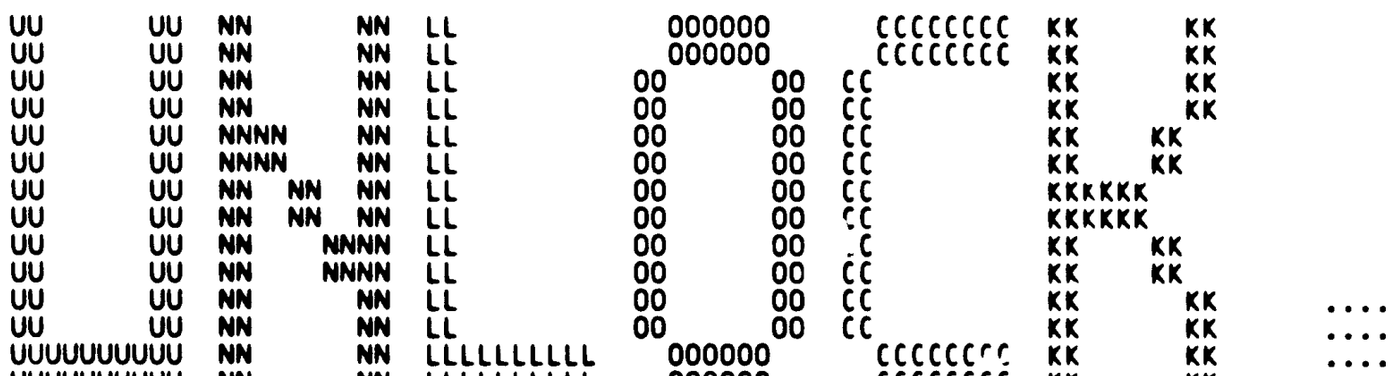
I 3

```
   CCCCCCCCCCCC  LLL                  IIIIIIIII     UUU         UUU  TTTTTTTTTTTTTTT  LLL
   CCCCCCCCCCCC  LLL                  IIIIIIIII     UUU         UUU  TTTTTTTTTTTTTTT  LLL
   CCCCCCCCCCCC  LLL                  IIIIIIIII     UUU         UUU  TTTTTTTTTTTTTTT  LLL
CCC              LLL                     III        UUU         UUU        TTT        LLL
CCC              LLL                     III        UUU         UUU        TTT        LLL
CCC              LLL                     III        UUU         UUU        TTT        LLL
CCC              LLL                     III        UUU         UUU        TTT        LLL
CCC              LLL                     III        UUU         UUU        TTT        LLL
CCC              LLL                     III        UUU         UUU        TTT        LLL
CCC              LLL                     III        UUU         UUU        TTT        LLL
CCC              LLL                     III        UUU         UUU        TTT        LLL
CCC              LLL                     III        UUU         UUU        TTT        LLL
CCC              LLL                     III        UUU         UUU        TTT        LLL
CCC              LLL                     III        UUU         UUU        TTT        LLL
CCC              LLL                     III        UUU         UUU        TTT        LLL
CCC              LLL                     III        UUU         UUU        TTT        LLL
CCC              LLL                     III        UUU         UUU        TTT        LLL
CCC              LLL                     III        UUU         UUU        TTT        LLL
   CCCCCCCCCCCC  LLLLLLLLLLLLLLL      IIIIIIIII     UUUUUUUUUUUUUUU        TTT        LLLLLLLLLLLLLLL
   CCCCCCCCCCCC  LLLLLLLLLLLLLLL      IIIIIIIII     UUUUUUUUUUUUUUU        TTT        LLLLLLLLLLLLLLL
   CCCCCCCCCCCC  LLLLLLLLLLLLLLL      IIIIIIIII     UUUUUUUUUUUUUUU        TTT        LLLLLLLLLLLLLLL
```

FILEID**UNLOCK



```
;     1          0001  0 MODULE unlock ( IDENT = 'V04-000',
;     2          0002  0                  ADDRESSING_MODE (EXTERNAL = GENERAL),
;     3          0003  0                  MAIN = unlock) =
;     4          0004  1 BEGIN
;     5          0005  1
;     6          0006  1 !
;     7          0007  1 !*****************************************************************************
;     8          0008  1 !*                                                                           *
;     9          0009  1 !*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                                  *
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;    26          0026  1 !*                                                                           *
;    27          0027  1 !*                                                                           *
;    28          0028  1 !*****************************************************************************
;    29          0029  1
;    30          0030  1 !++
;    31          0031  1 ! FACILITY:  UNLOCK Command
;    32          0032  1 !
;    33          0033  1 ! ABSTRACT:
;    34          0034  1 !
;    35          0035  1 !       This utility unlocks files and directories.
;    36          0036  1 !
;    37          0037  1 ! ENVIRONMENT:
;    38          0038  1 !
;    39          0039  1 !       VAX/VMS operating system. unprivileged user mode,
;    40          0040  1 !
;    41          0041  1 ! AUTHOR:  Greg Robert, Nov 1979
;    42          0042  1 !
;    43          0043  1 !
;    44          0044  1 ! Modified by:
;    45          0045  1 !
;    46          0046  1 !       V03-002 AEW0002         Anne E. Warner          28-Feb-1984
;    47          0047  1 !               Add support for search lists.
;    48          0048  1 !               -  remove Related File Name field from RMS definitions.
;    49          0049  1 !               -  add argument to LIB$FILE_SCAN
;    50          0050  1 !
;    51          0051  1 !       V03-001 AEW0001         Anne E. Warner          11-Oct-1983
;    52          0052  1 !               Intergrate Command Language Interface (CLI) in program.
;    53          0053  1 !
;    54          0054  1 !       V02-005 MLJ0066         Martin L. Jack, 29-Dec-1981  12:56
;    55          0055  1 !               Integrate new LIB$UNLOCK_FILE (formerly LIB$UNLOCK).
;    56          0056  1 !
;    57          0057  1 !       V204    GRR2004         G. R. Robert            17-Nov-1981
```

```
;    58          0058  1 !                Fixed messages to display full filespecs with passwords
;    59          0059  1 !                suppressed on errors and logging.
;    60          0060  1 !
;    61          0061  1 !        V203    GRR2003         G. R. Robert            16-Nov-1981
;    62          0062  1 !                Made all external references addressing mode general.
;    63          0063  1 !
;    64          0064  1 !        V202    GRR2002         G. R. Robert            14-Sep-1981
;    65          0065  1 !                Fixed improper descriptor initialization in confirm_action
;    66          0066  1 !                by making them OWN instead of LOCAL.
;    67          0067  1 !
;    68          0068  1 !        V201    GRR2001         G. R. Robert            12-JUN-1981
;    69          0069  1 !                Made UNLOCKDEF.REQ a permanent part of this file
;    70          0070  1 !                to clean up the master disk.
;    71          0071  1 !
;    72          0072  1 !--
;    73          0073  1
;    74          0074  1 !
;    75          0075  1 ! Include files
;    76          0076  1 !
;    77          0077  1
;    78          0078  1 LIBRARY 'SYS$LIBRARY:STARLET.L32';      ! VAX/VMS common definitions
;    79          0079  1
;    80          0080  1 LIBRARY 'SYS$LIBRARY:CLIMAC.L32';       ! CLI macros
```

```
;    82          0081  1 !
;    83          0082  1 ! Common definitions for the UNLOCK command
;    84          0083  1 !
;    85          0084  1
;    86          0085  1 !
;    87          0086  1 !       DEFINE VMS BLOCK STRUCTURES
;    88          0087  1 !
;    89          0088  1
;    90          0089  1 STRUCTURE
;    91          0090  1         BBLOCK [O, P, S, E; N] =
;    92          0091  1                 [N]
;    93          0092  1                 (BBLOCK+O)<P,S,E>;
;    94          0093  1
;    95          0094  1 MACRO
;    96          0095  1 !
;    97          0096  1 ! A) Macro to describe a string
;    98          0097  1 ! B) Macro to generate a quadword string descriptor
;    99          0098  1 ! C) Macro to generate the address of a string descriptor
;   100          0099  1
;   101          0100  1     PRIMDESC (str) = %CHARCOUNT (str), UPLIT (%ASCII str)%,
;   102          0101  1     INITDESC (str) = BBLOCK [DSC$C_S_BLN] INITIAL (PRIMDESC (str))%,
;   103          0102  1     ADDRDESC (str) = UPLIT (PRIMDESC (str))%,
;   104          0103  1
;   105          0104  1 !
;   106          0105  1 !       Macro to signal a condition to the handler
;   107          0106  1 !
;   108          0107  1
;   109        M 0108  1     write_message(msg) =
;   110        M 0109  1         SIGNAL(msg                          ! Pass the message code
;   111        M 0110  1         %IF %LENGTH GTR 1                   ! and if more than 1 arg
;   112          0111  1             %THEN ,%REMAINING %FI) %,       ! then the rest too
;   113          0112  1
;   114          0113  1 !
;   115          0114  1 ! $SHR_MESSAGES - a macro which defines facility-specific message codes
;   116          0115  1 !       which are based on the system-wide shared message codes.
;   117          0116  1 !
;   118          0117  1 !       $SHR_MESSAGES( name, code, (msg,severity), ... )
;   119          0118  1 !
;   120          0119  1 !       where:
;   121          0120  1 !           "name" is the name of the facility (e.g., COPY)
;   122          0121  1 !           "code" is the corresponding facility code (e.g., 103)
;   123          0122  1 !           "msg" is the name of the shared message (e.g., BEGIN)
;   124          0123  1 !           "severity" is the desired message severity (e.g., 1, 0, 2)
;   125          0124  1 !
;   126          0125  1
;   127        M 0126  1     $SHR_MESSAGES( FACILITY_NAME, FACILITY_CODE ) =
;   128        M 0127  1         LITERAL
;   129          0128  1         SHR$MSG_IDS( FACILITY_NAME, FACILITY_CODE, %REMAINING ); %,
;   130          0129  1
;   131        M 0130  1     SHR$MSG_IDS( FACILITY_NAME, FACILITY_CODE) [ VALUE ] =
;   132          0131  1         SHR$MSG_CALC( FACILITY_NAME, FACILITY_CODE, %REMOVE(VALUE) ) %,
;   133          0132  1
;   134        M 0133  1     SHR$MSG_CALC( FACILITY_NAME, FACILITY_CODE, MSG_ID, SEVERITY ) =
;   135        M 0134  1         %NAME(FACILITY_NAME,'$_',MSG_ID) = %NAME('SHR$_',MSG_ID) + FACILITY_CODE*65536 +
;   136        M 0135  1             %IF %DECLARED(%NAME('STS$K_',SEVERITY))
;   137        M 0136  1                 %THEN %NAME('STS$K_',SEVERITY)
;   138          0137  1                 %ELSE SEVERITY %FI %;
```

```
;  140          0138  1 !
;  141          0139  1 !       Define message codes.
;  142          0140  1 !
;  143          0141  1
;  144        P 0142  1 $shr_messages(msg,146,
;  145        P 0143  1           (notlocked,info),       ! File not locked in the first place
;  146        P 0144  1           (unlocked,info),        ! File unlocked
;  147        P 0145  1           (searchfail,error),     ! Could not find file
;  148          0146  1           );
;  149          0147  1
;  150          0148  1 !
;  151          0149  1 !       EQUATED SYMBOLS
;  152          0150  1 !
;  153          0151  1
;  154          0152  1 LITERAL
;  155          0153  1     TRUE        = 1,                    ! BOOLEAN TRUE
;  156          0154  1     FALSE       = 0,                    ! BOOLEAN FALSE
;  157          0155  1     OK          = 1,                    ! SUCCESS RETURN CODE
;  158          0156  1     ERROR       = 2;                    ! ERROR RETURN CODE
;  159          0157  1 !
;  160          0158  1 !       VALUES FOR QUALIFIER MASK
;  161          0159  1 !
;  162          0160  1 LITERAL
;  163          0161  1     QUAL_LOG     = 0,                   ! FIRST BIT IS FOR LOG QUALIFIER
;  164          0162  1     QUAL_CONFIRM = 1;                   ! SECOND BIT IS FOR CONFIRM QUALIFIER
;  165          0163  1 !
;  166          0164  1 !       CLI ROUTINES
;  167          0165  1 !
;  168          0166  1 EXTERNAL ROUTINE
;  169          0167  1     CLI$PRESENT,
;  170          0168  1     CLI$GET_VALUE;
;  171          0169  1 !
;  172          0170  1 BIND
;  173          0171  1     LOG_DESC     = $DESCRIPTOR ('LOG'),
;  174          0172  1     CONFIRM_DESC = $DESCRIPTOR ('CONFIRM');
;  175          0173  1 !
;  176          0174  1 !       CLI RETURN STATUS CODES
;  177          0175  1 !
;  178          0176  1
;  179          0177  1
;  180          0178  1
```

```
;  182          0179  1 !
;  183          0180  1 ! Table of contents
;  184          0181  1 !
;  185          0182  1
;  186          0183  1 FORWARD ROUTINE
;  187          0184  1     unlock,                         ! Main unlock routine
;  188          0185  1     unlock_action,                  ! Called for each unlock action
;  189          0186  1     confirm_action,                 ! Interrogate user
;  190          0187  1     log_results,                    ! Inform user of results
;  191          0188  1     get_unlockqls,                  ! Get command qualifiers
;  192          0189  1     handler,                        ! Condition handler
;  193          0190  1     search_error;                   ! LIB$FILE_SCAN error handler
;  194          0191  1
;  195          0192  1
;  196          0193  1 !
;  197          0194  1 ! External routines
;  198          0195  1 !
;  199          0196  1
;  200          0197  1 EXTERNAL ROUTINE
;  201          0198  1     sys$fao,                    ! Expands formatted ascii messages
;  202          0199  1     lib$get_command,            ! Talk to SYS$COMMAND
;  203          0200  1     lib$file_scan,              ! Implements wildcarding and stickiness
;  204          0201  1     lib$unlock_file;            ! Unlocks files
;  205          0202  1
```

```
;  207          0203  1 !
;  208          0204  1 ! Storage definitions
;  209          0205  1 !
;  210          0206  1
;  211          0207  1 OWN
;  212          0208  1     unlock$flags        : BITVECTOR[32] ! General DCL flagword
;  213          0209  1         INITIAL(0),                     ! Initially none present
;  214          0210  1     qualifier$flags     : BITVECTOR[32] ! Qualifier presence bitmap
;  215          0211  1         INITIAL(0),                     ! Initially clear
;  216          0212  1     worst_error: BBLOCK[4]              ! Worst error encountered
;  217          0213  1                  INITIAL(ss$_normal);   ! Initially normal status
```

```
;  219          0214  1 !
;  220          0215  1 ! Define RMS blocks
;  221          0216  1 !
;  222          0217  1
;  223          0218  1 OWN
;  224          0219  1
;  225          0220  1     output_nam_result:                  ! Resultant output name
;  226          0221  1                 VECTOR [nam$c_maxrss,BYTE],
;  227          0222  1
;  228          0223  1     output_nam_expanded:                ! Expanded output name
;  229          0224  1                 VECTOR [nam$c_maxrss,BYTE],
;  230          0225  1
;  231        P 0226  1     output_nam: $NAM(                   ! File name block
;  232        P 0227  1         ESA = output_nam_expanded,      ! File name before open
;  233        P 0228  1         ESS = nam$c_maxrss,
;  234        P 0229  1         RSA = output_nam_result,        ! File name after open
;  235          0230  1         RSS = nam$c_maxrss),
;  236          0231  1
;  237        P 0232  1     output_fab: $FAB(                   ! FAB for output
;  238          0233  1         NAM = output_nam);              ! Address of name block
```

```
;  240     0234  1 ROUTINE unlock =                          ! unlock Main routine
;  241     0235  1
;  242     0236  1 !++
;  243     0237  1 ! Functional description
;  244     0238  1 !
;  245     0239  1 !       This is the main control routine for the unlock command.
;  246     0240  1 !       It is called from the command language interpreter to
;  247     0241  1 !       unlock files and directories.
;  248     0242  1 !
;  249     0243  1 ! Calling sequence
;  250     0244  1 !
;  251     0245  1 !       unlock() from the Command Language Interpreter
;  252     0246  1 !
;  253     0247  1 ! Input parameters
;  254     0248  1 !
;  255     0249  1 !       None
;  256     0250  1 !
;  257     0251  1 ! Output parameters
;  258     0252  1 !
;  259     0253  1 !       None
;  260     0254  1 !
;  261     0255  1 ! Routine value
;  262     0256  1 !
;  263     0257  1 !       Worst error encountered during processing or SS$_NORMAL.
;  264     0258  1 !
;  265     0259  1 !----
;  266     0260  1
;  267     0261  2 BEGIN
;  268     0262  2
;  269     0263  2 LOCAL
;  270     0264  2     file_desc : $BBLOCK[DSC$C_S_BLN],   ! Descriptor for file
;  271     0265  2     status,                             ! Status return
;  272     0266  2     scan_context;                       ! Sticky context arg. for LIB$FILE_SCAN
;  273     0267  2
;  274     0268  2
;  275     0269  2 BUILTIN
;  276     0270  2     FP;                                 ! Define register FP
;  277     0271  2
;  278     0272  2 !
;  279     0273  2 ! Initialize descriptor
;  280     0274  2 !
;  281     0275  2 CH$FILL (0,DSC$C_S_BLN, FILE_DESC);
;  282     0276  2 FILE_DESC [DSC$B_CLASS] = DSC$K_CLASS_D;
;  283     0277  2
;  284     0278  2
;  285     0279  2 !
;  286     0280  2 !       Declare signal handler in order to record the most severe
;  287     0281  2 !       error message issued, to be returned on exit of image.
;  288     0282  2 !
;  289     0283  2 .fp = handler;                          ! Set condition handler
```

```
;  291          0284  2 !
;  292          0285  2 !       Parse command qualifiers
;  293          0286  2 !
;  294          0287  2
;  295          0288  2 get_unlockqls();                        ! Get command qualifiers
;  296          0289  2
;  297          0290  2 !
;  298          0291  2 ! Begin the main loop of the program
;  299          0292  2 ! Process each file in the input list
;  300          0293  2 !
;  301          0294  2
;  302          0295  2 scan_context = 0;                       ! zero sticky context argument
;  303          0296  2
;  304          0297  2 WHILE CLI$GET_VALUE ($DESCRIPTOR('P1'), FILE_DESC) DO     ! For each output file
;  305          0298  3     BEGIN
;  306          0299  3         output_fab[fab$l_fna] = .file_desc[dsc$a_pointer];
;  307          0300  3         output_fab[fab$b_fns] = .file_desc[dsc$w_length];
;  308          0301  3         !
;  309          0302  3         ! Call lib$file_scan to handle wildcarding and stickiness
;  310          0303  3         ! lib$file_scan will call unlock_action for each successful
;  311          0304  3         ! file match and search_error for any failures
;  312          0305  3         !
;  313          0306  3
;  314          0307  3         lib$file_scan (                 ! Call file scanner with
;  315          0308  3                 output_fab,             !  -fab address
;  316          0309  3                 unlock_action,          !  -success routine
;  317          0310  3                 search_error,           !  -error routine
;  318          0311  3                 scan_context)           !  -sticky context
;  319          0312  2     END;                                ! End of WHILE domain
;  320          0313  2
;  321          0314  2
;  322          0315  2 RETURN .worst_error;
;  323          0316  2
;  324          0317  1 END;


                                                .TITLE  UNLOCK
                                                .IDENT  \V04-000\

                                                .PSECT  $PLIT$,NOWRT,NOEXE,2

                                47  4F  4C  00000 P.AAB:   .ASCII  \LOG\                           ;
                                            00003           .BLKB   1                               ;
                                  00000003  00004 P.AAA:    .LONG   3                               ;
                                  00000000' 00008           .ADDRESS P.AAB                          ;
                            4D  52  49  46  4E  4F  43  0000C P.AAD:   .ASCII  \CONFIRM\               ;
                                            00013           .BLKB   1                               ;
                                  00000007  00014 P.AAC:    .LONG   7                               ;
                                  00000000' 00018           .ADDRESS P.AAD                          ;
                                    31  50  0001C P.AAF:    .ASCII  \P1\                            ;
                                            0001E           .BLKB   2                               ;
                                  00000002  00020 P.AAE:    .LONG   2                               ;
                                  00000000' 00024           .ADDRESS P.AAF                          ;

                                                .PSECT  $OWN$,NOEXE,2

                                  00000000  00000 UNLOCK$FLAGS:
```

```
                                .LONG   0                               ;
00000000  00004 QUALIFIER$FLAGS:
                                .LONG   0                               ;
00000001  00008 WORST_ERROR:
                                .LONG   1                               ;
          0000C OUTPUT_NAM_RESULT:
                                .BLKB   255
          0010B                 .BLKB   1
          0010C OUTPUT_NAM_EXPANDED:
                                .BLKB   255
          0020B                 .BLKB   1
       02 0020C OUTPUT_NAM:
                                .BYTE   2                               ;
       60 0020D                 .BYTE   96                              ;
       FF 0020E                 .BYTE   -1                              ;
       00 0020F                 .BYTE   0                               ;
00000000' 00210                 .ADDRESS OUTPUT_NAM_RESULT              ;
       00 00214                 .BYTE   0                               ;
       00 00215                 .BYTE   0                               ;
       FF 00216                 .BYTE   -1                              ;
       00 00217                 .BYTE   0                               ;
00000000' 00218                 .ADDRESS OUTPUT_NAM_EXPANDED            ;
00000000  0021C                 .LONG   0                               ;
     0000# 00220                .WORD   0[8]                            ;
     0000# 00230                .WORD   0[3]                            ;
     0000# 00236                .WORD   0[3]                            ;
00000000  0023C                 .LONG   0                               ;
00000000  00240                 .LONG   0                               ;
       00 00244                 .BYTE   0                               ;
       00 00245                 .BYTE   0                               ;
       00 00246                 .BYTE   0                               ;
       00 00247                 .BYTE   0                               ;
       00 00248                 .BYTE   0                               ;
       00 00249                 .BYTE   0                               ;
       00# 0024A                .BYTE   0[2]                            ;
00000000  0024C                 .LONG   0                               ;
00000000  00250                 .LONG   0                               ;
00000000  00254                 .LONG   0                               ;
00000000  00258                 .LONG   0                               ;
00000000  0025C                 .LONG   0                               ;
00000000  00260                 .LONG   0                               ;
00000000# 00264                 .LONG   0[2]                            ;
       03 0026C OUTPUT_FAB:
                                .BYTE   3                               ;
       50 0026D                 .BYTE   80                              ;
     0000 0026E                 .WORD   0                               ;
00000000  00270                 .LONG   0                               ;
00000000  00274                 .LONG   0                               ;
00000000  00278                 .LONG   0                               ;
00000000  0027C                 .LONG   0                               ;
     0000 00280                 .WORD   0                               ;
       02 00282                 .BYTE   2                               ;
       00 00283                 .BYTE   0                               ;
00000000  00284                 .LONG   0                               ;
       00 00288                 .BYTE   0                               ;
       00 00289                 .BYTE   0                               ;
       00 0028A                 .BYTE   0                               ;
```

```
                02  0028B          .BYTE   2                                       ;
          00000000  0028C          .LONG   0                                       ;
          00000000  00290          .LONG   0                                       ;
          00000000' 00294          .ADDRESS OUTPUT_NAM                             ;
          00000000  00298          .LONG   0                                       ;
          00000000  0029C          .LONG   0                                       ;
                00  002A0          .BYTE   0                                       ;
                00  002A1          .BYTE   0                                       ;
              0000  002A2          .WORD   0                                       ;
          00000000  002A4          .LONG   0                                       ;
              0000  002A8          .WORD   0                                       ;
                00  002AA          .BYTE   0                                       ;
                00  002AB          .BYTE   0                                       ;
          00000000  002AC          .LONG   0                                       ;
          00000000  002B0          .LONG   0                                       ;
              0000  002B4          .WORD   0                                       ;
                00  002B6          .BYTE   0                                       ;
                00  002B7          .BYTE   0                                       ;
          00000000  002B8          .LONG   0                                       ;

                                LOG_DESC=           P.AAA
                                CONFIRM_DESC=       P.AAC
                                .EXTRN  CLI$PRESENT, CLI$GET_VALUE
                                .EXTRN  SYS$FAO, LIB$GET_COMMAND
                                .EXTRN  LIB$FILE_SCAN, LIB$UNLOCK_FILE

                                .PSECT  $CODE$,NOWRT,2

                    003C 00000 UNLOCK:: .WORD   Save R2,R3,R4,R5                    ; 0234
                         5E        0C  C2 00002        SUBL2   #12, SP              ;
          08             00        6E  00  2C 00005    MOVC5   #0, (SP), #0, #8, FILE_DESC ; 0275
                                   04  AE      0000A                                ;
                               07  AE  02  90 0000C    MOVB    #2, FILE_DESC+3      ; 0276
                               6D      CF  9E 00010    MOVAB   HANDLER, (FP)        ; 0283
                           0000V  CF      00  FB 00015 CALLS   #0, GET_UNLOCKQLS    ; 0288
                                          6E  D4 0001A CLRL    SCAN_CONTEXT         ; 0295
                                   04  AE  9F  0001C 1$:  PUSHAB  FILE_DESC        ; 0297
                                 0000' CF  9F  0001F    PUSHAB  P.AAE               ;
                      00000000G  00        02  FB 00023 CALLS   #2, CLI$GET_VALUE  ;
                                 23        50  E9 0002A BLBC    R0, 2$              ;
                               0000' CF      08  AE  D0 0002D MOVL    FILE_DESC+4, OUTPUT_FAB+44 ; 0299
                               0000' CF      04  AE  90 00033 MOVB    FILE_DESC, OUTPUT_FAB+52 ; 0300
                                             5E  DD 00039 PUSHL   SP                  ; 0307
                                         0000V CF  9F 0003B PUSHAB  SEARCH_ERROR     ;
                                         0000V CF  9F 0003F PUSHAB  UNLOCK_ACTION    ;
                                         0000' CF  9F 00043 PUSHAB  OUTPUT_FAB       ;
                      00000000G  00        04  FB 00047 CALLS   #4, LIB$FILE_SCAN  ;
                                           CC  11 0004E BRB     1$                  ;
                                 50    0000' CF  D0 00050 2$:  MOVL    WORST_ERROR, R0 ; 0315
                                             04  00055 RET                         ; 0317

; Routine Size:  86 bytes,    Routine Base:  $CODE$ + 0000
```

```
;   326     0318  1 ROUTINE unlock_action (fab)  =
;   327     0319  1
;   328     0320  1 !----
;   329     0321  1 !
;   330     0322  1 ! Functional description
;   331     0323  1 !
;   332     0324  1 !       This routine is called from lib$file_scan whenever
;   333     0325  1 !       a successsful file match occurs
;   334     0326  1 !
;   335     0327  1 ! Input parameters
;   336     0328  1 !
;   337     0329  1 !       fab = Address of block describing the file
;   338     0330  1 !       fab$l_nam = pointer to name block
;   339     0331  1 !
;   340     0332  1 ! Output parameters
;   341     0333  1 !
;   342     0334  1 !       None
;   343     0335  1 !
;   344     0336  1 !----
;   345     0337  1
;   346     0338  2 BEGIN
;   347     0339  2
;   348     0340  2 MAP fab: REF BBLOCK;                    ! Define fab block format
;   349     0341  2 BIND nam = .fab[fab$l_nam]: BBLOCK;     ! Define name block
;   350     0342  2
;   351     0343  2 LOCAL desc: VECTOR[2];                  ! Temporary string descriptor
;   352     0344  2 LOCAL status;                           ! Receives status
;   353     0345  2
;   354     0346  2 !
;   355     0347  2 ! If /CONFIRM was set by the user then interrogate him to see if
;   356     0348  2 ! this file is to be unlocked
;   357     0349  2 !
;   358     0350  2
;   359     0351  3 IF (.qualifier$flags[qual_confirm])     ! If confirmation requested
;   360     0352  2 THEN
;   361     0353  3         IF NOT (confirm_action (        ! Call confirmation rout. with
;   362     0354  3                 .fab))                  !  -address of fab
;   363     0355  2             THEN return(false);         ! If not confirmed then exit
;   364     0356  2
;   365     0357  2 !
;   366     0358  2 ! Now load the local descriptor with the file name size and address
;   367     0359  2 ! from the nam block
;   368     0360  2 !
;   369     0361  2
;   370     0362  2 desc[0] = .nam[nam$b_rsl];              ! Resultant file name size
;   371     0363  2 desc[1] = .nam[nam$l_rsa];              ! Resultant file name address
;   372     0364  2
;   373     0365  2 IF .nam [nam$b_rsl] EQL 0               ! If the resultant name is null
;   374     0366  3 THEN BEGIN                              ! then use the expanded name:
;   375     0367  3      desc [0] = .nam[nam$b_esl];        !    expanded file name size
;   376     0368  3      desc [1] = .nam[nam$l_esa];        !    expanded file name address
;   377     0369  2      END;
;   378     0370  2
;   379     0371  2
;   380     0372  2 !
;   381     0373  2 ! Call LIB$UNLOCK_FILE to unlock the file
;   382     0374  2 !
```

```
;  383          0375  2
;  384          0376  3 IF NOT (status = lib$unlock_file(desc)) ! Call unlock with file name
;  385          0377  2 THEN
;  386          0378  3         BEGIN
;  387          0379  3         write_message(.status);          ! Inform the user
;  388          0380  3         return(.status);                 ! Return to caller
;  389          0381  2         END;
;  390          0382  2
;  391          0383  2 !
;  392          0384  2 ! Check to see if unlock worked.  SS$_WASSET indicates the file
;  393          0385  2 ! was unlocked.  SS$_WASCLR indicates the file was already unlocked
;  394          0386  2 ! and no other error occurred
;  395          0387  2 !
;  396          0388  2
;  397          0389  3 IF (.status EQL SS$_WASCLR)               ! If file not locked
;  398          0390  2     THEN
;  399        P 0391  2         write_message(                   ! Tell the user
;  400        P 0392  2                 msg$_notlocked,          !   that the file wasn't locked
;  401        P 0393  2                 1,                       !   (one FAO arguement),
;  402          0394  2                 desc)                    !   and name the file
;  403          0395  2     ELSE
;  404          0396  3         IF (.qualifier$flags[qual_log])      ! File was unlocked
;  405          0397  2         THEN log_results (.fab);             ! If logging requested
;  406          0398  2                                              !  then call the logger
;  407          0399  2 RETURN(true);                                ! Both returns above
;  408          0400  2                                              !   are ok!
;  409          0401  2
;  410          0402  1 END;


                                001C 00000 UNLOCK_ACTION:
                                           .WORD   Save R2,R3,R4                          ; 0318
                     54 00000000G   00  9E 00002           MOVAB   LIB$SIGNAL, R4
                     5E             08  C2 00009           SUBL2   #8, SP
                     53       04    AC  D0 0000C           MOVL    FAB, R3                ; 0341
                     52       28    A3  D0 00010           MOVL    40(R3), R2
                0A   0000'    CF    01  E1 00014           BBC     #1, QUALIFIER$FLAGS, 1$ ; 0351
                                     53  DD 0001A           PUSHL   R3                     ; 0354
                     0000V    CF    01  FB 0001C           CALLS   #1, CONFIRM_ACTION
                     53             50  E9 00021           BLBC    R0, 6$
                     6E       03    A2  9A 00024 1$:       MOVZBL  3(R2), DESC            ; 0362
                        04    AE    04  A2  D0 00028       MOVL    4(R2), DESC+4          ; 0363
                              03    A2  95 0002D           TSTB    3(R2)                  ; 0365
                                    09  12 00030           BNEQ    2$
                     6E       0B    A2  9A 00032           MOVZBL  11(R2), DESC           ; 0367
                        04    AE    0C  A2  D0 00036       MOVL    12(R2), DESC+4         ; 0368
                                    5E  DD 0003B 2$:       PUSHL   SP                     ; 0376
                00000000G    00        01  FB 0003D       CALLS   #1, LIB$UNLOCK_FILE
                     52             50  D0 00044           MOVL    R0, STATUS
                     09             52  E8 00047           BLBS    STATUS, 3$
                                    52  DD 0004A           PUSHL   STATUS                 ; 0379
                     64             01  FB 0004C           CALLS   #1, LIB$SIGNAL
                     50             52  D0 0004F           MOVL    STATUS, R0             ; 0380
                                        04 00052           RET
```

```
                        01              52  D1 00053 3$:    CMPL    STATUS, #1                      ; 0389
                                        0F  12 00056        BNEQ    4$                              ;
                                        5E  DD 00058        PUSHL   SP                              ; 0394
                                        01  DD 0005A        PUSHL   #1                              ;
                           00921283     8F  DD 0005C        PUSHL   #9573043                        ;
                        64              03  FB 00062        CALLS   #3, LIB$SIGNAL                  ;
                                        0C  11 00065        BRB     5$                              ;
                        07      0000'   CF  E9 00067 4$:    BLBC    QUALIFIER$FLAGS, 5$             ; 0396
                                        53  DD 0006C        PUSHL   R3                              ; 0397
                  0000V CF              01  FB 0006E        CALLS   #1, LOG_RESULTS                 ;
                        50              01  D0 00073 5$:    MOVL    #1, R0                          ; 0399
                                            04 00076        RET                                     ;
                                        50  D4 00077 6$:    CLRL    R0                              ; 0402
                                            04 00079        RET                                     ;

; Routine Size:  122 bytes,    Routine Base:  $CODE$ + 0056
```

```
;  412     0403  1 ROUTINE confirm_action (fab) =
;  413     0404  1
;  414     0405  1 !----
;  415     0406  1 !
;  416     0407  1 ! Functional description
;  417     0408  1 !
;  418     0409  1 !       This routine is called from the main loop whenever
;  419     0410  1 !       confirmation is requested.
;  420     0411  1 !
;  421     0412  1 ! Input parameters
;  422     0413  1 !
;  423     0414  1 !       fab = Address of block describing the file
;  424     0415  1 !       fab$l_nam = pointer to name block
;  425     0416  1 !
;  426     0417  1 ! Output parameters
;  427     0418  1 !
;  428     0419  1 !               TRUE    --> Action should be taken
;  429     0420  1 !               FALSE   --> Action should be cancelled
;  430     0421  1 !
;  431     0422  1 !
;  432     0423  1 !----
;  433     0424  1
;  434     0425  2 BEGIN
;  435     0426  2
;  436     0427  2 MAP fab: REF BBLOCK;                    ! Define fab block format
;  437     0428  2 BIND nam = .fab[fab$l_nam]: BBLOCK;     ! Define name block
;  438     0429  2
;  439     0430  2 OWN
;  440     0431  2     file_desc:  BBLOCK[dsc$c_s_bln],    ! file_descriptor for file name
;  441     0432  2     fao_desc:   BBLOCK[dsc$c_s_bln],    ! FAO work area descriptor
;  442     0433  2     reply_desc: BBLOCK[dsc$c_s_bln]     ! Buffer desc. for reply
;  443     0434  2                 INITIAL (
;  444     0435  2                 WORD (0),               !  -size = 0
;  445     0436  2                 BYTE (dsc$k_dtype_t),   !  -arguement type = ascii
;  446     0437  2                 BYTE (dsc$k_class_d),   !  -class = dynamic
;  447     0438  2                 LONG (0));              !  -pointer = 0
;  448     0439  2 LOCAL
;  449     0440  2     status:     BLOCK[1],               ! Recieves status
;  450     0441  2     length :    WORD,                   ! Length of resultant message
;  451     0442  2     char,                               ! Character work area
;  452     0443  2     fao_buffer: VECTOR[512,BYTE];       ! FAO work area
;  453     0444  2
;  454     0445  2
;  455     0446  2 !
;  456     0447  2 ! Initialize descriptors with:
;  457     0448  2 !       1) file name    -->     file_desc
;  458     0449  2 !       2) FAO buffer   -->     fao_desc
;  459     0450  2 !
;  460     0451  2
;  461     0452  2 file_desc[dsc$w_length] = .nam[nam$b_rsl];      ! Resultant file name length
;  462     0453  2 file_desc[dsc$a_pointer] = .nam[nam$l_rsa];     ! Resultant file name address
;  463     0454  2
;  464     0455  2 IF .nam[nam$b_rsl] EQL 0                        ! If no resultant name
;  465     0456  3 THEN BEGIN                                     ! then use expanded name:
;  466     0457  3      file_desc[dsc$w_length] = .nam[nam$b_esl]; !    expanded file name length
;  467     0458  3      file_desc[dsc$a_pointer] = .nam[nam$l_esa];!    expanded file name address
;  468     0459  2      END;
```

```
;  469     0460  2
;  470     0461  2 fao_desc[dsc$w_length] = 512;                   ! FAO work area size
;  471     0462  2 fao_desc[dsc$a_pointer] = fao_buffer;           ! FAO work area address
;  472     0463  2
;  473     0464  2
;  474     0465  2 !
;  475     0466  2 ! Now call SYS$FAO to expand message
;  476     0467  2 !
;  477     0468  2
;  478     0469  3 IF NOT (status = SYS$FAO (                      ! Call system service with
;  479     0470  3                                                 !  -messages desc. address
;  480     0471  3                 addrdesc('!AS, unlock? (Y or N): '),
;  481     0472  3                 length,                         !  -place to put result length
;  482     0473  3                 fao_desc,                       !  -descriptor of a work area
;  483     0474  3                 file_desc))                     !  -one FAO arguement
;  484     0475  2    THEN
;  485     0476  3         BEGIN
;  486     0477  3         write_message (.status);                 ! Tell the user
;  487     0478  3         return (.status);                       ! Return to the caller
;  488     0479  2         END;
;  489     0480  2
;  490     0481  2 !
;  491     0482  2 ! Now question user by calling LIB$GET_COMMAND using the result
;  492     0483  2 ! of the FAO call as a prompt string
;  493     0484  2 !
;  494     0485  2
;  495     0486  2 fao_desc[dsc$w_length] = .length;               ! Move in prompt string size
;  496     0487  2
;  497     0488  3 IF NOT (status = LIB$GET_COMMAND (              ! Call library routine with
;  498     0489  3                 reply_desc,                     !  -reply buffer desc. addr.
;  499     0490  3                 fao_desc))                      !  -prompt string desc. addr.
;  500     0491  2    THEN
;  501     0492  3         BEGIN
;  502     0493  4         IF (.status EQL rms$_eof)               ! If this was end of file then
;  503     0494  3         THEN status[sts$v_severity] =           !  make it a severe (i.e. non-
;  504     0495  3                 sts$k_severe;                   !  returnable) error
;  505     0496  3         write_message (.status);                 ! Tell the user
;  506     0497  3         return (.status);                       ! Return to the caller
;  507     0498  2         END;
;  508     0499  2
;  509     0500  2 !
;  510     0501  2 ! Now retrieve one charater from the buffer and set the return
;  511     0502  2 ! status depending on its value
;  512     0503  2 !
;  513     0504  2
;  514     0505  3 IF (.reply_desc[dsc$w_length] EQL 0)            ; Did user hit <CR>?
;  515     0506  2 THEN return (false);                            ! Yes, return false
;  516     0507  2
;  517     0508  2 char = CH$RCHAR (CH$PTR (.reply_desc[dsc$a_pointer]));
;  518     0509  2
;  519     0510  3 IF (.char EQL 'Y' OR                            ! If user responded 'Y'
;  520     0511  3     .char EQL 'y' OR                            !    or 'y'
;  521     0512  3     .char EQL 'T' OR                            !    or 'T' (TRUE)
;  522     0513  3     .char EQL 't')                              !    or 't'
;  523     0514  3 THEN return (true)                              ! Return 'TAKE ACTION'
;  524     0515  2 ELSE return (false);                            ! Return 'CANCEL ACTION'
;  525     0516  2
```

```
;  526          0517  1 END;


                                                        .PSECT  $PLIT$,NOWRT,NOEXE,2

59 28 20 3F 6B 63 6F 6C 6E 75 20 2C 53 41 21  00028 P.AAH:  .ASCII  \!AS, unlock? (Y or N): \<0>                ;
                  00 20 3A 29 4E 20 72 6F 20  00037                                                           ;
                                 00000017     00040 P.AAG:  .LONG   23                                        ;
                                 00000000'    00044         .ADDRESS P.AAH                                    ;

                                                        .PSECT  $OWN$,NOEXE,2

                                              002BC FILE_DESC:
                                                        .BLKB   8
                                              002C4 FAO_DESC:
                                                        .BLKB   8
                                        0000  002CC REPLY_DESC:
                                                        .WORD   0                                           ;
                                          0E  002CE             .BYTE   14                                  ;
                                          02  002CF             .BYTE   2                                   ;
                                 00000000     002D0             .LONG   0                                   ;


                                                        .PSECT  $CODE$,NOWRT,2

                                              000C 00000 CONFIRM_ACTION:
                                                        .WORD   Save R2,R3                                  ; 0403
                          53      0000'  CF  9E 00002           MOVAB   FAO_DESC, R3                        ;
                          5E      FDFC   CE  9E 00007           MOVAB   -516(SP), SP                        ;
                          50        04   AC  D0 0000C           MOVL    FAB, R0                             ; 0428
                          50        28   A0  D0 00010           MOVL    40(R0), R0                          ;
                     F8   A3        03   A0  9B 00014           MOVZBW  3(R0), FILE_DESC                    ; 0452
                     FC   A3        04   A0  D0 00019           MOVL    4(R0), FILE_DESC+4                  ; 0453
                                    03   A0  95 0001E           TSTB    3(R0)                               ; 0455
                                    0A   12  00021           BNEQ    1$                                  ;
                     F8   A3        0B   A0  9B 00023           MOVZBW  11(R0), FILE_DESC                   ; 0457
                     FC   A3        0C   A0  D0 00028           MOVL    12(R0), FILE_DESC+4                 ; 0458
                          63      0200   8F  B0 0002D 1$:       MOVW    #512, FAO_DESC                      ; 0461
                     04   A3        04   AE  9E 00032           MOVAB   FAO_BUFFER, FAO_DESC+4              ; 0462
                               F8   A3  9F 00037           PUSHAB  FILE_DESC                           ; 0469
                                    53  DD 0003A           PUSHL   R3                                  ;
                                    08  AE  9F 0003C           PUSHAB  LENGTH                              ;
                                  0000' CF  9F 0003F           PUSHAB  P.AAG                               ; 0471
                00000000G         00        04  FB 00043           CALLS   #4, SYS$FAO                         ;
                          52              50  D0 0004A           MOVL    R0, STATUS                          ;
                          23              52  E9 0004D           BLBC    STATUS, 2$                          ; 0469
                          63              6E  B0 00050           MOVW    LENGTH, FAO_DESC                    ; 0486
                                          53  DD 00053           PUSHL   R3                                  ; 0488
                                    08    A3  9F 00055           PUSHAB  REPLY_DESC                          ;
                00000000G         00        02  FB 00058           CALLS   #2, LIB$GET_COMMAND                 ;
                          52              50  D0 0005F           MOVL    R0, STATUS                          ;
                          1B              52  E8 00062           BLBS    STATUS, 3$                          ;
                0001827A  8F              52  D1 00065           CMPL    STATUS, #98938                      ; 0493
                                          05  12 0006C           BNEQ    2$                                  ;
52        03              00              04  F0 0006E           INSV    #4, #0, #3, STATUS                  ; 0494
```

```
                                        52  DD 00073 2$:    PUSHL   STATUS                                  ; 0496
                00000000G   00              01  FB 00075        CALLS   #1, LIB$SIGNAL                      ;
                            50              52  D0 0007C        MOVL    STATUS, R0                          ; 0497
                                            04  0007F        RET                                         ;
                                    08  A3  B5  00080 3$:    TSTW    REPLY_DESC                          ; 0505
                                        2C  13  00083        BEQL    5$                                  ;
                            50          0C  B3  9A  00085        MOVZBL  @REPLY_DESC+4, CHAR                 ; 0508
                00000059    8F              50  D1  00089        CMPL    CHAR, #89                           ; 0510
                                            1B  13  00090        BEQL    4$                                  ;
                00000079    8F              50  D1  00092        CMPL    CHAR, #121                          ; 0511
                                            12  13  00099        BEQL    4$                                  ;
                00000054    8F              50  D1  0009B        CMPL    CHAR, #84                           ; 0512
                                            09  13  000A2        BEQL    4$                                  ;
                00000074    8F              50  D1  000A4        CMPL    CHAR, #116                          ; 0513
                                            04  12  000AB        BNEQ    5$                                  ;
                            50              01  D0  000AD 4$:    MOVL    #1, R0                              ; 0515
                                            04  000B0        RET                                         ;
                                            50  D4  000B1 5$:    CLRL    R0                                  ; 0517
                                            04  000B3        RET                                         ;

; Routine Size:  180 bytes,    Routine Base:  $CODE$ + 00D0
```

```
;  528          0518  1 ROUTINE log_results (fab)  =
;  529          0519  1
;  530          0520  1 !----
;  531          0521  1 !
;  532          0522  1 ! Functional description
;  533          0523  1 !
;  534          0524  1 !       This routine is called from the main loop whenever
;  535          0525  1 !       logging is requested
;  536          0526  1 !
;  537          0527  1 ! Input parameters
;  538          0528  1 !
;  539          0529  1 !       fab = Address of block describing the file
;  540          0530  1 !       fab$l_nam = pointer to name block
;  541          0531  1 !
;  542          0532  1 ! Output parameters
;  543          0533  1 !
;  544          0534  1 !       None
;  545          0535  1 !
;  546          0536  1 !----
;  547          0537  1
;  548          0538  2 BEGIN
;  549          0539  2
;  550          0540  2 MAP fab: REF BBLOCK;                    ! Define fab block format
;  551          0541  2 BIND nam = .fab[fab$l_nam]: BBLOCK;     ! Define name block
;  552          0542  2
;  553          0543  2 LOCAL desc: VECTOR[2];                  ! Temporary string descriptor
;  554          0544  2
;  555          0545  2 IF .nam[nam$b_rsl] NEQ 0                ! IF result string nonblank,
;  556          0546  3 THEN BEGIN
;  557          0547  3     desc[0] = .nam[nam$b_rsl];          ! then display it
;  558          0548  3     desc[1] = .nam[nam$l_rsa];
;  559          0549  3     END
;  560          0550  2 ELSE IF .nam[nam$b_esl] NEQ 0           ! Or if expanded name nonblank
;  561          0551  3 THEN BEGIN
;  562          0552  3     desc[0] = .nam[nam$b_esl];          ! then display it
;  563          0553  3     desc[1] = .nam[nam$l_esa];
;  564          0554  3     END
;  565          0555  3 ELSE BEGIN
;  566          0556  3     desc[0] = .fab[fab$b_fns];          ! Otherwise, use original
;  567          0557  3     desc[1] = .fab[fab$l_fna];          ! name string in FAB
;  568          0558  2     END;
;  569          0559  2
;  570        P 0560  2 write_message(msg$_unlocked,            ! Inform the user
;  571        P 0561  2                1,                       ! With one arguement
;  572          0562  2                desc);                   ! Which is the file name
;  573          0563  2
;  574          0564  2 RETURN (true);
;  575          0565  2
;  576          0566  1 END;


                                        0000 00000 LOG_RESULTS:
                                                   .WORD   Save nothing                    ; 0518
                                5E      08  C2 00002        SUBL2   #8, SP                  ;
```

```
                         51    04  AC  D0 00005          MOVL    FAB, R1                         ; 0541
                         50    28  A1  D0 00009          MOVL    40(R1), R0                      ;
                               03  A0  95 0000D          TSTB    3(R0)                           ; 0545
                               0B  13  00010            BEQL    1$                              ;
                         6E    03  A0  9A 00012          MOVZBL  3(R0), DESC                     ; 0547
                   04    AE    04  A0  D0 00016          MOVL    4(R0), DESC+4                   ; 0548
                               19  11  0001B            BRB     3$                              ; 0545
                               0B  A0  95 0001D 1$:     TSTB    11(R0)                          ; 0550
                               0B  13  00020            BEQL    2$                              ;
                         6E    0B  A0  9A 00022          MOVZBL  11(R0), DESC                    ; 0552
                   04    AE    0C  A0  D0 00026          MOVL    12(R0), DESC+4                  ; 0553
                               09  11  0002B            BRB     3$                              ; 0550
                         6E    34  A1  9A 0002D 2$:     MOVZBL  52(R1), DESC                    ; 0556
                   04    AE    2C  A1  D0 00031          MOVL    44(R1), DESC+4                  ; 0557
                               5E  DD  00036 3$:        PUSHL   SP                              ; 0562
                               01  DD  00038            PUSHL   #1                              ;
                      0092129B     8F  DD  0003A          PUSHL   #9573019                        ;
            00000000G 00           03  FB  00040          CALLS   #3, LIB$SIGNAL                  ;
                         50        01  D0  00047          MOVL    #1, R0                          ; 0564
                                   04  0004A            RET                                     ; 0566

; Routine Size:  75 bytes,    Routine Base:  $CODE$ + 0184
```

```
;  578          0567  1 ROUTINE get_unlockqls  =
;  579          0568  1
;  580          0569  1 !----
;  581          0570  1 !
;  582          0571  1 ! Functional description
;  583          0572  1 !
;  584          0573  1 !       This routine calls CLI to obtain the command line and
;  585          0574  1 !       then all command qualifiers.
;  586          0575  1 !
;  587          0576  1 ! Input parameters
;  588          0577  1 !
;  589          0578  1 !       None
;  590          0579  1 !
;  591          0580  1 ! Output parameters
;  592          0581  1 !
;  593          0582  1 !       qualifier$flags = Bitmap indicating which qualifiers are present
;  594          0583  1 !
;  595          0584  1 !----
;  596          0585  1
;  597          0586  2 BEGIN
;  598          0587  2
;  599          0588  2 !
;  600          0589  2 !       Initialize mask holding qualifier option bits
;  601          0590  2 !
;  602          0591  2 qualifier$flags = 0;
;  603          0592  2
;  604          0593  2 !
;  605          0594  2 !        Look for qualifiers and set bits accordingly
;  606          0595  2 !
;  607          0596  2 IF CLI$PRESENT (log_desc)
;  608          0597  2 THEN
;  609          0598  2     qualifier$flags [qual_log] = 1;
;  610          0599  2
;  611          0600  2 IF CLI$PRESENT (confirm_desc)
;  612          0601  2 THEN
;  613          0602  2     qualifier$flags [qual_confirm] = 1;
;  614          0603  2
;  615          0604  2 return true;
;  616          0605  1 END;


                        000C 00000 GET_UNLOCKQLS:
                                           .WORD   Save R2,R3                              ; 0567
                53     0000'  CF  9E 00002         MOVAB   QUALIFIER$FLAGS, R3             ;
                52 00000000G  00  9E 00007         MOVAB   CLI$PRESENT, R2                 ;
                              63  D4 0000E         CLRL    QUALIFIER$FLAGS                 ; 0591
                       0000'  CF  9F 00010         PUSHAB  LOG_DESC                        ; 0596
                62            01  FB 00014         CALLS   #1, CLI$PRESENT                 ;
                03            50  E9 00017         BLBC    R0, 1$                          ;
                63            01  88 0001A         BISB2   #1, QUALIFIER$FLAGS             ; 0598
                       0000'  CF  9F 0001D 1$:     PUSHAB  CONFIRM_DESC                    ; 0600
                62            01  FB 00021         CALLS   #1, CLI$PRESENT                 ;
                03            50  E9 00024         BLBC    R0, 2$                          ;
                63            02  88 00027         BISB2   #2, QUALIFIER$FLAGS             ; 0602
```

```
                    50          01  D0 0002A 2$:    MOVL    #1, R0                          ; 0604
                                    04 0002D        RET                                     ; 0605

; Routine Size:  46 bytes,    Routine Base:  $CODE$ + 01CF
```

```
;  618          0606  1 ROUTINE handler (signal_args, mechanism_args) =
;  619          0607  1
;  620          0608  1 !---
;  621          0609  1 !
;  622          0610  1 !       This condition handler gets control on any signalled
;  623          0611  1 !       condition in order to save the highest severity error
;  624          0612  1 !       to be returned by exit from the image.
;  625          0613  1 !
;  626          0614  1 ! Inputs:
;  627          0615  1 !
;  628          0616  1 !       signal_args = Address of signal argument list
;  629          0617  1 !       mechanism_args = Address of mechanism argument list
;  630          0618  1 !
;  631          0619  1 ! Outputs:
;  632          0620  1 !
;  633          0621  1 !       worst_error is updated with highest severity error.
;  634          0622  1 !
;  635          0623  1 !---
;  636          0624  1
;  637          0625  2 BEGIN
;  638          0626  2
;  639          0627  2 MAP
;  640          0628  2     signal_args: REF BBLOCK,                    ! Adr of signal arg list
;  641          0629  2     mechanism_args: REF BBLOCK;                 ! Adr of mech. arg list
;  642          0630  2
;  643          0631  2 LOCAL
;  644          0632  2     code: BBLOCK [LONG];                        ! Condition code (longword)
;  645          0633  2
;  646          0634  2 code = .signal_args [chf$l_sig_name];           ! Get condition code
;  647          0635  2
;  648          0636  2 IF .code [sts$v_severity] GTR .worst_error [sts$v_severity]
;  649          0637  2 THEN
;  650          0638  2     worst_error = .code OR sts$m_inhib_msg;     ! Set new worst error
;  651          0639  2
;  652          0640  2 ss$_resignal                                    ! Continue signalling
;  653          0641  2
;  654          0642  1 END;


                                                0000 00000 HANDLER:.WORD   Save nothing                                 ; 0606
                                    50      04  AC  D0 00002          MOVL    SIGNAL_ARGS, R0                           ; 0634
                                    50      04  A0  D0 00006          MOVL    4(R0), CODE                               ;
            51      0000'   CF          03      00  EF 0000A          EXTZV   #0, #3, WORST_ERROR, R1                   ; 0636
            51          50      03              00  ED 00011          CMPZV   #0, #3, CODE, R1                          ;
                                                0A  15 00016          BLEQ    1$                                        ;
                    0000'   CF      50  10000000    8F  C9 00018      BISL3   #268435456, CODE, WORST_ERROR             ; 0638
                                    50      0918    8F  3C 00022 1$:   MOVZWL  #2328, R0                              ; 0642
                                                    04  00027          RET                                           ;

; Routine Size:  40 bytes,    Routine Base:  $CODE$ + 01FD
```

```
;  656          0643  1 ROUTINE search_error (fab)  =
;  657          0644  1
;  658          0645  1 !----
;  659          0646  1 !
;  660          0647  1 ! Functional description
;  661          0648  1 !
;  662          0649  1 !       This routine is called from RMS whenever an error
;  663          0650  1 !       occurs during an RMS file function call.
;  664          0651  1 !
;  665          0652  1 ! Input parameters
;  666          0653  1 !
;  667          0654  1 !       fab = Address of block used in the RMS call.
;  668          0655  1 !       fab$l_nam = pointer to name block
;  669          0656  1 !
;  670          0657  1 ! Output parameters
;  671          0658  1 !
;  672          0659  1 !       None
;  673          0660  1 !
;  674          0661  1 !----
;  675          0662  1
;  676          0663  2 BEGIN
;  677          0664  2
;  678          0665  2 MAP fab: REF BBLOCK;                    ! Define fab block format
;  679          0666  2 BIND nam = .fab[fab$l_nam]: BBLOCK;     ! Define name block
;  680          0667  2
;  681          0668  2 LOCAL desc: VECTOR[2];                  ! Temporary string descriptor
;  682          0669  2
;  683          0670  2 IF .nam[nam$b_rsl] NEQ 0                ! IF result string nonblank,
;  684          0671  3 THEN BEGIN
;  685          0672  3     desc[0] = .nam[nam$b_rsl];          ! then display it
;  686          0673  3     desc[1] = .nam[nam$l_rsa];
;  687          0674  3     END
;  688          0675  2 ELSE IF .nam[nam$b_esl] NEQ 0           ! Or if expanded name nonblank
;  689          0676  3 THEN BEGIN
;  690          0677  3     desc[0] = .nam[nam$b_esl];          ! then display it
;  691          0678  3     desc[1] = .nam[nam$l_esa];
;  692          0679  3     END
;  693          0680  3 ELSE BEGIN
;  694          0681  3     desc[0] = .fab[fab$b_fns];          ! Otherwise, use original
;  695          0682  3     desc[1] = .fab[fab$l_fna];          ! name string in FAB
;  696          0683  2     END;
;  697          0684  2
;  698        P 0685  2 write_message(msg$_searchfail,1,DESC,   ! Output an error message
;  699        P 0686  2                 .fab[fab$l_sts],      ! with fab error code
;  700          0687  2                 .fab[fab$l_stv]);     ! and secondary code
;  701          0688  2
;  702          0689  2 RETURN (.fab[fab$l_sts]);               ! Pass along the error
;  703          0690  2
;  704          0691  1 END;


                                0004 00000 SEARCH_ERROR:
                                           .WORD   Save R2                                 ; 0643
                          5E    08   C2 00002         SUBL2   #8, SP                      ;
```

```
                        52  04  AC  D0 00005          MOVL    FAB, R2                         ; 0666
                        50  28  A2  D0 00009          MOVL    40(R2), R0                      ;
                            03  A0  95 0000D          TSTB    3(R0)                           ; 0670
                            0B  13 00010             BEQL    1$                              ;
                        6E  03  A0  9A 00012          MOVZBL  3(R0), DESC                     ; 0672
                    04  AE  04  A0  D0 00016          MOVL    4(R0), DESC+4                   ; 0673
                            19  11 0001B             BRB     3$                              ; 0670
                            0B  A0  95 0001D 1$:     TSTB    11(R0)                          ; 0675
                            0B  13 00020             BEQL    2$                              ;
                        6E  0B  A0  9A 00022          MOVZBL  11(R0), DESC                    ; 0677
                    04  AE  0C  A0  D0 00026          MOVL    12(R0), DESC+4                  ; 0678
                            09  11 0002B             BRB     3$                              ; 0675
                        6E  34  A2  9A 0002D 2$:     MOVZBL  52(R2), DESC                    ; 0681
                    04  AE  2C  A2  D0 00031          MOVL    44(R2), DESC+4                  ; 0682
                        7E  08  A2  7D 00036 3$:     MOVQ    8(R2), -(SP)                    ; 0687
                            08  AE  9F 0003A         PUSHAB  DESC                            ;
                                01  DD 0003D        PUSHL   #1                              ;
                        0092123A  8F  DD 0003F        PUSHL   #9572922                        ;
                00000000G   00      05  FB 00045     CALLS   #5, LIB$SIGNAL                  ;
                        50  08  A2  D0 0004C          MOVL    8(R2), R0                       ; 0689
                                    04 00050         RET                                     ; 0691

; Routine Size:  81 bytes,    Routine Base:  $CODE$ + 0225
```

```
;  706          0692  1 END
;  707          0693  0 ELUDOM


                                                .EXTRN  LIB$SIGNAL

;                               PSECT SUMMARY

;       Name                    Bytes                   Attributes

;  $PLIT$                         72  NOVEC,NOWRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)
;  $OWN$                         724  NOVEC,  WRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)
;  $CODE$                        630  NOVEC,NOWRT,  RD ,  EXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)


;                           Library Statistics

;                                    -------- Symbols --------      Pages       Processing
;       File                         Total    Loaded   Percent      Mapped      Time

;  _$255$DUA28:[SYSLIB]STARLET.L32;1   9776        51         0         581        00:00.9
;  _$255$DUA28:[SYSLIB]CLIMAC.L32;1      14         0         0           9        00:00.1


;                                   COMMAND QUALIFIERS

;       BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS$:UNLOCK/OBJ=OBJ$.UNLOCK MSRC$.UNLOCK/UPDATE=(ENH$:UNLOCK)

; Size:          630 code + 796 data bytes
; Run Time:          00:15.2
; Elapsed Time:      00:51.0
; Lines/CPU Min:      2739
; Lexemes/CPU-Min: 23861
; Memory Used:   100 pages
; Compilation Complete
```

TYPEMAIN
LIS

COBPROLOG
REQ

COBACCDAT
LIS

COBACCDWK
LIS

UNLOCK
LIS

UTILSUBS
LIS

INTPAR
SDL

COBDEF
REQ

COBACCDAY
LIS

COBACCECV
LIS

COBRTL

COBLNK
REQ

COBRTL
MAP