# ODP
# Processing Notes:
## Image Data

OCEAN DRILLING PROGRAM



3/2004

# Processing Notes: Image Data

**First leg logged: Leg 126**
**Last leg logged: Leg 209**

## Tools Used

Three wireline tools were used to collect image data in the Ocean Drilling Program: Azimuthal Resistivity Imager (ARI), Formation MicroScanner (FMS), Ultrasonic Borehole Imager (UBI), and Resistivity-at-the-Bit Tool (RAB). The Summary Table shows which tool was run at each hole.

## Data Processing History

Legs processed on the Vax (Logos): Legs 133-186
Legs processed on Unix (GeoFrame): Legs 188-209 plus selected earlier legs (i.e. Legs 126 through 130, Leg 140, and selected holes from Leg 133).

a) GIF Files

In November 2000, processed FMS images from Leg 126 to Leg 190 became available online as 20m and 100m intervals. Up until Leg 175, FMS images were available in Bitmap format. In 1998, it was decided to provide processed FMS images as GIF files, as this format would make them easily viewable on any Internet browser. All images prior to Leg 176 were therefore converted into GIF format. The project was completed in the spring of 1999.

For all the data previously processed on the Vax system using LOGOS software the conversion to GIF format from LIS format (samdi files) was performed using a program called "fmax." For all the data processed on Unix using GeoFrame software, the conversion to GIF format was performed with a program called fmaxgif2.0.

In December 2000, there were 18 holes not available in GIF format due to the lack of LIS format (samdi) files:

Leg 127: Holes 794B, 796B, and 797C. No notes available. Should be re-processed.
Leg 128: Holes 794D, 799A, 798B, and 799B. No notes available. Should be re-processed.
Leg 129: Holes 800A and 802A. No notes available. Should be re-processed.
Leg 130: Hole 803D, 807C. Unix files available.
Leg 134: Hole 831B. See below.
Leg 135: Holes 834B, 839B, and 841C. See below.
Leg 140: Hole 504B. See below.

Leg 141: Holes 859B and 863B. Very poor data quality. Processing cannot be performed.

In January 2001, C. Broglia was able to create GIF files for the following holes by first re-running GEOLIS to create samdi files:

Leg 134: Hole 831B
Leg 135: Holes 834B, 839B, 841C

In January 2001, Hole 504B, Leg 140 was re-processed by C. Philippot at LDEO.
This left the 11 holes to be re-processed:

Leg 127: Holes 794B, 796B, and 797C.
Leg 128: Holes 794D, 799A, 798B, and 799B.
Leg 129: Holes 800A and 802A.
Leg 130: Hole 803D and 807C.

All the above holes were re-processed in June-July, 2003 by T. Williams.

In addition, the FMS data from Leg 126 and Leg 133 (Holes 816C and 817D) had not been properly depth-matched to the reference run. These holes were re-processed in the summer of 2003 by T. Williams (see section e).

b) Vax to Unix files (.sun files)

These files have been created on the Vax for easy transfer to Unix machines. They are currently stored in the directory */data/web_brg0/WWW_BRG/online2/fms_sunfiles*, along with .log files (processing documentation) corresponding to the different processing steps. Starting with Leg 151, the creation of .sun files was part of the processing routine and therefore they were included in the VMS backup. Before Leg 151, the .sun files had to be created from the appropriate files ("ecx, cali, and incf" files). "Ecx" files, however, were included in the VMS backup only for the following legs:

Leg 144: Holes 873A, 874B, 801C, and 878A
Leg 145: Holes 883F, 884E, and 887D
Leg 146: Holes 889A and 889B
Leg 149: Hole 900A
Leg 150: Holes 902A, 904A, and 906A

For the following leg, the .sun files were created from the "ecs" files by the LDEO-BRG processor:

Leg 126: Holes 792E and 793B

For the remaining legs, the .sun files were created from the "sce" files, which correspond to the "static processing" files used as input in Geolis (Geolis is the program used to create LIS format files on the Vax). The files were renamed "ecx".

Leg 130: Hole 807C
Leg 133: Hole 814A, 816B, 820B, 821A, 822A, and 823C
Leg 134: Hole 829A, 831B, 832B, and 833B
Leg 135: Hole 834B, 838B, 839B, 840B, and 841C
Leg 136: Hole 843B
Leg 138: Holes 844B, 845A, 846B,
Leg 139: Holes 856H, 857D, 858F
Leg 143: Holes 865A, 866A, 867B, and 869B
Leg 146: Hole 892C
Leg 148: Holes 896A and 504B

No conversion was performed for the following 14 holes:

Leg 127: Holes 794B, 796B, and 797C. No notes are available about the processing.
Leg 128: Holes 798B, 794D, 799A, and 799B. The original 9-track tapes could not be completely loaded. Also, no notes are available about the processing.
Leg 129: Holes 800A and 802A. No notes are available about the processing.
Leg 129: Hole 801B.
Leg 133: Holes 812B and 817D. Offset of up to 5 m between passes (Hole 812B). No depth matching applied except block shift in Hole 817D.
Leg 146: Hole 891C. Lack of backup of final processing.
Leg 147: Hole 894G. Very bad quality data made it impossible to correlate the two passes to assess any depth offset.

The depth unit system of all sun files is English (ft below sea floor).

**Important note:** The holes or FMS passes that needed re-processing due to depth offset (see sections c and d) do not have .Unix files, as the re-processing was performed using GeoFrame. Also, whenever it became clear that a hole needed re-processing, the GeoFrame-processed data completely replaced any previous version, and any existing Unix file was deleted (see section e).

c) Depth-offset

In 1999, it was noted that even after depth shifting to a reference run some of the FMS passes showed varying offset amounts when compared with other FMS passes or with the standard logs. The LMF group in France undertook the task of checking all of the FMS images from Leg 151 to Leg 186. The checking was performed by comparing the images with the FMS calipers and GR or P1AZ channels.

The amount of offset ranged from < 1m to about 19m. It was decided to re-process all of the holes that displayed an offset > 3m. The re-processing was performed on Unix using GeoFrame software.

The following holes were re-processed (the amount of offset is shown in brackets):

Leg 154, Hole 925A (>6m)
Leg 155, Hole 935A, upper repeat (6m throughout the hole)
Leg 171B, 1050C, repeat pass (4m at top)
Leg 171B, 1051A, main and repeat passes (1-7m, 3-4m)
Leg 171B, 1052E, main and repeat passes (5-10m at top, 2-6m)
Leg 172, Hole 1063A, passes 1 and 2 (0-10 m)
Leg 176, Hole 735B, passes 1 and 2 (7m, 3m)
Leg 178, Hole 1103A, passes 1 and 2 (10m throughout the hole)
Leg 179, Hole 1105A, passes 1 and 2 (2-3m, 3-4m)
Leg 180, Hole 1118A, main pass (9m at top of hole)
Leg 182, Hole 1128D, main pass (5m at 250 mbsf)
Leg 183, Hole 1140A, passes 1 and 2 (>4m)
Leg 184, Hole 1143A (19 m in the middle of the interval)
Leg 185, Hole 801C, pass 2 (4-7m)
Leg 186, Hole 1150B, upper section (6m at bottom of hole)
Leg 186, Hole 1151D, pass 1 (4m around 410-420 mbsf).

All the holes before Leg 151 were not checked in France as these data had not been processed by the LMF group. The holes from Leg 134 through Leg 150 were checked only for major offsets between runs, simply looking at the available GIF images. The great majority of the holes from Leg 134 to Leg 150 did not display any offset >3 m. In fact, most of the offset was less than 1 m. Legs 126 through part of Leg 133 (Holes 816C and 817D) were re-processed in 2003 (see section e).

d) Re-processing of selected holes (depth-offset problem, see section c)

In the spring of 2002 it was noted that in most of the holes reprocessed at LMF (see previous section) the amount of differential depth shift had not been applied correctly. The problem has been fixed by Trevor Williams for the following holes:

Leg 154, Hole 925A
Leg 155, Hole 935A, upper repeat
Leg 171B, 1051A, main and repeat passes
Leg 171B, 1052E, main and repeat passes
Leg 172, Hole 1063A, passes 1 and 2
Leg 176, Hole 735B, passes 1 and 2
Leg 178, Hole 1103A, passes 1 and 2
Leg 184, Hole 1143A
Leg 185, Hole 801C, pass 2
Leg 186, Hole 1150B, upper section
Leg 186, Hole 1151D, pass 1
Leg 188, Hole 1166A, passes 1 and 2
Leg 189, Hole 1170D, passes 1, 2, and 4.

The revision was completed in November 2002.

e) Depth-matching to a reference run

All FMS data are routinely depth-matched to a reference run, which might be one of the FMS passes or a different tool string. This procedure has been used starting with Leg 134. Documentation of the depth shifts applied was included either in the standard data processing or FMS processing notes.

In the summer of 2003, the following early legs were re-processed (see section a) because no depth-match or an incorrect depth-match had been originally applied:

Leg 126, Hole 792E, and 793B
Leg 127, Holes 794B, 796B, and 797C
Leg 128, Holes 794D, 798B, 799A, and 799B
Leg 129, Holes 800A and 802A
Leg 130, Holes 803D and 807C.

During the processing of Leg 133 data, no differential depth shifts were applied. An average of the differential depth shifts applied during the processing of conventional logs has been used to block-shift the FMS data. All of the data was checked by T. Williams in the summer of 2003:

Hole 812B shows a negative offset of 5 m in Pass 1, but could not be re-processed due to the lack of proprietary tape and Unix files.
Hole 816B and 817D were re-processed.

All other holes show a good match between runs and with the reference run.

## Data storage

The original image data in DLIS format data are saved on CD-ROM, along with other logging data recorded during each leg; they are also saved in the archive directory on the LDEO-BRG file server. Processed data are available through the online database, along with any related documentation. They are also saved on 4-mm DAT tapes.

The .sun files are available as Tar backups on 4-mm DAT tapes.

# IMAGE DATA SUMMARY TABLE

| Logging Date | LEG | HOLE | LOGOS Processing | GeoFrame Processing | Unix files | .gif | Tool Type | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1989 | 126 | 792E | | X | | X | FMS | Re-processed by T. Williams in 2003 |
| 1989 | 126 | 793B | | X | | X | FMS | Re-processed by T. Williams in 2003 |
| 1989 | 127 | 794B | | X | | X | FMS | Re-processed by T. Williams in 2003 |
| 1989 | 127 | 796B | | X | | X | FMS | Re-processed by T. Williams in 2003 |
| 1989 | 127 | 797C | | X | | X | FMS | Re-processed by T. Williams in 2003 |
| 1989 | 128 | 794D | | X | | X | FMS | Re-processed by T. Williams in 2003 |
| 1989 | 128 | 798B | | X | | X | FMS | Re-processed by T. Williams in 2003 |
| 1989 | 128 | 799A | | X | | X | FMS | Re-processed by T. Williams in 2003 |
| 1989 | 128 | 799B | | X | | X | FMS | Re-processed by T. Williams in 2003 |
| 1989 | 129 | 800A | | X | | X | FMS | Re-processed by T. Williams in 2003 |
| 1989 | 129 | 801B | X | | | X | FMS | |
| 1989 | 129 | 802A | | X | | X | FMS | Re-processed by T. Williams in 2003 |
| 1989 | 130 | 803D | | X | | X | FMS | Re-processed by T. Williams in 2003 |
| 1990 | 130 | 807C | | X | | X | FMS | Re-processed by T. Williams in 2003 |
| 1990 | 133 | 812B | X | | | X | FMS | |
| 1990 | 133 | 814A | X | | X | X | FMS | |
| 1990 | 133 | 816C | | X | | X | FMS | Re-processed by T. Williams in 2003 |
| 1990 | 133 | 817D | | X | | X | FMS | Re-processed by T. Williams in 2003 |
| 1990 | 133 | 820B | X | | X | X | FMS | |
| 1990 | 133 | 821A | X | | X | X | FMS | |
| 1990 | 133 | 822A | X | | X | X | FMS | |
| 1990 | 133 | 823C | X | | X | X | FMS | |
| 1990 | 134 | 829A | X | | X | X | FMS | |
| 1990 | 134 | 831B | X | | X | X | FMS | |
| 1990 | 134 | 832B | X | | X | X | FMS | |
| 1990 | 134 | 833B | X | | X | X | FMS | |
| 1990 | 135 | 834B | X | | X | X | FMS | |
| 1990 | 135 | 835B | X | | X | X | FMS | |
| 1991 | 135 | 838B | X | | X | X | FMS | |
| 1991 | 135 | 839B | X | | X | X | FMS | |
| 1991 | 135 | 840B | X | | X | X | FMS | |
| 1991 | 135 | 841C | X | | X | X | FMS | |
| 1991 | 136 | 843B | X | | X | X | FMS | |

| Logging Date | LEG | HOLE | LOGOS Processing | GeoFrame Processing | Unix files | .gif | Tool Type | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1991 | 138 | 844B | X | | X | X | FMS | |
| 1991 | 138 | 845A | X | | X | X | FMS | |
| 1991 | 138 | 846B | X | | X | X | FMS | |
| 1991 | 138 | 847B | X | | X | X | FMS | |
| 1991 | 138 | 849B | X | | X | X | FMS | |
| 1991 | 138 | 850B | X | | X | X | FMS | |
| 1991 | 138 | 851B | X | | X | X | FMS | |
| 1991 | 139 | 856H | X | | X | X | FMS | |
| 1991 | 139 | 857D | X | | X | X | FMS | |
| 1991 | 139 | 858F | X | | X | X | FMS | |
| 1991 | 140 | 504B | | X | | X | FMS | Re-processed by C. Philippot in 2001 |
| 1991 | 141 | 859B | | | | | | Poor quality data. No processing performed. |
| 1992 | 141 | 863B | | | | | | Poor quality data. No processing performed. |
| 1992 | 143 | 865A | X | | X | X | FMS | |
| 1992 | 143 | 866A | X | | X | X | FMS | |
| 1992 | 143 | 867B | X | | X | X | FMS | |
| 1992 | 143 | 869B | X | | X | X | FMS | |
| 1992 | 144 | 801C | X | | X | X | FMS | |
| 1992 | 144 | 871C | X | | X | X | FMS | |
| 1992 | 144 | 873A | X | | X | X | FMS | |
| 1992 | 144 | 874B | X | | X | X | FMS | |
| 1992 | 144 | 878A | X | | X | X | FMS | |
| 1992 | 144 | 879A | X | | X | X | FMS | |
| 1992 | 145 | 883F | X | | X | X | FMS | |
| 1992 | 145 | 884E | X | | X | X | FMS | |
| 1992 | 145 | 887D | X | | X | X | FMS | |
| 1992 | 146 | 889A | X | | X | X | FMS | |
| 1992 | 146 | 889B | X | | X | X | FMS | |
| 1992 | 146 | 891C | X | | | X | FMS | |
| 1992 | 146 | 892C | X | | X | X | FMS | |
| 1993 | 147 | 894G | X | | | X | FMS | |
| 1993 | 148 | 504B | X | | | X | FMS | |
| 1993 | 148 | 896A | X | | | X | FMS | |
| 1993 | 149 | 900A | X | | | X | FMS | |
| 1993 | 150 | 902D | X | | | X | FMS | |
| 1993 | 150 | 904A | X | | | X | FMS | |
| 1993 | 150 | 905A | X | | | X | FMS | |

| Logging Date | LEG | HOLE | LOGOS Processing | GeoFrame Processing | Unix files | .gif | Tool Type | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1993 | 150 | 906A | X | | | X | FMS | |
| 1993 | 151 | 907A | X | | | X | FMS | |
| 1993 | 151 | 908A | X | | | X | FMS | |
| 1993 | 151 | 909C | X | | | X | FMS | |
| 1993 | 151 | 911A | X | | | X | FMS | |
| 1993 | 152 | 917A | X | | | X | FMS | |
| 1994 | 154 | 925A | | X | | X | FMS | Re-processed by T. Williams in 2002 |
| 1994 | 154 | 925C | X | | X | X | FMS | |
| 1994 | 155 | 931B | X | | X | X | FMS | |
| 1994 | 155 | 933A | X | | X | X | FMS | |
| 1994 | 155 | 935A | X | X | X | X | FMS | UR Re-processed by T. Williams in 2002 |
| 1994 | 155 | 936A | X | | X | X | FMS | |
| 1994 | 155 | 940A | X | | X | X | FMS | |
| 1994 | 155 | 944A | X | | X | X | FMS | |
| 1994 | 155 | 946A | X | | X | X | FMS | |
| 1994 | 157 | 950A | X | | X | X | FMS | |
| 1994 | 157 | 955A | X | | X | X | FMS | |
| 1994 | 157 | 956B | X | | X | X | FMS | |
| 1995 | 159 | 959D | X | | X | X | FMS | |
| 1995 | 159 | 960C | X | | X | X | FMS | |
| 1995 | 159 | 962D | X | | X | X | FMS | |
| 1995 | 160 | 965A | X | | X | X | FMS | |
| 1995 | 160 | 966F | X | | X | X | FMS | |
| 1995 | 160 | 967E | X | | X | X | FMS | |
| 1995 | 160 | 968A | X | | X | X | FMS | |
| 1995 | 160 | 970A | X | | X | X | FMS | |
| 1995 | 160 | 971B | X | | X | X | FMS | |
| 1995 | 161 | 974C | X | | X | X | FMS | |
| 1995 | 161 | 975C | X | | X | X | FMS | |
| 1995 | 161 | 976B | X | | X | X | FMS | |
| 1995 | 161 | 977A | X | | X | X | FMS | |
| 1995 | 162 | 982B | X | | X | X | FMS | |
| 1995 | 162 | 984B | X | | X | X | FMS | |
| 1995 | 162 | 986C | X | | X | X | FMS | |
| 1995 | 162 | 987E | X | | X | X | FMS | |
| 1995 | 164 | 995B | X | | X | X | FMS | |
| 1995 | 164 | 997B | X | | X | X | FMS | |

| Logging Date | LEG | HOLE | LOGOS Processing | GeoFrame Processing | Unix files | .gif | Tool Type | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1996 | 165 | 1000B | X | | X | X | FMS | |
| 1996 | 165 | 1001A | X | | X | X | FMS | |
| 1996 | 165 | 998B | X | | X | X | FMS | |
| 1996 | 165 | 999B | X | | X | X | FMS | |
| 1996 | 166 | 1003D | X | | X | X | FMS | |
| 1996 | 166 | 1005C | X | | X | X | FMS | |
| 1996 | 166 | 1006A | X | | X | X | FMS | |
| 1996 | 167 | 1011B | X | | X | X | FMS | |
| 1996 | 167 | 1014A | X | | X | X | FMS | |
| 1996 | 167 | 1016A | X | | X | X | FMS | |
| 1996 | 167 | 1019C | X | | X | X | FMS | |
| 1996 | 167 | 1020B | X | | X | X | FMS | |
| 1996 | 167 | 1022C | X | | X | X | FMS | |
| 1996 | 168 | 1032A | X | | X | X | FMS | |
| 1996 | 169 | 856H | X | | X | X | FMS | |
| 1997 | 171B | 1050C | X | X | X | X | FMS | Repeat Re-processed by LMF in 2000 |
| 1997 | 171B | 1051A | | X | | X | FMS | Re-processed by T. Williams in 2002 |
| 1997 | 171B | 1052E | | X | | X | FMS | Re-processed by T. Williams in 2002 |
| 1997 | 172 | 1061A | X | | X | X | FMS | |
| 1997 | 172 | 1063A | | X | | X | FMS | Re-processed by T. Williams in 2002 |
| 1997 | 173 | 1065A | X | | X | X | FMS | |
| 1997 | 174A | 1072B | X | | X | X | FMS | |
| 1997 | 174B | 395A | X | | X | X | FMS | |
| 1997 | 175 | 1081A | X | | X | X | FMS | |
| 1997 | 175 | 1082A | X | | X | X | FMS | |
| 1997 | 175 | 1084A | X | | X | X | FMS | |
| 1997 | 175 | 1085A | X | | X | X | FMS | |
| 1997 | 176 | 735B | | X | | X | FMS | Re-processed by T. Williams in 2002 |
| 1998 | 178 | 1103A | | X | | X | FMS | Re-processed by T. Williams in 2002 |
| 1998 | 179 | 1105A | | X | | X | FMS | Re-processed by T. Williams in 2002 |
| 1998 | 180 | 1109D | X | | X | X | FMS | |
| 1998 | 180 | 1114A | X | | X | X | FMS | |
| 1998 | 180 | 1115C | X | | X | X | FMS | |
| 1998 | 180 | 1118A | X | X | | X | FMS | Main Re-processed by T. Williams in 2002 |
| 1998 | 181 | 1119C | X | | X | X | FMS | |
| 1998 | 181 | 1123B | X | | | X | FMS | |
| 1998 | 181 | 1124C | X | | X | X | FMS | |

| Logging Date | LEG | HOLE | LOGOS Processing | GeoFrame Processing | Unix files | .gif | Tool Type | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1998 | 182 | 1126D | X | | X | X | FMS | |
| 1998 | 182 | 1127B | X | | X | X | FMS | |
| 1998 | 182 | 1128D | X | X | X | X | FMS | Main Re-processed by LMF in 2000 |
| 1998 | 182 | 1129D | X | | X | X | FMS | |
| 1998 | 182 | 1130C | X | | X | X | FMS | |
| 1998 | 182 | 1131A | X | | X | X | FMS | |
| 1998 | 182 | 1132C | X | | X | X | FMS | |
| 1998 | 182 | 1134A | X | | X | X | FMS | |
| 1999 | 183 | 1137A | X | | X | X | FMS | |
| 1999 | 183 | 1140A | | X | | X | FMS | Re-processed by LMF in 2000 |
| 1999 | 184 | 1143A | | X | | X | FMS | Re-processed by T. Williams in 2002 |
| 1999 | 184 | 1144A | X | | X | X | FMS | |
| 1999 | 184 | 1146A | X | | X | X | FMS | |
| 1999 | 184 | 1148A | X | | X | X | FMS | |
| 1999 | 185 | 801C | X | X | X | X | FMS | P2 Re-processed by T. Williams in 2002 |
| 1999 | 185 | 1149B | X | | X | X | FMS | |
| 1999 | 186 | 1150B | X | X | X | X | FMS | U Re-processed by T. Williams in 2002 |
| 1999 | 186 | 1151D | X | X | X | X | FMS | P1 Re-processed by T. Williams in 2002 |
| 2000 | 188 | 1166A | | X | | X | FMS | Re-processed by T. Williams in 2002 |
| 2000 | 188 | 1166B | | X | | X | FMS | |
| 2000 | 189 | 1170D | | X | | X | FMS | P1-2-4 Re-processed by T. Williams in 2002 |
| 2000 | 190 | 1173A | | X | | X | FMS | |
| 2000 | 192 | 1186A | | X | | X | FMS | |
| 2000 | 193 | 1188B | | X | | X | RAB | |
| 2000 | 193 | 1188F | | X | | X | FMS | |
| 2000 | 193 | 1189B | | X | | X | FMS | |
| 2001 | 193 | 1189C | | X | | X | FMS/ RAB | |
| 2001 | 194 | 1194B | | X | | X | FMS | |
| 2001 | 194 | 1195B | | X | | X | FMS | |
| 2001 | 194 | 1199A | | X | | X | FMS | |
| 2001 | 195 | 1201D | | X | | X | FMS | |
| 2001 | 196 | 808I | | X | | X | RAB | |
| 2001 | 196 | 1173B | | X | | X | RAB | |
| 2001 | 196 | 1173C | | X | | X | RAB | |
| 2001 | 197 | 1203A | | X | | X | FMS | |
| 2001 | 198 | 1207B | | X | | X | FMS | |

| Logging Date | LEG | HOLE | LOGOS Processing | GeoFrame Processing | Unix files | .gif | Tool Type | Remarks |
|---|---|---|---|---|---|---|---|---|
| 2001 | 199 | 1218A | | X | | X | FMS | |
| 2001 | 199 | 1219A | | X | | X | FMS | |
| 2002 | 200 | 1224F | | X | | X | FMS | |
| 2002 | 201 | 1230A | | X | | X | FMS | |
| 2002 | 202 | 1238A | | X | | X | FMS | |
| 2002 | 202 | 1239A | | X | | X | FMS | |
| 2002 | 202 | 1241B | | X | | X | FMS | |
| 2002 | 203 | 1243B | | X | | X | FMS | |
| 2002 | 204 | 1244D | | X | | X | RAB | |
| 2002 | 204 | 1244E | | X | | X | FMS | |
| 2002 | 204 | 1245A | | X | | X | RAB | |
| 2002 | 204 | 1245E | | X | | X | FMS | |
| 2002 | 204 | 1246A | | X | | X | RAB | |
| 2002 | 204 | 1247A | | X | | X | RAB | |
| 2002 | 204 | 1247B | | X | | X | FMS | |
| 2002 | 204 | 1248A | | X | | X | RAB | |
| 2002 | 204 | 1249A | | X | | X | RAB | |
| 2002 | 204 | 1249B | | X | | X | FMS | |
| 2002 | 204 | 1250B | | X | | X | RAB | |
| 2002 | 204 | 1250F | | X | | X | FMS | |
| 2002 | 204 | 1251A | | X | | X | RAB | |
| 2002 | 204 | 1251H | | X | | X | FMS | |
| 2002 | 204 | 1252A | | X | | X | FMS | |
| 2002 | 205 | 1253A | | X | | X | FMS | |
| 2002 | 206 | 1256D | | X | | X | FMS/ UBI | |
| 2003 | 207 | 1257A | | X | | X | FMS | |
| 2003 | 207 | 1258C | | X | | X | FMS | |
| 2003 | 207 | 1260B | | X | | X | FMS | |
| 2003 | 207 | 1261B | | X | | X | FMS | |
| 2003 | 208 | 1263A | | X | | X | FMS | |
| 2003 | 208 | 1265A | | X | | X | FMS | |
| 2003 | 209 | 1272A | | X | | X | FMS | |
| 2003 | 209 | 1275D | | X | | X | FMS | |