | | 845009 |
| 50169 | KRASNOIARSK, USSR | 1026 | 11 16 | 23 33 30.6 | 23 30 | 89 12 | | | | 845009 |
| 50163 | ORENBURGH, USSR | 1063 | 11 17 | 1 12 01.4 | 7 58 00 | 61 06 | | | | 845009 |
| 50164 | SVERDLOVSK, USSR | 1045 | 11 17 | 1 12 22.4 | 7 07 30 | 27 12 | | | | 845009 |
| 50165 | SVERDLOVSK, USSR | 1045 | 11 17 | 1 12 32.6 | 7 25 12 | 31 54 | | | | 845009 |
| 50170 | VOLOGDA, USSR | 1014 | 11 17 | 2 53 56.6 | 6 52 00 | 15 54 | | | | 845009 |
| 50171 | VOLOGDA, USSR | 1014 | 11 17 | 2 55 40.0 | 8 34 12 | 53 42 | | | | 845009 |
| 50166 | SYKTYVKAR, USSR | 1049 | 11 17 | 3 16 16.7 | 7 31 30 | 16 06 | | | | 845009 |
| 50172 | VOLOGDA, USSR | 1014 | 11 19 | 2 12 55.7 | 8 24 42 | 40 18 | | | | 845009 |
| 50173 | VOLOGDA, USSR | 1014 | 11 19 | 2 13 37.2 | 10 14 48 | 54 06 | | | | 845009 |
| 50045 | LAREDO*RADAR, TEX. | 4012 | 11 19 | 19 27 21.5 | | | 359 12 | 43 30 | 868 | 895307 |
| 50174 | IRKUTSK, USSR | 1066 | 11 25 | 20 26 45.4 | 2 30 00 | 92 18 | | | | 845009 |
| 50046 | LAREDO*RADAR, TEX. | 4012 | 12 07 | 14 48 43.5 | | | 25 36 00 | 29 06 00 | 1177 | 895307 |
| 50003 | ULAN UDE, USSR | 1056 | 12 10 | 23 48 35.5 | 10 01 06 | -22 24 | | | | 845009 |
| 50004 | ULAN UDE, USSR | 1056 | 12 10 | 23 49 00.1 | 11 14 42 | -24 42 | | | | 845009 |
| 50002 | BLAGOVESTCHENSK, USSR | 1010 | 12 11 | 21 45 01.8 | 10 29 00 | 84 36 | | | | 845009 |
| 50005 | VILNIUS, USSR | 1012 | 12 12 | 21 24 06.4 | 14 57 00 | 75 18 | | | | 845009 |
| 50006 | BLAGOVESTCHENSK, USSR | 1010 | 12 12 | 21 25 34.1 | 14 42 00 | 26 54 | | | | 845009 |
| 50007 | BLAGOVESTCHENSK, USSR | 1010 | 12 13 | 21 02 18.6 | 20 31 00 | 80 36 | | | | 845009 |
| 50008 | BLAGOVESTCHENSK, USSR | 1010 | 12 13 | 21 03 32.7 | 15 10 00 | 50 06 | | | | 845009 |
| 50017 | UFA, USSR | 1057 | 12 15 | 1 45 36.9 | 10 25 00 | 49 06 | | | | 845009 |
| 50018 | UFA, USSR | 1057 | 12 15 | 1 45 42.8 | 10 40 06 | 50 00 | | | | 845009 |
| 50014 | ASHKHABAD, USSR | 1006 | 12 15 | 1 47 37.6 | 20 44 00 | 69 18 | | | | 845009 |
| 50015 | ASHKHABAD, USSR | 1006 | 12 15 | 1 49 16.6 | 17 08 00 | 49 48 | | | | 845009 |
| 50011 | SAMARKAND, USSR | 1043 | 12 15 | 1 49 20.1 | 11 42 18 | 74 00 | | | | 845009 |
| 50016 | ASHKHABAD, USSR | 1006 | 12 15 | 1 49 26.0 | 17 00 00 | 47 06 | | | | 845009 |
| 50012 | SAMARKAND, USSR | 1043 | 12 15 | 1 50 07.6 | 13 20 30 | 48 48 | | | | 845009 |
| 50013 | SAMARKAND, USSR | 1043 | 12 15 | 1 50 12.2 | 13 24 12 | 45 24 | | | | 845009 |
| 50047 | LAREDO*RADAR, TEX. | 4012 | 12 15 | 3 01 27 | | | 164 24 | 45 00 | 1100 | 895307 |
| 50009 | NIKOLAEV, USSR | 1077 | 12 15 | 3 27 42.0 | 22 17 36 | 86 00 | | | | 845009 |
| 50010 | NIKOLAEV, USSR | 1077 | 12 15 | 3 29 45.4 | 14 34 54 | 7 42 | | | | 845009 |
| 50175 | EREVAN, USSR | 1018 | 12 16 | 3 09 32.3 | 9 35 00 | 68 30 | | | | 845009 |
| 50176 | EREVAN, USSR | 1018 | 12 16 | 3 10 05.5 | 11 21 48 | 55 00 | | | | 845009 |
| 30103 | CINCINNATI, OHIO | 0050 | 12 18 | 9 11 42 | 16 24 30 | 25 56 | | | | 845004 |
| 30104 | CINCINNATI, OHIO | 0050 | 12 18 | 10 54 41 | | | 55 18 | 50 12 | | 845302 |
| 30102 | SACRAMENTO, CAL. | 8517 | 12 18 | 12 35 35.8 | 16 37 42 | 39 14 | | | | 641013 |
| 50001 | LAREDO*RADAR, TEX. | 4012 | 12 19 | 12 17 31.5 | | | 8 42 00 | 41 24 00 | 931 | 895307 |
| 30105 | SACRAMENTO, CAL. | 8517 | 12 19 | 13 59 25.4 | 11 06 54 | -16 08 | | | | 641013 |
| 30107 | CINCINNATI, OHIO | 0050 | 12 22 | 0 36 03.2 | | | 168 12 | 25 24 | | 845302 |

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| 30106 | CHINA LAKE, CAL. | 0098 | 12 22 | 2 16 50.8 | | | 135 55 12 | 23 45 36 | | 641303 |
| 50048 | LAREDO*RADAR, TEX. | 4012 | 12 23 | 1 53 17.5 | | | 232 36 00 | 18 36 00 | 1772 | 895307 |
| 30108 | N. CANTON, OHIO | 8565 | 12 23 | 23 55 55.0 | 2 49 15 | - 4 15 | | | | 845013 |
| 30109 | CHINA LAKE, CAL. | 8588 | 12 24 | 1 35 45.0 | | | 109 19 48 | 19 49 48 | | 845303 |
| 30110 | CHINA LAKE, CAL. | 8588 | 12 24 | 3 18 18.7 | | | 263 28 48 | 35 19 12 | | 845303 |
| 30131 | ALBUQUERQUE, N.MEX. | 8534 | 12 25 | 1 14 35.7 | 2 17 00 | - 4 24 | | | | 845042 |
| 30132 | ALBUQUERQUE, N.MEX. | 8534 | 12 25 | 1 15 58.5 | 3 47 12 | 22 00 | | | | 845042 |
| 30111 | CHINA LAKE, CAL. | 8588 | 12 25 | 2 58 25.1 | | | 302 59 24 | 49 13 12 | | 845303 |
| 30112 | CINCINNATI, OHIO | 0050 | 12 25 | 23 13 26.7 | | | 111 00 | 22 54 | | 845302 |
| 30113 | N. CANTON, OHIO | 8565 | 12 26 | 0 56 32.9 | 21 13 24 | 14 57 | | | | 845013 |
| 50182 | SAMARKAND, USSR | 1043 | 12 27 | 14 06 49.2 | 22 28 54 | 54 24 | | | | 845009 |
| 50183 | SAMARKAND, USSR | 1043 | 12 27 | 14 07 52.1 | 0 03 42 | 83 36 | | | | 845009 |
| 30114 | CINCINNATI, OHIO | 0050 | 12 28 | 0 14 49.0 | | | 304 36 | 51 00 | | 845302 |
| 30120 | N. CANTON, OHIO | 8565 | 12 28 | 0 16 01.2 | 20 24 40 | 58 25 | | | | 845013 |
| 30115 | ROCHESTER, N.Y. | 8564 | 12 28 | 0 16 26.8 | 20 29 12 | 46 10 | | | | 845012 |
| 30116 | ROCHESTER, N.Y. | 8564 | 12 28 | 0 16 52.2 | 20 02 36 | 56 01 | | | | 845013 |
| 30117 | SACRAMENTO, CAL. | 8517 | 12 28 | 1 54 50.2 | 1 58 36 | 22 22 | | | | 641013 |
| 30118 | SACRAMENTO, CAL. | 8517 | 12 28 | 1 55 02.1 | 2 16 54 | 27 02 | | | | 641013 |
| 30119 | SACRAMENTO, CAL. | 8517 | 12 28 | 1 55 09.5 | 2 28 30 | 29 47 | | | | 641013 |
| 30133 | ALBUQUERQUE, N.MEX. | 8534 | 12 28 | 1 56 00.8 | 19 35 00 | 48 24 | | | | 845042 |
| 30134 | ALBUQUERQUE, N.MEX. | 8534 | 12 28 | 1 56 03.8 | 19 32 48 | 49 12 | | | | 845043 |
| 50180 | UJGOROD, USSR | 1055 | 12 28 | 17 09 31.2 | 23 07 30 | 14 12 | | | | 845009 |
| 50181 | UJGOROD, USSR | 1055 | 12 28 | 17 11 05.4 | 0 50 00 | 60 54 | | | | 845009 |
| 30121 | SACRAMENTO, CAL. | 8517 | 12 29 | 1 33 29.5 | 2 05 06 | 14 36 | | | | 641013 |
| 30122 | SACRAMENTO, CAL. | 8517 | 12 29 | 1 33 42.1 | 2 22 24 | 19 14 | | | | 641013 |
| 50178 | BLAGOVESTCHENSK, USSR | 1010 | 12 29 | 10 03 14.1 | 23 05 00 | 9 00 | | | | 845009 |
| 50179 | BLAGOVESTCHENSK, USSR | 1010 | 12 29 | 10 04 31.1 | 0 02 00 | 41 48 | | | | 845009 |
| 50177 | SAMARKAND, USSR | 1043 | 12 29 | 13 21 51.7 | 23 50 54 | 42 30 | | | | 845009 |
| 30123 | CINCINNATI, OHIO | 0050 | 12 29 | 23 32 52.5 | | | 301 54 | 68 48 | | 845302 |
| 30124 | N. CANTON, OHIO | 8536 | 12 30 | 23 12 54 | 4 50 | 81 06 | | | | 641042 |
| 30125 | SACRAMENTO, CAL. | 8517 | 12 31 | 2 34 52.0 | 19 10 48 | 37 55 | | | | 641013 |
| 30126 | SACRAMENTO, CAL. | 8517 | 12 31 | 2 35 13.2 | 18 55 00 | 43 31 | | | | 641013 |
| 30127 | CHINA LAKE, CAL. | 8588 | 12 31 | 2 35 23.3 | | | 313 00 00 | 14 13 48 | | 845303 |

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| 30002 | N. CANTON, OHIO | 8559 | 11 04 | 9 52 52.9 | 17 20 15 | 73 07 | | | | 845002 |
| 10010 | WOOMERA*BN, AUSTR. | 9003 | 11 04 | 11 09 02.65 | 21 05 12 | -30 50 | | | | 434023 |
| 30005 | ADELAIDE, AUSTR. | 0600 | 11 04 | 11 09 21.2 | | | 304 15 | 54 05 | | 845303 |
| 10011 | WOOMERA*BN, AUSTR. | 9003 | 11 04 | 11 10 29.54 | 22 24 18 | -15 57 | | | | 434013 |
| 30009 | WOOMERA, AUSTR. | 0603 | 11 04 | 11 10 34.7 | | | 330 18 | 71 12 | | 845302 |
| 10012 | WOOMERA*BN, AUSTR. | 9003 | 11 04 | 11 11 22.17 | 23 08 54 | - 5 04 | | | | 434013 |
| 30001 | WICHITA, KAN. | 0028 | 11 04 | 11 48 18.7 | 16 30 00 | 71 19 | | | | 845002 |
| 50001 | LAREDO*RADAR, TEX. | 4012 | 11 04 | 13 47 42 | | | 32 10 | 40 10 | 1464 | 895307 |
| 50002 | LAREDO*RADAR, TEX. | 4012 | 11 04 | 15 46 29 | | | 232 60 | 44 20 | 1775 | 895307 |
| 10001 | OLIFANTSFNNTN*BN,S.AF | 9002 | 11 04 | 18 42 35.69 | 21 47 36 | -21 09 | | | | 434013 |
| 10002 | OLIFANTSFNNTN*BN,S.AF | 9002 | 11 04 | 18 43 08.02 | 22 17 12 | -14 19 | | | | 434013 |
| 30003 | PRETORIA, S.AFR. | 8575 | 11 04 | 18 43 24.0 | | | 314 24 | 70 12 | | 845303 |
| 10003 | OLIFANTSFNNTN*BN,S.AF | 9002 | 11 04 | 18 43 50.17 | 22 54 54 | - 4 30 | | | | 434013 |
| 10019 | AREQUIPA*BN, PERU | 9007 | 11 05 | 0 19 40.00 | 2 08 00 | -58 00 | | | | 434023 |
| 50003 | LAREDO*RADAR, TEX. | 4012 | 11 05 | 4 21 10.5 | | | 128 30 00 | 6 36 00 | 2096 | 895307 |
| 10199 | WOOMERA*BN, AUSTR. | 9003 | 11 05 | 11 35 30.66 | 20 13 48 | -10 21 | | | | 434013 |
| 10200 | WOOMERA*BN, AUSTR. | 9003 | 11 05 | 11 37 10.50 | 21 15 24 | 4 44 | | | | 434013 |
| 10201 | WOOMERA*BN, AUSTR. | 9003 | 11 05 | 11 39 18.56 | 22 37 48 | 25 36 | | | | 434013 |
| 30006 | DENVER, COLO. | 8582 | 11 05 | 12 13 39.6 | | | 18 06 | 34 54 | | 845303 |
| 30007 | KANSAS CITY, MO. | 0036 | 11 05 | 12 14 32 | 11 47 | 67 30 | | | | 845002 |
| 30004 | PRETORIA, S.AFR. | 8575 | 11 05 | 17 11 37.6 | | | 141 36 | 50 36 | | 845303 |
| 10202 | OLIFANTSFNNTN*BN,S.AF | 9002 | 11 05 | 19 08 11.83 | 20 10 18 | - 7 58 | | | | 434013 |
| 10203 | OLIFANTSFNNTN*BN,S.AF | 9002 | 11 05 | 19 09 07.42 | 20 40 24 | 0 33 | | | | 434013 |
| 10204 | OLIFANTSFNNTN*BN,S.AF | 9002 | 11 05 | 19 10 23.57 | 21 24 42 | 14 06 | | | | 434013 |
| 10016 | TOKYO*BN, JAPAN | 9005 | 11 05 | 19 44 15.30 | 17 17 48 | 70 58 | | | | 434013 |
| 10017 | TOKYO*BN, JAPAN | 9005 | 11 05 | 19 44 21.00 | 17 01 30 | 70 09 | | | | 434013 |
| 10018 | TOKYO*BN, JAPAN | 9005 | 11 05 | 19 44 25.00 | 16 50 06 | 69 33 | | | | 434013 |
| 10020 | VILLA DOLORES*BN, ARG | 9011 | 11 06 | 0 40 56.71 | 18 38 24 | -27 48 | | | | 434023 |
| 10021 | VILLA DOLORES*BN, ARG | 9011 | 11 06 | 0 44 42.51 | 20 49 12 | - 4 49 | | | | 434013 |
| 10022 | VILLA DOLORES*BN, ARG | 9011 | 11 06 | 0 45 25.86 | 21 17 42 | 2 08 | | | | 434013 |
| 10023 | VILLA DOLORES*BN, ARG | 9011 | 11 06 | 0 46 00.25 | 21 40 24 | 7 53 | | | | 434013 |
| 10013 | WOOMERA*BN, AUSTR. | 9003 | 11 06 | 12 01 34.26 | 19 43 18 | 0 05 | | | | 434013 |
| 10014 | WOOMERA*BN, AUSTR. | 9003 | 11 06 | 12 03 46.11 | 20 36 54 | 15 56 | | | | 434013 |
| 10015 | WOOMERA*BN, AUSTR. | 9003 | 11 06 | 12 05 10.18 | 21 14 00 | 27 05 | | | | 434013 |
| 10004 | OLIFANTSFNNTN*BN,S.AF | 9002 | 11 06 | 17 35 43.10 | 19 44 24 | -55 24 | | | | 434023 |
| 10005 | OLIFANTSFNNTN*BN,S.AF | 9002 | 11 06 | 17 38 49.00 | 22 59 12 | -32 11 | | | | 434023 |
| 10006 | OLIFANTSFNNTN*BN,S.AF | 9002 | 11 06 | 17 40 19.20 | 0 07 48 | -12 05 | | | | 434013 |
| 10007 | TOKYO*BN, JAPAN | 9005 | 11 06 | 20 11 15.80 | 15 29 12 | 77 53 | | | | 434013 |
| 10008 | TOKYO*BN, JAPAN | 9005 | 11 06 | 20 11 25.70 | 14 59 42 | 74 58 | | | | 434013 |

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| 30008 | MITAKA, JAPAN | 0229 | 11 06 | 20 11 43.0 | | | 25 12 | 33 36 | | 845302 |
| 10009 | TOKYO'BN, JAPAN | 9005 | 11 06 | 20 12 04.70 | 14 08 00 | 62 27 | | | | 434013 |
| 10024 | WOOMERA'BN, AUSTR. | 9003 | 11 07 | 10 31 11.35 | 20 11 48 | -24 57 | | | | 434023 |
| 10025 | WOOMERA'BN, AUSTR. | 9003 | 11 07 | 10 32 32.71 | 21 12 24 | -13 07 | | | | 434013 |
| 10026 | WOOMERA'BN, AUSTR. | 9003 | 11 07 | 10 35 17.86 | 23 07 24 | 15 23 | | | | 434013 |
| 10027 | WOOMERA'BN, AUSTR. | 9003 | 11 08 | 10 56 58.07 | 19 14 12 | -11 47 | | | | 434013 |
| 30010 | CHATTANOOGA, TENN. | 0062 | 11 08 | 11 51 59 | | | 23 | 69 | | 845301 |
| 10028 | SAN FERNANDO'BN, SP. | 9004 | 11 09 | 4 30 43.50 | 14 51 36 | 59 43 | | | | 434013 |
| 10029 | SAN FERNANDO'BN, SP. | 9004 | 11 09 | 4 30 45.50 | 14 48 30 | 59 14 | | | | 434013 |
| 10030 | ORGAN PASS'BN, N.M. | 9001 | 11 09 | 12 02 53.58 | 19 23 00 | 78 46 | | | | 434013 |
| 10031 | ORGAN PASS'BN, N.M. | 9001 | 11 09 | 12 03 41.35 | 15 33 00 | 73 13 | | | | 434013 |
| 10063 | VILLA DOLORES'BN, ARG | 9011 | 11 10 | 0 34 04.64 | 19 51 48 | 13 56 | | | | 434013 |
| 10064 | VILLA DOLORES'BN, ARG | 9011 | 11 10 | 0 35 55.47 | 20 35 36 | 27 01 | | | | 434013 |
| 30011 | CHINA LAKE, CAL. | 0098 | 11 10 | 12 27 33.2 | | | 0 00 00 | 28 45 00 | | 641303 |
| 10032 | ORGAN PASS'BN, N.M. | 9001 | 11 10 | 12 31 41.00 | 11 55 06 | 48 36 | | | | 434013 |
| 10033 | ORGAN PASS'BN, N.M. | 9001 | 11 10 | 12 33 38.50 | 12 39 42 | 6 50 | | | | 434013 |
| 10038 | TOKYO'BN, JAPAN | 9005 | 11 10 | 20 00 49.50 | 7 34 24 | 65 34 | | | | 434013 |
| 30026 | MITAKA, JAPAN | 0229 | 11 10 | 20 01 30.6 | | | 34 42 | 69 06 | | 845303 |
| 10039 | TOKYO'BN, JAPAN | 9005 | 11 10 | 20 01 42.40 | 10 13 00 | 46 46 | | | | 434013 |
| 10040 | NAINI TAL'BN, INDIA | 9006 | 11 10 | 23 47 07.18 | 13 40 06 | 65 51 | | | | 434013 |
| 10041 | NAINI TAL'BN, INDIA | 9006 | 11 10 | 23 48 00.89 | 13 18 54 | 47 30 | | | | 434013 |
| 10048 | SHIRAZ'BN, IRAN | 9008 | 11 11 | 1 40 05.91 | 8 05 30 | 63 51 | | | | 434013 |
| 30012 | CHINA LAKE, CAL. | 8588 | 11 11 | 12 55 03.3 | | | 0 08 24 | 59 49 12 | | 845303 |
| 10050 | CURACAO'BN, N.W.I. | 9009 | 11 11 | 23 38 14.47 | 1 54 36 | -38 21 | | | | 434023 |
| 10051 | CURACAO'BN, N.W.I. | 9009 | 11 11 | 23 39 11.24 | 1 24 30 | -46 40 | | | | 434023 |
| 10042 | NAINI TAL'BN, INDIA | 9006 | 11 12 | 0 12 29.51 | 4 43 00 | 69 04 | | | | 434013 |
| 10043 | NAINI TAL'BN, INDIA | 9006 | 11 12 | 0 15 13.82 | 11 22 12 | 25 29 | | | | 434013 |
| 10049 | SHIRAZ'BN, IRAN | 9008 | 11 12 | 2 07 04.24 | 9 38 00 | 45 00 | | | | 434013 |
| 30013 | CINCINNATI, OHIO | 0050 | 11 12 | 9 34 02 | 12 10 18 | 23 19 | | | | 845004 |
| 10034 | ORGAN PASS'BN, N.M. | 9001 | 11 12 | 11 26 45.64 | 13 50 00 | 68 00 | | | | 434013 |
| 10035 | ORGAN PASS'BN, N.M. | 9001 | 11 12 | 11 27 41.73 | 13 06 24 | 48 50 | | | | 434013 |
| 30014 | CINCINNATI, OHIO | 0050 | 11 12 | 11 29 45 | 6 59 24 | - 5 16 | | | | 845004 |
| 10046 | AREQUIPA'BN, PERU | 9007 | 11 12 | 23 58 31.30 | 20 03 42 | - 1 39 | | | | 434013 |
| 10047 | AREQUIPA'BN, PERU | 9007 | 11 13 | 0 00 40.66 | 21 20 12 | 23 54 | | | | 434013 |
| 30015 | DENVER, COLO. | 8582 | 11 13 | 11 53 44.7 | | | 178 48 | 51 12 | | 845303 |
| 10052 | MAUI'BN, HAWAII | 9012 | 11 13 | 15 42 07.85 | 11 49 06 | 63 19 | | | | 434013 |
| 10053 | MAUI'BN, HAWAII | 9012 | 11 13 | 15 43 23.70 | 12 20 48 | 38 13 | | | | 434013 |
| 10056 | TOKYO'BN, JAPAN | 9005 | 11 13 | 19 23 46.30 | 7 29 54 | 47 56 | | | | 434013 |
| 30027 | MITAKA, JAPAN | 0229 | 11 13 | 19 24 06.7 | | | 39 54 | 84 12 | | 845302 |
| 10044 | NAINI TAL'BN, INDIA | 9006 | 11 13 | 23 08 47.06 | 5 30 00 | 89 27 | | | | 434013 |
| 10045 | NAINI TAL'BN, INDIA | 9006 | 11 13 | 23 10 01.16 | 12 25 24 | 57 34 | | | | 434013 |
| 10060 | JUPITER'BN, FLA. | 9010 | 11 14 | 10 27 30.08 | 6 58 42 | 62 15 | | | | 434013 |
| 10061 | JUPITER'BN, FLA. | 9010 | 11 14 | 10 28 24.98 | 9 22 42 | 45 24 | | | | 434013 |
| 10062 | JUPITER'BN, FLA. | 9010 | 11 14 | 10 29 57.98 | 11 02 42 | 10 18 | | | | 434013 |
| 10036 | ORGAN PASS'BN, N.M. | 9001 | 11 14 | 11 53 32.16 | 9 19 12 | 62 38 | | | | 434013 |
| 10037 | ORGAN PASS'BN, N.M. | 9001 | 11 14 | 11 53 54.17 | 10 08 48 | 52 48 | | | | 434013 |
| 30016 | WALNUT CREEK, CAL. | 8535 | 11 14 | 12 18 42.4 | 19 45 00 | 7 00 | | | | 845004 |
| 10054 | ORGAN PASS'BN, N.M. | 9001 | 11 14 | 12 19 03.10 | 4 39 06 | 32 35 | | | | 434013 |
| 10055 | ORGAN PASS'BN, N.M. | 9001 | 11 14 | 12 21 49.30 | 9 11 48 | - 6 38 | | | | 434013 |
| 30030 | KASHIWABARA, JAPAN | 0222 | 11 14 | 19 48 35 | 8 40 | 8 | | | | 845002 |
| 30029 | KONKO, JAPAN | 0224 | 11 14 | 19 50 09 | 8 12 | 21 | | | | 845002 |
| 10057 | TOKYO'BN, JAPAN | 9005 | 11 14 | 19 50 40.90 | 6 40 24 | 2 13 | | | | 434013 |
| 30028 | MITAKA, JAPAN | 0229 | 11 14 | 19 50 45.5 | | | 223 00 | 46 48 | | 845303 |
| 10068 | CURACAO'BN, N.W.I. | 9009 | 11 14 | 23 04 43.67 | 2 34 12 | 0 41 | | | | 434013 |
| 10058 | NAINI TAL'BN, INDIA | 9006 | 11 14 | 23 36 02.56 | 7 12 00 | 52 16 | | | | 434013 |
| 10059 | NAINI TAL'BN, INDIA | 9006 | 11 14 | 23 37 14.29 | 9 46 06 | 24 50 | | | | 434013 |
| 10067 | CURACAO'BN, N.W.I. | 9009 | 11 14 | 23 59 29.22 | 23 35 36 | -51 12 | | | | 434023 |
| 10065 | SHIRAZ'BN, IRAN | 9008 | 11 15 | 1 29 26.18 | 7 58 54 | 34 10 | | | | 434013 |
| 10066 | SHIRAZ'BN, IRAN | 9008 | 11 15 | 1 29 53.77 | 8 50 48 | 23 30 | | | | 434013 |
| 10071 | SAN FERNANDO'BN, SP. | 9004 | 11 15 | 5 13 24.50 | 6 39 18 | 7 59 | | | | 434013 |
| 10072 | SAN FERNANDO'BN, SP. | 9004 | 11 15 | 5 13 28.50 | 6 46 36 | 6 54 | | | | 434013 |
| 10069 | JUPITER'BN, FLA. | 9010 | 11 15 | 10 54 09.61 | 5 49 54 | 17 38 | | | | 434013 |
| 10070 | JUPITER'BN, FLA. | 9010 | 11 15 | 10 55 07.03 | 7 07 06 | 3 52 | | | | 434013 |
| 10073 | TOKYO'BN, JAPAN | 9005 | 11 15 | 20 17 31.50 | 6 21 36 | 18 00 | | | | 434013 |
| 10078 | CURACAO'BN, N.W.I. | 9009 | 11 15 | 23 28 52.56 | 23 48 18 | -11 49 | | | | 434013 |
| 10074 | NAINI TAL'BN, INDIA | 9006 | 11 16 | 0 01 56.35 | 5 11 42 | 16 40 | | | | 434013 |
| 10075 | NAINI TAL'BN, INDIA | 9006 | 11 16 | 0 02 59.16 | 6 19 36 | 3 38 | | | | 434013 |
| 10076 | SAN FERNANDO'BN, SP. | 9004 | 11 16 | 5 39 24.40 | 5 23 30 | - 7 33 | | | | 434013 |
| 10077 | SAN FERNANDO'BN, SP. | 9004 | 11 16 | 5 40 15.10 | 6 16 42 | -16 09 | | | | 434013 |
| 30019 | PUEBLA, MEX. | 0900 | 11 16 | 11 19 07.2 | 9 33 36 | 70 25 | | | | 845043 |
| 30017 | WALNUT CREEK, CAL. | 8535 | 11 16 | 13 10 25.3 | 6 14 15 | -16 27 | | | | 845003 |
| 30018 | WALNUT CREEK, CAL. | 8535 | 11 16 | 13 11 03.6 | 6 54 30 | -22 33 | | | | 845003 |
| 30020 | PUEBLA, MEX. | 0900 | 11 17 | 1 49 33.4 | 23 08 42 | 4 46 | | | | 845043 |
| 30021 | PUEBLA, MEX. | 0900 | 11 17 | 11 47 46.7 | 8 58 36 | - 4 15 | | | | 845043 |
| 30022 | PUEBLA, MEX. | 0900 | 11 17 | 11 47 58.6 | 9 14 12 | - 8 33 | | | | 845043 |
| 10088 | MAUI'BN, HAWAII | 9012 | 11 18 | 6 01 23.63 | 20 39 48 | 24 26 | | | | 434023 |
| 10082 | JUPITER'BN, FLA. | 9010 | 11 18 | 10 16 54.35 | 5 29 30 | - 0 30 | | | | 434013 |
| 10083 | JUPITER'BN, FLA. | 9010 | 11 18 | 10 18 04.41 | 6 51 24 | -17 06 | | | | 434013 |
| 10084 | JUPITER'BN, FLA. | 9010 | 11 18 | 10 19 28.73 | 8 19 54 | -31 52 | | | | 434023 |
| 10085 | JUPITER'BN, FLA. | 9010 | 11 19 | 23 16 40.82 | 22 55 30 | -38 04 | | | | 434023 |
| 10086 | JUPITER'BN, FLA. | 9010 | 11 19 | 23 17 56.00 | 23 47 12 | -28 01 | | | | 434023 |
| 10081 | CURACAO'BN, N.W.I. | 9009 | 11 19 | 23 18 38.78 | 20 43 00 | 46 08 | | | | 434013 |

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| 10087 | JUPITER*BN, FLA. | 9010 | 11 19 | 23 20 38.47 | 1 48 12 | - 2 02 | | | | 434013 |
| 10079 | ORGAN PASS*BN, N.M. | 9001 | 11 20 | 1 13 30.90 | 1 08 18 | -17 02 | | | | 434013 |
| 50004 | LAREDO*RADAR, TEX. | 4017 | 11 20 | 1 13 32 | | | 137 54 | 50 24 | 1095 | 895307 |
| 10080 | TOKYO*BN, JAPAN | 9005 | 11 20 | 8 45 42.10 | 1 47 54 | -12 20 | | | | 434013 |
| 10089 | CURACAO*BN, N.W.I. | 9009 | 11 20 | 23 46 01.22 | 18 24 48 | 72 53 | | | | 434013 |
| 10091 | JUPITER*BN, FLA. | 9010 | 11 20 | 23 46 31.33 | 0 35 00 | 15 24 | | | | 434013 |
| 10092 | JUPITER*BN, FLA. | 9010 | 11 20 | 23 47 27.77 | 1 51 06 | 26 47 | | | | 434013 |
| 30023 | CINCINNATI, OHIO | 0050 | 11 21 | 1 14 52.7 | 21 31 00 | -24 32 | | | | 845004 |
| 10093 | MAUI*BN, HAWAII | 9012 | 11 21 | 5 24 27.41 | 20 02 00 | 48 47 | | | | 434013 |
| 10090 | TOKYO*BN, JAPAN | 9005 | 11 21 | 9 11 35.80 | 1 01 24 | - 4 40 | | | | 434013 |
| 30031 | QUEZON CITY, PH. IS. | 0507 | 11 21 | 11 00 34 | | | 293 | 27 | | 845302 |
| 10094 | MAUI*BN, HAWAII | 9012 | 11 21 | 15 22 37.86 | 6 49 12 | -42 51 | | | | 434023 |
| 10096 | JUPITER*BN, FLA. | 9010 | 11 22 | 0 11 35.27 | 20 31 54 | 21 41 | | | | 434013 |
| 10097 | JUPITER*BN, FLA. | 9010 | 11 22 | 0 12 23.96 | 21 15 00 | 39 04 | | | | 434013 |
| 30024 | STATE COLLEGE, PA. | 8594 | 11 22 | 0 12 59.47 | | | 196 18 | 27 42 | | 845303 |
| 10098 | JUPITER*BN, FLA. | 9010 | 11 22 | 0 13 38.43 | 23 42 54 | 63 22 | | | | 434013 |
| 10095 | ORGAN PASS*BN, N.M. | 9001 | 11 22 | 2 06 47.10 | 23 10 12 | 36 54 | | | | 434013 |
| 10099 | NAINI TAL*BN, INDIA | 9006 | 11 22 | 13 21 42.67 | 22 38 24 | 37 03 | | | | 434013 |
| 30025 | MILWAUKEE, WISC. | 0198 | 11 23 | 0 38 55.8 | 22 47 | -17 00 | | | | 641013 |
| 10102 | JUPITER*BN, FLA. | 9010 | 11 23 | 0 39 44.00 | 18 31 12 | 64 30 | | | | 434013 |
| 10100 | ORGAN PASS*BN, N.M. | 9001 | 11 23 | 2 32 32.00 | 19 30 30 | 40 51 | | | | 434013 |
| 10101 | AREQUIPA*BN, PERU | 9007 | 11 23 | 8 46 30.23 | 11 42 30 | 26 28 | | | | 434013 |
| 10105 | JUPITER*BN, FLA. | 9010 | 11 23 | 23 06 53.39 | 21 27 48 | 2 13 | | | | 434013 |
| 10106 | JUPITER*BN, FLA. | 9010 | 11 23 | 23 08 25.38 | 23 13 36 | 25 58 | | | | 434013 |
| 10107 | JUPITER*BN, FLA. | 9010 | 11 23 | 23 10 30.15 | 2 19 42 | 43 30 | | | | 434013 |
| 50005 | LAREDO*RADAR, TEX. | 4012 | 11 24 | 0 57 10 | | | 309 30 | 67 48 | 1010 | 895307 |
| 30032 | PUEBLA, MEX. | 9000 | 11 24 | 1 04 04.5 | 6 50 00 | 87 00 | | | | 845043 |
| 10103 | TOKYO*BN, JAPAN | 9005 | 11 24 | 8 33 40.30 | 0 09 12 | 4 36 | | | | 434013 |
| 10104 | NAINI TAL*BN, INDIA | 9006 | 11 24 | 14 14 34.83 | 17 37 48 | 52 19 | | | | 434013 |
| 30033 | DALLAS, TEX. | 0129 | 11 25 | 1 30 52.2 | 19 09 36 | 65 48 | | | | 845013 |
| 10113 | MAUI*BN, HAWAII | 9012 | 11 25 | 5 14 54.74 | 17 04 30 | 61 08 | | | | 434013 |
| 10110 | NAINI TAL*BN, INDIA | 9006 | 11 25 | 12 42 46.64 | 20 13 54 | 27 19 | | | | 434013 |
| 10108 | SAN FERNANDO*BN, SP. | 9004 | 11 25 | 18 22 50.70 | 23 00 18 | 18 37 | | | | 434013 |
| 30034 | RIOXI, MISS. | 0090 | 11 26 | 0 01 12 | | | 0 | 56 12 | | 845302 |
| 30037 | TERRE HAUTE, IND. | 8127 | 11 26 | 0 01 39.8 | | | 180 15 | 63 25 | | 845303 |
| 10112 | JUPITER*BN, FLA. | 9010 | 11 26 | 0 01 41.98 | 22 41 00 | 61 09 | | | | 434013 |
| 30035 | N. CANTON, OHIO | 8559 | 11 26 | 0 03 18.1 | 22 48 53 | 28 36 | | | | 845033 |
| 30036 | DAYTON, OHIO | 8557 | 11 26 | 0 06 18.0 | | | 55 31 | 57 25 | | 845303 |
| 10111 | NAINI TAL*BN, INDIA | 9006 | 11 26 | 13 10 28.23 | 18 22 00 | 60 54 | | | | 434013 |
| 30040 | WALNUT CREEK, CAL. | 8535 | 11 27 | 2 20 16.3 | 22 32 00 | 44 36 | | | | 845034 |
| 30041 | WALNUT CREEK, CAL. | 8535 | 11 27 | 2 20 16.48 | 22 34 45 | 44 51 | | | | 845034 |
| 30055 | YATSUSHIRO, JAPAN | 0277 | 11 27 | 9 40 43 | | | 0 00 | 26 42 | | 845302 |
| 30054 | KAGOSHIMA, JAPAN | 0218 | 11 27 | 9 51 21.5 | 17 46 | 51 48 | | | | 845002 |
| 30053 | YATSUSHIRO, JAPAN | 0277 | 11 27 | 9 52 48 | | | 0 00 | 26 18 | | 845302 |
| 10109 | TOKYO*BN, JAPAN | 9005 | 11 27 | 9 53 11.30 | 17 34 00 | 61 23 | | | | 434013 |
| 30038 | WALNUT CREEK, CAL. | 8535 | 11 28 | 2 46 23.5 | 19 22 45 | 55 04 | | | | 845003 |
| 10115 | TOKYO*BN, JAPAN | 9005 | 11 28 | 8 21 55.00 | 21 21 48 | 42 03 | | | | 434013 |
| 10114 | WOOMERA*BN, AUSTR. | 9003 | 11 28 | 18 26 24.39 | 10 40 12 | 15 13 | | | | 434013 |
| 10118 | JUPITER*BN, FLA. | 9010 | 11 28 | 23 21 39.90 | 17 17 42 | 36 19 | | | | 434013 |
| 10119 | JUPITER*BN, FLA. | 9010 | 11 28 | 23 23 06.07 | 17 06 00 | 54 08 | | | | 434013 |
| 10116 | ORGAN PASS*BN, N.M. | 9001 | 11 29 | 1 17 26.89 | 17 45 06 | 61 58 | | | | 434013 |
| 30042 | DENVER, COLO. | 8592 | 11 29 | 1 19 32.4 | | | 0 00 | 58 45 00 | | 845303 |
| 30039 | KANSAS CITY, MO. | 0036 | 11 29 | 1 20 22.8 | | | 322 | 36 18 | | 845303 |
| 10117 | AREQUIPA*BN, PERU | 9007 | 11 29 | 7 31 55.92 | 11 13 18 | 1 00 | | | | 434013 |
| 10120 | SAN FERNANDO*BN, SP. | 9004 | 11 29 | 18 10 57.80 | 19 28 48 | 46 32 | | | | 434013 |
| 10122 | ORGAN PASS*BN, N.M. | 9001 | 11 30 | 1 43 37.76 | 16 37 48 | 54 32 | | | | 434013 |
| 10121 | AREQUIPA*BN, PERU | 9007 | 11 30 | 7 56 53.56 | 8 32 30 | - 4 28 | | | | 434013 |
| 10124 | SAN FERNANDO*BN, SP. | 9004 | 11 30 | 18 38 27.60 | 17 22 24 | 70 39 | | | | 434013 |
| 10125 | OLIFANTS*BN, S.A.F. | 9002 | 12 01 | 0 51 32.46 | 9 34 00 | 24 35 | | | | 434013 |
| 10131 | TOKYO*BN, JAPAN | 9005 | 12 01 | 9 42 09.30 | 15 38 36 | 64 08 | | | | 434013 |
| 10126 | WOOMERA*BN, AUSTR. | 9003 | 12 01 | 17 48 28.10 | 10 05 30 | 8 43 | | | | 434013 |
| 10127 | SAN FERNANDO*BN, SP. | 9004 | 12 01 | 19 05 22.70 | 15 10 24 | 71 02 | | | | 434013 |
| 30043 | DENVER, COLO. | 8592 | 12 02 | 0 41 38.1 | | | 0 00 | 53 00 | | 845303 |
| 30079 | MADISON, WISC. | 0148 | 12 02 | 0 44 09.15 | 18 42 00 | 72 18 | | | | 845042 |
| 30080 | MADISON, WISC. | 0148 | 12 02 | 0 44 13.3 | 18 42 00 | 74 00 | | | | 845042 |
| 10132 | VILLA DOLORES*BN, ARG | 9011 | 12 02 | 6 56 50.52 | 10 07 48 | 13 18 | | | | 434013 |
| 10133 | VILLA DOLORES*BN, ARG | 9011 | 12 03 | 7 23 21.29 | 9 19 24 | - 6 30 | | | | 434013 |
| 30056 | YATSUSHIRO, JAPAN | 0272 | 12 03 | 10 38 05 | | | 357 30 | 11 42 | | 845302 |
| 10130 | SAN FERNANDO*BN, SP. | 9004 | 12 03 | 18 00 08.00 | 16 45 12 | 67 31 | | | | 434013 |
| 10128 | WOOMERA*BN, AUSTR. | 9003 | 12 03 | 18 41 24.23 | 7 15 30 | -39 35 | | | | 434023 |
| 10129 | WOOMERA*BN, AUSTR. | 9003 | 12 04 | 17 10 07.27 | 9 19 36 | 5 33 | | | | 434013 |
| 10134 | WOOMERA*BN, AUSTR. | 9003 | 12 05 | 17 36 48.77 | 8 17 54 | -25 47 | | | | 434023 |
| 30044 | SACRAMENTO, CAL. | 8517 | 12 06 | 2 25 18.2 | | | 0 00 | 24 46 | | 641304 |
| 10135 | VILLA DOLORES*BN, ARG | 9011 | 12 06 | 6 45 18.75 | 8 47 24 | -17 55 | | | | 434013 |
| 30057 | YATSUSHIRO, JAPAN | 0272 | 12 06 | 9 56 04 | | | 0 00 | 10 18 | | 845302 |
| 10136 | WOOMERA*BN, AUSTR. | 9003 | 12 06 | 18 03 28.23 | 6 25 54 | -52 59 | | | | 434023 |
| 30083 | MADISON, WISC. | 0148 | 12 07 | 0 58 45.8 | 17 11 00 | 65 51 | | | | 845042 |

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| 10137 | VILLA DOLORES*BN,ARG | 9011 | 12 07 | 7 11 40.13 | 6 51 06 | -45 45 | | | | 434023 |
| 10139 | WOOMERA*BN, AUSTR. | 9003 | 12 07 | 16 32 45.54 | 9 31 42 | -12 41 | | | | 434013 |
| 10138 | WOOMERA*BN, AUSTR. | 9003 | 12 07 | 18 29 30.39 | 4 15 36 | -53 04 | | | | 434023 |
| 30045 | DENVER, COLO. | 8592 | 12 08 | 1 23 39.0 | | | 0 00 | 27 15 00 | | 845303 |
| 10141 | VILLA DOLORES*BN,ARG | 9011 | 12 08 | 7 38 14.13 | 4 42 24 | -56 31 | | | | 434023 |
| 10140 | WOOMERA*BN, AUSTR. | 9003 | 12 08 | 16 58 13.77 | 6 52 42 | -32 33 | | | | 434023 |
| 30081 | MADISON, WISC. | 0148 | 12 08 | 23 55 03.0 | 8 00 00 | 86 54 | | | | 845042 |
| 10142 | WOOMERA*BN, AUSTR. | 9003 | 12 09 | 17 25 07.81 | 5 01 24 | -59 56 | | | | 434023 |
| 10145 | SAN FERNANDO*BN, SP. | 9004 | 12 09 | 18 43 31.30 | 10 21 00 | 73 17 | | | | 434013 |
| 30082 | MADISON, WISC. | 0148 | 12 10 | 0 21 36.8 | 9 59 00 | 88 30 | | | | 845042 |
| 30046 | CINCINNATI, OHIO | 0050 | 12 10 | 0 22 18.5 | 13 04 18 | 78 04 | | | | 845004 |
| 30078 | CHINA LAKE, CAL. | 8588 | 12 10 | 2 14 57.4 | | | 9 31 48 | 18 13 48 | | 845303 |
| 50006 | LAREDO*RADAR, TEX. | 4012 | 12 10 | 4 17 58 | | | 26 30 | 64 00 | 480 | 895307 |
| 50008 | BRATISLAVA*P, CZECH. | 5702 | 12 10 | 17 16 29.8 | 1 03 00 | 53 00 | | | | 634042 |
| 10143 | WOOMERA*BN, AUSTR. | 9003 | 12 11 | 16 20 38.64 | 7 09 30 | -56 55 | | | | 434023 |
| 10144 | WOOMERA*BN, AUSTR. | 9003 | 12 11 | 18 19 18.54 | 1 51 06 | -73 48 | | | | 434023 |
| 30047 | DENVER, COLO. | 8592 | 12 13 | 1 38 29.0 | | | 0 00 | 40 00 | | 845303 |
| 30048 | DENVER, COLO. | 8592 | 12 13 | 1 38 53.4 | | | 12 18 | 41 45 00 | | 845303 |
| 10146 | TOKYO*BN, JAPAN | 9005 | 12 13 | 9 09 31.90 | 8 16 00 | 74 50 | | | | 434013 |
| 30049 | TERRE HAUTE, IND. | 8127 | 12 14 | 0 11 06.9 | | | 25 00 | 41 00 | | 845302 |
| 30050 | CHINA LAKE, CAL. | 0098 | 12 14 | 2 03 40.8 | | | 20 42 00 | 25 24 36 | | 641303 |
| 10147 | WOOMERA*BN, AUSTR. | 9003 | 12 14 | 17 40 40.49 | 0 36 18 | -72 08 | | | | 434023 |
| 10148 | SAN FERNANDO*BN, SP. | 9004 | 12 14 | 18 58 56.70 | 5 35 30 | 74 11 | | | | 434013 |
| 30051 | TERRE HAUTE, IND. | 8127 | 12 15 | 0 37 09.4 | | | 0 | 59 37 | | 845303 |
| 30052 | CHINA LAKE, CAL. | 0098 | 12 15 | 2 29 04.4 | | | 353 07 48 | 32 07 12 | | 641303 |
| 50007 | LAREDO*RADAR, TEX. | 4012 | 12 15 | 2 34 59.5 | | | 33 30 | 44 24 | 698 | 895307 |
| 10149 | WOOMERA*BN, AUSTR. | 9003 | 12 15 | 16 07 59.92 | 1 41 06 | -62 48 | | | | 434023 |
| 10150 | WOOMERA*BN, AUSTR. | 9003 | 12 15 | 18 07 41.82 | 0 00 30 | -73 59 | | | | 434023 |
| 30058 | DENVER, COLO. | 8592 | 12 16 | 1 00 06.8 | | | 0 00 | 46 45 00 | | 845303 |
| 10159 | VILLA DOLORES*BN,ARG | 9011 | 12 16 | 5 16 43.69 | 2 23 12 | -70 58 | | | | 434023 |
| 10160 | VILLA DOLORES*BN,ARG | 9011 | 12 16 | 7 15 00.92 | 0 40 24 | -67 38 | | | | 434023 |
| 10152 | WOOMERA*BN, AUSTR. | 9003 | 12 16 | 16 34 52.08 | 0 28 00 | -65 56 | | | | 434023 |
| 30074 | ALBUQUERQUE, N.M. | 8534 | 12 17 | 1 26 43.9 | 0 50 00 | 85 00 | | | | 845043 |
| 30075 | ALBUQUERQUE, N.M. | 8534 | 12 17 | 1 26 50.8 | 2 04 24 | 83 18 | | | | 845043 |
| 10161 | VILLA DOLORES*BN,ARG | 9011 | 12 17 | 5 43 20.86 | 0 19 06 | -70 26 | | | | 434023 |
| 10163 | SHIRAZ*BN, IRAN | 9008 | 12 17 | 14 36 45.05 | 6 07 24 | 61 30 | | | | 434013 |
| 10153 | WOOMERA*BN, AUSTR. | 9003 | 12 17 | 17 02 21.27 | 22 51 00 | -72 47 | | | | 434023 |
| 30059 | TERRE HAUTE, IND. | 8127 | 12 17 | 23 58 50.7 | | | 0 | 74 00 | | 845303 |
| 10156 | JUPITER*BN, FLA. | 9010 | 12 17 | 23 59 15.22 | 16 32 00 | 71 00 | | | | 434013 |
| 10157 | JUPITER*BN, FLA. | 9010 | 12 18 | 0 00 12.97 | 16 08 00 | 81 30 | | | | 434013 |
| 10158 | JUPITER*BN, FLA. | 9010 | 12 18 | 0 01 17.95 | 5 58 00 | 81 01 | | | | 434013 |
| 10155 | SHIRAZ*BN, IRAN | 9008 | 12 18 | 15 03 24.06 | 4 08 06 | 56 24 | | | | 434013 |
| 30060 | ST. LOUIS, MO. | 0140 | 12 19 | 0 25 24.8 | 0 22 12 | 22 16 | | | | 845012 |
| 30061 | ST. LOUIS, MO. | 0140 | 12 19 | 0 25 28.0 | 0 27 54 | 20 06 | | | | 845012 |
| 30062 | CINCINNATI, OHIO | 0050 | 12 19 | 0 25 57.2 | 23 00 12 | 6 27 | | | | 845004 |
| 10164 | VILLA DOLORES*BN,ARG | 9011 | 12 19 | 4 39 34.49 | 15 32 00 | -84 10 | | | | 434023 |
| 10165 | VILLA DOLORES*BN,ARG | 9011 | 12 19 | 6 37 33.67 | 21 53 12 | -75 39 | | | | 434023 |
| 30004 | KAGOSHIMA, JAPAN | 0218 | 12 19 | 9 33 28 | 4 33 | 43 00 | | | | 845002 |
| 10167 | TOKYO*BN, JAPAN | 9005 | 12 19 | 9 50 25.60 | 22 03 00 | 5 01 | | | | 434013 |
| 30071 | MITAKA, JAPAN | 0229 | 12 19 | 9 51 05.1 | | | 219 12 | 40 24 | | 845303 |
| 30072 | KAGOSHIMA, JAPAN | 0218 | 12 19 | 9 52 24 | 1 41 | 66 36 | | | | 845002 |
| 30063 | ROCHESTER, N.Y. | 8564 | 12 19 | 22 55 42.2 | 23 31 42 | 17 00 | | | | 845013 |
| 30064 | ROCHESTER, N.Y. | 8564 | 12 19 | 22 55 47.3 | 23 40 24 | 16 12 | | | | 845013 |
| 30070 | STATE COLLEGE, PA. | 8603 | 12 19 | 22 55 49.2 | | | 177 30 | 83 42 | | 845302 |
| 10170 | MAUI*BN, HAWAII | 9012 | 12 20 | 4 38 09.09 | 5 46 42 | 54 35 | | | | 434013 |
| 10168 | VILLA DOLORES*BN,ARG | 9011 | 12 20 | 5 04 58.52 | 22 38 48 | -71 33 | | | | 434023 |
| 10169 | VILLA DOLORES*BN,ARG | 9011 | 12 20 | 7 04 10.38 | 22 11 30 | -76 03 | | | | 434023 |
| 10176 | NAINI TAL*BN, INDIA | 9006 | 12 20 | 14 02 18.44 | 21 29 54 | 6 12 | | | | 434013 |
| 10166 | SAN FERNANDO*BN, SP. | 9004 | 12 20 | 19 38 48.50 | 21 14 18 | -5 34 | | | | 434013 |
| 10171 | ORGAN PASS*BN, N.M. | 9001 | 12 21 | 1 15 00.30 | 21 55 00 | 55 58 | | | | 434013 |
| 30076 | ALBUQUERQUE, N.M. | 8534 | 12 21 | 1 15 48.1 | 0 10 48 | 20 00 | | | | 845043 |
| 10172 | ORGAN PASS*BN, N.M. | 9001 | 12 21 | 1 15 51.17 | 0 15 18 | 43 00 | | | | 434013 |
| 30077 | ALBUQUERQUE, N.M. | 8534 | 12 21 | 1 15 57.4 | 0 47 12 | 17 36 | | | | 845043 |
| 30065 | DENVER, COLO. | 8592 | 12 21 | 1 16 16.5 | | | 180 00 | 35 36 | | 845303 |
| 30066 | DENVER, COLO. | 8592 | 12 21 | 1 16 36.3 | | | 172 54 | 31 21 00 | | 845303 |
| 30067 | SAN ANTONIO, TEX. | 0089 | 12 21 | 1 18 27.5 | 0 44 00 | 1 15 | | | | 845012 |
| 30073 | MITAKA, JAPAN | 0229 | 12 21 | 8 46 03.1 | | | 221 06 | 75 54 | | 845303 |
| 10173 | SAN FERNANDO*BN, SP. | 9004 | 12 21 | 18 09 18.80 | 0 44 12 | 17 31 | | | | 434013 |
| 10174 | SAN FERNANDO*BN, SP. | 9004 | 12 21 | 18 09 32.80 | 1 03 54 | 12 24 | | | | 434013 |
| 10175 | SAN FERNANDO*BN, SP. | 9004 | 12 21 | 18 09 40.80 | 1 14 00 | 9 40 | | | | 434013 |
| 30068 | ALBUQUERQUE HS, N.M. | 0041 | 12 22 | 1 41 32.5 | 21 58 | -3 54 | | | | 845033 |
| 10177 | SAN FERNANDO*BN, SP. | 9004 | 12 22 | 18 34 25.60 | 21 31 54 | 4 38 | | | | 434013 |
| 10178 | SAN FERNANDO*BN, SP. | 9004 | 12 22 | 18 34 44.50 | 21 55 54 | -0 05 | | | | 434013 |
| 10179 | SAN FERNANDO*BN, SP. | 9004 | 12 22 | 18 34 48.50 | 22 01 12 | -1 07 | | | | 434013 |
| 30069 | SAN JOSE, CAL. | 8573 | 12 23 | 2 03 52.5 | | | 180 | 32 42 00 | | 845304 |
| 10180 | ORGAN PASS*BN, N.M. | 9001 | 12 23 | 2 08 04.66 | 21 25 30 | -16 23 | | | | 434013 |
| 10181 | MAUI*BN, HAWAII | 9012 | 12 23 | 5 56 29.74 | 21 15 18 | -13 47 | | | | 434013 |
| 10182 | MAUI*BN, HAWAII | 9012 | 12 23 | 5 56 47.92 | 21 20 00 | -18 54 | | | | 434013 |
| 10183 | MAUI*BN, HAWAII | 9012 | 12 23 | 5 57 16.26 | 21 50 42 | -27 00 | | | | 434023 |
| 10184 | WOOMERA*BN, AUSTR. | 9003 | 12 23 | 13 46 25.51 | 22 08 00 | -73 05 | | | | 434023 |

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|--------|----------------------|--------|-------|-------------|----------|--------|---------|----------|-------|--------|
| 10185 | VILLA DOLORES*BN,ARG | 9011 | 12 26 | 7 48 35.85 | 13 18 24 | -57 13 | | | | 434023 |
| 10187 | VILLA DOLORES*BN,ARG | 9011 | 12 27 | 2 15 54.63 | 21 09 00 | -69 32 | | | | 434023 |
| 10188 | VILLA DOLORES*BN,ARG | 9011 | 12 27 | 2 16 29.77 | 19 00 30 | -78 37 | | | | 434023 |
| 10186 | WOOMERA*BN, AUSTR. | 9003 | 12 28 | 18 00 52.26 | 11 53 18 | -64 02 | | | | 434023 |
| 10189 | WOOMERA*BN, AUSTR. | 9003 | 12 29 | 18 28 37.23 | 11 08 30 | -34 03 | | | | 434023 |
| 10192 | VILLA DOLORES*BN,ARG | 9011 | 12 30 | 1 36 48.58 | 20 36 00 | -58 45 | | | | 434023 |
| 10193 | VILLA DOLORES*BN,ARG | 9011 | 12 30 | 1 37 40.24 | 18 41 36 | -72 05 | | | | 434023 |
| 10190 | SAN FERNANDO*BN, SP. | 9004 | 12 30 | 6 11 17.10 | 15 26 12 | - 8 05 | | | | 434013 |
| 10197 | VILLA DOLORES*BN,ARG | 9011 | 12 30 | 7 33 25.36 | 7 00 00 | -62 57 | | | | 434023 |
| 10198 | VILLA DOLORES*BN,ARG | 9011 | 12 30 | 7 40 09.54 | 12 42 48 | - 1 48 | | | | 434013 |
| 10191 | CURACAO*BN, N.W.I. | 9009 | 12 30 | 9 47 24.02 | 14 16 06 | -13 06 | | | | 434013 |

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|--------|--------------------|--------|-------|------------|----------|-------|-----------|----------|-------|--------|
| 10001 | CURACAO*BN, N.W.I. | 9009 | 11 19 | 8 51 04.53 | 10 54 36 | 51 05 | | | | 434013 |
| 50001 | LAREDO*RADAR, TEX. | 4012 | 11 20 | 1 09 37.5 | | | 137 54 | 50 24 | 1155 | 895307 |
| 50002 | LAREDO*RADAR, TEX. | 4012 | 11 30 | 22 06 59.0 | | | 138 54 00 | 63 48 00 | 1491 | 895307 |
| 50006 | SPOKANE, WASH. | 8142 | 11 30 | 1 43 36.4 | | | 180 | 53 21 00 | | 845309 |
| 50003 | LAREDO*RADAR, TEX. | 4012 | 12 07 | 4 46 14 | | | 33 54 | 33 24 | 728 | 895307 |
| 50005 | LAREDO*RADAR, TEX. | 4012 | 12 09 | 5 38 11.3 | | | 232 06 00 | 19 06 00 | 1094 | 895307 |
| 50004 | LAREDO*RADAR, TEX. | 4012 | 12 10 | 4 06 53 | | | 32 48 | 47 24 | 581 | 895307 |
| 50007 | LAREDO*RADAR, TEX. | 4012 | 12 13 | 18 38 59.5 | | | 45 18 00 | 82 30 00 | 1510 | 895307 |
| 30001 | YATSUSHIRO, JAPAN | 0272 | 12 16 | 10 11 19 | | | 0 00 | 31 06 | | 845302 |
| 30002 | SAN JOSE, CAL. | 8573 | 12 21 | 2 54 55.8 | | | 180 | 16 18 00 | | 845304 |
| 30003 | SAN JOSE, CAL. | 8573 | 12 24 | 2 12 45.9 | | | 180 | 13 00 00 | | 845304 |

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|--------|---------------------|--------|-------|------------|---------|-------|---------|----------|-------|--------|
| 10033 | CURACAO*BN, N.W.I. | 9009 | 11 13 | 5 50 49.99 | 4 07 06 | 11 38 | | | | 434013 |
| 10034 | CURACAO*BN, N.W.I. | 9009 | 11 13 | 5 51 01.46 | 4 08 12 | 16 35 | | | | 434013 |
| 10035 | CURACAO*BN, N.W.I. | 9009 | 11 13 | 5 51 05.44 | 4 08 24 | 18 20 | | | | 434013 |
| 10036 | CURACAO*BN, N.W.I. | 9009 | 11 13 | 5 51 09.42 | 4 08 36 | 20 02 | | | | 434013 |
| 10037 | CURACAO*BN, N.W.I. | 9009 | 11 13 | 5 51 11.41 | 4 08 48 | 20 55 | | | | 434013 |
| 10038 | CURACAO*BN, N.W.I. | 9009 | 11 13 | 5 51 13.41 | 4 09 06 | 21 45 | | | | 434013 |
| 10039 | CURACAO*BN, N.W.I. | 9009 | 11 13 | 5 51 24.61 | 4 10 00 | 26 30 | | | | 434013 |
| 10040 | CURACAO*BN, N.W.I. | 9009 | 11 13 | 5 51 26.60 | 4 10 18 | 27 21 | | | | 434013 |
| 10041 | CURACAO*BN, N.W.I. | 9009 | 11 13 | 5 51 32.57 | 4 10 42 | 29 48 | | | | 434013 |
| 50001 | LAREDO*RADAR, TEX. | 4012 | 11 13 | 7 31 30.8 | | | 100 12 | 48 18 | 1163 | 895307 |
| 50002 | LAREDO*RADAR, TEX. | 4012 | 11 13 | 9 09 08.0 | | | 286 36 | 16 42 | 2010 | 895307 |
| 10042 | CURACAO*BN, N.W.I. | 9009 | 11 14 | 5 57 10.23 | 2 35 12 | 15 56 | | | | 434013 |
| 10043 | CURACAO*BN, N.W.I. | 9009 | 11 14 | 5 57 18.23 | 2 34 36 | 19 05 | | | | 434013 |
| 10044 | CURACAO*BN, N.W.I. | 9009 | 11 14 | 5 57 25.00 | 2 33 48 | 21 34 | | | | 434013 |
| 10045 | CURACAO*BN, N.W.I. | 9009 | 11 14 | 5 57 29.00 | 2 33 18 | 23 06 | | | | 434013 |
| 10046 | CURACAO*BN, N.W.I. | 9009 | 11 14 | 5 57 31.97 | 2 33 12 | 23 53 | | | | 434013 |
| 10047 | CURACAO*BN, N.W.I. | 9009 | 11 14 | 5 57 32.96 | 2 32 48 | 24 36 | | | | 434013 |
| 10048 | CURACAO*BN, N.W.I. | 9009 | 11 14 | 5 57 34.95 | 2 32 48 | 25 25 | | | | 434013 |
| 10049 | CURACAO*BN, N.W.I. | 9009 | 11 14 | 5 57 38.93 | 2 32 12 | 26 52 | | | | 434013 |
| 10050 | CURACAO*BN, N.W.I. | 9009 | 11 14 | 5 57 52.84 | 2 30 30 | 31 57 | | | | 434013 |
| 10001 | ORGAN PASS*BN, N.M. | 9001 | 11 14 | 7 38 04.67 | 7 33 06 | 0 49 | | | | 434013 |
| 10002 | ORGAN PASS*BN, N.M. | 9001 | 11 14 | 7 38 08.66 | 7 35 06 | 1 48 | | | | 434013 |
| 10003 | ORGAN PASS*BN, N.M. | 9001 | 11 14 | 7 38 10.66 | 7 36 06 | 2 17 | | | | 434013 |
| 10004 | ORGAN PASS*BN, N.M. | 9001 | 11 14 | 7 38 12.66 | 7 37 06 | 2 48 | | | | 434013 |
| 30004 | LAS CRUCES, N.M. | 0042 | 11 14 | 7 38 14 | 7 47 | 3 50 | | | | 845003 |
| 10005 | ORGAN PASS*BN, N.M. | 9001 | 11 14 | 7 38 24.45 | 7 43 18 | 5 49 | | | | 434013 |
| 10006 | ORGAN PASS*BN, N.M. | 9001 | 11 14 | 7 38 26.45 | 7 44 24 | 6 21 | | | | 434013 |
| 10007 | ORGAN PASS*BN, N.M. | 9001 | 11 14 | 7 38 28.45 | 7 45 30 | 6 52 | | | | 434013 |
| 10008 | ORGAN PASS*BN, N.M. | 9001 | 11 14 | 7 38 30.55 | 7 46 42 | 7 25 | | | | 434013 |
| 10009 | ORGAN PASS*BN, N.M. | 9001 | 11 14 | 7 38 32.55 | 7 47 48 | 7 55 | | | | 434013 |
| 10010 | ORGAN PASS*BN, N.M. | 9001 | 11 14 | 7 38 34.45 | 7 48 54 | 8 28 | | | | 434013 |
| 10011 | ORGAN PASS*BN, N.M. | 9001 | 11 14 | 9 16 09.29 | 0 43 30 | 23 29 | | | | 434013 |
| 10012 | ORGAN PASS*BN, N.M. | 9001 | 11 14 | 9 16 14.29 | 0 41 12 | 24 25 | | | | 434013 |

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|--------|----------------------|--------|-------|-------------|----------|--------|-----------|----------|-------|--------|
| 10013 | ORGAN PASS'BN, N.M. | 9001 | 11 14 | 9 16 24.56 | 0 34 42 | 27 05 | | | | 434013 |
| 10014 | ORGAN PASS'BN, N.M. | 9001 | 11 14 | 9 16 28.56 | 0 32 30 | 28 05 | | | | 434013 |
| 10015 | ORGAN PASS'BN, N.M. | 9001 | 11 14 | 9 16 32.71 | 0 29 48 | 29 04 | | | | 434013 |
| 10016 | ORGAN PASS'BN, N.M. | 9001 | 11 14 | 9 16 36.71 | 0 27 24 | 29 59 | | | | 434013 |
| 10017 | ORGAN PASS'BN, N.M. | 9001 | 11 14 | 9 17 12.25 | 0 02 30 | 37 36 | | | | 434013 |
| 10018 | ORGAN PASS'BN, N.M. | 9001 | 11 14 | 9 17 28.04 | 23 50 24 | 41 05 | | | | 434013 |
| 10019 | ORGAN PASS'BN, N.M. | 9001 | 11 14 | 9 17 32.04 | 23 47 00 | 41 54 | | | | 434013 |
| 10056 | NAINI TAL'BN, INDIA | 9006 | 11 14 | 20 31 09.38 | 0 03 48 | 50 41 | | | | 434013 |
| 10020 | SAN FERNANDO'BN, SP. | 9004 | 11 15 | 1 22 31.78 | 10 54 48 | 65 35 | | | | 434013 |
| 10021 | SAN FERNANDO'BN, SP. | 9004 | 11 15 | 1 22 35.78 | 11 04 12 | 65 46 | | | | 434013 |
| 10022 | SAN FERNANDO'BN, SP. | 9004 | 11 15 | 1 22 39.78 | 11 13 00 | 65 55 | | | | 434013 |
| 10058 | SAN FERNANDO'BN, SP. | 9004 | 11 15 | 1 22 43.8 | 11 22 00 | 65 58 | | | | 434013 |
| 10059 | SAN FERNANDO'BN, SP. | 9004 | 11 15 | 1 22 47.8 | 11 30 48 | 66 03 | | | | 434013 |
| 10023 | SAN FERNANDO'BN, SP. | 9004 | 11 15 | 1 22 51.78 | 11 39 24 | 66 02 | | | | 434013 |
| 10024 | SAN FERNANDO'BN, SP. | 9004 | 11 15 | 1 22 55.78 | 11 47 48 | 66 02 | | | | 434013 |
| 10025 | SAN FERNANDO'BN, SP. | 9004 | 11 15 | 1 22 59.78 | 11 55 48 | 65 59 | | | | 434013 |
| 10026 | SAN FERNANDO'BN, SP. | 9004 | 11 15 | 1 23 03.78 | 12 04 48 | 65 55 | | | | 434013 |
| 10027 | SAN FERNANDO'BN, SP. | 9004 | 11 15 | 1 23 07.78 | 12 11 06 | 65 50 | | | | 434013 |
| 10028 | SAN FERNANDO'BN, SP. | 9004 | 11 15 | 1 23 11.79 | 12 18 42 | 65 44 | | | | 434013 |
| 10051 | CURACAO'BN, N.W.I. | 9009 | 11 15 | 6 04 53.48 | 0 55 06 | 51 44 | | | | 434013 |
| 10052 | CURACAO'BN, N.W.I. | 9009 | 11 15 | 6 04 57.48 | 0 53 12 | 52 36 | | | | 434013 |
| 10053 | CURACAO'BN, N.W.I. | 9009 | 11 15 | 6 05 01.47 | 0 51 24 | 53 27 | | | | 434013 |
| 10054 | CURACAO'BN, N.W.I. | 9009 | 11 15 | 6 05 18.60 | 0 42 18 | 56 39 | | | | 434013 |
| 10055 | JUPITER'BN, FLA. | 9010 | 11 15 | 6 09 05.20 | 9 35 00 | 65 18 | | | | 434013 |
| 50004 | LAREDO'RADAR, TEX. | 4012 | 11 24 | 5 51 30.3 | | | 91 06 | 26 30 | 1164 | 895307 |
| 50005 | LAREDO'RADAR, TEX. | 4012 | 11 26 | 17 07 53.3 | | | 85 18 | 16 30 | 682 | 895307 |
| 50006 | LAREDO'RADAR, TEX. | 4012 | 11 28 | 16 41 12.5 | | | 122 00 | 6 06 | 1308 | 895307 |
| 50007 | LAREDO'RADAR, TEX. | 4012 | 11 28 | 18 17 06 | | | 232 42 | 2 12 | 1885 | 895307 |
| 50008 | LAREDO'RADAR, TEX. | 4012 | 12 01 | 5 48 39.3 | | | 300 18 | 40 12 | 634 | 895307 |
| 50009 | LAREDO'RADAR, TEX. | 4012 | 12 01 | 15 45 51.0 | | | 77 18 | 2 18 | 1640 | 895307 |
| 50010 | LAREDO'RADAR, TEX. | 4012 | 12 01 | 17 21 42.0 | | | 251 42 | 20 42 | 833 | 895307 |
| 30011 | ADELAIDE, AUSTR. | 8528 | 12 06 | 11 22 57.6 | 6 36 | -16 54 | | | | 845002 |
| 50011 | LAREDO'RADAR, TEX. | 4012 | 12 06 | 15 15 42.8 | | | 48 48 00 | 5 00 00 | 1522 | 895307 |
| 50012 | LAREDO'RADAR, TEX. | 4012 | 12 07 | 4 56 18.5 | | | 353 18 | 7 48 | 1213 | 895307 |
| 30012 | ADELAIDE, AUSTR. | 8528 | 12 07 | 10 53 22.8 | 6 45 | -10 | | | | 845002 |
| 30013 | ADELAIDE, AUSTR. | 8528 | 12 07 | 12 27 42.7 | 23 49 | -12 12 | | | | 845002 |
| 50013 | LAREDO'RADAR, TEX. | 4012 | 12 08 | 15 47 52.5 | | | 4 36 00 | 26 06 00 | 770 | 895307 |
| 50014 | LAREDO'RADAR, TEX. | 4012 | 12 09 | 15 15 07.5 | | | 95 42 00 | 23 30 00 | 898 | 895307 |
| 50015 | LAREDO'PADAR, TEX. | 4012 | 12 10 | 4 47 54 | | | 301 42 | 12 42 | 900 | 895307 |
| 50016 | LAREDO'RADAR, TEX. | 4012 | 12 10 | 16 12 48.8 | | | 247 18 00 | 20 36 00 | 1048 | 895307 |
| 30014 | ADELATDE, AUSTR. | 8528 | 12 11 | 11 40 40.1 | 0 39 | -16 48 | | | | 845002 |
| 30015 | ADELAIDE, AUSTR. | 8528 | 12 12 | 10 59 15.5 | 5 51 | -33 42 | | | | 845002 |
| 30007 | WOOMERA, AUSTR. | 0603 | 12 12 | 11 00 48.9 | | | 85 42 | 24 48 | | 845302 |
| 50017 | LAREDO'RADAR, TEX. | 4012 | 12 15 | 2 48 31.5 | | | 76 48 | 4 30 | 1144 | 895307 |
| 50018 | LAREDO'RADAR, TEX. | 4012 | 12 15 | 4 22 07.3 | | | 301 24 | 3 36 | 1250 | 895307 |
| 50020 | LAREDO'RADAR, TEX. | 4012 | 12 15 | 14 07 59.3 | | | 92 06 00 | 14 42 00 | 1265 | 895307 |
| 50019 | LAREDO'RADAR, TEX. | 4012 | 12 15 | 15 37 26.3 | | | 318 54 00 | 5 00 00 | 1835 | 895307 |
| 50021 | LAREDO'RADAR, TEX. | 4012 | 12 16 | 14 45 56.3 | | | 350 30 00 | 10 00 00 | 1400 | 895307 |
| 50022 | LAREDO'RADAR, TEX. | 4012 | 12 16 | 14 47 51.0 | | | 347 12 00 | 38 18 00 | 658 | 895307 |
| 50023 | LAREDO'RADAR, TEX. | 4012 | 12 16 | 14 49 51.8 | | | 183 54 00 | 48 00 00 | 609 | 895307 |
| 50024 | LAREDO'RADAR, TEX. | 4012 | 12 16 | 14 51 50.0 | | | 177 36 00 | 15 18 00 | 1342 | 895307 |
| 50025 | LAREDO'RADAR, TEX. | 4012 | 12 21 | 3 08 36.0 | | | 256 36 00 | 5 54 00 | 795 | 895307 |
| 50026 | LAREDO'RADAR, TEX. | 4012 | 12 24 | 2 32 18.8 | | | 339 54 00 | 11 12 00 | 822 | 895307 |
| 30009 | ROCHESTER, N.Y. | 8564 | 12 28 | 11 53 25.7 | 7 12 | 22 24 | | | | 845012 |
| 50027 | LAREDO'RADAR, TEX. | 4012 | 12 28 | 13 26 37 | | | 273 30 00 | 18 00 00 | 745 | 895307 |
| 50028 | LAREDO'RADAR, TEX. | 4012 | 12 28 | 13 28 36 | | | 217 30 00 | 9 30 00 | 1170 | 895307 |
| 30010 | SACRAMENTO, CAL. | 8517 | 12 28 | 14 53 15.7 | 8 39 12 | -1 46 | | | | 641042 |
| 50029 | LAREDO'RADAR, TEX. | 4012 | 12 29 | 13 00 06 | | | 338 36 00 | 5 36 00 | 1125 | 895307 |
| 30016 | ALBUQUERQUE HS, N.M. | 8534 | 12 29 | 13 00 41.0 | 16 00 24 | 5 12 | | | | 845002 |
| 30008 | ALBUQUERQUE, N.M. | 8534 | 12 29 | 13 01 14.0 | 15 29 12 | -19 24 | | | | 845041 |
| 50030 | LAREDO'RADAR, TEX. | 4012 | 12 29 | 13 04 57.5 | | | 190 00 00 | 4 12 00 | 1240 | 895307 |
| 30018 | SACRAMENTO, CAL. | 8517 | 12 29 | 14 27 46.5 | 8 43 18 | 7 00 | | | | 641012 |
| 30019 | SACRAMENTO, CAL. | 8517 | 12 29 | 14 28 29.4 | 10 06 06 | -23 06 | | | | 641013 |
| 30020 | CHATTANOOGA, TENN. | 0062 | 12 31 | 1 10 25 | | | 278 | 23 | | 845303 |

1960 SIGMA

| OBS NO | STATION | STA NO | DATE | TIME | R. A. | DECL. | AZIMUTH | ALTITUDE | RANGE | INDEX |
|--------|------------------------|--------|-------|-------------|----------|--------|-----------|----------|-------|--------|
| 50074 | LAREDO RADAR, TEX. | 4012 | 12 08 | 6 51 41 | | | 83 42 | 21 48 | 1372 | 895307 |
| 50075 | LAREDO RADAR, TEX. | 4012 | 12 08 | 8 26 22 | | | 297 42 | 22 48 | 1374 | 895307 |
| 10047 | MAUI I BN, HAWAII | 9012 | 12 08 | 11 30 22.12 | 4 14 18 | 9 19 | | | | 434013 |
| 10048 | MAUI I BN, HAWAII | 9012 | 12 08 | 11 30 26.13 | 4 13 42 | 11 43 | | | | 434013 |
| 10049 | MAUI I BN, HAWAII | 9012 | 12 08 | 11 30 28.13 | 4 13 18 | 12 59 | | | | 434013 |
| 10051 | MAUI I BN, HAWAII | 9012 | 12 08 | 11 30 37.11 | 4 11 36 | 18 14 | | | | 434013 |
| 10050 | MAUI I BN, HAWAII | 9012 | 12 08 | 11 30 39.11 | 4 11 06 | 19 38 | | | | 434013 |
| 10055 | MAUI I BN, HAWAII | 9012 | 12 08 | 11 30 41.11 | 4 10 36 | 20 54 | | | | 434013 |
| 10052 | MAUI I BN, HAWAII | 9012 | 12 08 | 11 30 43.11 | 4 10 12 | 22 06 | | | | 434013 |
| 10053 | MAUI I BN, HAWAII | 9012 | 12 08 | 11 30 45.11 | 4 09 42 | 23 20 | | | | 434013 |
| 10054 | MAUI I BN, HAWAII | 9012 | 12 08 | 11 30 57.40 | 4 06 30 | 30 57 | | | | 434013 |
| 50071 | LAREDO RADAR, TEX. | 4012 | 12 08 | 19 53 33.5 | | | 256 42 00 | 3 00 00 | 1457 | 895307 |
| 10056 | SAN FERNANDO I BN, SP. | 9004 | 12 09 | 1 37 55.10 | 4 10 18 | 34 26 | | | | 434013 |
| 10038 | SAN FERNANDO I BN, SP. | 9004 | 12 09 | 1 38 01.14 | 4 06 36 | 38 27 | | | | 434013 |
| 10049 | SAN FERNANDO I BN, SP. | 9004 | 12 09 | 1 38 03.14 | 4 05 00 | 39 47 | | | | 434013 |
| 10040 | SAN FERNANDO I BN, SP. | 9004 | 12 09 | 1 38 05.14 | 4 03 36 | 41 06 | | | | 434013 |
| 10041 | SAN FERNANDO I BN, SP. | 9004 | 12 09 | 1 38 07.14 | 4 01 54 | 42 25 | | | | 434013 |
| 10042 | SAN FERNANDO I BN, SP. | 9004 | 12 09 | 1 38 09.14 | 4 00 24 | 43 45 | | | | 434013 |
| 10043 | SAN FERNANDO I BN, SP. | 9004 | 12 09 | 1 38 11.14 | 3 58 42 | 45 02 | | | | 434013 |
| 10044 | SAN FERNANDO I BN, SP. | 9004 | 12 09 | 1 38 20.46 | 3 49 54 | 50 59 | | | | 434013 |
| 10045 | SAN FERNANDO I BN, SP. | 9004 | 12 09 | 1 38 22.46 | 3 47 36 | 52 13 | | | | 434013 |
| 10046 | SAN FERNANDO I BN, SP. | 9004 | 12 09 | 1 38 24.45 | 3 45 12 | 53 30 | | | | 434013 |
| 10057 | SAN FERNANDO I BN, SP. | 9004 | 12 09 | 1 38 28.50 | 3 40 30 | 55 52 | | | | 434013 |
| 10002 | TOKYO I BN, JAPAN | 9005 | 12 09 | 15 40 17.80 | 5 31 30 | 26 35 | | | | 434013 |
| 10003 | TOKYO I BN, JAPAN | 9005 | 12 09 | 15 40 19.80 | 5 31 48 | 28 01 | | | | 434013 |
| 10004 | TOKYO I BN, JAPAN | 9005 | 12 09 | 15 40 21.80 | 5 32 06 | 29 30 | | | | 434013 |
| 10005 | TOKYO I BN, JAPAN | 9005 | 12 09 | 15 40 23.80 | 5 32 24 | 31 01 | | | | 434013 |
| 10006 | TOKYO I BN, JAPAN | 9005 | 12 09 | 15 40 30.80 | 5 33 24 | 36 11 | | | | 434013 |
| 10007 | TOKYO I BN, JAPAN | 9005 | 12 09 | 15 40 32.80 | 5 33 54 | 37 43 | | | | 434013 |
| 10008 | TOKYO I BN, JAPAN | 9005 | 12 09 | 15 40 34.80 | 5 34 06 | 39 15 | | | | 434013 |
| 10009 | TOKYO I BN, JAPAN | 9005 | 12 09 | 15 40 36.80 | 5 34 24 | 40 42 | | | | 434013 |
| 10010 | TOKYO I BN, JAPAN | 9005 | 12 09 | 15 40 38.80 | 5 34 48 | 42 11 | | | | 434013 |
| 10011 | TOKYO I BN, JAPAN | 9005 | 12 09 | 15 40 46.10 | 5 36 06 | 47 32 | | | | 434013 |
| 10012 | TOKYO I BN, JAPAN | 9005 | 12 09 | 15 40 48.10 | 5 36 48 | 49 02 | | | | 434013 |
| 10013 | TOKYO I BN, JAPAN | 9005 | 12 09 | 15 40 50.10 | 5 37 12 | 50 28 | | | | 434013 |
| 10014 | TOKYO I BN, JAPAN | 9005 | 12 09 | 15 40 52.10 | 5 37 30 | 51 54 | | | | 434013 |
| 10015 | TOKYO I BN, JAPAN | 9005 | 12 09 | 15 40 54.10 | 5 38 12 | 53 18 | | | | 434013 |
| 10016 | TOKYO I BN, JAPAN | 9005 | 12 09 | 15 40 56.10 | 5 38 42 | 54 42 | | | | 434013 |
| 50002 | LAREDO RADAR, TEX. | 4012 | 12 09 | 19 18 15.8 | | | 236 42 00 | 17 00 00 | 815 | 895307 |
| 10037 | AREQUIPA I BN, PERU | 9007 | 12 10 | 5 29 17.14 | 2 32 24 | - 1 50 | | | | 434013 |
| 30001 | W. PALM BEACH, FLA. | 0016 | 12 10 | 5 41 37.5 | | | 59 18 | 36 00 | | 845303 |
| 10018 | TOKYO I BN, JAPAN | 9005 | 12 10 | 15 05 01.90 | 9 16 06 | 24 38 | | | | 434013 |
| 10019 | TOKYO I BN, JAPAN | 9005 | 12 10 | 15 05 11.10 | 9 28 18 | 28 44 | | | | 434013 |
| 10020 | TOKYO I BN, JAPAN | 9005 | 12 10 | 15 05 13.10 | 9 31 00 | 29 36 | | | | 434013 |
| 10022 | TOKYO I BN, JAPAN | 9005 | 12 10 | 15 05 17.10 | 9 36 36 | 31 20 | | | | 434013 |
| 10023 | TOKYO I BN, JAPAN | 9005 | 12 10 | 15 05 19.10 | 9 39 24 | 32 07 | | | | 434013 |
| 10024 | TOKYO I BN, JAPAN | 9005 | 12 10 | 15 05 21.10 | 9 42 18 | 33 00 | | | | 434013 |
| 10025 | TOKYO I BN, JAPAN | 9005 | 12 10 | 15 05 23.10 | 9 45 06 | 33 46 | | | | 434013 |
| 10026 | TOKYO I BN, JAPAN | 9005 | 12 10 | 15 05 25.10 | 9 48 12 | 34 35 | | | | 434013 |
| 10027 | TOKYO I BN, JAPAN | 9005 | 12 10 | 15 05 27.10 | 9 51 12 | 35 23 | | | | 434013 |
| 10028 | TOKYO I BN, JAPAN | 9005 | 12 10 | 15 05 29.10 | 9 54 12 | 36 10 | | | | 434013 |
| 10029 | TOKYO I BN, JAPAN | 9005 | 12 10 | 15 05 31.10 | 9 57 18 | 36 54 | | | | 434013 |
| 10030 | TOKYO I BN, JAPAN | 9005 | 12 10 | 15 05 33.10 | 10 00 18 | 37 40 | | | | 434013 |
| 10031 | TOKYO I BN, JAPAN | 9005 | 12 10 | 15 05 35.10 | 10 03 24 | 38 25 | | | | 434013 |
| 10032 | TOKYO I BN, JAPAN | 9005 | 12 10 | 15 05 37.10 | 10 06 36 | 39 06 | | | | 434013 |
| 10033 | TOKYO I BN, JAPAN | 9005 | 12 10 | 15 05 39.10 | 10 09 54 | 39 50 | | | | 434013 |
| 10034 | TOKYO I BN, JAPAN | 9005 | 12 10 | 15 05 41.10 | 10 13 12 | 40 34 | | | | 434013 |
| 50003 | LAREDO RADAR, TEX. | 4012 | 12 10 | 18 40 29.3 | | | 353 00 00 | 21 30 00 | 618 | 895307 |
| 10035 | NAINI TAL I BN, INDIA | 9006 | 12 10 | 19 45 32.08 | 1 24 18 | 57 43 | | | | 434013 |
| 10036 | NAINI TAL I BN, INDIA | 9006 | 12 10 | 19 45 40.09 | 1 09 30 | 60 10 | | | | 434013 |
| 50026 | LAREDO RADAR, TEX. | 4012 | 12 15 | 18 42 00.8 | | | 251 42 00 | 6 18 00 | 1140 | 895307 |
| 50027 | LAREDO RADAR, TEX. | 4012 | 12 17 | 17 20 59.3 | | | 29 48 00 | 13 24 00 | 824 | 895307 |
| 50028 | LAREDO RADAR, TEX. | 4012 | 12 17 | 17 22 52.5 | | | 109 24 00 | 20 48 00 | 610 | 895307 |
| 50029 | LAREDO RADAR, TEX. | 4012 | 12 17 | 17 24 49.5 | | | 148 18 00 | 5 42 00 | 1285 | 895307 |
| 50030 | LAREDO RADAR, TEX. | 4012 | 12 19 | 17 34 07.5 | | | 330 42 00 | 18 36 00 | 722 | 895307 |
| 50031 | LAREDO RADAR, TEX. | 4012 | 12 21 | 4 50 11.3 | | | 81 12 00 | 10 12 00 | 1548 | 895307 |
| 50032 | LAREDO RADAR, TEX. | 4012 | 12 23 | 4 58 35.3 | | | 131 12 00 | 20 42 00 | 1064 | 895307 |
| 50033 | LAREDO RADAR, TEX. | 4012 | 12 23 | 5 00 31.8 | | | 131 12 00 | 20 42 00 | 912 | 895307 |
| 50034 | LAREDO RADAR, TEX. | 4012 | 12 23 | 5 02 27.0 | | | 131 12 00 | 20 42 00 | 1429 | 895307 |
| 50035 | LAREDO RADAR, TEX. | 4012 | 12 29 | 15 11 38.5 | | | 88 36 00 | 7 06 00 | 1240 | 895307 |
| 50036 | LAREDO RADAR, TEX. | 4012 | 12 29 | 16 43 54 | | | 293 24 00 | 9 06 00 | 1330 | 895307 |
| 50037 | LAREDO RADAR, TEX. | 4012 | 12 29 | 16 46 06 | | | 247 48 00 | 10 36 00 | 1320 | 895307 |
| 50038 | LAREDO RADAR, TEX. | 4012 | 12 29 | 16 48 20.5 | | | 217 36 00 | 4 06 00 | 1930 | 895307 |
| 50039 | LAREDO RADAR, TEX. | 4012 | 12 31 | 15 14 30.5 | | | 34 30 00 | 17 12 00 | 970 | 895307 |
| 50040 | LAREDO RADAR, TEX. | 4012 | 12 31 | 15 16 43.5 | | | 108 54 00 | 24 24 00 | 820 | 895307 |
| 50041 | LAREDO RADAR, TEX. | 4012 | 12 31 | 15 18 53.5 | | | 146 06 00 | 9 12 00 | 1503 | 895307 |

NOTICE

This series of Special Reports was instituted under the supervision of Dr. F. L. Whipple, Director of the Astrophysical Observatory of the Smithsonian Institution, shortly after the launching of the first artificial earth satellite on October 4, 1957. Contributions come from the Staff of the Observatory. First issued to ensure the immediate dissemination of data for satellite tracking, the Reports have continued to provide a rapid distribution of catalogues of satellite observations, orbital information, and preliminary results of data analyses prior to formal publication in the appropriate journals.

Edited and produced under the supervision of Mrs. L. G. Boyd and Mr. E. N. Hayes, the Reports are indexed by the Science and Technology Division of the Library of Congress, and are regularly distributed to all institutions participating in the U. S. space research program and to individual scientists who request them from the Administrative Officer, Technical Information, Smithsonian Astrophysical Observatory, Cambridge 38, Massachusetts.