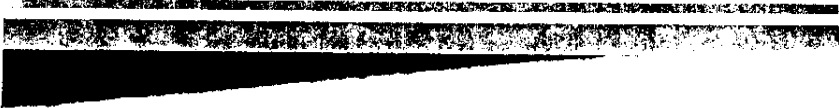




#293

0AO-A2  
REDUCED PHOTOMETER  
68-110A-02A

1 of 6



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## **1. INTRODUCTION:**

The documentation for this data set was originally on paper, kept in NSSDC's Data Set Catalogs (DSCs). The paper documentation in the Data Set Catalogs have been made into digital images, and then collected into a single PDF file for each Data Set Catalog. The inventory information in these DSCs is current as of July 1, 2004. This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system. The information existing in the DSCs is now not needed for locating the data files, but we did not remove that inventory information.

The offline tape datasets have now been migrated from the original magnetic tape to Archival Information Packages (AIP's).

A prior restoration may have been done on data sets, if a requestor of this data set has questions; they should send an inquiry to the request office to see if additional information exists.

## 2. ERRATA/CHANGE LOG:

NOTE: Changes are made in a text box, and will show up that way when displayed on screen with a PDF reader.

***When printing, special settings may be required to make the text box appear on the printed output.***

| Version | Date | Person | Page | Description of Change |
|---------|------|--------|------|-----------------------|
| 01      |      |        |      |                       |
| 02      |      |        |      |                       |

3 LINKS TO RELEVANT INFORMATION IN THE ONLINE NSSDC  
INFORMATION SYSTEM:

<http://nssdc.gsfc.nasa.gov/nmc/>

[NOTE: This link will take you to the main page of the NSSDC Master Catalog. There you will be able to perform searches to find additional information]

4. CATALOG MATERIALS:

- a. Associated Documents      To find associated documents you will need to know the document ID number and then click here.  
<http://nssdcftp.gsfc.nasa.gov/miscellaneous/documents/>

- b. Core Catalog Materials

REDUCED PHOTOMETER DATA MAGTAPE

68-110A-02A

ASVI-00006

THIS DATA SET HAS BEEN RESTORED. IT ORIGINALLY CONTAINED 414 7-TRACK, 556 BPI TAPES WRITTEN IN BCD. THERE ARE SEVEN RESTORED TAPES WRITTEN IN ASCII. TWO OF THE ORIGINAL TAPES WERE BAD: D010003 AND D010552. THE TAPES WERE COMPRESSED AND BLOCKED 100 TO 1. FOR THE MOST PART THE TAPES ARE IN TIME SEQUENTIAL ORDER, BUT THERE ARE A FEW TAPES OUT OF ORDER. THE DR TAPES ARE 3480 CARTRIDGES AND THE DS TAPES ARE 9-TRACK, 6250 BPI. THE ORIGINAL TAPES WERE CREATED ON AN IBM 7094 COMPUTER AND WERE RESTORED ON THE MRS SYSTEM. THE DR AND DS NUMBERS ALONG WITH THE CORRESPONDING D NUMBERS AND TIME SPANS ARE AS FOLLOWS:

| DR#      | DS#      | D#      | FILES     | TIME SPAN               |
|----------|----------|---------|-----------|-------------------------|
| DR005948 | DS005948 | D009827 | 1-14      | 12/11/68 - 12/13/68     |
|          |          | D009828 | 15-36     | 12/18/68 - 12/20/68     |
|          |          | D009829 | 37-68     | 12/20/68 - 12/22/68 (a) |
|          |          | D009830 | 69-97     | 12/22/68 - 12/24/68     |
|          |          | D010022 | 98-152    | 12/27/68 - 12/29/68     |
|          |          | D009831 | 153-196   | 12/30/68 - 01/01/69     |
|          |          | D010023 | 197-229   | 01/01/69 - 01/03/69     |
|          |          | D009832 | 230-273   | 01/10/69 - 01/12/69     |
|          |          | D009833 | 274-313   | 01/12/69 - 01/15/69     |
|          |          | D009834 | 314-337   | 01/15/69 - 01/17/69     |
|          |          | D010024 | 338-402   | 01/31/69 - 02/02/69     |
|          |          | D010061 | 403-473   | 02/02/69 - 02/03/69 (b) |
|          |          | D010348 | 474-532   | 02/30/69 - 02/06/69     |
|          |          | D013369 | 533-593   | 02/06/69 - 02/08/69 (c) |
|          |          | D010026 | 594-643   | 02/08/69 - 02/11/69     |
|          |          | D010027 | 644-690   | 02/11/69 - 02/17/69 (d) |
|          |          | D011002 | 691-719   | 03/01/69 - 03/03/69     |
|          |          | D010028 | 720-744   | 03/03/69 - 03/05/69 (e) |
|          |          | D010127 | 745-775   | 03/05/69 - 03/07/69 (f) |
|          |          | D010029 | 776-824   | 03/28/69 - 03/30/69 (g) |
|          |          | D010030 | 825-862   | 03/30/69 - 04/01/69 (h) |
|          |          | D010004 | 863-905   | 04/05/69 - 04/08/69 (i) |
|          |          | D010062 | 906-946   | 04/08/69 - 04/11/69 (j) |
|          |          | D010005 | 947-972   | 04/11/69 - 04/12/69 (k) |
|          |          | D010006 | 973-1012  | 04/16/69 - 04/18/69     |
|          |          | D010007 | 1013-1059 | 04/19/69 - 04/21/69     |

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| DR#               | DS#      | D#      | FILES     | TIME SPAN                |
|-------------------|----------|---------|-----------|--------------------------|
| DR005948<br>CON'T | DS005948 | D010008 | 1060-1103 | 04/22/69 - 04/24/69      |
|                   |          | D010009 | 1104-1168 | 05/08/69 - 05/11/69 (l)  |
|                   |          | D010010 | 1169-1203 | 05/11/69 - 05/13/69 (m)  |
|                   |          | D011001 | 1204-1273 | 05/13/69 - 05/16/69 (n)  |
|                   |          | D010644 | 1274-1315 | 05/16/69 - 05/19/69 (o)  |
|                   |          | D010011 | 1316-1361 | 05/30/69 - 06/05/69 (p)  |
|                   |          | D010643 | 1362-1390 | 06/05/69 - 06/09/69 (q)  |
|                   |          | D010012 | 1391-1445 | 06/09/69 - 06/13/69 (r)  |
|                   |          | D010013 | 1446-1494 | 06/13/69 - 06/16/69 (s)  |
|                   |          | D010405 | 1495-1550 | 06/16/69 - 06/19/69 (t)  |
|                   |          | D010002 | 1551-1603 | 07/10/69 - 07/12/69 (u)  |
|                   |          | D013370 | 1604-1636 | 07/12/69 - 07/15/69 (v)  |
|                   |          | D010349 | 1637-1669 | 07/15/69 - 07/18/69 (w)  |
|                   |          | D009999 | 1670-1721 | 07/21/69 - 07/25/69 (x)  |
|                   |          | D009998 | 1722-1769 | 08/01/69 - 08/03/69      |
|                   |          | D009997 | 1770-1839 | 08/04/69 - 08/04/69      |
|                   |          | D009996 | 1840-1886 | 08/09/69 - 08/12/69 (y)  |
|                   |          | D009995 | 1887-1928 | 08/12/69 - 08/14/69      |
|                   |          | D009994 | 1929-1953 | 08/14/69 - 08/15/69 (z)  |
|                   |          | D009993 | 1954-1985 | 09/05/69 - 09/07/69 (aa) |
|                   |          | D010021 | 1986-2010 | 09/07/69 - 09/09/69 (bb) |
|                   |          | D010020 | 2011-2040 | 09/10/69 - 09/12/69      |
|                   |          | D010019 | 2041-2066 | 09/12/69 - 09/14/69 (cc) |
|                   |          | D010018 | 2067-2093 | 09/14/69 - 09/16/69 (dd) |
|                   |          | D013371 | 2094-2124 | 09/16/69 - 09/19/69      |
|                   |          | D010016 | 2125-2169 | 09/26/69 - 09/28/69 (ee) |
|                   |          | D010015 | 2170-2206 | 09/28/69 - 09/30/69      |
|                   |          | D011000 | 2207-2245 | 09/30/69 - 10/02/69 (ff) |
| DR005949          | DS005949 | D010014 | 1-32      | 10/02/69 - 10/04/69 (gg) |
|                   |          | D010063 | 33-73     | 10/05/69 - 10/07/69      |
|                   |          | D010128 | 74-104    | 10/07/69 - 10/09/69 (hh) |
|                   |          | D010064 | 105-120   | 10/31/69 - 10/31/69      |
|                   |          | D010129 | 121-156   | 11/07/69 - 11/07/69 (ii) |
|                   |          | D010065 | 157-181   | 11/11/69 - 11/14/69 (jj) |
|                   |          | D010130 | 182-218   | 11/14/69 - 11/16/69      |
|                   |          | D011012 | 219-246   | 11/17/69 - 11/18/69      |
|                   |          | D010131 | 247-279   | 11/18/69 - 11/20/69      |
|                   |          | D010132 | 280-314   | 11/21/69 - 11/23/69      |
|                   |          | D010133 | 315-350   | 11/23/69 - 11/25/69 (kk) |
|                   |          | D010066 | 351-391   | 11/25/69 - 11/28/69      |
|                   |          | D010134 | 392-418   | 12/26/69 - 12/28/69      |
|                   |          | D010135 | 419-454   | 12/28/69 - 12/31/69      |
|                   |          | D010350 | 455-480   | 01/05/70 - 01/07/70      |
|                   |          | D010136 | 481-515   | 01/08/70 - 01/10/70 (ll) |
|                   |          | D010137 | 516-555   | 01/10/70 - 01/13/70      |
|                   |          | D008756 | 556-592   | 01/17/70 - 01/20/70 (mm) |
|                   |          | D010138 | 593-626   | 01/20/70 - 01/22/70 (nn) |
|                   |          | D010139 | 627-674   | 01/22/70 - 01/25/70      |
|                   |          | D010140 | 675-703   | 01/25/70 - 01/27/70      |
|                   |          | D010351 | 704-741   | 01/27/70 - 01/30/70 (oo) |
|                   |          | D010141 | 742-771   | 02/17/70 - 02/19/70      |
|                   |          | D010142 | 772-797   | 02/19/70 - 02/22/70      |

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| DR#                | DS#      | D#      | FILES     | TIME SPAN                |
|--------------------|----------|---------|-----------|--------------------------|
| DR005949<br>CON'T. | DS005949 | D010068 | 798-829   | 02/22/70 - 02/25/70      |
|                    |          | D010069 | 830-860   | 02/25/70 - 02/27/70      |
|                    |          | D010143 | 861-894   | 02/27/70 - 03/02/70      |
|                    |          | D010144 | 895-919   | 03/02/70 - 03/06/70      |
|                    |          | D010070 | 920-936   | 03/06/70 - 03/09/70      |
|                    |          | D010145 | 937-955   | 03/10/70 - 03/11/70      |
|                    |          | D008743 | 956-977   | 03/12/70 - 03/13/70      |
|                    |          | D010146 | 978-1006  | 03/14/70 - 03/16/70      |
|                    |          | D008746 | 1007-1044 | 03/16/70 - 03/19/70      |
|                    |          | D008745 | 1045-1051 | 03/20/70 - 03/22/70      |
|                    |          | D008744 | 1052-1081 | 03/22/70 - 03/25/70      |
|                    |          | D010352 | 1082-1092 | 03/25/70 - 03/27/70      |
|                    |          | D008751 | 1093-1102 | 03/28/70 - 03/29/70      |
|                    |          | D008710 | 1103-1120 | 04/04/70 - 04/06/70      |
|                    |          | D008741 | 1121-1174 | 04/10/70 - 04/15/70      |
|                    |          | D008752 | 1175-1229 | 04/15/70 - 04/19/70 (pp) |
|                    |          | D008755 | 1230-1261 | 04/19/70 - 04/22/70 (qq) |
|                    |          | D008742 | 1262-1292 | 04/22/70 - 04/25/70      |
|                    |          | D008753 | 1293-1331 | 04/25/70 - 04/28/70 (rr) |
|                    |          | D010406 | 1332-1370 | 04/28/70 - 05/01/70 (ss) |
|                    |          | D008754 | 1371-1406 | 05/01/70 - 05/04/70      |
|                    |          | D010642 | 1407-1430 | 05/06/70 - 05/09/70      |
|                    |          | D010353 | 1431-1468 | 05/09/70 - 05/11/70      |
|                    |          | D010354 | 1469-1510 | 05/11/70 - 05/14/70      |
|                    |          | D008747 | 1511-1522 | 05/14/70 - 05/15/70      |
|                    |          | D008709 | 1523-1544 | 05/17/70 - 05/19/70      |
|                    |          | D010355 | 1545-1564 | 05/19/70 - 05/22/70      |
|                    |          | D008708 | 1565-1593 | 05/23/70 - 05/25/70      |
|                    |          | D008749 | 1594-1609 | 05/25/70 - 05/29/70      |
|                    |          | D008750 | 1610-1638 | 06/03/70 - 06/06/70      |
|                    |          | D010356 | 1639-1666 | 06/06/70 - 06/09/70      |
|                    |          | D013302 | 1667-1684 | 06/09/70 - 06/12/70 (tt) |
|                    |          | D010357 | 1685-1726 | 06/13/70 - 06/16/70      |
|                    |          | D010559 | 1727-1737 | 06/21/70 - 06/22/70 (uu) |
|                    |          | D010380 | 1738-1769 | 06/23/70 - 06/25/70 (vv) |
|                    |          | D010381 | 1770-1794 | 06/25/70 - 06/28/70      |
|                    |          | D010382 | 1795-1824 | 06/28/70 - 07/01/70      |
|                    |          | D010407 | 1825-1841 | 07/02/70 - 07/04/70      |
|                    |          | D010383 | 1842-1861 | 07/05/70 - 07/09/70      |
|                    |          | D010385 | 1862-1886 | 07/09/70 - 07/11/70      |
| DR005950           | DS005950 | D010385 | 1-28      | 07/11/70 - 07/14/70      |
|                    |          | D010386 | 29-52     | 07/14/70 - 07/17/70 (ww) |
|                    |          | D010387 | 53-73     | 07/18/70 - 07/20/70 (xx) |
|                    |          | D010388 | 74-100    | 07/20/70 - 07/23/70 (yy) |
|                    |          | D010389 | 101-127   | 07/23/70 - 07/26/70      |
|                    |          | D010408 | 128-153   | 07/26/70 - 07/29/70      |
|                    |          | D013303 | 154-183   | 07/29/70 - 08/01/70 (zz) |
|                    |          | D010390 | 184-223   | 08/01/70 - 08/05/70      |
|                    |          | D013304 | 224-252   | 08/06/70 - 08/09/70      |
|                    |          | D010410 | 253-280   | 08/12/70 - 08/15/70      |
|                    |          | D010411 | 281-316   | 08/15/70 - 08/18/70      |

| DR#      | DS#      | D#      | FILES     | TIME SPAN                 |
|----------|----------|---------|-----------|---------------------------|
| DR005950 | DS005950 | D010392 | 317-342   | 08/18/70 - 08/21/70       |
| CON'T.   |          | D010393 | 343-360   | 08/18/70 - 08/23/70       |
|          |          | D010394 | 361-368   | 08/23/70 - 08/24/70       |
|          |          | D010412 | 369-388   | 08/24/70 - 08/26/70       |
|          |          | D010395 | 389-401   | 08/27/70 - 08/29/70 (aaa) |
|          |          | D010396 | 402-423   | 08/30/70 - 09/03/70       |
|          |          | D013305 | 424-456   | 09/30/70 - 09/05/70 (bbb) |
|          |          | D010413 | 457-488   | 09/05/70 - 09/08/70       |
|          |          | D010414 | 489-507   | 09/08/70 - 09/10/70       |
|          |          | D010415 | 508-523   | 09/10/70 - 09/12/70       |
|          |          | D010416 | 524-543   | 09/13/70 - 09/17/70       |
|          |          | D010417 | 544-576   | 09/17/70 - 09/20/70       |
|          |          | D010641 | 577-607   | 09/20/70 - 09/22/70       |
|          |          | D010418 | 608-628   | 09/22/70 - 09/25/70       |
|          |          | D013306 | 629-654   | 09/26/70 - 09/29/70 (ccc) |
|          |          | D010420 | 655-668   | 09/29/70 - 10/02/70       |
|          |          | D010640 | 669-674   | 10/03/70 - 10/04/70 (ddd) |
|          |          | D010421 | 675-678   | 10/05/70 - 10/09/70       |
|          |          | D010422 | 679-683   | 10/09/70 - 10/11/70       |
|          |          | D010423 | 684-688   | 10/11/70 - 10/12/70       |
|          |          | D010424 | 689-718   | 10/14/70 - 10/17/70       |
|          |          | D011013 | 719-724   | 10/17/70 - 10/20/70       |
|          |          | D010425 | 725-727   | 10/21/70 - 10/21/70       |
|          |          | D010426 | 728-743   | 10/23/70 - 10/25/70 (eee) |
|          |          | D010427 | 744-751   | 10/25/70 - 10/28/70       |
|          |          | D013364 | 752-756   | 10/29/70 - 10/29/70 (fff) |
|          |          | D010428 | 757-800   | 11/01/70 - 11/04/70 (ggg) |
|          |          | D010999 | 801-847   | 11/04/70 - 11/07/70 (hhh) |
|          |          | D010998 | 848-851   | 11/07/70 - 11/07/70 (iii) |
|          |          | D010639 | 852-873   | 11/08/70 - 11/10/70       |
|          |          | D010429 | 874-875   | 11/11/70 - 11/11/70 (jjj) |
|          |          | D010430 | 876-881   | 11/13/70 - 11/14/70       |
|          |          | D010431 | 882-886   | 11/20/70 - 11/22/70       |
|          |          | D013365 | 887-891   | 11/26/70 - 11/29/70 (kkk) |
|          |          | D010471 | 892-924   | 12/03/70 - 12/05/70       |
|          |          | D010472 | 925-928   | 12/05/70 - 12/05/70       |
|          |          | D010432 | 929-967   | 12/08/70 - 12/10/70       |
|          |          | D010473 | 968-983   | 12/11/70 - 12/13/70       |
|          |          | D010474 | 984-1000  | 12/13/70 - 12/14/70       |
|          |          | D010475 | 1001-1014 | 12/14/70 - 12/17/70       |
|          |          | D010638 | 1015-1037 | 12/18/70 - 12/20/70 (lll) |
|          |          | D010476 | 1038-1055 | 12/21/70 - 12/22/70       |
|          |          | D010477 | 1056-1059 | 12/24/70 - 12/26/70       |
|          |          | D010478 | 1060-1078 | 12/26/70 - 12/28/70       |
|          |          | D010481 | 1079-1098 | 12/31/70 - 01/03/71       |
|          |          | D013366 | 1099-1100 | 01/03/71 - 01/06/71 (mmm) |
|          |          | D010461 | 1101-1104 | 01/06/71 - 01/07/71       |
|          |          | D010546 | 1105-1124 | 01/06/71 - 01/23/71 (nnn) |
|          |          | D013367 | 1125-1136 | 01/10/71 - 01/20/71 (ooo) |
|          |          | D010462 | 1137-1162 | 01/23/71 - 01/27/71 (ppp) |
|          |          | D013372 | 1163-1190 | 01/27/71 - 01/30/71 (qqq) |
|          |          | D010464 | 1191-1199 | 01/03/71 - 02/02/71       |
|          |          | D010482 | 1200-1206 | 02/02/71 - 02/03/71 (rrr) |

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| DR#      | DS#      | D#      | FILES   | TIME SPAN                  |
|----------|----------|---------|---------|----------------------------|
| DR005951 | DS005951 | D013373 | 1-10    | 02/04/71 - 02/06/71 (sss)  |
|          |          | D013374 | 11-23   | 02/06/71 - 02/09/71 (ttt)  |
|          |          | D010466 | 24-46   | 02/09/71 - 02/12/71        |
|          |          | D010483 | 47-77   | 02/13/71 - 02/15/71        |
|          |          | D010545 | 78-104  | 02/16/71 - 02/18/71        |
|          |          | D013375 | 105-114 | 02/19/71 - 02/21/71 (uuu)  |
|          |          | D010467 | 115-125 | 02/21/71 - 02/23/71        |
|          |          | D010484 | 126-136 | 02/24/71 - 02/28/71 (vvv)  |
|          |          | D013376 | 137-151 | 03/01/71 - 03/05/71 (www)  |
|          |          | D010520 | 152-170 | 03/07/71 - 03/11/71 (xxx)  |
|          |          | D010469 | 171-190 | 03/11/71 - 03/16/71        |
|          |          | D010485 | 191-210 | 03/16/71 - 03/21/71        |
|          |          | D010470 | 211-229 | 03/22/71 - 03/25/71        |
|          |          | D010537 | 230-235 | 03/25/71 - 03/26/71        |
|          |          | D010486 | 236-255 | 03/27/71 - 03/29/71        |
|          |          | D010539 | 256-287 | 03/29/71 - 04/01/71 (yyy)  |
|          |          | D010487 | 288-300 | 04/01/71 - 04/04/71        |
|          |          | D010488 | 301-313 | 04/05/71 - 04/07/71        |
|          |          | D010538 | 314-330 | 04/07/71 - 04/10/71        |
|          |          | D010489 | 331-351 | 04/11/71 - 04/14/71        |
|          |          | D010490 | 352-368 | 04/14/71 - 04/15/71        |
|          |          | D010544 | 369-382 | 04/16/71 - 04/17/71        |
|          |          | D010541 | 383-390 | 04/17/71 - 04/19/71        |
|          |          | D010540 | 391-397 | 04/19/71 - 04/22/71        |
|          |          | D010535 | 398-406 | 04/22/71 - 04/25/71 (zzz)  |
|          |          | D010637 | 407-422 | 04/26/71 - 04/28/71 (aaaa) |
|          |          | D010525 | 423-441 | 04/29/71 - 05/02/71        |
|          |          | D010524 | 442-460 | 05/02/71 - 05/05/71        |
|          |          | D010523 | 461-483 | 05/06/71 - 05/09/71        |
|          |          | D010522 | 484-508 | 05/10/71 - 05/11/71        |
|          |          | D010528 | 509-512 | 05/12/71 - 05/12/71        |
|          |          | D013368 | 513-519 | 05/15/71 - 05/16/71 (bbbb) |
|          |          | D010533 | 520-538 | 05/17/71 - 05/19/71        |
|          |          | D010532 | 539-553 | 05/19/71 - 05/21/71        |
|          |          | D010531 | 554-566 | 05/22/71 - 05/25/71 (cccc) |
|          |          | D010521 | 567-586 | 05/26/71 - 05/28/71 (dddd) |
|          |          | D010529 | 587-611 | 06/03/71 - 06/04/71 (eeee) |
|          |          | D010526 | 612-623 | 06/05/71 - 06/06/71 (ffff) |
|          |          | D010534 | 624-631 | 06/07/71 - 06/09/71 (gggg) |
|          |          | D010543 | 632-648 | 06/09/71 - 06/10/71 (hhhh) |
|          |          | D010530 | 649-652 | 06/01/71 - 06/02/71 (iiii) |
|          |          | D010542 | 653-668 | 06/11/71 - 06/13/71 (jjjj) |
|          |          | D010557 | 669-689 | 06/14/71 - 06/16/71 (kkkk) |
|          |          | D010558 | 690-691 | 06/17/71 - 06/17/71 (llll) |
|          |          | D016651 | 692-724 | 06/17/71 - 06/23/71 (mmmm) |
|          |          | D010560 | 725-750 | 06/23/71 - 06/29/71 (nnnn) |
|          |          | D013307 | 751-762 | 06/30/71 - 07/03/71 (oooo) |
|          |          | D010562 | 763-770 | 07/04/71 - 07/06/71 (pppp) |
|          |          | D010563 | 771-781 | 07/09/71 - 07/11/71 (qqqq) |
|          |          | D010564 | 782-805 | 07/12/71 - 07/14/71 (rrrr) |
|          |          | D010547 | 806-841 | 07/14/71 - 07/18/71 (ssss) |
|          |          | D010548 | 842-860 | 07/18/71 - 07/20/71 (tttt) |
|          |          | D010556 | 861-889 | 07/21/71 - 07/23/71 (uuuu) |
|          |          | D013308 | 890-904 | 07/24/71 - 07/27/71 (vvvv) |

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| DR#                | DS#      | D#      | FILES     | TIME SPAN                    |
|--------------------|----------|---------|-----------|------------------------------|
| DR005951<br>CON'T. | DS005951 | D010554 | 905-915   | 07/28/71 - 07/30/71 (www)    |
|                    |          | D010636 | 916-934   | 07/30/71 - 08/03/71 (xxxx)   |
|                    |          | D010553 | 935-959   | 08/04/71 - 08/07/71 (yyyy)   |
|                    |          | D010552 | 960-975   | 08/12/71 - 08/14/71          |
|                    |          | D010551 | 976-983   | 08/14/71 - 08/17/71 (zzzz)   |
|                    |          | D010634 | 984-992   | 08/18/71 - 08/20/71 (aaaaa)  |
|                    |          | D010550 | 993-1005  | 08/20/71 - 08/20/71 (bbbbb)  |
|                    |          | D010549 | 1006-1017 | 08/26/71 - 08/26/71          |
|                    |          | D010633 | 1018-1044 | 08/30/71 - 08/31/71 (ccccc)  |
|                    |          | D010632 | 1045-1062 | 09/03/71 - 09/03/71 (ddddd)  |
|                    |          | D010631 | 1063-1095 | 09/07/71 - 09/10/71 (eeee)   |
|                    |          | D011016 | 1096-1104 | 09/10/71 - 09/12/71 (ffffff) |
|                    |          | D013309 | 1105-1124 | 09/12/71 - 09/14/71 (ggggg)  |
|                    |          | D013310 | 1125-1146 | 09/14/71 - 09/17/71 (hhhhh)  |
|                    |          | D010630 | 1147-1182 | 09/17/71 - 09/20/71 (iiiii)  |
|                    |          | D010629 | 1183-1190 | 09/20/71 - 09/21/71 (jjjjj)  |
|                    |          | D010628 | 1191-1197 | 09/21/71 - 09/22/71 (kkkkk)  |
|                    |          | D010627 | 1198-1211 | 09/22/71 - 09/24/71 (lllll)  |
|                    |          | D010626 | 1212-1237 | 09/24/71 - 09/27/71 (mmmmm)  |
|                    |          | D010625 | 1238-1276 | 09/27/71 - 09/30/71 (nnnnn)  |
|                    |          | D010635 | 1277-1303 | 09/30/71 - 10/03/71 (ooooo)  |
| DR005952           | DS005952 | D010615 | 1-29      | 11/21/71 - 11/23/71 (ppppp)  |
|                    |          | D011014 | 30-45     | 10/06/71 - 10/09/71 (qqqqq)  |
|                    |          | D010616 | 46-65     | 10/09/71 - 10/12/71 (rrrrr)  |
|                    |          | D010617 | 66-95     | 10/02/71 - 10/16/71 (sssss)  |
|                    |          | D010619 | 96-127    | 10/17/71 - 10/20/71 (ttttt)  |
|                    |          | D010620 | 128-156   | 10/21/71 - 10/26/71 (uuuuu)  |
|                    |          | D010621 | 157-186   | 10/26/71 - 10/29/71 (vvvvv)  |
|                    |          | D010622 | 187-205   | 10/29/71 - 11/02/71 (wwwww)  |
|                    |          | D010623 | 206-213   | 11/03/71 - 11/04/71 (xxxxx)  |
|                    |          | D016650 | 214-230   | 11/05/71 - 11/06/71 (yyyyy)  |
|                    |          | D010624 | 231-254   | 11/06/71 - 11/10/71 (zzzzz)  |
|                    |          | D010618 | 255-272   | 11/12/71 - 11/13/71 (aaaaaa) |
|                    |          | D013311 | 273-303   | 11/14/71 - 11/17/71 (bbbbbb) |
|                    |          | D011008 | 304-309   | 11/17/71 - 11/18/71 (cccccc) |
|                    |          | D011005 | 310-338   | 11/21/71 - 11/23/71          |
|                    |          | D011004 | 339-380   | 11/23/71 - 11/26/71 (dddddd) |
|                    |          | D013312 | 381-400   | 11/27/71 - 11/29/71 (eeeeee) |
|                    |          | D011009 | 401-417   | 11/29/71 - 12/01/71          |
|                    |          | D013313 | 418-433   | 12/02/71 - 12/04/71          |
|                    |          | D014382 | 434-452   | 12/04/71 - 12/07/71 (ffffff) |
|                    |          | D016649 | 453-478   | 12/07/71 - 12/12/71          |
|                    |          | D014383 | 479-510   | 12/12/71 - 12/17/71          |
|                    |          | D013314 | 511-544   | 12/17/71 - 12/22/71          |
|                    |          | D011015 | 545-573   | 12/22/71 - 12/25/71          |
|                    |          | D011007 | 574-605   | 12/25/71 - 12/28/71          |
|                    |          | D011010 | 606-638   | 12/29/71 - 12/31/71 (gggggg) |
|                    |          | D011006 | 639-669   | 12/31/71 - 01/03/72 (hhhhhh) |
|                    |          | D011011 | 670-703   | 01/03/72 - 01/06/72 (iiiiii) |
|                    |          | D011003 | 704-725   | 01/06/72 - 01/08/72          |
|                    |          | D013315 | 726-753   | 01/09/72 - 01/10/72          |

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| DR#                | DS#      | D#      | FILES     | TIME SPAN           |          |
|--------------------|----------|---------|-----------|---------------------|----------|
| DR005952<br>CON'T. | DS005952 | D013316 | 754-783   | 01/11/72 - 01/13/72 |          |
|                    |          | D014384 | 784-817   | 01/14/72 - 01/17/72 | (jjjjjj) |
|                    |          | D013362 | 818-828   | 01/13/72 - 01/15/72 | (kkkkkk) |
|                    |          | D014040 | 829-857   | 01/16/72 - 01/18/72 |          |
|                    |          | D013353 | 858-888   | 01/18/72 - 01/21/72 |          |
|                    |          | D016648 | 889-920   | 01/21/72 - 01/24/72 |          |
|                    |          | D013354 | 921-951   | 01/24/72 - 01/26/72 |          |
|                    |          | D013355 | 952-970   | 01/27/72 - 01/29/72 |          |
|                    |          | D013356 | 971-983   | 01/30/72 - 02/02/72 |          |
|                    |          | D016647 | 984-1014  | 02/02/72 - 02/07/72 |          |
|                    |          | D014385 | 1015-1047 | 02/12/72 - 02/15/72 |          |
|                    |          | D016638 | 1048-1074 | 02/15/72 - 02/18/72 |          |
|                    |          | D013357 | 1075-1098 | 02/20/72 - 02/22/72 |          |
|                    |          | D013358 | 1099-1120 | 02/23/72 - 02/24/72 |          |
|                    |          | D013359 | 1121-1153 | 02/24/72 - 02/27/72 |          |
|                    |          | D013360 | 1154-1172 | 02/27/72 - 03/01/72 |          |
|                    |          | D014039 | 1173-1200 | 03/01/72 - 03/03/72 | (llllll) |
|                    |          | D014042 | 1201-1235 | 03/03/72 - 03/06/72 |          |
|                    |          | D013361 | 1236-1260 | 03/06/72 - 03/08/72 |          |
|                    |          | D013342 | 1261-1291 | 02/07/72 - 02/12/72 |          |
|                    |          | D016646 | 1292-1314 | 03/08/72 - 03/10/72 |          |
|                    |          | D013343 | 1315-1331 | 03/10/72 - 03/12/72 |          |
|                    |          | D013344 | 1332-1346 | 03/12/72 - 03/14/72 | (mmmmmm) |
|                    |          | D016645 | 1347-1372 | 03/14/72 - 03/17/72 | (nnnnnn) |
|                    |          | D013345 | 1373-1407 | 03/17/72 - 03/20/72 | (oooooo) |
|                    |          | D013346 | 1408-1418 | 03/21/72 - 03/23/72 | (pppppp) |
|                    |          | D013347 | 1419-1455 | 03/23/72 - 03/27/72 | (qqqqqq) |
|                    |          | D016644 | 1456-1492 | 03/27/72 - 03/31/72 |          |
|                    |          | D013348 | 1493-1519 | 04/01/72 - 04/05/72 | (rrrrrr) |
|                    |          | D013349 | 1520-1549 | 04/05/72 - 04/08/72 | (ssssss) |
|                    |          | D013350 | 1550-1575 | 04/08/72 - 04/11/72 | (tttttt) |
|                    |          | D014048 | 1576-1598 | 04/11/72 - 04/14/72 | (uuuuuu) |
|                    |          | D014047 | 1599-1625 | 04/15/72 - 04/18/72 |          |
|                    |          | D013351 | 1626-1674 | 04/18/72 - 04/21/72 |          |
|                    |          | D013317 | 1675-1703 | 04/21/72 - 04/24/72 |          |
|                    |          | D013318 | 1704-1746 | 04/24/72 - 04/27/72 | (vvvvvv) |
|                    |          | D014045 | 1747-1777 | 04/27/72 - 04/30/72 | (wwwww)  |
|                    |          | D013319 | 1778-1793 | 04/30/72 - 05/01/72 | (xxxxxx) |
|                    |          | D013320 | 1794-1820 | 05/02/72 - 05/04/72 | (yyyyyy) |
|                    |          | D013321 | 1821-1847 | 05/04/72 - 05/06/72 | (zzzzzz) |
|                    |          | D013332 | 1848-1878 | 05/04/72 - 05/06/72 | (aaaaaa) |
|                    |          | D013363 | 1879-1907 | 05/07/72 - 05/09/72 | (bbbbbb) |
|                    |          | D013333 | 1908-1928 | 05/09/72 - 05/11/72 |          |
| DR005953           | DS005953 | D013334 | 1-17      | 05/12/72 - 05/13/72 | (cccccc) |
|                    |          | D013335 | 18-32     | 05/14/72 - 05/16/72 | (dddddd) |
|                    |          | D014046 | 33-56     | 05/17/72 - 05/19/72 | (eeeeee) |
|                    |          | D013336 | 57-78     | 05/20/72 - 05/23/72 | (ffffff) |
|                    |          | D013323 | 79-96     | 05/23/72 - 05/27/72 | (gggggg) |
|                    |          | D013324 | 97-122    | 05/27/72 - 05/31/72 |          |
|                    |          | D013325 | 123-154   | 06/01/72 - 06/05/72 |          |

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| DR#      | DS#      | D#      | FILES     | TIME SPAN           |            |
|----------|----------|---------|-----------|---------------------|------------|
| DR005953 | DS005953 | D014386 | 155-167   | 06/08/72 - 06/09/72 |            |
| CON'T.   |          | D013326 | 168-205   | 06/16/72 - 06/18/72 |            |
|          |          | D013328 | 206-220   | 06/19/72 - 06/24/72 |            |
|          |          | D013329 | 221-240   | 06/28/72 - 06/30/72 |            |
|          |          | D013330 | 241-259   | 06/30/72 - 07/03/72 |            |
|          |          | D013331 | 260-279   | 07/03/72 - 07/06/72 | (hhhhhhh)  |
|          |          | D014387 | 280-303   | 07/06/72 - 07/10/72 |            |
|          |          | D014388 | 304-326   | 07/11/72 - 07/15/72 |            |
|          |          | D014389 | 327-353   | 07/21/72 - 07/26/72 |            |
|          |          | D013338 | 354-375   | 07/27/72 - 07/29/72 |            |
|          |          | D013339 | 376-406   | 07/29/72 - 08/01/72 |            |
|          |          | D013340 | 407-445   | 08/02/72 - 08/04/72 | (iiiiiii)  |
|          |          | D013341 | 446-500   | 08/04/72 - 08/06/72 | (jjjjjjj)  |
|          |          | D014043 | 501-522   | 08/07/72 - 08/09/72 |            |
|          |          | D014044 | 523-544   | 08/10/72 - 08/12/72 |            |
|          |          | D014041 | 545-575   | 08/12/72 - 08/15/72 |            |
|          |          | D014059 | 576-599   | 08/15/72 - 08/17/72 | (kkkkkkk)  |
|          |          | D014062 | 600-604   | 08/17/72 - 08/19/72 | (lllllll)  |
|          |          | D014061 | 605-609   | 08/20/72 - 08/22/72 |            |
|          |          | D014063 | 610-613   | 08/22/72 - 08/23/72 |            |
|          |          | D014060 | 614-623   | 08/24/72 - 08/26/72 | (mmmmmmm)  |
|          |          | D014065 | 624-658   | 08/29/72 - 09/01/72 |            |
|          |          | D014064 | 659-664   | 09/01/72 - 09/04/72 |            |
|          |          | D016643 | 665-693   | 09/04/72 - 09/06/72 |            |
|          |          | D014068 | 694-722   | 09/07/72 - 09/10/72 |            |
|          |          | D014067 | 723-740   | 09/11/72 - 09/12/72 | (nnnnnnn)  |
|          |          | D014066 | 741-757   | 09/13/72 - 09/16/72 |            |
|          |          | D014025 | 758-774   | 09/16/72 - 09/19/72 | (oooooooo) |
|          |          | D013352 | 775-794   | 09/20/72 - 09/25/72 |            |
|          |          | D013322 | 795-809   | 09/25/72 - 09/27/72 |            |
|          |          | D014390 | 810-822   | 09/27/72 - 09/30/72 |            |
|          |          | D014024 | 823-844   | 10/01/72 - 10/03/72 |            |
|          |          | D016642 | 845-867   | 10/04/72 - 10/06/72 | (ppppppp)  |
|          |          | D014391 | 868-879   | 10/06/72 - 10/08/72 | (qqqqqqq)  |
|          |          | D014027 | 880-882   | 10/09/72 - 10/11/72 | (rrrrrrr)  |
|          |          | D014026 | 883-933   | 10/12/72 - 10/14/72 | (sssssss)  |
|          |          | D014029 | 934-959   | 10/14/72 - 10/15/72 | (ttttttt)  |
|          |          | D014028 | 960-984   | 10/16/72 - 10/17/72 |            |
|          |          | D014031 | 985-1001  | 10/18/72 - 10/19/72 | (uuuuuuu)  |
|          |          | D014030 | 1002-1029 | 10/19/72 - 10/21/72 |            |
|          |          | D014033 | 1030-1060 | 10/22/72 - 10/24/72 | (vvvvvvv)  |
|          |          | D014032 | 1061-1072 | 10/24/72 - 10/26/72 | (wwwwwww)  |
|          |          | D014381 | 1073-1094 | 10/26/72 - 10/28/72 | (xxxxxxxx) |
|          |          | D014050 | 1095-1121 | 10/28/72 - 10/31/72 |            |
|          |          | D014380 | 1122-1140 | 11/01/72 - 11/02/72 |            |
|          |          | D014049 | 1141-1165 | 11/03/72 - 11/07/72 |            |
|          |          | D014052 | 1166-1185 | 11/08/72 - 11/12/72 |            |
|          |          | D014051 | 1186-1205 | 11/12/72 - 11/15/72 |            |
|          |          | D014054 | 1206-1230 | 11/16/72 - 11/19/72 |            |
|          |          | D014053 | 1231-1273 | 11/20/72 - 11/22/72 |            |
|          |          | D014056 | 1274-1330 | 11/22/72 - 11/24/72 | (yyyyyyy)  |
|          |          | D014379 | 1331-1367 | 11/24/72 - 11/27/72 |            |
|          |          | D016641 | 1368-1390 | 11/27/72 - 11/28/72 |            |

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| DR#                | DS#      | D#      | FILES     | TIME SPAN                     |
|--------------------|----------|---------|-----------|-------------------------------|
| DR005953<br>CON'T. | DS005953 | D014055 | 1391-1407 | 11/29/72 - 11/30/72           |
|                    |          | D014058 | 1408-1435 | 12/01/72 - 12/03/72           |
|                    |          | D014057 | 1436-1455 | 12/03/72 - 12/05/72           |
|                    |          | D016640 | 1456-1488 | 12/06/72 - 12/08/72           |
|                    |          | D014036 | 1489-1497 | 12/08/72 - 12/10/72           |
|                    |          | D014035 | 1498-1506 | 12/10/72 - 12/12/72           |
|                    |          | D014034 | 1507-1522 | 12/12/72 - 12/14/72           |
|                    |          | D014038 | 1523-1526 | 12/14/72 - 12/14/72           |
|                    |          | D014037 | 1527-1540 | 12/15/72 - 12/16/72           |
|                    |          | D014378 | 1541-1570 | 12/17/72 - 12/19/72           |
|                    |          | D014377 | 1571-1600 | 12/19/72 - 12/21/72           |
|                    |          | D016639 | 1601-1618 | 12/21/72 - 01/06/73           |
|                    |          | D014376 | 1619-1647 | 01/18/73 - 01/22/73 (zzzzzzz) |
|                    |          | D014375 | 1648-1663 | 01/22/73 - 01/24/73           |
|                    |          | D014374 | 1664-1687 | 01/24/73 - 01/26/73           |
|                    |          | D014373 | 1688-1710 | 01/26/73 - 01/30/73           |
|                    |          | D014372 | 1711-1717 | 01/30/73 - 02/01/73           |
|                    |          | D014371 | 1718-1723 | 02/02/73 - 02/04/73           |
| DR005961           | DS005961 | D010000 | 1-43      | 07/19/69 - 07/21/69           |
|                    |          | D013327 | 44-72     | 06/13/72 - 06/16/72           |
|                    |          | D013337 | 73-103    | 07/16/72 - 07/20/72           |
|                    |          | D014370 | 104-109   | 02/02/73 - 02/04/73           |
|                    |          | D014369 | 110-115   | 02/05/73 - 02/07/73           |

- (a) D009829 - 26 ERRORS, REC. 382, 440, F5; REC. 17, 18, 47, 75, 104, 162, F6; REC. 335, F22; REC. 99, 492, 914, F24; REC. 233, 283, F30; REC. 165, 274, 480, 539, 718, 927, 1001, 1282, 1357, F31; REC. 74, 180, 286, F32
- (b) D010061 - 2 ERRORS, REC. 42, F57; REC. 205, F70
- (c) D013369 - 2 ERRORS, REC. 221, 249, F8
- (d) D010027 - 8 ERRORS, REC. 176, 178, F1; REC. 474, 475, 485, 590, 591, 746, F2
- (e) D010028 - 76 ERRORS, REC. 22, 325, 337, 343, 370, F1; REC. 23, 110, 128, 152, 164, 188, 194, 236, 419, 631, 637, 643, 649, 655, 673, 860, 869, 884, 896, 914, 920, 926, 938, 944, F2; REC. 50, 53, 56, 62, 145, 157, 163, 178, 356, 442, 457, 475, 543, F3; REC. 5, 133, 276, 344, 350, 356, F4; REC. 7, 25, 78, 84, 167, 217, 386, 454, 466, 472, 475, 481, 550, 551, F5; REC. 76, 88, 168, 195, 464, 479, F6; REC. 367, 414, F7; REC. 23, F8; REC. 438, F9; REC. 333, F13; REC. 20, F15; REC. 456, 505, F25
- (f) D010127 - 19 ERRORS, REC. 141, 234, F1; REC. 91, 153, 556, 711, 847, 927, 958, F2; REC. 316, 453, 687, 699, F3; REC. 398, 674, 792, F5; REC. 13, 119, F10 REC. 167, F14
- (g) D010029 - 35 ERRORS, REC. 317, 472, F1; REC. 23, 32, 110, 124, 153, 346, 355, 375, 410, 514, 560, 604, 650, 679, 685, 705, 740, 772, 801, 827, F2; REC. 65, 109, 110, 580, F3; REC. 41, 138, F4; REC. 164, F6; REC. 547, F9; REC. 31, F11; REC. 227, 283, F12; REC. 51, F16; REC. 114, F21
- (h) D010030 - 9 ERRORS, REC. 91, 122, 413, 574, F2; REC. 70, F6; REC. 247, F8; REC. 33, F14; REC. 245, F15; REC. 205, F31
- (i) D010004 - 2 ERRORS, REC. 199, 391, F1
- (j) D010062 - 552 ERRORS, REC. 251, 433, 545, F2; REC. 129, 299, 305, 461, F3; REC. 70, 188, 249, 396, 402, F4; REC. 121, 212, 221, 291, 297, 453, 526, F5; REC. 119, 228, 257, 340, 390, 410, 434, 437, F6; REC. 40, 46, 61, 208, 214,

252, 255, 267, 290, 302, 349, 414, 428, 434, 440, 549, 658, 711, F7; REC. 46, 52, 129, 167, 258, 264, 270, 276, 314, 344, 347, 438, 444, 494, F8; REC. 9, 21, 41, 47, 53, 68, 74, 150, 218, 274, 277, 312, 330, 336, 342, 409, F9; REC. 2, 40, 52, 58, 67, 81, 87, 99, 119, 131, 137, 164, 178, 222, 228, 234, 275, 281, 299, 37, 346, 349, 366, 399, 402, F10; REC. 2, 49, 111, 117, 123, 129, 188, 194, 232, 260, 313, 319, 325, 354, 369, 372, 375, 395, 413, 419, 449, 461, 483, 489, 492, 507, 543, F11; REC. 2, 5, 8, 46, 93, 108, 111, 143, 149, 199, 202, 234, 237, 240, 246, 252, 258, 276, 282, 285, 341, 365, 371, 383, 418, 421, 424, 439, 457, 463, 469, 478, 490, 496, 502, F12; REC. 4, 36, 42, 48, 54, 74, 80, 89, 127, 130, 133, 142, 168, 186, 291, 294, 297, 309, 321, 344, 356, 362, 382, 397, 400, 423, 426, 479, F13; REC. 5, 20, 52, 58, 84, 93, 102, 108, 114, 117, 123, 137, 149, 158, 161, 181, 187, 202, 248, 260, 266, 269, 272, 275, 301, 304, 307, 319, 322, 369, 378, 419, 422, F14; REC. 2, 37, 46, 72, 101, 119, 125, 139, 142, 153, 156, 188, 267, 270, 290, 340, 367, 369, 372, 386, 392, 398, 401, 415, 418, 421, 427, 433, 453, 459, 488, 500, 561, 587, 604, 624, 662, F15; REC. 4, 24, 38, 71, 154, 203, 234, 309, 323, 329, F16; REC. 16, 25, 60, 66, 104, 121, 147, 150, 170, F17; REC. 8, 28, 51, 77, 89, 112, 126, 175, F18; REC. 8, 22, 31, 54, 60, 63, 103, 140, 157, 295, 297, 320, 323, 346, 352, 358, 381, 393, 407, 413, F19; REC. 1, 13, 22, 39, 51, 74, 77, 91, 120, 141, F20; REC. 74, 85, F21; REC. 1, 18, 35, 44, 52, 66, 205, F22; REC. 41, 58, 67, 81, 87, 93, 101, 110, 113, 130, 144, 155, 161, 175, 206, 339, 348, 351, 356, 362, 365, 406, 425, 436, 592, 755, 970, 1025, F23; REC. 14, 192, 271, 360, F24; REC. 26, 74, 97, F25; REC. 6, 20, 42, 137, 300, 302, 313, 316, 322, 364, 375, 419, F26; REC. 5, 302, 307, 318, F27; REC. 169, 171, 174, 177, 191, 210, 511, 895, 897, 906, 1072, 1083, F28; REC. 74, 88, 118, 270, 273, 276, 314, 518, 523, F29; REC. 298, 323, 526, 553, F30; REC. 7, F31; REC. 7, 65, 78, 298, 300, F32; REC. 100, 390, 408, F33; REC. 150, 325, 530, 538, 632, F35; REC. 14, 132, 213, 592, 936, 1084, 1320, 1322, F36; REC. 245, 250, 276, 292, 301, 321, F37; REC. 16, 333, 340, 486, F38; REC. 80, 268, F40; REC. 164, 581, 605, 620, 740, F41; REC. 126, 352, 362, 625, 966, 1119, 143; REC. 90, 96, 98, 113, 570, 584, 791, F44

(k) D010005 - 120 ERRORS, REC. 170, 260, 336, F1; REC. 100, 142, 206, 265, 273, 349, 394, 439, 453, 461, 484, 498, 529, 608, 622, 628, 639, 659, 662, 690, 699, 707, 826, 894, 925, 948, 962, 991, 1005, 1013, 1016, 1022, 1033, 1036, F2; REC. 4, 84, 121, 181, 204, 218, 298, 304, 318, 355, 429, 466, 503, 526, 546, F3; REC. 10, 33, 70, 110, 113, 122, 142, 153, 156, 193, 290, 333, 427, F4; REC. 39, 82, 119, 219, 265, 345, 365, 523, 580, F5; REC. 65, 79, 188, 208, 257, 343, 544, 593, F6; REC. 16, F7; REC. 100, 120, 192, 235, 249, F8, REC. 27, 101, 199, 256, 293, 336, 445, 557, 574, 776, 790, F9, REC. 253, 523, 891, 1122, F10; REC. 137, 180, 278, 356, F11; REC. 33, F13; REC. 113, F14; REC. 70, F15; REC. 44, 93, F17, REC. 130, F18; REC. 86, 141, 184, 276, F19; REC. 125, F21; REC. 586, F22; REC. 298, F25

(l) D010009 - 116 ERRORS, REC. 361, 464, 486, 491, F1; REC. 56, 81, 92, 109, 198, 248, 270, 273, 387, 406, 612, 626, 637, 684, 1116, 1172, 1323, F2; REC. 117, 126, 137, 148, 308, 322, 384, 432, F3; REC. 66, 242, 307, F4; REC. 71, F5; REC. 22, F6; REC. 16, F10; REC. 21, F11; REC. 23, F12; REC. 62, 85, 105, 122, 165, F14; REC. 7, F16; REC. 24, F17; REC. 21, F19; REC. 12, 46, 55, 98, 112, 152, 232, 258, 281, 312, F20; REC. 40, 69, 126, 229, 252, F21; REC. 62, 122, 185, 308, 342, 351, 511, F22; REC. 53, 73, 185, 354, 368, F23; REC. 111, 180, 214, 257, 486, 552, 572, F24; REC. 76, 90, 96, 127, 139, 159, 239, F25; REC. 63, F26; REC. 10, 139, 153, F27; REC. 2, 22, 71, 163, 180, 249, 278, F29; REC. 122, 280, 329, 415, 550, F30; REC. 143, 309, F31; REC. 64, 359, F32; REC. 2, F33; REC. 23, F36; REC. 124, 233, F40; REC. 40, F47; REC. 64, F50; REC. 174, F53; REC. 116, F55; REC. 141, F56; REC. 45, F57

(m) D010010 - 1 ERROR, REC. 371, F 4

(n) D011001 - 8 ERRORS, REC. 79, F9; REC. 294, F47; REC. 97, F49; REC. 138, F52, REC. 134, F54; REC. 455, F56; REC. 164, F57; REC. 206, F65

(o) D010644 - 1 ERROR, REC. 119, F41

(p) D010011 - 6 ERRORS, REC. 247, 428, F2; REC. 137, F6; REC. 94, 100, F13; REC. 144, F20

(q) D010643 - 429 ERRORS, REC. 34, F1; REC. 110, 116, 122, 232, 297, 303, 309, 315, 410, 508, 609, 695, 707, 719, 802, 891, 894, 900, 906, 912, 989, 1081, 1087, F2; REC. 5, 11, 85, 88, 174, 186, 192, F3; REC. 203, 360, 363, 366, 508, 517, F4; REC. 62, 133, 201, 213, 328, 367, 387, F5; REC. 38, 41, 44, 50, 71, 21, 192, 201, 207, 260, 263, 328, 334, 340, 402, 470, 473, 479, 485, 544, 609, 618, 674, 677, 742, 745, 751, 757, 813, F6; REC. 24, 83, 148, 151, F7; REC. 10, 13, 16, 81, 84, 87, 90, 102, 155, 223, 226, 229, 235, 297, 300, 359, 362, 368, 374, 430, 433, 439, 498, 501, 507, 513, 569, 572, 575, 640, 646, 652, 696, 699, 705, 770, 773, 779, 785, F8; REC. 53, 121, 127, 133, 192, 198, 251, 254, 257, 260, 293, 316, 319, 325, 387, 393, F9; REC. 5, 11, 17, 23, 76, 79, 82, 85, 100, 147, 150, 156, 162, 218, 221, 280, 283, 289, 295, 345, 348, 413, 416, 422, 449, F10; REC. 22, 25, 28, F11; REC. 7, 13, 19, 72, 78, 143, 146, 152, 158, F12; REC. 2, 8, F13; REC. 37, 43, 49, 111, 114, 179, 182, 188, F15; REC. 39, 42, 48, 193, 199, F16; REC. 12, F17; REC. 6, 12, 18, 80, 83, 86, 148, 151, 157, 163, 225, 296, 302, 308, 370, 441, 447, 474, 509, 512, 518, 577, 586, 592, F18; REC. 2, 5, 8, 14, 20, 88, 91, 147, 159, 165, 180, 224, 236, 242, 304, 310, F19; REC. 52, 58, 123, 191, 197, 256, 259, 330, 336, 395, 407, 463, 469, 528, 531, 593, 596, 602, 658, 661, 664, 673, 729, 735, 791, 794, 806, 818, 853, 856, 862, 868, 924, 927, 945, 1001, 1057, 1060, 1063, 1078, 1119, 1128, 1134, 1140, 1193, 1196, 1205, F20; REC. 36, 42, F21; REC. 5, 11, 13, 17, 20, 67, 70, 76, 82, 141, 203, 268, 271, 274, 277, 280, 407, 419, 425, 475, 481, 487, 496, 531, 546, 552, F22; REC. 20, 91, 97, 103, 153, 159, 230, 280, 286, 292, 298, 357, 363, 413, 419, 475, 478, 490, 540, 546, 623, 667, 673, 735, 750, 800, F23; REC. 27, 33, 104, 116, 160, 222, 243, 287, 293, 349, 358, 414, 467, 479, 491, 535, 541, 562, 618, 668, 674, 733, 789, F24; REC. 6, 56, 59, 71, 115, 174, 180, 227, 230, 236, 242, 289, 292, 295, 301, 313, 351, 357, 413, 422, 428, 463, 466, 472, 528, 537, 587, 593, F25; REC. 15, 21, 27, 77, 83, 145, 148, 154, 210, 216, 222, 272, 275, 281, 287, 293, 349, F26; REC. 31, 37, 43, 93, 99, 164, 170, 226, 229, 282, 297, 303, 353, 359, F27; REC. 1, 7, 16, 22, 84, 90, 140, 149, 155, 205, 211, 223, 264, 270, 276, 288, 332, 338, 353, F28; REC. 12, 41, F29

(r) D010012 - 516 ERRORS, REC. 88, 519, 658, 714, 785, F2; REC. 135, F3; REC. 5, 11, 32, 38, 79, 100, 144, 150, 227, 280, 283, 289, 301, 304, 351, 360, 366, F4; REC. 33, 39, 42, 48, 110, 181, 193, 196, 240, 243, 249, 255, 276, 305, 314, 364, 370, 376, 447, 503, 509, 571, 580, F5; REC. 22, 69, 78, 81, 134, 137, 140, 149, 199, 205, 255, 261, 264, 317, 326, 332, 344, F6; REC. 45, 113, 169, 172, 237, 296, 299, 305, 432, 485, 491, 503, 547, 553, 665, 668, 745, 795, 801, 851, 922, 972, 978, F7; REC. 62, 68, 74, 136, 384, F8; REC. 2, 14, F9; REC. 72, 78, 128, 149, 193, 249, 255, 311, 314, 320, 391, F10; REC. 52, 117, 191, F11; REC. 32, 41, 88, 106, 162, 168, 218, 227, 277, 280, 283, 395, 398, 404, F12; REC. 5, 8, 64, F13; REC. 37, F14; REC. 6, 15, 62, F15; REC. 27, 33, 86, 92, 151, 219, 284, 328, 355, 384, F16; REC. 14, 26, 70, 91, 97, 123, 129, 135, 194, 250, 383, F17; REC. 49, 52, 99, 105, 167, 173, 220, 226, 229, 267, 270, 282, 332, 388, 391, 403, F18; REC. 22, 28, 40, 78, 84, 149, 152, 258, 314, 317, 320, 367, F19; REC. 15, 24, 83, 139, F20; REC. 2, 17, 55, 176, 182, 188, F21; REC. 63, 69, 175, 234, 237, 296, 299, 355, F22; REC. 11, 55, 64, 70, 179, 185, 232, F23; REC. 14, 58, 64, 188, 220, 282, 379, 414, 417, 499, 505, 604, 610, 639, 665, F24; REC. 50, 103, 156, 238, F25; REC. 65, 71, 109, 112, 115, 156, 191, 238, 241, 279, 282, 411, 466, F26; REC. 2, 81, 125, 160, 210, 213, 251, 295, 368, 397, 403, 444, 546, 563, 586, 592, 626, 658, 696, 725, 771, 822, 883, F28; REC. 14, 17, 73, 76, 120, 197, F29; REC. 1, 10, 17, 50, 56, 59, 73, F30; REC. 1, 13, 19, 48, 51, 57, 60, 63, 101, 107, 110, 113, 116, 122, 166, 169, 175, F31; REC. 43, 52, 96, 99, 105, 108, 111, 114, 167, 176, 226, F32; REC. 37, 55, 99, 102, 105, 111, 173, 229, 238, 244, 247, 297, F33; REC. 7, 15, 23, 31, 62, 65, 71, 73, 79, 87, 99, 108, 116, 119, 170, 178, 206, 212, 216, 220, 239, 241, 244, 300, 353, 365, 371, 377, 403, 409, 412, 415, 440, 446, 449, 452, 460, 463, 466, 477, 492, 495, 500, 503, 511, 544, 552, 555, 560, 566, 569, 578, 580, 586, 589, F34; REC. 26, 29, 31, 34, 39, 46, 126, F36; REC. 59, 71, 98, 127, 130, 138, 277, 280, 297, 362, 368, 377, F38; REC. 28, 37, 42, 49, 194, 253, 273, 279, 293, 408, F39; REC. 30, 36, 45, 48, 79, 83, 87, 176, F40; REC. 27, 38, 85, 94, 97, 106, 115, 153, 159,

165, 171, 177, 180, 181, 188, 197, 206, 220, 225, 232-235, 244-260, F41; REC. 85, 381, 443, F42; REC. 89, F46; REC. 2, 58, 88, 141, 322, 485, 523, 535, 541, 556, 618, 624, 630, 636, 680, 688, 691, 694, 697, 750, 762, 768, 774, 780, 789, 747; REC. 16, 28, 34, 40, 52, 58, 67, 87, 99, 111, 134, 136, 192, 216, 462, 48; REC. 47, 435, 613, 693, F49; REC. 74, 249, 264, 338, F50; REC. 12, 33, 45, 101, 122, 193, 220, 389, F51; REC. 270, 451, 469, 481, 662, 905, 920, 1068, F52; REC. 150, F53; REC. 464, 562, 687, F54; REC. 80, 86, F55

(s) D010013 - 413 ERRORS, REC. 20, 99, 134, 300, 315, 341, 361, 367, 373, 400, 416, 422, 459, F1; REC. 22, 25, 51, 65, 71, 97, 103, 126, 181, 190, 230, 285, 288, 314, 331, 334, 366, 369, 383, 389, 409, 432, 447, 453, 454, 461, 464, 467, 475, 478, 481, 487, 513, 536, 559, 585, 591, 628, 643, 669, 674, 677, 706, 712, 732, 741, 758, 764, 775, 781, 810, F2; REC. 7, 13, 36, 39, 56, 68, 85, 105, 120, 134, 154, 169, 203, 226, 238, 252, 278, 281, 301, 304, 310, 327, 350, 356, 379, 399, 405, 425, 431, 448, 457, 463, 512, 552, 558, 601, 610, 650, 665, 676, F3; REC. 15, 35, 55, 64, 84, 139, 168, 194, 249, 255, 310, 325, 336, 351, 386, F4; REC. 7, 13, 27, 33, 59, 65, 68, 85, 88, 91, 94, 123, 155, 176, 196, 225, 231, 234, 240, 249, 261, 275, 278, 284, 299, 311, 331, 337, 343, 349, 370, 376, 390, 402, F5; REC. 43, 81, 93, 108, 114, 120, 149, 152, 161, 208, 214, 220, 285, 288, 347, 359, 365, 383, F6; REC. 6, 12, 65, 80, 86, 145, 151, 157, 169, 190, 234, 246, 252, 282, 326, 332, 397, 403, 433, 439, 480, 489, 495, 507, 513, 531, 552, 566, 602, 608, 614, 676, 715, F7; REC. 90, 173, 179, 191, 197, 244, 256, 259, 298, F8; REC. 55, 67, 147, 150, 159, 162, 236, 248, 254, 328, 331, 346, 361, 441, 447, 453, 459, 536, 539, 548, 554, 560, 563, 628, 634, 646, 658, 673, F9; REC. 2, 53, 82, 91, 100, 115, 133, 195, 201, F10; REC. 23, 29, 35, 41, 133, F11; REC. 18, 59, 74, 80, 86, 104, 110, 178, 217, 229, 235, 279, 291, 297, 303, 309, 315, 321, F12; REC. 39, 48, 51, 60, 63, 69, 93, 155, 167, 179, 185, 206, 268, 277, 280, 286, 292, 304, 310, 384, 396, 509, 512, 601, 607, 613, 631, 729, F13; REC. 25, 49, 129, 135, 141, 147, 218, 224, 248, 260, 278, 346, 358, 364, 370, 379, F14; REC. 19, 212, 224, 230, 236, 337, F15; REC. 19, 43, 123, 141, 251, 54, 370, 468, 474, 483, 489, 501, 569, 587, 593, 697, 703, 730, F16; REC. 71, 4, 83, 89, 202, 238, 416, 437, 529, 639, 734, 740, F17; REC. 36, 60, 66, 167, 179, 271, 283, 408, 494, 637, F18; REC. 94, F19; REC. 52, 171, 239, 257, 263, 269, F21; REC. 266, 331, 346, 373, 453, F22; REC. 3, 83, 95, 184, F23; REC. 124, 225, 311, 448, F24; REC. 21, 220, F25; REC. 236, F26; REC. 60, 84, 292, 578, F27; REC. 64, 347, 496, 588, F28; REC. 345, F29; REC. 32, F30; REC. 24, 36, F33; REC. 49, 308, F36; REC. 46, 219, F37; REC. 28, 46, F38; REC. 324, F39; REC. 20, F40; REC. 293, F42; REC. 28, 144, 287, F43; REC. 120, F44; REC. 378, 476, F48

(t) D010405 - 226 ERRORS, REC. 323, 360, F1; REC. 25, 158, 297, 309, 421, 430, 581, 676, 708, 720, F2; REC. 11, 23, 73, 129, 138, 150, 159, 227, 265, 283, 289, 301, 360, F3; REC. 40, 173, F4; REC. 61, 315, 448, F5; REC. 57, 128, 311, 388, 444, F6; REC. 164, 368, 418, 424, F7; REC. 98, 163, 181, 237, 290, 308, 314, 364, 370, 376, 388, 435, 453, 488, 494, F8; REC. 4, 54, 131, 181, F9; REC. 321, 377, 643, 702, 764, 770, 776, F10; REC. 23, 61, 73, 129, 135, 206, 256, 324, F11; REC. 13, 119, 125, 264, 311, 329, 335, 385, F13; REC. 86, 136, 142, 207, 225, 269, 325, 399, F14; REC. 26, 147, F15; REC. 65, 127, 567, 750, F17; REC. 86, 325, 334, 461, 467, F18; REC. 24, 36, F20; REC. 26, 82, F21; REC. 40, 43, F23; REC. 2, 70, F24; REC. 45, F25; REC. 13, F26; REC. 161, 179, F27; REC. 67, 188, 256, 448, F28; REC. 14, 268, F29; REC. 332, 397, F30; REC. 122, 172, 311, 317, 379, F31; REC. 351, F32; REC. 20, 91, F33; REC. 43, 49, 126, 182, 188, F35; REC. 11, F36; REC. 45, 95, 101, F38; REC. 98, 169, 423, F39; REC. 98, 287, 358, 420, 553, F40; REC. 390, F41; REC. 168, 446, 505, F42; REC. 368, 501, F43; REC. 134, 211, 217, 356, 362, 368, 406, 439, 477, 557, F44; REC. 15, 21, 98, 154, 624, 686, F45; REC. 234, 299, 565, F46; REC. 345, 354, 360, 361, 422, F47; REC. 154, 160, 210, 225, 231, 232, 370, F48; REC. 57, F49; REC. 46, 61, 114, F50; REC. 76, 88, 153, F51; REC. 77, 107, 145, 151, 154, 172, F52; REC. 70, 76, 82, 17, 138, 141, 144, 271, 277, 348, F53; REC. 65, 68, 76, 82, 84, 173, F54; REC. 16, 78, 155, 161, F55; REC. 5, 73, 82, 91, 97, 115, 130, 165, 171, 177, 221, F56

(u) D010002 - 11 ERRORS, REC. 301, F6; REC. 275, F12; REC. 92, F19; REC. 87,

F30; REC. 18, F37; REC. 115, F39; REC. 13, 19, F41; REC. 31, F46; REC. 236, F48; REC. 388, F51

(v) D013370 - 20 ERRORS, REC. 187, F2; REC. 63, F5; REC. 146, F8; REC. 73, F9; REC. 2, 331, F12; REC. 219, F17; REC. 424, F20; REC. 139, F21; REC. 93, 128, 22; REC. 259, F25; REC. 400, F26; REC. 141, F27; REC. 3, 338, 636, 715, F28; REC. 168, F31; REC. 59, F32

(w) D010349 - 1 ERROR, REC. 110, F10

(x) D009999 - 1 ERROR, REC. 5, F1

(y) D009996 - 43 ERRORS, REC. 200, 362, F1; REC. 246, 252, F5; REC. 133, 186, 230, 333, F6; REC. 362, F9; REC. 953, F13; REC. 371, F14; REC. 32, 144, 176, 279, 332, F15; REC. 28, 87, 125, 234, 281, 319, F16; REC. 28, 34, 99, 152, F17; REC. 484, F18; REC. 139, F19; REC. 223, F21; REC. 129, F22; REC. 22, F27; REC. 170, 261, F30; REC. 365, F31; REC. 404, 442, F33; REC. 186, F34; REC. 311, F35; REC. 75, F38; REC. 34, 169, F39; REC. 374, F46; REC. 157, F47

(z) D009994 - 41 ERRORS, REC. 28, 131, 343, F1; REC. 433, F2; REC. 414, F3; REC. 49, 413, F4; REC. 373, F5; REC. 19, F6; REC. 168, 174, 337, 500, F7; REC. 29, F9; REC. 54, 229, 309, 312, F10; REC. 62, 213, F11; REC. 66, F12; REC. 203, F13; REC. 75, F14; REC. 85, F15; REC. 15, 196, 359, F16; REC. 494, F17; REC. 209, 227, 396, F18; REC. 27, 107, F20; REC. 16, F21; REC. 307, F23; REC. 269, 676, F24; REC. 18, 374, 644, 656, F25

(aa) D009993 - 2 ERRORS, REC. 230, F15; REC. 397, F20

(bb) D010021 - 2 ERRORS, REC. 536, F2; REC. 64, F3

(cc) D010019 - 49 ERRORS, REC. 148, 402, 473, 517, F2; REC. 288, F3; REC. 92, 231, 358, F4; REC. 157, 284, 399, F5; REC. 100, 150, 239, 289, 298, F6; REC. 120, 182, F7; REC. 162, 245, 257, 369, 378, F8; REC. 2, 123, 167, 179, 262, 324, 386, 398, 401, F9; REC. 213, 302, F10; REC. 167, 300, F11; REC. 100, 257, F12; REC. 117, 327, F14; REC. 275, F15; REC. 57, 341, F16; REC. 208, 347, F17; REC. 45, F18; REC. 360, F19; REC. 241, 380, F20

(dd) D010018 - 45 ERRORS, REC. 104, F2; REC. 396, F3; REC. 22, F4; REC. 47, F5; REC. 573, F6; REC. 81, 131, 330, 392, F7; REC. 41, 127, 385, F8; REC. 29, F9; REC. 392, F10; REC. 348, F11; REC. 164, 256, 434, F12; REC. 312, F13; REC. 417, F14; REC. 259, F15; REC. 192, F16; REC. 223, 395, F17; REC. 21, 134, 196, 380, F18; REC. 136, 477, 557, F19; REC. 164, 401, F20; REC. 103, F21; REC. 68, 92, 148, F22; REC. 228, F23; REC. 182, F24; REC. 259, F25; REC. 148, 492, F26; REC. 40, 277, 446, F27

(ee) D010016 - 5 ERRORS, REC. 21, F3; REC. 132, F5; REC. REC. 248, F32; REC. 58 F34; REC. 54, F42

(ff) D011000 - 8 ERRORS, REC. 123, 129, F8; REC. 120, 265, F9; REC. 191, F15; REC. 483, F24; REC. 314, F36; REC. 116, F39

(gg) D010014 - 6 ERRORS, REC. 112, F2; REC. 95, F6; REC. 124, F8; REC. 141, F9; REC. 824, F10; REC. 175, F17

(hh) D010128 - 57 ERRORS, REC. 168, 374, F1; REC. 68, 171, F2; REC. 131, 228, 234, F3; REC. 150, 247, 253, F4; REC. 186, 295, 301, F5; REC. 31, 175, 272, F6; REC. 164, 255, 364, F7; REC. 55, 255, 358, F8; REC. 50, F9; REC. 138, 447, F10; REC. 346, F11; REC. 152, 255, 358, F12; REC. 515, F13; REC. 209, 280, F14; REC. 140, F15; REC. 67, 170, F16; REC. 204, F17; REC. 89, 207, F18; REC. 303, F19; REC. 179, 185, 191, F20; REC. 2, F21; REC. 71, 377, F23; REC. 261, 364, F24; REC. 78, 181, F26; REC. 219, 316, 413, F28; REC. 402, F29; REC. 288, 391, F30; REC. 311, 393, F31

(ii) D010129 - 4 ERRORS, REC. 8, 9, 11, F1; REC. REC. 400, F10

(jj) D010065 - 4 ERRORS, REC. 1, 29, 56, 83

(kk) D010133 - 4 ERRORS, REC. 43, 229, 253, 264, F2

(ll) D010136 - 1 ERROR, REC. 495, F4

(mm) D010138 - 1 ERROR, REC. 196, F3

(nn) D008756 - 1 ERROR, REC. 123, F7

(oo) D010351 - 1 ERROR, REC. 2, F26

(pp) D008752 - 2 ERRORS, REC. 58, F1; REC. 15, F11

(qq) D008755 - 1 ERROR, REC. 456, F10

(rr) D008753 - 3 ERRORS, REC. 173, F1; REC. 51, F2; REC. 90, F12

(ss) D010406 - 1 ERROR, REC. 258, F11  
(tt) D013302 - 47 ERRORS, REC. 106, 198, 204, 216, 222, 273, F1; REC. 26, 187, 395, F2; REC. 3, 48, 140, 170, 301, 423, 509, F3; REC. 22, 84, 102, 224, 343, 555, 367, 471, 590, 596, F4; REC. 14, 38, 181, 255, 273, 279, 285, F5; REC. 163, 75, 181, 318, 544, 934, 940, F7; REC. 8 F10; REC. 571, F11; REC. 108, 114, F12 REC. 50, 797, 3219, F14  
(uu) D010559 - 77 ERRORS, REC. 199, F2; REC. 485, 584, F3; REC. 52, 66, 114, 137, 148, 165, 185, 233, 256, 338, 341, 358, 361, 375, 437, 494, 534, 605, 608, 676, 690, 764, 778, 804, 978, 989, 992, 1043, 1149, 1160, 1177, 1223, 1294, 1360, 1374, 1394, 1460, 1591, 1657, 1694, 1703, 1783, 1805, 1877, 1905, 1908, 1965, 1971, 1994, 2014, 2060, 2094, 2171, 2174, 2194, 2274, 2363, 2377, 2414, F4; REC. 2, 31, 45, 102, 125, 131, 171, 248, 277, 285, 328, 457, 474, F5; REC. 151, 372, F8  
(vv) D010380 - 3 ERRORS, REC. 12, 70, 225, F1  
(ww) D010386 - 2 ERRORS, REC. 126, 185, F1  
(xx) D010387 - 1 ERROR, REC. 980, F4  
(yy) D010388 - 1 ERROR, REC. 2356, F4  
(zz) D013303 - 99 ERRORS, REC. 152, 158, 249, 390, 428, 475, 481, F1; REC. 8, 34, 40, 61, 84, 152, 184, 190, 193, 219, 237, 301, 313, 316, 366, 372, 398, 404, 419, 442, 448, 451, 483, 489, 533, F2; REC. 5, 37, 43, 81, 90, 125, 128, 143, 149, 166, 172, 219, 225, 263, 304, 310, 325, 360, 395, 401, 486, 492, 507, 539, 583, 621, 674, 689, 712, 733, 753, 768, 818, 847, 850, 865, 894, 903, 932, 935, 950, 1020, 1026, 1070, 1091, 1123, 1126, 1132, 1208, 1214, 1279, 1305, 1311, 1467, 1564, 1602, 1699, 1937, 1984, 2178, 2275, 2319, 2748, 2942, 3706, F3; REC. 172, F5; REC. 253, F9  
(aaa) D010395 - 2 ERRORS, REC. 334, 391, F4  
(bbb) D013305 - 18 ERRORS, REC. 425, F1; REC. 78, F2; REC. 16, 84, 90, 242, F3; REC. 208, F4; REC. 93, 343, 355, F5; REC. 10, 28, 43, 49, 480, F6; REC. 44, 169 F7; REC. 288, F8  
(ccc) D013306 - 5 ERRORS, REC. 628, F14; REC. 90, F16; REC. 93, F20; REC. 103, 23; REC. 43, F25  
(ddd) D010640 - 1 ERROR, REC. 58, F1  
(eee) D010426 - 1 ERROR, REC. 192, F6  
(fff) D013364 - 27 ERRORS, REC. 32, 273, 285, 297, F1; REC. 337, 462, 468, 474, 498, F2; REC. 118, 124, 198, 204, 326, F3; REC. 117, 129, 150, 169, 358, 1001, 1093, 1105, 1117, 1123, 1168, F4; REC. 6738, 10780, F5  
(ggg) D010428 - 1 ERROR, REC. 45, F29  
(hhh) D010999 - 1 ERROR, REC. 23, F1  
(iii) D010998 - 2 ERRORS, REC. 56, F1; REC. 47, F2  
(jjj) D010429 - 8 ERRORS, REC. 414, 872, 2024, 3081, 3691, 4191, 4444, 4938, F2  
(kkk) D013365 - 31 ERRORS, REC. 35, 94, 100, 112, 130, 133, 142, 148, 157, 160, 243, 249, 261, 273, 285, 297, 300, 306, 315, 330, f1; REC. 24, 30, 36, 51, 66, F2; REC. 45, 46, 48, 49, 52, 53, F3  
(lll) D010638 - 1 ERROR, REC. 40, F1  
(mmm) D013366 - 1 ERROR, REC. 2438, F2  
(nnn) D010546 - 1 ERROR, REC. 1416, F3  
(ooo) D013367 - 35 ERRORS, REC. 283, 295, 313, F1; REC. 382, 653, 975, 1058, F4 REC. 305, 385, 391, 397, 668, 933, 939, 945, 1222, 1368, 1627, 1678, 1752, 2017 2062, 2306, 2595, 2854, F5; REC. 16, 147, 430, 451, 627, 628, 634, 635, 642, 653, F6  
(ppp) D010462 - 3 ERRORS, REC. 78, 135, 162, F17  
(qqq) D013372 - 23 ERRORS, REC. 210, 451, 463, 469, F1; REC. 26, 53, 83, 291, 330, 446, 470, 471, 487-489, 520, 827, F2; REC. 438, F3; REC. 168, F5; REC. 147 280, F23; REC. 257, F24; REC. 43, F25  
(rrr) D010482 - 2 ERRORS, REC. 1521, 1580, F4  
(sss) D013373 - 22 ERRORS, REC. 99, 161, 173, 185, 197, 248, 337, 340, F1; REC. 3, 89, 95, 366, 378, 411, 429, 622, F2; REC. 112, F3; REC. 329, 335, 341, F5; REC. 199, 808, F10  
(ttt) D013374 - 61 ERRORS, REC. 238, 250, 360, F1; REC. 109, 142, 243, 278, 300

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(uuu) D013375 - 28 ERRORS, REC. 56, 247, 339, F1; REC. 277, 283, 566, 572, F2;  
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(vvv) D010484 - 3 ERRORS, REC. 3742, 3754, 3770, F3  
(www) D013376 - 33 ERRORS, REC. 48, 66, 146, 155, 161, 173, 179, 191, 224, 280,  
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(xxx) D010520 - 16 ERRORS, REC. 128, 370, F1; REC. 1, F3; REC. 255, F4; REC. 66  
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(yyy) D010539 - 1 ERROR, REC. 459, F9  
(zzz) D010535 - 4 ERRORS, REC. 1738, 1740, 1742, 1746, F4  
(aaaa) D010637 - 1 ERROR, REC. 68, F1  
(bbbb) D013368 - 18 ERRORS, REC. 461, F5; REC. 366, 796, F6; REC. 486, 589, 692  
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(cccc) D010531 - 16 ERRORS, REC. 53, F2; REC. 1, 53, 59, 65, F3; REC. 1569,  
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(dddd) D010521- 9 ERRORS, REC. 100, 106, F1; REC. 537, 543, 549, F10; REC. 29,  
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(eeee) D010529 - 16 ERRORS, REC. 91, 500, F4; REC. 71, F6; REC. 194, 316, 493,  
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(ffff) D010526 - 49 ERRORS, REC. 1005, F2; REC. 35, 50, 91, 103, 150, 1168, F3;  
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(gggg) D010534 - 6 ERRORS, REC. 60, 157, 260, F1; REC. 85, F2; REC. 50, F3;  
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(hhhh) D010543 - 41 ERRORS, REC. 111, 499, F2; REC. 37, 298, 383, 553, F3; REC.  
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(iiii) D010530 - 29 ERRORS, REC. 55, 388, F1; REC. 78, 81, 169, 175, 190, 240,  
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(jjjj) D010542 - 14 ERRORS, REC. 678, F6; REC. 83, 334, F7; REC. 1598, 1630,  
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(kkkk) D010557 - 7 ERRORS, REC. 75, 278, F1; REC. 1, 3111, F3; REC. 480, F4;  
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(llll) D010558 - 4 ERRORS, REC. 48, 49, F1; REC. 12146, 15256, F2  
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(nnnn) D010560 - 4 ERRORS, REC. 90, 146, F14; REC. 981, F21; REC. 187, F24  
(oooo) D013307 - 15 ERRORS, REC. 43, 49, 55, 153, 245, 251, 263, 272, 284, 302,  
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(pppp) D010562 - 9 ERRORS, REC. 2578, 2698, 2713, F4; REC. 54, 177, 276; 297,

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(ssss) D010547 - 7 ERRORS, REC. 187, F4; REC. 113, 180, 1142, F5; REC. 75, F14; REC. 248, F15; REC. 198, F16  
(tttt) D010548 - 13 ERRORS, REC. 144, 300, F2; REC. 1246, F9; REC. 440, F14; REC. 114, 152, 290, 419, F15; REC. 2317, 2364, F18; REC. 75, 81, 422, F19  
(uuuu) D010556 - 35 ERRORS, REC. 178, F1; REC. 185, 415, F2; REC. 185, 397, F16 REC. 382, F17; REC. 142, 207, 245, 254, 260, 262-267, 272, 554, 651, F18; REC. 81, 87, 184, F19; REC. 101, 116, 172, 225, F20; REC. 305, F24; REC. 383, F25; REC. 357, 448, F26; REC. 315, 412, F27; REC. 1423, 2315, F29  
(vvvv) D013308 - 52 ERRORS, REC. 91, 127, 240, 246, F1; REC. 124, 136, 157, 306 F2; REC. 97, 109, 115, 121, 136, 148, 160, 166, 172, 306, 449, 455, 699, 762, 774, 839, 851, 1006, 1057, 1164, 1307, 1313, 1319, 1358, 1364, 1370, 1677, 1921, F3; REC. 22, 210, 347, 362, 398, 544, 630, 636, 788, 794, 949, 982, 1238, 1578, 2186, F4; REC. 129, F6  
(www) D010554 - 17 ERRORS, REC. 1874, 2488, 2661, 2804, 2842, 2889, F3; REC. 562, F4; REC. 4401, 4480, 4597, 4834, 5033, 5071, 5150, 5466, 5592, 5750, F7  
(xxxx) D010636 - 3 ERRORS, REC. 425, F4; REC. 294, 365, F5  
(yyyy) D010553 - 16 ERRORS, REC. 17, 155, 243, 244, 253, 254, F1; REC. 220, 222 348, F5; REC. 84, F13; REC. 112, F16; REC. 332, F20; REC. 70, 154, F21; REC. 116, 470, F25  
(zzzz) D010551 - 34 ERRORS, REC. 369, F1; REC. 209, F2; REC. 434, F3; REC. 275, F4; REC. 135, 309, F5; REC. 24, 133, F6; REC. 17, 126, 132, 235, 365, 441, 530, 571, 665, F7; REC. 238, F11; REC. 214, 346, 393, 443, 496, 502, F12; REC. 382, 415; REC. 102, 164, 255, 308, 432, 611, 679, 720, 764, F16  
(aaaaa) D010634 - 28 ERRORS, REC. 332, F1; REC. 175, 322, 366, 546, F2; REC. 472, 622, 778, 834, 1105, 1426, 1529, 1665, 1768, 1933, 1939, 1959, 2068, 2124, 2242, 2274, 2324, F4; REC. 767, 891, 1258, 1355, 1399, 1543, F6  
(bbbbbb) D010550 - 27 ERRORS, REC. 212, F1; REC. 95, 101, F2; REC. 1685, 1752, 2146, 2213, 2245, 2312, 2347, 2379, 2414, 2469, F3; REC. 1019, F4; REC. 119, 180, 2748, 2809, 3329, 3486, F5; REC. 247, 346, 570, F7; REC. 168, 238, 351, 476, F8  
(ccccc) D010633 - 32 ERRORS, REC. 144, 265, 327, F1; REC. 28, 67, 73, 173, 200, 244, 294, 548, F2; REC. 17, 67, 73, 1506, 2258, 2774, 2859, 7382, F3; REC. 184, F4; REC. 60, 159, 378, 380, 381, 383, 384, F5; REC. 405, 498, 571, 624, F10; REC. 20, F11  
(ddddd) D010632 - 1 ERROR, REC. 209, F5  
(eeeee) D010631 - 20 ERRORS, REC. 1590, 2236, F6; REC. 8, 25, 60, 66, 101, 107, 121, 130, 136, 159, 162, 182, 191, F7; REC. 299, 680, 858, 961, F10; REC. 25, F11  
(ffffff) D011016 - 20 ERRORS, REC. 145, 146, 149, 152, F3; REC. 1033, F9; REC. 58, 193, 243, 293, 328, 381, 431, 472, 516, F31; REC. 302, 387, 510, 563, 595, 610, F33  
(ggggg) D013309 - 68 ERRORS, REC. 35, 53, 74, 199, 214, 220, 300, 306, 312, 339, 416, 449, 473, 478-482, F1; REC. 1-4, 6, 153, 171, 189, 248, 260, 281, 317, 367, 373, 403, 424, 638, 778, 796, 966, 1055, 1064, 1070, 1076, 1198, 1237, 1302, 1359, 1451, 1463, 1469, 1514, 1690, 1782, 1788, 1800, 1815, 1827, 1857, 1922, 1949, 1967, 1985, 2101, 2107, 2140, 2146, F2; REC. 79, 85, 237, F3  
(hhhhh) D013310 - 22 ERRORS, REC. 71, 77, 95, 122, 178, 208, 214, 247, 300, 306 25, 431, F1; REC. 201, 234, 1385, F2; REC. 347, 348, F8; REC. 483, F9; REC. 148, F10; REC. 723, F12; REC. 572, F18; REC. 48, F20  
(iiiii) D010630 - 19 ERRORS, REC. 161, 229, F1; REC. 609, 677, 1117, 1227, 1233 F2; REC. 167, 482, F6; REC. 168, F7; REC. 194, 215, F8; REC. 88, F9; REC. 83,

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 (jjjjj) D010629 - 43 ERRORS, REC. 697, 876, 976, 1052, 1143, 1275, F6; REC. 454  
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 (mmmmm) D010626 - 18 ERRORS, REC. 1200, 2915, 8285, 8498, F4; REC. 513, F6;  
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 (sssss) D010617 - 3 ERRORS, REC. 471-473, F5  
 (ttttt) D010619 - 3 ERRORS, REC. 399, F10; REC. 17, 36, F11  
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 (xxxxx) D010623 - 5 ERRORS, REC. 85, F7; REC. 282, F10; REC. 4643, F15; REC.  
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 (zzzzz) D010624 - 3 ERRORS, REC. 132, 253, 309, F3  
 (aaaaa) D010618 - 2 ERRORS, REC. 445, F2; REC. 825, F12  
 (bbbbb) D013311 - 2 ERRORS, REC. 527, 529, F3  
 (ccccc) D011008 - 5 ERRORS, REC. 2, 238, F1; REC. 191, F11; REC. 908, F12;  
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 (ddddd) D011004 - 1 ERROR, REC. 4, F1  
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(ssssss) D013349 - 28 ERRORS, REC. 3, F1; REC. 114, F4; REC. 144, 191, F6; REC.  
120, 147, 346, F7; REC. 48, F10; REC. 848, F12; REC. 55, 123, 200, 206, F13;  
REC. 76, 88, 322, 449, F15; REC. 6, F16; REC. 48, 134, 430, F18; REC. 53, 237,  
367, F19; REC. 65, 71, 290, F23; REC. 34, F24

(tttttt) D013350 - 78 ERRORS, REC. 120, 138, 315, 345, F1; REC. 40, F3; REC.  
274, 280, F4; REC. 191, 197, F5; REC. 155, 158, 352, 364, 382, 388, 418, F6;  
REC. 8, F7; REC. 21, 27, 33, 57, 182, 188, 212, F8; REC. 30, 60, 66, 188, 200,  
212, 224, F9; REC. 122, 140, 146, 152, F10; REC. 47, 59, 71, 208, 214, 226, 232,  
241, F11; REC. 11, 20, 56, 118, 127, 133, 139, 145, 151, 169, 184, 193, 202,  
F12; REC. 62, 68, 77, 83, 95, 107, 113, F13; REC. 46, F15; REC. 62, F16; REC.  
73, 279, 709, F18; REC. 226, 345, 449, F19; REC. 254, F22; REC. 82, 100, 165,  
F26; REC. 137, 235, 416, F30

(uuuuuu) D014048 - 22 ERRORS, REC. 231, F5; REC. 129, 486, F6; REC. 652, 683,  
917, F7; REC. 359, 390, 705, F8; REC. 55, 547, F9; REC. 416, F10; REC. 64, 121,  
453, F11; REC. 135, 435, 517, F12; REC. 237, 382, 441, F14; REC. 945, F26

(vvvvvv) D013318 - 4 ERRORS, REC. 549, 558, F3; REC. 17, 75, F4

(wwwww) D014045 - 48 ERRORS, REC. 303, F9; REC. 23, 277, F10; REC. 115, F11;  
REC. 1, 49, 55, 325, F13; REC. 347, F14; REC. 73, 164, 269, 326, F15; REC. 79,  
F22; REC. 376, F23; REC. 15, F25; REC. 58, F26; REC. 54, F27; REC. 94, F28;  
REC. 205, 397, F29; REC. 104, F30; REC. 24, F32; REC. 53, 79, 155, 302, 355,  
F33; REC. 31, 141, F34; REC. 20, 102, 170, 195, 212, F35; REC. 61, F36; REC.  
50, 56, F39; REC. 2, 13, F40; REC. 50, 64, 78, 81, 92, 143, 233, 335, F43

(xxxxxx) D013319 - 86 ERRORS, REC. 114, 317, 329, 463, F1; REC. 42, 48, 75, 277  
310, 375, 446, 452, 464, 556, 690, 773, 782, 856, 865, 936, 1007, 1134, 1140,  
1155, 1161, 1199, 1202, 1211, 1270, 1273, 1282, 1300, 1317, 1341, F2; REC. 29,  
106, 123, 147, 180, 206, 212, 221, 233, 259, 333, 342, 351, 354, F3; REC. 37,  
55, 70, 75, 79, 104, 114, 126, 176, 188, 191, 194, F4; REC. 83, 236, 295, F7;  
REC. 133, F11; REC. 90-92, 94, 97, 106, 132, 153, 261, 264, 270, 302, 334, 361,  
F15; REC. 250, 323, 325, F17; REC. 224, 394, F25; REC. 53, 94, 115, F26

(yyyyyy) D013320 - 22 ERRORS, REC. 437, 522, 569, 654, 686, F4; REC. 269, 411,  
413, 438-440, 445, 465, 467, 468, F5; REC. 296, 302, 305, 308, 311, F10; REC.  
562, 635, F16

(zzzzzz) D013321 - 6 ERRORS, REC. 85, 392, F6; REC. 282, F7; REC. 377, F13;  
REC. 187, 252, F17

(aaaaaaa) D013332 - 27 ERRORS, REC. 295, 333, 412, 421, F1; REC. 49, 51, 72, 81  
96, 181, F2; REC. 424, F5; REC. 156, 165, 200, 241, 326, 335, 871, F6; REC. 244  
45, 282, 397, F8; REC. 35, 70, F9; REC. 158, 328, F18; REC. 463, F26

(bbbbbbb) D013363 - 2 ERRORS, REC. 2, F19; REC. 40, F29

(ccccccc) D013334 - 27 ERRORS, REC. 324, F1; REC. 213, 255, 302, 308, 364, 391,  
F4; REC. 234, F5; REC. 210, F6; REC. 168, 218, 309, 4044, 4088, F8; REC. 250,

F9; REC. 193, 1887, 1983, 2071, F10; REC. 459, 532, F13; REC. 144, F14; REC. 43  
 F17; REC. 80, 103, F19; REC. 123, 140, F21  
 (ddddddd) D013335 - 96 ERRORS, REC. 98, 157, 216, F1; REC. 171, 1224, 1551,  
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 EC. 31, 69, 84, 184, 205, 320, 326, 402, 408, 414, F4; REC. 22, 34, 137, 190,  
 223, 243, F5; REC. 1551, 1557, F6; REC. 106, 118, 162, 451, F7; REC. 154, 160,  
 187, 269, 278, 325, F8; REC. 946, 1061, 1111, 1438, 1444, 1459, 1488, 1497,  
 1530, 1568, 1606, 1618, 1639, 2673, 3006, 3080, 3115, 3168,, 3277, 3283, F10;  
 REC. 27, 30, 48, 89, F11; REC. 2, 43, 214, 261, 308, 473, 588, F12; REC. 23, 73  
 F13; REC. 27, F14; REC. 24, 42, 80, 130, 145, 218, 233, 277, 298, 336, 351, 445  
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 (eeeeeee) D014046 - 11 ERRORS, REC. 35, F1; REC. 1722, 1728, F2; REC. 131, 306,  
 349, 680, F3; REC. 1807, 6887, 6941, F5; REC. 239, F13  
 (fffffff) D013336 - 5 ERRORS, REC. 629, 720, F3; REC. 94, 124, F4; REC. 393, F2  
 (ggggggg) D013323 - 13 ERRORS, REC. 21, 28, 29, 41, 69, 125, 141, 227, 234, 235  
 243, F1; REC. 164, F8; REC. 99, F9  
 (hhhhhhh) D013331 - 5 ERRORS, REC. 4-7, 12, F2  
 (iiiiiii) D013340 - 15 ERRORS, REC. 513, F2; REC. 198, 264, 266-269, 272, 274,  
 275, 433, 550, 579, F3; REC. 237, F11; REC. 191, F13  
 (jjjjjjj) D013341 - 4 ERRORS, REC. 177, 253, 331, 333, F4  
 (kkkkkkk) D014059 - 227 ERRORS, REC. 3, 6, 9, 15, 18, 21, 24, 27 30, 33, 36, 39  
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 159, 162, 165, 168, 171, 174, 177, 180, 183, 186, 189, 195, 198, 201, 204, 207,  
 210, 213, 216, 219, 222, 225, 228, 231, 234, 237, 240, 243, 246, 249, 252, 255,  
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 315, 318, 321, 324, 327, 330, 333, 336, 339, 342, 345, 348, 354, 357, 360, 363,  
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 462, F1; REC. 5, 11, 14, 17, 35, 41, 44, 50, 56, 59, 62, 65, 71, 74, 77, 80, 83  
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 135, 140, 141, 143, 146, 149, 161, 173, 176, 179, 182, 185, 188, 191, 197, 218,  
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 272, 275, 278, 281, 284, F2; REC. 2, 5, 8, 11, 14, 20, 23, 29, 35, 38, 41, F3  
 (lllllll) D014062 - 2 ERRORS, REC. 134, F5; REC. 567, F8  
 (mmmmmmm) D014060 - 1 ERROR, REC. 1032, F2  
 (nnnnnnn) D014067 - 2 ERRORS, REC. 172, 173, F1  
 (oooooooo) D014025 - 7 ERRORS, REC. 866, 917, F2; REC. 314, 369, F5; REC. 744,  
 748, 479, F9  
 (ppppppp) D016642 - 3 ERRORS, REC. 293, F6; REC. 693, 697, F7  
 (qqqqqqq) D014391 - 1 ERROR, REC. 1, F1  
 (rrrrrrr) D014027 - 8 ERRORS, REC. 60, F2; REC. 470, 477, 478, 526, 871, 1502,  
 2989, F10  
 (sssssss) D014026 - 7 ERRORS, REC. 4971, 4998, 5024, 5051, 5104, 5157, 12096, F  
 (ttttttt) D014029 - 2 ERRORS, REC. 41, 43, F31  
 (uuuuuuu) D014031 - 4 ERRORS, REC. 12-14, F1; REC. 233, F5  
 (vvvvvvv) D014033 - 6 ERRORS, REC. 679, F7; REC. 64, 96-98, 125, F14  
 (wwwwwww) D014032 - 4 ERRORS, REC. 73, F6; REC. 294, 344, 345, F24  
 (xxxxxxx) D014381 - 5 ERRORS, REC. 1, F1; REC. 324, 352, F9; REC. 27, 108, F10  
 (yyyyyyy) D014056 - 2 ERRORS, REC. 198, 202, F3  
 (zzzzzzz) D014376 - 6 ERRORS, REC. 36, 43-46, 48, F4

OAO-A2

REDUCED PHOTOMETER

68-110A-02A

This data set consists of 414 556 BPI, 7 track, ~~BCD~~ tapes that were produced on an IBM 7094. The first file of each tape contains stripper summaries which is followed by a series of star files. At the end of the data there is a double end of file, after which comes one file containing stripper summaries, another double end of file followed by one file containing all the Droop Summaries. Each tape ends with a triple end of file. The number of files listed for each tape do not include the last two end of files.

| <u>D#</u> | <u>WEEK &amp; PART NUMBER</u> | <u>FILES</u> | <u>TIME SPAN</u>  |
|-----------|-------------------------------|--------------|-------------------|
| D-08708   | DC0442                        | 40           | 5/23/70 - 5/25/70 |
| D-08709   | DC0432                        | 22           | 5/16/70 - 5/19/70 |
| D-08710   | DC0381                        | 18           | 4/04/70 - 4/06/70 |
| D-08741   | DC0382                        | 54           | 4/10/70 - 4/15/70 |
| D-08742   | DC0401                        | 31           | 4/22/70 - 4/25/70 |
| D-08743   | DC0352                        | 22           | 3/12/70 - 3/13/70 |
| D-08744   | DC0363                        | 30           | 3/22/70 - 3/25/70 |
| D-08745   | DC0362                        | 7            | 3/20/70 - 3/22/70 |
| D-08746   | DC0361                        | 38           | 3/16/70 - 3/19/70 |
| D-08747   | DC0431                        | 60           | 5/14/70 - 5/16/70 |
| D-08749   | DC0451                        | 16           | 5/25/70 - 5/30/70 |
| D-08750   | DC0452                        | 29           | 6/03/70 - 6/06/70 |
| D-08751   | DC0372                        | 10           | 3/28/70 - 3/29/70 |
| D-08752   | DC0391                        | 55           | 4/15/70 - 4/19/70 |

| <u>D#</u> | <u>WEEK &amp; PART NUMBER</u> | <u>FILES</u> | <u>TIME SPAN</u>    |
|-----------|-------------------------------|--------------|---------------------|
| D-08753   | DC0402                        | 39           | 4/25/70 - 4/28/70   |
| D-08754   | DC0412                        | 36           | 5/01/70 - 5/04/70   |
| D-08755   | DC0392                        | 32           | 4/19/70 - 4/22/70   |
| D-08756   | DC0301                        | 37           | 1/17/70 - 1/20/70   |
| D-09827   | DC0001                        | 18           | 12/11/68 - 12/13/68 |
| D-09828   | DC0011                        | 26           | 12/18/68 - 12/20/68 |
| D-09829   | DC0012                        | 36           | 12/20/68 - 12/22/68 |
| D-09830   | DC0013                        | 33           | 12/22/68 - 12/24/68 |
| D-09831   | DC0022                        | 48           | 12/30/68 - 1/01/69  |
| D-09832   | DC0031                        | 48           | 1/10/69 - 1/12/69   |
| D-09833   | DC0032                        | 44           | 1/12/69 - 1/15/69   |
| D-09834   | DC0033                        | 28           | 1/15/69 - 1/17/69   |
| D-09993   | DC0191                        | 36           | 9/05/69 - 9/07/69   |
| D-09994   | DC0183                        | 29           | 8/14/69 - 8/13/69   |
| D-09995   | DC0182                        | 46           | 8/12/69 - 8/14/69   |
| D-09996   | DC0181                        | 51           | 8/09/69 - 8/12/69   |
| D-09997   | DC0172                        | 73           | 8/04/69 - 8/08/69   |
| D-09998   | DC0171                        | 52           | 8/01/69 - 8/03/69   |
| D-09999   | DC0162                        | 56           | 7/21/69 - 7/25/69   |
| D-10000   | DC0161                        | 47           | 7/18/69 - 7/21/69   |
| D-10002   | DC0151                        | 57           | 7/10/69 - 7/12/69   |
| D-10003   | DC0073                        | 42           | 4/02/69 - 4/05/69   |
| D-10004   | DC0081                        | 47           | 4/05/69 - 4/08/69   |
| D-10005   | DC0091                        | 30           | 4/11/69 - 4/12/69   |
| D-10006   | DC0092                        | 44           | 4/16/69 - 4/18/69   |
| D-10007   | DC0101                        | 51           | 4/16/69 - 4/21/69   |
| D-10008   | DC0102                        | 48           | 4/22/69 - 4/24/69   |
| D-10009   | DC0111                        | 69           | 5/08/69 - 5/11/69   |
| D-10010   | DC0112                        | 39           | 5/11/69 - 5/13/69   |

| <u>D#</u> | <u>WEEK &amp; PART NUMBER</u> | <u>FILES</u> | <u>TIME SPAN</u>    |
|-----------|-------------------------------|--------------|---------------------|
| D-10011   | DC0121                        | 50           | 5/30/69 - 6/05/69   |
| D-10012   | DC0132                        | 59           | 6/09/69 - 6/13/69   |
| D-10013   | DC0141                        | 53           | 6/13/69 - 6/16/69   |
| D-10014   | DC0221                        | 36           | 10/02/69 - 10/04/69 |
| D-10015   | DC0212                        | 41           | 9/28/69 - 9/30/69   |
| D-10016   | DC0211                        | 49           | 9/26/69 - 9/28/69   |
| D-10018   | DC0202                        | 31           | 9/14/69 - 9/16/69   |
| D-10019   | DC0201                        | 30           | 9/12/69 - 9/14/69   |
| D-10020   | DC0193                        | 34           | 9/10/69 - 9/12/69   |
| D-10021   | DC0192                        | 29           | 9/07/69 - 9/09/69   |
| D-10022   | DC0021                        | 59           | 12/27/68 - 12/29/68 |
| D-10023   | DC0023                        | 38           | 1/01/69 - 1/03/69   |
| D-10024   | DC0041                        | 69           | 1/31/69 - 2/02/69   |
| D-10026   | DC0052                        | 54           | 2/08/69 - 2/11/69   |
| D-10027   | DC0053                        | 51           | 2/11/69 - 2/17/69   |
| D-10028   | DC0062                        | 29           | 3/03/69 - 3/05/69   |
| D-10029   | DC0071                        | 53           | 3/28/69 - 3/30/69   |
| D-10030   | DC0072                        | 42           | 3/30/69 - 4/01/69   |
| D-10061   | DC0042                        | 75           | 2/02/69 - 2/03/69   |
| D-10062   | DC0082                        | 45           | 4/08/69 - 4/11/69   |
| D-10063   | DC0222                        | 45           | 10/04/69 - 10/07/69 |
| D-10064   | DC0231                        | 18           | 10/31/69 - 11/07/69 |
| D-10065   | DC0242                        | 25           | 11/11/69 - 11/14/69 |
| D-10066   | DC0263                        | 41           | 11/25/69 - 11/28/69 |
| D-10068   | DC0323                        | 32           | 2/22/70 - 2/25/70   |
| D-10069   | DC0331                        | 31           | 2/25/70 - 2/27/70   |
| D-10070   | DC0342                        | 17           | 3/06/70 - 3/09/70   |
| D-10127   | DC0063                        | 34           | 3/05/69 - 3/07/69   |
| D-10128   | DC0223                        | 35           | 10/07/69 - 10/10/69 |

| <u>D#</u> | <u>WEEK &amp; PART NUMBER</u> | <u>FILES</u> | <u>TIME SPAN</u>    |
|-----------|-------------------------------|--------------|---------------------|
| D-10129   | DC0241                        | 38           | 11/07/69 - 11/11/69 |
| D-10130   | DC0251                        | 41           | 11/14/69 - 11/16/69 |
| D-10131   | DC0253                        | 37           | 11/18/69 - 11/20/69 |
| D-10132   | DC0261                        | 39           | 11/21/69 - 11/23/69 |
| D-10133   | DC0262                        | 40           | 11/23/69 - 11/25/69 |
| D-10134   | DC0271                        | 31           | 12/26/69 - 12/28/69 |
| D-10135   | DC0272                        | 40           | 12/28/69 - 12/31/69 |
| D-10136   | DC0282                        | 39           | 1/08/70 - 1/10/70   |
| D-10137   | DC0291                        | 44           | 1/10/70 - 1/13/70   |
| D-10138   | DC0302                        | 38           | 1/20/70 - 1/22/70   |
| D-10139   | DC0311                        | 52           | 1/22/70 - 1/25/70   |
| D-10140   | DC0312                        | 33           | 1/25/70 - 1/27/70   |
| D-10141   | DC0321                        | 34           | 2/17/70 - 2/19/70   |
| D-10142   | DC0322                        | 30           | 2/19/70 - 2/22/70   |
| D-10143   | DC0332                        | 38           | 2/27/70 - 3/02/70   |
| D-10144   | DC0341                        | 29           | 3/02/70 - 3/06/70   |
| D-10145   | DC0351                        | 23           | 3/10/70 - 3/11/70   |
| D-10146   | DC0353                        | 23           | 3/14/70 - 3/16/70   |
| D-10348   | DC0043                        | 63           | 2/03/69 - 2/06/69   |
| D-10349   | DC0153                        | 37           | 7/15/69 - 7/18/69   |
| D-10350   | DC0281                        | 30           | 1/05/70 - 1/07/70   |
| D-10351   | DC0313                        | 40           | 1/27/70 - 1/30/70   |
| D-10352   | DC0371                        | 15           | 3/25/70 - 3/27/70   |
| D-10353   | DC0422                        | 40           | 5/09/70 - 5/11/70   |
| D-10354   | DC0423                        | 44           | 5/11/70 - 5/14/70   |
| D-10355   | DC0441                        | 24           | 5/19/70 - 5/23/70   |
| D-10356   | DC0461                        | 30           | 6/06/70 - 6/09/70   |
| D-10357   | DC0471                        | 44           | 6/13/70 - 6/16/70   |
| D-10380   | DC0482                        | 36           | 6/23/70 - 6/25/70   |

| <u>D#</u> | <u>WEEK &amp; PART NUMBER</u> | <u>FILES</u> | <u>TIME SPAN</u>  |
|-----------|-------------------------------|--------------|-------------------|
| D-10381   | DC0491                        | 29           | 6/25/70 - 6/28/70 |
| D-10382   | DC0492                        | 34           | 6/28/70 - 7/01/70 |
| D-10383   | DC0502                        | 24           | 7/05/70 - 5/09/70 |
| D-10384   | DC0511                        | 29           | 7/09/70 - 7/11/70 |
| D-10385   | DC0512                        | 30           | 7/11/70 - 7/14/70 |
| D-10386   | DC0513                        | 28           | 7/14/70 - 7/17/70 |
| D-10387   | DC0521                        | 25           | 7/17/70 - 7/20/70 |
| D-10388   | DC0522                        | 29           | 7/20/70 - 7/23/70 |
| D-10389   | DC0531                        | 31           | 7/23/70 - 7/26/70 |
| D-10390   | DC0542                        | 44           | 8/01/70 - 8/05/70 |
| D-10392   | DC0562                        | 30           | 8/15/70 - 8/18/70 |
| D-10393   | DC0563                        | 22           | 8/18/70 - 8/21/70 |
| D-10394   | DC0571                        | 40           | 8/22/70 - 8/24/70 |
| D-10395   | DC0581                        | 17           | 8/26/70 - 8/30/70 |
| D-10396   | DC0582                        | 26           | 8/30/70 - 9/03/70 |
| D-10405   | DC0142                        | 60           | 6/16/70 - 6/19/70 |
| D-10406   | DC0411                        | 39           | 4/28/70 - 5/01/70 |
| D-10407   | DC0501                        | 17           | 7/01/70 - 7/04/70 |
| D-10408   | DC0532                        | 26           | 7/26/70 - 7/29/70 |
| D-10410   | DC0552                        | 28           | 8/09/70 - 8/12/70 |
| D-10411   | DC0561                        | 36           | 8/12/70 - 8/15/70 |
| D-10412   | DC0572                        | 12           | 8/24/70 - 8/26/70 |
| D-10413   | DC0592                        | 32           | 9/05/70 - 9/08/70 |
| D-10414   | DC0593                        | 19           | 9/08/70 - 9/10/70 |
| D-10415   | DC0601                        | 9            | 9/10/70 - 9/12/70 |
| D-10416   | DC0609                        | 26           | 9/13/70 - 9/17/70 |
| D-10417   | DC0611                        | 21           | 9/17/70 - 9/19/70 |
| D-10418   | DC0621                        | 21           | 9/22/70 - 9/25/70 |

| <u>D#</u> | <u>WEEK &amp; PART NUMBER</u> | <u>FILES</u> | <u>TIME SPAN</u>    |
|-----------|-------------------------------|--------------|---------------------|
| D-10420   | DC0631                        | 14           | 9/29/70 - 10/03/70  |
| D-10421   | DC0641                        | 4            | 10/05/70 - 10/09/70 |
| D-10422   | DC0642                        | 5            | 10/09/70 - 10/11/70 |
| D-10423   | DC0643                        | 5            | 10/11/70 - 10/14/70 |
| D-10424   | DC0651                        | 30           | 10/14/70 - 10/17/70 |
| D-10425   | DC0661                        | 3            | 10/21/70 - 10/23/70 |
| D-10426   | DC0662                        | 16           | 10/23/70 - 10/25/70 |
| D-10427   | DC0663                        | 8            | 10/25/70 - 10/28/70 |
| D-10428   | DC0672                        | 49           | 11/01/70 - 11/04/70 |
| D-10429   | DC0691                        | 4            | 11/11/70 - 11/13/70 |
| D-10430   | DC0692                        | 6            | 11/13/70 - 11/14/70 |
| D-10431   | DC0701                        | 5            | 11/20/70 - 11/22/70 |
| D-10432   | DC0731                        | 43           | 12/08/70 - 12/10/70 |
| D-10461   | DC0771                        | 6            | 1/06/71 - 1/10/71   |
| D-10462   | DC0792                        | 26           | 1/25/71 - 1/27/71   |
| D-10464   | DC0802                        | 13           | 1/30/71 - 2/02/71   |
| D-10466   | DC0821                        | 23           | 2/09/71 - 2/13/71   |
| D-10467   | DC0833                        | 11           | 2/21/71 - 2/23/71   |
| D-10469   | DC0861                        | 20           | 3/11/71 - 3/16/71   |
| D-10470   | DC0872                        | 19           | 3/22/71 - 3/25/71   |
| D-10471   | DC0712                        | 37           | 12/03/70 - 12/05/70 |
| D-10472   | DC0721                        | 4            | 12/05/70 - 12/08/70 |
| D-10473   | DC0732                        | 20           | 12/10/70 - 12/13/70 |
| D-10474   | DC0733                        | 17           | 12/13/70 - 12/14/70 |
| D-10475   | DC0741                        | 14           | 12/14/70 - 12/17/70 |
| D-10476   | DC0743                        | 18           | 12/20/70 - 12/23/70 |
| D-10477   | DC0751                        | 4            | 12/23/70 - 12/26/70 |
| D-10478   | DC0742                        | 23           | 12/26/70 - 12/28/70 |
| D-10481   | DC0761                        | 24           | 12/31/70 - 1/03/70  |

| <u>D#</u> | <u>WEEK &amp; PART NUMBER</u> | <u>FILES</u> | <u>TIME SPAN</u>  |
|-----------|-------------------------------|--------------|-------------------|
| D-10482   | DC0811                        | 7            | 2/02/71 - 2/03/71 |
| D-10483   | DC0822                        | 35           | 2/13/71 - 2/15/71 |
| D-10484   | DC0841                        | 15           | 2/24/71 - 2/28/71 |
| D-10485   | DC0871                        | 20           | 3/16/71 - 3/21/71 |
| D-10486   | DC0882                        | 24           | 3/27/71 - 3/29/71 |
| D-10487   | DC0891                        | 15           | 4/01/71 - 4/04/71 |
| D-10488   | DC0892                        | 20           | 4/05/71 - 4/07/71 |
| D-10489   | DC0902                        | 25           | 4/11/71 - 4/14/71 |
| D-10490   | DC0911                        | 19           | 4/14/71 - 4/15/71 |
| D-10520   | DC0852                        | 23           | 3/07/71 - 3/11/71 |
| D-10521   | DC0971                        | 24           | 5/26/71 - 5/28/71 |
| D-10522   | DC0942                        | 29           | 5/10/71 - 5/12/71 |
| D-10523   | DC0941                        | 25           | 5/06/71 - 5/10/71 |
| D-10524   | DC0932                        | 23           | 5/02/71 - 5/06/71 |
| D-10525   | DC0931                        | 23           | 4/29/71 - 5/02/71 |
| D-10526   | DC0982                        | 14           | 6/05/71 - 6/07/71 |
| D-10528   | DC0951                        | 8            | 5/12/71 - 5/13/71 |
| D-10529   | DC0981                        | 29           | 6/02/71 - 6/04/71 |
| D-10530   | DC0972                        | 8            | 6/01/71 - 6/02/71 |
| D-10531   | DC0962                        | 15           | 5/22/71 - 5/26/71 |
| D-10532   | DC0961                        | 19           | 5/19/71 - 5/22/71 |
| D-10533   | DC0953                        | 23           | 5/17/71 - 5/19/71 |
| D-10534   | DC0983                        | 12           | 6/07/71 - 6/09/71 |
| D-10535   | DC0921                        | 13           | 4/22/71 - 4/25/71 |
| D-10537   | DC0881                        | 10           | 3/25/71 - 3/27/71 |
| D-10538   | DC0901                        | 21           | 4/07/71 - 4/10/71 |
| D-10539   | DC0883                        | 36           | 3/29/71 - 4/01/71 |
| D-10540   | DC0914                        | 9            | 4/19/71 - 4/22/71 |
| D-10541   | DC0913                        | 12           | 4/17/71 - 4/19/71 |

| <u>D#</u> | <u>WEEK &amp; PART NUMBER</u> | <u>FILES</u> | <u>TIME SPAN</u>    |
|-----------|-------------------------------|--------------|---------------------|
| D-10542   | DC0992                        | 20           | 6/11/71 - 6/13/71   |
| D-10543   | DC0991                        | 19           | 6/09/71 - 6/10/71   |
| D-10544   | DC0912                        | 18           | 4/15/71 - 4/17/71   |
| D-10545   | DC0831                        | 29           | 2/15/71 - 2/18/71   |
| D-10546   | DC0791                        | 24           | 1/20/71 - 1/23/71   |
| D-10547   | DC1041                        | 40           | 7/14/71 - 7/18/71   |
| D-10548   | DC1042                        | 23           | 7/18/71 - 7/20/71   |
| D-10549   | DC1092                        | 15           | 8/20/71 - 8/23/71   |
| D-10550   | DC1091                        | 13           | 8/18/71 - 8/20/71   |
| D-10551   | DC1081                        | 20           | 8/12/71 - 8/14/71   |
| D-10552   | DC1072                        | 30           | 8/07/71 - 8/11/71   |
| D-10553   | DC1071                        | 29           | 8/03/71 - 8/07/71   |
| D-10554   | DC1061                        | 15           | 7/28/71 - 7/30/71   |
| D-10556   | DC1051                        | 33           | 7/21/71 - 7/24/71   |
| D-10557   | DC0993                        | 25           | 6/14/71 - 6/16/71   |
| D-10558   | DC1001                        | 4            | 6/17/71 - 6/20/71   |
| D-10559   | DC1002                        | 15           | 6/21/71 - 6/22/71   |
| D-10560   | DC1011                        | 30           | 6/23/71 - 6/29/71   |
| D-10562   | DC1022                        | 10           | 7/04/71 - 7/08/71   |
| D-10563   | DC1031                        | 15           | 7/09/71 - 7/11/71   |
| D-10564   | DC1032                        | 28           | 7/11/71 - 7/14/71   |
| D-10615   | DC1152                        | 29           | 9/30/71 - 10/03/71  |
| D-10616   | DC1162                        | 34           | 10/06/71 - 10/09/71 |
| D-10617   | DC1171                        | 24           | 10/09/71 - 10/12/71 |
| D-10618   | DC1211                        | 28           | 11/06/71 - 11/10/71 |
| D-10619   | DC1172                        | 20           | 10/12/71 - 10/16/71 |
| D-10620   | DC1181                        | 36           | 10/17/71 - 10/20/71 |
| D-10621   | DC1182                        | 33           | 10/21/71 - 10/26/71 |

| <u>D#</u> | <u>WEEK &amp; PART NUMBER</u> | <u>FILES</u> | <u>TIME SPAN</u>    |
|-----------|-------------------------------|--------------|---------------------|
| D-10622   | DC1191                        | 34           | 10/26/71 - 10/29/71 |
| D-10623   | DC1201                        | 23           | 10/31/71 - 11/03/71 |
| D-10624   | DC1203                        | 19           | 11/05/71 - 11/06/71 |
| D-10625   | DC1144                        | 30           | 9/24/71 - 9/27/71   |
| D-10626   | DC1143                        | 18           | 9/22/71 - 9/24/71   |
| D-10627   | DC1142                        | 9            | 9/21/71 - 9/22/71   |
| D-10628   | DC1141                        | 10           | 9/20/71 - 9/21/71   |
| D-16629   | DC1133                        | 40           | 9/17/71 - 9/20/71   |
| D-10630   | DC1132                        | 26           | 9/14/71 - 9/17/71   |
| D-10631   | DC1112                        | 20           | 9/03/71 - 9/06/71   |
| D-10632   | DC1111                        | 29           | 8/30/71 - 9/03/71   |
| D-10633   | DC1101                        | 14           | 8/26/71 - 8/30/71   |
| D-10634   | DC1082                        | 12           | 8/14/71 - 8/17/71   |
| D-10635   | DC1151                        | 43           | 9/27/71 - 9/30/71   |
| D-10636   | DC1062                        | 23           | 7/30/71 - 7/31/71   |
| D-10637   | DC0922                        | 20           | 4/26/71 - 4/28/71   |
| D-10638   | DC0742                        | 27           | 12/17/70 - 12/20/70 |
| D-10639   | DC0683                        | 26           | 11/08/70 - 11/11/70 |
| D-10640   | DC0632                        | 10           | 10/03/70 - 10/05/70 |
| D-10641   | DC0612                        | 35           | 9/20/70 - 9/22/70   |
| D-10642   | DC0421                        | 28           | 5/06/70 - 5/09/70   |
| D-10643   | DC0131                        | 33           | 6/05/69 - 6/09/69   |
| D-10644   | DC0114                        | 46           | 5/16/69 - 5/19/69   |
| D-10998   | DC0682                        | 8            | 11/07/70 - 11/08/70 |
| D-10999   | DC0681                        | 51           | 11/04/70 - 11/07/70 |
| D-11000   | DC0213                        | 43           | 9/30/69 - 10/02/69  |
| D-11001   | DC0113                        | 74           | 5/13/69 - 5/16/69   |
| D-11002   | DC0061                        | 33           | 3/01/69 - 3/03/69   |

| <u>D#</u> | <u>WEEK &amp; PART NUMBER</u> | <u>FILES</u> | <u>TIME SPAN</u>    |
|-----------|-------------------------------|--------------|---------------------|
| D-11003   | DC1292                        | 38           | 1/03/72 - 1/06/72   |
| D-11004   | DC1231                        | 33           | 11/20/71 - 11/23/71 |
| D-11005   | DC1222                        | 10           | 11/17/71 - 11/20/71 |
| D-11006   | DC1282                        | 37           | 12/29/71 - 12/31/71 |
| D-11007   | DC1272                        | 33           | 12/22/71 - 12/25/71 |
| D-11008   | DC1221                        | 35           | 11/14/71 - 11/17/71 |
| D-11009   | DC1241                        | 24           | 11/26/71 - 11/29/71 |
| D-11010   | DC1281                        | 36           | 12/25/71 - 12/29/71 |
| D-11011   | DC1291                        | 35           | 12/31/71 - 1/03/72  |
| D-11012   | DC0252                        | 32           | 11/16/69 - 11/18/69 |
| D-11013   | DC0652                        | 10           | 10/17/70 - 10/20/70 |
| D-11014   | DC1161                        | 29           | 10/03/71 - 10/05/71 |
| D-11015   | DC1271                        | 38           | 12/17/71 - 12/22/71 |
| D-11016   | DC1121                        | 37           | 9/07/71 - 9/10/71   |
| D-13302   | DC0462                        | 22           | 6/09/70 - 6/13/70   |
| D-13303   | DC0541                        | 32           | 7/29/70 - 8/01/70   |
| D-13304   | DC0551                        | 33           | 8/06/70 - 8/09/70   |
| D-13305   | DC0591                        | 37           | 9/03/70 - 9/05/70   |
| D-13306   | DC0622                        | 30           | 9/25/70 - 9/29/70   |
| D-13307   | DC1021                        | 16           | 6/30/71 - 7/03/71   |
| D-13308   | DC1052                        | 19           | 7/24/71 - 7/27/71   |
| D-13309   | DC1122                        | 13           | 9/10/71 - 9/12/71   |
| D-13310   | DC1131                        | 24           | 9/12/71 - 9/14/71   |
| D-13311   | DC1212                        | 22           | 11/12/71 - 11/14/71 |
| D-13312   | DC1232                        | 44           | 11/23/71 - 11/26/71 |
| D-13313   | DC1242                        | 19           | 11/29/71 - 12/02/71 |
| D-13314   | DC1261                        | 36           | 12/12/71 - 12/17/71 |
| D-13315   | DC1293                        | 24           | 1/06/72 - 1/08/72   |

| <u>D#</u> | <u>WEEK &amp; PART NUMBER</u> | <u>FILES</u> | <u>TIME SPAN</u>  |
|-----------|-------------------------------|--------------|-------------------|
| D-13316   | DC1301                        | 32           | 1/08/72 - 1/10/72 |
| D-13317   | DC1442                        | 53           | 4/18/72 - 4/21/72 |
| D-13318   | DC1451                        | 33           | 4/21/72 - 4/24/72 |
| D-13319   | DC1453                        | 35           | 4/27/72 - 4/30/72 |
| D-13320   | DC1461                        | 20           | 4/30/72 - 5/02/72 |
| D-13321   | DC1462                        | 29           | 5/02/72 - 5/04/72 |
| D-13322   | DC1671                        | 24           | 9/20/72 - 9/25/72 |
| D-13323   | DC1491                        | 24           | 5/20/72 - 5/23/72 |
| D-13324   | DC1492                        | 22           | 5/23/72 - 5/27/72 |
| D-13325   | DC1501                        | 30           | 5/27/72 - 5/31/72 |
| D-13326   | DC1512                        | 17           | 6/08/72 - 6/09/72 |
| D-13327   | DC1521                        | 33           | 6/12/72 - 6/16/72 |
| D-13328   | DC1531                        | 42           | 6/16/72 - 6/18/72 |
| D-13329   | DC1532                        | 19           | 6/18/72 - 6/25/72 |
| D-13330   | DC1541                        | 24           | 6/28/72 - 6/30/72 |
| D-13331   | DC1551                        | 23           | 6/30/72 - 7/03/72 |
| D-13332   | DC1471                        | 31           | 5/04/72 - 5/06/72 |
| D-13333   | DC1472                        | 33           | 5/06/72 - 5/09/72 |
| D-13334   | DC1473                        | 25           | 5/09/72 - 5/11/72 |
| D-13335   | DC1481                        | 19           | 5/11/72 - 5/13/72 |
| D-13336   | DC1483                        | 28           | 5/17/72 - 5/19/72 |
| D-13337   | DC1571                        | 35           | 7/16/72 - 7/20/72 |
| D-13338   | DC1581                        | 31           | 7/21/72 - 7/26/72 |
| D-13339   | DC1591                        | 26           | 7/27/72 - 7/29/72 |
| D-13340   | DC1592                        | 35           | 7/29/72 - 8/01/72 |
| D-13341   | DC1593                        | 43           | 8/01/72 - 8/04/72 |
| D-13342   | DC1382                        | 29           | 3/06/72 - 3/08/72 |
| D-13343   | DC1383                        | 27           | 3/08/72 - 3/10/72 |

| <u>D#</u> | <u>WEEK &amp; PART NUMBER</u> | <u>FILES</u> | <u>TIME SPAN</u>    |
|-----------|-------------------------------|--------------|---------------------|
| D-13344   | DC1391                        | 21           | 3/10/72 - 3/12/72   |
| D-13345   | DC1393                        | 30           | 3/14/72 - 3/17/72   |
| D-13346   | DC1401                        | 39           | 3/17/72 - 3/20/72   |
| D-13347   | DC1402                        | 15           | 3/21/72 - 3/23/72   |
| D-13348   | DC1411                        | 39           | 3/27/72 - 3/31/72   |
| D-13349   | DC1421                        | 32           | 4/01/72 - 4/05/72   |
| D-13350   | DC1422                        | 34           | 4/05/72 - 4/08/72   |
| D-13351   | DC1441                        | 29           | 4/15/72 - 4/18/72   |
| D-13352   | DC1662                        | 19           | 9/16/72 - 9/19/72   |
| D-13353   | DC1311                        | 33           | 1/15/72 - 1/18/72   |
| D-13354   | DC1321                        | 34           | 1/21/72 - 1/24/72   |
| D-13355   | DC1322                        | 35           | 1/24/72 - 1/27/72   |
| D-13356   | DC1323                        | 23           | 1/27/72 - 1/29/72   |
| D-13357   | DC1352                        | 29           | 2/15/72 - 2/18/72   |
| D-13358   | DC1361                        | 28           | 2/20/72 - 2/22/72   |
| D-13359   | DC1362                        | 26           | 2/20/72 - 2/24/72   |
| D-13360   | DC1371                        | 37           | 2/24/72 - 2/27/72   |
| D-13361   | DC1381                        | 39           | 3/03/72 - 3/06/72   |
| D-13362   | DC0292                        | 38           | 1/13/70 - 1/17/70   |
| D-13363   | DC0413                        | 35           | 5/04/70 - 5/06/70   |
| D-13364   | DC0671                        | 9            | 10/28/70 - 11/01/70 |
| D-13365   | DC0711                        | 9            | 11/26/70 - 12/02/70 |
| D-13366   | DC0762                        | 4            | 1/03/71 - 1/06/71   |
| D-13367   | DC0781                        | 14           | 1/10/71 - 1/20/71   |
| D-13368   | DC0952                        | 11           | 5/15/71 - 5/16/71   |
| D-13369   | DC0051                        | 65           | 2/08/69 - 2/08/69   |
| D-13370   | DC0152                        | 37           | 7/12/69 - 7/15/69   |
| D-13371   | DC0203                        | 35           | 9/16/69 - 9/19/69   |

| <u>D#</u> | <u>WEEK &amp; PART NUMBER</u> | <u>FILES</u> | <u>TIME SPAN</u>    |
|-----------|-------------------------------|--------------|---------------------|
| D-13372   | DC0801                        | 32           | 1/27/71 - 1/30/71   |
| D-13373   | DC0812                        | 14           | 2/04/71 - 2/06/71   |
| D-13374   | DC0813                        | 17           | 2/06/71 - 2/09/71   |
| D-13375   | DC0832                        | 14           | 2/18/71 - 2/21/71   |
| D-13376   | DC0851                        | 19/01        | 3/01/71 - 3/05/71   |
| D-14024   | DC1681                        | 17           | 9/28/72 - 9/30/72   |
| D-14025   | DC1661                        | 19           | 9/13/72 - 9/16/72   |
| D-14026   | DC1693                        | 5            | 10/09/72 - 10/11/72 |
| D-14027   | DC1692                        | 14           | 10/06/72 - 10/08/72 |
| D-14028   | DC1702                        | 30           | 10/14/72 - 10/15/72 |
| D-14029   | DC1701                        | 55           | 10/11/72 - 10/14/72 |
| D-14030   | DC1704                        | 19           | 10/18/72 - 10/19/72 |
| D-14031   | DC1703                        | 29           | 10/16/72 - 10/17/72 |
| D-14032   | DC1712                        | 35           | 10/22/72 - 10/24/72 |
| D-14033   | DC1711                        | 32           | 10/19/72 - 10/21/72 |
| D-14034   | DC1782                        | 13           | 12/10/72 - 12/12/72 |
| D-14035   | DC1781                        | 13           | 12/08/72 - 12/10/72 |
| D-14036   | DC1773                        | 37           | 12/05/72 - 12/08/72 |
| D-14037   | DC1784                        | 8            | 12/14/72 - 12/15/72 |
| D-14038   | DC1783                        | 20           | 12/12/72 - 12/14/72 |
| D-14039   | DC1372                        | 23           | 2/27/72 - 3/01/72   |
| D-14040   | DC1303                        | 15           | 1/13/72 - 1/15/72   |
| D-14041   | DC1611                        | 26           | 8/09/72 - 8/12/72   |
| D-14042   | DC1373                        | 32           | 3/01/72 - 3/03/72   |
| D-14043   | DC1601                        | 59           | 8/04/72 - 8/06/72   |
| D-14044   | DC1602                        | 24           | 8/07/72 - 8/09/72   |
| D-14045   | DC1452                        | 47           | 4/24/72 - 4/27/72   |
| D-14046   | DC1482                        | 19           | 5/13/72 - 5/16/72   |

| <u>D#</u> | <u>WEEK &amp; PART NUMBER</u> | <u>FILES</u> | <u>TIME SPAN</u>    |
|-----------|-------------------------------|--------------|---------------------|
| D-14047   | DC1432                        | 27           | 4/11/72 - 4/14/72   |
| D-14048   | DC1431                        | 30           | 4/08/72 - 4/11/72   |
| D-14049   | DC1723                        | 23           | 11/01/72 - 11/03/72 |
| D-14050   | DC1721                        | 24           | 10/26/72 - 10/28/72 |
| D-14051   | DC1732                        | 24           | 11/08/72 - 11/11/72 |
| D-14052   | DC1731                        | 29           | 11/03/72 - 11/07/72 |
| D-14053   | DC1742                        | 29           | 11/16/72 - 11/19/72 |
| D-14054   | DC1741                        | 24           | 11/12/72 - 11/15/72 |
| D-14055   | DC1762                        | 27           | 11/27/72 - 11/28/72 |
| D-14056   | DC1751                        | 47           | 11/20/72 - 11/22/72 |
| D-14057   | DC1771                        | 32           | 12/01/72 - 12/03/72 |
| D-14058   | DC1763                        | 19           | 11/29/72 - 12/01/72 |
| D-14059   | DC1612                        | 35           | 8/12/72 - 8/15/72   |
| D-14060   | DC1623                        | 8            | 8/22/72 - 8/23/72   |
| D-14061   | DC1621                        | 9            | 8/17/72 - 8/19/72   |
| D-14062   | DC1613                        | 28           | 8/15/72 - 8/17/72   |
| D-14063   | DC1622                        | 9            | 8/19/72 - 8/22/72   |
| D-14064   | DC1632                        | 39           | 8/29/72 - 9/01/72   |
| D-14065   | DC1631                        | 14           | 8/24/72 - 8/26/72   |
| D-14066   | DC1652                        | 22           | 9/10/72 - 9/12/72   |
| D-14067   | DC1651                        | 33           | 9/07/72 - 9/10/72   |
| D-14068   | DC1642                        | 33           | 9/04/72 - 9/06/72   |
| D-14369   | DC1831                        | 10           | 2/05/73 - 2/08/73   |
| D-14370   | DC1821                        | 10           | 2/02/73 - 2/04/73   |
| D-14371   | DC1813                        | 11           | 1/30/73 - 2/01/73   |
| D-14372   | DC1812                        | 27           | 1/26/73 - 1/30/73   |
| D-14373   | DC1811                        | 28           | 1/24/73 - 1/26/73   |
| D-14374   | DC1802                        | 20           | 1/23/73 - 1/24/73   |

| <u>D#</u> | <u>WEEK &amp; PART NUMBER</u> | <u>FILES</u> | <u>TIME SPAN</u>    |
|-----------|-------------------------------|--------------|---------------------|
| D-14375   | DC1801                        | 33           | 1/18/73 - 1/22/73   |
| D-14376   | DC1794                        | 22           | 12/21/72 - 1/07/73  |
| D-14377   | DC1792                        | 34           | 12/17/72 - 12/19/72 |
| D-14378   | DC1791                        | 18           | 12/15/72 - 12/16/72 |
| D-14379   | DC1752                        | 61           | 11/22/72 - 11/24/72 |
| D-14380   | DC1722                        | 31           | 10/28/72 - 10/31/72 |
| D-14381   | DC1713                        | 16           | 10/24/72 - 10/26/72 |
| D-14382   | DC1243                        | 20           | 12/02/71 - 12/04/71 |
| D-14383   | DC1252                        | 30           | 12/07/71 - 12/12/71 |
| D-14384   | DC1302                        | 34           | 1/11/72 - 1/13/72   |
| D-14385   | DC1332                        | 35           | 2/02/72 - 2/07/72   |
| D-14386   | DC1511                        | 36           | 6/01/72 - 6/05/72   |
| D-14387   | DC1552                        | 24           | 7/03/72 - 7/06/72   |
| D-14388   | DC1561                        | 28           | 7/06/72 - 7/10/72   |
| D-14389   | DC1562                        | 27           | 7/11/72 - 7/15/72   |
| D-14390   | DC1672                        | 19           | 9/25/72 - 9/27/72   |
| D-14391   | DC1691                        | 27           | 10/04/72 - 10/06/72 |
| D-16638   | DC1351                        | 37           | 2/12/72 - 2/15/72   |
| D-16639   | DC1793                        | 34           | 12/19/72 - 12/21/72 |
| D-16640   | DC1772                        | 24           | 12/03/72 - 12/05/72 |
| D-16641   | DC1761                        | 41           | 11/24/72 - 11/27/72 |
| D-16642   | DC1682                        | 26           | 9/30/72 - 10/03/72  |
| D-16643   | DC1641                        | 10           | 9/02/72 - 9/04/72   |
| D-16644   | DC1403                        | 41           | 3/23/72 - 3/27/72   |
| D-16645   | DC1392                        | 19           | 3/12/72 - 3/14/72   |
| D-16646   | DC1341                        | 35           | 2/07/72 - 2/12/72   |
| D-16647   | DC1331                        | 17           | 1/30/72 - 2/02/72   |
| D-16648   | DC1312                        | 35           | 1/18/72 - 1/21/72   |
| D-16649   | DC1251                        | 23           | 12/04/71 - 12/07/71 |

| <u>D#</u> | <u>WEEK &amp; PART NUMBER</u> | <u>FILES</u> | <u>TIME SPAN</u>    |
|-----------|-------------------------------|--------------|---------------------|
| D-16650   | DC1202                        | 12           | 11/03/71 - 11/05/71 |
| D-16651   | DC0481                        | 37           | 6/17/70 - 6/23/70   |

A DESCRIPTION OF GROUP (DATA REDUCTION OF OAO PHOTOMETRY)  
NOTES ON THE AUTOMATIC REDUCTION OF OAO PHOTOMETRY

MANY FACTORS INFLUENCE THE QUALITY OF OAO PHOTOGRAPHIC DATA AND ITS ABILITY TO COMPUTERIZED REDUCTION. AMONG THESE ARE THE OBSERVING SEQUENCE ITSELF (I.E. THE PRESENCE AND TIMING OF FILTER CALIBRATION AND DARK OBSERVATIONS), ITS EXECUTION RELATIVE TO THE INTERVAL OF SPACECRAFT NIGHT, EFFECTS OF THE SOUTH ATLANTIC ACQUALLY AND THE SPECTRAL TYPE, BRIGHTNESS AND EVEN THE INTERSTELLAR REDDENING OF THE OBJECT UNDER STUDY.

THE SPACE ASTRONOMY LABORATORY COMPUTER PROGRAM DROOP (DATA REDUCTION OF OBSERVATIONS) IS A COMPROMISE BETWEEN COMPLEXITY AND THE NUMBER OF OBSERVATIONS THAT CAN BE EXPECTED TO PROCESS IN A SATISFACTORY FASHION. DROOP, TOGETHER WITH OTHER INITIALIZING PROGRAMS, IS DESIGNED FOR THE USER TO ACCOMPLISH THE BASIC DATA PROCESSING NECESSARY FOR THE FURTHER ANALYSIS OF PROGRAM OBJECTS. IN THIS CATEGORY, THE PROGRAMS INCLUDED ARE THE DETERMINATION OF THE CALIBRATION FACTOR FOR EACH PHOTOETER, THE NUMBER OF OVERFLOWS, IF ANY, OF THE DIGITAL COUNTERS AND THE DARK CONTRIBUTION TO THE SIGNAL.

ALL OBSERVING SEQUENCES USED EXTENSIVELY IN THE QAO OBSERVING PROGRAM INCLUDE COMBINATIONS OF FILTERS AND GAINS SUCH THAT EACH FILTER IS USED MORE THAN ONCE AND AT VARIOUS GAINS. ANY ONE FILTER-GAIN COMBINATION IS EXECUTED SIX TIMES IN SUCCESSION AND COMPRISES ONE FRAME IN AN OBSERVING SEQUENCE. IF THE SIX LINES OF DATA PASS A NUMBER OF TESTS FOR CONSISTENCY, THEY ARE AVERAGED AND DARK'S SUBTRACTED THIS QUANTITY, NORMALIZED TO THE PHOTOMETER'S RESPONSE TO THE CALIBRATION SLIDE, IS THE BASIC OBSERVATIONAL DATUM COMPUTED BY DR00P AND ON ENDS OUTPUTS PHUBL200L08.000. WRITING THIS AS FOLLOWS, DIG = (OBJECT.CAL/DARK) IS AN AVERAGE TAKEN OVER THE ENTIRE DATA TAPE BEING PROCESSED, GENERALLY ONE THIRD TO ONE HALF OF A WEEK OF QAO OBSERVATIONS. THE OVERALL STABILITY OF THE PHOTOMETERS IS SUCH THAT THIS YIELDS HIGHER ACCURACY THAN INDIVIDUAL CALIBRATION MEASUREMENTS. THE QUANTITIES IN THE NUMERATOR ARE DERIVED ONLY FROM DATA COLLECTED DURING A SINGLE EPISODE OF SPACECRAFT NIGHT, THAT IS, ONE FILTER-CAL-DARK OBSERVING SEQUENCE.

THE PRINTOUT OF A DROOP-PROCESSED FRAME IS HEADED BY SEVERAL LINES OF INFORMATION WITH REGARD TO OBJECT IDENTIFICATION AND SPACECRAFT STATUS FOLLOWED BY THE RESULTS OF THE PROGRAM CALCULATIONS. THESE INCLUDE THE QUALITY 'DIC' FOR EACH OF THE FILTERS, PLUS THE ESTIMATED ERROR, DARK COUNT, DATA QUALITY FLAGS, AND THE METHOD OF AVERAGING. A NUMBER OF OTHER HANDY PIECES OF KNOW-

LEDGE ARE ALSO LISTED INCLUDING ALL THE ORIGINAL RAW  
ANALOG AND DIGITAL DATA.

ALL OBSERVATIONS IN A SEQUENCE THROUGH A GIVEN FILTER ARE AVERAGED BY WEIGHTING THE INDIVIDUAL DATA POINTS BY THE INVERSES OF THEIR CALCULATED ERROR. THESE AVERAGED VALUES, TOGETHER WITH THE CALIBRATION DATA, ARE PRESENTED IN THE SUMMARY THAT APPEARS AT THE HEAD OF EACH SEQUENCE.

ALONG WITH THE DIGITAL RESULT FOR EACH FILTER, AN AUXILIARY QUANTITY IS COMPUTED WHICH PUTS THE CAL-NORMALIZED DATA ON A MAGNITUDE SCALE WITH COMPENSATION FOR THE RELATIVE SYSTEM SENSITIVITY. THIS QUANTITY IS 'LOAD-MAG' AND IS DEFINED AS

WHERE 'DIGITAL' IS THE RESULT 'APPEARING ON THE PREVIOUS PAGE' AND 'LOC DELTA' IS THE SYSTEM RESPONSE RELATIVE TO ST1.F1, TABULATED BELOW.

LOG DELTA, SYSTEM RESPONSE RELATIVE TO SIF1

|    |    |        |         |        |    |         |         |        |
|----|----|--------|---------|--------|----|---------|---------|--------|
|    | S1 | F3     | (4250A) | -0.490 | S3 | F2      | (2460A) | +0.815 |
|    |    | F4     | (3320A) | 0.000  |    | F1      | (1910A) | 1.644  |
|    |    | F5     | (290A)  | 0.132  |    | F5      | (1680A) | 2.466  |
| S2 | F2 | (290A) | 0.033   | S4     | F3 | (1550A) | 2.114   |        |
|    |    | F3     | (290A)  | 0.451  |    | F3      | (1430A) | 2.216  |
|    |    | F1     | (2040A) | 0.720  |    | F4      | (1330A) | 2.646  |

BARRING MODIFICATIONS TO THE ABOVE TABLE, ONLY ONE FURTHER QUANTITY IS REQUIRED TO PUT THE ENTIRE PHOTO-METRIC SYSTEM ON AN ABSOLUTE SCALE, NAMELY, THE ABSOLUTE RESPONSE AT 3320A.

[illegible]

AS A STANDARD DATA REDUCTION ROUTINE, DROOP PERFORMS WELL IN PROCESSING COMPLETE OBSERVING SEQUENCES OF THE BRIGHTER STARS. WHEN REQUIRED TO REDUCE INCOMPLETE SEQUENCES (FOR EXAMPLE, WHEN FRAMES OF DARK DATA ARE LOST) OR DATA COLLECTED FROM MORE DIFFICULT OBJECTS (NEBULAE, GALAXIES OR FAINT STARS), THE RESULTS ARE LESS SATISFACTORY. NO ATTEMPT WAS MADE TO INCORPORATE INTO DROOP THE MULTITUDE OF COMPLEX DECISIONS AND APPROXIMATIONS THAT MIGHT BE MADE IN THE HAND REDUCTION OF DIFFICULT DATA.

OBSERVERS WHO WISH TO USE DROOP-PROCESSED DATA ALONE  
 OR AS A PARTIAL FOUNDATION FOR FURTHER HAND REDUCTION  
 SHOULD KEEP THE FOLLOWING COMMENTS IN MIND.

1. SKY BACKGROUND -- FOR MANY OBJECTS, THE SKY BACKGROUND IS IMPORTANT AND HAS BEEN OBSERVED FREQUENTLY.

Figure 3.1-2a. Description of DROOP Output, Page 1

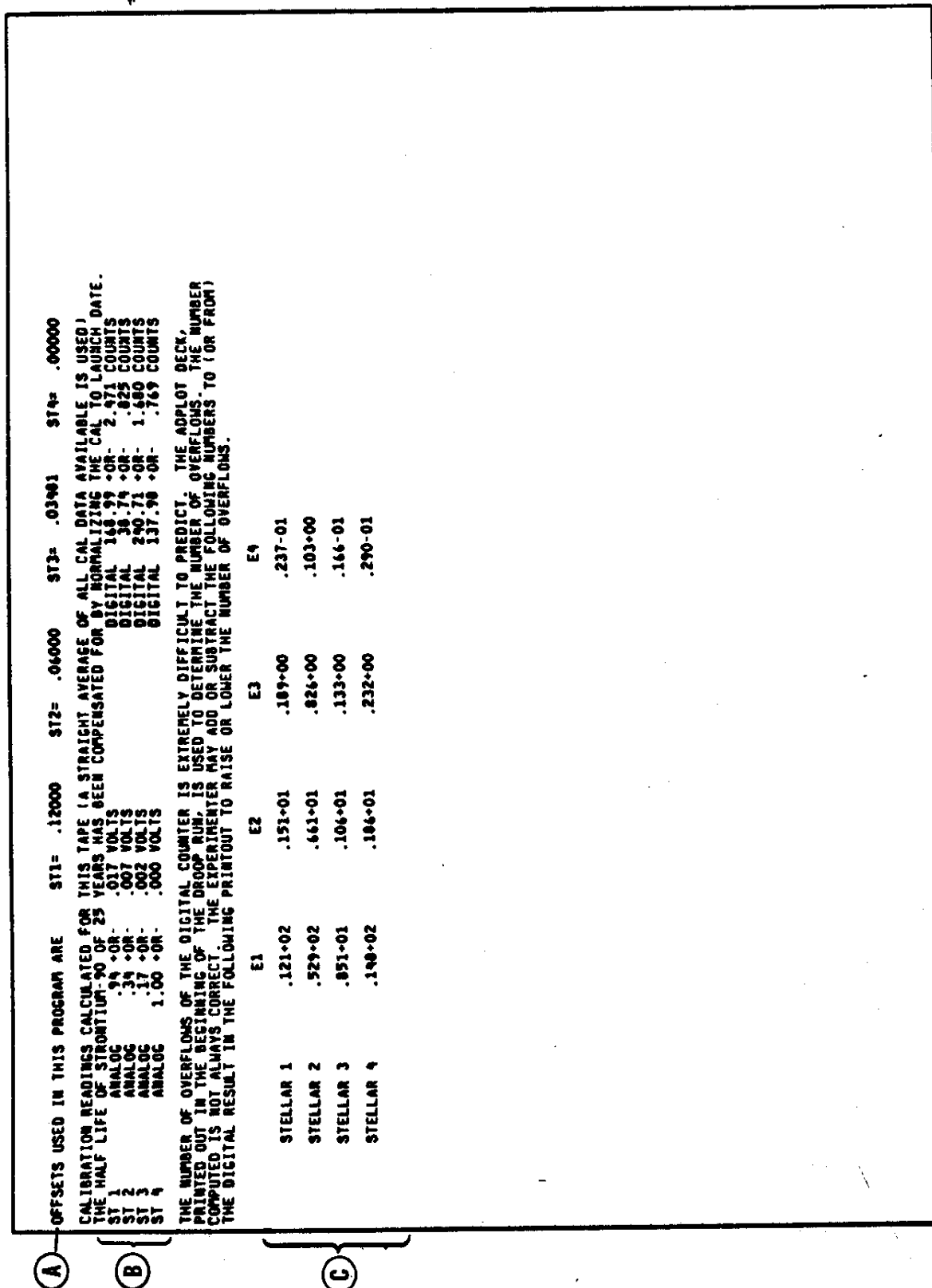


Figure 3.1-3. DROOP Output (Overview): Calibration Data

```

..... SUMMARY FOR QAO 1 .....
18 CONTACTS FOUND. 188 WEP FRAMES FOUND. ERRORS: 0 MODE, 2 STRUCTURE, 1 DIGITAL SEQUENCE, 2 FRAME LENGTH.
235 WEP COMMANDS FOUND. ERRORS: 58 MISSING COMMANDS, 0 ERRONEOUS COMMANDS.
13 TARGETS OBSERVED.
.....

```

Figure 3.1-4. DROOP Output (Overview): Tape Summary

| OBSERVATION SUMMARY FOR QAO 1 |          |         |        |     |     |      |       |          |          |         |                   |     |     |     |
|-------------------------------|----------|---------|--------|-----|-----|------|-------|----------|----------|---------|-------------------|-----|-----|-----|
| (A)                           | (B)      | (C)     | (D)    | (E) | (F) | (G)  | (H)   | (I)      | (J)      | (K)     | (L)               | (M) | (N) | (O) |
| NAME                          | RA       | DEC     | MAG SP | LC  | PEC | RV   | B V   | U S      | COMMENTS | CONTACT | TIME OF FIRST OBS | (P) | (Q) | (R) |
| BET CAR                       | 9 12.69  | 69 30.4 | 1.6 A1 | IV  | S   | 1.48 | 0.00  | 0.02 P=  | 0        | 0       | 12/11/68 01:19:34 | 11  | 11  | 11  |
| BET CAR                       | 9 15.76  | 59 3.5  | 2.2 F0 | I   |     | 2.25 | 0.18  | 0.11 P=  | 0        | 0       | 12/11/68 11:46:24 | 10  | 10  | 10  |
| LOT CAR                       | 10 30.24 | 61 25.4 | 3.3 G2 | V   | E   | 3.31 | -0.10 | -0.71 P= | 0        | 0       | 12/11/68 22:34:31 | 10  | 10  | 10  |
| 91465                         | 10 30.24 | 61 25.4 | 3.3 G2 | V   | E   | 3.31 | -0.10 | -0.71 P= | 0        | 0       | 12/12/68 03:40:11 | 10  | 10  | 10  |
| I CAR                         | 9 42.69  | 62 16.8 | 1.7 A1 | IV  | S   | 1.48 | 0.00  | 0.02 P=  | 0        | 0       | 12/12/68 05:00:56 | 11  | 11  | 11  |
| BET CAR                       | 9 12.69  | 69 30.4 | 1.7 A1 | IV  | S   | 1.48 | 0.00  | 0.02 P=  | 0        | 0       | 12/12/68 06:17:45 | 11  | 11  | 11  |
| GAM VEL                       | 8 8.00   | 47 12.1 | 1.8 C7 | IV  |     | 1.48 | 0.00  | 0.02 P=  | 0        | 0       | 12/12/68 12:59:38 | 11  | 11  | 11  |
| BET CAR                       | 9 12.69  | 69 30.4 | 1.7 A1 | IV  | S   | 2.25 | 0.18  | 0.11 P=  | 0        | 0       | 12/12/68 13:52:35 | 11  | 11  | 11  |
| BET CAR                       | 9 15.76  | 59 3.5  | 2.2 F0 | I   |     | 4.08 | 0.01  | -0.56 P= | 0        | 0       | 12/12/68 18:38:36 | 10  | 10  | 10  |
| LOT CAR                       | 9 33.00  | 59 0.3  | 4.1 B5 | II  |     | 3.31 | -0.13 | -0.71 P= | 0        | 0       | 12/12/68 20:20:34 | 17  | 17  | 17  |
| 88206                         | 10 30.24 | 51 33.7 | 4.9 B2 | V   | E   | 3.31 | -0.10 | -0.71 P= | 0        | 0       | 12/13/68 01:45:38 | 12  | 12  | 12  |
| 91465                         | 10 30.24 | 61 25.4 | 3.3 B5 | V   | E   | 3.31 | -0.10 | -0.71 P= | 0        | 0       | 12/13/68 01:45:38 | 12  | 12  | 12  |
| OMG CAR                       | 10 12.57 | 69 46.9 | 3.3 B7 | IV  | S   | 1.48 | 0.00  | 0.02 P=  | 0        | 0       | 12/13/68 03:01:24 | 12  | 12  | 12  |
| BET CAR                       | 9 12.69  | 69 30.4 | 1.7 A1 | IV  | S   | 1.48 | 0.00  | 0.02 P=  | 0        | 0       | 12/13/68 03:01:24 | 12  | 12  | 12  |

Figure 3.1-5. DROOP Output (Overview): Summary of Objects Observed

(pitch and yaw) are in arc-minutes if initials P and Y are used; they are in units of 15 arc-seconds if the initials PT and YT are used. The latter units may be used up to 15 arc-minutes off the reference object.

Also listed are (l) number and initial of the ground station to which the data were transmitted from the satellite, (m) date and time of the first observation, (n,o,p) number of frames in each mode, (q) number of frames observed in the South Atlantic Geomagnetic Anomaly (heading: AN), and (r) number of frames observed in spacecraft daylight (heading: LT).

This is followed by a frame summary (see Figure 3.1-6). This frame summary lists, for each frame on the tape, (a) contact number and initial of the ground station, (b) frame number, (c) spacecraft clock setting (heading: SET), (d) date and time the observing sequence of the data in the frame was started, and, in three columns (e, f, and g), the mode (designated A, B, or C), day/night status of the spacecraft (designated D or N), and whether the spacecraft was in the South Atlantic Geomagnetic Anomaly (designated A or blank). The star summary and the frame summary are both repeated at the end of the main body of output, along with all 'object' data summaries.

The next page (see Figure 3.1-7) lists spacecraft ephemeris elements for this tape: a time correlation between GMT and the spacecraft clock, the semi-major axis, inclination, mean anomaly, position of perigee, right ascension of the ascending node, rate of change of the right ascension of the ascending node, day and minute of the epoch, calculated period, and Julian date of epoch.

| ..... FRAME SUMMARY FOR QAO 1 ..... |         |                       |            |         |                       |            |         |                       |            |         |                       |
|-------------------------------------|---------|-----------------------|------------|---------|-----------------------|------------|---------|-----------------------|------------|---------|-----------------------|
| (A)                                 | (B)     | (C)                   | (D)        | (E)     | (F)                   | (G)        | (H)     | (I)                   | (J)        |         |                       |
| CONTACT FR                          | SET     | CMT                   | CONTACT FR | SET     | CMT                   | CONTACT FR | SET     | CMT                   | CONTACT FR |         |                       |
| 57 R                                | 1 1616  | 12/11/68 06:19:34 CD  | 66 S       | 15 1157 | 12/11/68 22:58:07 CDA | 74 R       | 1 4507  | 12/12/68 10:49:05 CD  | 74 R       | 2 4501  | 12/12/68 11:04:17 CD  |
| 58 R                                | 1 2472  | 12/11/68 08:05:28 CDA | 70 R       | 1 2042  | 12/12/68 00:52:09 CD  | 74 R       | 3 6503  | 12/12/68 11:05:20 CDA | 76 S       | 1 7371  | 12/12/68 12:59:38 CDA |
| 58 R                                | 2 2574  | 12/11/68 08:29:04 CDA | 70 R       | 2 2360  | 12/12/68 01:48:09 AD  | 76 S       | 2 7501  | 12/12/68 13:18:30 ADA | 76 S       | 3 7532  | 12/12/68 13:26:04 AD  |
| 58 R                                | 3 2631  | 12/11/68 08:36:40 CDA | 70 R       | 3 2676  | 12/12/68 02:46:42 AD  | 76 S       | 4 7537  | 12/12/68 13:31:55 AD  | 76 S       | 5 7570  | 12/12/68 13:38:14 AD  |
| 59 R                                | 1 3273  | 12/11/68 09:52:42 CDA | 70 R       | 4 2727  | 12/12/68 03:48:01 AD  | 76 S       | 6 7575  | 12/12/68 13:40:47 AD  | 76 S       | 7 7624  | 12/12/68 13:40:47 AD  |
| 60 R                                | 1 4113  | 12/11/68 11:37:33 CDA | 70 R       | 5 2734  | 12/12/68 04:51:34 AD  | 76 S       | 8 7627  | 12/12/68 13:41:03 AD  | 76 S       | 9 7703  | 12/12/68 13:53:35 AD  |
| 60 R                                | 2 4225  | 12/11/68 11:56:57 CDA | 70 R       | 6 2765  | 12/12/68 05:53:53 AD  | 76 S       | 10 7734 | 12/12/68 13:59:08 AD  | 76 S       | 11 7741 | 12/12/68 14:00:27 AD  |
| 60 R                                | 3 4315  | 12/11/68 12:11:38 ADA | 70 R       | 7 2772  | 12/12/68 06:53:26 AD  | 76 S       | 12 7772 | 12/12/68 14:07:00 AD  | 76 S       | 13 7777 | 12/12/68 14:08:19 AD  |
| 62 S                                | 1 4743  | 12/11/68 13:29:31 CDA | 70 R       | 8 3023  | 12/12/68 07:42:11 AD  | 76 S       | 14 7777 | 12/12/68 14:08:19 AD  | 76 S       | 15 7777 | 12/12/68 14:08:19 AD  |
| 62 S                                | 2 5151  | 12/11/68 13:59:39 CDA | 70 R       | 9 3274  | 12/12/68 08:44:44 AD  | 76 S       | 16 7777 | 12/12/68 14:08:19 AD  | 76 S       | 17 7777 | 12/12/68 14:08:19 AD  |
| 62 S                                | 3 5634  | 12/11/68 15:20:08 CDA | 70 R       | 10 3274 | 12/12/68 09:44:44 AD  | 76 S       | 18 7777 | 12/12/68 14:08:19 AD  | 76 S       | 19 7777 | 12/12/68 14:08:19 AD  |
| 63 S                                | 1 4933  | 12/11/68 17:00:32 CDA | 70 R       | 11 3301 | 12/12/68 10:48:03 AD  | 76 S       | 20 7777 | 12/12/68 14:08:19 AD  | 76 S       | 21 7777 | 12/12/68 14:08:19 AD  |
| 63 S                                | 2 4505  | 12/11/68 17:11:32 ADA | 70 R       | 12 3332 | 12/12/68 11:48:03 AD  | 76 S       | 22 7777 | 12/12/68 14:08:19 AD  | 76 S       | 23 7777 | 12/12/68 14:08:19 AD  |
| 63 S                                | 3 4536  | 12/11/68 17:18:05 ADA | 70 R       | 13 3337 | 12/12/68 12:53:55 AD  | 76 S       | 24 7777 | 12/12/68 14:08:19 AD  | 76 S       | 25 7777 | 12/12/68 14:08:19 AD  |
| 63 S                                | 4 4543  | 12/11/68 17:19:24 ADA | 70 R       | 14 3370 | 12/12/68 14:02:28 AD  | 76 S       | 26 7777 | 12/12/68 14:08:19 AD  | 76 S       | 27 7777 | 12/12/68 14:08:19 AD  |
| 63 S                                | 5 4574  | 12/11/68 17:23:57 ADA | 70 R       | 15 3442 | 12/12/68 15:29:29 AD  | 76 S       | 28 7777 | 12/12/68 14:08:19 AD  | 76 S       | 29 7777 | 12/12/68 14:08:19 AD  |
| 63 S                                | 6 4601  | 12/11/68 17:27:16 ADA | 70 R       | 16 3473 | 12/12/68 16:41:29 AD  | 76 S       | 30 7777 | 12/12/68 14:08:19 AD  | 76 S       | 31 7777 | 12/12/68 14:08:19 AD  |
| 63 S                                | 7 4632  | 12/11/68 17:33:49 ADA | 70 R       | 17 3500 | 12/12/68 17:41:21 AD  | 76 S       | 32 7777 | 12/12/68 14:08:19 AD  | 76 S       | 33 7777 | 12/12/68 14:08:19 AD  |
| 63 S                                | 8 4671  | 12/11/68 17:39:24 ADA | 70 R       | 18 3531 | 12/12/68 18:41:21 AD  | 76 S       | 34 7777 | 12/12/68 14:08:19 AD  | 76 S       | 35 7777 | 12/12/68 14:08:19 AD  |
| 63 S                                | 9 4743  | 12/11/68 17:52:57 AD  | 70 R       | 19 3536 | 12/12/68 19:41:21 AD  | 76 S       | 36 7777 | 12/12/68 14:08:19 AD  | 76 S       | 37 7777 | 12/12/68 14:08:19 AD  |
| 63 S                                | 10 4750 | 12/11/68 17:59:16 AD  | 70 R       | 20 3567 | 12/12/68 20:41:21 AD  | 76 S       | 38 7777 | 12/12/68 14:08:19 AD  | 76 S       | 39 7777 | 12/12/68 14:08:19 AD  |
| 63 S                                | 11 7001 | 12/11/68 18:00:49 AD  | 70 R       | 21 3727 | 12/12/68 21:41:21 AD  | 76 S       | 40 7777 | 12/12/68 14:08:19 AD  | 76 S       | 41 7777 | 12/12/68 14:08:19 AD  |
| 63 S                                | 12 7006 | 12/11/68 18:02:08 AD  | 70 R       | 22 3760 | 12/12/68 22:41:21 AD  | 76 S       | 42 7777 | 12/12/68 14:08:19 AD  | 76 S       | 43 7777 | 12/12/68 14:08:19 AD  |
| 63 S                                | 13 7037 | 12/11/68 18:08:41 AD  | 70 R       | 23 3765 | 12/12/68 23:41:21 AD  | 76 S       | 44 7777 | 12/12/68 14:08:19 AD  | 76 S       | 45 7777 | 12/12/68 14:08:19 AD  |
| 63 S                                | 14 7044 | 12/11/68 18:10:00 CD  | 70 R       | 24 4016 | 12/12/68 24:41:21 AD  | 76 S       | 46 7777 | 12/12/68 14:08:19 AD  | 76 S       | 47 7777 | 12/12/68 14:08:19 AD  |
| 66 S                                | 1 7736  | 12/11/68 20:05:53 CDA | 71 R       | 1 4152  | 12/12/68 05:39:28 AD  | 76 S       | 48 7777 | 12/12/68 14:08:19 AD  | 76 S       | 49 7777 | 12/12/68 14:08:19 AD  |
| 66 S                                | 2 0254  | 12/11/68 20:59:53 CDA | 71 R       | 2 4203  | 12/12/68 05:46:02 AD  | 76 S       | 50 7777 | 12/12/68 14:08:19 AD  | 76 S       | 51 7777 | 12/12/68 14:08:19 AD  |
| 66 S                                | 3 0572  | 12/11/68 21:53:53 AD  | 71 R       | 3 4210  | 12/12/68 05:57:20 AD  | 76 S       | 52 7777 | 12/12/68 14:08:19 AD  | 76 S       | 53 7777 | 12/12/68 14:08:19 AD  |
| 66 S                                | 4 0623  | 12/11/68 22:00:26 AD  | 71 R       | 4 4241  | 12/12/68 05:53:53 AD  | 76 S       | 54 7777 | 12/12/68 14:08:19 AD  | 76 S       | 55 7777 | 12/12/68 14:08:19 AD  |
| 66 S                                | 5 0630  | 12/11/68 22:01:45 AD  | 71 R       | 5 4246  | 12/12/68 05:55:42 AD  | 76 S       | 56 7777 | 12/12/68 14:08:19 AD  | 76 S       | 57 7777 | 12/12/68 14:08:19 AD  |
| 66 S                                | 6 0661  | 12/11/68 22:08:18 AD  | 71 R       | 6 4277  | 12/12/68 06:01:45 AD  | 76 S       | 58 7777 | 12/12/68 14:08:19 AD  | 76 S       | 59 7777 | 12/12/68 14:08:19 AD  |
| 66 S                                | 7 0666  | 12/11/68 22:09:37 AD  | 71 R       | 7 4300  | 12/12/68 06:02:01 AD  | 76 S       | 60 7777 | 12/12/68 14:08:19 AD  | 76 S       | 61 7777 | 12/12/68 14:08:19 AD  |
| 66 S                                | 8 0717  | 12/11/68 22:16:10 ADA | 71 R       | 8 4374  | 12/12/68 06:17:45 CD  | 76 S       | 62 7777 | 12/12/68 14:08:19 AD  | 76 S       | 63 7777 | 12/12/68 14:08:19 AD  |
| 66 S                                | 9 1025  | 12/11/68 22:34:31 ADA | 72 R       | 1 4764  | 12/12/68 07:22:45 CD  | 76 S       | 64 7777 | 12/12/68 14:08:19 AD  | 76 S       | 65 7777 | 12/12/68 14:08:19 AD  |
| 66 S                                | 10 1056 | 12/11/68 22:41:04 ADA | 72 R       | 2 4770  | 12/12/68 07:23:48 CD  | 76 S       | 66 7777 | 12/12/68 14:08:19 AD  | 76 S       | 67 7777 | 12/12/68 14:08:19 AD  |
| 66 S                                | 11 1063 | 12/11/68 22:42:23 ADA | 72 R       | 3 5004  | 12/12/68 07:26:57 CDA | 76 S       | 68 7777 | 12/12/68 14:08:19 AD  | 76 S       | 69 7777 | 12/12/68 14:08:19 AD  |
| 66 S                                | 12 1114 | 12/11/68 22:48:56 AD  | 73 R       | 1 5621  | 12/12/68 09:11:02 AD  | 76 S       | 70 7777 | 12/12/68 14:08:19 AD  | 76 S       | 71 7777 | 12/12/68 14:08:19 AD  |
| 66 S                                | 13 1121 | 12/11/68 22:50:15 AD  | 73 R       | 2 5625  | 12/12/68 09:12:05 CDA | 76 S       | 72 7777 | 12/12/68 14:08:19 AD  | 76 S       | 73 7777 | 12/12/68 14:08:19 AD  |
| 66 S                                | 14 1152 | 12/11/68 22:56:46 AD  |            |         |                       | 76 S       | 74 7777 | 12/12/68 14:08:19 AD  | 76 S       | 75 7777 | 12/12/68 14:08:19 AD  |

Figure 3.1-6. DROOP Output (Overview): Frame Summary

```

INPUT      001
OUTPUT     001
SELECT
TC
15.7292776 2201.59798 WEEK 0. PART 1
AXIS
INCLINATION 34.997
MEAN ANOMALY 153.093
PERIGEE 282.85
RA NODE 74.27
DECLA NODE 1 -5.4767 12/07/68
DAY OF EPOCH 342
MIN OF EPOCH 532.0
START
PERIOD 100.15850
EPOCH 2440197.869444444
STRIPR RUN ID = T00008 04/27/72 13:39:04
*** END OF FILE ***

```

Figure 3.1-7. DROOP Output-(Overview): Spacecraft Ephemeris

### 3.2 DESCRIPTION OF THE OBJECT DATA

This section describes those portions of the DROOP results that summarize observations of a particular object. These data are contained on two pages preceding each set of individual observations (frames).

The first page (Figure 3.2-1) summarizes all observations of the object in question for a particular set of frames. The first line (a) of this page gives the name of the object, the date and time span of the observations summarized, the orbit number, ground station initial, and week number. After skipping a line, the next line (b) begins with the letter 'S.' This is a remnant from earlier software and can be ignored. Following the letter 'S,' the object name is repeated, followed by the right ascension/declination of the object, its magnitude, spectral type, luminosity class, peculiarities, visual magnitude, B-V, U-B, and spacecraft pitch and yaw (or other comments). Note that if the B-V or U-B values are not known, those columns will contain zeros.

On the next line (C), the target (object) longitude and latitude are given in both ecliptic coordinates and galactic coordinates. On the following line, after the word 'target,' the spacecraft roll angle, the slit position angle, the distance of the telescopes from the Sun, and the distance from the Sun in ecliptic longitude are given. The roll angle (C) is defined as the angle between the spacecraft y-(pitch) axis and the celestial equator, measured in the y-z (pitch-yaw) plane.

Between two lines of asterisks, the calibration data (table D) presented earlier in the overview data section are repeated. Note that the analog value for ST4 is meaningless since that channel failed.

Following the second line of asterisks is a line defining the 'OAO magnitude.' Note that the 'LOG (CONST)' is the same as the 'LOG (DELTA)' mentioned in the DROOP description (see Figure 3.1-2).

Following this definition, the data from the entire set of observations (all relevant frames) were averaged individually for each stellar photometer and each filter position (including dark current data and calibration data).

For each photometer and each filter position (arrayed as columns), four quantities were averaged. The analog values determined for  $(DATA - DK)/(CAL - DK)$  are listed first, followed by the digital analog value of  $(DATA - DK)/(CAL - DK)$ . (Note: These values were derived by using the volts/overflow and offsets in conjunction with the analog data). These are followed by the digital values of  $(DATA - DK)/(CAL - DK)$ , and in the case of filter positions only (i.e., not in the case of dark current measurements or calibration data), the

(A) (B) (C) (D) (E)

SUMMARY FOR TOT CAR CH1=12/11/68 17:46:24 TO 18:00:49 63 S WEEK( 1)

S TOT CAR 9 15 76 59 3 5 2 2 FO 1 2 25 0 18 0 11 P= 0 V= 0  
 (TARGET (ECLIPIC) LONG 189 37 36 LAT 67 4 37 TARGET (GALACTIC) LONG 278 27 20 LAT 7 0 20  
 (TARGET ROLL ANGLE 85.80 SLIT POS ANGLE 355.80 DIST FROM SUN 84.29 DIST FROM SUN (ECL LONG) 75.17

.....

CALIBRATION DATA CHOSEN FOR THIS DATA TAPE (AN AVERAGE OF CAL SLIDE MINUS DARK FOR THE WHOLE TAPE IS USED)

ST 1 ANALOG .24 -OR- .017 VOLTS DIGITAL 168.99 -OR- 2.471 COUNTS  
 ST 2 ANALOG .34 -OR- .007 VOLTS DIGITAL 38.74 -OR- .825 COUNTS  
 ST 3 ANALOG .17 -OR- .002 VOLTS DIGITAL 240.71 -OR- 1.680 COUNTS  
 ST 4 ANALOG 1.00 -OR- .000 VOLTS DIGITAL 137.98 -OR- .769 COUNTS

.....

DAO-MAG= -2.5 LOG(DIGITAL) -2.5 LOG(CONST) WHERE CONST IS THE SENSITIVITY OF THE GIVEN FILTER RELATIVE TO 3320 FILTER

STELLAR 1 (1) 2980 ANG (2) 3320 ANG (3) 4250 ANG (4) DARK (5) CAL

ANALOG 158-02- -61-01 140-03- -98-01 -497-01- -80-03 .851-00- 51-02 V  
 DIG-ANA 167-02- -31-00 141-03- -21-01 -542-01- -16-02 .165-03- .97-00 C  
 DIGITAL 167-02- -26-00 140-03- -21-01 -568-01- -12-02 .165-03- .37-00 C  
 DAO-MAG -30571-01 -36668-01

STELLAR 2 (1) 2030 ANG (2) 2390 ANG (3) 2940 ANG (4) DARK (5) CAL

ANALOG 206-01- -22-01 153-02- -12-00 -604-01- -20-02 .323-00- -10-02 V  
 DIG-ANA 243-01- -15-00 211-02- -46-00 -586-01- -33-02 .367-02- -12-00 C  
 DIGITAL 243-01- -14-00 217-02- -47-00 -662-01- -16-02 .380-02- .70-01 C  
 DAO-MAG -31904-01 -34497-01

STELLAR 3 (1) 1680 ANG (2) 1910 ANG (3) 2460 ANG (4) DARK (5) CAL

ANALOG 197-00- -31-02 122-01- -20-02 -280-01- -13-02 .177-00- -30-03 V  
 DIG-ANA 214-00- -78-02 246-01- -23-01 -841-01- -32-02 .539-03- .93-00 C  
 DIGITAL 452-00- -36-02 267-01- -19-01 -143-02- -91-04 .241-03- .21-00 C  
 DAO-MAG -32487-01 -31054-01

STELLAR 4 (1) 1330 ANG (2) 1430 ANG (3) 1550 ANG (4) DARK (5) CAL

ANALOG 230-00- -59-01 V 335-01- -86-02 V  
 DIG-ANA 104-00- -63-03 -106-02- -19-04 .136-02- -22-04 .135-03- .14-00 C  
 DIGITAL 41557-01 -52850-01

.....

Figure 3.2-1. DROOP Output (Object): Summary of a Set of Observations of One Object During One Contact

values for the derived OAO magnitude. Note that the dark current values are defined as the ratios of DK to CAL - DK, in volts or counts, and that the calibration data are actually values of CAL - DK in volts or counts (see Figure 3.2-1). These may be compared with the values listed on the table of calibration data after the half-life of the strontium<sup>90</sup> source is taken into account by the following formula:

$$(CAL - DK)_{t=0} = (CAL - DK)_t \times e^{(\text{orbit} \times 5.27 \times 10^{-6})} \quad (3.2-1)$$

Note that the data from Stellar Photometer 4 do not include digitized analog data and that the analog data were estimated from models of stellar spectra.

The second page (Figure 3.2-2) iterates the identification line A, beginning with the vestigial 'S,' but with the date and time period covered added to the end. In line B are the analog voltages (computed at Exposure/gain 2) for the four instruments and each filter predicted from the model stellar spectra previously alluded to.

The curve fits for the dark data are given next. Wherever possible, a second-order parabolic fit was determined using the least-squares method, which fits the dark current as a function of time in minutes from the start of the first measurement ( $t=0$ ). The date and time for  $t=0$  are given on the upper right-hand corner of the plot (item(E)). If the second-order fit was not possible, a linear fit was determined for the dark current as a function of time, and if that failed, the average was simply used. Whenever possible, data from the four stellar photometers were used independently (the type of process is then labeled 'individual fitting'). If necessary, the data from the different photometers were merged by converting all data to their equivalent ST1 values, using the interrelations listed earlier (see Figure 3.1-1). In the latter case, the process is called 'collective fitting.' These coefficients and the root-mean-square error in the residuals (the residual is the difference between the measured value and that calculated using the curve fit) are given in tabular form for each detector, and the resulting dark current is in counts at Exposure/gain 2.

Following this table, dark current (listed as both raw observed data, where 1=ST1, 2=ST2, etc., and derived data, where A=ST1, B=ST2, etc.) is shown against time on a plot generated by a line printer, with a vertical line within the graph indicating the time of the last observation in the sequence of frames.

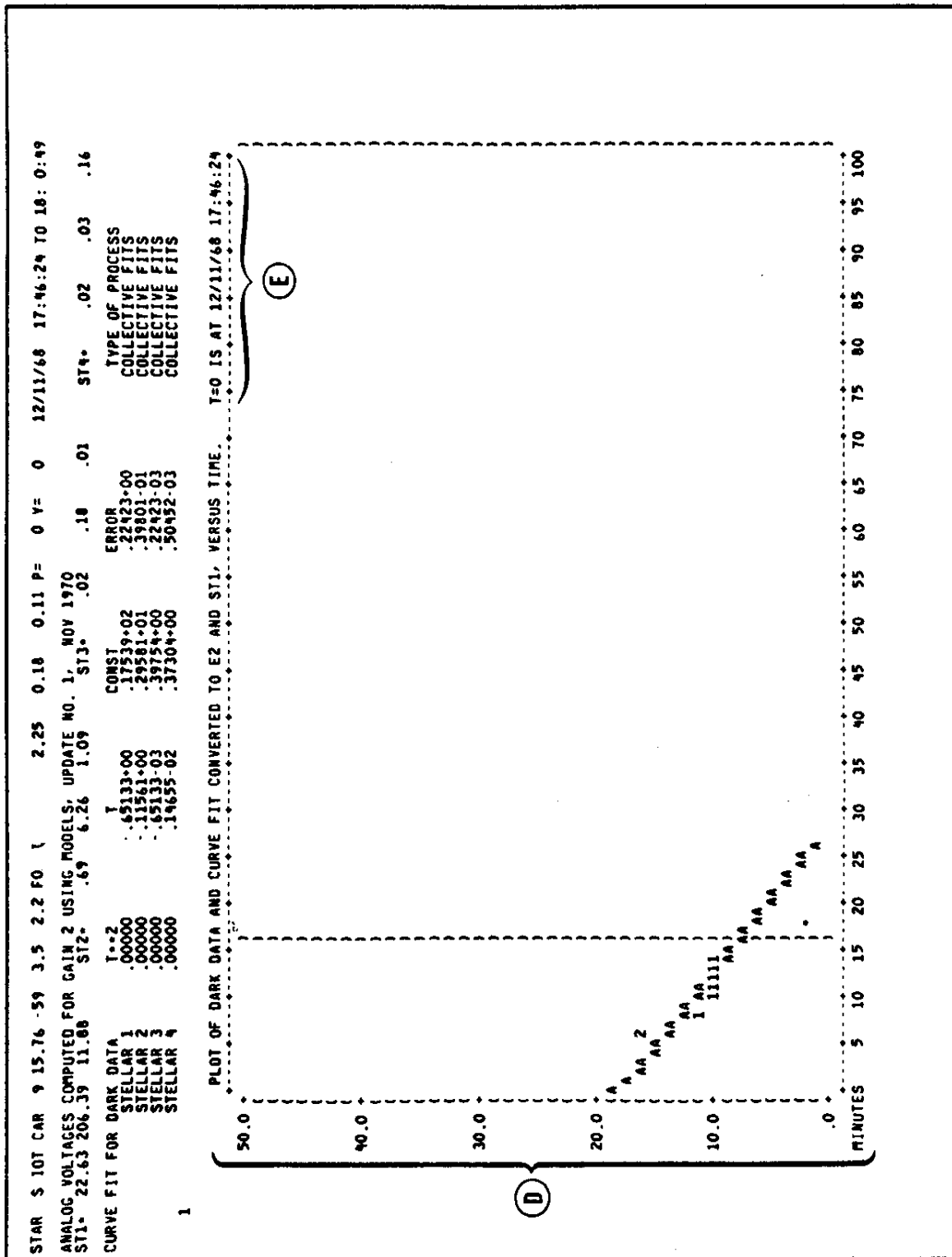


Figure 3.2-2. DROOP Output (Object): Curve Fit for Dark Data

### 3.3 DESCRIPTION OF THE FRAME DATA

This portion of the DROOP results describes the data from each individual observing run. These data were not reduced if the observations were: (a) not made in the stellar photometer mode, (b) made during predicted spacecraft day, or (c) made when the spacecraft was within the predicted South Atlantic Geomagnetic Anomaly. Otherwise, the individual frame data include both raw and reduced stellar photometer data.

Data rejected because they were taken during predicted spacecraft day are illustrated in Figure 3.3-1.

Line A gives the contact orbit number, the ground station abbreviation, and the frame number. Line B gives the reason this frame was rejected (in this case, because the spacecraft was in daylight). The group of lines labelled C gives the raw stellar photometer data, nebular photometer data, and some spectrometer data. The second column, headed M, gives the mode of operation (in this case, Mode A). The columns headed E give the exposure/gain used for that subframe. The column headed F gives the filter position number. The column headed A gives the aperture used (L= large, S=small). The columns headed ANA give the analog voltages. The columns headed DIG give the raw digital counts. The columns headed C are indicators of collimation trouble (N signifies 'normal').

The spectrometer data in the rightmost six columns should be disregarded. They will be described in another document. The group of lines labelled D contains spectrometer data, power supply and thermal data, orbital information, and a flag indicating the spacecraft was in daylight or the South Atlantic Geomagnetic Anomaly, if applicable. These lines can usually be disregarded.

Data rejected because they were taken when the spacecraft was within the predicted South Atlantic Geomagnetic Anomaly are illustrated in Figure 3.3-2. Items A, C, and D are identical to those described above in Figure 3.3-1. Item B differs only in that the reason for rejection was that the spacecraft was in the Anomaly rather than daylight.

Data rejected because they were not taken in Mode A are illustrated in Figures 3.3-3a and 3.3-3b. Again, Items A, C, and D are essentially the same as in Figure 3.3-1, except that the tables of Items C and D are much longer because the spacecraft was in the spectrometer mode. Item B is different only in that the reason for rejection was that the spacecraft was not in Mode A.

A sample of reduced stellar photometer data is shown in Figure 3.3-4. Frames such as this one are the essence of each data set.

..... 63 SMT. ....  
 STAR S IOT CAR 9 15 76 59 3 5 2 2 FO 1 2 25  
 SPACECRAFT DAY SUB-SAT RANGE 134 34 TO 155 35  
 TARGET (ECLIPIC) LONG 18 37 36 LAT 67 4 37 TARGET ANGLE 355.80  
 TARGET ROLL ANGLE 85.80 SLIT POS ANGLE 355.80  
 CH COM B NERVEZ.F1 NOCHANGEAPERTURE WEATHERREADOUT VC00  
 CH COM A STIL(EL.F4) ST1(EL.F1) ST3(EL.F5) ST4(EL.F3) NOCYCLE  
 DS COM A STIL(EL.F4) ST1(EL.F1) ST3(EL.F5) ST4(EL.F3) NOCYCLE  
 ERROR \*\*\* THIS FRAME WAS REJECTED BECAUSE IT WAS OBSERVED IN DAYLIGHT (DROOP)

..... 63 SMT. ....  
 FRAME 12 .....  
 0.18 0.11 P 0 Y 0 CONTACT 63.51 6/FRAME 12  
 AZIMUTH-ZEN DIST 172.70 93.77 TO 184.58 94.13  
 GALACTIC LONG 278.27 20 LAT 7 0 20  
 DIST FROM SUN 84.29  
 ADD=253 GMT=12/11/68 18:02:03(SET=7006)  
 ADD=254 GMT=12/11/68 18:02:03(SET=7006)  
 IND=03617-04107 ADD=254 GMT=12/11/68 18:02:03(SET=7006)  
 OBSERVED IN DAYLIGHT (DROOP)

| STELLAR 1 |        | STELLAR 2  |         | STELLAR 3 |          | STELLAR 4 |       | MEBULAR  |       | SPECTROMETER   |           |
|-----------|--------|------------|---------|-----------|----------|-----------|-------|----------|-------|----------------|-----------|
| M         | E F A  | M          | E F A   | M         | E F A    | M         | E F A | M        | E F A | M              | E F A     |
| 1. A      | 1.4 L  | 1.00 209 N | 2.1 L   | .92 174 N | 4.5 L    | .56 105 N | 4.3 L | .00 47 N | 2.1 L | 1.34 254 2 4 L | 1750-2000 |
| 2. A      | 1.4 L  | 1.02 208 N | 2.1 L   | .92 172 N | 4.5 L    | .54 107 N | 4.3 L | .00 49 N | 2.1 L | 1.34 241 2 4 L | 90 149    |
| 3. A      | 1.4 L  | 1.02 212 N | 2.1 L   | .90 170 N | 4.5 L    | .54 103 N | 4.3 L | .00 50 N | 2.1 L | 1.36 248 2 4 L | 90 153    |
| 4. A      | 1.4 L  | 1.00 209 N | 2.1 L   | .94 169 N | 4.5 L    | .54 105 N | 4.3 L | .00 54 N | 2.1 L | 1.24 240 2 4 L | 98 169    |
| 5. A      | 1.4 L  | 1.00 219 N | 2.1 L   | .92 169 N | 4.5 L    | .56 107 N | 4.3 L | .00 57 N | 2.1 L | 1.34 216 2 4 L | 92 180    |
| 6. A      | 1.4 L  | 1.04 209 N | 2.1 L   | .88 168 N | 4.5 L    | .52 102 N | 4.3 L | .00 63 N | 2.1 L | .70 239 2 4 L  | 94 186    |
|           | SP 1   | SP 2       | SP 3    | SP 4      | SP 5     | SP 6      | SP 7  | SP 8     | SP 9  | SP 10          | SP 11     |
| 1.        | .16    | .90        | 2.72    | 2.80      | 3.76     | 2.50      | 2.80  | 3.52     | 3.94  | 3.80           | 172.70    |
| 2.        | .16    | .90        | 2.72    | 2.80      | 3.74     | 2.50      | 2.80  | 3.52     | 3.94  | 3.80           | 175.02    |
| 3.        | .16    | .98        | 2.72    | 2.78      | 3.74     | 2.50      | 2.80  | 3.54     | 3.92  | 3.80           | 177.39    |
| 4.        | .16    | .92        | 2.72    | 2.80      | 3.74     | 2.50      | 2.80  | 3.54     | 3.92  | 3.80           | 179.79    |
| 5.        | .16    | .94        | 2.70    | 2.80      | 3.74     | 2.50      | 2.80  | 3.54     | 3.92  | 3.80           | 182.19    |
| 6.        | .24    | .98        | 2.70    | 2.80      | 3.74     | 2.50      | 2.80  | 3.54     | 3.92  | 3.82           | 184.58    |
|           | CON EL | MEB TOP    | PRI STR | AZIMUTH   | ZEN DIST | SUB-SAT   |       |          |       |                |           |
|           | 3.52   | 3.94       | 3.80    | 172.70    | 93.77    | 134       |       |          |       |                |           |
|           | 3.52   | 3.94       | 3.80    | 175.02    | 93.88    | 138       |       |          |       |                |           |
|           | 3.54   | 3.92       | 3.80    | 177.39    | 93.97    | 142       |       |          |       |                |           |
|           | 3.54   | 3.92       | 3.80    | 179.79    | 94.04    | 147       |       |          |       |                |           |
|           | 3.54   | 3.92       | 3.80    | 182.19    | 94.09    | 151       |       |          |       |                |           |
|           | 3.54   | 3.92       | 3.82    | 184.58    | 94.13    | 155       |       |          |       |                |           |

DUMP PROCESSED: WOSC

Figure 3.3-1. DROOP Output (Frame): Frame Rejected Because It Was Observed in Daylight

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STAR S BET CAR 9 12 49 -69 30 4 1 6 A1 IV S 63 SMT, FRAME 3 ..... 0.00 0.02 P= 0 Y= 0 CONTACT 63 SI 6 FRAME 3
SPACECRAFT DAY SUB-SAT RANGE 351 35 TO 354 34 AZIMUTH-ZEN DIST 175.34 75.51 TO 174.23 75.56 ANOMALY 3
TARGET (ECLIPIC) LONG 211 16 29 LAT -72 13 40 TARGET (GALACTIC) LONG 285 58 47 LAT -14 24 6 DIST FROM SUN (ECL LONG) 98.50
TARGET ROLL ANGLE -79.50 SLIT POS ANGLE 349.50 DIST FROM SUN 78.33 CH1=12/11/68 17:18:05 (SET=6536)
CH COM B NEBU(L,F4) NOCHANGEAPERTURE NEITHERREADOUT VC00 ADD=121 CH1=12/11/68 17:18:05 (SET=6536)
CH COM A STIL(EL,F1) ST1(E3,F3) ST1(E2,F2) ST4(E3,F5) NOCYCLE ADD=122 CH1=12/11/68 17:18:05 (SET=6536)
DS COM A STIL(EL,F1) ST1(E3,F3) ST1(E2,F2) ST4(E3,F5) NOCYCLE ADD=122 CH1=12/11/68 17:18:05 (SET=6536)
ERROR *** THIS FRAME WAS REJECTED BECAUSE IT IS IN THE ANOMALY (DROOP) IND=00427-00717 ADD=122 CH1=12/11/68 17:18:05 (SET=6536)

STELLAR 1 STELLAR 2 STELLAR 3 STELLAR 4 STELLAR 5 STELLAR 6 STELLAR 7 STELLAR 8 STELLAR 9 STELLAR 10
M E F A ANA DIG C E F A ANA DIG C E F A ANA DIG C E F A ANA DIG C E F A ANA DIG C E F A ANA DIG C E F A ANA DIG C E F A ANA DIG C
1. A 1 1 L 5.04 253 N 3 3 L 5.04 99 N 2 2 L 1.80 172 N 3 5 L .00 30 M 1 4 L 5.04 161 2 4 L 1750-2000 5.04 96
2. A 1 1 L 5.04 31 N 3 3 L 5.04 82 N 2 2 L 1.78 172 N 3 5 L .00 28 M 1 4 L 5.04 200 2 4 L 1750-2000 5.04 99
3. A 1 1 L 5.04 15 N 3 3 L 4.40 69 N 2 2 L 1.78 184 N 3 5 L .00 26 M 1 4 L 5.04 225 2 4 L 1750-2000 5.04 90
4. A 1 1 L 5.04 4 N 3 3 L 1.62 53 N 2 2 L 1.76 156 N 3 5 L .00 26 M 1 4 L 5.04 213 2 4 L 1750-2000 5.04 236
5. A 1 1 L 5.04 5 N 3 3 L 1.44 45 N 2 2 L 1.76 161 N 3 5 L .00 25 M 1 4 L 5.04 195 2 4 L 1750-2000 5.04 184
6. A 1 1 L 5.04 3 N 3 3 L 1.40 35 N 2 2 L 1.80 149 N 3 5 L .00 25 M 1 4 L 5.04 211 2 4 L 1750-2000 5.04 143

SP 1 SP 2 SP 3 SP 4 SP 5 SP 6 SP 7 SP 8 SP 9 SP 10
1. 5.04 5.04 2.72 2.80 2.80 2.80 2.80 2.80 2.80 2.80
2. 5.04 5.04 2.70 2.80 2.80 2.80 2.80 2.80 2.80 2.80
3. 5.04 5.04 2.70 2.80 2.80 2.80 2.80 2.80 2.80 2.80
4. 5.04 5.04 2.70 2.80 2.80 2.80 2.80 2.80 2.80 2.80
5. 5.04 5.04 2.70 2.80 2.80 2.80 2.80 2.80 2.80 2.80
6. 5.04 5.04 2.72 2.80 2.80 2.80 2.80 2.80 2.80 2.80

DUMP PROCESSED: WMSC

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Figure 3.3-2. DROOP Output (Frame): Frame Rejected Because It Was Observed in Predicted South Atlantic Geomagnetic Anomaly

..... 63 SMT. .... FRAME 14 .....  
 STAR S IOT CAR 9 15 76 59 3.5 2.2 FO 1 0.18 0.11 P= 0 V= 0 CONTACT 43 3( 6) FRAME 14  
 SPACERAST DAY. SUB-RANGE 165 39 260 20 AZIMUTH-ZEN DIST 189.88 94.14 TO 205.85 88.24  
 TARGET (ECLIPIC) LONG 184 37 36 LAT 47 63 7 0 20  
 TARGET (EALACTIC) LONG 276 27 20 LAT 7 0 20  
 DIST FROM SUN 84.30 DIST FROM SUN (ECL LONG) 75.20  
 ADD=256 CRI=12/11/68 18:04:57 (SET=7040)  
 ADD=260 CRI=12/11/68 18:10:00 (SET=7044)  
 IND=04514-05236 ADD=260 CRI=12/11/68 18:10:00 (SET=7044)  
 IND=04514-05236 ADD=260 CRI=12/11/68 18:10:00 (SET=7044)  
 ERROR \*\*\* THIS FRAME WAS REJECTED BECAUSE IT IS NOT A MODE A (DROOP)

| STAR | S IOT CAR | 9 15 76 59 3.5 2.2 FO 1 | 0.18 0.11 P= 0 V= 0 CONTACT 43 3( 6) FRAME 14 | 189.88 94.14 TO 205.85 88.24 | 84.30 DIST FROM SUN (ECL LONG) 75.20 | ADD=256 CRI=12/11/68 18:04:57 (SET=7040) | ADD=260 CRI=12/11/68 18:10:00 (SET=7044) | IND=04514-05236 ADD=260 CRI=12/11/68 18:10:00 (SET=7044) |
|------|-----------|-------------------------|-----------------------------------------------|------------------------------|--------------------------------------|------------------------------------------|------------------------------------------|----------------------------------------------------------|
| 1    | 1         | 1                       | 1                                             | 1                            | 1                                    | 1                                        | 1                                        | 1                                                        |
| 2    | 2         | 2                       | 2                                             | 2                            | 2                                    | 2                                        | 2                                        | 2                                                        |
| 3    | 3         | 3                       | 3                                             | 3                            | 3                                    | 3                                        | 3                                        | 3                                                        |
| 4    | 4         | 4                       | 4                                             | 4                            | 4                                    | 4                                        | 4                                        | 4                                                        |
| 5    | 5         | 5                       | 5                                             | 5                            | 5                                    | 5                                        | 5                                        | 5                                                        |
| 6    | 6         | 6                       | 6                                             | 6                            | 6                                    | 6                                        | 6                                        | 6                                                        |
| 7    | 7         | 7                       | 7                                             | 7                            | 7                                    | 7                                        | 7                                        | 7                                                        |
| 8    | 8         | 8                       | 8                                             | 8                            | 8                                    | 8                                        | 8                                        | 8                                                        |
| 9    | 9         | 9                       | 9                                             | 9                            | 9                                    | 9                                        | 9                                        | 9                                                        |
| 10   | 10        | 10                      | 10                                            | 10                           | 10                                   | 10                                       | 10                                       | 10                                                       |
| 11   | 11        | 11                      | 11                                            | 11                           | 11                                   | 11                                       | 11                                       | 11                                                       |
| 12   | 12        | 12                      | 12                                            | 12                           | 12                                   | 12                                       | 12                                       | 12                                                       |
| 13   | 13        | 13                      | 13                                            | 13                           | 13                                   | 13                                       | 13                                       | 13                                                       |
| 14   | 14        | 14                      | 14                                            | 14                           | 14                                   | 14                                       | 14                                       | 14                                                       |
| 15   | 15        | 15                      | 15                                            | 15                           | 15                                   | 15                                       | 15                                       | 15                                                       |
| 16   | 16        | 16                      | 16                                            | 16                           | 16                                   | 16                                       | 16                                       | 16                                                       |
| 17   | 17        | 17                      | 17                                            | 17                           | 17                                   | 17                                       | 17                                       | 17                                                       |
| 18   | 18        | 18                      | 18                                            | 18                           | 18                                   | 18                                       | 18                                       | 18                                                       |
| 19   | 19        | 19                      | 19                                            | 19                           | 19                                   | 19                                       | 19                                       | 19                                                       |
| 20   | 20        | 20                      | 20                                            | 20                           | 20                                   | 20                                       | 20                                       | 20                                                       |
| 21   | 21        | 21                      | 21                                            | 21                           | 21                                   | 21                                       | 21                                       | 21                                                       |
| 22   | 22        | 22                      | 22                                            | 22                           | 22                                   | 22                                       | 22                                       | 22                                                       |
| 23   | 23        | 23                      | 23                                            | 23                           | 23                                   | 23                                       | 23                                       | 23                                                       |
| 24   | 24        | 24                      | 24                                            | 24                           | 24                                   | 24                                       | 24                                       | 24                                                       |
| 25   | 25        | 25                      | 25                                            | 25                           | 25                                   | 25                                       | 25                                       | 25                                                       |
| 26   | 26        | 26                      | 26                                            | 26                           | 26                                   | 26                                       | 26                                       | 26                                                       |
| 27   | 27        | 27                      | 27                                            | 27                           | 27                                   | 27                                       | 27                                       | 27                                                       |
| 28   | 28        | 28                      | 28                                            | 28                           | 28                                   | 28                                       | 28                                       | 28                                                       |
| 29   | 29        | 29                      | 29                                            | 29                           | 29                                   | 29                                       | 29                                       | 29                                                       |
| 30   | 30        | 30                      | 30                                            | 30                           | 30                                   | 30                                       | 30                                       | 30                                                       |

Figure 3.3-3a. DROOP Output (Frame): Frame Rejected Because It Was Not in Mode A

|     |      |      |      |      |      |      |      |      |      |      |        |       |     |    |
|-----|------|------|------|------|------|------|------|------|------|------|--------|-------|-----|----|
| 14. | 5.04 | 5.04 | 2.72 | 2.80 | 3.76 | 2.48 | 2.90 | 3.52 | 3.92 | 3.80 | 208.97 | 92.47 | 213 | 14 |
| 15. | 5.04 | 5.04 | 2.72 | 2.80 | 3.76 | 2.48 | 2.90 | 3.52 | 3.92 | 3.80 | 209.57 | 92.24 | 214 | 12 |
| 16. | 5.04 | 5.04 | 2.72 | 2.80 | 3.76 | 2.48 | 2.90 | 3.52 | 3.92 | 3.80 | 210.04 | 92.00 | 219 | 10 |
| 17. | 5.04 | 5.04 | 2.72 | 2.80 | 3.76 | 2.48 | 2.90 | 3.52 | 3.92 | 3.80 | 210.44 | 91.75 | 222 | 8  |
| 18. | 5.04 | 5.04 | 2.72 | 2.80 | 3.76 | 2.48 | 2.90 | 3.52 | 3.92 | 3.80 | 210.71 | 91.59 | 225 | 6  |
| 19. | 5.04 | 5.04 | 2.72 | 2.80 | 3.76 | 2.48 | 2.90 | 3.52 | 3.92 | 3.80 | 210.88 | 91.23 | 227 | 4  |
| 20. | 5.04 | 5.04 | 2.72 | 2.80 | 3.76 | 2.48 | 2.90 | 3.52 | 3.92 | 3.80 | 210.94 | 90.96 | 230 | 1  |
| 21. | 5.04 | 5.04 | 2.72 | 2.80 | 3.76 | 2.48 | 2.90 | 3.52 | 3.92 | 3.80 | 210.91 | 90.69 | 233 | 1  |
| 22. | 5.04 | 5.04 | 2.72 | 2.80 | 3.76 | 2.48 | 2.90 | 3.52 | 3.92 | 3.80 | 210.77 | 90.41 | 236 | 1  |
| 23. | 5.04 | 5.04 | 2.72 | 2.80 | 3.76 | 2.48 | 2.90 | 3.52 | 3.92 | 3.80 | 210.53 | 90.13 | 239 | 5  |
| 24. | 5.04 | 5.04 | 2.72 | 2.80 | 3.76 | 2.48 | 2.90 | 3.52 | 3.92 | 3.80 | 210.19 | 89.86 | 242 | 7  |
| 25. | 5.04 | 5.04 | 2.72 | 2.80 | 3.76 | 2.48 | 2.90 | 3.52 | 3.92 | 3.80 | 209.74 | 89.58 | 245 | 9  |
| 26. | 5.04 | 5.04 | 2.72 | 2.80 | 3.76 | 2.48 | 2.90 | 3.52 | 3.92 | 3.80 | 209.19 | 89.30 | 248 | 12 |
| 27. | 5.04 | 5.04 | 2.72 | 2.80 | 3.76 | 2.48 | 2.90 | 3.52 | 3.92 | 3.80 | 208.52 | 89.03 | 251 | 14 |
| 28. | 5.04 | 5.04 | 2.72 | 2.80 | 3.76 | 2.48 | 2.90 | 3.52 | 3.92 | 3.80 | 207.75 | 88.76 | 254 | 16 |
| 29. | 5.04 | 5.04 | 2.72 | 2.80 | 3.76 | 2.48 | 2.90 | 3.52 | 3.92 | 3.80 | 206.86 | 88.50 | 257 | 18 |
| 30. | 5.04 | 5.04 | 2.72 | 2.78 | 3.76 | 2.48 | 2.94 | 3.52 | 3.94 | 3.80 | 205.85 | 88.24 | 260 | 20 |

DUMP PROCESSED: WDS  
 1 CONTACTS FOUND. 14 WEP FRAMES FOUND. ERRORS: 0 MODE, 0 STRUCTURE, 0 DIGITAL SEQUENCE, 1 FRAME LENGTH.  
 28 WEP COMMANDS FOUND. ERRORS: 0 MISSING COMMANDS, 0 ERRONEOUS COMMANDS.  
 2 TARGETS OBSERVED.

Figure 3.3-3b. DROOP Output (Frame): Frame Rejected Because It Was Not in Mode A

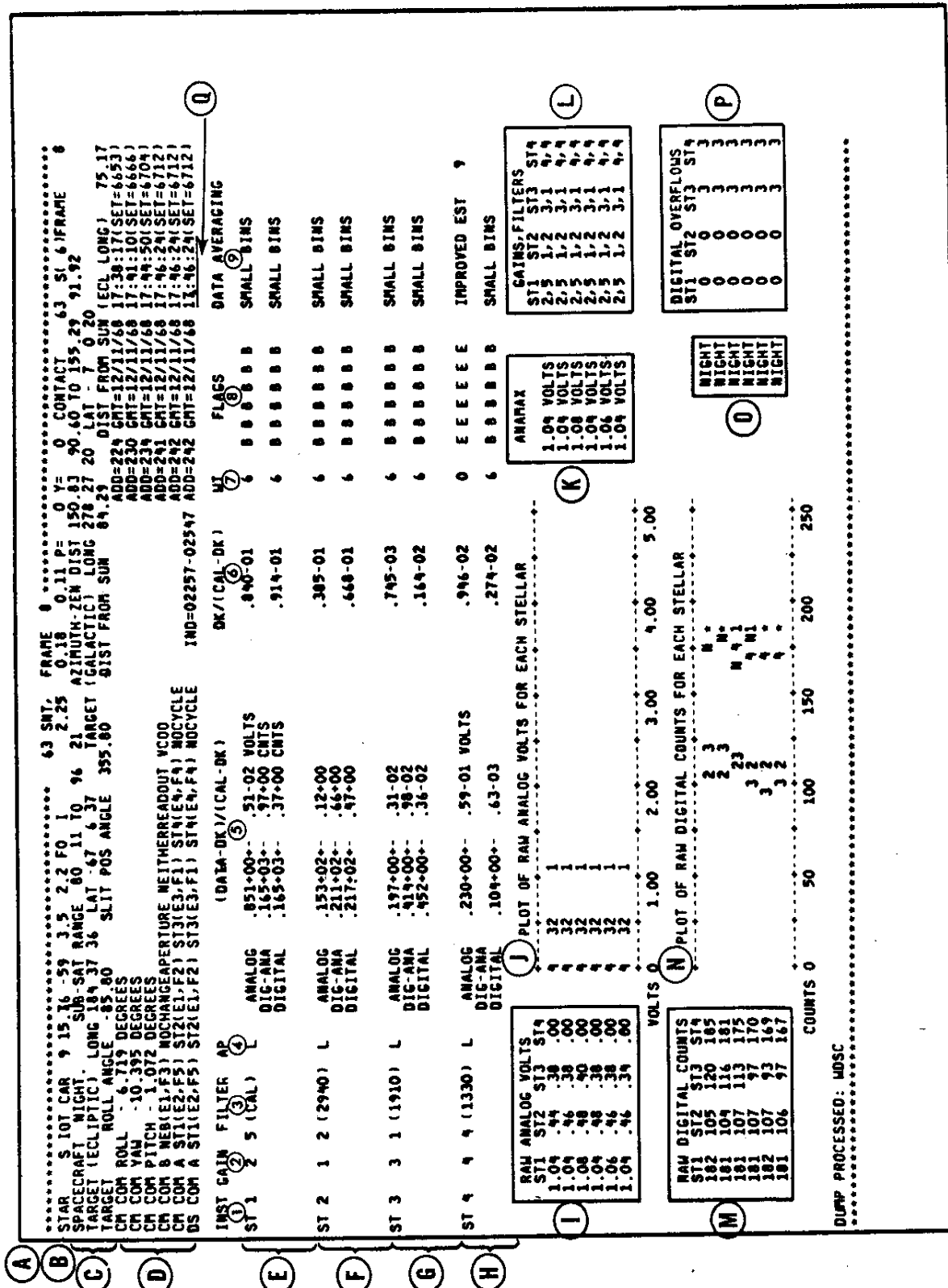


Figure 3.3-4. DROOP Output (Frame): Frame of Reduced Stellar Photometer Data

OCT 1974

Line A of Figure 3.3-4 gives the contact orbit number (normally an orbit or two after the observations were taken), the abbreviations of the ground station used, and the frame number. The frame number is the same as the sequence number arbitrarily assigned to that frame, with the first frame dumped during a ground station contact designated as '1.'

Line B lists information about the target object. Following the word 'star' is the vestigial 'S' followed by the star name (abbreviated), the right ascension (hours, minutes), the declination (degrees, minutes), the magnitude, the spectral type, the luminosity class, peculiarities (if any), the visual magnitude, B-V, U-B, spacecraft pitch and yaw (see the explanation of Figure 3.1-4 in Section 3.1 for further detail), the contact orbit number, the ground station initial, and the frame number (repeated from line A).

The lines labeled C list spacecraft and target position information. The first line indicates spacecraft day or night (in words), followed by the subsatellite range (latitude and longitude of subsatellite points during data collection), and the azimuth-zenith distance (in degrees) at the beginning and the end of the frame. These directions refer to the object relative to the subsatellite point. This is followed by the target object's longitude and latitude in both ecliptic and galactic coordinates (the second line), and on the last line, the spacecraft roll angle (degrees), the spectrometer slit position angle (degrees), the angular distance from the Sun (degrees), and the distance from the Sun in ecliptic longitude.

The lines labeled D contain miscellaneous command information, and, except for one item, they are not always needed for data reduction. The useful item is the time given in the lower right-hand corner (the end of the line beginning 'DS COM' Item Q). This date and time is the starting time of this frame of observations. This time is needed to compute the dark current using the fitted curve given on Figure 3.2-2 (using the start-time given above the right-hand corner of the plot on Figure 3.2-2, Item E).

The remaining tables and plots on the page list information as described below.

Column 1 of Tables E through H, under the heading INST, lists the instrument in use for this table (e.g., ST1 is Stellar Photometer 1, etc.). Column 2, under the heading GAIN, lists the exposure/gain setting for this table (e.g., 1=E1, 0.125-sec accumulation time,  $10^{-6}$  ampere full-scale for the electrometer; 2=E2, 1.0-sec accumulation time,  $10^{-7}$  ampere full-scale on the electrometer, etc.). Column 3, under the heading FILTER, gives the filter wheel position number and, in parentheses, the filter's effective wavelength or the word DARK or CAL. Column 4, under the heading AP, gives the aperture setting. A setting of L stands for large (10 arc-minutes in diameter),

and a setting of S stands for small (2 arc-minutes in diameter). Column 5, under the heading (DATA - DK)/(CAL - DK), gives for each instrument the mean values and errors for the quantity (DATA - DK)/(CAL - DK) for analog, digitized analog, and digital data. Note that for dark data, the quantity is DK/(CAL - DK), and for calibration data the quantity is CAL - DK. Each quantity was derived from averaged values of the raw data and estimated error values given.

Column 6, under the heading DK/(CAL - DK), gives values of the ratio DK/(CAL - DK) computed using the dark current correction curve derived in Figure 3.2-2. Column 7, under the heading WT, gives a weighting factor, or quality factor, to be associated with these averages (6 denotes the best data, 0 the worst). This weighting factor is discussed in the description of the DROOP processing (see Figure 3.1-2d). Column 8, under the heading FLAGS, is actually a set of six columns (one for each observation made during this frame), containing flags showing the data quality and method of averaging for each individual data point. The flags are discussed in the description of DROOP processing (see Figure 3.1-2d). Column 9, under the heading DATA AVERAGING, indicates, in words, the type of data averaging used to derive the averages shown in Column 5.

Table I lists the raw analog voltages observed for each observation (in rows) by each instrument (in columns).

Plot J is a line-printer plot showing the values of the analog voltages observed by each of the four instruments as a function of time. The purpose of this plot is to summarize visually the variations in the observations.

Table K lists the maximum observed analog voltage for each set of observations (in rows).

Table L lists the exposure/gain-filter combinations for each observation within a frame. All rows within a column should be the same. If all rows within a column are not the same, that frame should be rejected.

Table M lists the raw digital counts observed for each observation (in rows) by each instrument (in columns).

Plot N is a line-printer plot showing the values of the raw digital counts observed for each instrument as a function of time. The purpose of this plot is to summarize visually the variations in the observations.

List O indicates whether the spacecraft was operating in spacecraft night during all of the observations. It should be a set of six rows, each row reading NIGHT.

Table P is a list of the estimated overflows of the digital accumulator for each observation (in rows) by each instrument (in columns).

```

*****
20 CONTACTS FOUND. 311 WFP FRAME S FOUND. 2 STRUCTURE. 2 DIGITAL SEQUENCE. 1 FRAME LENGTH.
337 WFP COMMANDS FOUND. 27308 27 MISSING COMMANDS. 27308 COMMANDS.
21 TARGETS OBSERVED.
*****
0000
0000
0000
0000

```

D-8709

```

***** STAR OBSERVATION SUMMARY FOR DAY 432 *****
NAME RA DEC MAG SP LG PC MV B-V J-B COMMENTS CONTACT TIME OF FIRST OBS A B C AN LT
KAP CAS 29.52 62 59.5 4.2 91 IV P 4.16 0.13 -0.80 P= 0 Y= -20 7559 R 5/16/70 20 59 29 0 0 2 0 1 0000
FPS CAS 51.76 63 25.9 3.4 93 IV P 3.37 -0.16 -0.58 P= 0 Y= 0 7559 R 5/16/70 22 39 38 13 1 2 1 1 0000
GAM CAS 53.37 60 47.5 2.6 80 IV P 2.57 -0.19 -1.06 P= 0 Y= -20 7560 M 5/17/70 03 40 17 0 0 2 2 1 0000
SIG CAS 23 56.45 54 28.7 4.9 91 V 4.88 -0.08 -0.81 P= 0 Y= 0 7562 M 5/17/70 05 20 26 0 0 1 0 1 0000
10 LAC 22 37.01 38 47.6 5.0 99 V 4.87 -0.23 -1.04 P= 0 Y= 0 7562 M 5/17/70 07 00 50 0 0 1 0 1 0000
28 VUL 20 36.34 23 56.4 5.0 95 V 5.05 -0.15 0.12 P= 0 Y= 0 7564 S 5/17/70 08 40 58 0 0 2 1 1 0000
DEL DFL 20 41.12 14 53.7 4.4 A 4.42 0.33 0.53 P= 0 Y= 0 7578 S 5/18/70 06 23 47 0 0 1 0 1 0000
GAM CYG 20 20.43 40 5.5 2.2 F8 IB 2.21 0.67 0.53 P= 0 Y= 0 7578 S 5/18/70 08 04 11 0 0 1 0 1 0000
GAM CYG 20 20.34 40 5.5 2.2 F8 IB 2.21 0.67 0.53 P= 0 Y= 0 7578 S 5/18/70 08 04 11 0 0 1 0 1 0000
GAM CYG 20 20.43 40 5.5 2.2 F8 IB 2.21 0.67 0.53 P= 0 Y= 0 7578 S 5/18/70 09 40 55 77 0 0 0 0 7 0000
SKY 20 21.11 39 53.7 8.0 A5 2.21 0.67 0.53 P= 0 Y= 0 7587 R 5/18/70 21 06 40 11 1 0 0 0 3 0000
GAM CYG 20 20.43 40 5.5 2.2 F8 IB 2.21 0.67 0.53 P= 0 Y= 0 7587 R 5/18/70 23 02 00 11 0 0 8 1 0000
DEL CYG 19 43.35 44 56.7 2.9 B9.5III 2.87 -0.03 -0.09 P= 0 Y= 0 7589 M 5/19/70 00 46 20 0 0 2 2 1 0000
DEL CYG 19 43.41 44 0.2 2.9 B9.5III 2.87 -0.03 -0.09 P= 0 Y= -20 7592 S 5/19/70 05 47 00 0 0 2 0 2 0000
DFL CYG 19 41.52 44 3.9 2.9 B9.5III 4.00 1.59 1.41 P= 0 Y= 0 7594 S 5/19/70 08 58 53 11 0 0 1 1 0000
R LVR 18 53.80 43 52.7 8.0 A5 2.79 0.96 1.66 P= 0 Y= 0 7594 S 5/19/70 10 39 01 11 0 0 0 1 1 0000
SKY 18 53.80 43 40.0 8.0 A5 2.79 0.96 1.66 P= 0 Y= 0 7594 S 5/19/70 12 22 02 11 0 0 0 1 1 0000
BET DRA 17 29.30 52 27.7 2.8 G2 II 2.74 0.91 0.70 P= 0 Y= 0 7597 D 5/19/70 15 41 47 11 0 0 0 1 1 0000
SKY 17 37.00 52 10.0 8.0 A5 2.74 0.91 0.70 P= 0 Y= 0 7597 D 5/19/70 17 22 58 11 0 0 0 1 1 0000
ETA DRA 16 27.32 61 37.1 2.7 G8 III 2.74 0.91 0.70 P= 0 Y= 0 7597 D 5/19/70 17 22 58 11 0 0 0 1 1 0000
SKY 16 23.32 67 60.0 8.0 A5 2.74 0.91 0.70 P= 0 Y= 0 7597 D 5/19/70 17 22 58 11 0 0 0 1 1 0000
*****

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\*\*\*\*\* FRAMC SUMMARY FOR MAD 432 \*\*\*\*\*

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| 7559 R  | 1  | 2677 | 5/16/77 20 59 29 CD  | 7566 S  | 7  | 1567 | 5/17/77 12 20 07 AN | 7571 R  | 6  | 4630 | 5/17/77 18 54 37 AN  |
| 7559 R  | 2  | 2766 | 5/16/77 21 13 54 CN  | 7566 S  | 8  | 1573 | 5/17/77 12 21 09 AN | 7571 R  | 7  | 4561 | 5/17/77 19 01 11 AN  |
| 7559 R  | 3  | 3475 | 5/16/77 22 39 38 AD  | 7566 S  | 9  | 1577 | 5/17/77 12 22 12 AN | 7571 R  | 8  | 4565 | 5/17/77 19 02 14 AN  |
| 7559 R  | 4  | 3476 | 5/16/77 22 39 53 AN  | 7566 S  | 10 | 1601 | 5/17/77 12 22 44 AN | 7571 R  | 9  | 4571 | 5/17/77 19 03 16 AN  |
| 7559 R  | 5  | 3477 | 5/16/77 22 40 09 CN  | 7566 S  | 11 | 1605 | 5/17/77 12 23 47 AN | 7571 R  | 10 | 4573 | 5/17/77 19 03 48 AN  |
| 7559 R  | 6  | 3650 | 5/16/77 23 07 41 AN  | 7566 S  | 12 | 2243 | 5/17/77 13 38 45 AD | 7571 R  | 11 | 5231 | 5/17/77 20 18 46 AD  |
| 7559 R  | 7  | 4273 | 5/17/77 00 19 46 CDA | 7566 S  | 13 | 2274 | 5/17/77 13 45 18 AN | 7571 R  | 12 | 5262 | 5/17/77 20 25 19 AN  |
| 7560 M  | 1  | 5741 | 5/17/77 01 53 36 BD  | 7566 S  | 14 | 2276 | 5/17/77 13 46 53 AN | 7571 R  | 13 | 5264 | 5/17/77 20 25 51 AN  |
| 7560 M  | 2  | 5871 | 5/17/77 01 59 53 AD  | 7566 S  | 15 | 2302 | 5/17/77 13 53 26 AN | 7571 R  | 14 | 5270 | 5/17/77 20 33 27 AN  |
| 7560 M  | 3  | 5775 | 5/17/77 02 00 56 AN  | 7566 S  | 16 | 2333 | 5/17/77 13 54 29 AN | 7571 R  | 15 | 5321 | 5/17/77 20 34 30 AN  |
| 7560 M  | 4  | 5877 | 5/17/77 02 01 28 AN  | 7566 S  | 17 | 2337 | 5/17/77 14 01 02 AN | 7571 R  | 16 | 5325 | 5/17/77 20 41 03 AN  |
| 7560 M  | 5  | 5103 | 5/17/77 02 02 31 AN  | 7566 S  | 18 | 2373 | 5/17/77 14 02 05 AN | 7571 R  | 17 | 5366 | 5/17/77 20 42 06 AN  |
| 7560 M  | 6  | 5105 | 5/17/77 02 03 02 AN  | 7566 S  | 19 | 2374 | 5/17/77 14 03 08 AN | 7571 R  | 18 | 5366 | 5/17/77 20 43 09 AN  |
| 7560 M  | 7  | 5111 | 5/17/77 02 04 05 AN  | 7566 S  | 20 | 2402 | 5/17/77 14 03 39 AN | 7571 R  | 19 | 5370 | 5/17/77 20 43 43 AN  |
| 7560 M  | 8  | 5113 | 5/17/77 02 04 36 AN  | 7566 S  | 21 | 2402 | 5/17/77 14 04 42 AN | 7571 R  | 20 | 5374 | 5/17/77 20 44 43 AN  |
| 7560 M  | 9  | 5117 | 5/17/77 02 05 39 AN  | 7568 O  | 1  | 3035 | 5/17/77 15 17 50 AD | 7573 R  | 1  | 5743 | 5/17/77 21 45 17 BD  |
| 7560 M  | 10 | 5121 | 5/17/77 02 06 11 AN  | 7568 O  | 2  | 3066 | 5/17/77 15 24 23 AN | 7573 R  | 2  | 6027 | 5/17/77 21 58 54 AD  |
| 7560 M  | 11 | 5322 | 5/17/77 02 40 00 AD  | 7568 O  | 3  | 3070 | 5/17/77 15 24 55 AN | 7573 R  | 3  | 6060 | 5/17/77 22 05 28 AN  |
| 7560 M  | 12 | 5670 | 5/17/77 03 40 17 CDA | 7568 O  | 4  | 3074 | 5/17/77 15 25 57 AN | 7573 R  | 4  | 6062 | 5/17/77 22 05 59 AN  |
| 7560 M  | 13 | 5757 | 5/17/77 03 54 42 CNA | 7568 O  | 5  | 3125 | 5/17/77 15 32 31 AN | 7573 R  | 5  | 6066 | 5/17/77 22 07 02 AN  |
| 7562 M  | 1  | 6466 | 5/17/77 05 26 26 CD  | 7568 O  | 6  | 3131 | 5/17/77 15 33 34 AN | 7573 R  | 6  | 6117 | 5/17/77 22 13 35 AN  |
| 7562 M  | 2  | 7265 | 5/17/77 07 00 50 CD  | 7568 O  | 7  | 3162 | 5/17/77 15 40 07 AN | 7573 R  | 7  | 6123 | 5/17/77 22 14 38 AN  |
| 7564 S  | 1  | 0063 | 5/17/77 08 40 58 CD  | 7568 O  | 8  | 3166 | 5/17/77 15 41 10 AN | 7573 R  | 8  | 6154 | 5/17/77 22 21 11 AN  |
| 7564 S  | 2  | 0145 | 5/17/77 08 54 04 CNA | 7568 O  | 9  | 3172 | 5/17/77 15 42 13 AN | 7573 R  | 9  | 6160 | 5/17/77 22 22 14 AN  |
| 7564 S  | 3  | 0641 | 5/17/77 10 16 55 AD  | 7568 O  | 10 | 3174 | 5/17/77 15 42 47 AN | 7573 R  | 10 | 6164 | 5/17/77 22 23 17 AN  |
| 7564 S  | 4  | 0672 | 5/17/77 10 23 29 AN  | 7568 O  | 11 | 3200 | 5/17/77 15 43 47 AN | 7573 R  | 11 | 6166 | 5/17/77 22 23 49 AN  |
| 7564 S  | 5  | 0674 | 5/17/77 10 23 59 AN  | 7568 O  | 12 | 3636 | 5/17/77 16 58 45 AD | 7573 R  | 12 | 6172 | 5/17/77 22 24 52 AN  |
| 7564 S  | 6  | 0700 | 5/17/77 10 25 02 AN  | 7568 O  | 13 | 3667 | 5/17/77 17 05 18 AN | 7573 R  | 13 | 6624 | 5/17/77 23 38 47 AD  |
| 7564 S  | 7  | 0731 | 5/17/77 10 31 35 AN  | 7568 O  | 14 | 3671 | 5/17/77 17 05 50 AN | 7573 R  | 14 | 6655 | 5/17/77 23 45 20 AN  |
| 7564 S  | 8  | 0735 | 5/17/77 10 32 38 AN  | 7568 O  | 15 | 3675 | 5/17/77 17 06 53 AN | 7573 R  | 15 | 6657 | 5/17/77 23 45 52 AN  |
| 7564 S  | 9  | 0766 | 5/17/77 10 39 11 AN  | 7568 O  | 16 | 3725 | 5/17/77 17 13 26 AN | 7573 R  | 16 | 6663 | 5/17/77 23 46 55 AN  |
| 7564 S  | 10 | 0772 | 5/17/77 10 40 14 AN  | 7568 O  | 17 | 3732 | 5/17/77 17 14 29 AN | 7573 R  | 17 | 6714 | 5/17/77 23 53 28 AN  |
| 7564 S  | 11 | 0776 | 5/17/77 10 41 17 AN  | 7568 O  | 18 | 3763 | 5/17/77 17 21 02 AN | 7573 R  | 18 | 6720 | 5/17/77 23 54 31 AN  |
| 7564 S  | 12 | 1000 | 5/17/77 10 41 49 AN  | 7568 O  | 19 | 3767 | 5/17/77 17 22 05 AN | 7573 R  | 19 | 6751 | 5/18/77 00 01 04 ANA |
| 7564 S  | 13 | 1004 | 5/17/77 10 42 52 AN  | 7568 O  | 20 | 3773 | 5/17/77 17 23 08 AN | 7573 R  | 20 | 6755 | 5/18/77 00 02 07 ANA |
| 7566 S  | 1  | 1442 | 5/17/77 11 57 50 AD  | 7568 O  | 21 | 3775 | 5/17/77 17 23 39 AN | 7573 R  | 21 | 6761 | 5/18/77 00 03 10 ANA |
| 7566 S  | 2  | 1473 | 5/17/77 12 04 23 AN  | 7568 O  | 22 | 4001 | 5/17/77 17 24 42 AN | 7573 R  | 22 | 6763 | 5/18/77 00 03 41 ANA |
| 7566 S  | 3  | 1475 | 5/17/77 12 04 54 AN  | 7571 R  | 1  | 4434 | 5/17/77 18 38 54 AD | 7573 R  | 23 | 6767 | 5/18/77 00 04 44 ANA |
| 7566 S  | 4  | 1501 | 5/17/77 12 05 57 AN  | 7571 R  | 2  | 4465 | 5/17/77 18 45 27 AN | 7575 M  | 1  | 7400 | 5/18/77 01 14 12 BD  |
| 7566 S  | 5  | 1532 | 5/17/77 12 12 30 AN  | 7571 R  | 3  | 4467 | 5/17/77 18 45 58 AN | 7575 M  | 2  | 7426 | 5/18/77 01 19 58 AD  |
| 7566 S  | 6  | 1536 | 5/17/77 12 13 33 AN  | 7571 R  | 4  | 4473 | 5/17/77 18 47 01 AN | 7575 M  | 3  | 7457 | 5/18/77 01 26 31 AN  |
| 7566 S  | 7  | 1536 | 5/17/77 12 13 33 AN  | 7571 R  | 5  | 4524 | 5/17/77 18 53 34 AN | 7575 M  | 4  | 7461 | 5/18/77 01 27 02 AN  |

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\*\*\*\*\* FRAMT SUMMARY FOR 040 432 \*\*\*\*\*

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| 7575 M  | 5   | 7465 | 5/18/70 01 28 05 ANA | 7580 S  | 21 | 4747 | 5/18/70 13 25 49 AN | 7585 R  | 8  | 7733 | 5/18/70 20 05 19 AN |
| 7575 M  | 6   | 7516 | 5/18/70 01 34 39 ANA | 7580 S  | 22 | 4753 | 5/18/70 13 26 52 AN | 7585 R  | 9  | 7737 | 5/18/70 20 06 22 AN |
| 7575 M  | 7   | 7522 | 5/18/70 01 35 42 ANA |         |    |      |                     | 7585 R  | 10 | 7741 | 5/18/70 20 06 53 AN |
| 7575 M  | 8   | 7553 | 5/18/70 01 42 15 ANA |         |    |      |                     | 7585 R  | 11 | 7745 | 5/18/70 20 07 56 AN |
| 7575 M  | 9   | 7557 | 5/18/70 01 43 18 ANA |         |    |      |                     |         |    |      |                     |
| 7575 M  | 10  | 7563 | 5/18/70 01 44 21 ANA |         |    |      |                     |         |    |      |                     |
| 7575 M  | 11  | 7565 | 5/18/70 01 44 52 ANA |         |    |      |                     |         |    |      |                     |
| 7575 M  | 12  | 7571 | 5/18/70 01 45 55 ANA |         |    |      |                     |         |    |      |                     |
| 7575 M  | 13  | 7540 | 5/18/70 03 03 15 CDA |         |    |      |                     |         |    |      |                     |
| 7575 M  | 14  | 1337 | 5/18/70 04 43 39 CD  |         |    |      |                     |         |    |      |                     |
| 7578 S  | 1   | 1635 | 5/18/70 06 23 47 CD  |         |    |      |                     |         |    |      |                     |
| 7578 S  | 2   | 2434 | 5/18/70 08 04 11 CN  |         |    |      |                     |         |    |      |                     |
| 7578 S  | 3   | 3215 | 5/18/70 09 40 55 AD  |         |    |      |                     |         |    |      |                     |
| 7578 S  | 4   | 3246 | 5/18/70 09 47 28 AN  |         |    |      |                     |         |    |      |                     |
| 7578 S  | 5   | 3250 | 5/18/70 09 47 59 AN  |         |    |      |                     |         |    |      |                     |
| 7578 S  | 6   | 3254 | 5/18/70 09 49 02 AN  |         |    |      |                     |         |    |      |                     |
| 7578 S  | 7   | 3305 | 5/18/70 09 55 35 AN  |         |    |      |                     |         |    |      |                     |
| 7578 S  | 8   | 3311 | 5/18/70 09 56 38 AN  |         |    |      |                     |         |    |      |                     |
| 7578 S  | 9   | 3342 | 5/18/70 10 03 11 AN  |         |    |      |                     |         |    |      |                     |
| 7578 S  | 10  | 3346 | 5/18/70 10 04 14 AN  |         |    |      |                     |         |    |      |                     |
| 7578 S  | 11  | 3352 | 5/18/70 10 05 17 AN  |         |    |      |                     |         |    |      |                     |
| 7578 S  | 12  | 3354 | 5/18/70 10 05 49 AN  |         |    |      |                     |         |    |      |                     |
| 7578 S  | 13  | 3360 | 5/18/70 10 06 52 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 1   | 4007 | 5/18/70 11 20 07 AD  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 2   | 4046 | 5/18/70 11 26 33 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 3   | 4042 | 5/18/70 11 27 04 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 4   | 4046 | 5/18/70 11 28 07 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 5   | 4077 | 5/18/70 11 34 40 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 6   | 4103 | 5/18/70 11 35 43 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 7   | 4134 | 5/18/70 11 42 16 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 8   | 4140 | 5/18/70 11 43 19 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 9   | 4144 | 5/18/70 11 44 22 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 10  | 4146 | 5/18/70 11 44 54 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 11  | 4152 | 5/18/70 11 45 57 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 12  | 4610 | 5/18/70 13 07 28 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 13  | 4641 | 5/18/70 13 08 01 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 14  | 4647 | 5/18/70 13 09 02 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 15  | 4700 | 5/18/70 13 15 36 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 16  | 4704 | 5/18/70 13 16 39 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 17  | 4735 | 5/18/70 13 23 12 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 18  | 4741 | 5/18/70 13 24 15 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 19  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 20  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 21  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 22  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 23  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 24  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 25  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 26  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 27  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 28  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 29  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 30  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 31  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 32  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 33  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 34  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 35  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 36  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 37  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 38  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 39  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 40  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 41  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 42  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 43  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 44  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 45  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 46  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 47  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 48  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 49  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 50  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 51  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 52  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 53  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 54  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 55  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 56  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 57  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 58  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 59  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 60  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 61  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 62  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 63  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 64  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 65  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 66  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 67  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 68  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 69  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 70  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 71  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 72  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 73  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 74  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 75  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 76  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 77  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 78  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 79  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 80  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 81  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 82  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 83  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 84  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 85  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 86  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 87  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 88  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 89  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 90  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 91  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 92  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 93  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 94  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 95  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 96  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 97  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 98  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 99  | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |
| 7580 S  | 100 | 4745 | 5/18/70 13 25 18 AN  |         |    |      |                     |         |    |      |                     |

[illegible]