```
BBBBBBBBBBBB        AAAAAAAAA        CCCCCCCCCCC  KKK         KKK  UUU          UUU  PPPPPPPPPPPP
BBBBBBBBBBBB        AAAAAAAAA        CCCCCCCCCCC  KKK         KKK  UUU          UUU  PPPPPPPPPPPP
BBBBBBBBBBBB        AAAAAAAAA        CCCCCCCCCCC  KKK         KKK  UUU          UUU  PPPPPPPPPPPP
BBB         BBB  AAA         AAA  CCC            KKK         KKK  UUU          UUU  PPP         PPP
BBB         BBB  AAA         AAA  CCC            KKK         KKK  UUU          UUU  PPP         PPP
BBB         BBB  AAA         AAA  CCC            KKK         KKK  UUU          UUU  PPP         PPP
BBB         BBB  AAA         AAA  CCC            KKK       KKK    UUU          UUU  PPP         PPP
BBB         BBB  AAA         AAA  CCC            KKK       KKK    UUU          UUU  PPP         PPP
BBB         BBB  AAA         AAA  CCC            KKK       KKK    UUU          UUU  PPP         PPP
BBBBBBBBBBBB     AAA         AAA  CCC            KKKKKKKKK        UUU          UUU  PPPPPPPPPPPP
BBBBBBBBBBBB     AAA         AAA  CCC            KKKKKKKKK        UUU          UUU  PPPPPPPPPPPP
BBBBBBBBBBBB     AAA         AAA  CCC            KKKKKKKKK        UUU          UUU  PPPPPPPPPPPP
BBB         BBB  AAAAAAAAAAAAAAA  CCC            KKK       KKK    UUU          UUU  PPP
BBB         BBB  AAAAAAAAAAAAAAA  CCC            KKK       KKK    UUU          UUU  PPP
BBB         BBB  AAAAAAAAAAAAAAA  CCC            KKK       KKK    UUU          UUU  PPP
BBB         BBB  AAA         AAA  CCC            KKK         KKK  UUU          UUU  PPP
BBB         BBB  AAA         AAA  CCC            KKK         KKK  UUU          UUU  PPP
BBB         BBB  AAA         AAA  CCC            KKK         KKK  UUU          UUU  PPP
BBBBBBBBBBBB     AAA         AAA     CCCCCCCCCCC  KKK         KKK  UUUUUUUUUUUUUUUU  PPP
BBBBBBBBBBBB     AAA         AAA     CCCCCCCCCCC  KKK         KKK  UUUUUUUUUUUUUUUU  PPP
BBBBBBBBBBBB     AAA         AAA     CCCCCCCCCCC  KKK         KKK  UUUUUUUUUUUUUUUU  PPP
BBBBBBBBBBBB     AAA         AAA     CCCCCCCCCCC  KKK         KKK  UUUUUUUUUUUUUUUU  PPP
```

FILEID**ANALYZE

```
  AAAAAA    NN      NN    AAAAAA    LL          YY      YY  ZZZZZZZZZZ  EEEEEEEEEE
  AAAAAA    NN      NN    AAAAAA    LL          YY      YY  ZZZZZZZZZZ  EEEEEEEEEE
AA      AA  NN      NN  AA      AA  LL          YY      YY          ZZ  EE
AA      AA  NN      NN  AA      AA  LL          YY      YY          ZZ  EE
AA      AA  NNNN    NN  AA      AA  LL            YY  YY          ZZ    EE
AA      AA  NNNN    NN  AA      AA  LL            YY  YY          ZZ    EE
AA      AA  NN  NN  NN  AA      AA  LL              YY          ZZ      EEEEEEEE
AA      AA  NN  NN  NN  AA      AA  LL              YY          ZZ      EEEEEEEE
AAAAAAAAAA  NN    NNNN  AAAAAAAAAA  LL              YY        ZZ        EE
AAAAAAAAAA  NN    NNNN  AAAAAAAAAA  LL              YY        ZZ        EE
AA      AA  NN      NN  AA      AA  LL              YY      ZZ          EE              ....
AA      AA  NN      NN  AA      AA  LL              YY      ZZ          EE              ....
AA      AA  NN      NN  AA      AA  LLLLLLLLLL      YY      ZZZZZZZZZZ  EEEEEEEEEE      ....
AA      AA  NN      NN  AA      AA  LLLLLLLLLL      YY      ZZZZZZZZZZ  EEEEEEEEEE      ....

LL              IIIIII      SSSSSSSS
LL              IIIIII      SSSSSSSS
LL                II      SS
LL                II      SS
LL                II      SS
LL                II      SS
LL                II        SSSSSS
LL                II        SSSSSS
LL                II              SS
LL                II              SS
LL                II              SS
LL                II              SS
LLLLLLLLLL      IIIIII    SSSSSSSS
LLLLLLLLLL      IIIIII    SSSSSSSS
```

```
;     1         0001  0 MODULE ANALYZE  (%TITLE 'Analyze a save set'
;     2         0002  0                  IDENT = 'V04-000'
;     3         0003  0                  ) =
;     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 !++
;    32         0032  1 ! FACILITY:
;    33         0033  1 !       Backup/Restore
;    34         0034  1 !
;    35         0035  1 ! ABSTRACT:
;    36         0036  1 !       This module contains the routines that analyze a save set.
;    37         0037  1 !
;    38         0038  1 ! ENVIRONMENT:
;    39         0039  1 !       VAX/VMS user mode.
;    40         0040  1 !--
;    41         0041  1 !
;    42         0042  1 ! AUTHOR: M. Jack, CREATION DATE: 03-Sep-1980
;    43         0043  1 !
;    44         0044  1 ! MODIFIED BY:
;    45         0045  1 !
;    46         0046  1 !       V03-009 LY0510          Larry Yetto             19-JUL-1984 08:44
;    47         0047  1 !               Add support for the new longword devtyp in the physical
;    48         0048  1 !               volume attributes record.  The format of this longword is
;    49         0049  1 !               the same as UCB$L_MEDIA_ID
;    50         0050  1 !
;    51         0051  1 !       V03-008 LY0485          Larry Yetto             27-APR-1984 08:42
;    52         0052  1 !               FT1 QAR # 2088  -  If the saveset being read is encrypted
;    53         0053  1 !               and /ENCRYPT not specified then report an error
;    54         0054  1 !
;    55         0055  1 !       V03-007 LMP0176         L. Mark Pilant,         6-Dec-1983  10:41
;    56         0056  1 !               Use the correct width in the call to $FORMAT_ACL.
;    57         0057  1 !
```

```
;    58          0058  1 !        V03-006 JWT0137         Jim Teague              19-Sep-1983  08:22
;    59          0059  1 !                CRYPTO_INIDEC and CRYPTO_DECR_BLOCK need to be WEAKened.
;    60          0060  1 !
;    61          0061  1 !        V03-005 JEP0003         J. Eric Pollack,        23-Apr-1983  10:53
;    62          0062  1 !                Add support for encrypted savesets.
;    63          0063  1 !
;    64          0064  1 !        V03-004 ACG0332         Andrew C. Goldstein,    19-Apr-1983  18:10
;    65          0065  1 !                Add support for file highwater mark and RMS journal flags
;    66          0066  1 !
;    67          0067  1 !        V03-003 LMP0100         L. Mark Pilant,         14-Apr-1983  13:17
;    68          0068  1 !                Add te $FORMAT_ACL system service.
;    69          0069  1 !
;    70          0070  1 !        V03-002 ACG0313         Andrew C. Goldstein,    12-Feb-1983  16:01
;    71          0071  1 !                Add routine subtitles
;    72          0072  1 !
;    73          0073  1 !        V03-001 LMP0044         L. Mark Pilant,         21-Oct-1982  15:10
;    74          0074  1 !                Add support for ACL's.
;    75          0075  1 !
;    76          0076  1 !        V02-006 MLJ0081         Martin L. Jack, 26-Feb-1982  16:16
;    77          0077  1 !                Add RETAINMIN and RETAINMAX attributes to support new home
;    78          0078  1 !                block fields.
;    79          0079  1 !
;    80          0080  1 !        V02-005 MLJ0075         Martin L. Jack, 28-Jan-1982  20:02
;    81          0081  1 !                Add VERLIMIT and DIR_VERLIM attributes to support version limit
;    82          0082  1 !                handling.
;    83          0083  1 !
;    84          0084  1 !        V02-004 MLJ0062         Martin L. Jack, 3-Dec-1981  12:16
;    85          0085  1 !                Add DIR_STATUS attribute to support /INCREMENTAL.
;    86          0086  1 !
;    87          0087  1 !        V02-003 MLJ0036         Martin L. Jack, 28-Aug-1981  17:09
;    88          0088  1 !                Implement parent directory attributes and reel restart.
;    89          0089  1 !
;    90          0090  1 !        V02-002 MLJ0023         Martin L. Jack, 23-Apr-1981  11:36
;    91          0091  1 !                Implement placement attribute.
;    92          0092  1 !
;    93          0093  1 !        V02-001 MLJ0010         Martin L. Jack, 25-Mar-1981  14:58
;    94          0094  1 !                Add new attributes for image restore.  Make some routines
;    95          0095  1 !                common with LIST module.  Replace OWN storage with LOCAL.
;    96          0096  1 !                Change !SL directives to !UL.
;    97          0097  1 !
;    98          0098  1 !**
```

```
;  100          0099  1 REQUIRE 'SRC$:COMMON';
;  101          1205  1 LIBRARY 'SYS$LIBRARY:STARLET';
;  102          1206  1 REQUIRE 'LIB$:BACKDEF';
;  103          1656  1
;  104          1657  1
;  105          1658  1 LINKAGE
;  106          1659  1         L_P$ =          CALL: GLOBAL(P$=11);
;  107          1660  1
;  108          1661  1
;  109          1662  1 MACRO
;  110          1663  1         L_DECL =        EXTERNAL REGISTER P$ = 11: REF VECTOR %;
;  111          1664  1
;  112          1665  1
;  113          1666  1 FORWARD ROUTINE
;  114          1667  1         ANALYZE_ONE_ATTRIBUTE:
;  115          1668  1                         L_P$ NOVALUE,   ! Format an attribute record
;  116          1669  1         ANALYZE_ONE_RECORD:
;  117          1670  1                         L_P$ NOVALUE,   ! Format a record
;  118          1671  1         ANALYZE_ONE_BUFFER:
;  119          1672  1                         L_P$ NOVALUE,   ! Format a block
;  120          1673  1         ANALYZE:        NOVALUE;        ! Driver for save set analysis
;  121          1674  1
;  122          1675  1
;  123          1676  1 EXTERNAL ROUTINE
;  124          1677  1         DEBLOCK:        L_P$ NOVALUE,   ! Deblock a save set buffer
;  125          1678  1         DEBLOCK_ATTR:   L_P$ NOVALUE,   ! Deblock an attribute record
;  126          1679  1         DECODE_DEVTYP:  NOVALUE,        ! Convert DEVTYP to ASCII string
;  127          1680  1         FIN_IN_SAVE:    NOVALUE,        ! Finish input save set processing
;  128          1681  1         INIT_IN_SAVE:   NOVALUE,        ! Initialize input save set processing
;  129          1682  1         LIST_FAO:       L_P$ NOVALUE,   ! Add information to line buffer
;  130          1683  1         LIST_EOL:       L_P$ NOVALUE,   ! Write line buffer to listing file
;  131          1684  1         LIST_PROTECTION:L_P$ NOVALUE,   ! List protection code
;  132          1685  1         READ_BUFFER,                    ! Get a save set buffer
;  133          1686  1         RESTORE_HANDLER,                ! Handler for RESTORE, LIST, ANALYZE
;  134          1687  1         CRYPTO_INIDEC: WEAK,            ! Initalize for reading encrypted saveset
;  135          1688  1         CRYPTO_CHKSAV,                  ! Check if saveset is encrypted
;  136          1689  1         CRYPTO_DECR_BLOCK: NOVALUE
;  137          1690  1                         WEAK;           ! Decrypt one block
;  138          1691  1
;  139          1692  1
;  140          1693  1 G$DEFINE();             ! Define global common area
;  141          1694  1
;  142          1695  1
;  143          1696  1 BIND
;  144          1697  1         FALSETRUE = UPLIT (
;  145          1698  1             UPLIT BYTE (%ASCIC 'False'),
;  146          1699  1             UPLIT BYTE (%ASCIC 'True'))
;  147          1700  1         : VECTOR;
;  148          1701  1
;  149          1702  1
;  150          1703  1 EXTERNAL LITERAL
;  151          1704  1     BACKUP$_BACNOTENC,
;  152          1705  1     BACKUP$_ENCSAVSET;
;  153          1706  1
;  154          1707  1 MACRO
;  155        M 1708  1         FAO_(A)=
;  156        M 1709  1             LIST_FAO(
```

```
;  157        M 1710  1                    UPLIT BYTE (%ASCIC A)
;  158          1711  1                    %IF NOT %NULL(%REMAINING) %THEN , %FI %REMAINING) %,
;  159          1712  1
;  160          1713  1
;  161        M 1714  1          EOL_(A)=
;  162          1715  1              LIST_EOL() %;
;  163          1716  1
;  164          1717  1
;  165          1718  1 MACRO
;  166          1719  1          _LIST_DESC=     P$[0] %,                ! Descriptor for buffer
;  167          1720  1          _LIST_BUFFER=   P$[2] %,                ! Listing buffer
;  168          1721  1          LIST_DESC(N)=           VECTOR[_LIST_DESC,N] %;
;  169          1722  1
;  170          1723  1
;  171          1724  1 LITERAL
;  172          1725  1          P$SIZE=         2 + CH$ALLOCATION(LIST_SIZE);
```

```
;  174          1726  1 %SBTTL 'ANALYZE_ONE_ATTRIBUTE - analyze contents of attribute record'
;  175          1727  1 ROUTINE ANALYZE_ONE_ATTRIBUTE(ATT): L_P$ NOVALUE=
;  176          1728  1
;  177          1729  1 !++
;  178          1730  1 !
;  179          1731  1 ! FUNCTIONAL DESCRIPTION:
;  180          1732  1 !       This routine analyzes the contents of one attribute record.
;  181          1733  1 !
;  182          1734  1 ! INPUT PARAMETERS:
;  183          1735  1 !       ATT             - Pointer to attribute record.
;  184          1736  1 !
;  185          1737  1 ! IMPLICIT INPUTS:
;  186          1738  1 !       NONE
;  187          1739  1 !
;  188          1740  1 ! OUTPUT PARAMETERS:
;  189          1741  1 !       NONE
;  190          1742  1 !
;  191          1743  1 ! IMPLICIT OUTPUTS:
;  192          1744  1 !       NONE
;  193          1745  1 !
;  194          1746  1 ! ROUTINE VALUE:
;  195          1747  1 !       NONE
;  196          1748  1 !
;  197          1749  1 ! SIDE EFFECTS:
;  198          1750  1 !       The listing is produced.
;  199          1751  1 !
;  200          1752  1 !--
;  201          1753  1
;  202          1754  2 BEGIN
;  203          1755  2
;  204          1756  2 LITERAL
;  205          1757  2         DEVTYP_BUF_LEN = 5 ;
;  206          1758  2
;  207          1759  2 MAP
;  208          1760  2         ATT:            REF BBLOCK;     ! Pointer to attribute record
;  209          1761  2
;  210          1762  2 BIND
;  211          1763  2         ATTRS = UPLIT (
;  212          1764  2             UPLIT BYTE (%ASCIC 'SSNAME'),
;  213          1765  2             UPLIT BYTE (%ASCIC 'COMMAND'),
;  214          1766  2             UPLIT BYTE (%ASCIC 'COMMENT'),
;  215          1767  2             UPLIT BYTE (%ASCIC 'USERNAME'),
;  216          1768  2             UPLIT BYTE (%ASCIC 'USERUIC'),
;  217          1769  2             UPLIT BYTE (%ASCIC 'DATE'),
;  218          1770  2             UPLIT BYTE (%ASCIC 'OPSYS'),
;  219          1771  2             UPLIT BYTE (%ASCIC 'SYSVER'),
;  220          1772  2             UPLIT BYTE (%ASCIC 'NODENAME'),
;  221          1773  2             UPLIT BYTE (%ASCIC 'SIR'),
;  222          1774  2             UPLIT BYTE (%ASCIC 'DRIVEID'),
;  223          1775  2             UPLIT BYTE (%ASCIC 'BACKVER'),
;  224          1776  2             UPLIT BYTE (%ASCIC 'BLOCKSIZE'),
;  225          1777  2             UPLIT BYTE (%ASCIC 'XORSIZE'),
;  226          1778  2             UPLIT BYTE (%ASCIC 'BUFFERS'),
;  227          1779  2             UPLIT BYTE (%ASCIC 'VOLSETNAM'),
;  228          1780  2             UPLIT BYTE (%ASCIC 'NVOLS'),
;  229          1781  2             UPLIT BYTE (%ASCIC 'BACKSIZE'),
;  230          1782  2             UPLIT BYTE (%ASCIC 'BACKFILES'),
```

```
;  231     1783  2              UPLIT BYTE (%ASCIC 'VOLSTRUCT'),
;  232     1784  2              UPLIT BYTE (%ASCIC 'VOLNAME'),
;  233     1785  2              UPLIT BYTE (%ASCIC 'OWNERNAME'),
;  234     1786  2              UPLIT BYTE (%ASCIC 'FORMAT'),
;  235     1787  2              UPLIT BYTE (%ASCIC 'RVN'),
;  236     1788  2              UPLIT BYTE (%ASCIC 'VOLOWNER'),
;  237     1789  2              UPLIT BYTE (%ASCIC 'PROTECT'),
;  238     1790  2              UPLIT BYTE (%ASCIC 'FILEPROT'),
;  239     1791  2              UPLIT BYTE (%ASCIC 'RECPROT'),
;  240     1792  2              UPLIT BYTE (%ASCIC 'VOLCHAR'),
;  241     1793  2              UPLIT BYTE (%ASCIC 'VOLDATE'),
;  242     1794  2              UPLIT BYTE (%ASCIC 'WINDOW'),
;  243     1795  2              UPLIT BYTE (%ASCIC 'LRU_LIM'),
;  244     1796  2              UPLIT BYTE (%ASCIC 'EXTEND'),
;  245     1797  2              UPLIT BYTE (%ASCIC 'CLUSTER'),
;  246     1798  2              UPLIT BYTE (%ASCIC 'RESFILES'),
;  247     1799  2              UPLIT BYTE (%ASCIC 'VOLSIZE'),
;  248     1800  2              UPLIT BYTE (%ASCIC 'TOTSIZE'),
;  249     1801  2              UPLIT BYTE (%ASCIC 'TOTFILES'),
;  250     1802  2              UPLIT BYTE (%ASCIC 'MAXFILES'),
;  251     1803  2              UPLIT BYTE (%ASCIC 'MAXFILNUM'),
;  252     1804  2              UPLIT BYTE (%ASCIC 'SERIALNUM'),
;  253     1805  2              UPLIT BYTE (%ASCIC 'FILENAME'),
;  254     1806  2              UPLIT BYTE (%ASCIC 'STRUCLEV'),
;  255     1807  2              UPLIT BYTE (%ASCIC 'FID'),
;  256     1808  2              UPLIT BYTE (%ASCIC 'BACKLINK'),
;  257     1809  2              UPLIT BYTE (%ASCIC 'FILESIZE'),
;  258     1810  2              UPLIT BYTE (%ASCIC 'UIC'),
;  259     1811  2              UPLIT BYTE (%ASCIC 'FPRO'),
;  260     1812  2              UPLIT BYTE (%ASCIC 'RPRO'),
;  261     1813  2              UPLIT BYTE (%ASCIC 'ACLEVEL'),
;  262     1814  2              UPLIT BYTE (%ASCIC 'UCHAR'),
;  263     1815  2              UPLIT BYTE (%ASCIC 'RECATTR'),
;  264     1816  2              UPLIT BYTE (%ASCIC 'REVISION'),
;  265     1817  2              UPLIT BYTE (%ASCIC 'CREDATE'),
;  266     1818  2              UPLIT BYTE (%ASCIC 'REVDATE'),
;  267     1819  2              UPLIT BYTE (%ASCIC 'EXPDATE'),
;  268     1820  2              UPLIT BYTE (%ASCIC 'BAKDATE'),
;  269     1821  2              UPLIT BYTE (%ASCIC 'SECTORS'),
;  270     1822  2              UPLIT BYTE (%ASCIC 'TRACKS'),
;  271     1823  2              UPLIT BYTE (%ASCIC 'CYLINDERS'),
;  272     1824  2              UPLIT BYTE (%ASCIC 'MAXBLOCK'),
;  273     1825  2              UPLIT BYTE (%ASCIC 'DEVTYP'),
;  274     1826  2              UPLIT BYTE (%ASCIC 'SERIAL'),
;  275     1827  2              UPLIT BYTE (%ASCIC 'DEVNAM'),
;  276     1828  2              UPLIT BYTE (%ASCIC 'LABEL'),
;  277     1829  2              UPLIT BYTE (%ASCIC 'BADBLOCK'),
;  278     1830  2              UPLIT BYTE (%ASCIC 'INDEXLBN'),
;  279     1831  2              UPLIT BYTE (%ASCIC 'BOOTBLOCK'),
;  280     1832  2              UPLIT BYTE (%ASCIC 'BOOTVBN'),
;  281     1833  2              UPLIT BYTE (%ASCIC 'PLACEMENT'),
;  282     1834  2              UPLIT BYTE (%ASCIC 'DIR_UIC'),
;  283     1835  2              UPLIT BYTE (%ASCIC 'DIR_FPRO'),
;  284     1836  2              UPLIT BYTE (%ASCIC 'DIR_STATUS'),
;  285     1837  2              UPLIT BYTE (%ASCIC 'DIR_VERLIM'),
;  286     1838  2              UPLIT BYTE (%ASCIC 'VER_LIMIT'),
;  287     1839  2              UPLIT BYTE (%ASCIC 'RETAINMIN'),
```

```
;  288          1840  2              UPLIT BYTE (%ASCIC 'RETAINMAX'),
;  289          1841  2              UPLIT BYTE (%ASCIC 'ACLSEGMENT'),
;  290          1842  2              UPLIT BYTE (%ASCIC 'HIGHWATER'),
;  291          1843  2              UPLIT BYTE (%ASCIC 'JNL_FLAGS'),
;  292          1844  2              UPLIT BYTE (%ASCIC 'CRYPDATKEY'))
;  293          1845  2          : VECTOR;
;  294          1846  2 L_DECL;
;  295          1847  2
;  296          1848  2
;  297          1849  2 ! List the attribute name.
;  298          1850  2 !
;  299        P 1851  2 FAO_('    SIZE = !3SL, TYPE = !AC',
;  300          1852  2     .ATT[BSA$W_SIZE], .ATTRS[.ATT[BSA$W_TYPE]-1]);
;  301          1853  2 EOL_();
;  302          1854  2
;  303          1855  2
;  304          1856  2 ! List the attribute value in an appropriate format.
;  305          1857  2 !
;  306          1858  2 FAO_('      ');
;  307          1859  2 CASE .ATT[BSA$W_TYPE] FROM BSA$K_SSNAME TO BSA$K_NUM_ATRS-1 OF
;  308          1860  2     SET
;  309          1861  2
;  310          1862  2     [BSA$K_SSNAME, BSA$K_COMMAND, BSA$K_COMMENT, BSA$K_USERNAME, BSA$K_SYSVER,
;  311          1863  2      BSA$K_BACKVER, BSA$K_NODENAME, BSA$K_DRIVEID, BSA$K_VOLSETNAM,
;  312          1864  2      BSA$K_VOLNAME, BSA$K_OWNERNAME, BSA$K_FORMAT, BSA$K_FILENAME,
;  313          1865  2      BSA$K_DEVNAM, BSA$K_LABEL]:
;  314        P 1866  2         FAO_('"!AF"'
;  315          1867  2             .ATT[BSA$W_SIZE], ATT[BSA$C_LENGTH,0,0,0]);
;  316          1868  2
;  317          1869  2     [BSA$K_USERUIC, BSA$K_VOLOWNER, BSA$K_UIC, BSA$K_DIR_UIC]:
;  318        P 1870  2         FAO_('!%U'
;  319          1871  2             .ATT[BSA$C_LENGTH,0,32,0]);
;  320          1872  2
;  321          1873  2     [BSA$K_DATE, BSA$K_VOLDATE, BSA$K_CREDATE, BSA$K_REVDATE, BSA$K_EXPDATE,
;  322          1874  2      BSA$K_BAKDATE, BSA$K_RETAINMIN, BSA$K_RETAINMAX]:
;  323        P 1875  2         FAO_('!%D'
;  324          1876  2             ATT[BSA$C_LENGTH,0,0,0]);
;  325          1877  2
;  326          1878  2     [BSA$K_BLOCKSIZE, BSA$K_XORSIZE, BSA$K_BUFFERS, BSA$K_NVOLS,
;  327          1879  2      BSA$K_BACKFILES, BSA$K_RVN, BSA$K_WINDOW, BSA$K_LRU_LIM, BSA$K_EXTEND,
;  328          1880  2      BSA$K_CLUSTER, BSA$K_RESFILES, BSA$K_VOLSIZE, BSA$K_TOTFILES,
;  329          1881  2      BSA$K_MAXFILES, BSA$K_MAXFILNUM, BSA$K_FILESIZE, BSA$K_REVISION,
;  330          1882  2      BSA$K_SECTORS, BSA$K_TRACKS, BSA$K_CYLINDERS, BSA$K_MAXBLOCK,
;  331          1883  2      BSA$K_INDEXLBN, BSA$K_BOOTVBN, BSA$K_DIR_VERLIM,
;  332          1884  2      BSA$K_VERLIMIT, BSA$K_HIGHWATER]:
;  333        P 1885  2         FAO_('!UL'
;  334          1886  2             .ATT[BSA$C_LENGTH,0,.ATT[BSA$W_SIZE]*8,1]);
;  335          1887  2
;  336          1888  2     [BSA$K_DEVTYP] :
;  337          1889  2         IF .ATT[BSA$W_SIZE] EQL 1
;  338          1890  2         THEN
;  339          1891  2             ! Old format DEVTYP attribute.  This is the DEVTYP from the UCB
;  340          1892  2             !
;  341        P 1893  2             FAO_('!UL',
;  342          1894  2                 .ATT[BSA$C_LENGTH,0,.ATT[BSA$W_SIZE]*8,1])
;  343          1895  2
;  344          1896  2         ELSE
```

```
;  345          1897  3              BEGIN
;  346          1898
;  347          1899                 ! New format DEVTYP.  We now use a longword and store
;  348          1900                 ! the MEDIA_ID from the UCB.  We use the nondecoded
;  349          1901                 ! form of the MEDIA_ID so we must now pull the ASCII out.
;  350          1902                 !
;  351          1903                 LOCAL
;  352          1904                     NAME_LENGTH    : LONG   INITIAL (DEVTYP_BUF_LEN),
;  353          1905                     TYPE_LENGTH    : LONG   INITIAL (DEVTYP_BUF_LEN),
;  354          1906                     NAME_BUFFER    : VECTOR[DEVTYP_BUF_LEN,BYTE] ,
;  355          1907                     TYPE_BUFFER    : VECTOR[DEVTYP_BUF_LEN,BYTE] ;
;  356          1908
;  357          1909                 DECODE_DEVTYP ( .ATT[BSA$C_LENGTH,0,32,0],
;  358          1910                                 NAME_LENGTH, NAME_BUFFER,
;  359          1911                                 TYPE_LENGTH, TYPE_BUFFER ) ;
;  360          1912
;  361        P 1913                 FAO_ ('!XL (!AF,!AF)',
;  362        P 1914                       .ATT[BSA$C_LENGTH,0,.ATT[BSA$W_SIZE]*8,0],
;  363        P 1915                       .TYPE_LENGTH, TYPE_BUFFER,
;  364          1916                       .NAME_LENGTH, NAME_BUFFER );
;  365          1917
;  366          1918                 END ;
;  367          1919
;  368          1920
;  369          1921  2          [BSA$K_FID, BSA$K_BACKLINK]:
;  370        P 1922  2              FAO_('!UL,!UL,!UL',
;  371        P 1923  2                   .ATT[BSA$C_LENGTH,0,16,0] + .ATT[BSA$C_LENGTH+5,0,8,0] ^ 16,
;  372        P 1924  2                   .ATT[BSA$C_LENGTH+2,0,16,0],
;  373          1925  2                   .ATT[BSA$C_LENGTH+4,0,8,0]);
;  374          1926  2
;  375          1927  2          [BSA$K_PROTECT]:
;  376          1928  2              LIST_PROTECTION(.ATT[BSA$C_LENGTH,0,16,0], 'RWCD');
;  377          1929  2
;  378          1930  2          [BSA$K_FILEPROT, BSA$K_FPRO, BSA$K_DIR_FPRO]:
;  379          1931  2              LIST_PROTECTION(.ATT[BSA$C_LENGTH,0,16,0], 'RWED');
;  380          1932  2
;  381          1933  2          [BSA$K_RECPROT, BSA$K_RPRO]:
;  382          1934  2              LIST_PROTECTION(.ATT[BSA$C_LENGTH,0,16,0], 'RWUD');
;  383          1935  2
;  384          1936  2          [BSA$K_BADBLOCK]:
;  385          1937  3              BEGIN LOCAL P: REF VECTOR;
;  386          1938  3              P = ATT[BSA$C_LENGTH,0,0,0];
;  387          1939  3              WHILE .P LSSA ATT[BSA$C_LENGTH,0,0,0]+.ATT[BSA$W_SIZE] DO
;  388          1940  4                  BEGIN
;  389          1941  4                  FAO_('!UL:!UL ', .P[0], .P[1]);
;  390          1942  4                  P = .P + 8;
;  391          1943  3                  END;
;  392          1944  2              END;
;  393          1945  2
;  394          1946  2          [BSA$K_SERIAL, BSA$K_SERIALNUM]:
;  395        P 1947  2              FAO_('!OL',
;  396          1948  2                   .ATT[BSA$C_LENGTH,0,32,0]);
;  397          1949  2
;  398          1950  2          [BSA$K_ACLSEGMENT]:
;  399          1951  3              BEGIN
;  400          1952  3              LOCAL
;  401          1953  3                  ACE_POINTER : REF BBLOCK,          ! Address of the current ACE
```

```
;  402          1954  3            ACE_BINDESC : BBLOCK [8],                ! ACE binary descriptor
;  403          1955  3            ACE_TXTDESC : BBLOCK [8],                ! ACE text descriptor
;  404          1956  3            ACE_TEXT    : BBLOCK [512];              ! Converted ACE storage
;  405          1957  3        ACE_POINTER = ATT[BSA$C_LENGTH,0,0,0];  ! Start of ACE's
;  406          1958  3        CH$FILL (0, 8, ACE_BINDESC);
;  407          1959  3        CH$FILL (0, 8, ACE_TXTDESC);
;  408          1960  3        UNTIL .ACE_POINTER GEQA ATT[BSA$C_LENGTH,0,0,0] + .ATT[BSA$W_SIZE]
;  409          1961  3        DO
;  410          1962  4            BEGIN
;  411          1963  4            ACE_BINDESC[DSC$W_LENGTH] = .ACE_POINTER[ACE$B_SIZE];
;  412          1964  4            ACE_BINDESC[DSC$A_POINTER] = .ACE_POINTER;
;  413          1965  4            ACE_TXTDESC[DSC$W_LENGTH] = 512;
;  414          1966  4            ACE_TXTDESC[DSC$A_POINTER] = ACE_TEXT;
;  415        P 1967  4            $FORMAT_ACL (ACLENT = ACE_BINDESC,
;  416        P 1968  4                         ACLLEN = ACE_TXTDESC[DSC$W_LENGTH],
;  417        P 1969  4                         ACLSTR = ACE_TXTDESC,
;  418        P 1970  4                         WIDTH = %REF (80),
;  419        P 1971  4                         TRMDSC = $DESCRIPTOR (%CHAR (13), %CHAR (10)),
;  420          1972  4                         INDENT = %REF (6));
;  421          1973  4
;  422          1974  4
;  423          1975  4            ! Shave off the first 6 blanks if this is the first ACE being
;  424          1976  4            ! output as they have already been output.
;  425          1977  4            !
;  426          1978  4            IF .ACE_POINTER EQLA ATT[BSA$C_LENGTH,0,0,0]
;  427          1979  4            THEN
;  428          1980  5                BEGIN
;  429          1981  5                ACE_TXTDESC[DSC$W_LENGTH] = .ACE_TXTDESC[DSC$W_LENGTH] - 6;
;  430          1982  5                ACE_TXTDESC[DSC$A_POINTER] = .ACE_TXTDESC[DSC$A_POINTER] + 6;
;  431          1983  4                END;
;  432          1984  4            FAO_ ('!AS', ACE_TXTDESC);
;  433          1985  4            EOL_ ();
;  434          1986  4            ACE_POINTER = .ACE_POINTER + .ACE_POINTER[ACE$B_SIZE];
;  435          1987  3            END;
;  436          1988  2        END;
;  437          1989  2
;  438          1990  2        [BSA$K_CRYPDATKEY] :
;  439          1991  3            BEGIN
;  440          1992  3            FAO_('Encrypted with algorithm: !XB', .ATT[BSA$B_CRYPTYP]);
;  441          1993  3            EOL_();
;  442          1994  3            IF .ATT[BSA$B_CRYPTYP] NEQU 0
;  443          1995  3            THEN
;  444          1996  4            BEGIN
;  445        P 1997  4            FAO_('Key:!XL !XL, Iv:!XL !XL',
;  446        P 1998  4                .ATT[$BYTEOFFSET(BSA$Q_CRYPKEY),0,32,0],
;  447        P 1999  4                .ATT[$BYTEOFFSET(BSA$Q_CRYPKEY)+4,0,32,0],
;  448        P 2000  4                .ATT[$BYTEOFFSET(BSA$Q_CRYPIV),0,32,0],
;  449          2001  4                .ATT[$BYTEOFFSET(BSA$Q_CRYPIV)+4,0,32,0]);
;  450          2002  4            EOL_();
;  451          2003  3            END;
;  452          2004  2        END;
;  453          2005  2
;  454          2006  2        [INRANGE, OUTRANGE]:
;  455          2007  3            BEGIN
;  456          2008  3            DECR I FROM .ATT[BSA$W_SIZE]-1 TO 0 DO
;  457          2009  3                FAO_('!XB', .ATT[.I+BSA$C_LENGTH,0,8,0]);
;  458          2010  2            END;
```

```
;  459          2011  2
;  460          2012  2      TES;
;  461          2013  2 EOL_();
;  462          2014  1 END;


                                                .TITLE  ANALYZE Analyze a save set
                                                .IDENT  \V04-000\

                                                .PSECT  COMMON,NOEXE,  OVR,2

                                        00000 GLOBAL_BASE:
                                                .BLKB   0
                                        00000 FREE_LIST:
                                                .BLKB   8
                                        00008 INPUT_WAIT:
                                                .BLKB   8
                                        00010 REREAD_WAIT:
                                                .BLKB   8
                                        00018 OUTPUT_WAIT:
                                                .BLKB   8
                                        00020 JPI_UIC:.BLKB     4
                                        00024 JPI_USERNAME:
                                                .BLKB   12
                                        00030 JPI_DATE:
                                                .BLKB   8
                                        00038 JPI_NODE_DESC:
                                                .BLKB   8
                                        00040 JPI_CURPRIV:
                                                .BLKB   8
                                        00048 SYI_VERSION:
                                                .BLKB   4
                                        0004C SYI_SID:.BLKB     4
                                        00050 RWSV_HOLD_LIST:
                                                .BLKB   8
                                        00058 RWSV_CRC16:
                                                .BLKB   64
                                        00098 RWSV_AUTODIN:
                                                .BLKB   64
                                        000D8 RWSV_FILESET_ID:
                                                .BLKB   8
                                        000E0 RWSV_VOLUME_ID:
                                                .BLKB   12
                                        000EC RWSV_VOL_NUMBER:
                                                .BLKB   2
                                        000EE RWSV_SEG_NUMBER:
                                                .BLKB   2
                                        000F0 RWSV_FILE_NUMBER:
                                                .BLKB   4
                                        000F4 RWSV_SAVE_QUAL:
                                                .BLKB   4
                                        000F8 RWSV_SAVE_FAB:
                                                .BLKB   4
                                        000FC RWSV_CHAN:
                                                .BLKB   4
                                        00100 RWSV_XOR_BCB:
                                                .BLKB   4
```

```
00104 RWSV_IN_SEQ:
                .BLKB   4
00108 RWSV_IN_SEQ_0:
                .BLKB   4
0010C RWSV_IN_XOR_SEQ:
                .BLKB   4
00110 RWSV_IN_XOR_RFA:
                .BLKB   6
00116 RWSV_LOOKAHEAD:
                .BLKB   1
00117 RWSV_XORSIZE:
                .BLKB   1
00118 RWSV_IN_GROUP_SIZE:
                .BLKB   4
0011C RWSV_IN_ERRORS:
                .BLKB   2
0011E RWSV_IN_XORUSE:
                .BLKB   2
00120 RWSV_IN_ORGERR:
                .BLKB   8
00128 RWSV_IN_VBN:
                .BLKB   4
0012C RWSV_IN_VBN_0:
                .BLKB   4
00130 RWSV_ALLOC:
                .BLKB   4
00134 RWSV_EOF:
                .BLKB   4
00138 RWSV_OUT_SEQ:
                .BLKB   4
0013C RWSV_OUT_VBN:
                .BLKB   4
00140 RWSV_OUT_BLOCK_COUNT:
                .BLKB   4
00144 RWSV_OUT_ERRORS:
                .BLKB   2
00146 RWSV_SEQ_ERRORS:
                .BLKB   2
00148 RWSV_OUT_GROUP_COUNT:
                .BLKB   1
00149 RWSV_PADDING:
                .BLKB   3
0014C QUAL:     .BLKB   112
001BC COM_SSNAME:
                .BLKB   8
001C4 COM_VALID_TYPES:
                .BLKB   2
001C6 COM_FLAGS:
                .BLKB   2
001C8 COM_PADDING:
                .BLKB   1
001C9 COM_BUFF_COUNT:
                .BLKB   1
001CA COM_I_SETCOUNT:
                .BLKB   1
001CB COM_O_SETCOUNT:
                .BLKB   1
```

```
001CC COM_I_STRUCNAME:
                .BLKB   12
001D8 COM_O_STRUCNAME:
                .BLKB   12
001E4 COM_O_BSRDATE:
                .BLKB   8
001EC ALT_SSNAME:
                .BLKB   32
0020C INPUT_FUNC:
                .BLKB   1
0020D INPUT_RTYPE:
                .BLKB   1
0020E OUTPUT_FUNC:
                .BLKB   1
0020F FAST_STRUCLEV:
                .BLKB   1
00210 INPUT_BEG:
                .BLKB   0
00210 INPUT_CHAN:
                .BLKB   4
00214 INPUT_FLAGS:
                .BLKB   2
00216 INPUT_PADDING:
                .BLKB   2
00218 INPUT_FAB:
                .BLKB   4
0021C INPUT_NAM:
                .BLKB   4
00220 INPUT_BCB:
                .BLKB   4
00224 INPUT_QUAL:
                .BLKB   4
00228 INPUT_BAD:
                .BLKB   4
0022C INPUT_BLOCK:
                .BLKB   4
00230 INPUT_MAXBLOCK:
                .BLKB   4
00234 INPUT_MEDIA_ID:
                .BLKB   4
00238 INPUT_NAMEDESC:
                .BLKB   8
00240 INPUT_STATBLK:
                .BLKB   8
00248 INPUT_HDR_BEG:
                .BLKB   0
00248 INPUT_CREDATE:
                .BLKB   8
00250 INPUT_REVDATE:
                .BLKB   8
00258 INPUT_EXPDATE:
                .BLKB   8
00260 INPUT_BAKDATE:
                .BLKB   8
00268 INPUT_FILEOWNER:
                .BLKB   4
0026C INPUT_FILECHAR:
```

```
                                .BLKB   4
00270 INPUT_RECATTR:
                                .BLKB   32
00290 INPUT_HDR_END:
                                .BLKB   0
00290 INPUT_END:
                                .BLKB   0
00290 INPUT_PROC_LIST:
                                .BLKB   4
00294 INPUT_PLACEMENT:
                                .BLKB   8
0029C INPUT_VBN_LIST:
                                .BLKB   8
002A4 INPUT_PLACE_LEN:
                                .BLKB   2
002A6 INPUT_PADDING_2:
                                .BLKB   2
002A8 OUTPUT_BEG:
                                .BLKB   0
002A8 OUTPUT_CHAN:
                                .BLKB   4
002AC OUTPUT_FLAGS:
                                .BLKB   2
002AE OUTPUT_PADDING:
                                .BLKB   2
002B0 OUTPUT_FAB:
                                .BLKB   4
002B4 OUTPUT_NAM:
                                .BLKB   4
002B8 OUTPUT_BCB:
                                .BLKB   4
002BC OUTPUT_QUAL:
                                .BLKB   4
002C0 OUTPUT_BAD:
                                .BLKB   4
002C4 OUTPUT_BLOCK:
                                .BLKB   4
002C8 OUTPUT_MAXBLOCK:
                                .BLKB   4
002CC OUTPUT_DEVGEOM:
                                .BLKB   8
002D4 OUTPUT_ATTBUF:
                                .BLKB   144
00364 OUTPUT_END:
                                .BLKB   0
00364 LIST_TOTFILES:
                                .BLKB   4
00368 LIST_TOTSIZE:
                                .BLKB   4
0036C VERIFY_FAB:
                                .BLKB   4
00370 VERIFY_USE_COUNT:
                                .BLKB   4
00374 VERIFY_QUAL:
                                .BLKB   4
00378 COMPARE_BCB:
                                .BLKB   4
```

```
0037C FAST_BUFFER:
                .BLKB   4
00380 FAST_BUFFER_SIZE:
                .BLKB   4
00384 FAST_RVN:
                .BLKB   1
00385 FAST_PADDING:
                .BLKB   1
00386 DIR_VERLIMIT:
                .BLKB   2
00388 FAST_VOL_BEG:
                .BLKB   0
00388 FAST_IMAP_SIZE:
                .BLKB   4
0038C FAST_IMAP:
                .BLKB   4
00390 FAST_HDR_OFFSET:
                .BLKB   4
00394 FAST_BOOT_LBN:
                .BLKB   4
00398 FAST_VOL_END:
                .BLKB   0
00398 JOUR_BUFFER:
                .BLKB   4
0039C JOUR_DIR:
                .BLKB   4
003A0 JOUR_HIBLK:
                .BLKB   4
003A4 JOUR_EFBLK:
                .BLKB   4
003A8 JOUR_INBLK:
                .BLKB   4
003AC JOUR_FFBYTE:
                .BLKB   2
003AE JOUR_INBYTE:
                .BLKB   2
003B0 JOUR_STRUCT_LEV:
                .BLKB   2
003B2 JOUR_COUNT:
                .BLKB   1
003B3 JOUR_REVERSE:
                .BLKB   1
003B4 JOUR_EXSZ:
                .BLKB   2
003B6 JOUR_PADDING:
                .BLKB   2
003B8 CHKPT_HIGH_SP:
                .BLKB   4
003BC CHKPT_LOW_SP:
                .BLKB   4
003C0 CHKPT_STACK:
                .BLKB   4
003C4 CHKPT_VARS:
                .BLKB   4
003C8 CHKPT_STATUS:
                .BLKB   4
003CC DIR_BEG:.BLKB     0
```

```
003CC DIR_CHAN:
                .BLKB   4
003D0 DIR_NAM:.BLKB     4
003D4 DIR_DEV_DESC:
                .BLKB   4
003D8 DIR_SEL_DIR:
                .BLKB   8
003E0 DIR_SEL_NTV:
                .BLKB   8
003E8 DIR_STRUCLEV:
                .BLKB   1
003E9 DIR_LEVELS:
                .BLKB   1
003EA DIR_FLAGS:
                .BLKB   1
003EB DIR_STATUS:
                .BLKB   1
003EC DIR_STRING:
                .BLKB   320
0052C DIR_STACK:
                .BLKB   612
00790 DIR_SP: .BLKB     4
00794 DIR_SEL_LATEST:
                .BLKB   4
00798 DIR_END:.BLKB     0
00798 DIR_SCANLIMIT:
                .BLKB   36
007BC INPUT_MTL:
                .BLKB   4
007C0 OUTPUT_MTL:
                .BLKB   4
007C4 CURRENT_MTL:
                .BLKB   4
007C8 CURRENT_VCB:
                .BLKB   4
007CC CURRENT_WCB:
                .BLKB   4
007D0 ACL_FIB_DESCR:
                .BLKB   8
007D8 ACL_FIB:.BLKB     64
00818 ACL_LENGTH:
                .BLKB   4
0081C ACL_BUFFER:
                .BLKB   4
00820 CRYP_IN_CONTEXT:
                .BLKB   4
00824 CRYP_OU_CONTEXT:
                .BLKB   4
00828 CRYP_DA_CONTEXT:
                .BLKB   4
0082C CRYP_DATA_ENCIV:
                .BLKB   8
00834 CRYP_DATA_CODE:
                .BLKB   4
00838 CRYP_DATA_KEY:
                .BLKB   8
00840 CRYP_DATA_IV:
```

```
                                                                .BLKB   8
                                          00848 CRYP_DATA_CKSM:
                                                                .BLKB   4

                                                                .PSECT  CODE,NOWRT,2

                           65  73  6C  61  46  05  00000 P.AAB: .ASCII  <5>\False\           ;
                               65  75  72  54  04  00006 P.AAC: .ASCII  <4>\True\            ;
                                                   0000B        .BLKB   1
                          00000000'  00000000'     0000C P.AAA: .ADDRESS P.AAB, P.AAC        ;
                   45  4D  41  4E  53  53  06      00014 P.AAE: .ASCII  <6>\SSNAME\          ;
               44  4E  41  4D  4D  4F  43  07      0001B P.AAF: .ASCII  <7>\COMMAND\         ;
               54  4E  45  4D  4D  4F  43  07      00023 P.AAG: .ASCII  <7>\COMMENT\         ;
           45  4D  41  4E  52  45  53  55  08      0002B P.AAH: .ASCII  <8>\USERNAME\        ;
               43  49  55  52  45  53  55  07      00034 P.AAI: .ASCII  <7>\USERUIC\         ;
                           45  54  41  44  04      0003C P.AAJ: .ASCII  <4>\DATE\            ;
                       53  59  53  50  4F  05      00041 P.AAK: .ASCII  <5>\OPSYS\           ;
                   52  45  56  53  59  53  06      00047 P.AAL: .ASCII  <6>\SYSVER\          ;
           45  4D  41  4E  45  44  4F  4E  08      0004E P.AAM: .ASCII  <8>\NODENAME\        ;
                               52  49  53  03      00057 P.AAN: .ASCII  <3>\SIR\             ;
               44  49  45  56  49  52  44  07      0005B P.AAO: .ASCII  <7>\DRIVEID\         ;
               52  45  56  4B  43  41  42  07      00063 P.AAP: .ASCII  <7>\BACKVER\         ;
       45  5A  49  53  4B  43  4F  4C  42  09      0006B P.AAQ: .ASCII  <9>\BLOCKSIZE\       ;
               45  5A  49  53  52  4F  58  07      00075 P.AAR: .ASCII  <7>\XORSIZE\         ;
               53  52  45  46  46  55  42  07      0007D P.AAS: .ASCII  <7>\BUFFERS\         ;
       4D  41  4E  54  45  53  4C  4F  56  09      00085 P.AAT: .ASCII  <9>\VOLSETNAM\       ;
                       53  4C  4F  56  4E  05      0008F P.AAU: .ASCII  <5>\NVOLS\           ;
           45  5A  49  53  4B  43  41  42  08      00095 P.AAV: .ASCII  <8>\BACKSIZE\        ;
       53  45  4C  49  46  4B  43  41  42  09      0009E P.AAW: .ASCII  <9>\BACKFILES\       ;
       54  43  55  52  54  53  4C  4F  56  09      000A8 P.AAX: .ASCII  <9>\VOLSTRUCT\       ;
               45  4D  41  4E  4C  4F  56  07      000B2 P.AAY: .ASCII  <7>\VOLNAME\         ;
       45  4D  41  4E  52  45  4E  57  4F  09      000BA P.AAZ: .ASCII  <9>\OWNERNAME\       ;
                   54  41  4D  52  4F  46  06      000C4 P.ABA: .ASCII  <6>\FORMAT\          ;
                               4E  56  52  03      000CB P.ABB: .ASCII  <3>\RVN\             ;
           52  45  4E  57  4F  4C  4F  56  08      000CF P.ABC: .ASCII  <8>\VOLOWNER\        ;
               54  43  45  54  4F  52  50  07      000D8 P.ABD: .ASCII  <7>\PROTECT\         ;
           54  4F  52  50  45  4C  49  46  08      000E0 P.ABE: .ASCII  <8>\FILEPROT\        ;
               54  4F  52  50  43  45  52  07      000E9 P.ABF: .ASCII  <7>\RECPROT\         ;
               52  41  48  43  4C  4F  56  07      000F1 P.ABG: .ASCII  <7>\VOLCHAR\         ;
               45  54  41  44  4C  4F  56  07      000F9 P.ABH: .ASCII  <7>\VOLDATE\         ;
                   57  4F  44  4E  49  57  06      00101 P.ABI: .ASCII  <6>\WINDOW\          ;
               4D  49  4C  5F  55  52  4C  07      00108 P.ABJ: .ASCII  <7>\LRU_LIM\         ;
                   44  4E  45  54  58  45  06      00110 P.ABK: .ASCII  <6>\EXTEND\          ;
               52  45  54  53  55  4C  43  07      00117 P.ABL: .ASCII  <7>\CLUSTER\         ;
           53  45  4C  49  46  53  45  52  08      0011F P.ABM: .ASCII  <8>\RESFILES\        ;
               45  5A  49  53  4C  4F  56  07      00128 P.ABN: .ASCII  <7>\VOLSIZE\         ;
               45  5A  49  53  54  4F  54  07      00130 P.ABO: .ASCII  <7>\TOTSIZE\         ;
           53  45  4C  49  46  54  4F  54  08      00138 P.ABP: .ASCII  <8>\TOTFILES\        ;
           53  45  4C  49  46  58  41  4D  08      00141 P.ABQ: .ASCII  <8>\MAXFILES\        ;
       4D  55  4E  4C  49  46  58  41  4D  09      0014A P.ABR: .ASCII  <9>\MAXFILNUM\       ;
       4D  55  4E  4C  41  49  52  45  53  09      00154 P.ABS: .ASCII  <9>\SERIALNUM\       ;
           45  4D  41  4E  45  4C  49  46  08      0015E P.ABT: .ASCII  <8>\FILENAME\        ;
           56  45  4C  43  55  52  54  53  08      00167 P.ABU: .ASCII  <8>\STRUCLEV\        ;
                               44  49  46  03      00170 P.ABV: .ASCII  <3>\FID\             ;
           4B  4E  49  4C  4B  43  41  42  08      00174 P.ABW: .ASCII  <8>\BACKLINK\        ;
           45  5A  49  53  45  4C  49  46  08      0017D P.ABX: .ASCII  <8>\FILESIZE\        ;
                               43  49  55  03      00186 P.ABY: .ASCII  <3>\UIC\             ;
```

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                                         4F  52  50  46  04  0018A P.ABZ:  .ASCII   <4>\FPRO\                                     ;
                                         4F  52  50  52  04  0018F P.ACA:  .ASCII   <4>\RPRO\                                     ;
                             4C  45  56  45  4C  43  41  07  00194 P.ACB:  .ASCII   <7>\ACLEVEL\                                  ;
                                     52  41  48  43  55  05  0019C P.ACC:  .ASCII   <5>\UCHAR\                                    ;
                             52  54  54  41  43  45  52  07  001A2 P.ACD:  .ASCII   <7>\RECATTR\                                  ;
                         4E  4F  49  53  49  56  45  52  08  001AA P.ACE:  .ASCII   <8>\REVISION\                                 ;
                             45  54  41  44  45  52  43  07  001B3 P.ACF:  .ASCII   <7>\CREDATE\                                  ;
                             45  54  41  44  56  45  52  07  001BB P.ACG:  .ASCII   <7>\REVDATE\                                  ;
                             45  54  41  44  50  58  45  07  001C3 P.ACH:  .ASCII   <7>\EXPDATE\                                  ;
                             45  54  41  44  4B  41  42  07  001CB P.ACI:  .ASCII   <7>\BAKDATE\                                  ;
                             53  52  4F  54  43  45  53  07  001D3 P.ACJ:  .ASCII   <7>\SECTORS\                                  ;
                                 53  4B  43  41  52  54  06  001DB P.ACK:  .ASCII   <6>\TRACKS\                                   ;
                     53  52  45  44  4E  49  4C  59  43  09  001E2 P.ACL:  .ASCII   <9>\CYLINDERS\                                ;
                         4B  43  4F  4C  42  58  41  4D  08  001EC P.ACM:  .ASCII   <8>\MAXBLOCK\                                 ;
                                 50  59  54  56  45  44  06  001F5 P.ACN:  .ASCII   <6>\DEVTYP\                                   ;
                                 4C  41  49  52  45  53  06  001FC P.ACO:  .ASCII   <6>\SERIAL\                                   ;
                                 4D  41  4E  56  45  44  06  00203 P.ACP:  .ASCII   <6>\DEVNAM\                                   ;
                                     4C  45  42  41  4C  05  0020A P.ACQ:  .ASCII   <5>\LABEL\                                    ;
                         4B  43  4F  4C  42  44  41  42  08  00210 P.ACR:  .ASCII   <8>\BADBLOCK\                                 ;
                         4E  42  4C  58  45  44  4E  49  08  00219 P.ACS:  .ASCII   <8>\INDEXLBN\                                 ;
                     4B  43  4F  4C  42  54  4F  4F  42  09  00222 P.ACT:  .ASCII   <9>\BOOTBLOCK\                                ;
                             4E  42  56  54  4F  4F  42  07  0022C P.ACU:  .ASCII   <7>\BOOTVBN\                                  ;
                     54  4E  45  4D  45  43  41  4C  50  09  00234 P.ACV:  .ASCII   <9>\PLACEMENT\                                ;
                             43  49  55  5F  52  49  44  07  0023E P.ACW:  .ASCII   <7>\DIR_UIC\                                  ;
                         4F  52  50  46  5F  52  49  44  08  00246 P.ACX:  .ASCII   <8>\DIR_FPRO\                                 ;
                 53  55  54  41  54  53  5F  52  49  44  0A  0024F P.ACY:  .ASCII   <10>\DIR_STATUS\                              ;
                 4D  49  4C  52  45  56  5F  52  49  44  0A  0025A P.ACZ:  .ASCII   <10>\DIR_VERLIM\                              ;
                         54  49  4D  49  4C  52  45  56  08  00265 P.ADA:  .ASCII   <8>\VERLIMIT\                                 ;
                     4E  49  4D  4E  49  41  54  45  52  09  0026E P.ADB:  .ASCII   <9>\RETAINMIN\                                ;
                     58  41  4D  4E  49  41  54  45  52  09  00278 P.ADC:  .ASCII   <9>\RETAINMAX\                                ;
                 54  4E  45  4D  47  45  53  4C  43  41  0A  00282 P.ADD:  .ASCII   <10>\ACLSEGMENT\                              ;
                     52  45  54  41  57  48  47  49  48  09  0028D P.ADE:  .ASCII   <9>\HIGHWATER\                                ;
                     53  47  41  4C  46  5F  4C  4E  4A  09  00297 P.ADF:  .ASCII   <9>\JNL_FLAGS\                                ;
                 59  45  4B  54  41  44  50  59  52  43  0A  002A1 P.ADG:  .ASCII   <10>\CRYPDATKEY\                              ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000'  002AC P.AAD:  .ADDRESS P.AAE, P.AAF, P.AAG, P.AAH, P.AAI, -          ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000'  002C4                  P.AAJ, P.AAK, P.AAL, P.AAM, P.AAN, P.AAO, -  ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000'  002DC                  P.AAP, P.AAQ, P.AAR, P.AAS, P.AAT, P.AAU, -  ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000'  002F4                  P.AAV, P.AAW, P.AAX, P.AAY, P.AAZ, P.ABA, -  ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000'  0030C                  P.ABB, P.ABC, P.ABD, P.ABE, P.ABF, P.ABG, -  ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000'  00324                  P.ABH, P.ABI, P.ABJ, P.ABK, P.ABL, P.ABM, -  ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000'  0033C                  P.ABN, P.ABO, P.ABP, P.ABQ, P.ABR, P.ABS, -  ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000'  00354                  P.ABT, P.ABU, P.ABV, P.ABW, P.ABX, P.ABY, -  ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000'  0036C                  P.ABZ, P.ACA, P.ACB, P.ACC, P.ACD, P.ACE, -  ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000'  00384                  P.ACF, P.ACG, P.ACH, P.ACI, P.ACJ, P.ACK, -  ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000'  0039C                  P.ACL, P.ACM, P.ACN, P.ACO, P.ACP, P.ACQ, -  ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000'  003B4                  P.ACR, P.ACS, P.ACT, P.ACU, P.ACV, P.ACW, -  ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000'  003CC                  P.ACX, P.ACY, P.ACZ, P.ADA, P.ADB, P.ADC, -  ;
                              00000000' 00000000' 00000000'  003E4                  P.ADD, P.ADE, P.ADF, P.ADG                   ;
 53  33  21  20  3D  20  45  5A  49  53  20  20  20  20  1B  003F0 P.ADH:  .ASCII   <27>\    SIZE = !3SL, TYPE = !AC\             ;
         43  41  21  20  3D  20  45  50  59  54  20  2C  4C  003FF                                                                ;
                             20  20  20  20  20  20  06  0040C P.ADI:  .ASCII   <6>\      \                                   ;
                                 22  46  41  21  22  05  00413 P.ADJ:  .ASCII   <5>\"!AF"\                                    ;
                                         55  25  21  03  00419 P.ADK:  .ASCII   <3>\!%U\                                      ;
                                         44  25  21  03  0041D P.ADL:  .ASCII   <3>\!%D\                                      ;
                                         4C  55  21  03  00421 P.ADM:  .ASCII   <3>\!UL\                                      ;
                                         4C  55  21  03  00425 P.ADN:  .ASCII   <3>\!UL\                                      ;
     29  46  41  21  2C  46  41  21  28  20  4C  58  21  0D  00429 P.ADO:  .ASCII   <13>\!XL (!AF,!AF)\                           ;
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          4C 55 21 2C 4C 55 21 2C 4C 55 21 0B 00437 P.ADP:    .ASCII   <11>\!UL,!UL,!UL\                            ;
                   20 4C 55 21 3A 4C 55 21 08 00443 P.ADQ:    .ASCII   <8>\!UL:!UL \                                ;
                                  4C 4F 21 03 0044C P.ADR:    .ASCII   <3>\!OL\                                     ;
                                           0D 00450 P.ADT:    .ASCII   <13>                                         ;
                                           0A 00451           .ASCII   <10>                                         ;
                                              00452           .BLKB    2
                                     00000002 00454 P.ADS:    .LONG    2                                            ;
                                    00000000' 00458           .ADDRESS P.ADT                                        ;
                                  53 41 21 03 0045C P.ADU:    .ASCII   <3>\!AS\                                     ;
 68 74 69 77 20 64 65 74 70 79 72 63 6E 45 1D 00460 P.ADV:    .ASCII   <29>\Encrypted with algorithm: !XB\          ;
 42 58 21 20 3A 6D 68 74 69 72 6F 67 6C 61 20 0046F                                                                 ;
 49 20 2C 4C 58 21 20 4C 58 21 3A 79 65 4B 17 0047E P.ADW:    .ASCII   <23>\Key:!XL !XL, Iv:!XL !XL\                ;
                   4C 58 21 20 4C 58 21 3A 76 0048D                                                                 ;
                                  42 58 21 03 00496 P.ADX:    .ASCII   <3>\!XB\                                     ;

                                                    FALSETRUE=              P.AAA
                                                    ATTRS=                  P.AAD
                                                              .EXTRN   DEBLOCK, DEBLOCK_ATTR
                                                              .EXTRN   DECODE_DEVTYP, FIN_IN_SAVE
                                                              .EXTRN   INIT_IN_SAVE, LIST_FAO
                                                              .EXTRN   LIST_EOL, LIST_PROTECTION
                                                              .EXTRN   READ_BUFFER, RESTORE_HANDLER
                                                              .EXTRN   CRYPTO_CHKSAV, BACKUP$_BACNOTENC
                                                              .EXTRN   BACKUP$_ENCSAVSET
                                                              .EXTRN   SYS$FORMAT_ACL
                                                              .WEAK    CRYPTO_INIDEC, CRYPTO_DECR_BLOCK

                                         07FC 00000 ANALYZE_ONE_ATTRIBUTE:
                                                              .WORD    Save R2,R3,R4,R5,R6,R7,R8,R9,R10             ; 1727
                        5A 00000000G   00  9E 00002           MOVAB    LIST_FAO, R10                                ;
                        5E      FDE0   CE  9E 00009           MOVAB    -544(SP), SP                                 ;
                        56        04   AC  D0 0000E           MOVL     ATT, R6                                      ; 1852
                        50        02   A6  3C 00012           MOVZWL   2(R6), R0                                    ;
                                FDF3 CF40  DD 00016           PUSHL    ATTRS-4[R0]                                  ;
                        57             66  3C 0001B           MOVZWL   (R6), R7                                     ;
                                       57  DD 0001E           PUSHL    R7                                           ;
                                FF32   CF  9F 00020           PUSHAB   P.ADH                                        ;
                        6A             03  FB 00024           CALLS    #3, LIST_FAO                                 ;
              00000000G 00             00  FB 00027           CALLS    #0, LIST_EOL                                 ; 1853
                                FF40   CF  9F 0002E           PUSHAB   P.ADI                                        ; 1858
                        6A             01  FB 00032           CALLS    #1, LIST_FAO                                 ;
         0051  8F       01        02   A6  AF 00035           CASEW    2(R6), #1, #81                               ; 1859
    00BA     00BA     00BA           00BA     0003C 1$:       .WORD    5$-1$,-                                      ;
    00BA     00A4     00D1           00C8     00044                    5$-1$,-                                      ;
    00BA     00BA     00A4           00BA     0004C                    5$-1$,-                                      ;
    00BA     00DA     00DA           00DA     00054                    5$-1$,-                                      ;
    00A4     00DA     00A4           00DA     0005C                    7$-1$,-                                      ;
    00DA     00BA     00BA           00BA     00064                    8$-1$,-                                      ;
    016D     0165     015D           00C8     0006C                    2$-1$,-                                      ;
    00DA     00DA     00D1           00A4     00074                    5$-1$,-                                      ;
    00DA     00DA     00DA           00DA     0007C                    5$-1$,-                                      ;
    00DA     00DA     00DA           00A4     00084                    2$-1$,-                                      ;
    013D     00A4     00BA           019D     0008C                    5$-1$,-                                      ;
    0165     00C8     00DA           013D     00094                    5$-1$,-                                      ;
    00A4     00A4     00A4           016D     0009C                    9$-1$,-                                      ;
    00D1     00D1     00D1           00DA     000A4                    9$-1$,-                                      ;
    00DA     00DA     00DA           00D1     000AC                    9$-1$,-                                      ;
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                00BA            019D            00EA            00DA            000B4
                00A4            00DA            0180            00BA            000BC
                0165            00C8            00A4            00DA            000C4
                00D1            00DA            00DA            00A4            000CC
                00A4            00DA            01AA            00D1            000D4
                                                00A4            0227            000DC

                                                                                5$-1$,-
                                                                                9$-1$,-
                                                                                2$-1$,-
                                                                                9$-1$,-
                                                                                2$-1$,-
                                                                                5$-1$,-
                                                                                5$-1$,-
                                                                                5$-1$,-
                                                                                9$-1$,-
                                                                                7$-1$,-
                                                                                15$-1$,-
                                                                                16$-1$,-
                                                                                17$-1$,-
                                                                                2$-1$,-
                                                                                8$-1$,-
                                                                                9$-1$,-
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                                                                                9$-1$,-
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                                                                                9$-1$,-
                                                                                9$-1$,-
                                                                                2$-1$,-
                                                                                9$-1$,-
                                                                                9$-1$,-
                                                                                9$-1$,-
                                                                                21$-1$,-
                                                                                5$-1$,-
                                                                                2$-1$,-
                                                                                14$-1$,-
                                                                                14$-1$,-
                                                                                9$-1$,-
                                                                                7$-1$,-
                                                                                16$-1$,-
                                                                                17$-1$,-
                                                                                2$-1$,-
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                                                                                8$-1$,-
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                                                                                8$-1$,-
                                                                                9$-1$,-
                                                                                9$-1$,-
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                                                                                9$-1$,-
                                                                                10$-1$,-
                                                                                21$-1$,-
                                                                                5$-1$,-
                                                                                5$-1$,-
                                                                                19$-1$,-
                                                                                9$-1$,-
                                                                                2$-1$,-
                                                                                9$-1$,-
                                                                                2$-1$,-
                                                                                7$-1$,-
                                                                                16$-1$,-
```

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                                                                     2$-1$,-                    ;
                                                                     9$-1$,-                    ;
                                                                     9$-1$,-                    ;
                                                                     8$-1$,-                    ;
                                                                     8$-1$,-                    ;
                                                                     24$-1$,-                   ;
                                                                     9$-1$,-                    ;
                                                                     2$-1$,-                    ;
                                                                     28$-1$,-                   ;
                                                                     2$-1$                      ;
                              52         57 D0 000E0 2$:     MOVL    R7, I                      ; 2008
                                         0C 11 000E3         BRB     4$                         ;
                              7E    04 A246 9A 000E5 3$:     MOVZBL  4(I)[R6], -(SP)            ; 2009
                                  FF0E   CF 9F 000EA         PUSHAB  P.ADX                      ;
                              6A         02 FB 000EE         CALLS   #2, LIST_FAO               ;
                              F1         52 F4 000F1 4$:     SOBGEQ  I, 3$                      ;
                                         0C 11 000F4         BRB     6$                         ; 1859
                                    04   A6 9F 000F6 5$:     PUSHAB  4(R6)                      ; 1867
                                         57 DD 000F9         PUSHL   R7                         ;
                                  FE7A   CF 9F 000FB         PUSHAB  P.ADJ                      ;
                              6A         03 FB 000FF         CALLS   #3, LIST_FAO               ;
                                         73 11 00102 6$:     BRB     13$                        ;
                                    04   A6 DD 00104 7$:     PUSHL   4(R6)                      ; 1871
                                  FE74   CF 9F 00107         PUSHAB  P.ADK                      ;
                                         2C 11 0010B         BRB     11$                        ;
                                    04   A6 9F 0010D 8$:     PUSHAB  4(R6)                      ; 1876
                                  FE6F   CF 9F 00110         PUSHAB  P.ADL                      ;
                                         23 11 00114         BRB     11$                        ;
                    52        57         03 78 00116 9$:     ASHL    #3, R7, R2                 ; 1886
        7E      04  A6        52         00 EE 0011A         EXTV    #0, R2, 4(R6), -(SP)       ;
                                  FE63   CF 9F 00120         PUSHAB  P.ADM                      ;
                                         13 11 00124         BRB     11$                        ;
                              01         57 B1 00126 10$:    CMPW    R7, #1                     ; 1889
                                         11 12 00129         BNEQ    12$                        ;
                    52        57         03 78 0012B         ASHL    #3, R7, R2                 ; 1894
        7E      04  A6        52         00 EE 0012F         EXTV    #0, R2, 4(R6), -(SP)       ;
                                  FE52   CF 9F 00135         PUSHAB  P.ADN                      ;
                                       00A4 31 00139 11$:    BRW     22$                        ;
                          0C  AE         05 D0 0013C 12$:    MOVL    #5, NAME_LENGTH            ; 1897
                          08  AE         05 D0 00140         MOVL    #5, TYPE_LENGTH            ;
                                    F0   AD 9F 00144         PUSHAB  TYPE_BUFFER                ; 1909
                                    0C   AE 9F 00147         PUSHAB  TYPE_LENGTH                ;
                                    F8   AD 9F 0014A         PUSHAB  NAME_BUFFER                ;
                                    18   AE 9F 0014D         PUSHAB  NAME_LENGTH                ;
                                    04   A6 DD 00150         PUSHL   4(R6)                      ;
                   00000000G  00         05 FB 00153         CALLS   #5, DECODE_DEVTYP          ;
                                    F8   AD 9F 0015A         PUSHAB  NAME_BUFFER                ; 1916
                                    10   AE DD 0015D         PUSHL   NAME_LENGTH                ;
                                    F0   AD 9F 00160         PUSHAB  TYPE_BUFFER                ;
                                    14   AE DD 00163         PUSHL   TYPE_LENGTH                ;
                    52        57         03 78 00166         ASHL    #3, R7, R2                 ;
        7E      04  A6        52         00 EF 0016A         EXTZV   #0, R2, 4(R6), -(SP)       ;
                                  FE1B   CF 9F 00170         PUSHAB  P.ADO                      ;
                              6A         06 FB 00174         CALLS   #6, LIST_FAO               ;
                                         6A 11 00177 13$:    BRB     23$                        ; 1889
                              7E    08   A6 9A 00179 14$:    MOVZBL  8(R6), -(SP)               ; 1925
                              7E    06   A6 3C 0017D         MOVZWL  6(R6), -(SP)               ;
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                              50      04   A6  3C 00181          MOVZWL  4(R6), R0                              ;
                              52      09   A6  9A 00185          MOVZBL  9(R6), R2                              ;
               52             52           10  78 00189          ASHL    #16, R2, R2                            ;
                                         6240  9F 0018D          PUSHAB  (R2)[R0]                               ;
                                    FE09   CF  9F 00190          PUSHAB  P.ADP                                  ;
                              6A           04  FB 00194          CALLS   #4, LIST_FAO                           ;
                                           4A  11 00197          BRB     23$                                    ;
                               44435752    8F  DD 00199 15$:     PUSHL   #1145263954                            ; 1928
                                           0E  11 0019F          BRB     18$                                    ;
                               44455752    8F  DD 001A1 16$:     PUSHL   #1145395026                            ; 1931
                                           06  11 001A7          BRB     18$                                    ;
                               44555752    8F  DD 001A9 17$:     PUSHL   #1146443602                            ; 1934
                              7E      04   A6  3C 001AF 18$:     MOVZWL  4(R6), -(SP)                           ;
                 00000000G    00           02  FB 001B3          CALLS   #2, LIST_PROTECTION                    ;
                                           27  11 001BA          BRB     23$                                    ;
                              52      04   A6  9E 001BC 19$:     MOVAB   4(R6), P                               ; 1938
                              50      04 A746  9E 001C0 20$:     MOVAB   4(R7)[R6], R0                          ; 1939
                              50           52  D1 001C5          CMPL    P, R0                                  ;
                                           39  1E 001C8          BGEQU   26$                                    ;
                              7E           62  7D 001CA          MOVQ    (P), -(SP)                             ; 1941
                                    FDD8   CF  9F 001CD          PUSHAB  P.ADQ                                  ;
                              6A           03  FB 001D1          CALLS   #3, LIST_FAO                           ;
                              52           08  C0 001D4          ADDL2   #8, P                                  ; 1942
                                           E7  11 001D7          BRB     20$                                    ; 1939
                                      04   A6  DD 001D9 21$:     PUSHL   4(R6)                                  ; 1948
                                    FDD2   CF  9F 001DC          PUSHAB  P.ADR                                  ;
                              6A           02  FB 001E0 22$:     CALLS   #2, LIST_FAO                           ;
                                         00A8  31 001E3 23$:     BRW     29$                                    ;
                              59      04   A6  9E 001E6 24$:     MOVAB   4(R6), R9                              ; 1957
                              58           59  D0 001EA          MOVL    R9, ACE_POINTER                        ;
    08            00          6E           00  2C 001ED          MOVC5   #0, (SP), #0, #8, ACE_BINDESC          ; 1958
                                      F8   AD     001F2                                                         ;
    08            00          6E           00  2C 001F4          MOVC5   #0, (SP), #0, #8, ACE_TXTDESC          ; 1959
                                      F0   AD     001F9                                                         ;
                              50      04 A746  9E 001FB 25$:     MOVAB   4(R7)[R6], R0                          ; 1960
                              50           58  D1 00200          CMPL    ACE_POINTER, R0                        ;
                                           DE  1E 00203 26$:     BGEQU   23$                                    ;
                       F8     AD           68  9B 00205          MOVZBW  (ACE_POINTER), ACE_BINDESC             ; 1963
                       FC     AD           58  D0 00209          MOVL    ACE_POINTER, ACE_BINDESC+4             ; 1964
                       F0     AD    0200   8F  B0 0020D          MOVW    #512, ACE_TXTDESC                      ; 1965
                       F4     AD      10   AE  9E 00213          MOVAB   ACE_TEXT, ACE_TXTDESC+4                ; 1966
                                           7E  D4 00218          CLRL    -(SP)                                  ; 1972
                       08     AE           06  D0 0021A          MOVL    #6, 8(SP)                              ;
                                      08   AE  9F 0021E          PUSHAB  8(SP)                                  ;
                                    FD95   CF  9F 00221          PUSHAB  P.ADS                                  ;
                       0C     AE      50   8F  9A 00225          MOVZBL  #80, 12(SP)                            ;
                                      0C   AE  9F 0022A          PUSHAB  12(SP)                                 ;
                                      F0   AD  9F 0022D          PUSHAB  ACE_TXTDESC                            ;
                                      F0   AD  9F 00230          PUSHAB  ACE_TXTDESC                            ;
                                      F8   AD  9F 00233          PUSHAB  ACE_BINDESC                            ;
                 00000000G    00           07  FB 00236          CALLS   #7, SYS$FORMAT_ACL                     ;
                              59           58  D1 0023D          CMPL    ACE_POINTER, R9                        ; 1978
                                           08  12 00240          BNEQ    27$                                    ;
                       F0     AD           06  A2 00242          SUBW2   #6, ACE_TXTDESC                        ; 1981
                       F4     AD           06  C0 00246          ADDL2   #6, ACE_TXTDESC+4                      ; 1982
                                      F0   AD  9F 0024A 27$:     PUSHAB  ACE_TXTDESC                            ; 1984
                                    FD71   CF  9F 0024D          PUSHAB  P.ADU                                  ;
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                6A          02 FB 00251          CALLS   #2, LIST_FAO                 ;
     00000000G  00          00 FB 00254          CALLS   #0, LIST_EOL                 ; 1985
                50          68 9A 0025B          MOVZBL  (ACE_POINTER), R0            ; 1986
                58          50 C0 0025E          ADDL2   R0, ACE_POINTER              ;
                            98 11 00261          BRB     25$                          ; 1960
                7E          66 9A 00263  28$:    MOVZBL  (R6), -(SP)                  ; 1992
                     FD5C   CF 9F 00266          PUSHAB  P.ADV                        ;
                6A          02 FB 0026A          CALLS   #2, LIST_FAO                 ;
     00000000G  00          00 FB 0026D          CALLS   #0, LIST_EOL                 ; 1993
                            66 95 00274          TSTB    (R6)                         ; 1994
                            16 13 00276          BEQL    29$                          ;
                7E     0C   A6 7D 00278          MOVQ    12(R6), -(SP)                ; 2001
                7E     04   A6 7D 0027C          MOVQ    4(R6), -(SP)                 ;
                     FD60   CF 9F 00280          PUSHAB  P.ADW                        ;
                6A          05 FB 00284          CALLS   #5, LIST_FAO                 ;
     00000000G  00          00 FB 00287          CALLS   #0, LIST_EOL                 ; 2002
     00000000G  00          00 FB 0028E  29$:    CALLS   #0, LIST_EOL                 ; 2013
                               04 00295          RET                                  ; 2014

; Routine Size:  662 bytes,    Routine Base:  CODE + 049A
```

```
;   464          2015  1 %SBTTL 'ANALYZE_ONE_RECORD - analyze save set record'
;   465          2016  1 ROUTINE ANALYZE_ONE_RECORD(REC): L_P$ NOVALUE=
;   466          2017  1
;   467          2018  1 !++
;   468          2019  1 !
;   469          2020  1 ! FUNCTIONAL DESCRIPTION:
;   470          2021  1 !       This routine analyzes the contents of one save set record.
;   471          2022  1 !
;   472          2023  1 ! INPUT PARAMETERS:
;   473          2024  1 !       REC             - Pointer to record.
;   474          2025  1 !
;   475          2026  1 ! IMPLICIT INPUTS:
;   476          2027  1 !       NONE
;   477          2028  1 !
;   478          2029  1 ! OUTPUT PARAMETERS:
;   479          2030  1 !       NONE
;   480          2031  1 !
;   481          2032  1 ! IMPLICIT OUTPUTS:
;   482          2033  1 !       NONE
;   483          2034  1 !
;   484          2035  1 ! ROUTINE VALUE:
;   485          2036  1 !       NONE
;   486          2037  1 !
;   487          2038  1 ! SIDE EFFECTS:
;   488          2039  1 !       The listing is produced.
;   489          2040  1 !
;   490          2041  1 !--
;   491          2042  1
;   492          2043  2 BEGIN
;   493          2044  2 MAP
;   494          2045  2         REC:            REF BBLOCK;     ! Pointer to record
;   495          2046  2 BIND
;   496          2047  2         RTYPES = UPLIT (
;   497          2048  2             UPLIT BYTE (%ASCIC 'NULL'),
;   498          2049  2             UPLIT BYTE (%ASCIC 'SUMMARY'),
;   499          2050  2             UPLIT BYTE (%ASCIC 'VOLUME'),
;   500          2051  2             UPLIT BYTE (%ASCIC 'FILE'),
;   501          2052  2             UPLIT BYTE (%ASCIC 'VBN'),
;   502          2053  2             UPLIT BYTE (%ASCIC 'PHYSVOL'),
;   503          2054  2             UPLIT BYTE (%ASCIC 'LBN'),
;   504          2055  2             UPLIT BYTE (%ASCIC 'FID'),
;   505          2056  2             UPLIT BYTE (%ASCIC 'FILE_EXT'))
;   506          2057  2         : VECTOR;
;   507          2058  2 L_DECL;
;   508          2059  2
;   509          2060  2
;   510          2061  2 ! Format the record header.
;   511          2062  2 !
;   512          2063  2 FAO_('Record header');
;   513          2064  2 EOL_();
;   514          2065  2 FAO_('  RSIZE     = !UL!- = %X''!XW''', .REC[BRH$W_RSIZE]);
;   515          2066  2 EOL_();
;   516          2067  2 FAO_('  RTYPE     = !AC', .RTYPES[.REC[BRH$W_RTYPE]]);
;   517          2068  2 EOL_();
;   518          2069  2 FAO_('  BADDATA   = !AC', .FALSETRUE[.REC[BRH$V_BADDATA]]);
;   519          2070  2 EOL_();
;   520          2071  2 FAO_('  DIRECTORY = !AC', .FALSETRUE[.REC[BRH$V_DIRECTORY]]);
```

```
;   521          2072  2 EOL_();
;   522          2073  2 FAO_('  ADDRESS    = !UL', .REC[BRH$L_ADDRESS]);
;   523          2074  2 EOL_();
;   524          2075  2 EOL_();
;   525          2076  2
;   526          2077  2
;   527          2078  2 ! Format the record contents.
;   528          2079  2 !
;   529          2080  2 CASE .REC[BRH$W_RTYPE] FROM BRH$K_NULL TO BRH$K_FILE_EXT OF
;   530          2081  2     SET
;   531          2082  2
;   532          2083  2     [BRH$K_NULL, BRH$K_VBN, BRH$K_LBN, OUTRANGE]:
;   533          2084  2         0;
;   534          2085  2
;   535          2086  2     [BRH$K_SUMMARY, BRH$K_VOLUME, BRH$K_FILE, BRH$K_FILE_EXT, BRH$K_PHYSVOL]:
;   536          2087  3         BEGIN
;   537        P 2088  3         FAO_('    STRUCLEV = !XW',
;   538        P 2089  3             .BBLOCK[REC[BRH$C_LENGTH,0,0,0], BSA$W_STRUCLEV]);
;   539          2090  3         EOL_();
;   540          2091  3         DEBLOCK_ATTR(.REC, 0, ANALYZE_ONE_ATTRIBUTE);
;   541          2092  3         EOL_();
;   542          2093  3         END;
;   543          2094  2
;   544          2095  2     [BRH$K_FID]:
;   545          2096  3         BEGIN
;   546        P 2097  3         FAO_('    STRUCLEV = !XW',
;   547        P 2098  3             .BBLOCK[REC[BRH$C_LENGTH,0,0,0], BSA$W_STRUCLEV]);
;   548          2099  3         EOL_();
;   549        P 2100  3         FAO_('    FID_COUNT = !UL',
;   550        P 2101  3             .BBLOCK[REC[BRH$C_LENGTH,0,0,0], BSA$W_FID_COUNT]);
;   551          2102  3         EOL_();
;   552          2103  3         INCR I FROM 0 TO .BBLOCK[REC[BRH$C_LENGTH,0,0,0], BSA$W_FID_COUNT]-1 DO
;   553          2104  4             BEGIN
;   554        P 2105  4             FAO_('    FID = (!UL,!UL,!UL)',
;   555        P 2106  4                 .BBLOCK[REC[BRH$C_LENGTH,0,0,0], BSA$W_FID_NUM] +
;   556        P 2107  4                 .BBLOCK[REC[BRH$C_LENGTH,0,0,0], BSA$B_FID_NMX] ^ 16 + .I,
;   557        P 2108  4                 .BBLOCK[REC[BRH$C_LENGTH+.I*2,0,0,0], BSA$W_FID_SEQ],
;   558          2109  4                 .BBLOCK[REC[BRH$C_LENGTH,0,0,0], BSA$B_FID_RVN]);
;   559          2110  4             EOL_();
;   560          2111  3             END;
;   561          2112  3         EOL_();
;   562          2113  2         END;
;   563          2114  2
;   564          2115  2     TES;
;   565          2116  1 END;


                                    4C  4C  55  4E  04   00730 P.ADZ:   .ASCII  <4>\NULL\                          ;
                            59  52  41  4D  4D  55  53  07   00735 P.AEA:   .ASCII  <7>\SUMMARY\                       ;
                                45  4D  55  4C  4F  56  06   0073D P.AEB:   .ASCII  <6>\VOLUME\                        ;
                                        45  4C  49  46  04   00744 P.AEC:   .ASCII  <4>\FILE\                          ;
                                            4E  42  56  03   00749 P.AED:   .ASCII  <3>\VBN\                           ;
                            4C  4F  56  53  59  48  50  07   0074D P.AEE:   .ASCII  <7>\PHYSVOL\                       ;
                                            4E  42  4C  03   00755 P.AEF:   .ASCII  <3>\LBN\                           ;
                                            44  49  46  03   00759 P.AEG:   .ASCII  <3>\FID\                           ;
                        54  58  45  5F  45  4C  49  46  08   0075D P.AEH:   .ASCII  <8>\FILE_EXT\                      ;
```

```
                                                                00766                   .BLKB   2
00000000' 00000000' 00000000' 00000000' 00000000' 00000000'     00768 P.ADY:    .ADDRESS P.ADZ, P.AEA, P.AEB, P.AEC, P.AED, -
                              00000000' 00000000' 00000000'     00780                       P.AEE, P.AEF, P.AEG, P.AEH
    72  65  64  61  65  68  20  64  72  6F  63  65  52  0D      0078C P.AEI:    .ASCII  <13>\Record header\
20  3D  20  20  20  20  20  45  5A  49  53  52  20  20  1D      0079A P.AEJ:    .ASCII  <29>\   RSIZE     = !UL!- = %X'!XW'\
27  57  58  21  27  58  25  20  3D  20  2D  21  4C  55  21      007A9
20  3D  20  20  20  20  20  45  50  59  54  52  20  20  11      007B8 P.AEK:    .ASCII  <17>\   RTYPE     = !AC\
                                                43  41  21      007C7
20  3D  20  20  20  41  54  41  44  44  41  42  20  20  11      007CA P.AEL:    .ASCII  <17>\   BADDATA   = !AC\
                                                43  41  21      007D9
20  3D  20  59  52  4F  54  43  45  52  49  44  20  20  11      007DC P.AEM:    .ASCII  <17>\   DIRECTORY = !AC\
                                                43  41  21      007EB
20  3D  20  20  20  53  53  45  52  44  44  41  20  20  11      007EE P.AEN:    .ASCII  <17>\   ADDRESS   = !UL\
                                                4C  55  21      007FD
3D  20  56  45  4C  43  55  52  54  53  20  20  20  20  12      00800 P.AEO:    .ASCII  <18>\     STRUCLEV = !XW\
                                            57  58  21  20      0080F
3D  20  56  45  4C  43  55  52  54  53  20  20  20  20  12      00813 P.AEP:    .ASCII  <18>\     STRUCLEV = !XW\
                                            57  58  21  20      00822
20  54  4E  55  4F  43  5F  44  49  46  20  20  20  20  13      00826 P.AEQ:    .ASCII  <19>\     FID_COUNT = !UL\
                                        4C  55  21  20  3D      00835
4C  55  21  28  20  3D  20  44  49  46  20  20  20  20  17      0083A P.AER:    .ASCII  <23>\     FID = (!UL,!UL,!UL)\
                        29  4C  55  21  2C  4C  55  21  2C      00849

                                                                                RTYPES=             P.ADY

                                                        03FC 00000 ANALYZE_ONE_RECORD:
                                                                           .WORD    Save R2,R3,R4,R5,R6,R7,R8,R9                ; 2016
                                                    59      F7B4    CF  9E 00002            MOVAB   FALSETRUE, R9
                                                    58 00000000G    00  9E 00007            MOVAB   LIST_FAO, R8
                                                    57 00000000G    00  9E 0000E            MOVAB   LIST_EOL, R7
                                                          0780      C9  9F 00015            PUSHAB  P.AEI                       ; 2063
                                                    68                01  FB 00019            CALLS   #1, LIST_FAO
                                                    67                00  FB 0001C            CALLS   #0, LIST_EOL            ; 2064
                                                    54        04      AC  D0 0001F            MOVL    REC, R4                 ; 2065
                                                    7E                64  3C 00023            MOVZWL  (R4), -(SP)
                                                              078E      C9  9F 00026            PUSHAB  P.AEJ
                                                    68                02  FB 0002A            CALLS   #2, LIST_FAO
                                                    67                00  FB 0002D            CALLS   #0, LIST_EOL            ; 2066
                                                    52        02      A4  3C 00030            MOVZWL  2(R4), R2               ; 2067
                                                              075C C942 DD 00034            PUSHL   RTYPES[R2]
                                                              07AC      C9  9F 00039            PUSHAB  P.AEK
                                                    68                02  FB 0003D            CALLS   #2, LIST_FAO
                                                    67                00  FB 00040            CALLS   #0, LIST_EOL            ; 2068
50          04  A4                              01                00  EF 00043            EXTZV   #0, #1, 4(R4), R0           ; 2069
                                                            6940    DD 00049            PUSHL   FALSETRUE[R0]
                                                              07BE      C9  9F 0004C            PUSHAB  P.AEL
                                                    68                02  FB 00050            CALLS   #2, LIST_FAO
                                                    67                00  FB 00053            CALLS   #0, LIST_EOL            ; 2070
50          04  A4                              01                01  EF 00056            EXTZV   #1, #1, 4(R4), R0           ; 2071
                                                            6940    DD 0005C            PUSHL   FALSETRUE[R0]
                                                              07D0      C9  9F 0005F            PUSHAB  P.AEM
                                                    68                02  FB 00063            CALLS   #2, LIST_FAO
                                                    67                00  FB 00066            CALLS   #0, LIST_EOL            ; 2072
                                                              08      A4  DD 00069            PUSHL   8(R4)                   ; 2073
                                                              07E2      C9  9F 0006C            PUSHAB  P.AEN
                                                    68                02  FB 00070            CALLS   #2, LIST_FAO
```

```
                                  67           00  FB 00073          CALLS    #0, LIST_EOL                          ; 2074
                                  67           00  FB 00076          CALLS    #0, LIST_EOL                          ; 2075
                        08        00           52  AF 00079          CASEW    R2, #0, #8                            ; 2080
         0013           0013      0013       0089     0007D  1$:     .WORD    7$-1$,-                               ;
         0032           0089      0013       0089     00085                   2$-1$,-                               ;
                                             0013     0008D                   2$-1$,-                               ;
                                                                              2$-1$,-                               ;
                                                                              7$-1$,-                               ;
                                                                              2$-1$,-                               ;
                                                                              7$-1$,-                               ;
                                                                              3$-1$,-                               ;
                                                                              2$-1$                                 ;
                                               04 0008F              RET                                            ;
                                  7E      10   A4  3C 00090  2$:     MOVZWL   16(R4), -(SP)                         ; 2089
                                        07F4   C9  9F 00094          PUSHAB   P.AEO                                 ;
                                  68           02  FB 00098          CALLS    #2, LIST_FAO                          ;
                                  67           00  FB 0009B          CALLS    #0, LIST_EOL                          ; 2090
                                        FBA6   CF  9F 0009E          PUSHAB   ANALYZE_ONE_ATTRIBUTE                 ; 2091
                                               7E  D4 000A2          CLRL     -(SP)                                 ;
                                               54  DD 000A4          PUSHL    R4                                    ;
                           00000000G  00       03  FB 000A6          CALLS    #3, DEBLOCK_ATTR                      ;
                                               54  11 000AD          BRB      6$                                    ; 2092
                                  52      10   A4  9E 000AF  3$:     MOVAB    16(R4), R2                            ; 2098
                                  7E           62  3C 000B3          MOVZWL   (R2), -(SP)                           ;
                                        0807   C9  9F 000B6          PUSHAB   P.AEP                                 ;
                                  68           02  FB 000BA          CALLS    #2, LIST_FAO                          ;
                                  67           00  FB 000BD          CALLS    #0, LIST_EOL                          ; 2099
                                  7E      06   A2  3C 000C0          MOVZWL   6(R2), -(SP)                          ; 2101
                                        081A   C9  9F 000C4          PUSHAB   P.AEQ                                 ;
                                  68           02  FB 000C8          CALLS    #2, LIST_FAO                          ;
                                  67           00  FB 000CB          CALLS    #0, LIST_EOL                          ; 2102
                                  56      06   A2  3C 000CE          MOVZWL   6(R2), R6                             ; 2103
                                  55      02   A2  9E 000D2          MOVAB    2(R2), R5                             ; 2109
                                  53           01  CE 000D6          MNEGL    #1, I                                 ;
                                               24  11 000D9          BRB      5$                                    ;
                                  7E      04   A2  9A 000DB  4$:     MOVZBL   4(R2), -(SP)                          ;
                                  7E      18 A443  3C 000DF          MOVZWL   24(R4)[I], -(SP)                      ;
                                  50           65  3C 000E4          MOVZWL   (R5), R0                              ;
                                  51      05   A2  9A 000E7          MOVZBL   5(R2), R1                             ;
                        51        51           10  78 000EB          ASHL     #16, R1, R1                           ;
                                  50           51  C0 000EF          ADDL2    R1, R0                                ;
                                             6340  9F 000F2          PUSHAB   (I)[R0]                               ;
                                        082E   C9  9F 000F5          PUSHAB   P.AER                                 ;
                                  68           04  FB 000F9          CALLS    #4, LIST_FAO                          ;
                                  67           00  FB 000FC          CALLS    #0, LIST_EOL                          ; 2110
                        D8        53           56  F2 000FF  5$:     AOBLSS   R6, I, 4$                             ; 2103
                                  67           00  FB 00103  6$:     CALLS    #0, LIST_EOL                          ; 2112
                                               04 00106  7$:         RET                                            ; 2116

; Routine Size:  263 bytes,    Routine Base:  CODE + 0852
```

```
;   567          2117  1 %SBTTL 'ANALYZE_ONE_BUFFER - analyze save set buffer'
;   568          2118  1 ROUTINE ANALYZE_ONE_BUFFER(BCB): L_P$ NOVALUE=
;   569          2119  1
;   570          2120  1 !++
;   571          2121  1 !
;   572          2122  1 ! FUNCTIONAL DESCRIPTION:
;   573          2123  1 !       This routine analyzes the contents of one save set buffer.
;   574          2124  1 !
;   575          2125  1 ! INPUT PARAMETERS:
;   576          2126  1 !       BCB             - Pointer to buffer control block.
;   577          2127  1 !
;   578          2128  1 ! IMPLICIT INPUTS:
;   579          2129  1 !       NONE
;   580          2130  1 !
;   581          2131  1 ! OUTPUT PARAMETERS:
;   582          2132  1 !       NONE
;   583          2133  1 !
;   584          2134  1 ! IMPLICIT OUTPUTS:
;   585          2135  1 !       NONE
;   586          2136  1 !
;   587          2137  1 ! ROUTINE VALUE:
;   588          2138  1 !       NONE
;   589          2139  1 !
;   590          2140  1 ! SIDE EFFECTS:
;   591          2141  1 !       The listing is produced.
;   592          2142  1 !       The buffer is released.
;   593          2143  1 !
;   594          2144  1 !--
;   595          2145  1
;   596          2146  2 BEGIN
;   597          2147  2 MAP
;   598          2148  2         BCB:            REF BBLOCK;     ! Pointer to buffer control block
;   599          2149  2 LOCAL
;   600          2150  2         BUF:            REF BBLOCK;     ! Pointer to buffer
;   601          2151  2 L_DECL;
;   602          2152  2
;   603          2153  2
;   604          2154  2 ! Point to buffer.
;   605          2155  2 !
;   606          2156  2 BUF = .BCB[BCB_BUFFER];
;   607          2157  2
;   608          2158  2
;   609          2159  2 ! Format the block header.
;   610          2160  2 !
;   611          2161  2 FAO_('Block header');
;   612          2162  2 EOL_();
;   613          2163  2 FAO_('  SIZE      = !UL', .BUF[BBH$W_SIZE]);
;   614          2164  2 EOL_();
;   615          2165  2 FAO_('  OPSYS     = !UL', .BUF[BBH$W_OPSYS]);
;   616          2166  2 EOL_();
;   617          2167  2 FAO_('  SUBSYS    = !UL', .BUF[BBH$W_SUBSYS]);
;   618          2168  2 EOL_();
;   619          2169  2 FAO_('  APPLIC    = !UL', .BUF[BBH$W_APPLIC]);
;   620          2170  2 EOL_();
;   621          2171  2 FAO_('  NUMBER    = !UL', .BUF[BBH$L_NUMBER]);
;   622          2172  2 EOL_();
;   623          2173  2 FAO_('  STRUCLEV  = !XW', .BUF[BBH$W_STRUCLEV]);
```

```
;  624          2174  2 EOL_();
;  625          2175  2 FAO_('  VOLNUM    = !UL', .BUF[BBH$W_VOLNUM]);
;  626          2176  2 EOL_();
;  627          2177  2 FAO_('  CRC        = !XL', .BUF[BBH$L_CRC]);
;  628          2178  2 EOL_();
;  629          2179  2 FAO_('  BLOCKSIZE = !UL', .BUF[BBH$L_BLOCKSIZE]);
;  630          2180  2 EOL_();
;  631          2181  2 FAO_('  NOCRC     = !AC', .FALSETRUE[.BUF[BBH$V_NOCRC]]);
;  632          2182  2 EOL_();
;  633          2183  2 FAO_('  SSNAME    = "!AC"', BUF[BBH$T_SSNAME]);
;  634          2184  2 EOL_();
;  635        P 2185  2 FAO_('  FID        = !UL,!UL,!UL',
;  636        P 2186  2     .BUF[BBH$W_FID_NUM] + .BUF[BBH$B_FID_NMX] ^ 16,
;  637        P 2187  2     .BUF[BBH$W_FID_SEQ],
;  638          2188  2     .BUF[BBH$B_FID_RVN]);
;  639          2189  2 EOL_();
;  640        P 2190  2 FAO_('  DID        = !UL,!UL,!UL',
;  641        P 2191  2     .BUF[BBH$W_DID_NUM] + .BUF[BBH$B_DID_NMX] ^ 16,
;  642        P 2192  2     .BUF[BBH$W_DID_SEQ],
;  643          2193  2     .BUF[BBH$B_DID_RVN]);
;  644          2194  2 EOL_();
;  645          2195  2 FAO_('  FILENAME  = "!AC"', BUF[BBH$T_FILENAME]);
;  646          2196  2 EOL_();
;  647          2197  2 FAO_('  ATTRIB    = !XL!XL', .(BUF[BBH$B_BKTSIZE]), .(BUF[BBH$B_RTYPE]));
;  648          2198  2 EOL_();
;  649          2199  2 FAO_('  FILESIZE  = !UL', .BUF[BBH$L_FILESIZE]);
;  650          2200  2 EOL_();
;  651          2201  2 EOL_();
;  652          2202  2
;  653          2203  2
;  654          2204  2 ! Format the records contained in this buffer.
;  655          2205  2 !
;  656          2206  2 DEBLOCK(.BCB, ANALYZE_ONE_RECORD);
;  657          2207  1 END;


                72  65  64  61  65  68  20  6B  63  6F  6C  42  0C  00959 P.AES:  .ASCII  <12>\Block header\
20  3D  20  20  20  20  20  20  45  5A  49  53  20  20  11  00966 P.AET:  .ASCII  <17>\  SIZE      = !UL\                ;
                                                    4C  55  21  00975
20  3D  20  20  20  20  20  53  59  53  50  4F  20  20  11  00978 P.AEU:  .ASCII  <17>\  OPSYS     = !UL\                ;
                                                    4C  55  21  00987
20  3D  20  20  20  20  53  59  53  42  55  53  20  20  11  0098A P.AEV:  .ASCII  <17>\  SUBSYS    = !UL\                ;
                                                    4C  55  21  00999
20  3D  20  20  20  20  43  49  4C  50  50  41  20  20  11  0099C P.AEW:  .ASCII  <17>\  APPLIC    = !UL\                ;
                                                    4C  55  21  009AB
20  3D  20  20  20  20  52  45  42  4D  55  4E  20  20  11  009AE P.AEX:  .ASCII  <17>\  NUMBER    = !UL\                ;
                                                    4C  55  21  009BD
20  3D  20  20  56  45  4C  43  55  52  54  53  20  20  11  009C0 P.AEY:  .ASCII  <17>\  STRUCLEV  = !XW\                ;
                                                    57  58  21  009CF
20  3D  20  20  20  20  4D  55  4E  4C  4F  56  20  20  11  009D2 P.AEZ:  .ASCII  <17>\  VOLNUM    = !UL\                ;
                                                    4C  55  21  009E1
20  3D  20  20  20  20  20  20  20  43  52  43  20  20  11  009E4 P.AFA:  .ASCII  <17>\  CRC       = !XL\                ;
                                                    4C  58  21  009F3
20  3D  20  45  5A  49  53  4B  43  4F  4C  42  20  20  11  009F6 P.AFB:  .ASCII  <17>\  BLOCKSIZE = !UL\                ;
                                                    4C  55  21  00A05
20  3D  20  20  20  20  20  43  52  43  4F  4E  20  20  11  00A08 P.AFC:  .ASCII  <17>\  NOCRC     = !AC\                ;
```

```
                                                43  41  21  00A17                                                  ;
20  3D  20  20  20  20  45  4D  41  4E  53  53  20  20  13  00A1A P.AFD:  .ASCII  <19>\  SSNAME    = "!AC"\        ;
                                        22  43  41  21  22  00A29                                                  ;
20  3D  20  20  20  20  20  20  20  44  49  46  20  20  19  00A2E P.AFE:  .ASCII  <25>\  FID       = !UL,!UL,!UL\  ;
                4C  55  21  2C  4C  55  21  2C  4C  55  21  00A3D                                                  ;
20  3D  20  20  20  20  20  20  20  44  49  44  20  20  19  00A48 P.AFF:  .ASCII  <25>\  DID       = !UL,!UL,!UL\  ;
                4C  55  21  2C  4C  55  21  2C  4C  55  21  00A57                                                  ;
20  3D  20  20  45  4D  41  4E  45  4C  49  46  20  20  13  00A62 P.AFG:  .ASCII  <19>\  FILENAME  = "!AC"\        ;
                                        22  43  41  21  22  00A71                                                  ;
20  3D  20  20  20  20  42  49  52  54  54  41  20  20  14  00A76 P.AFH:  .ASCII  <20>\  ATTRIB    = !XL!XL\       ;
                                    4C  58  21  4C  58  21  00A85                                                  ;
20  3D  20  20  45  5A  49  53  45  4C  49  46  20  20  11  00A8B P.AFI:  .ASCII  <17>\  FILESIZE  = !UL\          ;
                                                4C  55  21  00A9A                                                  ;


                                  007C 00000 ANALYZE_ONE_BUFFER:
                                                        .WORD    Save R2,R3,R4,R5,R6                       ; 2118
            56      FEB6   CF  9E 00002                 MOVAB    P.AES, R6                                 ;
            55 00000000G   00  9E 00007                 MOVAB    LIST_FAO, R5                              ;
            54 00000000G   00  9E 0000E                 MOVAB    LIST_EOL, R4                              ;
            53        04   AC  D0 00015                 MOVL     BCB, R3                                   ; 2156
            52        0C   A3  D0 00019                 MOVL     12(R3), BUF                               ;
                           56  DD 0001D                 PUSHL    R6                                        ; 2161
            65             01  FB 0001F                 CALLS    #1, LIST_FAO                              ;
            64             00  FB 00022                 CALLS    #0, LIST_EOL                              ; 2162
            7E             62  3C 00025                 MOVZWL   (BUF), -(SP)                              ; 2163
                      0D   A6  9F 00028                 PUSHAB   P.AET                                     ;
            65             02  FB 0002B                 CALLS    #2, LIST_FAO                              ;
            64             00  FB 0002E                 CALLS    #0, LIST_EOL                              ; 2164
            7E        02   A2  3C 00031                 MOVZWL   2(BUF), -(SP)                             ; 2165
                      1F   A6  9F 00035                 PUSHAB   P.AEU                                     ;
            65             02  FB 00038                 CALLS    #2, LIST_FAO                              ;
            64             00  FB 0003B                 CALLS    #0, LIST_EOL                              ; 2166
            7E        04   A2  3C 0003E                 MOVZWL   4(BUF), -(SP)                             ; 2167
                      31   A6  9F 00042                 PUSHAB   P.AEV                                     ;
            65             02  FB 00045                 CALLS    #2, LIST_FAO                              ;
            64             00  FB 00048                 CALLS    #0, LIST_EOL                              ; 2168
            7E        06   A2  3C 0004B                 MOVZWL   6(BUF), -(SP)                             ; 2169
                      43   A6  9F 0004F                 PUSHAB   P.AEW                                     ;
            65             02  FB 00052                 CALLS    #2, LIST_FAO                              ;
            64             00  FB 00055                 CALLS    #0, LIST_EOL                              ; 2170
                      08   A2  DD 00058                 PUSHL    8(BUF)                                    ; 2171
                      55   A6  9F 0005B                 PUSHAB   P.AEX                                     ;
            65             02  FB 0005E                 CALLS    #2, LIST_FAO                              ;
            64             00  FB 00061                 CALLS    #0, LIST_EOL                              ; 2172
            7E        20   A2  3C 00064                 MOVZWL   32(BUF), -(SP)                            ; 2173
                      67   A6  9F 00068                 PUSHAB   P.AEY                                     ;
            65             02  FB 0006B                 CALLS    #2, LIST_FAO                              ;
            64             00  FB 0006E                 CALLS    #0, LIST_EOL                              ; 2174
            7E        22   A2  3C 00071                 MOVZWL   34(BUF), -(SP)                            ; 2175
                      79   A6  9F 00075                 PUSHAB   P.AEZ                                     ;
            65             02  FB 00078                 CALLS    #2, LIST_FAO                              ;
            64             00  FB 0007B                 CALLS    #0, LIST_EOL                              ; 2176
                      24   A2  DD 0007E                 PUSHL    36(BUF)                                   ; 2177
                    008B   C6  9F 00081                 PUSHAB   P.AFA                                     ;
            65             02  FB 00085                 CALLS    #2, LIST_FAO                              ;
```

```
                                 64              00  FB 00088            CALLS    #0, LIST_EOL                      ; 2178
                                           28    A2  DD 0008B            PUSHL    40(BUF)                           ; 2179
                                         009D    C6  9F 0008E            PUSHAB   P.AFB                             ;
                                 65              02  FB 00092            CALLS    #2, LIST_FAO                      ;
                                 64              00  FB 00095            CALLS    #0, LIST_EOL                      ; 2180
         50        2C     A2     01              00  EF 00098            EXTZV    #0, #1, 44(BUF), R0               ; 2181
                                         F6B3  C640  DD 0009E            PUSHL    FALSETRUE[R0]                     ;
                                         00AF    C6  9F 000A3            PUSHAB   P.AFC                             ;
                                 65              02  FB 000A7            CALLS    #2, LIST_FAO                      ;
                                 64              00  FB 000AA            CALLS    #0, LIST_EOL                      ; 2182
                                           30    A2  9F 000AD            PUSHAB   48(BUF)                           ; 2183
                                         00C1    C6  9F 000B0            PUSHAB   P.AFD                             ;
                                 65              02  FB 000B4            CALLS    #2, LIST_FAO                      ;
                                 64              00  FB 000B7            CALLS    #0, LIST_EOL                      ; 2184
                                 7E        54    A2  9A 000BA            MOVZBL   84(BUF), -(SP)                    ; 2188
                                 7E        52    A2  3C 000BE            MOVZWL   82(BUF), -(SP)                    ;
                                 50        50    A2  3C 000C2            MOVZWL   80(BUF), R0                       ;
                                 51        55    A2  9A 000C6            MOVZBL   85(BUF), R1                       ;
                          51     51              10  78 000CA            ASHL     #16, R1, R1                       ;
                                             6140    9F 000CE            PUSHAB   (R1)[R0]                          ;
                                         00D5    C6  9F 000D1            PUSHAB   P.AFE                             ;
                                 65              04  FB 000D5            CALLS    #4, LIST_FAO                      ;
                                 64              00  FB 000D8            CALLS    #0, LIST_EOL                      ; 2189
                                 7E        5A    A2  9A 000DB            MOVZBL   90(BUF), -(SP)                    ; 2193
                                 7E        58    A2  3C 000DF            MOVZWL   88(BUF), -(SP)                    ;
                                 50        56    A2  3C 000E3            MOVZWL   86(BUF), R0                       ;
                                 51        5B    A2  9A 000E7            MOVZBL   91(BUF), R1                       ;
                          51     51              10  78 000EB            ASHL     #16, R1, R1                       ;
                                             6140    9F 000EF            PUSHAB   (R1)[R0]                          ;
                                         00EF    C6  9F 000F2            PUSHAB   P.AFF                             ;
                                 65              04  FB 000F6            CALLS    #4, LIST_FAO                      ;
                                 64              00  FB 000F9            CALLS    #0, LIST_EOL                      ; 2194
                                           5C    A2  9F 000FC            PUSHAB   92(BUF)                           ; 2195
                                         0109    C6  9F 000FF            PUSHAB   P.AFG                             ;
                                 65              02  FB 00103            CALLS    #2, LIST_FAO                      ;
                                 64              00  FB 00106            CALLS    #0, LIST_EOL                      ; 2196
                                         00DC    C2  DD 00109            PUSHL    220(BUF)                          ; 2197
                                         00E0    C2  DD 0010D            PUSHL    224(BUF)                          ;
                                         011D    C6  9F 00111            PUSHAB   P.AFH                             ;
                                 65              03  FB 00115            CALLS    #3, LIST_FAO                      ;
                                 64              00  FB 00118            CALLS    #0, LIST_EOL                      ; 2198
                                         00E4    C2  DD 0011B            PUSHL    228(BUF)                          ; 2199
                                         0132    C6  9F 0011F            PUSHAB   P.AFI                             ;
                                 65              02  FB 00123            CALLS    #2, LIST_FAO                      ;
                                 64              00  FB 00126            CALLS    #0, LIST_EOL                      ; 2200
                                 64              00  FB 00129            CALLS    #0, LIST_EOL                      ; 2201
                                         FC85    CF  9F 0012C            PUSHAB   ANALYZE_ONE_RECORD                ; 2206
                                                 53  DD 00130            PUSHL    R3                                ;
                     00000000G   00              02  FB 00132            CALLS    #2, DEBLOCK                       ;
                                                     04 00139            RET                                        ; 2207

; Routine Size:  314 bytes,    Routine Base:  CODE + 0A9D
```

```
;  659          2208  1 %SBTTL 'ANALYZE - main analyze routine'
;  660          2209  1 GLOBAL ROUTINE ANALYZE: NOVALUE=
;  661          2210  1
;  662          2211  1 !++
;  663          2212  1 !
;  664          2213  1 ! FUNCTIONAL DESCRIPTION:
;  665          2214  1 !       This routine is the driver for analysis generation.
;  666          2215  1 !
;  667          2216  1 ! INPUT PARAMETERS:
;  668          2217  1 !       NONE
;  669          2218  1 !
;  670          2219  1 ! IMPLICIT INPUTS:
;  671          2220  1 !       NONE
;  672          2221  1 !
;  673          2222  1 ! OUTPUT PARAMETERS:
;  674          2223  1 !       NONE
;  675          2224  1 !
;  676          2225  1 ! IMPLICIT OUTPUTS:
;  677          2226  1 !       NONE
;  678          2227  1 !
;  679          2228  1 ! ROUTINE VALUE:
;  680          2229  1 !       NONE
;  681          2230  1 !
;  682          2231  1 ! SIDE EFFECTS:
;  683          2232  1 !       NONE
;  684          2233  1 !
;  685          2234  1 !--
;  686          2235  1
;  687          2236  2 BEGIN
;  688          2237  2
;  689          2238  2 LOCAL
;  690          2239  2     BCB,                          ! Pointer to buffer control block
;  691          2240  2     CHK_SAVESET:        BYTE ,    ! Check save set encryption on frst pass
;  692          2241  2     P$AREA:             VECTOR[P$SIZE]; ! Impure area
;  693          2242  2
;  694          2243  2 GLOBAL REGISTER
;  695          2244  2         P$ = 11:        REF VECTOR;     ! Impure area base register
;  696          2245  2
;  697          2246  2 BUILTIN
;  698          2247  2         FP;
;  699          2248  2
;  700          2249  2
;  701          2250  2 ! Establish the handler.
;  702          2251  2 !
;  703          2252  2 .FP = RESTORE_HANDLER;
;  704          2253  2
;  705          2254  2
;  706          2255  2 ! Initialize impure area.
;  707          2256  2 !
;  708          2257  2 P$ = P$AREA;
;  709          2258  2 LIST_DESC[0] = LIST_SIZE;
;  710          2259  2 LIST_DESC[1] = _LIST_BUFFER;
;  711          2260  2 CHK_SAVESET = 1;
;  712          2261  2
;  713          2262  2
;  714          2263  2 ! Do the listing.
;  715          2264  2 !
```

```
INIT_IN_SAVE(FALSE);
WHILE (BCB = READ_BUFFER()) NEQ 0 DO
BEGIN

    IF .QUAL[QUAL_SS_ENCRYP]
    THEN
        BEGIN
        ! If we are decrypting an encrypted saveset and we don't yet have
        ! the required decrypt context, do a special scan of the first block
        ! to locate the backup summary record, extract the datakey information
        ! and initialize the decryption context.
        !
        IF .CRYP_DATA_CODE EQLU 0
        THEN IF NOT (QUAL[QUAL_SS_ENCRYP] = CRYPTO_INIDEC(.BCB))
            THEN SIGNAL(BACKUP$_BACNOTENC);

        ! Decrypt the buffer
        !
        CRYPTO_DECR_BLOCK(.BCB);

        END
    ELSE
        BEGIN
        !
        ! Make sure that the save set is not encrypted.
        !
        IF .CHK_SAVESET
        THEN IF CRYPTO_CHKSAV(.BCB)
            THEN SIGNAL (BACKUP$_ENCSAVSET) ;
        CHK_SAVESET = 0 ;
        END ;

    ANALYZE_ONE_BUFFER(.BCB);

END;

FIN_IN_SAVE(FALSE);
END;
```

```
                                 083C 00000        .ENTRY  ANALYZE, Save R2,R3,R4,R5,R11      ; 2209
          55 00000000G   00   9E 00002             MOVAB   LIB$SIGNAL, R5                     ;
          54 00000000'   EF   9E 00009             MOVAB   QUAL+12, R4                        ;
          5E      FEF8   CE   9E 00010             MOVAB   -264(SP), SP                       ;
          6D 00000000G   00   9E 00015             MOVAB   RESTORE_HANDLER, (FP)              ; 2252
          5B             6E   9E 0001C             MOVAB   P$AREA, P$                         ; 2257
          6B      0100   8F   3C 0001F             MOVZWL  #256, (P$)                         ; 2258
       04 AB        08   AB   9E 00024             MOVAB   8(R11), 4(P$)                      ; 2259
          53             01   90 00029             MOVB    #1, CHK_SAVESET                    ; 2260
                         7E   D4 0002C             CLRL    -(SP)                              ; 2265
00000000G 00             01   FB 0002E             CALLS   #1, INIT_IN_SAVE                   ;
00000000G 00             00   FB 00035 1$:         CALLS   #0, READ_BUFFER                    ; 2266
          52             50   D0 0003C             MOVL    R0, BCB                            ;
                         54   13 0003F             BEQL    6$                                 ;
```

```
                  2C         02   A4           04  E1 00041         BBC     #4, QUAL+14, 3$                ; 2269
                                          06DC C4  D5 00046         TSTL    CRYP_DATA_CODE                 ; 2277
                                               1B  12 0004A         BNEQ    2$                             ;
                                               52  DD 0004C         PUSHL   BCB                            ; 2278
                           00000000G  00       01  FB 0004E         CALLS   #1, CRYPTO_INIDEC              ;
      02   A4             01              04   50  F0 00055         INSV    R0, #4, #1, QUAL+14            ;
                                          09   50  E8 0005B         BLBS    R0, 2$                         ;
                                     00000000G 8F  DD 0005E         PUSHL   #BACKUP$_BACNOTENC             ; 2279
                                          65   01  FB 00064         CALLS   #1, LIB$SIGNAL                 ;
                                               52  DD 00067 2$:     PUSHL   BCB                            ; 2283
                           00000000G  00       01  FB 00069         CALLS   #1, CRYPTO_DECR_BLOCK          ;
                                               1A  11 00070         BRB     5$                             ; 2269
                                          15   53  E9 00072 3$:     BLBC    CHK_SAVESET, 4$                ; 2291
                                               52  DD 00075         PUSHL   BCB                            ; 2292
                           00000000G  00       01  FB 00077         CALLS   #1, CRYPTO_CHKSAV              ;
                                          09   50  E9 0007E         BLBC    R0, 4$                         ;
                                     00000000G 8F  DD 00081         PUSHL   #BACKUP$_ENCSAVSET             ; 2293
                                          65   01  FB 00087         CALLS   #1, LIB$SIGNAL                 ;
                                               53  94 0008A 4$:     CLRB    CHK_SAVESET                    ; 2294
                                               52  DD 0008C 5$:     PUSHL   BCB                            ; 2297
                                FE33  CF       01  FB 0008E         CALLS   #1, ANALYZE_ONE_BUFFER         ;
                                               A0  11 00093         BRB     1$                             ; 2266
                                               7E  D4 00095 6$:     CLRL    -(SP)                          ; 2301
                           00000000G  00       01  FB 00097         CALLS   #1, FIN_IN_SAVE                ;
                                                   04 0009E         RET                                    ; 2302

; Routine Size:  159 bytes,    Routine Base:  CODE + 0BD7
```

```
;  755          2303  1 END
;  756          2304  0 ELUDOM



                                                                   .EXTRN  LIB$SIGNAL

;                                  PSECT SUMMARY
;
;       Name                    Bytes                     Attributes
;
;    COMMON                        2124  NOVEC,  WRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  OVR,NOPIC,ALIGN(2)
;    CODE                          3190  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        9         0        581         00:01.2



;                                  COMMAND QUALIFIERS

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

; Size:            1398 code + 3916 data bytes
; Run Time:           00:37.7
; Elapsed Time:       01:44.5
; Lines/CPU Min:        3662
; Lexemes/CPU-Min:  38872
; Memory Used:   382 pages
; Compilation Complete
```

BACKUPMSG
LIS

ANALYZE
LIS

BUFFERS
LIS

CREATEDIR
LIS

BADBLOCK
LIS

BACKUPCMD
LIS

COMMAND
LIS