

ACCESS NUMBER	REF NUMBER	FILE TYPE	PROJ CODE	INST	PLAT	CRUISE NO	CRUISE START	CRUISE END	NUM STA	NUM REC
9100114	BS0410	F291		313B	317F	32302	05/01/91	05/31/91	1	7,422
9100114	BS0411	F291		313B	317F	41001	05/01/91	05/31/91	1	8,165
9100114	BS0412	F291		313B	317F	41002	05/01/91	05/31/91	1	8,928
9100114	BS0413	F291		313B	317F	41008	05/01/91	05/31/91	1	45,207
9100114	BS0414	F291		313B	317F	41009	05/01/91	05/22/91	1	10,500
9100114	BS0415	F291		313B	317F	41010	05/01/91	05/31/91	1	14,826
9100114	BS0416	F291		313B	317F	42001	05/01/91	05/31/91	1	8,129
9100114	BS0417	F291		313B	317F	42002	05/01/91	05/31/91	1	8,090
9100114	BS0418	F291		313B	317F	42003	05/01/91	05/31/91	1	8,163
9100114	BS0419	F291		313B	317F	42007	05/01/91	05/31/91	1	2,135
9100114	BS0420	F291		313B	317F	42019	05/01/91	05/31/91	1	7,440
9100114	BS0421	F291		313B	317F	42020	05/01/91	05/31/91	1	6,528
9100114	BS0422	F291		313B	317F	44004	05/01/91	05/09/91	1	2,233
9100114	BS0423	F291		313B	317F	44005	05/01/91	05/31/91	1	8,184
9100114	BS0424	F291		313B	317F	44007	05/01/91	05/31/91	1	7,414
9100114	BS0425	F291		313B	317F	44008	05/01/91	05/31/91	1	8,175
9100114	BS0426	F291		313B	317F	44009	05/01/91	05/31/91	1	7,422
9100114	BS0427	F291		313B	317F	44011	05/01/91	05/31/91	1	8,171
9100114	BS0428	F291		313B	317F	44012	05/01/91	05/31/91	1	7,440
9100114	BS0429	F291		313B	317F	44013	05/01/91	05/31/91	1	7,416
9100114	BS0430	F291		313B	317F	44014	05/01/91	05/31/91	1	45,266
9100114	BS0431	F291		313B	317F	44025	05/01/91	05/31/91	1	43,226
9100114	BS0432	F291		313B	317F	45001	05/03/91	05/31/91	1	6,644
9100114	BS0433	F291		313B	317F	45002	05/01/91	05/31/91	1	8,906
9100114	BS0434	F291		313B	317F	45003	05/01/91	05/31/91	1	7,396
9100114	BS0435	F291		313B	317F	45004	05/01/91	05/31/91	1	8,838
9100114	BS0436	F291		313B	317F	45005	05/01/91	05/31/91	1	43,659
9100114	BS0437	F291		313B	317F	45006	05/01/91	05/31/91	1	8,918
9100114	BS0438	F291		313B	317F	45007	05/01/91	05/31/91	1	1,452
9100114	BS0439	F291		313B	317F	45008	05/01/91	05/31/91	1	8,898
9100114	BS0440	F291		313B	317F	46001	05/01/91	05/31/91	1	8,172
9100114	BS0441	F291		313B	317F	46002	05/01/91	05/31/91	1	8,171
9100114	BS0442	F291		313B	317F	46003	05/01/91	05/31/91	1	8,172
9100114	BS0443	F291		313B	317F	46005	05/01/91	05/31/91	1	8,125
9100114	BS0444	F291		313B	317F	46011	05/01/91	05/31/91	1	8,908
9100114	BS0445	F291		313B	317F	46013	05/01/91	05/31/91	1	8,862
9100114	BS0446	F291		313B	317F	46014	05/01/91	05/31/91	1	8,874
9100114	BS0447	F291		313B	317F	46022	05/01/91	05/31/91	1	7,404
9100114	BS0448	F291		313B	317F	46023	05/01/91	05/31/91	1	8,928
9100114	BS0449	F291		313B	317F	46025	05/01/91	05/31/91	1	45,205
9100114	BS0450	F291		313B	317F	46026	05/01/91	05/31/91	1	7,440
9100114	BS0451	F291		313B	317F	46027	05/01/91	05/31/91	1	7,394
9100114	BS0452	F291		313B	317F	46028	05/01/91	05/31/91	1	8,918
9100114	BS0453	F291		313B	317F	46030	05/01/91	05/31/91	1	7,064
9100114	BS0454	F291		313B	317F	46035	05/01/91	05/12/91	1	3,003
9100114	BS0455	F291		313B	317F	46040	05/01/91	05/31/91	1	7,332
9100114	BS0456	F291		313B	317F	46041	05/01/91	05/31/91	1	7,416
9100114	BS0457	F291		313B	317F	46042	05/01/91	05/31/91	1	45,207
9100114	BS0458	F291		313B	317F	46045	05/01/91	05/31/91	1	45,264
9100114	BS0459	F291		313B	317F	51001	05/01/91	05/31/91	1	8,918

9100114	BS0460	F291	313B	317F	51002	05/01/91	05/31/91	1	8,702
9100114	BS0461	F291	313B	317F	51003	05/01/91	05/31/91	1	8,780
9100114	BS0462	F291	313B	317F	51004	05/01/91	05/20/91	1	5,446
9100114	BS0463	F291	313B	317F	ALSN6	05/01/91	05/31/91	1	6,048
9100114	BS0464	F291	313B	317F	BURL1	05/01/91	05/31/91	1	2,230
9100114	BS0465	F291	313B	317F	BUZM3	05/01/91	05/31/91	1	1,484
9100114	BS0466	F291	313B	317F	CARO3	05/01/91	05/31/91	1	1,488
9100114	BS0467	F291	313B	317F	CHLV2	05/01/91	05/31/91	1	8,036
9100114	BS0468	F291	313B	317F	CLKN7	05/01/91	05/31/91	1	2,184
9100114	BS0469	F291	313B	317F	CSBF1	05/01/91	05/31/91	1	2,028
9100114	BS0470	F291	313B	317F	DBLN6	05/01/91	05/31/91	1	1,488
9100114	BS0471	F291	313B	317F	DESW1	05/01/91	05/31/91	1	1,488
9100114	BS0472	F291	313B	317F	DISW3	05/01/91	05/31/91	1	1,486
9100114	BS0473	F291	313B	317F	DPIA1	05/01/91	05/31/91	1	1,488
9100114	BS0474	F291	313B	317F	DSLN7	05/01/91	05/31/91	1	7,567
9100114	BS0475	F291	313B	317F	FBIS1	05/01/91	05/31/91	1	1,488
9100114	BS0476	F291	313B	317F	FFIA2	05/01/91	05/31/91	1	1,488
9100114	BS0477	F291	313B	317F	FPSN7	05/01/91	05/31/91	1	2,232
9100114	BS0478	F291	313B	317F	GBCL1	05/01/91	05/31/91	1	7,768
9100114	BS0479	F291	313B	317F	GDIL1	05/01/91	05/31/91	1	2,229
9100114	BS0480	F291	313B	317F	GLLN6	05/01/91	05/31/91	1	1,486
9100114	BS0481	F291	313B	317F	IOSN3	05/01/91	05/31/91	1	1,482
9100114	BS0482	F291	313B	317F	LKWF1	05/01/91	05/31/91	1	2,230
9100114	BS0483	F291	313B	317F	MDRM1	05/01/91	05/31/91	1	1,488
9100114	BS0484	F291	313B	317F	MISM1	05/01/91	05/31/91	1	1,404
9100114	BS0485	F291	313B	317F	MLRF1	05/01/91	05/31/91	1	1,484
9100114	BS0486	F291	313B	317F	MPCL1	05/01/91	05/31/91	1	2,187
9100114	BS0487	F291	313B	317F	NWPO3	05/01/91	05/31/91	1	1,486
9100114	BS0488	F291	313B	317F	PILM4	05/01/91	05/31/91	1	1,488
9100114	BS0489	F291	313B	317F	PTAC1	05/01/91	05/31/91	1	1,486
9100114	BS0490	F291	313B	317F	PTAT2	05/01/91	05/31/91	1	2,232
9100114	BS0491	F291	313B	317F	PTGC1	05/01/91	05/31/91	1	1,486
9100114	BS0492	F291	313B	317F	ROAM4	05/01/91	05/31/91	1	1,484
9100114	BS0493	F291	313B	317F	SANF1	05/01/91	05/31/91	1	3,706
9100114	BS0494	F291	313B	317F	SAUF1	05/01/91	05/31/91	1	2,224
9100114	BS0495	F291	313B	317F	SBIO1	05/01/91	05/31/91	1	1,486
9100114	BS0496	F291	313B	317F	SGNW3	05/01/91	05/31/91	1	1,488
9100114	BS0497	F291	313B	317F	SISW1	05/01/91	05/31/91	1	1,488
9100114	BS0498	F291	313B	317F	SMKF1	05/01/91	05/31/91	1	1,480
9100114	BS0499	F291	313B	317F	SPGF1	05/01/91	05/31/91	1	2,228
9100114	BS0500	F291	313B	317F	SRST2	05/01/91	05/31/91	1	2,230
9100114	BS0501	F291	313B	317F	STDM4	05/01/91	05/31/91	1	1,488
9100114	BS0502	F291	313B	317F	SVLS1	05/01/91	05/16/91	1	3,786
9100114	BS0503	F291	313B	317F	TPLM2	05/01/91	05/31/91	1	2,230
9100114	BS0504	F291	313B	317F	TTIW1	05/01/91	05/31/91	1	1,488
9100114	BS0505	F291	313B	317F	VENF1	05/01/91	05/31/91	1	2,232
9100114	BS0506	F291	313B	317F	WPOW1	05/01/91	05/31/91	1	1,484
9100114	BS0507	F291	313B	317F	91222	05/01/91	05/31/91	1	1,208
9100114	BS0508	F291	313B	317F	91251	05/01/91	05/31/91	1	1,418
9100114	BS0509	F291	313B	317F	91377	05/01/91	05/31/91	1	1,480
9100114	BS0510	F291	313B	317F	91365	05/01/91	05/31/91	1	1,485

101 775,168

9100114

FILETYPE F291

TRACK NO. _____

PROJECT IDENTIFICATION _____

	DATE	INIT.	TAPE OR DISK DSN	NO. FILES	LRECL	BLK SIZE	NO. RECORDS
	08/01/91	CUK	AΦ1465	1	120	4080	775,200
TAPE	10-4-91	R.L.H.	W.Φ9940 *	1	120	4800	
TAPE							
DISK							
EX							
EX							
022							
FINALIZED							

REPORTED TO PRINCIPAL INVESTIGATOR: Tape AΦ1465 29 TRK, NL, 6250 ^{bpi} ~~ty~~, Ascii

* LABEL = DNODC * PHL

ERRORS/CORRECTIONS (NOT REPORTED TO P.I.)

(TRACKS DELETED, FIELDS DELETED, ETC.)



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Data Buoy Center
Stennis Space Center, Mississippi 39529-6000

July 18, 1991

F1804-02
DB3:91-0392
SPN:idm

Mr. Anthony Picciolo
Chief, Data Acquisition And Management Branch
NODC/NESDIS/NOAA
Universal South
1825 Connecticut Ave., N.W. Room 416
Washington, DC 20235

Dear Mr. Picciolo:

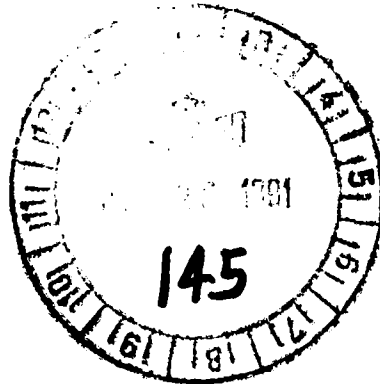
The enclosed tape for May 1991 has been recreated we hope this does not created any problems for you.

If you have any questions, please call B.G. Redmon at FTS 494-2834, or Commercial (601) 688-2834.

Sincerely,

Sallie P. Nolan
ADP Manager

Enclosures



AC1465





U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Data Buoy Center
Stennis Space Center, Mississippi 39529-6000

June 28, 1991

F1804-02
DB3:91-0351
SPN:ldm

Mr. Anthony Picciolo
Chief, Data Acquisition And Management Branch
NODC/NESDIS/NOAA
Universal South
1825 Connecticut Ave., N.W. Room 416
Washington, DC 20235

Dear Mr. Picciolo:

Enclosed are the May 1991, Nine Track, 6250 BPI, archive tapes, recorded in the archive File Type 291 tape format. Beginning with the May 1991, archive tapes, NDBC moored buoy and land station data will be recorded in a different format, identified as File Type 291. The changes from the older format, File Type 191, are highlighted on the first page of the enclosed tape format document.

The revised format is necessary to accommodate new measurements from NDBC systems. We also used this opportunity to re-define some data fields that have never been used.

In general, the changes are minor and we sincerely hope any inconvenience to you is minimal.

The enclosure contains a list of stations and the inclusive dates that are on each tape.

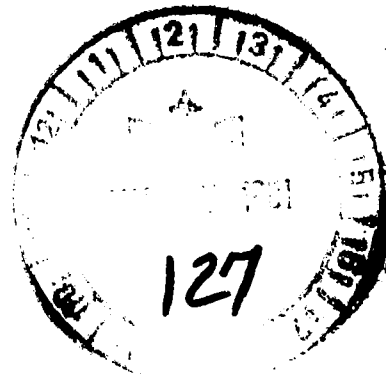
If you have any questions, please call B.G. Redmon at FTS 494-2834, or Commercial (601) 688-2834.

Sincerely,

Sallie P. Nolan

Sallie P. Nolan
ADP Manager

Enclosures



9104-02
HC 1063



FILE TYPE 291 - METEOROLOGY OCEANOGRAPHY AND WAVE SPECTRA

THIS FORMAT IS USED TO REPORT METEOROLOGICAL, OCEANOGRAPHIC, AND WAVE SPECTRA DATA FROM NDBC MOORED BUOYS AND FIXED LAND STATIONS. THE FORMAT CONTAINS TEN DATA RECORD TYPES TO:

- 1) IDENTIFY THE BUOY POSITION AND OTHER DESCRIPTIVE INFORMATION;
- 2) REPORT THE METEOROLOGICAL MEASUREMENTS;
- 3) REPORT WAVE ENERGY SPECTRA AND WAVE DIRECTION;
- 4) REPORT SUBSURFACE PHYSICAL, BIOLOGICAL AND CHEMICAL OCEANOGRAPHIC MEASUREMENTS; AND
- 5) REPORT DETAILED INFORMATION ON CONTINUOUSLY MEASURED WIND SPEED AND DIRECTION.

EACH RECORD IS 120 CHARACTERS IN LENGTH, SORTED BY STATION AND RECORD TYPE. RECORD TYPE IS OMITTED WHERE DATA DEFINED IN THAT TYPE ARE NOT MEASURED.

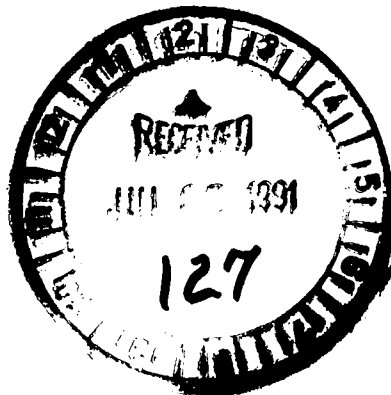
****NOTE****

THIS FORMAT REPLACES FILE TYPE 191 WHICH IN TURN REPLACED 091.

03/30/81 - ADDED WIND SPEED AND DIRECTION TO RECORD TYPE '2'
12/28/81 - ADDED RECORD TYPES '6' AND '7'
11/04/85 - ADDED RECORD TYPE '8'
01/01/88 - ADDED RECORD TYPE '9'
01/30/91 - DESIGNED F291 TO:

- 1) RELABEL RECORD TYPES - RECORD TYPES 1 THROUGH 5 BECOMING A THROUGH E; ADD NEW RECORD TYPE F; AND RELABEL 6 THROUGH 9 AS G THROUGH J;
- 2) ADD A PRESENCE OF A RECORD INDICATOR IN RECORD TYPE 'A';
- 3) REDEFINE RECORD TYPE B BY DELETING "HIGHEST CREST" AND "DEEPEST THROUGH" AND INSERTING "WATER LEVEL";
- 4) IDENTIFY RECORD TYPE C AS "NON-DIRECTIONAL WAVE SPECTRA DATA RECORD";
- 5) DELETE DEFINITION OF COLUMNS 27 THROUGH 33 IN RECORD C AND REPLACE WITH 7 BLANKS;
- 6) ADD A DURATION OF SAMPLING FIELD AT THE END OF RECORD D;
- 7) DEFINE RECORD TYPE E TO PROVIDE ONLY SUBSURFACE CURRENT INFORMATION; AND
- 8) DEFINE NEW RECORD TYPE F TO PROVIDE SUBSURFACE PHOTOSYNTHETIC ACTIVE RADIATION.

9100114



C. DATA FORMAT

COMPLETE THIS SECTION FOR PUNCHED CARDS OR TAPE, MAGNETIC TAPE, OR DISC SUBMISSIONS.

**1. LIST RECORD TYPES CONTAINED IN THE TRANSMITTAL OF YOUR FILE
GIVE METHOD OF IDENTIFYING EACH RECORD TYPE**

See attached - Meteorology Oceanography & Wave Spectra (File Type 291) description.

2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION

Each record is 120 characters in length, sorted by station and record type. Record type is omitted where data defined in that type are not measured.

3. ATTRIBUTES AS EXPRESSED IN PL-1 ALGOL COBOL
 FORTRAN _____ LANGUAGE

4. RESPONSIBLE COMPUTER SPECIALIST:

NAME AND PHONE NUMBER _____
 ADDRESS _____

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<p>5. RECORDING MODE</p> <p><input type="checkbox"/> BCD <input type="checkbox"/> BINARY</p> <p><input checked="" type="checkbox"/> ASCII <input type="checkbox"/> EBCDIC</p> <p><input type="checkbox"/> _____</p>	<p>9. LENGTH OF INTER-RECORD GAP (IF KNOWN) <input type="checkbox"/> 3/4 INCH <input type="checkbox"/> _____</p>
<p>6. NUMBER OF TRACKS (CHANNELS)</p> <p><input type="checkbox"/> SEVEN</p> <p><input checked="" type="checkbox"/> NINE</p> <p><input type="checkbox"/> _____</p>	<p>10. END OF FILE MARK <input checked="" type="checkbox"/> OCTAL 17 <input type="checkbox"/> _____</p>
<p>7. PARITY</p> <p><input checked="" type="checkbox"/> ODD</p> <p><input type="checkbox"/> EVEN</p>	<p>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</p>
<p>8. DENSITY</p> <p><input type="checkbox"/> 200 BPI <input type="checkbox"/> 1600 BPI</p> <p><input type="checkbox"/> 556 BPI</p> <p><input type="checkbox"/> 800 BPI</p> <p><input checked="" type="checkbox"/> 6250 BPI</p>	<p>12. PHYSICAL BLOCK LENGTH IN BYTES</p> <p style="text-align: center;">4080</p>
	<p>13. LENGTH OF BYTES IN BITS</p> <p style="text-align: center;">8</p>

RECORD FORMAT DESCRIPTION

RECORD NAME Meteorology Oceanography & Wave Spectra (File Type "291")

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN (e.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
DESCRIPTIVE HEADER RECORD (RECORD A)					
FILE TYPE	1	3			"291" (constant)
FILE DATE	4	6			YYMMDD of file generation
RECORD TYPE	10	1			Always 'A'
STATION	11	6			Six-character unique name of observation point
OBSERVED DATE	17	6			YYMMDD (UTC)
OBSERVED TIME	23	4			HHMM (UTC)
LATITUDE	27	7			DDMMSS plus hemisphere 'N' or 'S'
LONGITUDE	34	8			DDMMSS plus hemisphere 'E' or 'W'
BOTTOM DEPTH	42	5			XXXXX - Meters to tenths
MAGNETIC VARIATION	47	4			XXXX - Whole degrees from true North (signed value)
BUOY HEADING	51	3			XXX - Whole degrees from true North
SAMPLING RATE (WAVES)	54	4			XXXX - Original measurements per minute to tenths
SAMPLING DURATION (WAVES)	58	4			XXXX - Minutes to hundredths
TOTAL INTERVALS (WAVES)	62	3			XXX - Number of frequency intervals
CHIEF SCIENTIST	65	20			20-Character field for scientist name
INSTITUTION	85	20			20-Character field for data source
WIND SAMPLING DURATION	105	3			XXX - Minutes to tenths
PRESENCE OF RECORD 'B'	108	1			X - Y=YES; N=NO
PRESENCE OF RECORD 'C'	109	1			X - Y=YES; N=NO
PRESENCE OF RECORD 'D'	110	1			X - Y=YES; N=NO
PRESENCE OF RECORD 'E'	111	1			X - Y=YES; N=NO
PRESENCE OF RECORD 'F'	112	1			X - Y=YES; N=NO
PRESENCE OF RECORD 'G'	113	1			X - Y=YES; N=NO
PRESENCE OF RECORD 'H'	114	1			X - Y=YES; N=NO
PRESENCE OF RECORD 'I'	115	1			X - Y=YES; N=NO
PRESENCE OF RECORD 'J'	16	1			X - Y=YES; N=NO
BLANKS	117	4			

RECORD FORMAT DESCRIPTION

RECORD NAME Meteorology Oceanography & Wave Spectra (File Type "291")

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN <small>(e.g., bits, bytes)</small>	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
ENVIRONMENTAL DATA RECORD (RECORD B)					
FILE TYPE	1	3			"291" (constant)
FILE DATE	4	6			YYMMDD of file generation
RECORD TYPE	10	1			Always 'B'
STATION	11	6			Six characters unique name of observation point
OBSERVED DATE	17	6			YYMMDD (UTC)
OBSERVED TIME	23	4			HHMM (UTC)
ANEMOMETER HEIGHT	27	3			XXX - Height above water level or ground (meters to Tenths)
AIR TEMPERATURE	30	4			XXXX - Negative temperatures are preceded by a minus sign adjacent to temperature value Deg C to tenths
DEW POINT	34	4			XXXX - Degrees C to tenths
BAROMETER	38	5			XXXXX - Reduced to sea level (MB to tenths)
WIND SPEED (AVG)	43	4			XXXX - m/sec to hundredths
WIND DIRECTION (AVG)	47	4			XXXX - Degrees from true North to tenths
WEATHER	51	1			One-character weather code
VISIBILITY	52	3			XXX - Nautical miles to tenths-
PRECIPITATION	55	4			XXXX - Accumulation in millimeters
SOLAR RADIATION (ATMOSPHERIC)	59	3			XXX - Langleys/min to hundredths, wave length less than 3.6 microns
SOLAR RADIATION (ATMOSPHERIC)	62	3			XXX - Langleys/min to hundredths, wave length from 4.0 to 50 microns
SIGNIFICANT WAVE HEIGHT*	65	3			XXX - Corrected for low frequency noise, etc. (meters to tenths)
AVERAGE WAVE PERIOD*	68	3			XXX -Seconds to tenths
MEAN WAVE DIRECTION	71	3			XXX - Mean direction of dominant waves in whole degrees from true North
WATER LEVEL	74	4			XXXX - From MLLW reference level, minus sign indicates below MLLW (meters to tenths)
BLANKS	78	2			
TEMPERATURE (SEA SURFACE)	80	4			XXXX - Sea surface negative temperatures are preceded by a minus sign adjacent to temperature value - Deg C to hundredths
PRACTICAL SALINITY (SEA SURFACE)	84	5			XXXXX - To thousandths

RECORD FORMAT DESCRIPTION

RECORD NAME Meteorology Oceanography & Wave Spectra (File Type "291")

14. FIELD NAME	15. POSITION FROM -1 MEASURED IN (e.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
ENVIRONMENTAL DATA RECORD (RECORD B) (Continued)					
CONDUCTIVITY (SEA SURFACE)	89	5			XXXXX - Millisiemens/cm to thousandths
DOMINANT WAVE PERIOD*	94	3			XXX - Seconds to tenths
MAXIMUM WAVE HEIGHT	97	3			XXX - Meters to tenths
MAXIMUM WAVE STEEPNESS	100	3			XXX
WIND GUST	103	4			XXXX - Meters/sec to hundredths
WIND GUST AVERAGING PERIOD	107	2			XX - Seconds
WIND GUST	109	4			XXXX - Meters/sec to hundredths
WIND GUST AVERAGING PERIOD	113	2			XX - Seconds
WIND SPEED (58 MIN AVG)	115	3			XXX - Meters/sec to tenths
WIND DIRECTION (58 MIN AVG)	118	3			XXX - Whole degrees
* Significant wave height, average wave period, and dominant wave period are set to zero when significant wave height is less than 0.15 meters.					
NONDIRECTIONAL WAVE SPECTRA DATA RECORD (RECORD C)					
FILE TYPE	1	3			"291" (constant)
FILE DATE	4	6			YYMMDD of file generation
RECORD TYPE	10	1			Always 'C'
STATION	11	6			Six characters unique name of observation point
OBSERVED DATE	17	6			YYMMDD (UTC)
OBSERVED TIME	23	4			HHMM (UTC)
BLANKS COUNT	27	7			
	34	1			X -Number of frequencies on this record
DATA					Up to 5 frequency, resolution, and density fields. Null fields are zero or blank
FREQUENCY	35	4			XXXX - Center frequency of interval in Hertz to thousandths
RESOLUTION	39	4			XXXX - Interval width in Hertz to ten-thousandths
DENSITY	43	6			XXXXXX - Spectral Density of interval in m ² /Hz to thousandths
FREQUENCY RESOLUTION	49	4			XXXX - See above
	53	4			XXXX - See above

RECORD FORMAT DESCRIPTION

RECORD NAME Meteorology Oceanography & Wave Spectra (File Type "291")

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN <small>(e.g., bits, bytes)</small>	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
NONDIRECTIONAL WAVE SPECTRA DATA RECORD (RECORD C)					(Continued)
DENSITY	57	6			XXXXXX - See above
FREQUENCY	63	4			XXXX - See above
RESOLUTION	67	4			XXXX - See above
DENSITY	71	6			XXXXXX - See above
FREQUENCY	77	4			XXXX - See above
RESOLUTION	81	4			XXXX - See above
DENSITY	85	6			XXXXXX - See above
FREQUENCY	91	4			XXXX - See above
RESOLUTION	95	4			XXXX - See above
DENSITY	99	6			XXXXXX - See above
BLANKS	105	16			
SUBSURFACE TEMPERATURE/SALINITY DATA RECORD (RECORD D)					
FILE TYPE	1	3			"291" (constant)
FILE DATE	4	6			YYMMDD of file generation
RECORD TYPE	10	1			Always 'D'
STATION	11	6			Six characters unique name of observation point
OBSERVED DATE	17	6			YYMMDD (UTC)
OBSERVED TIME	23	4			HHMM (UTC)
DEPTH	27	5			XXXXX - Meters from the surface to tenths
TEMPERATURE	32	4			XXXX - Negative temperatures are preceded by a minus sign adjacent to temperature value Deg C to hundredths
PRACTICAL SALINITY	36	5			XXXXX - Parts per thousands reported to thousands
CONDUCTIVITY	41	4			XXXX - Millisiemens/cm to hundredths
DEPTH	45,63, 81,99	5			Repeated in descending order
TEMPERATURE	50,68, 86,104	4			Repeated in descending order
PRACTICAL SALINITY	54,72, 90,108	5			Repeated in descending order
CONDUCTIVITY	59,77, 95,113	4			Repeated in descending order
BLANK	117	1			
DURATION OF SAMPLING PERIOD	118	3			XXX - Minutes to tenths
SUBSURFACE CURRENT DATA RECORD (RECORD E)					
FILE TYPE	1	3			Always "291"
FILE DATE	4	6			YYMMDD of file generation
RECORD TYPE	10	1			Always 'E'

RECORD FORMAT DESCRIPTION

RECORD NAME Meteorology Meteorology Oceanography & Wave Spectra (File Type "291")

14. FIELD NAME	15. POSITION FROM -1 MEASURED IN (e.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
SUBSURFACE CURRENT DATA RECORD (RECORD E) (Continued)					
STATION	11	6			Six characters unique name of observation point
OBSERVED DATE	17	6			YYMMDD (UTC)
OBSERVED TIME	23	4			HHMM (UTC)
DEPTH	27	4			XXXX - From the surface in meters
PRESSURE	31	5			XXXXX - Hydrostatic pressure (kg/cm ²) to hundredths
U COMPONENT	36	5			XXXXX - East component from true North (cm/sec) to tenths. Minus sign indicates westward component
V COMPONENT	41	5			XXXXX - True North component in cm/sec to tenths, minus sign indicates southward component
W COMPONENT	46	3			XXX - Vertical component in cm/sec to tenths. Minus sign indicates downward component
DEPTH	49,71,93	4			Repeated in descending order
PRESSURE	53,75,97	5			Repeated in descending order
U COMPONENT	58,80,102	5			Repeated in descending order
V COMPONENT	63,85,107	5			Repeated in descending order
W COMPONENT	68,90,112	3			Repeated in descending order
BIN WIDTH	115	2			XX - Width of each depth bin whole meters
SAMPLING INTERVAL	117	3			XXX - Minutes to tenths
BLANK	120	1			
SUBSURFACE DATA PROFILE (RECORD F)					
FILE TYPE	1	3			Always "291"
FILE DATE	4	6			YYMMDD of file generation
RECORD TYPE	10	1			Always 'F'
STATION	11	6			Six characters unique name of observation point
OBSERVED DATE	17	6			YYMMDD (UTC)
OBSERVED TIME	23	4			HHMM (UTC)
DEPTH	27	4			XXXX - From the surface in meters. Negative value indicates height in meters <u>above</u> water surface

RECORD FORMAT DESCRIPTION

RECORD NAME Meteorology Oceanography & Wave Spectra (File Type "291")

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN (e.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
SUBSURFACE DATA PROFILE (RECORD F) (Continued)					
PHOTOSYNTHETIC ACTIVE RADIATION (PAR)	31	4			XXXX - Micromol/sec/m ²
BLANKS	35	15			15 Blanks reserved for future parameters
DEPTH	50,73,96	4			Repeated in descending order
PAR	54,77,100	4			Repeated in descending order
BLANKS	58,81,104	15			Repeated in descending order
BLANKS	119	2			
CO AND QUAD SPECTRA FOR DIRECTIONAL WAVES DATA RECORD (RECORD G)					
FILE TYPE	1	3			Always "291"
FILE DATE	4	6			YYMMDD of file generation
RECORD TYPE	10	1			Always 'G'
STATION	11	6			Six characters unique name of observation point
OBSERVED DATE	17	6			YYMMDD (UTC)
OBSERVED TIME	23	4			HHMM (UTC)
FREQUENCY	27	4			XXXX - Center frequency of interval in Hz to thousandths
RESOLUTION	31	5			XXXXX - Spectral resolution of this frequency band to Hz to ten-thousandths
CO-SPECTRA (C11)	36	6			XXXXXX - Uncorrected values of CO and QUAD spectra in m ² /Hz. Decimal assumed to be left of first digit. Subscripts are: 1=Heave, 2=E-W slope, 3=N-S slope
EXPONENT*	42	2			XX - First space is the sign
CO-SPECTRA (C22)	44	6			XXXXXX - See above
EXPONENT*	50	2			XX
CO-SPECTRA (C33)	52	6			XXXXXX - See above
EXPONENT*	58	2			XX
CO-SPECTRA (C12)	60	6			XXXXXX - See above
EXPONENT*	66	2			XX
QUAD-SPECTRA (Q12)	68	6			XXXXXX - See above
EXPONENT*	74	2			XX
CO-SPECTRA (C13)	76	6			XXXXXX - See above
EXPONENT*	82	2			XX
QUAD-SPECTRA (Q13)	84	6			XXXXXX - See above
EXPONENT*	90	2			XX
CO-SPECTRA (C23)	92	6			XXXXXX - See above
EXPONENT*	98	2			XX

RECORD FORMAT DESCRIPTION

RECORD NAME Meteorology Oceanography & Wave Spectra (File Type "291")

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN _____ <small>(e.g., bits, bytes)</small>	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
CO AND QUAD SPECTRA FOR DIRECTIONAL WAVES DATA RECORD (RECORD G) (Continued)					
QUAD-SPECTRA (Q23)	100	6			XXXXXX - See above
EXPONENT*	106	2			XX
SPECTRA (C22-C33)	108	6			XXXXXX - See above
EXPONENT*	114	2			XX
BLANKS	116	5			
* If this exponent is less than -9 the exponent and its associated spectra will be zero.					
DIRECTIONAL WAVE FOURIER COEFFICIENT DATA RECORD (RECORD H)					
FILE TYPE	1	3			Always "291"
FILE DATE	4	6			YYMMDD of file generation
RECORD TYPE	10	1			Always 'H'
STATION	11	6			Six characters unique name of observation point
OBSERVED DATE	17	6			YYMMDD (UTC)
OBSERVED TIME	23	4			HHMM (UTC)
FREQUENCY	27	4			XXXX - Hz to thousandths
RESOLUTION	31	5			XXXXX - Hz to ten-thousandths
ANGULAR FOURIER COEFF (a ₀)	36	6			XXXXXX - m ² /Hz
EXPONENT	42	2			XX
ANGULAR FOURIER COEFF (a ₁)	44	6			XXXXXX - m ² /Hz
EXPONENT	50	2			XX
ANGULAR FOURIER COEFF (b ₁)	52	6			XXXXXX - m ² /Hz
EXPONENT	58	2			XX
ANGULAR FOURIER COEFF (a ₂)	60	6			XXXXXX - m ² /Hz
EXPONENT	66	2			XX
ANGULAR FOURIER COEFF (b ₂)	68	6			XXXXXX - m ² /Hz
EXPONENT	74	2			XX
ANGULAR FOURIER COEFF (a ₃)	76	6			XXXXXX - m ² /Hz
EXPONENT	82	2			XX
ANGULAR FOURIER COEFF (b ₃)	84	6			XXXXXX - m ² /Hz
EXPONENT	90	2			XX
ANGULAR FOURIER COEFF (a ₄)	92	6			XXXXXX - m ² /Hz
EXPONENT	98	2			XX
ANGULAR FOURIER COEFF (b ₄)	100	6			XXXXXX - m ² /Hz
EXPONENT	106	2			XX

RECORD FORMAT DESCRIPTION

RECORD NAME Meteorology Oceanography & Wave Spectra (File Type "291")

14. FIELD NAME	15. POSITION FROM -1 MEASURED IN <small>(e.g., bits, bytes)</small>	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
DIRECTIONAL WAVE FOURIER COEFFICIENT DATA RECORD (RECORD H) (Continued)					
MEAN WAVE DIRECTION	108	3			XXX - ARCTAN b_1/a_1 in whole degrees from true North
BLANKS	111	10			
DIRECTIONAL WAVE PARAMETER DATA RECORD (RECORD I)					
FILE TYPE	1	3			Always "291"
FILE DATE	4	6			YYMMDD of file generation
RECORD TYPE	10	1			Always 'I'
STATION	11	6			Six characters unique name of observation point
OBSERVED DATE	17	6			YYMMDD (UTC)
OBSERVED TIME	23	4			HHMM (UTC)
COUNT	27	1			X - Number of frequencies on this record (1 to 3)
FREQUENCY	28	4			XXXX - Center of frequency interval in Hz to the ten-thousandth
RESOLUTION	32	4			XXXX - Resolution of interval in Hz to the ten-thousandth
R1	36	4			XXXX - Nondimensional. Given to nearest hundredth.
R2	40	4			XXXX - Nondimensional. Given to nearest hundredth.
WAVE DIRECTION - ALPHA1	44	4			XXXX - Direction in degrees to the tenth.
WAVE DIRECTION - ALPHA2	48	4			XXXX - Direction in degrees to the tenth.
WAVE ESTIMATE C11	52	6			XXXXXX - Spectral value in m^2/Hz to the thousandth
FREQUENCY	58	4			XXXX - Center of frequency interval in Hz to the ten-thousandth
RESOLUTION	62	4			XXXX - Resolution of interval in Hz to the ten-thousandth
R1	66	4			XXXX - Nondimensional. Given to nearest hundredth.
R2	70	4			XXXX - Nondimensional. Given to nearest hundredth.
WAVE DIRECTION - ALPHA1	74	4			XXXX - Direction in degrees to the tenth.
WAVE DIRECTION - ALPHA2	78	4			XXXX - Direction in degrees to the tenth.
WAVE C11 ESTIMATE	82	6			XXXXXX - Spectral value in m^2/Hz to the thousandth
FREQUENCY	88	4			XXXX - Center of frequency interval in Hz to the ten-thousandth

RECORD FORMAT DESCRIPTION

RECORD NAME Meteorology Oceanography & Wave Spectra (File Type "291")

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN <small>(e.g., bits, bytes)</small>	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
DIRECTIONAL WAVE PARAMETER DATA RECORDS (RECORD I) (Continued)					
RESOLUTION	92	4			XXXX - Resolution of interval in Hz to the ten-thousandth
R1	96	4			XXXX - Nondimensional. Given to nearest hundredth.
R2	100	4			XXXX - Nondimensional. Given to nearest hundredth.
WAVE DIRECTION - ALPHA1	104	4			XXXX - Direction in degrees to the tenth.
WAVE DIRECTION - ALPHA2	108	4			XXXX - Direction in degrees to the tenth.
WAVE C11 ESTIMATE	112	6			XXXXXX - Spectral value in m ² /Hz to the thousandth
BLANKS	118	3			
<p>NOTE: DIRECTIONAL WAVE SPECTRUM = C11(f)*D(f,A), f=frequency (Hz), A=Azimuth angle measured clockwise from North to the direction wave is from. $D(f,A) = (1/\pi) * (0.5 + R1 * \cos(A - \text{ALPHA1}) + R2 * \cos(2 * (A - \text{ALPHA2})))$, in which R1 and R2 are dimensionless and ALPHA1 and ALPHA2 are respectively mean and principal wave directions. In terms of Longuet-Higgins Fourier Coefficients $R1 = (\text{SORT}(a_1 * a_1 + b_1 * b_1)) / a_0$, $R2 = (\text{SORT}(a_2 * a_2 + b_2 * b_2)) / a_0$, $\text{ALPHA1} = \text{ARCTAN}(b_1, a_1)$, $\text{ALPHA2} = 0.5 * \text{ARCTAN}(b_2, a_2) + 0$, or 180., C11(f) is the nondirectional wave spectra data from RECORD C.</p>					
CONTINUOUS WIND MEASUREMENT DATA RECORD (RECORD J)					
FILE TYPE	1	3			Always "291"
FILE DATE	4	6			YYMMDD of file generation
RECORD TYPE	10	1			Always 'J'
STATION	11	6			Six characters unique name of observation point
REPORT DATE	17	6			YYMMDD (UTC)
REPORT TIME	23	4			HHMM (UTC)
SPEED AVERAGING METHOD	27	1			X - 1=VECTOR, 2=SCALER
STANDARD DEVIATION OF HOURLY SPEED	28	3			XXX - m/sec to tenths
STANDARD DEVIATION OF HOURLY DIRECTION	31	4			XXXX - Whole degrees
HOURLY PEAK WIND	35	3			XXX - m/sec to tenths (highest 5 sec wind)
DIRECTION OF HOURLY PEAK	38	3			XXX - Whole degrees
MINUTE OF HOURLY PEAK	41	2			XX - Minutes
END OF ACQUISITION TIME	43	4			XXXX - HHMM (UTC)
FIRST AVERAGE DIRECTION	47	3			XXX - Whole degrees

RECORD FORMAT DESCRIPTION

RECORD NAME Meteorology Oceanography & Wave Spectra (File Type "291")

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN <small>(e.g., bits, bytes)</small>	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
CONTINUOUS WIND MEASUREMENT (RECORD J) (Continued)					
FIRST AVERAGE SPEED	50	3			XXX - m/sec to tenths
SECOND AVERAGE DIRECTION	53	3			XXX - Whole degrees
SECOND AVERAGE SPEED	56	3			XXX - m/sec to tenths
THIRD AVERAGE DIRECTION	59	3			XXX - Whole degrees
THIRD AVERAGE SPEED	62	3			XXX - m/sec to tenths
FOURTH AVERAGE DIRECTION	65	3			XXX - Whole degrees
FOURTH AVERAGE SPEED	68	3			XXX - m/sec to tenths
FIFTH AVERAGE DIRECTION	71	3			XXX - Whole degrees
FIFTH AVERAGE SPEED	74	3			XXX - m/sec to tenths
SIXTH AVERAGE DIRECTION	77	3			XXX - Whole degrees
SIXTH AVERAGE SPEED	80	3			XXX - m/sec to tenths
BLANKS	83	38			
<p>Ten minute average winds are measured for minutes 0-9, 10-19, 20-29, 30-39, 40-49, and 50-59. The first set is for the ten minute time period ending immediately before the end of acquisition time. The remaining sets go back in time. For example, if the end of acquisition time is 1025, then the first average is 1010 to 1019, the second, 1000 to 1009, etc. If the end of acquisition time is 1030, then the first period will be 1020 to 1029.</p>					

MAY 1991 TAPE 1 (9 TRACK 6250 BPI)

32302 05/01/91/00 05/31/91/23
41001 05/01/91/00 05/31/91/23
41002 05/01/91/00 05/31/91/23
41008 05/01/91/00 05/31/91/23

41009 05/01/91/00 05/22/91/21
41010 05/01/91/00 05/31/91/23
42001 05/01/91/00 05/31/91/23
42002 05/01/91/00 05/31/91/23
42003 05/01/91/00 05/31/91/23

42007 05/01/91/00 05/31/91/23
42019 05/01/91/00 05/31/91/23
42020 05/01/91/00 05/31/91/23
44004 05/01/91/00 05/09/91/12
44005 05/01/91/00 05/31/91/23

44007 05/01/91/00 05/31/91/23
44008 05/01/91/00 05/31/91/23
44009 05/01/91/00 05/31/91/23
44011 05/01/91/00 05/31/91/23
44012 05/01/91/00 05/31/91/23

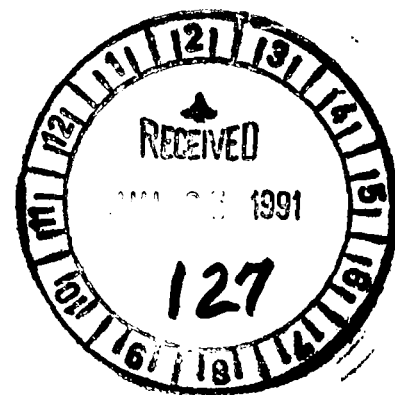
44013 05/01/91/00 05/31/91/23
44014 05/01/91/00 05/31/91/23
44025 05/01/91/00 05/31/91/23
45001 05/03/91/20 05/31/91/23
45002 05/01/91/00 05/31/91/23

45003 05/01/91/00 05/31/91/23
45004 05/01/91/00 05/31/91/23
45005 05/01/91/00 05/31/91/23
45006 05/01/91/00 05/31/91/23
45007 05/01/91/00 05/31/91/23
45008 05/01/91/00 05/31/91/23

46001 05/01/91/00 05/31/91/23
46002 05/01/91/00 05/31/91/23
46003 05/01/91/00 05/31/91/23
46005 05/01/91/00 05/31/91/23

46011 05/01/91/00 05/31/91/23
46013 05/01/91/00 05/31/91/23
46014 05/01/91/00 05/31/91/23
46022 05/01/91/00 05/31/91/23
46023 05/01/91/00 05/31/91/23

46025 05/01/91/00 05/31/91/23
46026 05/01/91/00 05/31/91/23
46027 05/01/91/00 05/31/91/23
46028 05/01/91/00 05/31/91/23



46030 05/01/91/00 05/31/91/23
46035 05/01/91/00 05/12/91/09

46040 05/01/91/00 05/31/91/23
46041 05/01/91/00 05/31/91/23
46042 05/01/91/00 05/31/91/23
46045 05/01/91/00 05/31/91/23
51001 05/01/91/00 05/31/91/23

51002 05/01/91/00 05/31/91/23
51003 05/01/91/00 05/31/91/23
51004 05/01/91/00 05/20/91/05
ALSN6 05/01/91/00 05/31/91/23
BURL1 05/01/91/00 05/31/91/23

BUZM3 05/01/91/00 05/31/91/23
CAR03 05/01/91/00 05/31/91/23
CHLV2 05/01/91/00 05/31/91/23
CLKN7 05/01/91/00 05/31/91/23
CSBF1 05/01/91/00 05/31/91/23
DBLN6 05/01/91/00 05/31/91/23

DESW1 05/01/91/00 05/31/91/23
DISW3 05/01/91/00 05/31/91/23
DPIA1 05/01/91/00 05/31/91/23
DSLN7 05/01/91/00 05/31/91/23
FBIS1 05/01/91/00 05/31/91/23

FFIA2 05/01/91/00 05/31/91/23
FPSN7 05/01/91/00 05/31/91/23
GBCL1 05/01/91/00 05/31/91/23
GDIL1 05/01/91/00 05/31/91/23
GLLN6 05/01/91/00 05/31/91/23

IOSN3 05/01/91/00 05/31/91/23
LKWF1 05/01/91/00 05/31/91/23
MDRM1 05/01/91/00 05/31/91/23
MISM1 05/01/91/00 05/31/91/23
MLRF1 05/01/91/00 05/31/91/23

MPCL1 05/01/91/00 05/31/91/23
NWPO3 05/01/91/00 05/31/91/23
PILM4 05/01/91/00 05/31/91/23
PTAC1 05/01/91/00 05/31/91/23
PTAT2 05/01/91/00 05/31/91/23

PTGC1 05/01/91/00 05/31/91/23
ROAM4 05/01/91/00 05/31/91/23
SANF1 05/01/91/00 05/31/91/23
SAUF1 05/01/91/00 05/31/91/23
SBI01 05/01/91/00 05/31/91/23

SGNW3 05/01/91/00 05/31/91/23
SISW1 05/01/91/00 05/31/91/23

SMKF1 05/01/91/00 05/31/91/23
SPGF1 05/01/91/00 05/31/91/23
SRST2 05/01/91/00 05/31/91/23

STDM4 05/01/91/00 05/31/91/23
SVLS1 05/01/91/00 05/16/91/23
TPLM2 05/01/91/00 05/31/91/23
TTIW1 05/01/91/00 05/31/91/23
VENF1 05/01/91/00 05/31/91/23

WPOW1 05/01/91/00 05/31/91/23
91222 05/01/91/00 05/31/91/23
91251 05/01/91/00 05/31/91/23
91365 05/01/91/00 05/31/91/23
91377 05/01/91/00 05/31/91/23

Attachment

32302 05019100-05319123
41001 05019100-05319123
41002 05019100-05319123
41008 05019100-05319123
41009 05019100-05229121
41010 05019100-05319123
42001 05019100-05319123
42002 05019100-05319123
42003 05019100-05319123
42007 05019100-05319123
42019 05019100-05319123
42020 05019100-05319123
44004 05019100-05099112
44005 05019100-05319123
44007 05019100-05319123
44008 05019100-05319123
44009 05019100-05319123
44011 05019100-05319123
44012 05019100-05319123
44013 05019100-05319123
44014 05019100-05319123
44025 05019100-05319123
45001 05039120-05319123
45002 05019100-05319123
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45005 05019100-05319123
45006 05019100-05319123
45007 05019100-05319123
45008 05019100-05319123
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46035 05019100-05129109
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46042 05019100-05319123
46045 05019100-05319123

9100114

50

51001 05019100-05319123
51002 05019100-05319123
51003 05019100-05319123
51004 05019100-05209105
ALSN6 05019100-05319123
BURL1 05019100-05319123
BUZM3 05019100-05319123
CARO3 05019100-05319123
CHLV2 05019100-05319123
CLKN7 05019100-05319123
CSBF1 05019100-05319123
DBLN6 05019100-05319123
DESW1 05019100-05319123
DISW3 05019100-05319123
DPIA1 05019100-05319123
DSLN7 05019100-05319123
FBIS1 05019100-05319123
FFIA2 05019100-05319123
FPSN7 05019100-05319123
GBCL1 05019100-05319123
GDIL1 05019100-05319123
GLLN6 05019100-05319123
IOSN3 05019100-05319123
LKWF1 05019100-05319123
MDRM1 05019100-05319123
MISM1 05019100-05319123
MLRF1 05019100-05319123
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PILM4 05019100-05319123
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PTAT2 05019100-05319123
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ROAM4 05019100-05319123
SANF1 05019100-05319123
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9100114	F291	BS0415	317F	1	14826	91/05/01	91/05/31
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