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DOCUMENTATION FOR THE MACHINE-READABLE VERSION

OF THE

CORDOBA DURCHMUSTERUNG (CD)

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December 1984

National Space Science Data Center (NSSDC)/
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ABSTRACT

A detailed description of the machine-readable version of the catalog, as it is currently being distributed from the Astronomical Data Center, is presented. The complete catalog is contained in the magnetic tape file, and corrections published in all corrigenda have been made to the data. The machine version contains 613959 records, but only 613953 stars (six stars were later deleted, but their logical records are retained in the file so that the zone counts are not different from the published catalog).

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SECTION 1 - INTRODUCTION AND SOURCE REFERENCE

The *Córdoba Durchmusterung* (CD, Thome 1892-1932) is a visual survey of southern stars in the declination zones -22° to -89°, carried out as an extension to the *Bonner Durchmusterung* (BD) catalogs of Argelander (1859-1862) (see also Küstner 1903) and Schönfeld (1886). The survey was performed using techniques similar to those used for the BD, i.e., the stars were cataloged by allowing the telescope to drift along the mean declination of each zone and recording the positions and magnitudes of stars crossing the transit line of the field. The goal of the survey was to obtain a position and estimated visual magnitude for every star down to 10.0 magnitude inclusive, but the faint limit was confirmed from comparisons with other catalogs, to be somewhat below 10. The positional uncertainties quoted in the original publications vary from ±0^s.42 and ±0″.23 for zones -22° to -32° and ±0^s.33, ±0″.10 for zones -42° to -51° (errors are not given in the published catalogs south of -51°, as these were published after Thome's death in 1908), no doubt due to improved observing techniques and equipment, such as the use of a faintly illuminated reticle, for the later work.

This document describes the machine-readable version of the CD, and includes detailed descriptions of the format and the procedure by which the computer file was created. A list of all corrections made to the original data as a result of published corrigenda is presented in Table 3, and zone statistics are given in Table 4. No other corrections or changes have been incorporated into the original data, e.g., from more modern positions and magnitudes or comparison with the *Cape Photographic Durchmusterung* (Gill and Kapteyn 1895-1900). The document is intended to enable users to process the data without problems and guesswork. For a more detailed description of how the observations were made and for additional statistics of star counts and distribution within each zone, the source reference should be consulted. A copy of this document should accompany any machine version of the catalog originating from the Astronomical Data Center.

SOURCE REFERENCE

Thome, J. M. 1892-1932, *Córdoba Durchmusterung, Resultados del Observatorio Nacional Argentino* 16 (1892, Part I: -22° to -32°), 17 (1894, Part II: -32° to -42°), 18 (1900, Part III: -42° to -52°), 21 (Part I) (1914, Part IV, -52° to -62°), 21 (Part II) (1932, Part V: -62° to -90°).

SECTION 2 - TAPE CONTENTS

A byte-by-byte description of the contents of the machine-readable *Córdoba Durchmusterung* is given in Table 1. A suggested Fortran 77-type format specification for reading each data field is included and can be modified depending upon individual programming and processing requirements. Data are present for all stars in the catalog except a few which have been deleted in the corrigenda; these have been flagged by a "D" in byte 11 of each respective record, but the records and data have been left in the machine version in order not to change the star counts and numerical sequencing, and so that the stars appear in their correct locations if the catalog is sorted by right ascension. Default (null) values are always blanks in data fields for which suggested formats are given as A. No default values are given for numerical fields here because there are always data present.

Table 1. Tape Contents. *Córdoba Durchmusterung.*

Byte(s)	Units	Suggested Format	Default Value	Description
1- 2	---	A2	---	Catalog prefix (the letters "CD").
3- 5	---	I3	---	Zone part of the CD number.
6-10	---	I5	---	Star number within the zone.
11	---	A1	---	Lower case "a" if the star is a supplemental addition from the corrigenda. A "D" appears for stars deleted in the corrigenda (see Table 3) but the data are left intact.
12-15	mag	F4.1	---	Visual magnitude, as estimated by the observer, or magnitude code to denote non-numerical entries in the original (20.0 = neb, 30.0 = var)
16-17	hours	I2	---	Right ascension, α, equinox 1875.0.
18-19	min	I2	---	α
20-23	sec	F4.1	---	α. Precision varies (tenths can be blank).
24	---	A1	---	Sign of declination, δ, equinox 1875.0 (always "-" for CD zones).
25-26	°	I2	---	δ
27-32	'	F6.3	---	δ. For the CD only bytes 27-30 are used, so the datum may be read with format F4.1. Bytes 31-32 were reserved to maintain a uniform DM format because they are used in the southern zones of the CPD.

SECTION 3 - TAPE CHARACTERISTICS

The information contained in Table 2 is sufficient for a user to describe the indigenous characteristics of the machine-readable version of the *Córdoba Durchmusterung* to a computer. Information easily varied from installation to installation, such as block size (physical record length), blocking factor (number of logical records per physical record), total number of blocks, tape density, number of tracks, and internal coding (EBCDIC, ASCII, etc.) is not included, but should always accompany secondary copies if any are supplied to other users or installations.

Table 2. Tape Characteristics. *Córdoba Durchmusterung*.

NUMBER OF FILES	1
LOGICAL RECORD LENGTH (BYTES)	32
RECORD FORMAT	FB*
TOTAL NUMBER OF LOGICAL RECORDS	613959

* Fixed block length (last block may be short)

SECTION 4 - REMARKS, ACKNOWLEDGMENTS AND REFERENCES

The data in the machine-readable *Córdoba Durchmusterung* were keypunched directly from the published catalog at the National Space Science Data Center (NSSDC). They were keyed directly to disk storage by passing through an interactive software preprocessor to check for detectable errors and to insert repeatable data, e.g., δ within a zone and α^h within each hour of right ascension. The work, which was begun and overseen initially by J. M. Mead of Goddard Space Flight Center and T. A. Nagy of Computer Sciences Corporation, was continued under the supervision of the author starting in 1978. Due to the length of time (approximately three years) required to punch the data, they were not verified by repunching and had to be proofread. Software was therefore developed to identically reproduce published pages of the catalog from its machine counterpart. The original catalog had been microfiched earlier by photocopying and filming the entire printed version, and copies of the microfiche had been distributed to interested members of the astronomical community. This distribution list was used to send inquiries asking for help with proofreading individual zones. Ten volunteers from the U.S. and Australia completed the proofing over the next three years. Upon the return of each proofread zone, all errors were transferred to specially designed forms so that they could be checked and recorded in a way conducive to interactive data correction at a computer terminal. Individual zones from the complete preliminary tape were then transferred to disk storage and edited. This method was used to provide further checks where errors might be recognized during the correction process. Corrigenda from all published volumes were entered into the computer, sorted by CD number, and incorporated into each zone as that zone was being processed. After the correction of all zones, the individual data sets were concatenated to a single magnetic tape file. This data file is ordered north to south strictly by CD number. Users should particularly note that, due to corrections inserted from the corrigenda, the CD stars are not strictly in right ascension order within each zone; hence, if the catalog is sorted by α, e.g., for search purposes, some CD numbers will become disordered. On the other hand, if right ascension searching is to be performed, it will be necessary to sort the catalog by α. All corrections made to the original catalog by incorporation of the corrigenda are presented in Table 3, where it is noted when stars have become disordered in right ascension following the changes.

Table 3. Corrigenda Corrections Made to Catalog.

CD Number		From	To	
-22	388 DEC	31.1	41.1	
-22	450 MAG	9.1	9.7	
-22	868 DEC	22.9	32.9	
-22	1706 RAs	23.6	24.6	
-22	1878 MAG	10.0	9.5	
-22	1953 RAs	49.6	48.6	
-22	4463 RAm	19	18	
-22	4463 RAs	1.9	59.9	
-22	4783 MAG	10.0	9.3	
-22	5083 MAG	8.8	9.0	
-22	5318 MAG	9.6	9.0	
-22	5374 MAG	3.7	9.7	
-22	5519 DEC	40.2	10.2	
-22	5844 MAG	9.2	9.0	
-22	6170 MAG	8.8	8.6	
-22	6855 MAG	8.0	7.8	
-22	7617			Delete data; does not exist. "D" after CD number.
-22	7727 MAG	8.9	9.9	
-22	8296 MAG	7.4	7.2	
-22	8781 MAG	9.1	9.8	
-22	11136 RAm	33	34	
-22	11136 RAs	57.0	0.0	Puts out of order with 11137-38.
-22	11967 RAs	23.6	20.6	Puts out of order with 11966.
-22	13043 RAs	7.6	7.0	
-22	13222 RAs	26.4	56.4	
-22	13843 MAG	5.9	8.9	
-22	14424 RAs	22.0	23.0	
-22	14639 RAs	24.9	34.9	
-23	139 DEC	50.3	59.3	
-23	2075 DEC	35.1	34.1	
-23	2087 MAG	9.1	9.9	
-23	3316 MAG	8.3	9.9	
-23	5827 RAs	13.9	8.9	Puts out of order with 5826.
-23	5830 RAs	17.2	15.2	Puts out of order with 5829.
-23	6096 DEC	36.2	39.2	
-23	6634 MAG	9.0	9.9	
-23	13830 MAG	18.0	10.0	
-23	15307 MAG	7.7	7.9	
-23	15416 MAG	9.0	9.6	
-23	17109 DEC	28.6	18.6	

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-24  1932 MAG  9.0  9.7
-24  2192 MAG  8.7  9.7
-24  2355 MAG  9.5  9.9
-24  3256 MAG  9.0  9.9
-24  3886 MAG  8.6  9.6
-24  4012 MAG 10.0  9.8
-24  4062 MAG  6.3  9.3
-24  4514 DEC  4.6 40.6
-24  4578a              Insert:  9.5 49 33.2  0.2.
-24  4686 DEC 70.3 20.3
-24  5358 RAs 42.6 52.6 Out of order with 5354-57.
-24  8227 MAG  8.9  9.9
-24  8413 MAG  8.8  9.8
-24 10759 MAG  9.0  9.9
-24 11107 MAG  9.0  9.9
-24 12791 MAG 10.0  9.5
-24 13016 MAG  8.4  9.8
-24 13057a             Insert:  9.5 56 14.0  6.8.
-24 14516 MAG 10.0 20.0 Neb.
-24 15285 DEC 29.5 27.5
-24 15365 MAG  9.0  9.9
-24 16761 MAG  6.5  9.5
-24 16781 MAG  6.8  9.8
-24 16917 MAG  6.7  9.7
-25   524 MAG  7.0  7.7
-25   784 MAG  9.1  9.4
-25  1241 MAG  7.9  8.9
-25  4446 MAG  9.2  8.7
-25  4447 MAG  9.7  8.9
-25  4466a              Insert:  9.7 18 51.0 16.7.
-25  8632 MAG  6.9  9.9
-25 12299 MAG  9.0  9.7
-26  4185 RAs 32.8 32.3
-26  4372 MAG 12.0 10.0
-26  5778 DEC 26.0 20.0
-26  9204 RAs 29.5 32.5
-26 12915 MAG  9.0  9.7
-27  1449 DEC 58.9 59.7
-27  4425 MAG 10.0  9.4
-27  4789 MAG  9.7  9.0
```

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-27  4895 MAG  9.5  9.0
-27  5589 DEC 52.1 52.7
-27  5589 RAs 44.5 45.5
-27  5589 MAG  9.4  9.9
-27  5591 MAG  9.9  9.7
-27  5591 DEC 51.7 50.7
-27  7227 DEC  4.6  3.6
-27  7792 MAG  8.7  9.0
-27  7795 MAG  8.8  9.3
-27 10321 MAG  9.8 10.0
-28  9009 DEC 59.1 58.8
-28  9233 DEC  0.0 59.9 Same declination zone.
-28  9235 DEC 33.9 33.3
-28 10959 MAG  9.0 10.0
-28 11520a             Insert:  9.5 36  4.2 12.1.
-28 12608 MAG 16.0 10.0
-28 13854a             Insert: 10.0 48  4.2  0.6.
-28 14166 DEC 47.8 37.8
-28 14638 MAG 19.0 10.0
-29  1209 MAG  9.1 10.0
-29  2248 MAG  9.5 10.0
-29  8081 MAG  8.5  8.9
-29  8762 MAG  8.9  9.3
-29  9239 RAs 32.3 42.3 Puts out of order with 9240-41.
-29  9250 DEC  0.3  0.6
-29 12791 DEC  3.   3.4
-29 16931 MAG  9.0  9.9
-29 17246 MAG  8.9  8.6
-29 18877 MAG  9.1  8.8
-30  3715 MAG  9.4  9.2
-30  3725 DEC 28.9 18.9
-30  5286 MAG 10.0  9.4
-30  6386 MAG  010 10.0
-30  6601 MAG  9.3  9.0
-30  6620 MAG  9.8  9.5
-30  6640 MAG  8.5  8.9
-30  7621 MAG 19.0 10.0
-30 10592 MAG  9.2  9.7
-30 10791              Delete data; does not exist.  "D" after CD number.
-30 11067 MAG  9.0 10.0
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-30 19392 MAG  9.5  9.0
-31  1558 RAm 40   41
-31  1559 RAm 40   41
-31  1540 RAm 40   41
-31  1541 RAm 40   41
-31  2521 DEC 17.5  7.5
-31  2732 MAG  9.0  9.7
-31  3136 DEC 30.1 31.5
-31  3781 MAG  6.3  6.9
-31  4269a              Insert: 10.0 11 52.0  3.0.
-31  4466 MAG  9.5  9.0
-31  4467 MAG  9.3  8.3
-31  6796 MAG  9.2  9.7
-31  7158 MAG  9.0 10.0
-31  7848 MAG  9.4  9.6
-31  7850 DEC 35.4 55.4
-31  8532 DEC 24.1 22.1
-31  8978 MAG  9.7  9.1
-31  9340 DEC 37.9 47.9
-31 10048 MAG  9.7 10.0
-31 10459              Delete data; does not exist.  "D" after CD number.
-31 11996 MAG  9.1 10.0
-31 12715 MAG  6.7 10.0
-31 12818              Delete data; does not exist.  "D" after CD number.
-31 15135 MAG  9.2  8.7
-31 16121 RAs  4.4  8.4
-31 16250 DEC 20.5 30.5
-31 17207 RAs 48.8 45.8
-31 17325 RAs  0.7  3.7
-31 17327              Delete data; does not exist.  "D" after CD number.
-31 17751 RAs 32.2 33.2
-32  5302a             Insert:  9.7 21 38.0 48.0.
-32  9445a             Insert:  9.0 26 39.1  1.5.
-33   563 MAG  9.9  9.6
-33  4526 RAm  1    0
-33  4526 RAs  0.6 57.6
-33 12057 MAG 19.0 10.0
-33 13828 DEC 44.8 48.4
-33 14654 RAs 44.2 51.2 Puts out of order with 14655-56.
-33 14654 MAG  9.0  9.7
```

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-33 14665 DEC 41.2 41.6
-33 14666 DEC 41.6 41.2
-34  1904 DEC 24.0 25.0
-34  2836 MAG  7.9  9.9
-34  3471 MAG  9.7  9.0
-34  3610 MAG  9.3  8.2
-34  3611 MAG  8.3  8.0
-34  4401 RAs 39.3 41.8 Error in Corrigenda: says 4400.
-34  5369 MAG  9.0  9.9
-34  6285 MAG  9.0  9.9
-34  7832 MAG  9.6  9.5
-34  9053 MAG  8.9  9.8
-34 13062 DEC  6.2  2.6
-34 14095 MAG  9.7  9.0
-34 14475 RAs 52.3 48.2 Error in Corrigenda: says 14476.
-34 14685 MAG  9.0 10.0
-34 14821 DEC 21.3 11.3
-35   806 RAs 40.8 49.0
-35  1155 MAG  9.0 10.0
-35  2805 MAG  9.7  9.3
-35  2811 MAG  9.9  9.5
-35  2812 MAG  9.9  9.3 Error in Corrigenda: says from 8.9 to 9.3.
-35  3751 DEC  2.0 12.0
-35  6247 MAG  9.0  9.9
-35  6922               Delete data; does not exist.  "D" after CD number.
-35  7886 MAG  9.0 10.0
-35  7988 DEC  3.5  8.5
-35  8119a              Insert:  9.5 33 55.0 53.0.
-35  8478 RAs 15.8 18.8
-35  8485 DEC 47.4 37.4 Error in Corrigenda: says 17.4 to 37.4 (CPD checked).
-35  8487 MAG  9.3 10.0
-35 10191 RAs 47.5 48.5
-35 13927 MAG  9.7  9.8
-35 13928 MAG  9.8  9.7
-36   251 RAm 39   38
-36   252 RAm 39   38
-36   253 RAm 39   38
-36   254 RAm 39   38
-36   762 RAm 54   55
-36   763 RAm 54   55
```

```
-36   764 RAm 55   56
-36  3391 DEC 56.2 56.5
-36  3391 RAs 59.3 59.8
-36  3425 DEC  0.2  1.7
-36  3426 DEC  1.7  0.2
-36  4506 MAG  9.8  8.8
-36  4774 MAG  9.0  7.0
-36  6426 MAG  3.5  8.5
-36 10133 MAG  9.0  9.9
-36 11341 MAG  9.1 20.0 Neb.
-36 12684 RAs 45.8 45.3
-36 14513 MAG  9.2  8.7
-36 15579 MAG  9.0 10.0
-37  6249 DEC 38.9 33.9
-38  7292 DEC 34.8 31.8
-39  1665 RAs 52.8 52.3
-39  1784 RAs 30.9 30.4
-40  2588 MAG  9.4  9.5
-40  2589 MAG  9.5  9.4
-41  7852 MAG  9.7  9.5
-41  7853 MAG  9.5  9.7
-41  7853 DEC  5.9  5.7
-41 11955 RAs 27.5 37.5
-41 14687 RAs 47.0 49.4
-42  2204 MAG 16.0 10.0
-42  3590 DEC 20.1 21.1
-42  4687 RAs 19.8 19.9
-43  6605 MAG  9.9 10.0
-44  3473 DEC 52.3 53.3
-44  3686 RAs  3.8  6.8
-44  3767 RAs 53.2 50.2 Puts out of order with 3765-66.
-44 12728 MAG  9.3  9.8
-46  4562 DEC 10.1  6.1
-47  7399 MAG  9.7  9.9
-47  7400 MAG  9.9  9.7
-49  5490 RAs 36.5 56.3
-49  7288 MAG  9.7 10.0
-49  7289 MAG 10.0  9.7
-51   871 RAm 25   35
-53  6412 DEC 18.9 19.9
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-53  6760 RAs 15.4 12.4
-53  7869 RAs 21.8 26.8
-54  1881 DEC 49.3 48.3
-54  1881 RAs 35.9 32.9 Puts out of order with 1880.
-54  5616 RAs 58.8  0.0
-54  5616 RAm  7    8
-54  5618 RAs  1.6  1.3
-56  4790 RAs 36.2 46.2
-56  5595 RAm 38   37   Puts out of order with 5592-94.
-56  7671 RAs 48.5 38.8
-56  8693 RAm 51   52
-56  8694 RAm 51   52
-56  8695 RAm 52   53   Puts out of order with 8696-97.
```

Table 4 gives statistics for the individual zones of the *Córdoba Durchmusterung* and the number of logical records in the machine version for each zone. The number of stars is counted as those having valid data.

Table 4. Zone Statistics for the Machine-Readable CD.

Zone	Number of Records	Highest Star Number	Stars Added	Stars Deleted	Number of Stars
-22°	16573	16573	-	1	16572
-23	18138	18138*	-	-	18138
-24	17982	17980	2	-	17982
-25	16795	16794*	1	-	16795
-26	16910	16910	-	-	16910
-27	16541	16541	-	-	16541
-28	18459	18457	2	-	18459
-29	18965	18965	-	-	18965
-30	19841	19841	-	1	19840
-31	19600	19599	1	3	19597
-32	17814	17812*	2	-	17814
-33	16844	16844	-	-	16844
-34	16298	16298	-	-	16298
-35	16070	16069	1	1	16069
-36	16170	16170	-	-	16170
-37	15509	15509	-	-	15509
-38	15732	15732	-	-	15732
-39	15254	15254	-	-	15254
-40	15327	15327	-	-	15327
-41	15400	15400	-	-	15400
-42	16590	16590	-	-	16590
-43	15587	15587	-	-	15587
-44	15458	15458	-	-	15458
-45	15245	15245	-	-	15245
-46	14860	14860	-	-	14860
-47	14794	14794	-	-	14794
-48	14691	14691	-	-	14691
-49	14337	14337	-	-	14337
-50	14119	14119	-	-	14119
-51	13766	13766	-	-	13766
-52	10585	10585	-	-	10585
-53	9494	9494	-	-	9494
-54	9696	9696	-	-	9696
-55	9450	9450	-	-	9450
-56	8926	8926	-	-	8926

Table 4 (concluded)

Zone	Number of Records	Highest Star Number	Stars Added	Stars Deleted	Number of Stars
-57	8950	8950	-	-	8950
-58	8684	8684*	-	-	8684
-59	8264	8264	-	-	8264
-60	8168	8168	-	-	8168
-61	6922	6922	-	-	6922
-62	1476	1476	-	-	1476
-63	1635	1635	-	-	1635
-64	1451	1451	-	-	1451
-65	2966	2966	-	-	2966
-66	2666	2666	-	-	2666
-67	2626	2626	-	-	2626
-68	2380	2380	-	-	2380
-69	2126	2126	-	-	2126
-70	1960	1960	-	-	1960
-71	1821	1821	-	-	1821
-72	1810	1810	-	-	1810
-73	1693	1693	-	-	1693
-74	1592	1592	-	-	1592
-75	1310	1310	-	-	1310
-76	1188	1188	-	-	1188
-77	1188	1188	-	-	1188
-78	1070	1070	-	-	1070
-79	955	955	-	-	955
-80	873	873	-	-	873
-81	895	895	-	-	895
-82	384	384	-	-	384
-83	306	306	-	-	306
-84	230	230	-	-	230
-85	200	200	-	-	200
-86	152	152	-	-	152
-87	121	121	-	-	121
-88	61	61	-	-	61
-89	16	16	-	-	16
Totals	613959	613950	9	6	613953

* Error in star numbering on last page of published zone

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SECTION 5 - SAMPLE LISTING

The sample listing given on the following pages contains logical data records exactly as they are recorded on the tape. Groups of records from the beginning and end of the CD catalog are illustrated. The beginning of each record and bytes within the record are indicated by the column heading index across the top of each page (digits read vertically).

```
III

     L I S T I N G   O F   R E C O R D S   F R O M   T A P E   F I L E

              TAPE FILE NAME: Cordoba Durchmusterung
                     RECORDS        1 TO       20
                   TAPE FILE       2
                RECORD LENGTH      32 BYTES
                 INPUT VOLSER    WHW016

C O L U M N                                                                                                         1111111111111111
H E A D I N G          111111111122222222223333333333444444444455555555556666666666777777777788888888889999999999000000000011111
I N D E X     123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345

RECORD        1 CD-22     1   8.9 0 0 7.7-2211.7
RECORD        2 CD-22     2   9.6 0 031.3-2252.3
RECORD        3 CD-22     3   8.7 0 038.0-2231.6
RECORD        4 CD-22     4   9.3 0 049.5-2243.3
RECORD        5 CD-22     5   9.8 0 057.5-2221.7
RECORD        6 CD-22     6  10.0 0 1 8.9-2234.9
RECORD        7 CD-22     7   9.9 0 114.4-2237.3
RECORD        8 CD-22     8   9.4 0 118.0-2215.1
RECORD        9 CD-22     9   9.9 0 130.7-2237.7
RECORD       10 CD-22    10   9.6 0 133.0-2236.6
RECORD       11 CD-22    11   8.3 0 155.3-2231.9
RECORD       12 CD-22    12   8.2 0 2 2.4-22 6.7
RECORD       13 CD-22    13   7.4 0 231.6-2252.3
RECORD       14 CD-22    14  10.0 0 244.0-2216.2
RECORD       15 CD-22    15   9.3 0 251.5-2245.3
RECORD       16 CD-22    16   9.6 0 3 3.6-2250.9
RECORD       17 CD-22    17   9.6 0 3 8.4-2242.9
RECORD       18 CD-22    18   8.5 0 312.9-22 5.0
RECORD       19 CD-22    19   9.0 0 319.5-2235.9
RECORD       20 CD-22    20   8.8 0 324.4-2247.0
```

III

```
     L I S T I N G   O F   R E C O R D S   F R O M   T A P E   F I L E

              TAPE FILE NAME: Cordoba Durchmusterung
                     RECORDS  613940 TO  613959
                   TAPE FILE      2
               RECORD LENGTH     32 BYTES
                INPUT VOLSER   WHW016

C O L U M N                                                                                                  1111111111111111
H E A D I N G          1111111111222222222233333333334444444444555555555566666666667777777777888888888899999999990000000000111111
I N D E X     1234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345


RECORD  613940 CD-88    58  8.52246 2. -8838.1
RECORD  613941 CD-88    59  8.5225624. -8814.2
RECORD  613942 CD-88    60  5.623 816. -8810.1
RECORD  613943 CD-88    61  9.0232958. -8858.7
RECORD  613944 CD-89     1  7.2 01254. -89 3.5
RECORD  613945 CD-89     2  9.8 05829. -8918.4
RECORD  613946 CD-89     3  9.6 11655. -89 5.2
RECORD  613947 CD-89     4  9.6 15043. -89 6.4
RECORD  613948 CD-89     5  9.6 32132. -8948.4
RECORD  613949 CD-89     6  9.8 53654. -8932.8
RECORD  613950 CD-89     7  8.9 81455. -89 9.7
RECORD  613951 CD-89     8  9.2112258. -8910.7
RECORD  613952 CD-89     9  8.0112731. -89 6.7
RECORD  613953 CD-89    10  6.8123328. -89 6.8
RECORD  613954 CD-89    11  9.7125028. -8937.2
RECORD  613955 CD-89    12  9.516 116. -8915.7
RECORD  613956 CD-89    13  5.5181535. -8916.6
RECORD  613957 CD-89    14  9.620 958. -8926.6
RECORD  613958 CD-89    15  6.521 345. -8925.5
RECORD  613959 CD-89    16  9.6235239. -89 1.5
```