[] Dendrochronology Program Library Run M2B1 Program COF 16:39 Tue 10 Jan 2012 Page 1

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[] P R O G R A M C O F E C H A Version 6.06P 28135

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QUALITY CONTROL AND DATING CHECK OF TREE-RING MEASUREMENTS

Title of run: MIC002\_BEAl\_Corr1-50

File of DATED series: MIC002\_BEAL\_Compact\_Corr1

CONTENTS:

Part 1: Title page, options selected, summary, absent rings by series

Part 2: Histogram of time spans

Part 3: Master series with sample depth and absent rings by year

Part 4: Bar plot of Master Dating Series

Part 5: Correlation by segment of each series with Master

Part 6: Potential problems: low correlation, divergent year-to-year changes, absent rings, outliers

Part 7: Descriptive statistics

RUN CONTROL OPTIONS SELECTED VALUE

1 Cubic smoothing spline 50% wavelength cutoff for filtering

32 years

2 Segments examined are 50 years lagged successively by 25 years

3 Autoregressive model applied A Residuals are used in master dating series and testing

4 Series transformed to logarithms Y Each series log-transformed for master dating series and testing

5 CORRELATION is Pearson (parametric, quantitative)

Critical correlation, 99% confidence level .3281

6 Master dating series saved N

7 Ring measurements listed Y

8 Parts printed 1234567

9 Absent rings are omitted from master series and segment correlations (Y)

Time span of Master dating series is 1940 to 2011 72 years

Continuous time span is 1940 to 2011 72 years

Portion with two or more series is 1950 to 2011 62 years

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*C\* Number of dated series 16 \*C\*

\*O\* Master series 1940 2011 72 yrs \*O\*

\*F\* Total rings in all series 855 \*F\*

\*E\* Total dated rings checked 845 \*E\*

\*C\* Series intercorrelation .394 \*C\*

\*H\* Average mean sensitivity .262 \*H\*

\*A\* Segments, possible problems 8 \*A\*

\*\*\* Mean length of series 53.4 \*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

ABSENT RINGS listed by SERIES: (See Master Dating Series for absent rings listed by year)

No ring measurements of zero value

PART 2: TIME PLOT OF TREE-RING SERIES: MIC002\_BEAl\_Corr1-50 16:39 Tue 10 Jan 2012 Page 2

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1050 1100 1150 1200 1250 1300 1350 1400 1450 1500 1550 1600 1650 1700 1750 1800 1850 1900 1950 2000 2050 Ident Seq Time-span Yrs

: : : : : : : : : : : : : : : : : : : : : -------- --- ---- ---- ----

. . . . . . . . . . . . . . . . . . <======> . 1a 1 1940 2011 72

. . . . . . . . . . . . . . . . . . <=====> . 1b 2 1950 2011 62

. . . . . . . . . . . . . . . . . . .<====> . 2a 3 1962 2011 50

. . . . . . . . . . . . . . . . . . <=====> . 2b 4 1956 2011 56

. . . . . . . . . . . . . . . . . . <=====> . 3a 5 1956 2011 56

. . . . . . . . . . . . . . . . . . <=====> . 3b 6 1955 2011 57

. . . . . . . . . . . . . . . . . . .<====> . 4a 7 1967 2011 45

. . . . . . . . . . . . . . . . . . <=====> . 4b 8 1953 2011 59

. . . . . . . . . . . . . . . . . . <=====> . 5a 9 1959 2011 53

. . . . . . . . . . . . . . . . . . <=====> . 5b 10 1959 2011 53

. . . . . . . . . . . . . . . . . . <=====> . 6a 11 1952 2011 60

. . . . . . . . . . . . . . . . . . .<====> . 6b 12 1963 2011 49

. . . . . . . . . . . . . . . . . . <=====> . 15a 13 1954 2011 58

. . . . . . . . . . . . . . . . . . .<====> . 15b 14 1967 2011 45

. . . . . . . . . . . . . . . . . . . <===> . 16a 15 1972 2011 40

. . . . . . . . . . . . . . . . . . . <===> . 16b 16 1972 2011 40

: : : : : : : : : : : : : : : : : : : : :

1050 1100 1150 1200 1250 1300 1350 1400 1450 1500 1550 1600 1650 1700 1750 1800 1850 1900 1950 2000 2050

1950 1.722 2 2000 -.848 16

1951 1.494 2 2001 -.283 16

1952 1.455 3 2002 .040 16

1953 -1.416 4 2003 .089 16

1954 1.368 5 2004 1.204 16

1955 .955 6 2005 .437 16

1956 .509 8 2006 -.391 16

1957 .094 8 2007 1.221 16

1958 -.631 8 2008 .861 16

1959 .360 10 2009 1.211 16

1960 -1.635 10 2010 -.351 16

1961 -1.163 10 2011 -2.287 16

1962 -1.904 11

1963 -1.129 12

1964 .546 12

1965 .836 12

1966 -.059 12

1967 1.145 14

1968 .909 14

1969 1.440 14

1970 1.455 14

1971 .651 14

1972 -.197 16

1973 .021 16

1974 -1.007 16

1975 -.722 16

1976 -1.464 16

1977 -.390 16

1978 .384 16

1979 -.228 16

1980 .546 16

1981 -.617 16

1982 1.376 16

1983 -.071 16

1984 .108 16

1985 .183 16

1986 -.753 16

1987 -1.100 16

1988 .142 16

1989 -.032 16

1940 1.398 1 1990 .340 16

1941 .231 1 1991 .142 16

1942 -1.815 1 1992 .150 16

1943 -1.678 1 1993 .704 16

1944 -2.057 1 1994 .737 16

1945 -1.598 1 1995 -.433 16

1946 -.405 1 1996 -.929 16

1947 1.052 1 1997 -.658 16

1948 -.594 1 1998 -.124 16

1949 1.726 1 1999 -.274 16

PART 5: CORRELATION OF SERIES BY SEGMENTS: MIC002\_BEAl\_Corr1-50 16:39 Tue 10 Jan 2012 Page 5

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Correlations of 50-year dated segments, lagged 25 years

Flags: A = correlation under .3281 but highest as dated; B = correlation higher at other than dated position

Seq Series Time\_span 1950 1975

1999 2024

--- -------- --------- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----

1 1a 1940 2011 .54 .56

2 1b 1950 2011 .51 .26B

3 2a 1962 2011 .29A

4 2b 1956 2011 .33A .30A

5 3a 1956 2011 .39 .39

6 3b 1955 2011 .62 .36

7 4a 1967 2011 .37

8 4b 1953 2011 .36 .56

9 5a 1959 2011 .55 .55

10 5b 1959 2011 .41 .46

11 6a 1952 2011 .27B .54

12 6b 1963 2011 .38

13 15a 1954 2011 .26B .42

14 15b 1967 2011 .40

15 16a 1972 2011 .18B

16 16b 1972 2011 .24A

Av segment correlation .38 .44

PART 6: POTENTIAL PROBLEMS: MIC002\_BEAl\_Corr1-50 16:39 Tue 10 Jan 2012 Page 5

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For each series with potential problems the following diagnostics may appear:

[A] Correlations with master dating series of flagged 50-year segments of series filtered with 32-year spline,

at every point from ten years earlier (-10) to ten years later (+10) than dated

[B] Effect of those data values which most lower or raise correlation with master series

Symbol following year indicates value in series is greater (>) or lesser (<) than master series value

[C] Year-to-year changes very different from the mean change in other series

[D] Absent rings (zero values)

[E] Values which are statistical outliers from mean for the year

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1a 1940 to 2011 72 years Series 1

[\*] Early part of series cannot be checked from 1940 to 1949 -- not matched by another series

[B] Entire series, effect on correlation ( .543) is:

Lower 1953> -.038 2006> -.032 1995> -.027 2003< -.019 2007< -.015 1979> -.013 Higher 2011 .082 1960 .030

1a Ring measurements

Annual values

Date 0 1 2 3 4 5 6 7 8 9

1940 56 50 13 21 15 34 97 221 109 337

1950 328 379 333 217 335 323 191 160 174 125

1960 46 91 80 112 203 300 262 309 223 356

1970 319 268 215 322 245 249 184 204 244 268

1980 217 161 281 188 214 180 121 111 111 87

1990 152 154 199 211 217 217 167 194 235 151

2000 99 180 153 100 145 138 194 148 144 200

2010 155 39

====================================================================================================================================

1b 1950 to 2011 62 years Series 2

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1962 2011 -2 .14 -.09 -.04 -.11 -.33 -.05 .09 -.31 .26\*-.06 .26| - - - - - - - - - -

[B] Entire series, effect on correlation ( .388) is:

Lower 1995> -.039 1973< -.029 2006> -.023 1979> -.021 2011> -.019 2000> -.018 Higher 1953 .032 1954 .025

1962 to 2011 segment:

Lower 1995> -.049 1973< -.033 2006> -.028 1979> -.025 2000> -.023 2011> -.018 Higher 1982 .035 1983 .025

1b Ring measurements

Annual values

Date 0 1 2 3 4 5 6 7 8 9

1950 393 349 309 217 384 294 274 220 149 178

1960 120 103 95 124 137 182 203 281 300 333

1970 265 260 169 75 68 184 120 161 191 265

1980 174 126 217 110 113 112 129 109 102 138

1990 146 113 146 189 239 243 140 144 218 139

2000 179 172 206 112 133 75 146 134 77 177

2010 61 61

====================================================================================================================================

2a 1962 to 2011 50 years Series 3

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1962 2011 0 -.01 -.15 -.17 -.39 .05 .10 .15 .09 .25 -.03 .29\* - - - - - - - - - -

[B] Entire series, effect on correlation ( .287) is:

Lower 2011> -.070 1989< -.033 1974> -.031 1983> -.030 1995> -.028 1977< -.018 Higher 1976 .025 1962 .024

1962 to 2011 segment:

Lower 2011> -.070 1989< -.033 1974> -.031 1983> -.030 1995> -.028 1977< -.018 Higher 1976 .025 1962 .024

2a Ring measurements

Annual values

Date 0 1 2 3 4 5 6 7 8 9

1962 336 380 475 418 310 445 361 392

1970 567 398 370 344 397 402 191 192 249 324

1980 320 202 279 307 297 233 221 205 219 124

1990 146 158 182 225 202 184 152 147 116 90

2000 67 91 135 127 103 62 25 79 54 90

2010 8 27

====================================================================================================================================

2b 1956 to 2011 56 years Series 4

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1956 2005 0 .05 -.05 -.16 -.18 .11 -.16 -.12 .01 .08 .03 .33\* .11 .17 .11 -.12 -.15 -.03 - - - -

1962 2011 0 .16 .05 -.18 -.30 .06 -.19 -.11 .13 -.06 -.04 .30\* - - - - - - - - - -

[B] Entire series, effect on correlation ( .284) is:

Lower 1989< -.047 2011> -.040 1959< -.037 2009< -.031 1974> -.021 1998< -.018 Higher 2007 .033 1960 .028

1956 to 2005 segment:

Lower 1989< -.056 1959< -.045 1974> -.031 1979> -.022 1998< -.021 1962> -.016 Higher 1964 .026 1960 .024

1962 to 2011 segment:

Lower 1989< -.052 2011> -.051 2009< -.036 1974> -.026 1998< -.019 1979> -.019 Higher 2007 .035 1964 .023

2b Ring measurements

Annual values

Date 0 1 2 3 4 5 6 7 8 9

1956 383 314 291 230

1960 246 211 237 307 551 521 270 223 436 437

1970 307 270 223 205 251 202 171 218 319 400

1980 419 276 261 236 249 198 158 205 344 212

1990 209 287 300 209 121 101 67 74 51 63

2000 79 112 107 94 121 117 68 98 115 57

2010 24 35

====================================================================================================================================

3a 1956 to 2011 56 years Series 5

[B] Entire series, effect on correlation ( .481) is:

Lower 2010> -.021 1995> -.020 2002< -.020 1973< -.020 2001< -.020 1990< -.016 Higher 1960 .084 2011 .083

3a Ring measurements

Annual values

Date 0 1 2 3 4 5 6 7 8 9

1956 321 322 247 306

1960 158 151 178 187 229 292 232 245 253 424

1970 303 321 281 187 195 189 163 173 211 197

1980 158 94 199 200 292 275 248 188 166 154

1990 118 97 133 190 253 237 151 191 391 316

2000 213 101 52 117 130 100 68 122 111 139

2010 132 62

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3b 1955 to 2011 57 years Series 6

[B] Entire series, effect on correlation ( .456) is:

Lower 2011> -.136 1976> -.031 1980< -.019 2009< -.017 2005< -.010 1989> -.009 Higher 1960 .089 2007 .026

[C] Year-to-year changes diverging by over 4.0 std deviations:

2010 2011 4.9 SD

3b Ring measurements

Annual values

Date 0 1 2 3 4 5 6 7 8 9

1955 347 336 353 295 310

1960 164 161 188 184 235 264 267 303 295 418

1970 382 250 241 233 139 111 174 164 125 84

1980 66 56 115 52 63 92 74 57 104 106

1990 96 98 102 90 119 79 54 54 59 46

2000 46 38 39 41 82 43 40 90 75 47

2010 11 45

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4a 1967 to 2011 45 years Series 7

[B] Entire series, effect on correlation ( .374) is:

Lower 1999> -.032 1996> -.028 1983> -.023 2006> -.023 1968< -.023 1979> -.020 Higher 2011 .263 1967 .030

4a Ring measurements

Annual values

Date 0 1 2 3 4 5 6 7 8 9

1967 434 359 334

1970 365 310 199 361 298 327 326 434 599 671

1980 670 479 478 493 530 434 296 212 256 230

1990 209 244 177 232 280 283 368 391 366 510

2000 369 374 367 453 437 517 496 438 326 342

2010 345 146

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4b 1953 to 2011 59 years Series 8

[B] Entire series, effect on correlation ( .422) is:

Lower 1953< -.052 1960> -.037 1956< -.022 1957> -.015 1998< -.014 1983> -.014 Higher 2004 .022 1982 .018

4b Ring measurements

Annual values

Date 0 1 2 3 4 5 6 7 8 9

1953 390 485 563 462 544 481 563

1960 507 464 405 361 539 463 399 408 487 525

1970 543 482 395 374 192 111 90 156 322 390

1980 522 448 603 551 546 435 407 449 594 490

1990 407 286 220 271 338 240 166 129 92 150

2000 146 140 128 127 190 175 81 105 84 87

2010 55 34

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5a 1959 to 2011 53 years Series 9

[B] Entire series, effect on correlation ( .597) is:

Lower 1992< -.036 1989> -.018 2010> -.016 1996< -.016 1963> -.016 1983> -.015 Higher 2011 .059 1960 .047

5a Ring measurements

Annual values

Date 0 1 2 3 4 5 6 7 8 9

1959 242

1960 148 220 170 280 242 299 234 438 294 295

1970 422 309 201 296 223 295 260 324 248 249

1980 425 319 474 338 396 347 194 225 360 373

1990 246 256 139 221 207 105 85 106 151 162

2000 163 134 176 232 204 121 127 173 162 195

2010 156 35

====================================================================================================================================

5b 1959 to 2011 53 years Series 10

[B] Entire series, effect on correlation ( .452) is:

Lower 1995< -.036 1968< -.035 1989> -.017 1972> -.017 1967< -.015 1969< -.014 Higher 2011 .036 1962 .022

5b Ring measurements

Annual values

Date 0 1 2 3 4 5 6 7 8 9

1959 305

1960 208 305 198 233 301 323 280 270 190 261

1970 459 469 486 489 309 256 226 381 451 340

1980 353 243 349 179 287 241 201 179 350 464

1990 391 321 308 275 331 137 153 318 442 285

2000 243 272 280 282 319 292 297 431 433 453

2010 303 80

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6a 1952 to 2011 60 years Series 11

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

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1952 2001 2 -.12 -.05 -.24 -.24 -.07 -.08 -.07 .17 .02 .10 .27| .01 .32\*-.04 .23 .01 -.18 -.23 -.16 -.19 -.02

[B] Entire series, effect on correlation ( .380) is:

Lower 1953> -.094 1960> -.023 1979< -.017 1981> -.015 2010> -.011 1966> -.011 Higher 2011 .070 1982 .023

1952 to 2001 segment:

Lower 1953> -.107 1960> -.020 1981> -.018 1979< -.015 1966> -.013 1984< -.012 Higher 1982 .036 1969 .026

[C] Year-to-year changes diverging by over 4.0 std deviations:

1953 1954 -4.1 SD

6a Ring measurements

Annual values

Date 0 1 2 3 4 5 6 7 8 9

1952 100 61 34 34 20 41 51 69

1960 101 132 93 124 211 248 277 283 313 345

1970 256 224 209 236 231 202 218 227 247 177

1980 210 269 339 226 158 253 212 131 272 280

1990 196 159 152 222 284 90 97 130 116 196

2000 190 132 152 137 200 182 51 183 195 105

2010 110 23

====================================================================================================================================

6b 1963 to 2011 49 years Series 12

[B] Entire series, effect on correlation ( .382) is:

Lower 1980< -.060 1984< -.048 1975> -.022 1989> -.022 1970< -.019 1996> -.013 Higher 2011 .140 1995 .027

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1984 -5.0 SD

6b Ring measurements

Annual values

Date 0 1 2 3 4 5 6 7 8 9

1963 104 184 190 209 341 316 357

1970 245 303 221 236 212 307 238 268 190 211

1980 126 153 179 98 68 196 193 219 250 326

1990 292 244 267 253 224 113 175 119 106 145

2000 177 248 326 223 320 304 129 270 265 266

2010 223 93

====================================================================================================================================

15a 1954 to 2011 58 years Series 13

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1954 2003 3 -.03 .21 -.14 -.09 -.36 -.07 -.01 -.15 .17 -.26 .26| .04 .10 .27\*-.08 .27 -.12 -.24 -.23 - -

[B] Entire series, effect on correlation ( .315) is:

Lower 1957< -.068 1969< -.043 1955< -.035 1960> -.031 2006> -.027 1995> -.019 Higher 2011 .058 1954 .033

1954 to 2003 segment:

Lower 1957< -.073 1969< -.051 1960> -.043 1955< -.041 1995> -.025 1976> -.018 Higher 1954 .046 1982 .043

15a Ring measurements

Annual values

Date 0 1 2 3 4 5 6 7 8 9

1954 301 209 218 146 162 264

1960 263 266 231 259 353 337 335 456 509 389

1970 364 321 382 391 262 330 371 530 516 430

1980 496 389 532 372 315 254 182 209 238 278

1990 323 278 308 338 305 286 245 185 170 199

2000 130 118 95 110 164 176 231 253 245 191

2010 173 90

====================================================================================================================================

15b 1967 to 2011 45 years Series 14

[B] Entire series, effect on correlation ( .403) is:

Lower 1995> -.087 1994< -.059 2006> -.041 1983> -.040 1993< -.037 2002< -.020 Higher 2011 .215 1982 .028

[C] Year-to-year changes diverging by over 4.0 std deviations:

1994 1995 4.6 SD

15b Ring measurements

Annual values

Date 0 1 2 3 4 5 6 7 8 9

1967 512 554 519

1970 595 509 366 302 240 303 233 256 541 447

1980 457 365 501 502 513 393 368 331 413 323

1990 361 341 310 280 251 391 352 284 333 273

2000 260 290 239 320 364 311 366 415 283 322

2010 296 123

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16a 1972 to 2011 40 years Series 15

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1972 2011 -5 -.18 -.15 .06 .01 -.24 .20\*-.09 .05 .09 -.16 .18| - - - - - - - - - -

[B] Entire series, effect on correlation ( .176) is:

Lower 1979< -.154 1994< -.031 1988< -.028 1981> -.025 1972> -.024 1985< -.008 Higher 2011 .075 1974 .028

1972 to 2011 segment:

Lower 1979< -.154 1994< -.031 1988< -.028 1981> -.025 1972> -.024 1985< -.008 Higher 2011 .075 1974 .028

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1979 -6.0 SD

16a Ring measurements

Annual values

Date 0 1 2 3 4 5 6 7 8 9

1972 316 288 216 271 252 335 291 105

1980 282 346 326 249 311 231 222 249 158 327

1990 514 637 581 613 325 265 316 244 337 322

2000 249 295 376 445 437 386 288 277 208 186

2010 144 91

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16b 1972 to 2011 40 years Series 16

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1972 2011 0 .02 -.07 -.21 -.10 -.35 .12 .06 .15 -.10 .11 .24\* - - - - - - - - - -

[B] Entire series, effect on correlation ( .243) is:

Lower 2011> -.057 1988< -.040 1974> -.038 1983> -.024 1978< -.018 1975< -.016 Higher 1982 .051 2004 .033

1972 to 2011 segment:

Lower 2011> -.057 1988< -.040 1974> -.038 1983> -.024 1978< -.018 1975< -.016 Higher 1982 .051 2004 .033

16b Ring measurements

Annual values

Date 0 1 2 3 4 5 6 7 8 9

1972 221 241 277 158 153 142 142 153

1980 324 305 411 380 314 389 317 313 236 282

1990 346 323 301 274 243 180 193 182 152 130

2000 104 147 227 151 202 147 69 109 209 228

2010 109 105

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PART 7: DESCRIPTIVE STATISTICS: MIC002\_BEAl\_Corr1-50 16:39 Tue 10 Jan 2012 Page 6

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Corr //-------- Unfiltered --------\\ //---- Filtered -----\\

No. No. No. with Mean Max Std Auto Mean Max Std Auto AR

Seq Series Interval Years Segmt Flags Master msmt msmt dev corr sens value dev corr ()

--- -------- --------- ----- ----- ----- ------ ----- ----- ----- ----- ----- ----- ----- ----- --

1 1a 1940 2011 72 2 0 .543 1.84 3.79 .897 .712 .329 2.62 .449 .044 1

2 1b 1950 2011 62 2 1 .388 1.77 3.93 .801 .688 .291 2.74 .647 -.075 1

3 2a 1962 2011 50 1 1 .287 2.28 5.67 1.342 .867 .295 2.66 .544 .039 1

4 2b 1956 2011 56 2 2 .284 2.19 5.51 1.228 .794 .258 2.67 .520 -.085 5

5 3a 1956 2011 56 2 0 .481 1.99 4.24 .821 .670 .265 2.82 .527 .058 1

6 3b 1955 2011 57 2 0 .456 1.44 4.18 1.065 .914 .271 2.64 .481 .018 1

7 4a 1967 2011 45 1 0 .374 3.72 6.71 1.221 .759 .182 2.51 .424 -.038 1

8 4b 1953 2011 59 2 0 .422 3.35 6.03 1.747 .897 .227 2.49 .411 -.007 1

9 5a 1959 2011 53 2 0 .597 2.40 4.74 .971 .588 .297 2.80 .684 .082 1

10 5b 1959 2011 53 2 0 .452 3.06 4.89 .952 .449 .264 2.41 .441 .046 3

11 6a 1952 2011 60 2 1 .380 1.74 3.45 .828 .717 .309 2.61 .476 -.052 2

12 6b 1963 2011 49 1 0 .382 2.19 3.57 .732 .508 .281 2.55 .661 -.029 1

13 15a 1954 2011 58 2 1 .315 2.84 5.32 1.119 .826 .186 2.64 .528 .028 1

14 15b 1967 2011 45 1 0 .403 3.62 5.95 1.035 .646 .191 2.59 .484 .022 1

15 16a 1972 2011 40 1 1 .176 3.08 6.37 1.216 .694 .259 2.35 .397 -.033 1

16 16b 1972 2011 40 1 1 .243 2.22 4.11 .893 .761 .234 2.64 .611 .038 1

--- -------- --------- ----- ----- ----- ------ ----- ----- ----- ----- ----- ----- ----- ----- --

Total or mean: 855 26 8 .394 2.43 6.71 1.051 .721 .262 2.82 .517 .003

- = [ COFECHA M2B1 COF ] = -