METRIC
MIL-PRF-89049/13
15 December 2005

PERFORMANCE SPECIFICATION SHEET
TACTICAL OCEAN DATA LEVEL 3 (TOD3)

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1.  SCOPE

1.1 Scope.  This specification sheet defines the content and format for the U.S. National Geospatial-Intelligence Agency (NGA) Tactical Ocean Data Level 3 (TOD3) product.  References to the TOD3 specification in this document assume use of both the general specification (MIL-PRF-89049A, dated 15 December 2005) and this specification sheet.

1.2 Purpose.  The TOD3 is a vector-based digital product that portrays seafloor configuration, particularly in shallow water areas between 20 meters and 200 meters along with Non-submarine contacts data in a format suitable for computerized subsurface navigation.  TOD3 is designed to be used in conjunction with the Digital Nautical Chart (DNC) and Tactical Ocean Data Level 1 and/or Level 2 for complete navigation information.  The TOD3 also functions as a general-purpose database designed to support Geographic Information System (GIS) applications.  This specification sheet provides a description of the content, accuracy, data format, and design of the TOD3 database.  In addition, the TOD3 product portrays strategic information to support naval operations.

2. APPLICABLE DOCUMENTS

2.1 General.  The documents listed in this section are specified in sections 3, 4, or 5 of this specification.  This section does not include documents cited in other sections of this specification or recommended for additional information or as examples.  While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3, 4, or 5 of this specification whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks.  The following specifications, standards, and handbooks form a part of this document to the extent specified herein.  Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

Comments, suggestions or questions on this document should be addressed to the National Geospatial-Intelligence Agency, National Center for Geospatial Intelligence Standards (NCGIS), Mail Stop P-106, 12310 Sunrise Valley Drive, Reston, VA 20191-3449, or emailed to ncgis-mail@nga.mil.  Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at http://assist.daps.dla.mil/.

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DISTRIBUTION STATEMENT F: Further dissemination only as directed by NGA Release Officer or higher DOD authority.

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DEPARTMENT OF DEFENSE STANDARDS

      MIL-STD-2407      Vector Product Format, 28 June 1996
                           Change Notice 1, 22 October 1999


DEPARTMENT OF DEFENSE SPECIFICATIONS

      MIL-PRF-89049      Vector Product Format (VPF) Products,
                           GeneralSpecification for
      MIL-PRF-89023      Digital Nautical Chart
      MIL-PRF-89049/12   Performance Specification Sheet Tactical Ocean
                           Data Level 2 (TOD2)
      MIL-B-89200        Bathymetric Navigation Planning Chart (BNPC)
                           (CONFIDENTIAL)

(Copies of these documents are available online at
http://assist.daps.dla.mil/quicksearch/ or from the Standardization Document
Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

     2.2.2 Other government documents.  The following other Government
documents, drawings, and publications form a part of this document to the
extent specified herein.  Unless otherwise specified, the issues of these
documents are those cited in the solicitation or contract.

       PRODUCT SPECIFICATIONS

         NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY

           PS/2BD/040             DMA Product Specifications for
                                     Bottom Contour Charts (All Series)

(Copies of the above publication are available from the National Geospatial-
Intelligence Agency, National Center for Geospatial Intelligence Standards
(NCGIS), Mail Stop P-106, 12310 Sunrise Valley Drive, Reston, VA 20191-3449,
or request can be e-mailed to ncgis-mail@nga.mil.)

     2.3 Order of precedence.  In the event of a conflict between the text
of this document and the references cited herein, the text of this document
takes precedence.  Nothing in this document, however, supersedes applicable
laws and regulations unless a specific exemption has been obtained.

     3. REQUIREMENTS

     3.1 First article.  When specified (see 6.2), a sample shall be
subjected to first article inspection in accordance with Section 4.2.

     3.2 Accuracy.

     3.2.1 Absolute horizontal accuracy.  The absolute horizontal accuracy
requirement for TOD3 is 250 meters circular error at 90 percent probability.

     3.2.2 Absolute vertical accuracy.  TOD3 does not contain features above
mean sea level; it only contains information at or below the sounding datum.
Therefore, no vertical accuracy requirement exists for this product.

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3.2.3 <u>Relative accuracy</u>.  NGA does not have a formal relative accuracy objective defined for this product.

3.2.4 <u>Hydrographic Accuracy</u>.  Much of the data used as source for the TOD3 is derived from NAVOCEANO Ocean Survey Program (OSP) data.  The horizontal and vertical accuracies for hydrographic features in surveyed areas are specified in TOD 3 extraction guidance.

3.3 <u>Datums</u>.

3.3.1 <u>Horizontal datum</u>.  The horizontal datum shall be referenced to WGS84.  If the source map/chart sheets are not referenced to WGS84, then they will be converted from their original horizontal datum to WGS84.

3.3.2 <u>Vertical datum</u>.  The Hydrographic Features on the TOD3 are referenced to a vertical datum based on Mean Sea Level (MSL) and is called the Sounding Datum or Hydrographic Datum.  Hydrographic datums used in TOD3 will be specified in the Geographic Reference Table (grt) for each library.

3.4 <u>Coordinate System</u>.  TOD3 Data Libraries shall implement a decimal degree geographic coordinate system.  The horizontal coordinate resolution for geographic coordinates shall be 0.02 arc-seconds or 0.000005 decimal degrees.

3.5 <u>Continuity</u>.  All TOD3 data are subject to the portrayal criteria specified in section 3.14.

    a.  TOD3 is based on the same feature content as that of Tactical Ocean Data Level 2 (TOD2) produced by NGA, but covering depths shallower than 200 meters.  TOD3 will, in addition, contain only the information that is not covered by the Digital Nautical Chart (DNC).  The TOD3 must be used in conjunction with the appropriate DNC, TOD1, and/or TOD2 library coverage in the same area to ensure complete coverage for subsurface navigation.

    b.  MIL-PRF-89049A and this specification sheet contain the database design and the feature content for a thematically layered, relationally structured set of databases to support electronic chart display systems.

3.6 <u>Thematic layer organization</u>.  The TOD3 database is organized into multiple data libraries containing thematic layers.  Each thematic layer is stored as a single coverage.  The TOD3 data libraries contain two reference coverages and up to five thematic layers, two of which correspond to the same coverages in the DNC.  Table 1 lists the thematic coverages defined for the TOD3 product.

TABLE 1.  <u>Thematic layers for the TOD3 library.</u>

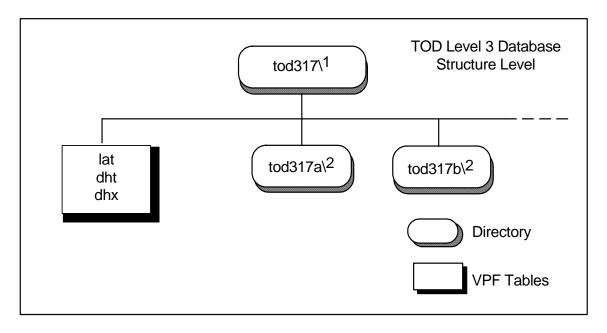| VPF Structure Level | TOD3 library thematic layers | Coverage name |
|---|---|---|
| Data Libraries | Library Reference | libref |
| | Tile Reference | tileref |
| | Data Quality | dq |
| | Earth Cover | ecr |
| | Hydrography | hyd |
| | Non-submarine Contacts | nsc |
| | Survey Information | sur |

3.7 <u>Dimensions</u>.  The minimum size of features collected from source materials shall be in conformance with the portrayal criteria from MIL-PRF-89023 and the attribute values provided in the TOD3 data dictionary, Appendix C.  Features may be captured as points, lines, areas, or text.

3.8 <u>Feature and attribute coding scheme</u>.  TOD3 implements the 8 April 2002 version of the NIMA Profile of FACC which is based on the Digital Geospatial Information Exchange Standard (DIGEST) Part 4, Feature and Attribute Coding Catalogue (FACC) to define features, attributes, and values. See Appendix D for a listing of the FACC feature codes and attribute codes allowable for TOD3 thematic files.

3.9 <u>Units of measure</u>.  Units of measurement in this specification are generally given in the metric system.  With very few exceptions, units of measurement for the TOD3 will employ the metric system.  Units of measure and increments for attributes shall be in accordance with the FACC.

3.10 <u>TOD3 directory organization</u>.

3.10.1 <u>Databases</u>.  TOD3 consists of a number of individual databases, geographically coincident with the corresponding DNC databases.  Each CD-ROM shall contain a single database directory and at least one data library. Each data library contains a mix of reference coverages and thematic coverages.

3.11 <u>VPF structure levels, tables, and files</u>.  The following sections identify VPF structure information specific to TOD3.  General database, library, and coverage level tables are defined in MIL-PRF-89049A.  The TOD3 specific content information for the database and library level metadata tables is described in Appendix B of this specification sheet.  The record layout and content of the TOD3 tables and files are described in Appendix C of this specification sheet.

3.11.1 <u>Database directory files</u>.

a.  The TOD3 product shall contain a number of database directories, each of which has its own unique database directory files and is contained on exactly one CD-ROM disc.  The database name is represented as a directory name and shall be in lower case letters.  The appropriate database directory shall be present on each CD-ROM at the root level.  A representation of the tables and files appearing at the TOD3 database level is depicted in Figure 1.

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1 This is a representative directory name for a TOD3 database.
2 These are representative directory names for TOD3 libraries.

FIGURE 1.  TOD3 database directory.


     b.  As described in MIL-PRF-89049A, section 3.16.1 and Appendix B
therein, the database directory contains three required metadata tables.  The
required tables include the Library Attribute Table (lat), Database Header
Table (dht), and Database Header Table variable length index (dhx) (see Table
2).  Appendix B in this specification sheet defines the TOD3 implementation
of the database level metadata tables.


TABLE 2.  TOD3 database table and file names and description.

| Table or<br>File Description | Table or<br>File Name |
|---|---|
| TOD3 database directory | tod317[1] |
| Library Attribute Table | lat |
| Database Header Table | dht |
| Database Header Table variable length index | dhx |
| TOD3 library directories | tod317a[2] |

[1]This is a representative directory name for a TOD3 database.

[2]This is a representative directory name for a TOD3 library.

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3.11.2 <u>Database and library naming conventions</u>.

a.  The database name is represented as a directory name and shall be represented in six lower case letters.  The first four characters are 'tod3' and the last two characters represent the disc number.  The discs are numbered geographically, not sequentially, and match the Minimum Bounding Rectangle (MBR) of the underlying DNC database.  Hence, tod303 may be produced after tod304 if the data comprising the tod303 geographic area is issued on a later disc.

b.  TOD3 library names shall be represented in eight lower case characters.  The first six characters are the TOD3 database name.  The seventh and eighth characters can be used for single or double alphabetic characters beginning with 'a' used to uniquely identify each data library contained in a TOD3 database.

3.11.3 <u>Library directory files</u>.  The contents of each TOD3 library are stored in a directory, whose name shall be no more than eight lower case alphanumeric characters in length. The entire contents of one or more TOD3 libraries shall be contained in a dataset.  The size of the dataset shall not exceed the maximum size limit allowable for the exchange medium (i.e., CD-ROM).  A representation of the tables and files present in a TOD3 library is provided in MIL-PRF-89049A, Figure 4.  TOD3 will not implement a reference library, as defined in MIL-PRF-89049A.

3.11.3.1 <u>Library metadata</u>.  The library metadata tables and their content are described in MIL-PRF-89049A, section 3.16.2.1.  Appendix B in this specification sheet defines the TOD3 implementation of the library level metadata tables.

3.11.3.2 <u>Library reference coverages</u>.  Each tiled TOD3 data library shall contain the Tile Reference Coverage (tileref) and Library Reference Coverage (libref).  The tileref coverage shall be implemented as defined by MIL-PRF-89049A, Appendix D.  The optional text feature table shall not be implemented in TOD3.

The libref coverage shall be implemented as defined by Appendix C in this specification sheet.

3.11.3.3 <u>Use of TOD3 in conjunction with DNC, TOD1, and TOD2</u>.  The TOD3 data library is to be used in conjunction with the appropriate DNC and/or TOD1 or TOD2 library that contains the same coverage area.  All DNC CDs will contain a BROWSE library, which is used to support overview displays at a global scale.  Because BROWSE is already part of DNC, TOD3 will not contain a BROWSE Library.

3.11.4 <u>Coverage directory files</u>.

3.11.4.1 <u>Coverage metadata</u>.  The coverage metadata tables and their content are described in MIL-PRF-89049A, section 3.16.3.1.  Product specific information for TOD3 is provided in Appendix C of this specification sheet.

3.11.4.2 <u>Data coverages</u>.  There are up to four possible data coverage directories present in any TOD3 data library.  Within a library, coverage directories shall not be included if data does not exist for that coverage

within the library's geographic area.  The contents of each TOD3 data
coverage are stored in a directory whose name shall be represented in lower
case letters with a three character name representative of the thematic layer
name (i.e., hyd for Hydrographic, ecr for Earth Cover).  In addition, each
TOD3 library can contain a data quality (dq) coverage.  The dq coverage
contains information about the accuracy of the source(s) that were used to
produce TOD3.

   3.11.4.3 <u>Coverage topology</u>.  The topology level of each coverage is
specified in the coverage attribute table (cat) within each library, see MIL-
PRF-89049A, section 3.16.2.1 and Appendix D.  Topology is not supported
between coverages.  The cat for each library is tailored based on the
coverages actually present.  See Appendix B of this specification sheet for
the definition of the TOD3 cat containing all possible TOD3 coverages.

   3.11.5 <u>Feature class structure level</u>.  TOD3 feature classes are shown
in Table 3.  Only those feature classes containing data shall be present in
the coverage.  Descriptions of the feature classes, with the exception of
those located in the Data Quality (dq) coverage, are found in Appendix C of
this specification sheet.  For feature class descriptions of data quality
features, see MIL-PRF-89049A, Appendix E.  TOD3 will implement the optional
text feature table in the dq coverage.

TABLE 3.  <u>TOD3 thematic coverages and feature classes.</u>

| Coverage Name | Feature Classes | | | |
|---|---|---|---|---|
| | **Point** | **Line** | **Area** | **Text** |
| dq | | dqline | dqvoida dqarea | dqtxt |
| ecr | | | | ecrtext |
| hyd | soundp | hydrol | hydroa | |
| nsc | contactp | | | |
| sur | | trackl | swatha | |

   3.11.5.1 <u>Feature table structure and contents</u>.  Feature tables and join
tables will be implemented per MIL-PRF-89049A, section 3.16.4.2.  In addition
to implementing the required feature-to-primitive links using join tables for
all line and area feature classes, TOD3 also implements the feature-to-
primitive links using join tables for all text feature classes.

   3.11.5.2 <u>Related attribute tables</u>.

   3.11.5.2.1 <u>Notes related attribute table</u>.  Digital marginalia refers to
the information that originally appeared in notes, tables, and graphs on the
borders of the hardcopy chart sheets.  For the TOD3, this information is
included in the Notes Related Attribute Table (notes.rat) in each coverage.
The notes.rat shall be implemented for all feature tables (except for
ecrtext, dqline, dqarea, and dqtxt), when appropriate, in accordance with
MIL-PRF-89049A, section 3.16.4.3.1.

3.11.5.2.2 <u>Symbol related attribute table</u>.  The TOD3 product shall not implement the symbol related attribute table (symbol.rat) defined in MIL-PRF-89049A, section 3.16.4.3.3.

3.11.5.3 <u>Text feature class</u>.  A text feature class is composed of a text feature table (*.tft) and a text primitive (txt) table.  This primitive table contains information that may be used to replicate text strings found on an original chart or other source for representation on a plot or digital display.  All text (both at the feature and primitive level) will be limited to the characters found in the Latin alphabet primary code table, FIGURE 24 of MIL-STD-2407.

3.11.6 <u>Primitive Tables and associated files</u>.  VPF uses the primitive tables defined in MIL-STD-2407 to model a feature's location, geometry and topology.  See MIL-PRF-89049, section 3.16.5 for the format to be used for VPF primitive tables in TOD3.  All coverages in TOD3 data libraries shall implement 2-dimensional (2D) geometry for the coordinates contained in the primitive tables.  All primitive tables contained in the TOD3 data libraries shall use a field type of "C" (2D, short floating-point) to store the coordinate data.

3.12 <u>TOD3 tiling scheme</u>.  Each TOD3 coverage is divided into a seamless set of tiles using the World Geographic Reference System (GEOREF) described in DMA TM 8358.1.  This system divides the surface of the earth into quadrangles, the sides of which are specific arc lengths of longitude and latitude.  Each quadrangle is identified by a simple systematic letter code giving positive identification with no risk of ambiguity.

3.12.1 <u>TOD3 tile sizes</u>.  In the latitudes from 0-81 degrees, TOD3 is divided into 3° by 3° tiles.  In the Polar Regions (latitudes from 81-90 degrees), TOD3 is divided into 4 9° by 90° degree tiles.  The lower left (southwestern most) corner of each tile is identified using the GEOREF naming conventions described in MIL-PRF-89049A, section 3.17.  This GEOREF identifier is used as the name for the directory containing the primitives contained in that tile.

3.12.2 <u>Cross-tile topology</u>.  Cross-tile topology ensures that topology is retained between the primitive tables across the tile boundaries.  Topology across the tiles is maintained through the use of a reference tile ID in the edge and connected node primitive tables that establishes a "cross-tile" link over the tile partitions.  This enables the database to function as a seamless unit for analysis purposes.

3.13 <u>Distribution medium</u>.  The TOD3 will normally be distributed on CD-ROM discs, each of which is a single TOD3 database.  The format of the CD-ROM discs conforms to ISO Standard 9660.  Data may also be distributed via web services (i.e., NGA Gateway), or other media, for example, Digital Versatile Disc (DVD) as required to support customer needs.

3.13.1 <u>Geographic organization</u>.  The TOD3 shall be organized on multiple CDROM discs based on geographic regions of the world.  There is no overlap present on adjoining discs.

3.13.2 <u>Database size</u>.  The size of a TOD3 database is dependent on the complexity of the source used to produce the product and the number of particular charts included in the database.  A single database will not exist on more than one CD-ROM.

3.14 <u>Cartographic considerations for TOD3 database</u>.

3.14.1 <u>Source</u>.  Detailed survey data and Non-submarine contacts data are generally used to provide the fundamental source data set.

3.14.2 <u>Compilation scale</u>.  The compilation scale will vary based on the density of available data and will generally range from 1:50,000 to 1:100,000.

3.14.3 <u>Minimum polygon size</u>.  The minimum polygon size depicted in the TOD3 product will conform to the criteria set forward in MIL-PRF-89023.

3.14.4 <u>Bathymetry</u>.  Portrayal of bathymetric information will be in accordance with MIL-B-89200, Bathymetric Navigation Planning Chart (BNPC). Further guidance is provided as follows:

a.  TOD3 shall contain bathymetric data collected from areas between the 20 meter depth curve and the 200 meter depth curve.  Due to irregularities in the bottom, there may be areas containing depths deeper than 200 meters contained within the area of coverage of a TOD3.  They will be included within the TOD3 dataset as long as they are landward of the 200 meter curve.

b.  Depth area features shall be portrayed from the 20 to 25 meters, 25 to 50 meters, 50 to 75 meters, 75 to 100 meters, 100 to 150 meters, and 150 to 200 meters.

c.  Depth Contours will be collected at 5-meter intervals between 20 meters and 200 meters.  Depth contours will be portrayed as follows: the 20 meter, 25 meter, 50 meter, 75 meter, 100 meter, 125 meter, 150 meter, 175 meter and 200 meter contours will be attributed as index contours; all other contours will be attributed as intermediate contours.  Supplemental contours of ½ the contour interval may also be portrayed and attributed as such where needed to accurately delineate the bottom configuration.

d.  Depth contours shall be contiguous unless they either are broken on the source chart, or cannot be discerned at the product resolution.

e.  Soundings will be portrayed in their actual location; no soundings will be portrayed with lead lines.

3.15 <u>Security</u>.

3.15.1 <u>Classification</u>.  TOD3 data shall be classified as follows:

a.  Tactical Ocean Data Level 3 (TOD3) datasets are always classified SECRET.

3.16 <u>CD ROM labeling and packaging</u>.  General CD-ROM labeling, labeling on the cardboard sleeve, or jewel case liner/information booklet, as applicable shall be as described in MIL-PRF-89049A.  Items specific to TOD3 are shown below.

3.16.1 <u>CD labeling</u>.  Labeling of the TOD3 CDs shall be in accordance with the contract instructions.

3.16.1.1 <u>Product specific items</u>.

    a.   Product Logo: TOD3 CDs shall show the VPF logo.

    b.   Product Description: Tactical Ocean Data Level 3 (TOD3 TM)

    c.   Series: TOD3

    d.   Item: The three digit TOD3 CD number.

    e.   NGA reference number format is TOD3nnn00, where nnn represents the three digit TOD3 CD number.

3.16.2 <u>Information booklet</u>.  Information booklets shall be provided for TOD3 CDs.  Labeling of the TOD3 information booklet covers shall be in accordance with contract instructions.  When used in conjunction with the jewel case, the front cover of the information booklet also serves as the front cover of the case.

3.16.2.1 <u>Information booklet TOD3 specific items</u>.  All information booklet TOD3 specific items are the same as those shown on the CD, see 3.16.1.1.

3.16.2.2 <u>Information booklet text</u>.

    a.   The interior pages of the information booklet shall contain the following statements.  The point of contact information (NGA User's Note) shown below is current as of the date of publication of this specification. See contract for updates (if applicable).

**Tactical Ocean Data Level 3 (TOD3)**

*The Tactical Ocean Data Level 3 (TOD3) provides databases of shallow water nautical information in Vector Product Format (VPF) that are contained on CD-ROM discs.  The data content is intended to closely replicate NGA's Tactical Ocean Data Level 2 (TOD2) data in waters shallower than 200 meters.  TOD Level 3 must be used in conjunction with the Digital Nautical Chart (DNC), and Tactical Ocean Data Level 1 and Level 2 to provide feature coverage necessary for subsurface navigation.  The NGA Classified Notice to Mariners (CNM) supports TOD3 with maintenance information.  To be added to the distribution for CNM, send a request to Headquarters, NGA, ATTN: OGIH.*

*This TOD3 was produced under DoD Specification MIL-PRF-89049/13, dated 15 December 2005.*

*Users should refer corrections, additions, and comments regarding this or other NGA products to the NGA Operational Help Desk: 1-800-455-0899; commercial 314-263-4864; DSN 693-4864; or write to: Director, National Geospatial-Intelligence Agency, ATTN: ES, Mail Stop L-88, 4600 Sangamore Road, Bethesda, MD 20816-5003.*

    b.   Source information (library, CNM number) shall be shown as illustrated in the following example:

*Note:  This TOD3 contains libraries TOD303a and TOD303b, which are corrected through Classified Notice to Mariners 15/03 b.*

4. VERIFICATION

Verification shall be in accordance with MIL-PRF-89049A, section 4.

5. PACKAGING

5.1 <u>Packaging</u>.  For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2).  When packaging of material is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements.  Packaging requirements are maintained by the Inventory Control Point's packaging activities within the Military Service or Defense Agency, or within the military service's system command.  Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 <u>Intended use</u>.  The Tactical Ocean Data Level 3 database is intended to supplement electronic chart display systems with detailed classified depth information to permit the safe underwater navigation of submarines.  The TOD3 is intended for use by military branches of the government.

6.1.1 <u>Analysis limitation</u>.  Analytical use of TOD3 data at a scale greater than that of the original cartographic source nautical chart is not recommended.

6.2 <u>Acquisition requirements</u>.  See MIL-PRF-89049A, section 6.2.

6.3 <u>Supersession data</u>.  This specification sheet is the initial release of the document.

6.4 <u>Definitions</u>.  Refer to MIL-PRF-89049A for definition of terms used in this specification sheet that are not defined below.

6.4.1 <u>Mean Sea Level (MSL)</u>. - The average height of the surface of the sea for all stages of the tide, used as a reference for elevations.  (Usually determined by averaging height readings observed hourly over a minimum period of 19 years.)

6.5 <u>Subject term (key word) listing</u>.

DNC
FACC
GEOREF
GIS
Hydrographic survey
Non-submarine Contacts
Thematic layer
TOD
WGS84

6.6 <u>NGA operational help desk</u>.  For questions concerning this or other NGA products, services, or specifications, please telephone the NGA Operational Help Desk at 1-800-455-0899; Commercial 314-263-4864; or DSN 693-4864.

**TOD3 DATA DICTIONARY ORGANIZATION**

A.1 SCOPE.

A.1.1 <u>Scope</u>. This appendix provides information about the data dictionary organization for the TOD3 product.  It is a mandatory part of the specification sheet.  The information contained herein is intended for compliance.

A.2 APPLICABLE DOCUMENTS

The TOD3 must be used in conjunction with the Digital Nautical Chart (DNC) to provide complete coverage of a given area.  Refer to MIL-PRF-89023, Digital Nautical Chart, for DNC data dictionary information.

A.3 TOD3 DATA DICTIONARY ORGANIZATION

A.3.1 <u>Data dictionary organization</u>.

a. The data provided in these appendices are organized according to VPF structure levels.  The TOD3 database and library tables appear first, as described in MIL-PRF-89049A, Appendixes B and D.  The information provided in the database tables applies to the entire database.  The TOD3 database contains only data libraries (containing the product data) described in Appendix C of this document.

b.  Appendix B in this specification sheet contains information on the database and library level metadata tables for TOD3.

c.  Appendix C in this specification sheet contains the data coverages and the library reference coverage.  For each coverage there is a series of tables that describe the data in that coverage.  Listed for each coverage are the character value description table, integer value description table, feature tables, feature class attribute table, and feature class schema table.

d.  Appendix D in this specification sheet contains two consolidated listings of the TOD3 features and attributes along with their respective primitive types for the TOD3 libraries.  They are designed as an index to the TOD3 features and attributes.  The first is a listing by coverage of the TOD3 feature names and codes, and their associated attribute names and codes.  The second is a similar consolidated listing of all the TOD3 features sorted by feature code.

**TOD3 DATABASE AND LIBRARY VPF TABLE IMPLEMENTATION**

B.1      SCOPE

B.1.1  Scope.  This appendix defines the TOD3 implementation of the required database and library level metadata tables.  It is a mandatory part of this specification sheet.  The information contained herein is intended for compliance.

B.2      APPLICABLE DOCUMENTS

This section is not applicable to this appendix.

B.3      TOD3 DATABASE AND LIBRARY VPF TABLE CONTENTS

The following sections define the default record content for each of the database and library level metadata tables that require product-specific information.  The actual record content of these metadata tables in a TOD3 dataset shall be tailored to accurately represent the dataset.  In certain cases, the structure of a metadata table in TOD3 differs from the structure of that table as defined in MIL-PRF-89049A.  For those metadata tables, the TOD3 structure is defined in this appendix.

B.3.1     Database-level record layout. The TOD3 consists of a number of individual databases.  Three required VPF tables and files are implemented at the database level.  These are the database header table (dht) and corresponding variable-length index (dhx) and the library attribute table(lat).  The following sections describe these tables and their default record content for the TOD3 database.

B.3.1.1  Database header table.  This table contains information about the contents of the database and security information.  For TOD3, the format of the dht is different than the one defined in MIL-PRF-89049A.  Table B-1 herein defines the structure and the default record contents for the dht in the TOD3 databases.  TOD3 does not implement the optional disclaim.doc that can be associated with the dht.

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APPENDIX B

TABLE B-1.  <u>Structure and Record Contents for database header table (dht)</u>.

```
{Header length}L;
Database Header Table;-;
id=I,1,P,Row Identifier,-,-,-,:
vpf_version=T,10,N,VPF version number,-,-,-,:
database_name=T,8,N,Directory name of this database,-,-,-,:
database_desc=T,100,N,Description of this database,-,-,-,:
media_standard=T,20,N,Media Standard,-,-,-,:
originator=T,*,N,Producer of this database,-,-,-,:
addressee=T,*,N,Address of the producer,-,-,-,:
media_volumes=T,4,N,Number of Volumes in this database,-,-,-,:
seq_numbers=T,*,N,The Sequential Number(s) in this database,-,-,-,:
num_data_sets=T,4,N,Number of Libraries,-,-,-,:
security_class=T,1,N,Security Classification,-,-,-,:
downgrading=T,3,N,Downgrading,-,-,-,:
downgrade_date=D,1,N,Date of downgrading,-,-,-,:
releasability=T,20,N,Releasability restrictions of data,-,-,-,:
transmittal_id=T,1,N,Unique Transmittal Identifier,-,-,-,:
edition_number=T,10,N,Edition Number of this database,-,-,-,:
edition_date=D,1,N,Date of edition,-,-,-,:
declassification=T,*,N,Declassificaton Note,-,-,-,:
class_just=T,*,N,Justification for classification,-,-,-,:;
```

```
1\
9606\
tod317\[1]
Tactical Ocean Data Level 3 database supporting tactical GIS
applications.\[2]
ISO 9660\
NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY\
ATTN: NGA/P, Mail Stop D-134, 4600 Sangamore Road, Bethesda, MD 20816-
5003\
1\
N/A\
1\
S\
NO\
[NULL]\
TBD\
1\
1\
00000000000000.\
Derived from: OPNAVINST S5513.5B-24; DECLASSIFY ON: X3,X4; Date of
Source: 25 AUG 1993\
Classification is based on the accuracy and completeness of bathymetry
(SECRET) and the survey lines (SECRET)
```

   [1]This is a representative directory name for a TOD3 database.
   [2]This is a representative description for a TOD3 database.

B.3.1.2  <u>Library attribute table</u>.  This table contains a row for each TOD3 library that describes the library's name and the minimum bounding rectangle that defines the geographic extent of that library.  The format of the lat is defined in MIL-PRF-89049A, Appendix B.  There is no TOD3-specific default record content for the lat.


B.3.2  <u>Library-level record layout</u>.  Each TOD3 data library shall contain the four required metadata tables and associated narrative tables and indices.  These include the library header table (lht), geographic reference table (grt), coverage attribute table (cat), data quality table (dqt), a lineage narrative table (lineage.doc) and variable-length indices (lhx, grx, dqx, lineage.dox).  The following sections describe these tables and their default record content for TOD3 data libraries.

B.3.2.1  <u>TOD3 library header table</u>.  The library header table identifies the data set, sources and security information in the data library.  For TOD3, the format of the lht is different than the one defined in MIL-PRF-89049A.  Table B-2 herein defines the structure and the default record contents for the lht in the TOD3 libraries.

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TABLE B-2.  <u>Structure and Content for TOD3 library header table (lht)</u>.

```
{Header length}L;
Library Header Table;-;
id=I,1,P,Row Identifier,-,-,-,:
product_type=T,12,N,Product Type,-,-,-,:
library_name=T,12,N,Name,-,-,-,:
description=T,100,N,Description of the library,-,-,-,:
data_struct_code=T,1,N,Data Structure Code,-,-,-,:
scale=I,1,N,Scale of the library,-,-,-,:
source_series=T,15,N,Series,-,-,-,:
source_id=T,30,N,Identifier of the source reference,-,-,-,:
source_edition=T,20,N,Edition number of the source,-,-,-,:
source_name=T,100,N,Name of library source,-,-,-,:
source_date=D,1,N,Source Date,-,-,-,:
security_class=T,1,N,Security Classification,-,-,-,:
downgrading=T,3,N,Downgrading,-,-,-,:
downgrading_date=D,1,N,Date of downgrading,-,-,-,:
releasability=T,20,N,Releasability,-,-,-,:
declassification=T,*,N,Declassificaton Note,-,-,-,:
class_just=T,*,N,Justification for classification,-,-,-,:
```

```
1\
TOD3\
tod317a\
Bathymetric and NSC data to be used for submarine navigation with the
accompanying DNC17.\1
8\
(scale of library)\2
2BD\
BC\
Various\
Various\
00000000000000.\2
C\
NO\
[NULL]\
TBD\
Derived from: OPNAVINST S5513.5B-24; DECLASSIFY ON: X3,X4; Date of
Source: 25 AUG 1993\
Classification is based on the accuracy and completeness of bathymetry
(CONFIDENTIAL)
```

**Note:** Each line represents the record value for each defined column.
[1]This is a representative description for a TOD3 library.
[2]Insert actual scale of library.
[3]Indicates earliest source date.

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B.3.2.2 <u>Geographic reference table</u>.  This table contains the geographic parameters, and projection information about a TOD3 library.  The format of the grt is defined in MIL-PRF-89049A, Appendix D.  Table B-3 herein defines the default record contents for the grt in a TOD3 data library.

TABLE B-3.  <u>Record contents for a TOD3 library geographic reference table (grt).</u>

| Column Name | Record Entry |
|---|---|
| id | 1 |
| data_type | GEO |
| units | DEG |
| ellipsoid_name | WGS 84 |
| ellipsoid_code | WGE |
| ellipsoid_detail | A=6378137,B=6356752 |
| vert_datum_name | MEAN SEA LEVEL |
| vert_datum_code | MSL |
| vert_units | M |
| sound_datum_name | N/A |
| sound_datum_code | N/A |
| sound_units | M |
| geo_datum_name | WGS 84 |
| geo_datum_code | WGE |
| projection_name | DECIMAL DEGREES UNPROJECTED |

B.3.2.3 <u>Coverage attribute table</u>.  The cat defines the topology level for each coverage in a TOD3 data library.  The format of the cat is defined in MIL-PRF-89049A, Appendix D.  Table B-4 herein defines the record content of the cat for all coverages in TOD3.

TABLE B-4.  <u>Record contents for a TOD3 coverage attribute table (cat).</u>

| id | coverage_name[1] | description | level[2] |
|---|---|---|---|
| 1 | libref | Library Reference | 2 |
| 2 | tileref | Tile Reference | 3 |
| 3 | dq | Data Quality | 3 |
| 4 | ecr | Earth Cover | 0 |
| 5 | hyd | Hydrography | 3 |
| 6 | nsc | Non-submarine Contacts | 0 |
| 7 | sur | Survey Information | 3 |

NOTES:
    1.  This table depicts all coverages which may be present in a TOD3 library.  Presence of these coverages will vary with data availability.  If a library does not contain any data for a particular coverage, then the record describing the coverage will not be present.
    2.  The number in the level column represents the topology level of each coverage.

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B.3.2.4  Data Quality Table  The dqt provides information about the
quality and accuracy of the data contained in the TOD3 data library.  The
format of the dqt and the associated lineage.doc is defined in MIL-PRF-
89049A, Appendix D.  Table B-5 herein defines the default record contents for
the dqt in a TOD3 data library.  No default contents are specified for the
lineage.doc.

TABLE B-5.  Record contents for a TOD3 library data quality table (dqt).

| Column Name | Record Entry |
|---|---|
| id | 1 |
| vpf_level | LIBRARY |
| vpf_level_name | tod3xxx |
| feature_complete | All features in this library are captured from the source materials in accordance with this specification |
| attrib_complete | All features in this library have valid attribute codes assigned to them in accordance with this specification |
| logical_consist | All data are topologically correct.  No duplicate features are present within a coverage. All data were consistently captured using the rules described in the documentation table associated with this table. |
| edition_num | 1 |
| creation_date | 20050820000000. |
| revision_date | 00000000000000. |
| spec_name | MIL-PRF-89049/13 |
| spec_date | 20050420000000. |
| earliest_source | 19700101000000. |
| latest_source | 00000000000000. |
| collection_spec | MIL-PRF-89049/13 |
| abs_horiz_acc | 250 |
| abs_horiz_units | METERS |
| abs_vert_acc | N/A |
| abs_vert_units | N/A |
| rel_horiz_acc | N/A |
| rel_horiz_units | N/A |
| rel_vert_acc | N/A |
| rel_vert_units | N/A |
| comments | Additional descriptions of data lineage are available in the documentation table associated with this data quality table (lineage.doc) |

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**TOD3 THEMATIC COVERAGES VPF TABLES AND CONTENTS**


C.1    SCOPE


C.1.1  Scope.  This appendix describes thematic coverage directory record layout for TOD3 data.  It is a mandatory part of this specification sheet.  The information contained herein is intended for compliance.


C.2    APPLICABLE DOCUMENTS


This section is not applicable to this appendix.


C.3    TOD3


C.3.1  General.  Appendix C contains the data coverages and the libref coverage for TOD3.  For each coverage there is a series of tables that describe the data in that coverage.  Listed for each coverage is the character value description table, integer value description table, feature tables, feature class attribute table, and feature class schema table


TABLE C-1.  TOD3 data coverages.

| Data Quality coverage | (dq) |
|---|---|
| Earth Cover coverage | (ecr) |
| Hydrography coverage | (hyd) |
| Non-submarine Contacts coverage | (nsc) |
| Survey Information coverage | (sur) |


C.3.1.1  Data Quality Coverage.  As shown in Table C-1, this appendix details 4 of the 5 data coverages contained in the TOD3 product.  The Data Quality coverage is described in MIL-PRF-89049A, Appendix E.  The minimum collection area size is 15,625 square meters.


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C.3.2  **Earth Cover Coverage.**

This coverage contains miscellaneous features of significance to marine navigation.  This coverage is tiled.

TABLE C-2.  Earth Cover Character Value Description Table.

Thematic Layer:              Earth Cover
Coverage Name:               ecr
Feature Table Description:    Earth Cover Character Value Description Table
Table Name:                  char.vdt

| {Header length}L;<br>Earth Cover Character Value Description Table;-;<br>id=I,1,P,Row Identifier,-,-,-,:<br>table=T,12,N,Name of the Feature Table,-,-,-,:<br>attribute=T,6,N,Column Name,-,-,-,:<br>value=T,5,N,Unique Value of Attribute,-,-,-,:<br>description=T,*,N,Description of Value,-,-,-,:; | | | | |
|---|---|---|---|---|
| 1 | ecrtext.tft | f_code | ZD040 | Named Location |
| 2 | fca | type | T | Text Feature |

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TABLE C-3.  <u>Earth Cover Text Feature Table.</u>

```
Thematic Layer:            Earth Cover
Coverage Name:             ecr
Feature Table Description: Earth Cover Text Feature Table
Table Name:                ecrtext.tft
Thematic Index ID Number:  1
```

```
{Header length}L;
Earth Cover Text Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:;
```

| Column | Description Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | |
| **f_code** | FACC Feature Code | | |
| | | ZD040  Named Location | |

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TABLE C-4.  Earth Cover Feature Class Attribute Table.

Thematic Layer:              Earth Cover
Coverage Name:               ecr
Feature Table Description:   Earth Cover Feature Class Attribute Table
Table Name:                  fca

```
{Header length}L;
Earth Cover Feature Class Attribute Table;-;
id=I,1,P,Row Identifier,-,-,-,:
fclass=T,8,U,Feature Class Name,-,-,-,:
type=T,1,N,Feature Type,char.vdt,-,-,:
descr=T,*,N,Description,-,-,-,:;
```

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|--------|-------------|-------|---------------|--------------------------------------------|
| **id** | Row Identifier | | Sequential beginning with 1 | |
| **fclass** | Feature Class Name | ecrtext | | |
| **type** | Feature Type | T | Text Feature | ecrtext |
| **descr** | Description | | Earth Cover Text Feature | ecrtext |

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TABLE C-5.   Content and Format for Earth Cover Feature Class Schema Table.

Thematic Layer:                Earth Cover
Coverage Name:                 ecr
Feature Table Description:      Earth Cover Feature Class Schema Table
Table Name:                    fcs

```
{Header length}L;
Earth Cover Feature Class Schema Table;-;
id=I,1,P,Row Identifier,-,-,-,:
feature_class=T,8,N,Name of Feature Class,-,-,-,:
table1=T,12,N,First Table,-,-,-,:
table1_key=T,16,N,Column Name in First Table,-,-,-,:
table2=T,12,N,Second Table,-,-,-,:
table2_key=T,16,N,Column Name in Second Table,-,-,-,:;
```

| 1 | ecrtext | ecrtext.tft | id | ecrtext.tjt | ecrtext.tft_id |
| 2 | ecrtext | ecrtext.tjt | txt_id | txt | id |
| 3 | ecrtext | txt | id | ecrtext.tjt | txt_id |
| 4 | ecrtext | ecrtext.tjt | ecrtext.tft_id | ecrtext.tft | id |

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C.3.3  **Hydrography Coverage.**

This coverage contains hydrographic features including depth contours, depth areas, and soundings used to provide a graphic picture of the seafloor configuration.  This coverage is tiled.

TABLE C-6.  Hydrography Character Value Description Table.

Thematic Layer:              Hydrography
Coverage Name:               hyd
Feature Table Description:    Hydrography Character Value Description Table
Table Name:                  char.vdt

```
{Header length}L;
Hydrography Character Value Description Table;-;
id=I,1,P,Row Identifier,-,-,-,:
table=T,12,N,Name of the Feature Table,-,-,-,:
attribute=T,6,N,Column Name,-,-,-,:
value=T,5,N,Unique Value of Attribute,-,-,-,:
description=T,*,N,Description of Value,-,-,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | soundp.pft | f_code | BE020 | Sounding |
| 2 | soundp.pft | cdv | UNK | Unknown |
| 3 | hydrol.lft | f_code | BE015 | Depth Contour |
| 4 | hydroa.aft | f_code | BE019 | Depth Area |
| 5 | fca | type | P | Point/Node Feature |
| 6 | fca | type | L | Line Feature |
| 7 | fca | type | A | Area Feature |

TABLE C-7.  Hydrography Integer Value Description Table.

Thematic Layer:            Hydrography
Coverage Name:             hyd
Feature Table Description:  Hydrography Integer Value Description Table
Table Name:                int.vdt

```
{Header length}L;
Hydrography Integer Value Description Table;-;
id=I,1,P,Row Identifier,-,-,-,:
table=T,12,N,Name of the Feature Table,-,-,-,:
attribute=T,3,N,Column Name,-,-,-,:
value=S,1,N,Unique Value of Attribute,-,-,-,:
description=T,*,N,Description of Value,-,-,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | soundp.pft | acc | 1 | Accurate |
| 2 | soundp.pft | acc | 2 | Approximate |
| 3 | soundp.pft | acc | 3 | Doubtful |
| 4 | soundp.pft | coe | 1 | Definite |
| 5 | soundp.pft | coe | 2 | Doubtful |
| 6 | soundp.pft | coe | 3 | Reported |
| 7 | soundp.pft | snd | 2 | No Bottom Found |
| 8 | soundp.pft | snd | 9 | Slant |
| 9 | soundp.pft | snd | 10 | Ordinary |
| 10 | soundp.pft | snd | 999 | Other |
| 11 | soundp.pft | sou | 1 | Within the range of depth of the surrounding depth area |
| 12 | soundp.pft | sou | 2 | Shallower than the range of depth of the surrounding depth area |
| 13 | soundp.pft | sou | 3 | Deeper than the range of depth of the surrounding depth area |
| 14 | soundp.pft | svc | 0 | Unknown |
| 15 | soundp.pft | svc | 1 | Echo Sounder Calibrated at 4800 ft/sec Uncorrected |
| 16 | soundp.pft | svc | 2 | Echo Sounder Calibrated at 1500 m/sec Uncorrected |
| 17 | soundp.pft | svc | 5 | Corrected by other means of calibration |
| 18 | hydrol.lft | acc | 1 | Accurate |
| 19 | hydrol.lft | acc | 2 | Approximate |
| 20 | hydrol.lft | hqc | 0 | Unknown |
| 21 | hydrol.lft | hqc | 1 | Index |
| 22 | hydrol.lft | hqc | 2 | Intermediate |
| 23 | hydrol.lft | hqc | 3 | Supplementary (1/2) |
| 24 | hydrol.lft | hqc | 14 | Supplementary (1/4) |
| 25 | hydroa.aft | acc | 1 | Accurate |
| 26 | hydroa.aft | acc | 2 | Approximate |

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TABLE C-8.   <u>Soundings Point Feature Table.</u>

Thematic Layer:              Hydrography
Coverage Name:               hyd
Feature Table Description:   Soundings Point Feature Table
Table Name:                  soundp.pft
Thematic Index ID Number:    1

```
{Header length}L;
Soundings Point Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:
acc=S,1,N,Accuracy Category,int.vdt,acc1.pti,-,:
cdv=T,8,N,Calendar Date Value,char.vdt,-,-,:
coe=S,1,N,Certainty of Existence,int.vdt,coe1.pti,-,:
hdp=F,1,N,Hydrographic Depth,-,-,-,:
snd=S,1,N,Sounding Category,int.vdt,snd1.pti,-,:
sou=S,1,N,Exposition of Sounding,int.vdt,sou1.pti,-,:
svc=S,1,N,Sounding Velocity,int.vdt,svc1.pti,-,:
tile_id=S,1,N,Tile Reference ID,-,til1_id.pti,-,:
end_id=I,1,N,Entity Node Primitive ID,-,end1_id.pti,-,:;
```

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | | Sequential beginning with 1 | |
| **f_code** | FACC Feature Code | | | |
| | | BE020 | Sounding | |
| **acc** | Accuracy Category | | | |
| | default | 1 | Accurate | BE020 |
| | | 2 | Approximate | BE020 |
| | | 3 | Doubtful | BE020 |
| **cdv** | Calendar Date Value | | | |
| | default | UNK | Unknown | BE020 |
| | | Character text string | | BE020 |
| **coe** | Certainty of Existence | | | |
| | default | 1 | Definite | BE020 |
| | | 2 | Doubtful | BE020 |
| | | 3 | Reported | BE020 |
| **hdp** | Hydrographic Depth [meters] | | | |
| | | >=0.1 and <=12000.0 | | BE020 |

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TABLE C-8.   <u>Soundings Point Feature Table (continued).</u>

| **snd** | Sounding Category | | | |
|---|---|---|---|---|
| | | 2 | No Bottom Found | BE020 |
| | | 9 | Slant | BE020 |
| | default | 10 | Ordinary | BE020 |
| | | 999 | Other | BE020 |
| **sou** | Exposition of Sounding | | | |
| | default | 1 | Within the range of depth of the surrounding depth area | BE020 |
| | | 2 | Shallower than the range of depth of the surrounding depth area | BE020 |
| | | 3 | Deeper than the range of depth of the surrounding depth area | BE020 |
| **svc** | Sounding Velocity | | | |
| | default | 0 | Unknown | BE020 |
| | | 1 | Echo Sounder Calibrated at 4800 ft/sec Uncorrected | BE020 |
| | | 2 | Echo Sounder Calibrated at 1500 m/sec Uncorrected | BE020 |
| | | 5 | Corrected by other means of calibration | BE020 |

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TABLE C-9.  Hydrography Line Feature Table.

Thematic Layer:                Hydrography
Coverage Name:                 hyd
Feature Table Description:     Hydrography Line Feature Table
Table Name:                    hydrol.lft
Thematic Index ID Number:      2

```
{Header length}L;
Hydrography Line Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:
acc=S,1,N,Accuracy Category,int.vdt,acc2.lti,-,:
crv=F,1,N,Depth Curve or Contour Value,-,crv2.lti,-,:
hqc=S,1,N,Hypsography Portrayal Category,int.vdt,hqc2.lti,-,:;
```

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | | Sequential beginning with 1 | |
| **f_code** | FACC Feature Code | | | |
| | | BE015 | Depth Contour | |
| **acc** | Accuracy Category | | | |
| | default | 1 | Accurate | BE015 |
| | | 2 | Approximate | BE015 |
| **crv** | Depth Curve or Contour Value  [meters] | | | |
| | default | -32767.0 | Unknown | BE015 |
| | | >=0.1 and <=12000.0 | | BE015 |
| **hqc** | Hypsography Portrayal Category | | | |
| | | 0 | Unknown | BE015 |
| | | 1 | Index | BE015 |
| | default | 2 | Intermediate | BE015 |
| | | 3 | Supplementary (1/2) | BE015 |
| | | 14 | Supplementary (1/4) | BE015 |

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TABLE C-10.  <u>Hydrography Area Feature Table.</u>

Thematic Layer:              Hydrography
Coverage Name:               hyd
Feature Table Description:   Hydrography Area Feature Table
Table Name:                  hydroa.aft
Thematic Index ID Number:    3

```
{Header length}L;
Hydrography Area Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:
acc=S,1,N,Accuracy Category,int.vdt,acc3.ati,-,:
cvh=F,1,N,Depth Curve or Contour Value High,-,cvh3.ati,-,:
cvl=F,1,N,Depth Curve or Contour Value Low,-,cvl3.ati,-,:;
```

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | | Sequential beginning with 1 | |
| **f_code** | FACC Feature Code | | | |
| | | BE019 | Depth Area | |
| **acc** | Accuracy Category | | | |
| | default | 1 | Accurate | BE019 |
| | | 2 | Approximate | BE019 |
| **cvh** | Depth Curve or Contour Value High  [meters] | | | |
| | default | -32767.0 | Unknown | BE019 |
| | | >=0.1 and <=12000.0 | | BE019 |
| **cvl** | Depth Curve or Contour Value Low  [meters] | | | |
| | default | -32767.0 | Unknown | BE019 |
| | | >=0.1 and <=12000.0 | | BE019 |

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TABLE C-11.  Hydrography Feature Class Attribute Table.

Thematic Layer:            Hydrography
Coverage Name:             hyd
Feature Table Description: Hydrography Feature Class Attribute Table
Table Name:                fca

```
{Header length}L;
Hydrography Feature Class Attribute Table;-;
id=I,1,P,Row Identifier,-,-,-,:
fclass=T,8,U,Feature Class Name,-,-,-,:
type=T,1,N,Feature Type,char.vdt,-,-,:
descr=T,*,N,Description,-,-,-,:;
```

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|--------|-------------|-------|---------------|---------------------------------------------|
| **id** | Row Identifier | | Sequential beginning with 1 | |
| **fclass** | Feature Class Name | | | soundp |
| | | | | hydrol |
| | | | | hydroa |
| **type** | Feature Type | | | |
| | | P | Point/Node Feature | soundp |
| | | L | Line Feature | hydrol |
| | | A | Area Feature | hydroa |
| **descr** | Description | | | |
| | | | Soundings Point Feature | soundp |
| | | | Hydrography Line Feature | hydrol |
| | | | Hydrography Area Feature | hydroa |

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TABLE C-12.  Content and Format for Hydrography Feature Class Schema Table.

Thematic Layer:                  Hydrography
Coverage Name:                   hyd
Feature Table Description:       Hydrography Feature Class Schema Table
Table Name:                      fcs

```
{Header length}L;
Hydrography Feature Class Schema Table;-;
id=I,1,P,Row Identifier,-,-,-,:
feature_class=T,8,N,Name of Feature Class,-,-,-,:
table1=T,12,N,First Table,-,-,-,:
table1_key=T,16,N,Column Name in First Table,-,-,-,:
table2=T,12,N,Second Table,-,-,-,:
table2_key=T,16,N,Column Name in Second Table,-,-,-,:;
```

| 1  | soundp | soundp.pft | end_id         | end         | id            |
| 2  | soundp | end        | id             | soundp.pft  | end_id        |
| 3  | soundp | soundp.pft | id             | soundp.njt  | soundp.pft_id |
| 4  | soundp | soundp.njt | notes.rat_id   | notes.rat   | id            |
| 5  | soundp | notes.rat  | id             | soundp.njt  | notes.rat_id  |
| 6  | soundp | soundp.njt | soundp.pft_id  | soundp.pft  | id            |
| 7  | hydrol | hydrol.lft | id             | hydrol.ljt  | hydrol.lft_id |
| 8  | hydrol | hydrol.ljt | edg_id         | edg         | id            |
| 9  | hydrol | edg        | id             | hydrol.ljt  | edg_id        |
| 10 | hydrol | hydrol.ljt | hydrol.lft_id  | hydrol.lft  | id            |
| 11 | hydrol | hydrol.lft | id             | hydrol.njt  | hydrol.lft_id |
| 12 | hydrol | hydrol.njt | notes.rat_id   | notes.rat   | id            |
| 13 | hydrol | notes.rat  | id             | hydrol.njt  | notes.rat_id  |
| 14 | hydrol | hydrol.njt | hydrol.lft_id  | hydrol.lft  | id            |
| 15 | hydroa | hydroa.aft | id             | hydroa.ajt  | hydroa.aft_id |
| 16 | hydroa | hydroa.ajt | fac_id         | fac         | id            |
| 17 | hydroa | fac        | id             | hydroa.ajt  | fac_id        |
| 18 | hydroa | hydroa.ajt | hydroa.aft_id  | hydroa.aft  | id            |
| 19 | hydroa | hydroa.aft | id             | hydroa.njt  | hydroa.aft_id |
| 20 | hydroa | hydroa.njt | notes.rat_id   | notes.rat   | id            |
| 21 | hydroa | notes.rat  | id             | hydroa.njt  | notes.rat_id  |
| 22 | hydroa | hydroa.njt | hydroa.aft_id  | hydroa.aft  | id            |

C.3.4  **Non-submarine Contacts Coverage.**

This coverage contains Non-submarine Contacts.  This coverage is tiled.

TABLE C-13.   Non-submarine Contacts Character Value Description Table.

Thematic Layer:              Non-submarine Contacts
Coverage Name:               nsc
Feature Table Description:    Non-submarine Contacts Character Value
                             Description Table
Table Name:                  char.vdt

```
{Header length}L;
Non-submarine Contacts Character Value Description Table;-;
id=I,1,P,Row Identifier,-,-,-,:
table=T,12,N,Name of the Feature Table,-,-,-,:
attribute=T,6,N,Column Name,-,-,-,:
value=T,5,N,Unique Value of Attribute,-,-,-,:
description=T,*,N,Description of Value,-,-,-,:;
```

| 1 | contactp.pft | f_code | BD005 | Miscellaneous Underwater Feature |
| 2 | contactp.pft | f_code | BD180 | Wreck |
| 3 | contactp.pft | cdv | UNK | Unknown |
| 4 | contactp.pft | na4 | UNK | Unknown |
| 5 | contactp.pft | nam | UNK | Unknown |
| 5 | contactp.pft | txt | N_A | Not Applicable |
| 7 | fca | type | P | Point/Node Feature |

TABLE C-14.   Non-submarine Contacts Integer Value Description Table.

| | |
|---|---|
| Thematic Layer: | Non-submarine Contacts |
| Coverage Name: | nsc |
| Feature Table Description: | Non-submarine Contacts Integer Value Description Table |
| Table Name: | int.vdt |

```
{Header length}L;
Non-submarine Contacts Integer Value Description Table;-;
id=I,1,P,Row Identifier,-,-,-,:
table=T,12,N,Name of the Feature Table,-,-,-,:
attribute=T,3,N,Column Name,-,-,-,:
value=I,1,N,Unique Value of Attribute,-,-,-,:
description=T,*,N,Description of Value,-,-,-,:;
```

| 1  | contactp.pft | acc | 1  | Accurate |
|----|--------------|-----|----|----------|
| 2  | contactp.pft | acc | 2  | Approximate |
| 3  | contactp.pft | acc | 3  | Doubtful |
| 4  | contactp.pft | coe | 1  | Definite |
| 5  | contactp.pft | coe | 2  | Doubtful |
| 6  | contactp.pft | coe | 3  | Reported |
| 7  | contactp.pft | exs | 57 | Sonar Confirmed |
| 8  | contactp.pft | exs | 58 | Sonar Not Confirmed |
| 9  | contactp.pft | pev | 1  | Accuracy <= 1 nautical mile |
| 10 | contactp.pft | pev | 2  | Accuracy > 1 nautical mile and <= 3 nautical miles |
| 11 | contactp.pft | pev | 3  | Accuracy > 3 nautical miles and <= 5 nautical miles |
| 12 | contactp.pft | pev | 4  | Accuracy > 5 nautical miles and <= 10 nautical miles |
| 13 | contactp.pft | pev | 5  | Accuracy uncertain |
| 14 | contactp.pft | rag | 0  | Unknown |
| 15 | contactp.pft | rag | 1  | Survivor Report |
| 16 | contactp.pft | rag | 2  | Salvage Report |
| 17 | contactp.pft | rag | 3  | Casualty Report |
| 18 | contactp.pft | rag | 4  | Action Report |
| 19 | contactp.pft | rag | 5  | Photograph Report |
| 20 | contactp.pft | rag | 6  | US Coast & Geodetic Survey/National Ocean Service Report |
| 21 | contactp.pft | rag | 7  | US Naval Headquarters/Commands Report |
| 22 | contactp.pft | rag | 8  | Hydrographic/Admiralty Office |
| 23 | contactp.pft | rag | 9  | Wreck List |
| 24 | contactp.pft | rag | 10 | Chart Records |
| 25 | contactp.pft | rag | 11 | Coast Guard Records |
| 26 | contactp.pft | rag | 12 | Notice to Mariners |
| 27 | contactp.pft | rag | 13 | North Sea Fishing Charts |

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TABLE C-14.   Non-submarine Contacts Integer Value Description Table
(continued).

| 28 | contactp.pft | rag | 14 | Chart |
|---|---|---|---|---|
| 29 | contactp.pft | rag | 15 | Minesweeper |
| 30 | contactp.pft | rag | 16 | Survey |
| 31 | contactp.pft | rag | 17 | Position Accurate Field Check |
| 32 | contactp.pft | rag | 18 | Sonar Report |
| 33 | contactp.pft | rag | 19 | MAD Report |
| 34 | contactp.pft | rag | 20 | Undifferentiated Sonar or MAD Report |
| 35 | contactp.pft | rag | 997 | Unpopulated |
| 36 | contactp.pft | rag | 998 | Not Applicable |
| 37 | contactp.pft | rag | 999 | Other |
| 38 | contactp.pft | sfc | 0 | Unknown (Obstruction) |
| 39 | contactp.pft | sfc | 3 | Fish Haven |
| 40 | contactp.pft | sfc | 4 | Well |
| 41 | contactp.pft | sfc | 5 | Submerged Production Platform |
| 42 | contactp.pft | sfc | 6 | Wreckage |
| 43 | contactp.pft | sfc | 7 | Shoaling |
| 44 | contactp.pft | sfc | 8 | Less Water Reported |
| 45 | contactp.pft | sfc | 9 | Unexploded Ordnance |
| 46 | contactp.pft | sfc | 10 | Unspecified Non-submarine Contact |
| 47 | contactp.pft | sfc | 11 | Pinnacle |
| 48 | contactp.pft | sfc | 999 | Other |
| 49 | contactp.pft | tng | -2147483647 | Unknown |
| 50 | contactp.pft | wkt | 0 | Unknown |
| 51 | contactp.pft | wkt | 1 | Anomalies |
| 52 | contactp.pft | wkt | 2 | Aircraft |
| 53 | contactp.pft | wkt | 3 | Auxiliary |
| 54 | contactp.pft | wkt | 4 | Battleship |
| 55 | contactp.pft | wkt | 5 | Barge |
| 56 | contactp.pft | wkt | 6 | Buoy |
| 57 | contactp.pft | wkt | 7 | Caisson |
| 58 | contactp.pft | wkt | 8 | Aircraft Carrier |
| 59 | contactp.pft | wkt | 9 | Cargo |
| 60 | contactp.pft | wkt | 10 | Subchaser |
| 61 | contactp.pft | wkt | 11 | Coaster |
| 62 | contactp.pft | wkt | 12 | Cruiser |
| 63 | contactp.pft | wkt | 13 | Ship Debris (plates, misc. metal) |
| 64 | contactp.pft | wkt | 14 | Destroyer, Destroyer Escort, Corvette |
| 65 | contactp.pft | wkt | 15 | Dredge |
| 66 | contactp.pft | wkt | 16 | Drill Vessel or Drill Rig |
| 67 | contactp.pft | wkt | 17 | Explosives |
| 68 | contactp.pft | wkt | 18 | Fishing Vessel |
| 69 | contactp.pft | wkt | 19 | Fishing Reef |
| 70 | contactp.pft | wkt | 20 | Ferry |

TABLE C-14.  Non-submarine Contacts Integer Value Description Table
(continued).

| 71 | contactp.pft | wkt | 21 | Frigate |
|---|---|---|---|---|
| 72 | contactp.pft | wkt | 22 | Gunboat |
| 73 | contactp.pft | wkt | 23 | Hospital Ship |
| 74 | contactp.pft | wkt | 24 | Hydrographic Survey, Air Cushion, Hydrofoil |
| 75 | contactp.pft | wkt | 25 | Junk |
| 76 | contactp.pft | wkt | 26 | Lash Vessel |
| 77 | contactp.pft | wkt | 27 | Landing Craft, Infantry (LCI) |
| 78 | contactp.pft | wkt | 28 | Gas Carrier, Natural Petroleum |
| 79 | contactp.pft | wkt | 29 | Landing Ship, Infantry (LSI) |
| 80 | contactp.pft | wkt | 30 | Landing Ship, Tank (LST) |
| 81 | contactp.pft | wkt | 31 | Lightship |
| 82 | contactp.pft | wkt | 32 | Minesweeper, Minelayer |
| 83 | contactp.pft | wkt | 33 | Net Tender |
| 84 | contactp.pft | wkt | 34 | Bulk Carrier |
| 85 | contactp.pft | wkt | 35 | Obstruction |
| 86 | contactp.pft | wkt | 36 | Passenger Cargo |
| 87 | contactp.pft | wkt | 37 | Patrol Boat |
| 88 | contactp.pft | wkt | 38 | Pinnacle Rock |
| 89 | contactp.pft | wkt | 39 | Roll On – Roll Off |
| 90 | contactp.pft | wkt | 40 | Sailing Ship |
| 91 | contactp.pft | wkt | 41 | Sea Bee, Lash Barge |
| 92 | contactp.pft | wkt | 42 | Submarine Float |
| 93 | contactp.pft | wkt | 43 | Submarine |
| 94 | contactp.pft | wkt | 44 | Survey Vessel |
| 95 | contactp.pft | wkt | 45 | Tanker |
| 96 | contactp.pft | wkt | 46 | Tender, Submarine, Airplane, Oil Rig |
| 97 | contactp.pft | wkt | 47 | Target |
| 98 | contactp.pft | wkt | 48 | Torpedo Boat |
| 99 | contactp.pft | wkt | 49 | Transport |
| 100 | contactp.pft | wkt | 50 | Tug |
| 101 | contactp.pft | wkt | 51 | Trawler |
| 102 | contactp.pft | wkt | 52 | Very Large Container |
| 103 | contactp.pft | wkt | 53 | Well Head |
| 104 | contactp.pft | wkt | 54 | Yacht |
| 105 | contactp.pft | wkt | 998 | Not Applicable |
| 106 | contactp.pft | wsr | 0 | Unknown |
| 107 | contactp.pft | wsr | 8 | Report SONAR verified |
| 108 | contactp.pft | wsr | 9 | Report MAD verified |
| 109 | contactp.pft | wsr | 10 | Japanese Naval and Merchant Losses during WW II By All Causes NAVEXOS P-468 |
| 110 | contactp.pft | wsr | 11 | US Losses - Director, Fleet Operations |

TABLE C-14.   Non-submarine Contacts Integer Value Description Table
(continued).

| 111 | contactp.pft | wsr | 12 | H.O. Files |
|-----|--------------|-----|----|-----------|
| 112 | contactp.pft | wsr | 13 | COMNAVPAC |
| 113 | contactp.pft | wsr | 14 | COMNAVFE |
| 114 | contactp.pft | wsr | 15 | H.O. Chart Reports and Charts |
| 115 | contactp.pft | wsr | 16 | H.O. Notice to Mariners |
| 116 | contactp.pft | wsr | 17 | Lloyds and Marine Underwriter's Reports |
| 117 | contactp.pft | wsr | 18 | The Imperial Japanese Navy in WW II |
| 118 | contactp.pft | wsr | 19 | U.S. Navy at War 1941-1945 |
| 119 | contactp.pft | wsr | 20 | German, Japanese, and Italian Submarine Losses in WW II |
| 120 | contactp.pft | wsr | 21 | Swedish Merchant Losses 1914-1920 |
| 121 | contactp.pft | wsr | 22 | H.O. Wreck Information List and Supplement dated 10 MAR 1945 and 30 SEP 1946 |
| 122 | contactp.pft | wsr | 23 | American Ship Casualties of WW I |
| 123 | contactp.pft | wsr | 24 | U.S. Coast Guard and Geodetic Survey Records |
| 124 | contactp.pft | wsr | 25 | Tenth Fleet Records (OP-374) |
| 125 | contactp.pft | wsr | 26 | Naval Losses of All Nations 9/3/39 - 8/15/45 |
| 126 | contactp.pft | wsr | 27 | Italian Naval and Merchant Losses, WW II |
| 127 | contactp.pft | wsr | 28 | List of Danish War Losses 1914 - 1918 |
| 128 | contactp.pft | wsr | 29 | British Merchant Vessels Captured or Destroyed by Enemy Action 1914 - 1918 |
| 129 | contactp.pft | wsr | 30 | Abstracts of Losses 1914 - 1918 |
| 130 | contactp.pft | wsr | 31 | British and Foreign Merchant Ships Lost During WW II |
| 131 | contactp.pft | wsr | 32 | A List of Neutral Ships Sunk by Germany |
| 132 | contactp.pft | wsr | 33 | Greek Losses WW II |
| 133 | contactp.pft | wsr | 34 | Italian Naval Losses - WW I |
| 134 | contactp.pft | wsr | 35 | Spanish Merchant Losses - WW I |
| 135 | contactp.pft | wsr | 36 | Netherlands Merchant Losses - WW I |
| 136 | contactp.pft | wsr | 37 | Italian Merchant Losses - WW I |
| 137 | contactp.pft | wsr | 38 | Maritime Declarations for Norwegian Ships for War Losses 1914 - 1918 |
| 138 | contactp.pft | wsr | 39 | Reports of Known Wrecks by U.S. Coast Guard Districts 1950 |
| 139 | contactp.pft | wsr | 40 | France - Naval and Merchant Losses during WW I |
| 140 | contactp.pft | wsr | 41 | Sonar Reports and MAD Reports, U.S. Navy |
| 141 | contactp.pft | wsr | 42 | Maritime Commission also ONI List WW I |
| 142 | contactp.pft | wsr | 43 | Smaling Soforklaringer - Danish Ship War Losses 1914 - 1918 |

TABLE C-14.  Non-submarine Contacts Integer Value Description Table
(continued).

| 143 | contactp.pft | wsr | 44 | Merchant Vessels of the U.S. Lost (Commerce Department) |
|-----|--------------|-----|-----|---------------------------------------------------|
| 144 | contactp.pft | wsr | 45 | Naval Chronology WW II |
| 145 | contactp.pft | wsr | 46 | Ship Visit Reports |
| 146 | contactp.pft | wsr | 47 | Spanish Hydrographic Office |
| 147 | contactp.pft | wsr | 48 | British Admiralty Wreck Charts 1921 |
| 148 | contactp.pft | wsr | 49 | Swedish Board of Shipping and Navigation, Hydrographic Dept. |
| 149 | contactp.pft | wsr | 50 | British Admiralty Wreck Charts, 1961 |
| 150 | contactp.pft | wsr | 51 | Portugal Hydrographic Office |
| 151 | contactp.pft | wsr | 52 | Italian Navy Survey |
| 152 | contactp.pft | wsr | 53 | State of Shipping Casualties (Resulting in total loss in St. Lawrence River and Gulf, on the Atlantic Coast from 1896 up to date) |
| 153 | contactp.pft | wsr | 54 | Italian Naval Surveys Charts and Lists |
| 154 | contactp.pft | wsr | 55 | ONI |
| 155 | contactp.pft | wsr | 57 | R.C.N. Wreck List (RCN Pub. 272) |
| 156 | contactp.pft | wsr | 58 | Dutch Wreck List |
| 157 | contactp.pft | wsr | 59 | North Sea Fishing Charts |
| 158 | contactp.pft | wsr | 60 | Photographs of Pinnacles and Miscellaneous Metals |
| 159 | contactp.pft | wsr | 61 | Coast and Geodetic Survey (National Ocean Survey) Charts |
| 160 | contactp.pft | wsr | 62 | Radio Navigation Warning |
| 161 | contactp.pft | wsr | 63 | OMAN National Hydrographic Office |
| 162 | contactp.pft | wsr | 998 | Not Applicable |

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TABLE C-15.  Non-submarine Contacts Point Feature Table.

Thematic Layer:              Non-submarine Contacts
Coverage Name:               nsc
Feature Table Description:   Non-submarine Contacts Point Feature Table
Table Name:                  contactp.pft
Thematic Index ID Number:    1

```
{Header length}L;
Non-submarine Contacts Point Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code1.pti,-,:
acc=S,1,N,Accuracy Category,int.vdt,acc1.pti,-,:
cdv=T,8,N,Calendar Date Value,char.vdt,-,-,:
coe=S,1,N,Certainty of Existence,int.vdt,coe1.pti,-,:
exs=S,1,N,Existence Category,int.vdt,exs1.pti,-,:
hdp=F,1,N,Hydrographic Depth,-,-,-,:
na4=T,*,N, Country Code (FIPS Pub 10-4),char.vdt,-,-,:
nam=T,*,N,Name,char.vdt,-,-,:
pev=S,1,N,Position Evaluation,int.vdt,pev1.pti,-,:
rag=S,1,N,Non-submarine Contact Reporting Agency Type,int.vdt,rag1.pti,-,:
sfc=S,1,N,Sea Floor Feature Category,int.vdt,sfc1.pti,-,:
tng=I,1,N,Tonnage,int.vdt,-,-,:
txt=T,*,N,Text Attribute,char.vdt,-,-,:
wkt=S,1,N,Wreck Type,int.vdt,wkt1.pti,-,:
wsr=S,1,N,Source of report,int.vdt,wsr1.pti,-,:
tile_id=S,1,N,Tile Reference ID,-,til1_id.pti,-,:
end_id=I,1,N,Entity Node Primitive ID,-,end1_id.pti,-,:;
```

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | | Sequential beginning with 1 | |
| **f_code** | FACC Feature Code | | | |
| | | BD005 | Miscellaneous Underwater Feature | |
| | | BD180 | Wreck | |
| **acc** | Accuracy Category | | | |
| | default | 1 | Accurate | BD005,BD180 |
| | | 2 | Approximate | BD005,BD180 |
| | | 3 | Doubtful | BD005,BD180 |
| **cdv** | Calendar Date Value | | | |
| | default | UNK | Unknown | BD005,BD180 |
| | | Character text string | | BD005,BD180 |

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TABLE C-15.  Non-submarine Contacts Point Feature Table (continued).

| | | | | |
|---|---|---|---|---|
| **coe** | Certainty of Existence | | | |
| | | 1 | Definite | BD005,BD180 |
| | | 2 | Doubtful | BD005,BD180 |
| | | 3 | Reported | BD005,BD180 |
| **exs** | Existence Category | | | |
| | | 57 | Sonar Confirmed | BD005,BD180 |
| | | 58 | Sonar Not Confirmed | BD005,BD180 |
| **hdp** | Hydrographic Depth  [meters] | | | |
| | default | -32767.0 | Unknown | BD005,BD180 |
| | | >=0.1 and <=12000.0 | | BD005,BD180 |
| **na4** | Country Code (FIPS Pub 10-4) | | | |
| | default | UNK | Unknown | BD005,BD180 |
| | | Character text string | | BD005,BD180 |
| **nam** | Name | | | |
| | default | UNK | Unknown | BD005,BD180 |
| | | Character text string | | BD005,BD180 |
| **pev** | Position Evaluation | | | |
| | default | 1 | Accuracy <= 1 nautical mile | BD005,BD180 |
| | | 2 | Accuracy > 1 nautical mile and <= 3 nautical miles | BD005,BD180 |
| | | 3 | Accuracy > 3 nautical miles and <= 5 nautical miles | BD005,BD180 |
| | | 4 | Accuracy > 5 nautical miles and <= 10 nautical miles | BD005,BD180 |
| | | 5 | Accuracy uncertain | BD005,BD180 |
| **rag** | Non-submarine Contact Reporting Agency Type | | | |
| | | 0 | Unknown | BD005,BD180 |
| | | 1 | Survivor Report | BD005,BD180 |
| | | 2 | Salvage Report | BD005,BD180 |
| | | 3 | Casualty Report | BD005,BD180 |
| | | 4 | Action Report | BD005,BD180 |
| | | 5 | Photograph Report | BD005,BD180 |
| | | 6 | US Coast & Geodetic Survey/ National Ocean Service Report | BD005,BD180 |
| | | 7 | US Naval Headquarters/ Commands Report | BD005,BD180 |
| | | 8 | Hydrographic/Admiralty Office | BD005,BD180 |
| | | 9 | Wreck List | BD005,BD180 |

TABLE C-15. <u>Non-submarine Contacts Point Feature Table (continued).</u>

| | | | | |
|---|---|---|---|---|
| | | 10 | Chart Records | BD005,BD180 |
| | | 11 | Coast Guard Records | BD005,BD180 |
| | | 12 | Notice to Mariners | BD005,BD180 |
| | | 13 | North Sea Fishing Charts | BD005,BD180 |
| | | 14 | Chart | BD005,BD180 |
| | | 15 | Minesweeper | BD005,BD180 |
| | | 16 | Survey | BD005,BD180 |
| | | 17 | Position Accurate Field Check | BD005,BD180 |
| | | 18 | Sonar Report | BD005,BD180 |
| | | 19 | MAD Report | BD005,BD180 |
| | | 20 | Undifferentiated Sonar or MAD Report | BD005,BD180 |
| | | 997 | Unpopulated | BD005,BD180 |
| | | 998 | Not Applicable | BD005,BD180 |
| | | 999 | Other | BD005,BD180 |
| **sfc** | Sea Floor Feature Category | | | |
| | | -32768 | Null | BD180 |
| | default | 0 | Unknown (Obstruction) | BD005 |
| | | 3 | Fish Haven | BD005 |
| | | 4 | Well | BD005 |
| | | 5 | Submerged Production Platform | BD005 |
| | | 6 | Wreckage | BD005 |
| | | 7 | Shoaling | BD005 |
| | | 8 | Less Water Reported | BD005 |
| | | 9 | Unexploded Ordnance | BD005 |
| | | 10 | Unspecified Non-submarine Contact | BD005 |
| | | 11 | Pinnacle | BD005 |
| | | 999 | Other | BD005 |
| **tng** | Tonnage  [tons] | | | |
| | | -2147483648 | Null | BD005 |
| | default | -2147483647 | Unknown | BD180 |
| | | >=1 | | BD180 |
| **txt** | Text Attribute | | | |
| | default | N_A | Not Applicable | BD005,BD180 |
| | | Character text string | | BD005,BD180 |
| **wkt** | Wreck Type | | | |
| | | 0 | Unknown | BD005,BD180 |
| | | 1 | Anomalies | BD005 |
| | | 2 | Aircraft | BD180 |
| | | 3 | Auxiliary | BD180 |
| | | 9 | Cargo | BD180 |
| | | 10 | Subchaser | BD180 |

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TABLE C-15.   Non-submarine Contacts Point Feature Table (continued).

| 4 | Battleship | BD180 |
|---|---|---|
| 5 | Barge | BD180 |
| 6 | Buoy | BD005 |
| 7 | Caisson | BD005 |
| 8 | Aircraft Carrier | BD180 |
| 11 | Coaster | BD180 |
| 12 | Cruiser | BD180 |
| 13 | Ship Debris (plates, misc. metal) | BD180 |
| 14 | Destroyer, Destroyer Escort, Corvette | BD180 |
| 15 | Dredge | BD180 |
| 16 | Drill Vessel or Drill Rig | BD180 |
| 17 | Explosives | BD005 |
| 18 | Fishing Vessel | BD180 |
| 19 | Fishing Reef | BD005 |
| 20 | Ferry | BD180 |
| 21 | Frigate | BD180 |
| 22 | Gunboat | BD180 |
| 23 | Hospital Ship | BD180 |
| 24 | Hydrographic Survey, Air Cushion, Hydrofoil | BD180 |
| 25 | Junk | BD180 |
| 26 | Lash Vessel | BD180 |
| 27 | Landing Craft, Infantry (LCI) | BD180 |
| 28 | Gas Carrier, Natural Petroleum | BD180 |
| 29 | Landing Ship, Infantry (LSI) | BD180 |
| 30 | Landing Ship, Tank (LST) | BD180 |
| 31 | Lightship | BD180 |
| 32 | Minesweeper, Minelayer | BD180 |
| 33 | Net Tender | BD180 |
| 34 | Bulk Carrier | BD180 |
| 35 | Obstruction | BD005 |
| 36 | Passenger Cargo | BD180 |
| 37 | Patrol Boat | BD180 |
| 38 | Pinnacle Rock | BD005 |
| 39 | Roll On - Roll Off | BD180 |
| 40 | Sailing Ship | BD180 |
| 41 | Sea Bee, Lash Barge | BD180 |
| 42 | Submarine Float | BD005 |
| 43 | Submarine | BD180 |

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TABLE C-15.   Non-submarine Contacts Point Feature Table (continued).

|    |     |                                                               |              |
|----|-----|---------------------------------------------------------------|--------------|
|    | 44  | Survey Vessel                                                 | BD180        |
|    | 45  | Tanker                                                        | BD180        |
|    | 46  | Tender, Submarine, Airplane, Oil Rig                          | BD180        |
|    | 47  | Target                                                        | BD005        |
|    | 48  | Torpedo Boat                                                  | BD180        |
|    | 49  | Transport                                                     | BD180        |
|    | 50  | Tug                                                           | BD180        |
|    | 51  | Trawler                                                       | BD180        |
|    | 52  | Very Large Container                                          | BD180        |
|    | 53  | Well Head                                                     | BD005        |
|    | 54  | Yacht                                                         | BD180        |
|    | 998 | Not Applicable                                                | BD005,BD180  |
| **wsr** |  | Source of report                                         |              |
|    | 0   | Unknown                                                       | BD005,BD180  |
|    | 8   | Report SONAR verified                                         | BD005,BD180  |
|    | 9   | Report MAD verified                                          | BD005,BD180  |
|    | 10  | Japanese Naval and Merchant Losses during WW II By All Causes NAVEXOS P-468 | BD005,BD180  |
|    | 11  | US Losses – Director, Fleet Operations                        | BD005,BD180  |
|    | 12  | H.O. Files                                                   | BD005,BD180  |
|    | 13  | COMNAVPAC                                                     | BD005,BD180  |
|    | 14  | COMNAVFE                                                      | BD005,BD180  |
|    | 15  | H.O. Chart Reports and Charts                                 | BD005,BD180  |
|    | 16  | H.O. Notice to Mariners                                       | BD005,BD180  |
|    | 17  | Lloyds and Marine Underwriter's Reports                       | BD005,BD180  |
|    | 18  | The Imperial Japanese Navy in WW II                           | BD005,BD180  |
|    | 19  | U.S. Navy at War 1941-1945                                    | BD005,BD180  |
|    | 20  | German, Japanese, and Italian Submarine Losses in WW II       | BD005,BD180  |
|    | 21  | Swedish Merchant Losses 1914-1920                             | BD005,BD180  |
|    | 22  | H.O. Wreck Information List and Supplement dated 10 MAR 1945 and 30 SEP 1946 | BD005,BD180  |
|    | 23  | American Ship Casualties of WW I                              | BD005,BD180  |
|    | 24  | U.S. Coast Guard and Geodetic Survey Records                  | BD005,BD180  |

TABLE C-15.  Non-submarine Contacts Point Feature Table (continued).

| | | |
|---|---|---|
| 25 | Tenth Fleet Records (OP-374) | BD005,BD180 |
| 26 | Naval Losses of All Nations 9/3/39 – 8/15/45 | BD005,BD180 |
| 27 | Italian Naval and Merchant Losses, WW II | BD005,BD180 |
| 28 | List of Danish War Losses 1914 – 1918 | BD005,BD180 |
| 29 | British Merchant Vessels Captured or Destroyed by Enemy Action 1914 – 1918 | BD005,BD180 |
| 30 | Abstracts of Losses 1914 – 1918 | BD005,BD180 |
| 31 | British and Foreign Merchant Ships Lost During WW II | BD005,BD180 |
| 32 | A List of Neutral Ships Sunk by Germany | BD005,BD180 |
| 33 | Greek Losses WW II | BD005,BD180 |
| 34 | Italian Naval Losses - WW I | BD005,BD180 |
| 35 | Spanish Merchant Losses – WW I | BD005,BD180 |
| 36 | Netherlands Merchant Losses – WW I | BD005,BD180 |
| 37 | Italian Merchant Losses – WW I | BD005,BD180 |
| 38 | Maritime Declarations for Norwegian Ships for War Losses 1914 – 1918 | BD005,BD180 |
| 39 | Reports of Known Wrecks by U.S. Coast Guard Districts 1950 | BD005,BD180 |
| 40 | France - Naval and Merchant Losses during WW I | BD005,BD180 |
| 41 | Sonar Reports and MAD Reports, U.S. Navy | BD005,BD180 |
| 42 | Maritime Commission also ONI List WW I | BD005,BD180 |
| 43 | Smaling Soforklaringer - Danish Ship War Losses 1914 - 1918 | BD005,BD180 |
| 44 | Merchant Vessels of the U.S. Lost (Commerce Department) | BD005,BD180 |
| 45 | Naval Chronology WW II | BD005,BD180 |
| 46 | Ship Visit Reports | BD005,BD180 |
| 47 | Spanish Hydrographic Office | BD005,BD180 |
| 48 | British Admiralty Wreck Charts 1921 | BD005,BD180 |

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TABLE C-15.  Non-submarine Contacts Point Feature Table (continued).

| | | |
|---|---|---|
| 49 | Swedish Board of Shipping and Navigation, Hydrographic Dept. | BD005,BD180 |
| 50 | British Admiralty Wreck Charts, 1961 | BD005,BD180 |
| 51 | Portugal Hydrographic Office | BD005,BD180 |
| 52 | Italian Navy Survey | BD005,BD180 |
| 53 | State of Shipping Casualties (Resulting in total loss in St. Lawrence River and Gulf, on the Atlantic Coast from 1896 up to date) | BD005,BD180 |
| 54 | Italian Naval Surveys Charts and Lists | BD005,BD180 |
| 55 | ONI | BD005,BD180 |
| 57 | R.C.N. Wreck List (RCN Pub. 272) | BD005,BD180 |
| 58 | Dutch Wreck List | BD005,BD180 |
| 59 | North Sea Fishing Charts | BD005,BD180 |
| 60 | Photographs of Pinnacles and Miscellaneous Metals | BD005,BD180 |
| 61 | Coast and Geodetic Survey (National Ocean Survey) Charts | BD005,BD180 |
| 62 | Radio Navigation Warning | BD005,BD180 |
| 63 | OMAN National Hydrographic Office | BD005,BD180 |
| 998 | Not Applicable | BD005,BD180 |

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TABLE C-16.  Non-submarine Contacts Feature Class Attribute Table.

Thematic Layer:                    Non-submarine Contacts
Coverage Name:                     nsc
Feature Table Description:         Non-submarine Contacts Feature Class Attribute
                                   Table
Table Name:                        fca

```
{Header length}L;
Non-submarine Contacts Feature Class Attribute Table;-;
id=I,1,P,Row Identifier,-,-,-,:
fclass=T,8,U,Feature Class Name,-,-,-,:
type=T,1,N,Feature Type,char.vdt,-,-,:
descr=T,*,N,Description,-,-,-,:;
```

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | | Sequential beginning with 1 | |
| **fclass** | Feature Class Name | | | |
| | | contactp | | |
| **type** | Feature Type | | | |
| | | P | Point/Node Feature | contactp |
| **descr** | Description | | | |
| | | | Non-submarine Contacts Point Feature | contactp |

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TABLE C-17.   Content and Format for Non-submarine Contacts Feature Class
              Schema Table.

Thematic Layer:              Non-submarine Contacts
Coverage Name:               nsc
Feature Table Description:   Non-submarine Contacts Feature Class Schema Table
Table Name:                  fcs

```
{Header length}L;
Non-submarine Contacts Feature Class Schema Table;-;
id=I,1,P,Row Identifier,-,-,-,:
feature_class=T,8,N,Name of Feature Class,-,-,-,:
table1=T,12,N,First Table,-,-,-,:
table1_key=T,16,N,Column Name in First Table,-,-,-,:
table2=T,12,N,Second Table,-,-,-,:
table2_key=T,16,N,Column Name in Second Table,-,-,-,:;
```

| 1 | contactp | contactp.pft | end_id          | end          | id              |
| 2 | contactp | end          | id              | contactp.pft | end_id          |
| 3 | contactp | contactp.pft | id              | contactp.njt | contactp.pft_id |
| 4 | contactp | contactp.njt | notes.rat_id    | notes.rat    | id              |
| 5 | contactp | notes.rat    | id              | contactp.njt | notes.rat_id    |
| 6 | contactp | contactp.njt | contactp.pft_id | contactp.pft | id              |

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C.3.5  **Survey Information Coverage.**

This coverage contains survey information in the form of track swaths and track lines.  This coverage is tiled.

TABLE C-18.   Survey Information Character Value Description Table.

Thematic Layer:                   Survey Information
Coverage Name:                    sur
Feature Table Description:    Survey Information Character Value Description
                              Table
Table Name:                       char.vdt

```
{Header length}L;
Survey Information Character Value Description Table;-;
id=I,1,P,Row Identifier,-,-,-,:
table=T,12,N,Name of the Feature Table,-,-,-,:
attribute=T,6,N,Column Name,-,-,-,:
value=T,5,N,Unique Value of Attribute,-,-,-,:
description=T,*,N,Description of Value,-,-,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | trackl.lft | f_code | BE040 | Track Line |
| 2 | swatha.aft | f_code | BE030 | Track Swath |
| 3 | fca | type | L | Line Feature |
| 4 | fca | type | A | Area Feature |

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```
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```

TABLE C-19.  Track Line Feature Table.

```
Thematic Layer:              Survey Information
Coverage Name:               sur
Feature Table Description:    Track Line Feature Table
Table Name:                  trackl.lft
Thematic Index ID Number:    1
```

```
{Header length}L;
Track Line Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:;
```

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|--------|-------------|-------|---------------|--------------------------------------------|
| **id** | Row Identifier | | Sequential beginning with 1 | |
| **f_code** | FACC Feature Code | | | |
| | | BE040 | Track Line | |

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TABLE C-20.  Track Swath Area Feature Table.

Thematic Layer:              Survey Information
Coverage Name:               sur
Feature Table Description:    Track Swath Area Feature Table
Table Name:                  swatha.aft
Thematic Index ID Number:    2

```
{Header length}L;
Track Swath Area Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:;
```

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|--------|-------------|-------|---------------|--------------------------------------------|
| **id** | Row Identifier | | Sequential beginning with 1 | |
| **f_code** | FACC Feature Code | | | |
| | | BE030 | Track Swath | |

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TABLE C-21.  <u>Survey Information Feature Class Attribute Table.</u>

Thematic Layer:              Survey Information
Coverage Name:               sur
Feature Table Description:   Survey Information Feature Class Attribute
                             Table
Table Name:                  fca

```
{Header length}L;
Survey Information Feature Class Attribute Table;-;
id=I,1,P,Row Identifier,-,-,-,:
fclass=T,8,U,Feature Class Name,-,-,-,:
type=T,1,N,Feature Type,char.vdt,-,-,:
descr=T,*,N,Description,-,-,-,:;
```

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | | Sequential beginning with 1 | |
| **fclass** | Feature Class Name | | | |
| | | trackl | | |
| | | swatha | | |
| **type** | Feature Type | | | |
| | | L | Line Feature | trackl |
| | | A | Area Feature | swatha |
| **descr** | Description | | | |
| | | Track Line Feature | | trackl |
| | | Track Swath Area Feature | | swatha |

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TABLE C-22.   Content and Format for Survey Information Feature Class Schema
Table.

Thematic Layer:              Survey Information
Coverage Name:               sur
Feature Table Description:    Survey Information Feature Class Schema Table
Table Name:                  fcs

```
{Header length}L;
Survey Information Feature Class Schema Table;-;
id=I,1,P,Row Identifier,-,-,-,:
feature_class=T,8,N,Name of Feature Class,-,-,-,:
table1=T,12,N,First Table,-,-,-,:
table1_key=T,16,N,Column Name in First Table,-,-,-,:
table2=T,12,N,Second Table,-,-,-,:
table2_key=T,16,N,Column Name in Second Table,-,-,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | trackl | trackl.lft | id | trackl.ljt | trackl.lft_id |
| 2 | trackl | trackl.ljt | edg_id | edg | id |
| 3 | trackl | edg | id | trackl.ljt | edg_id |
| 4 | trackl | trackl.ljt | trackl.lft_id | trackl.lft | id |
| 5 | trackl | trackl.lft | id | trackl.njt | trackl.lft_id |
| 6 | trackl | trackl.njt | notes.rat_id | notes.rat | id |
| 7 | trackl | notes.rat | id | trackl.njt | notes.rat_id |
| 8 | trackl | trackl.njt | trackl.lft_id | trackl.lft | id |
| 9 | swatha | swatha.aft | id | swatha.ajt | swatha.aft_id |
| 10 | swatha | swatha.ajt | fac_id | fac | id |
| 11 | swatha | fac | id | swatha.ajt | fac_id |
| 12 | swatha | swatha.ajt | swatha.aft_id | swatha.aft | id |
| 13 | swatha | swatha.aft | id | swatha.njt | swatha.aft_id |
| 14 | swatha | swatha.njt | notes.rat_id | notes.rat | id |
| 15 | swatha | notes.rat | id | swatha.njt | notes.rat_id |
| 16 | swatha | swatha.njt | swatha.aft_id | swatha.aft | id |

C.3.6  **Library Reference Coverage.**
This coverage contains a representation of the TOD3 depth contour features
for use in determining a reference position (see section 3.11.3.2).  This
coverage is untiled.


TABLE C-23.  Library Reference Character Value Description Table.

| Thematic Layer: | Library Reference |
| Coverage Name: | libref |
| Feature Table Description: | Library Reference Character Value Description Table |
| Table Name: | char.vdt |

```
{Header length}L;
Library Reference Character Value Description Table;-;
id=I,1,P,Row Identifier,-,-,-,:
table=T,12,N,Name of the Feature Table,-,-,-,:
attribute=T,6,N,Column Name,-,-,-,:
value=T,5,N,Unique Value of Attribute,-,-,-,:
description=T,*,N,Description of Value,-,-,-,:;
```

| 1 | libref.lft | f_code | BE015 | Depth Contour |


TABLE C-24.  Library Reference Line Feature Table.

| Thematic Layer: | Library Reference |
| Coverage Name: | libref |
| Feature Table Description: | Library Reference Line Feature Table |
| Table Name: | libref.lft |
| Thematic Index ID Number: | 1 |

```
{Header length}L;
Library Reference Line Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:
edg_id=I,1,N,Edge Primitive ID,-,-,-,:;
```

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TABLE C-25.  <u>Content and Format for Library Reference Feature Class Schema
Table.</u>

Thematic Layer:            Library Reference
Coverage Name:             libref
Feature Table Description: Library Reference Feature Class Schema Table
Table Name:                fcs

| {Header length}L; |
|---|
| Library Reference Feature Class Schema Table;-; |
| id=I,1,P,Row Identifier,-,-,-,: |
| feature_class=T,8,N,Name of Feature Class,-,-,-,: |
| table1=T,12,N,First Table,-,-,-,: |
| table1_key=T,16,N,Column Name in First Table,-,-,-,: |
| table2=T,12,N,Second Table,-,-,-,: |
| table2_key=T,16,N,Column Name in Second Table,-,-,-,:; |

| 1 | libref | libref.lft | edg_id | edg | id |
|---|---|---|---|---|---|
| 2 | libref | edg | libref.lft_id | libref.lft | id |

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**TOD3 FEATURE AND ATTRIBUTE GLOSSARY**


D.1  SCOPE

D.1.1  Scope.  This appendix contains the feature and attribute content
for TOD3 data.  It is a mandatory part of this specification sheet.  The
information contained herein is intended for compliance.

D.2  APPLICABLE DOCUMENTS

This section is not applicable to this appendix.

D.3  FEATURE CODES BY COVERAGE AND FEATURE TYPE

D.3.1  TOD3 feature and attribute data dictionary organization.

a.  This appendix provides two tables detailing the location and types
of features and attributes found in the TOD3 data dictionary.  For a coverage
there is a series of tables that describe the data in that coverage.

b.  The first table is an index list sorted by coverage of the feature
names and codes, their associated attribute names and codes, and table types.

c.  The second table is a similar consolidated index sorted by feature
code, of the feature names and codes, their associated attribute names and
codes, their associated coverages and primitive feature table type.

d.  In addition, this appendix contains the definitions of the feature
codes and the attributes that are contained in TOD3.

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Table D-1 TOD3 FACC Feature and Attribute Codes Sorted by Coverage

| Feature | Attribute | Attribute Value | END | CND | EDG | FAC | TXT |
|---|---|---|---|---|---|---|---|
| **dq Data Quality** | | | | | | | |
| **N/A** | **Featureless Feature Table** | | | | | | |
| | aha | Absolute Horizontal Accuracy in Meters | ☐ | ☐ | ☐ | ☑ | ☐ |
| | ava | Absolute Vertical Accuracy in Meters | ☐ | ☐ | ☐ | ☑ | ☐ |
| | dqd | Data Quality Description | ☐ | ☐ | ☑ | ☑ | ☐ |
| | mcd | Map Compilation Date | ☐ | ☐ | ☐ | ☑ | ☐ |
| | mpd | Map Print Date | ☐ | ☐ | ☐ | ☑ | ☐ |
| | mrd | Map Revision Date | ☐ | ☐ | ☐ | ☑ | ☐ |
| | mse | Map Sheet Edition | ☐ | ☐ | ☐ | ☑ | ☐ |
| | sdp | Source Description | ☐ | ☐ | ☐ | ☑ | ☐ |
| | sin | Source Identification | ☐ | ☐ | ☐ | ☑ | ☐ |
| | ss1 | First Source Sheet or Data Identifier | ☐ | ☐ | ☑ | ☐ | ☐ |
| | ss2 | Second Source Sheet or Data Identifier | ☐ | ☐ | ☑ | ☐ | ☐ |
| | thl | Data Quality Thematic Layer | ☐ | ☐ | ☑ | ☑ | ☐ |
| **ZD020** | **Void Collection Area** | | | | | | |
| | vca | Void Collection Attribute | | | | | |
| | | 000   Unknown | ☐ | ☐ | ☐ | ☑ | ☐ |
| | | 001   Data Not Requested By User | ☐ | ☐ | ☐ | ☑ | ☐ |
| | | 002   Area Too Rough to Collect | ☐ | ☐ | ☐ | ☑ | ☐ |
| | | 003   No Available Imagery | ☐ | ☐ | ☐ | ☑ | ☐ |
| | | 006   No Available Map Source | ☐ | ☐ | ☐ | ☑ | ☐ |
| | | 007   No Suitable Imagery | ☐ | ☐ | ☐ | ☑ | ☐ |
| | vct | Void Collection Type | | | | | |
| | | 000   Unknown | ☐ | ☐ | ☐ | ☑ | ☐ |
| | | 001   Relief | ☐ | ☐ | ☐ | ☑ | ☐ |
| | | 999   Other | ☐ | ☐ | ☐ | ☑ | ☐ |
| **ZD045** | **Text Description** | | | | | | |
| | n/a | No Attributes Required | ☐ | ☐ | ☐ | ☐ | ☑ |
| **ecr Earth Cover** | | | | | | | |
| **ZD040** | **Named Location** | | | | | | |
| | n/a | No Attributes Required | ☐ | ☐ | ☐ | ☐ | ☑ |
| **hyd Hydrography** | | | | | | | |
| **BE015** | **Depth Contour** | | | | | | |
| | acc | Accuracy Category | | | | | |
| | | 001   Accurate | ☐ | ☐ | ☑ | ☐ | ☐ |
| | | 002   Approximate | ☐ | ☐ | ☑ | ☐ | ☐ |
| | crv | Depth Curve or Contour Value | ☐ | ☐ | ☑ | ☐ | ☐ |
| | hqc | Hypsography Portrayal Category | | | | | |
| | | 000   Unknown | ☐ | ☐ | ☑ | ☐ | ☐ |
| | | 001   Index | ☐ | ☐ | ☑ | ☐ | ☐ |
| | | 002   Intermediate | ☐ | ☐ | ☑ | ☐ | ☐ |
| | | 003   Supplementary (1/2) | ☐ | ☐ | ☑ | ☐ | ☐ |
| | | 014   Supplementary (1/4) | ☐ | ☐ | ☑ | ☐ | ☐ |

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**APPENDIX D**

Table D-1 TOD3 FACC Feature and Attribute Codes Sorted by Coverage

| Feature | Attribute | Attribute Value | END | CND | EDG | FAC | TXT |
|---|---|---|---|---|---|---|---|
| ***hyd Hydrography*** | | | | | | | |
| **BE019** | **Depth Area** | | | | | | |
| | acc | Accuracy Category | | | | | |
| | | 001　Accurate | ☐ | ☐ | ☐ | ☑ | ☐ |
| | | 002　Approximate | ☐ | ☐ | ☐ | ☑ | ☐ |
| | cvh | Depth Curve or Contour Value High | ☐ | ☐ | ☐ | ☑ | ☐ |
| | cvl | Depth Curve or Contour Value Low | ☐ | ☐ | ☐ | ☑ | ☐ |
| **BE020** | **Sounding** | | | | | | |
| | acc | Accuracy Category | | | | | |
| | | 001　Accurate | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002　Approximate | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003　Doubtful | ☑ | ☐ | ☐ | ☐ | ☐ |
| | cdv | Calendar Date Value | ☑ | ☐ | ☐ | ☐ | ☐ |
| | coe | Certainty of Existence | | | | | |
| | | 001　Definite | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002　Doubtful | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003　Reported | ☑ | ☐ | ☐ | ☐ | ☐ |
| | hdp | Hydrographic Depth | ☑ | ☐ | ☐ | ☐ | ☐ |
| | snd | Sounding Category | | | | | |
| | | 002　No Bottom Found | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 009　Slant | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 010　Ordinary | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 999　Other | ☑ | ☐ | ☐ | ☐ | ☐ |
| | sou | Exposition of Sounding | | | | | |
| | | 001　Within the range of depth of the surrounding depth area | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002　Shallower than the range of depth of the surrounding depth area | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003　Deeper than the range of depth of the surrounding depth area | ☑ | ☐ | ☐ | ☐ | ☐ |
| | svc | Sounding Velocity | | | | | |
| | | 000　Unknown | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 001　Echo Sounder Calibrated at 4800 ft/sec Uncorrected | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002　Echo Sounder Calibrated at 1500 m/sec Uncorrected | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 005　Corrected by other means of calibration | ☑ | ☐ | ☐ | ☐ | ☐ |
| ***nsc Non-submarine Contacts*** | | | | | | | |
| **BD005** | **Miscellaneous Underwater Feature** | | | | | | |
| | acc | Accuracy Category | | | | | |
| | | 001　Accurate | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002　Approximate | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003　Doubtful | ☑ | ☐ | ☐ | ☐ | ☐ |
| | cdv | Calendar Date Value | ☑ | ☐ | ☐ | ☐ | ☐ |

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Table D-1 TOD3 FACC Feature and Attribute Codes Sorted by Coverage

| Feature | Attribute | Attribute Value | END | CND | EDG | FAC | TXT |
|---|---|---|---|---|---|---|---|

***nsc Non-submarine Contacts***

**BD005** **Miscellaneous Underwater Feature**

| | coe | Certainty of Existence | | | | | |
|---|---|---|---|---|---|---|---|
| | | 001 Definite | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002 Doubtful | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003 Reported | ☑ | ☐ | ☐ | ☐ | ☐ |
| | exs | Existence Category | | | | | |
| | | 057 Sonar Confirmed | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 058 Sonar Not Confirmed | ☑ | ☐ | ☐ | ☐ | ☐ |
| | hdp | Hydrographic Depth | ☑ | ☐ | ☐ | ☐ | ☐ |
| | na4 | Country Code (FIPS Pub 10-4) | ☑ | ☐ | ☐ | ☐ | ☐ |
| | nam | Name | ☑ | ☐ | ☐ | ☐ | ☐ |
| | pev | Position Evaluation | | | | | |
| | | 001 Accuracy <= 1 nautical mile | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002 Accuracy > 1 nautical mile and <= 3 nautical miles | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003 Accuracy > 3 nautical miles and <= 5 nautical miles | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 004 Accuracy > 5 nautical miles and <= 10 nautical miles | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 005 Accuracy uncertain | ☑ | ☐ | ☐ | ☐ | ☐ |
| | rag | Non-submarine Contact Reporting Agency Type | | | | | |
| | | 000 Unknown | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 001 Survivor Report | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002 Salvage Report | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003 Casualty Report | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 004 Action Report | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 005 Photograph Report | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 006 US Coast & Geodetic Survey/National Ocean Service Report | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 007 US Naval Headquarters/Commands Report | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 008 Hydrographic/Admiralty Office | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 009 Wreck List | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 010 Chart Records | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 011 Coast Guard Records | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 012 Notice to Mariners | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 013 North Sea Fishing Charts | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 014 Chart | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 015 Minesweeper | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 016 Survey | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 017 Position Accurate Field Check | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 018 Sonar Report | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 019 MAD Report | ☑ | ☐ | ☐ | ☐ | ☐ |

**MIL-PRF-89049/13**
**APPENDIX D**

Table D-1 TOD3 FACC Feature and Attribute Codes Sorted by Coverage

| Feature | Attribute | Attribute Value | | END | CND | EDG | FAC | TXT |
|---|---|---|---|---|---|---|---|---|

*nsc Non-submarine Contacts*

**BD005** **Miscellaneous Underwater Feature**

| | rag | | Non-submarine Contact Reporting Agency Type | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 020 | Undifferentiated Sonar or MAD Report | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 997 | Unpopulated | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 998 | Not Applicable | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 999 | Other | ☑ | ☐ | ☐ | ☐ | ☐ |
| | sfc | | Sea Floor Feature Category | | | | | |
| | | 000 | Unknown (Obstruction) | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003 | Fish Haven | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 004 | Well | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 005 | Submerged Production Platform | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 006 | Wreckage | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 007 | Shoaling | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 008 | Less Water Reported | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 009 | Unexploded Ordnance | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 010 | Unspecified Non-submarine Contact | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 011 | Pinnacle | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 999 | Other | ☑ | ☐ | ☐ | ☐ | ☐ |
| | txt | | Text Attribute | ☑ | ☐ | ☐ | ☐ | ☐ |
| | wkt | | Wreck Type | | | | | |
| | | 000 | Unknown | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 001 | Anomalies | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 006 | Buoy | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 007 | Caisson | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 017 | Explosives | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 019 | Fishing Reef | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 035 | Obstruction | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 038 | Pinnacle Rock | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 042 | Submarine Float | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 047 | Target | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 053 | Well Head | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 998 | Not Applicable | ☑ | ☐ | ☐ | ☐ | ☐ |
| | wsr | | Source of report | | | | | |
| | | 000 | Unknown | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 008 | Report SONAR verified | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 009 | Report MAD verified | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 010 | Japanese Naval and Merchant Losses during WW II By All Causes NAVEXOS P-468 | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 011 | US Losses - Director, Fleet Operations | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 012 | H.O. Files | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 013 | COMNAVPAC | ☑ | ☐ | ☐ | ☐ | ☐ |

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Table D-1 TOD3 FACC Feature and Attribute Codes Sorted by Coverage

| Feature | Attribute | Attribute Value | END | CND | EDG | FAC | TXT |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

***nsc Non-submarine Contacts***

**BD005** **Miscellaneous Underwater Feature**

| | wsr | Source of report | | | | | |
|---|---|---|---|---|---|---|---|
| | | 014 COMNAVFE | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 015 H.O. Chart Reports and Charts | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 016 H.O. Notice to Mariners | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 017 Lloyds and Marine Underwriter's Reports | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 018 The Imperial Japanese Navy in WW II | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 019 U.S. Navy at War 1941-1945 | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 020 German, Japanese, and Italian Submarine Losses in WW II | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 021 Swedish Merchant Losses 1914-1920 | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 022 H.O. Wreck Information List and Supplement dated 10 MAR 1945 and 30 SEP 1946 | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 023 American Ship Casualties of WW I | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 024 U.S. Coast Guard and Geodetic Survey Records | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 025 Tenth Fleet Records (OP-374) | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 026 Naval Losses of All Nations 9/3/39 - 8/15/45 | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 027 Italian Naval and Merchant Losses, WW II | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 028 List of Danish War Losses 1914 - 1918 | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 029 British Merchant Vessels Captured or Destroyed by Enemy Action 1914 - 1918 | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 030 Abstracts of Losses 1914 - 1918 | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 031 British and Foreign Merchant Ships Lost During WW II | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 032 A List of Neutral Ships Sunk by Germany | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 033 Greek Losses WW II | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 034 Italian Naval Losses - WW I | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 035 Spanish Merchant Losses - WW I | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 036 Netherlands Merchant Losses - WW I | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 037 Italian Merchant Losses - WW I | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 038 Maritime Declarations for Norwegian Ships for War Losses 1914 - 1918 | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 039 Reports of Known Wrecks by U.S. Coast Guard Districts 1950 | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 040 France - Naval and Merchant Losses during WW I | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 041 Sonar Reports and MAD Reports, U.S. Navy | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 042 Maritime Commission also ONI List WW I | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 043 Smaling Soforklaringer - Danish Ship War Losses 1914 - 1918 | ☑ | ☐ | ☐ | ☐ | ☐ |

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**APPENDIX D**

Table D-1 TOD3 FACC Feature and Attribute Codes Sorted by Coverage

| Feature | Attribute | Attribute Value | END | CND | EDG | FAC | TXT |
|---------|-----------|-----------------|-----|-----|-----|-----|-----|

***nsc Non-submarine Contacts***

**BD005**    **Miscellaneous Underwater Feature**

| | | | END | CND | EDG | FAC | TXT |
|---|---|---|---|---|---|---|---|
| wsr | | Source of report | | | | | |
| | 044 | Merchant Vessels of the U.S. Lost (Commerce Department) | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 045 | Naval Chronology WW II | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 046 | Ship Visit Reports | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 047 | Spanish Hydrographic Office | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 048 | British Admiralty Wreck Charts 1921 | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 049 | Swedish Board of Shipping and Navigation, Hydrographic Dept. | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 050 | British Admiralty Wreck Charts, 1961 | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 051 | Portugal Hydrographic Office | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 052 | Italian Navy Survey | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 053 | State of Shipping Casualties (Resulting in total loss in St. Lawrence River and Gulf, on the Atlantic Coast from 1896 up to date) | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 054 | Italian Naval Surveys Charts and Lists | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 055 | ONI | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 057 | R.C.N. Wreck List (RCN Pub. 272) | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 058 | Dutch Wreck List | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 059 | North Sea Fishing Charts | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 060 | Photographs of Pinnacles and Miscellaneous Metals | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 061 | Coast and Geodetic Survey (National Ocean Survey) Charts | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 062 | Radio Navigation Warning | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 063 | OMAN National Hydrographic Office | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 998 | Not Applicable | ☑ | ☐ | ☐ | ☐ | ☐ |

**BD180**    **Wreck**

| | | | END | CND | EDG | FAC | TXT |
|---|---|---|---|---|---|---|---|
| acc | | Accuracy Category | | | | | |
| | 001 | Accurate | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 002 | Approximate | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 003 | Doubtful | ☑ | ☐ | ☐ | ☐ | ☐ |
| cdv | | Calendar Date Value | ☑ | ☐ | ☐ | ☐ | ☐ |
| coe | | Certainty of Existence | | | | | |
| | 001 | Definite | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 002 | Doubtful | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 003 | Reported | ☑ | ☐ | ☐ | ☐ | ☐ |
| exs | | Existence Category | | | | | |
| | 057 | Sonar Confirmed | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 058 | Sonar Not Confirmed | ☑ | ☐ | ☐ | ☐ | ☐ |
| hdp | | Hydrographic Depth | ☑ | ☐ | ☐ | ☐ | ☐ |

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**APPENDIX D**

Table D-1 TOD3 FACC Feature and Attribute Codes Sorted by Coverage

| Feature | Attribute | Attribute Value | END | CND | EDG | FAC | TXT |
|---------|-----------|-----------------|-----|-----|-----|-----|-----|

***nsc Non-submarine Contacts***

**BD180** **Wreck**

| | na4 | Country Code (FIPS Pub 10-4) | ☑ | ☐ | ☐ | ☐ | ☐ |
| | nam | Name | ☑ | ☐ | ☐ | ☐ | ☐ |
| | pev | Position Evaluation | | | | | |
| | | 001 Accuracy <= 1 nautical mile | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002 Accuracy > 1 nautical mile and <= 3 nautical miles | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003 Accuracy > 3 nautical miles and <= 5 nautical miles | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 004 Accuracy > 5 nautical miles and <= 10 nautical miles | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 005 Accuracy uncertain | ☑ | ☐ | ☐ | ☐ | ☐ |
| | rag | Non-submarine Contact Reporting Agency Type | | | | | |
| | | 000 Unknown | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 001 Survivor Report | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002 Salvage Report | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003 Casualty Report | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 004 Action Report | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 005 Photograph Report | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 006 US Coast & Geodetic Survey/National Ocean Service Report | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 007 US Naval Headquarters/Commands Report | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 008 Hydrographic/Admiralty Office | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 009 Wreck List | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 010 Chart Records | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 011 Coast Guard Records | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 012 Notice to Mariners | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 013 North Sea Fishing Charts | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 014 Chart | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 015 Minesweeper | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 016 Survey | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 017 Position Accurate Field Check | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 018 Sonar Report | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 019 MAD Report | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 020 Undifferentiated Sonar or MAD Report | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 997 Unpopulated | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 998 Not Applicable | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 999 Other | ☑ | ☐ | ☐ | ☐ | ☐ |
| | tng | Tonnage | ☑ | ☐ | ☐ | ☐ | ☐ |
| | txt | Text Attribute | ☑ | ☐ | ☐ | ☐ | ☐ |
| | wkt | Wreck Type | | | | | |
| | | 000 Unknown | ☑ | ☐ | ☐ | ☐ | ☐ |

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**APPENDIX D**

Table D-1 TOD3 FACC Feature and Attribute Codes Sorted by Coverage

| Feature | Attribute | Attribute Value | | END | CND | EDG | FAC | TXT |
|---------|-----------|-----------------|---|-----|-----|-----|-----|-----|

*nsc Non-submarine Contacts*

**BD180** **Wreck**

wkt — Wreck Type

| | | | | END | CND | EDG | FAC | TXT |
|---|---|---|---|---|---|---|---|---|
| | 002 | Aircraft | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 003 | Auxiliary | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 004 | Battleship | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 005 | Barge | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 008 | Aircraft Carrier | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 009 | Cargo | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 010 | Subchaser | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 011 | Coaster | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 012 | Cruiser | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 013 | Ship Debris (plates, misc. metal) | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 014 | Destroyer, Destroyer Escort, Corvette | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 015 | Dredge | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 016 | Drill Vessel or Drill Rig | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 018 | Fishing Vessel | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 020 | Ferry | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 021 | Frigate | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 022 | Gunboat | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 023 | Hospital Ship | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 024 | Hydrographic Survey, Air Cushion, Hydrofoil | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 025 | Junk | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 026 | Lash Vessel | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 027 | Landing Craft, Infantry (LCI) | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 028 | Gas Carrier, Natural Petroleum | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 029 | Landing Ship, Infantry (LSI) | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 030 | Landing Ship, Tank (LST) | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 031 | Lightship | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 032 | Minesweeper, Minelayer | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 033 | Net Tender | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 034 | Bulk Carrier | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 036 | Passenger Cargo | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 037 | Patrol Boat | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 039 | Roll On - Roll Off | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 040 | Sailing Ship | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 041 | Sea Bee, Lash Barge | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 043 | Submarine | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 044 | Survey Vessel | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 045 | Tanker | | ☑ | ☐ | ☐ | ☐ | ☐ |
| | 046 | Tender, Submarine, Airplane, Oil Rig | | ☑ | ☐ | ☐ | ☐ | ☐ |

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**APPENDIX D**

Table D-1 TOD3 FACC Feature and Attribute Codes Sorted by Coverage

| Feature | Attribute | | Attribute Value | END | CND | EDG | FAC | TXT |
|---------|-----------|---|-----------------|-----|-----|-----|-----|-----|

*nsc Non-submarine Contacts*

**BD180** **Wreck**

| | wkt | | Wreck Type | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 048 | Torpedo Boat | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 049 | Transport | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 050 | Tug | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 051 | Trawler | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 052 | Very Large Container | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 054 | Yacht | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 998 | Not Applicable | ☑ | ☐ | ☐ | ☐ | ☐ |
| | wsr | | Source of report | | | | | |
| | | 000 | Unknown | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 008 | Report SONAR verified | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 009 | Report MAD verified | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 010 | Japanese Naval and Merchant Losses during WW II By All Causes NAVEXOS P-468 | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 011 | US Losses - Director, Fleet Operations | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 012 | H.O. Files | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 013 | COMNAVPAC | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 014 | COMNAVFE | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 015 | H.O. Chart Reports and Charts | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 016 | H.O. Notice to Mariners | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 017 | Lloyds and Marine Underwriter's Reports | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 018 | The Imperial Japanese Navy in WW II | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 019 | U.S. Navy at War 1941-1945 | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 020 | German, Japanese, and Italian Submarine Losses in WW II | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 021 | Swedish Merchant Losses 1914-1920 | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 022 | H.O. Wreck Information List and Supplement dated 10 MAR 1945 and 30 SEP 1946 | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 023 | American Ship Casualties of WW I | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 024 | U.S. Coast Guard and Geodetic Survey Records | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 025 | Tenth Fleet Records (OP-374) | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 026 | Naval Losses of All Nations 9/3/39 - 8/15/45 | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 027 | Italian Naval and Merchant Losses, WW II | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 028 | List of Danish War Losses 1914 - 1918 | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 029 | British Merchant Vessels Captured or Destroyed by Enemy Action 1914 - 1918 | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 030 | Abstracts of Losses 1914 - 1918 | ☑ | ☐ | ☐ | ☐ | ☐ |

**MIL-PRF-89049/13**
**APPENDIX D**

Table D-1 TOD3 FACC Feature and Attribute Codes Sorted by Coverage

| Feature | Attribute | Attribute Value | END | CND | EDG | FAC | TXT |
|---------|-----------|-----------------|-----|-----|-----|-----|-----|

***nsc Non-submarine Contacts***

**BD180  Wreck**

wsr   Source of report

| | | | END | CND | EDG | FAC | TXT |
|---|---|---|---|---|---|---|---|
| 031 | British and Foreign Merchant Ships Lost During WW II | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 032 | A List of Neutral Ships Sunk by Germany | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 033 | Greek Losses WW II | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 034 | Italian Naval Losses - WW I | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 035 | Spanish Merchant Losses - WW I | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 036 | Netherlands Merchant Losses - WW I | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 037 | Italian Merchant Losses - WW I | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 038 | Maritime Declarations for Norwegian Ships for War Losses 1914 - 1918 | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 039 | Reports of Known Wrecks by U.S. Coast Guard Districts 1950 | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 040 | France - Naval and Merchant Losses during WW I | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 041 | Sonar Reports and MAD Reports, U.S. Navy | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 042 | Maritime Commission also ONI List WW I | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 043 | Smaling Soforklaringer - Danish Ship War Losses 1914 - 1918 | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 044 | Merchant Vessels of the U.S. Lost (Commerce Department) | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 045 | Naval Chronology WW II | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 046 | Ship Visit Reports | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 047 | Spanish Hydrographic Office | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 048 | British Admiralty Wreck Charts 1921 | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 049 | Swedish Board of Shipping and Navigation, Hydrographic Dept. | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 050 | British Admiralty Wreck Charts, 1961 | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 051 | Portugal Hydrographic Office | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 052 | Italian Navy Survey | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 053 | State of Shipping Casualties (Resulting in total loss in St. Lawrence River and Gulf, on the Atlantic Coast from 1896 up to date) | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 054 | Italian Naval Surveys Charts and Lists | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 055 | ONI | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 057 | R.C.N. Wreck List (RCN Pub. 272) | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 058 | Dutch Wreck List | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 059 | North Sea Fishing Charts | | ☑ | ☐ | ☐ | ☐ | ☐ |
| 060 | Photographs of Pinnacles and Miscellaneous Metals | | ☑ | ☐ | ☐ | ☐ | ☐ |

**MIL-PRF-89049/13**
**APPENDIX D**

Table D-1 TOD3 FACC Feature and Attribute Codes Sorted by Coverage

| Feature | Attribute | Attribute Value | END | CND | EDG | FAC | TXT |
|---------|-----------|-----------------|-----|-----|-----|-----|-----|
| *nsc Non-submarine Contacts* | | | | | | | |
| **BD180** | **Wreck** | | | | | | |
| | wsr | Source of report | | | | | |
| | | 061    Coast and Geodetic Survey (National Ocean Survey) Charts | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 062    Radio Navigation Warning | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 063    OMAN National Hydrographic Office | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 998    Not Applicable | ☑ | ☐ | ☐ | ☐ | ☐ |
| *sur Survey Information* | | | | | | | |
| **BE030** | **Track Swath** | | | | | | |
| | n/a | No Attributes Required | ☐ | ☐ | ☐ | ☑ | ☐ |
| **BE040** | **Track Line** | | | | | | |
| | n/a | No Attributes Required | ☐ | ☐ | ☑ | ☐ | ☐ |

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**APPENDIX D**

Table D-2 TOD3 FACC Feature and Attribute Codes Sorted by Feature

| Feature | Attribute | Attribute Value | Coverage | END | CND | EDG | FAC | TXT |
|---------|-----------|-----------------|----------|-----|-----|-----|-----|-----|
| **BD005** | | **Miscellaneous Underwater Feature** | | | | | | |
| | acc | Accuracy Category | | | | | | |
| | | 001 Accurate | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002 Approximate | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003 Doubtful | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | cdv | Calendar Date Value | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | coe | Certainty of Existence | | | | | | |
| | | 001 Definite | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002 Doubtful | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003 Reported | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | exs | Existence Category | | | | | | |
| | | 057 Sonar Confirmed | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 058 Sonar Not Confirmed | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | hdp | Hydrographic Depth | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | na4 | Country Code (FIPS Pub 10-4) | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | nam | Name | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | pev | Position Evaluation | | | | | | |
| | | 001 Accuracy <= 1 nautical mile | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002 Accuracy > 1 nautical mile and <= 3 nautical miles | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003 Accuracy > 3 nautical miles and <= 5 nautical miles | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 004 Accuracy > 5 nautical miles and <= 10 nautical miles | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 005 Accuracy uncertain | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | rag | Non-submarine Contact Reporting Agency Type | | | | | | |
| | | 000 Unknown | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 001 Survivor Report | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002 Salvage Report | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003 Casualty Report | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 004 Action Report | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 005 Photograph Report | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 006 US Coast & Geodetic Survey/National Ocean Service Report | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 007 US Naval Headquarters/Commands Report | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 008 Hydrographic/Admiralty Office | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 009 Wreck List | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 010 Chart Records | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 011 Coast Guard Records | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 012 Notice to Mariners | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 013 North Sea Fishing Charts | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 014 Chart | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 015 Minesweeper | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |

**MIL-PRF-89049/13**
**APPENDIX D**

Table D-2 TOD3 FACC Feature and Attribute Codes Sorted by Feature (Continued)

| Feature | Attribute | Attribute Value | | Coverage | END | CND | EDG | FAC | TXT |
|---------|-----------|------|------|----------|-----|-----|-----|-----|-----|
| **BD005** | **Miscellaneous Underwater Feature** | | | | | | | | |
| | rag | Non-submarine Contact Reporting Agency Type | | | | | | | |
| | | 016 | Survey | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 017 | Position Accurate Field Check | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 018 | Sonar Report | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 019 | MAD Report | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 020 | Undifferentiated Sonar or MAD Report | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 997 | Unpopulated | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 998 | Not Applicable | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 999 | Other | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | sfc | Sea Floor Feature Category | | | | | | | |
| | | 000 | Unknown (Obstruction) | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003 | Fish Haven | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 004 | Well | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 005 | Submerged Production Platform | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 006 | Wreckage | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 007 | Shoaling | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 008 | Less Water Reported | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 009 | Unexploded Ordnance | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 010 | Unspecified Non-submarine Contact | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 011 | Pinnacle | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 999 | Other | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | txt | Text Attribute | | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | wkt | Wreck Type | | | | | | | |
| | | 000 | Unknown | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 001 | Anomalies | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 006 | Buoy | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 007 | Caisson | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 017 | Explosives | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 019 | Fishing Reef | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 035 | Obstruction | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 038 | Pinnacle Rock | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 042 | Submarine Float | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 047 | Target | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 053 | Well Head | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 998 | Not Applicable | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | wsr | Source of report | | | | | | | |
| | | 000 | Unknown | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 008 | Report SONAR verified | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 009 | Report MAD verified | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 010 | Japanese Naval and Merchant Losses during WW II By All Causes NAVEXOS P-468 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |

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**APPENDIX D**

Table D-2 TOD3 FACC Feature and Attribute Codes Sorted by Feature (Continued)

| Feature | Attribute | Attribute Value | Coverage | END | CND | EDG | FAC | TXT |
|---------|-----------|-----------------|----------|-----|-----|-----|-----|-----|
| **BD005** | | **Miscellaneous Underwater Feature** | | | | | | |
| | wsr | Source of report | | | | | | |
| | | 011 US Losses - Director, Fleet Operations | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 012 H.O. Files | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 013 COMNAVPAC | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 014 COMNAVFE | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 015 H.O. Chart Reports and Charts | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 016 H.O. Notice to Mariners | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 017 Lloyds and Marine Underwriter's Reports | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 018 The Imperial Japanese Navy in WW II | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 019 U.S. Navy at War 1941-1945 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 020 German, Japanese, and Italian Submarine Losses in WW II | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 021 Swedish Merchant Losses 1914-1920 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 022 H.O. Wreck Information List and Supplement dated 10 MAR 1945 and 30 SEP 1946 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 023 American Ship Casualties of WW I | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 024 U.S. Coast Guard and Geodetic Survey Records | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 025 Tenth Fleet Records (OP-374) | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 026 Naval Losses of All Nations 9/3/39 - 8/15/45 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 027 Italian Naval and Merchant Losses, WW II | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 028 List of Danish War Losses 1914 - 1918 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 029 British Merchant Vessels Captured or Destroyed by Enemy Action 1914 - 1918 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 030 Abstracts of Losses 1914 - 1918 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 031 British and Foreign Merchant Ships Lost During WW II | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 032 A List of Neutral Ships Sunk by Germany | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 033 Greek Losses WW II | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 034 Italian Naval Losses - WW I | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 035 Spanish Merchant Losses - WW I | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 036 Netherlands Merchant Losses - WW I | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 037 Italian Merchant Losses - WW I | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 038 Maritime Declarations for Norwegian Ships for War Losses 1914 - 1918 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 039 Reports of Known Wrecks by U.S. Coast Guard Districts 1950 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 040 France - Naval and Merchant Losses during WW I | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |

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**APPENDIX D**

Table D-2 TOD3 FACC Feature and Attribute Codes Sorted by Feature (Continued)

| Feature | Attribute | Attribute Value | | Coverage | END | CND | EDG | FAC | TXT |
|---|---|---|---|---|---|---|---|---|---|
| **BD005** | | **Miscellaneous Underwater Feature** | | | | | | | |
| | wsr | Source of report | | | | | | | |
| | | 041 | Sonar Reports and MAD Reports, U.S. Navy | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 042 | Maritime Commission also ONI List WW I | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 043 | Smaling Soforklaringer - Danish Ship War Losses 1914 - 1918 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 044 | Merchant Vessels of the U.S. Lost (Commerce Department) | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 045 | Naval Chronology WW II | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 046 | Ship Visit Reports | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 047 | Spanish Hydrographic Office | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 048 | British Admiralty Wreck Charts 1921 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 049 | Swedish Board of Shipping and Navigation, Hydrographic Dept. | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 050 | British Admiralty Wreck Charts, 1961 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 051 | Portugal Hydrographic Office | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 052 | Italian Navy Survey | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 053 | State of Shipping Casualties (Resulting in total loss in St. Lawrence River and Gulf, on the Atlantic Coast from 1896 up to date) | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 054 | Italian Naval Surveys Charts and Lists | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 055 | ONI | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 057 | R.C.N. Wreck List (RCN Pub. 272) | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 058 | Dutch Wreck List | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 059 | North Sea Fishing Charts | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 060 | Photographs of Pinnacles and Miscellaneous Metals | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 061 | Coast and Geodetic Survey (National Ocean Survey) Charts | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 062 | Radio Navigation Warning | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 063 | OMAN National Hydrographic Office | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 998 | Not Applicable | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| **BD180** | **Wreck** | | | | | | | | |
| | acc | Accuracy Category | | | | | | | |
| | | 001 | Accurate | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002 | Approximate | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003 | Doubtful | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | cdv | Calendar Date Value | | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | coe | Certainty of Existence | | | | | | | |
| | | 001 | Definite | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002 | Doubtful | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003 | Reported | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |

Table D-2 TOD3 FACC Feature and Attribute Codes Sorted by Feature (Continued)

| Feature | Attribute | Attribute Value | Coverage | END | CND | EDG | FAC | TXT |
|---------|-----------|-----------------|----------|-----|-----|-----|-----|-----|
| **BD180** | **Wreck** | | | | | | | |
| | exs | Existence Category | | | | | | |
| | | 057 Sonar Confirmed | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 058 Sonar Not Confirmed | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | hdp | Hydrographic Depth | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | na4 | Country Code (FIPS Pub 10-4) | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | nam | Name | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | pev | Position Evaluation | | | | | | |
| | | 001 Accuracy <= 1 nautical mile | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002 Accuracy > 1 nautical mile and <= 3 nautical miles | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003 Accuracy > 3 nautical miles and <= 5 nautical miles | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 004 Accuracy > 5 nautical miles and <= 10 nautical miles | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 005 Accuracy uncertain | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | rag | Non-submarine Contact Reporting Agency Type | | | | | | |
| | | 000 Unknown | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 001 Survivor Report | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002 Salvage Report | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003 Casualty Report | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 004 Action Report | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 005 Photograph Report | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 006 US Coast & Geodetic Survey/National Ocean Service Report | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 007 US Naval Headquarters/Commands Report | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 008 Hydrographic/Admiralty Office | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 009 Wreck List | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 010 Chart Records | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 011 Coast Guard Records | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 012 Notice to Mariners | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 013 North Sea Fishing Charts | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 014 Chart | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 015 Minesweeper | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 016 Survey | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 017 Position Accurate Field Check | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 018 Sonar Report | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 019 MAD Report | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 020 Undifferentiated Sonar or MAD Report | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 997 Unpopulated | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 998 Not Applicable | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 999 Other | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | tng | Tonnage | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |

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**APPENDIX D**

Table D-2 TOD3 FACC Feature and Attribute Codes Sorted by Feature (Continued)

| Feature | Attribute | Attribute Value | | Coverage | END | CND | EDG | FAC | TXT |
|---|---|---|---|---|---|---|---|---|---|
| **BD180** | **Wreck** | | | | | | | | |
| | txt | Text Attribute | | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | wkt | Wreck Type | | | | | | | |
| | | 000 | Unknown | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002 | Aircraft | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003 | Auxiliary | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 004 | Battleship | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 005 | Barge | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 008 | Aircraft Carrier | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 009 | Cargo | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 010 | Subchaser | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 011 | Coaster | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 012 | Cruiser | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 013 | Ship Debris (plates, misc. metal) | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 014 | Destroyer, Destroyer Escort, Corvette | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 015 | Dredge | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 016 | Drill Vessel or Drill Rig | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 018 | Fishing Vessel | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 020 | Ferry | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 021 | Frigate | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 022 | Gunboat | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 023 | Hospital Ship | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 024 | Hydrographic Survey, Air Cushion, Hydrofoil | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 025 | Junk | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 026 | Lash Vessel | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 027 | Landing Craft, Infantry (LCI) | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 028 | Gas Carrier, Natural Petroleum | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 029 | Landing Ship, Infantry (LSI) | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 030 | Landing Ship, Tank (LST) | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 031 | Lightship | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 032 | Minesweeper, Minelayer | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 033 | Net Tender | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 034 | Bulk Carrier | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 036 | Passenger Cargo | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 037 | Patrol Boat | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 039 | Roll On - Roll Off | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 040 | Sailing Ship | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 041 | Sea Bee, Lash Barge | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 043 | Submarine | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 044 | Survey Vessel | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 045 | Tanker | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |

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Table D-2 TOD3 FACC Feature and Attribute Codes Sorted by Feature (Continued)

| Feature | Attribute | Attribute Value | Coverage | END | CND | EDG | FAC | TXT |
|---------|-----------|-----------------|----------|-----|-----|-----|-----|-----|
| **BD180** | **Wreck** | | | | | | | |
| | wkt | Wreck Type | | | | | | |
| | | 046 Tender, Submarine, Airplane, Oil Rig | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 048 Torpedo Boat | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 049 Transport | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 050 Tug | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 051 Trawler | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 052 Very Large Container | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 054 Yacht | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 998 Not Applicable | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | wsr | Source of report | | | | | | |
| | | 000 Unknown | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 008 Report SONAR verified | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 009 Report MAD verified | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 010 Japanese Naval and Merchant Losses during WW II By All Causes NAVEXOS P-468 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 011 US Losses - Director, Fleet Operations | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 012 H.O. Files | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 013 COMNAVPAC | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 014 COMNAVFE | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 015 H.O. Chart Reports and Charts | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 016 H.O. Notice to Mariners | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 017 Lloyds and Marine Underwriter's Reports | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 018 The Imperial Japanese Navy in WW II | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 019 U.S. Navy at War 1941-1945 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 020 German, Japanese, and Italian Submarine Losses in WW II | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 021 Swedish Merchant Losses 1914-1920 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 022 H.O. Wreck Information List and Supplement dated 10 MAR 1945 and 30 SEP 1946 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 023 American Ship Casualties of WW I | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 024 U.S. Coast Guard and Geodetic Survey Records | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 025 Tenth Fleet Records (OP-374) | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 026 Naval Losses of All Nations 9/3/39 - 8/15/45 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 027 Italian Naval and Merchant Losses, WW II | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 028 List of Danish War Losses 1914 - 1918 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 029 British Merchant Vessels Captured or Destroyed by Enemy Action 1914 - 1918 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |

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**APPENDIX D**

Table D-2 TOD3 FACC Feature and Attribute Codes Sorted by Feature (Continued)

| Feature | Attribute | Attribute Value | Coverage | END | CND | EDG | FAC | TXT |
|---|---|---|---|---|---|---|---|---|
| **BD180** | **Wreck** | | | | | | | |
| | wsr | Source of report | | | | | | |
| | | 030 Abstracts of Losses 1914 - 1918 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 031 British and Foreign Merchant Ships Lost During WW II | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 032 A List of Neutral Ships Sunk by Germany | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 033 Greek Losses WW II | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 034 Italian Naval Losses - WW I | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 035 Spanish Merchant Losses - WW I | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 036 Netherlands Merchant Losses - WW I | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 037 Italian Merchant Losses - WW I | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 038 Maritime Declarations for Norwegian Ships for War Losses 1914 - 1918 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 039 Reports of Known Wrecks by U.S. Coast Guard Districts 1950 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 040 France - Naval and Merchant Losses during WW I | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 041 Sonar Reports and MAD Reports, U.S. Navy | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 042 Maritime Commission also ONI List WW I | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 043 Smaling Soforklaringer - Danish Ship War Losses 1914 - 1918 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 044 Merchant Vessels of the U.S. Lost (Commerce Department) | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 045 Naval Chronology WW II | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 046 Ship Visit Reports | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 047 Spanish Hydrographic Office | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 048 British Admiralty Wreck Charts 1921 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 049 Swedish Board of Shipping and Navigation, Hydrographic Dept. | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 050 British Admiralty Wreck Charts, 1961 | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 051 Portugal Hydrographic Office | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 052 Italian Navy Survey | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 053 State of Shipping Casualties (Resulting in total loss in St. Lawrence River and Gulf, on the Atlantic Coast from 1896 up to date) | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 054 Italian Naval Surveys Charts and Lists | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 055 ONI | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 057 R.C.N. Wreck List (RCN Pub. 272) | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 058 Dutch Wreck List | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 059 North Sea Fishing Charts | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 060 Photographs of Pinnacles and Miscellaneous Metals | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |

Table D-2 TOD3 FACC Feature and Attribute Codes Sorted by Feature (Continued)

| Feature | Attribute | Attribute Value | | Coverage | END | CND | EDG | FAC | TXT |
|---|---|---|---|---|---|---|---|---|---|
| **BD180** | **Wreck** | | | | | | | | |
| | wsr | Source of report | | | | | | | |
| | | 061 | Coast and Geodetic Survey (National Ocean Survey) Charts | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 062 | Radio Navigation Warning | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 063 | OMAN National Hydrographic Office | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 998 | Not Applicable | nsc | ☑ | ☐ | ☐ | ☐ | ☐ |
| **BE015** | **Depth Contour** | | | | | | | | |
| | acc | Accuracy Category | | | | | | | |
| | | 001 | Accurate | hyd | ☐ | ☐ | ☑ | ☐ | ☐ |
| | | 002 | Approximate | hyd | ☐ | ☐ | ☑ | ☐ | ☐ |
| | crv | Depth Curve or Contour Value | | hyd | ☐ | ☐ | ☑ | ☐ | ☐ |
| | hqc | Hypsography Portrayal Category | | | | | | | |
| | | 000 | Unknown | hyd | ☐ | ☐ | ☑ | ☐ | ☐ |
| | | 001 | Index | hyd | ☐ | ☐ | ☑ | ☐ | ☐ |
| | | 002 | Intermediate | hyd | ☐ | ☐ | ☑ | ☐ | ☐ |
| | | 003 | Supplementary (1/2) | hyd | ☐ | ☐ | ☑ | ☐ | ☐ |
| | | 014 | Supplementary (1/4) | hyd | ☐ | ☐ | ☑ | ☐ | ☐ |
| **BE019** | **Depth Area** | | | | | | | | |
| | acc | Accuracy Category | | | | | | | |
| | | 001 | Accurate | hyd | ☐ | ☐ | ☐ | ☑ | ☐ |
| | | 002 | Approximate | hyd | ☐ | ☐ | ☐ | ☑ | ☐ |
| | cvh | Depth Curve or Contour Value High | | hyd | ☐ | ☐ | ☐ | ☑ | ☐ |
| | cvl | Depth Curve or Contour Value Low | | hyd | ☐ | ☐ | ☐ | ☑ | ☐ |
| **BE020** | **Sounding** | | | | | | | | |
| | acc | Accuracy Category | | | | | | | |
| | | 001 | Accurate | hyd | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002 | Approximate | hyd | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003 | Doubtful | hyd | ☑ | ☐ | ☐ | ☐ | ☐ |
| | cdv | Calendar Date Value | | hyd | ☑ | ☐ | ☐ | ☐ | ☐ |
| | coe | Certainty of Existence | | | | | | | |
| | | 001 | Definite | hyd | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002 | Doubtful | hyd | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003 | Reported | hyd | ☑ | ☐ | ☐ | ☐ | ☐ |
| | hdp | Hydrographic Depth | | hyd | ☑ | ☐ | ☐ | ☐ | ☐ |
| | snd | Sounding Category | | | | | | | |
| | | 002 | No Bottom Found | hyd | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 009 | Slant | hyd | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 010 | Ordinary | hyd | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 999 | Other | hyd | ☑ | ☐ | ☐ | ☐ | ☐ |
| | sou | Exposition of Sounding | | | | | | | |
| | | 001 | Within the range of depth of the surrounding depth area | hyd | ☑ | ☐ | ☐ | ☐ | ☐ |

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**APPENDIX D**

Table D-2 TOD3 FACC Feature and Attribute Codes Sorted by Feature (Continued)

| Feature | Attribute | Attribute Value | Coverage | END | CND | EDG | FAC | TXT |
|---|---|---|---|:---:|:---:|:---:|:---:|:---:|
| **BE020** | **Sounding** | | | | | | | |
| | sou | Exposition of Sounding | | | | | | |
| | | 002 Shallower than the range of depth of the surrounding depth area | hyd | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 003 Deeper than the range of depth of the surrounding depth area | hyd | ☑ | ☐ | ☐ | ☐ | ☐ |
| | svc | Sounding Velocity | | | | | | |
| | | 000 Unknown | hyd | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 001 Echo Sounder Calibrated at 4800 ft/sec Uncorrected | hyd | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 002 Echo Sounder Calibrated at 1500 m/sec Uncorrected | hyd | ☑ | ☐ | ☐ | ☐ | ☐ |
| | | 005 Corrected by other means of calibration | hyd | ☑ | ☐ | ☐ | ☐ | ☐ |
| **BE030** | **Track Swath** | | | | | | | |
| | n/a | No Attributes Required | sur | ☐ | ☐ | ☐ | ☑ | ☐ |
| **BE040** | **Track Line** | | | | | | | |
| | n/a | No Attributes Required | sur | ☐ | ☐ | ☑ | ☐ | ☐ |
| **N/A** | **Featureless Feature Table** | | | | | | | |
| | aha | Absolute Horizontal Accuracy in Meters | dq | ☐ | ☐ | ☐ | ☑ | ☐ |
| | ava | Absolute Vertical Accuracy in Meters | dq | ☐ | ☐ | ☐ | ☑ | ☐ |
| | dqd | Data Quality Description | dq | ☐ | ☐ | ☑ | ☑ | ☐ |
| | mcd | Map Compilation Date | dq | ☐ | ☐ | ☐ | ☑ | ☐ |
| | mpd | Map Print Date | dq | ☐ | ☐ | ☐ | ☑ | ☐ |
| | mrd | Map Revision Date | dq | ☐ | ☐ | ☐ | ☑ | ☐ |
| | mse | Map Sheet Edition | dq | ☐ | ☐ | ☐ | ☑ | ☐ |
| | sdp | Source Description | dq | ☐ | ☐ | ☐ | ☑ | ☐ |
| | sin | Source Identification | dq | ☐ | ☐ | ☐ | ☑ | ☐ |
| | ss1 | First Source Sheet or Data Identifier | dq | ☐ | ☐ | ☑ | ☐ | ☐ |
| | ss2 | Second Source Sheet or Data Identifier | dq | ☐ | ☐ | ☑ | ☐ | ☐ |
| | thl | Data Quality Thematic Layer | dq | ☐ | ☐ | ☑ | ☑ | ☐ |
| **ZD020** | **Void Collection Area** | | | | | | | |
| | vca | Void Collection Attribute | | | | | | |
| | | 000 Unknown | dq | ☐ | ☐ | ☐ | ☑ | ☐ |
| | | 001 Data Not Requested By User | dq | ☐ | ☐ | ☐ | ☑ | ☐ |
| | | 002 Area Too Rough to Collect | dq | ☐ | ☐ | ☐ | ☑ | ☐ |
| | | 003 No Available Imagery | dq | ☐ | ☐ | ☐ | ☑ | ☐ |
| | | 006 No Available Map Source | dq | ☐ | ☐ | ☐ | ☑ | ☐ |
| | | 007 No Suitable Imagery | dq | ☐ | ☐ | ☐ | ☑ | ☐ |
| | vct | Void Collection Type | | | | | | |
| | | 000 Unknown | dq | ☐ | ☐ | ☐ | ☑ | ☐ |
| | | 001 Relief | dq | ☐ | ☐ | ☐ | ☑ | ☐ |
| | | 999 Other | dq | ☐ | ☐ | ☐ | ☑ | ☐ |
| **ZD040** | **Named Location** | | | | | | | |
| | n/a | No Attributes Required | ecr | ☐ | ☐ | ☐ | ☐ | ☑ |

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**APPENDIX D**

Table D-2 TOD3 FACC Feature and Attribute Codes Sorted by Feature (Continued)

| Feature | Attribute | Attribute Value | Coverage | END | CND | EDG | FAC | TXT |
|---------|-----------|-----------------|----------|-----|-----|-----|-----|-----|
| **ZD045** | | **Text Description** | | | | | | |
| | n/a | No Attributes Required | dq | ☐ | ☐ | ☐ | ☐ | ☑ |

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D.3.2 TOD3 FACC Feature Glossary

# B - Hydrography

## BD - Hydrography-Dangers/Hazards

**BD005   Miscellaneous Underwater Feature   (DIGEST Status: Published FACC)**

An object or area on the sea floor or underwater that is not identified by any other code in this specification. (Also see BD000)

**BD180   Wreck   (DIGEST Status: Published FACC)**

The ruined remains of a vessel.

## BE - Hydrography-Depth Information

**BE015   Depth Contour   (DIGEST Status: Published FACC)**

A line connecting points of equal depth at and below the hydrographic datum.

**BE019   Depth Area   (DIGEST Status: Published FACC)**

Water area containing soundings within a defined range of values permanently at or below sounding datum.

**BE020   Sounding   (DIGEST Status: Published FACC)**

A measured water depth or spot depth which has been reduced to chart datum.

**BE030   Track Swath   (DIGEST Status: Published FACC)**

Area of horizontal depth coverage recorded by SONAR array systems.

**BE040   Track Line   (DIGEST Status: Published FACC)**

The path of travel with respect to the earth as drawn on the chart and including the sounding information collected along the line.

# Z - General

## ZD - General-Miscellaneous

**ZD020   Void Collection Area   (DIGEST Status: Published FACC)**

An area lacking suitable source coverage, or where data is not required.

**ZD040   Named Location   (DIGEST Status: Published FACC)**

A geographic place on the earth, not normally appearing as a feature on a map, but having a name that is required to be placed on a map.

**ZD045   Text Description   (DIGEST Status: Published FACC)**

An area in which a characteristic or an activity pertaining to the area can be described and possibly labeled on a product if deemed important at the time the product is being produced.

D.3.3 TOD3 FACC Attribute Glossary

**ACC**  **Accuracy Category  (DIGEST Status: Published FACC)**

Accuracy of geographic position.
- 001   Accurate (Published FACC)
- 002   Approximate (Published FACC)
- 003   Doubtful (Published FACC)

**AHA**  **Absolute Horizontal Accuracy in Meters  (DIGEST Status: Published FACC)**

The difference between the recorded horizontal coordinates of features and their true positions expressed as a circular error at 90% probability.

0   Actual Value

| Units | Format | Range | Increment | Maximum Characters |
| --- | --- | --- | --- | --- |
| Metres | Floating Point | N/A | m | N/A |

**AVA**  **Absolute Vertical Accuracy in Meters  (DIGEST Status: Published FACC)**

The difference between the recorded elevations of features and their true elevations at a specific point referenced to the same vertical datum at 90% probability.

0   Actual Value

| Units | Format | Range | Increment | Maximum Characters |
| --- | --- | --- | --- | --- |
| Metres | Floating Point | N/A | m | N/A |

**CDV**  **Calendar Date Value  (DIGEST Status: Published FACC)**

The calendar date as specified by ISO 8601.

0   Actual Value

| Units | Format | Range | Increment | Maximum Characters |
| --- | --- | --- | --- | --- |
| Date | ASCII Text | N/A | N/A | See Appendix C |

**COE**  **Certainty of Existence  (DIGEST Status: Published FACC)**

Indicates knowledge of the feature's existence.
- 001   Definite (Published FACC)
- 002   Doubtful (Published FACC)
- 003   Reported (Published FACC)

**CRV**  **Depth Curve or Contour Value  (DIGEST Status: Published FACC)**

A specified value assigned to a particular depth curve or contour.

0   Actual Value

| Units | Format | Range | Increment | Maximum Characters |
| --- | --- | --- | --- | --- |
| Metres | Floating Point | N/A | m | N/A |

**CVH**  **Depth Curve or Contour Value High  (DIGEST Status: Published FACC)**

The maximum value of a depth curve polygon.

0   Actual Value

| Units | Format | Range | Increment | Maximum Characters |
| --- | --- | --- | --- | --- |
| Metres | Floating Point | N/A | m | N/A |

**CVL**  **Depth Curve or Contour Value Low  (DIGEST Status: Published FACC)**

The minimum value of a depth curve polygon.

0   Actual Value

| Units | Format | Range | Increment | Maximum Characters |
| --- | --- | --- | --- | --- |
| Metres | Floating Point | N/A | m | N/A |

**DQD**  **Data Quality Description  (DIGEST Status: Published FACC)**

Contains a text string describing specific conditions occurring within a coverage at the location

D.3.3 TOD3 FACC Attribute Glossary (Continued)

identified by the dq feature. Typically this refers to edgematch problems observed between two source maps and identifies any steps taken to ameliorate the problem.

0    Actual Value

| Units | Format | Range | Increment | Maximum Characters |
|-------|--------|-------|-----------|--------------------|
| Text | ASCII Text | N/A | N/A | See Appendix C |

**EXS    Existence Category  (DIGEST Status: Published FACC)**

The state or condition of the feature.

057    Sonar Confirmed (Published FACC)
058    Sonar Not Confirmed (Published FACC)

**HDP    Hydrographic Depth  (DIGEST Status: Published FACC)**

The depth of the feature below water, measured from the top or surface of the feature, referenced to a specified vertical datum. Recorded values are positive numbers.

0    Actual Value

| Units | Format | Range | Increment | Maximum Characters |
|-------|--------|-------|-----------|--------------------|
| Metres | Floating Point | N/A | m | N/A |

**HQC    Hypsography Portrayal Category  (DIGEST Status: Published FACC)**

Type of line shown.

000    Unknown (Published FACC)
001    Index (Published FACC)
002    Intermediate (Published FACC)
003    Supplementary (1/2) (Published FACC)
014    Supplementary (1/4) (Published FACC)

**MCD    Map Compilation Date  (DIGEST Status: Published FACC)**

Appropriate date of compilation of map or dataset. Coded YYYYMMDD.

0    Actual Value

| Units | Format | Range | Increment | Maximum Characters |
|-------|--------|-------|-----------|--------------------|
| Date | ASCII Text | N/A | N/A | See Appendix C |

**MPD    Map Print Date  (DIGEST Status: Withdrawn/Rejected)**

Print date of map or dataset.

0    Actual Value

| Units | Format | Range | Increment | Maximum Characters |
|-------|--------|-------|-----------|--------------------|
| Date | Date | N/A | N/A | See Appendix C |

**MRD    Map Revision Date  (DIGEST Status: Withdrawn/Rejected)**

Revision date of map or dataset.

0    Actual Value

| Units | Format | Range | Increment | Maximum Characters |
|-------|--------|-------|-----------|--------------------|
| Date | Date | N/A | N/A | See Appendix C |

**MSE    Map Sheet Edition  (DIGEST Status: Published FACC)**

Alphanumeric String containing the edition of the map sheet.

0    Actual Value

| Units | Format | Range | Increment | Maximum Characters |
|-------|--------|-------|-----------|--------------------|
| Text | ASCII Text | N/A | N/A | See Appendix C |

**N/A    No Attributes Required  (DIGEST Status: No Attributes Required)**

No attributes are required for this feature.

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**N/A    No Attributes Required  (DIGEST Status: No Attributes Required)**
No attributes are required for this feature.

**NA4    Country Code (FIPS Pub 10-4)  (DIGEST Status: Published FACC)**
A four character country identification code as designated in Federal Information Processing Standard (FIPS)  Pub 10-4, Countries, Dependencies, Areas of Special Sovereignty, and their Principal Administrative Divisions, identifying the country and the principal administrative division in which the feature is located.  The last two characters will be blank filled if principal administrative division information is not required.

    0    Actual Value

| Units | Format | Range | Increment | Maximum Characters |
| --- | --- | --- | --- | --- |
| Text | Lexical | N/A | N/A | See Appendix C |

**NAM    Name  (DIGEST Status: Published FACC)**
Any identifier or code.

    0    Actual Value

| Units | Format | Range | Increment | Maximum Characters |
| --- | --- | --- | --- | --- |
| Text | Lexical | N/A | N/A | See Appendix C |

**PEV    Position Evaluation  (DIGEST Status: Published FACC)**
Evaluation of the position accuracy of a Non-submarine contact.  Reference STANAG 3715.

    001    Accuracy <= 1 nautical mile (Published FACC)

    002    Accuracy > 1 nautical mile and <= 3 nautical miles (Published FACC)

    003    Accuracy > 3 nautical miles and <= 5 nautical miles (Published FACC)

    004    Accuracy > 5 nautical miles and <= 10 nautical miles (Published FACC)

    005    Accuracy uncertain (Published FACC)

**RAG    Non-submarine Contact Reporting Agency Type  (DIGEST Status: Published FACC)**
Classification of Non-submarine contact reporting source based on US Wreck List and NATO STANAG 3715.  Replicates attribute RAG in the Wreck List.

    000    Unknown (Published FACC)

    001    Survivor Report (Published FACC)

    002    Salvage Report (Published FACC)

    003    Casualty Report (Published FACC)

    004    Action Report (Published FACC)

    005    Photograph Report (Published FACC)

    006    US Coast & Geodetic Survey/National Ocean Service Report (Published FACC)

    007    US Naval Headquarters/Commands Report (Published FACC)

    008    Hydrographic/Admiralty Office (Published FACC)

    009    Wreck List (Published FACC)

    010    Chart Records (Published FACC)

    011    Coast Guard Records (Published FACC)

    012    Notice to Mariners (Published FACC)

    013    North Sea Fishing Charts (Published FACC)

    014    Chart (Published FACC)

    015    Minesweeper (Published FACC)

    016    Survey (Published FACC)

    017    Position Accurate Field Check (Published FACC)

    018    Sonar Report (Published FACC)

    019    MAD Report (Published FACC)

    020    Undifferentiated Sonar or MAD Report (Published FACC)

    997    Unpopulated (Published FACC)

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**RAG    Non-submarine Contact Reporting Agency Type  (DIGEST Status: Published FACC)**

Classification of Non-submarine contact reporting source based on US Wreck List and NATO STANAG 3715.  Replicates attribute RAG in the Wreck List.

998   Not Applicable (Published FACC)
999   Other (Published FACC)

**SDP    Source Description  (DIGEST Status: Published FACC)**

Title or description of source.

0    Actual Value

| Units | Format | Range | Increment | Maximum Characters |
|-------|--------|-------|-----------|--------------------|
| Text  | ASCII Text | N/A | N/A | See Appendix C |

**SFC    Sea Floor Feature Category  (DIGEST Status: Published FACC)**

Type of object or area on the sea floor or below the water surface.

000   Unknown (Obstruction) (Published FACC)
003   Fish Haven (Published FACC)
004   Well (Published FACC)
005   Submerged Production Platform (Published FACC)
006   Wreckage (Published FACC)
007   Shoaling (Published FACC)
008   Less Water Reported (Published FACC)
009   Unexploded Ordnance (Published FACC)
010   Unspecified Non-submarine Contact (Published FACC)
011   Pinnacle (Published FACC)
999   Other (Published FACC)

**SIN    Source Identification  (DIGEST Status: Published FACC)**

Alphanumeric string containing the map sheet, source name or source identification number.

0    Actual Value

| Units | Format | Range | Increment | Maximum Characters |
|-------|--------|-------|-----------|--------------------|
| Text  | ASCII Text | N/A | N/A | See Appendix C |

**SND    Sounding Category  (DIGEST Status: Published FACC)**

Condition of depth.

002   No Bottom Found (Published FACC)
009   Slant (Published FACC)
010   Ordinary (Published FACC)
999   Other (Published FACC)

**SOU    Exposition of Sounding  (DIGEST Status: Published FACC)**

Indicated whether the value of a sounding is shallower than, deeper than, or within the range depth of the surrounding depth area.

001   Within the range of depth of the surrounding depth area (Published FACC)
002   Shallower than the range of depth of the surrounding depth area (Published FACC)
003   Deeper than the range of depth of the surrounding depth area (Published FACC)

**SS1    First Source Sheet or Data Identifier  (DIGEST Status: Withdrawn/Rejected)**

This item contains the name of the first map sheet number or other source where a line feature crosses or runs along the source boundary, and requires a data quality description.

0    Actual Value

| Units | Format | Range | Increment | Maximum Characters |
|-------|--------|-------|-----------|--------------------|
| Text  | ASCII Text | N/A | N/A | See Appendix C |

D.3.3 TOD3 FACC Attribute Glossary (Continued)

**SS2    Second Source Sheet or Data Identifier  (DIGEST Status: Withdrawn/Rejected)**

This item contains the name of the second map sheet number or other source where a line feature crosses or runs along the source boundary, and requires a data quality description.

   0    Actual Value

| Units | Format | Range | Increment | Maximum Characters |
|---|---|---|---|---|
| Text | ASCII Text | N/A | N/A | See Appendix C |

**SVC    Sounding Velocity  (DIGEST Status: Published FACC)**

Indicates type of correction that has been added to, or subtracted from instrument reading to obtain correct depth.

   000   Unknown (Published FACC)
   001   Echo Sounder Calibrated at 4800 ft/sec Uncorrected (Published FACC)
   002   Echo Sounder Calibrated at 1500 m/sec Uncorrected (Published FACC)
   005   Corrected by other means of calibration (Published FACC)

**THL    Data Quality Thematic Layer  (DIGEST Status: Published FACC)**

The thematic layer identifier for each layer in the database.

   0    Actual Value

| Units | Format | Range | Increment | Maximum Characters |
|---|---|---|---|---|
| Text | ASCII Text | N/A | N/A | See Appendix C |

**TNG    Tonnage  (DIGEST Status: Published FACC)**

Tonnage of a sunken or stranded wreck, a hulk, or other vessel.  Reference STANAG 3715.

   0    Actual Value

| Units | Format | Range | Increment | Maximum Characters |
|---|---|---|---|---|
| Tons | Long Integer | N/A | 1 tn | N/A |

**TXT    Text Attribute  (DIGEST Status: Published FACC)**

Narrative or other description.

   0    Actual Value

| Units | Format | Range | Increment | Maximum Characters |
|---|---|---|---|---|
| Text | Lexical | N/A | N/A | See Appendix C |

**VCA    Void Collection Attribute  (DIGEST Status: Published FACC)**

Reason data is not collected.

   000   Unknown (Published FACC)
   001   Data Not Requested By User (Published FACC)
   002   Area Too Rough to Collect (Published FACC)
   003   No Available Imagery (Published FACC)
   006   No Available Map Source (Published FACC)
   007   No Suitable Imagery (Published FACC)

**VCT    Void Collection Type  (DIGEST Status: Published FACC)**

Identifies type of missing information.

   000   Unknown (Published FACC)
   001   Relief (Published FACC)
   999   Other (Published FACC)

**WKT    Wreck Type (DIGEST Status: Published FACC)**

Type of wreck as listed in Non Submarine Contacts list.  Reference STANAG 3715.

   000   Unknown (Published FACC)
   001   Anomalies (Published FACC)
   002   Aircraft (Published FACC)

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D.3.3 TOD3 FACC Attribute Glossary (Continued)

**WKT    Wreck Type  (DIGEST Status: Published FACC)**

Type of wreck as listed in Non Submarine Contacts list.  Reference STANAG 3715.

003    Auxiliary (Published FACC)

004    Battleship (Published FACC)

005    Barge (Published FACC)

006    Buoy (Published FACC)

007    Caisson (Published FACC)

008    Aircraft Carrier (Published FACC)

009    Cargo (Published FACC)

010    Subchaser (Published FACC)

011    Coaster (Published FACC)

012    Cruiser (Published FACC)

013    Ship Debris (plates, misc. metal) (Published FACC)

014    Destroyer, Destroyer Escort, Corvette (Published FACC)

015    Dredge (Published FACC)

016    Drill Vessel or Drill Rig (Published FACC)

017    Explosives (Published FACC)

018    Fishing Vessel (Published FACC)

019    Fishing Reef (Published FACC)

020    Ferry (Published FACC)

021    Frigate (Published FACC)

022    Gunboat (Published FACC)

023    Hospital Ship (Published FACC)

024    Hydrographic Survey, Air Cushion, Hydrofoil (Published FACC)

025    Junk (Published FACC)

026    Lash Vessel (Published FACC)

027    Landing Craft, Infantry (LCI) (Published FACC)

028    Gas Carrier, Natural Petroleum (Published FACC)

029    Landing Ship, Infantry (LSI) (Published FACC)

030    Landing Ship, Tank (LST) (Published FACC)

031    Lightship (Published FACC)

032    Minesweeper, Minelayer (Published FACC)

033    Net Tender (Published FACC)

034    Bulk Carrier (Published FACC)

035    Obstruction (Published FACC)

036    Passenger Cargo (Published FACC)

037    Patrol Boat (Published FACC)

038    Pinnacle Rock (Published FACC)

039    Roll On - Roll Off (Published FACC)

040    Sailing Ship (Published FACC)

041    Sea Bee, Lash Barge (Published FACC)

042    Submarine Float (Published FACC)

043    Submarine (Published FACC)

044    Survey Vessel (Published FACC)

045    Tanker (Published FACC)

046    Tender, Submarine, Airplane, Oil Rig (Published FACC)

047    Target (Published FACC)

048    Torpedo Boat (Published FACC)

049    Transport (Published FACC)

050    Tug (Published FACC)

D.3.3 TOD3 FACC Attribute Glossary (Continued)

**WKT   Wreck Type  (DIGEST Status: Published FACC)**

Type of wreck as listed in Non Submarine Contacts list.  Reference STANAG 3715.

051   Trawler (Published FACC)

052   Very Large Container (Published FACC)

053   Well Head (Published FACC)

054   Yacht (Published FACC)

998   Not Applicable (Published FACC)

**WSR   Source of report  (DIGEST Status: Published FACC)**

The source of a reported non-submarine contact.  Reference STANAG 3715.

000   Unknown (Published FACC)

008   Report SONAR verified (Published FACC)

009   Report MAD verified (Published FACC)

010   Japanese Naval and Merchant Losses during WW II By All Causes NAVEXOS P-468 (Published FACC)

011   US Losses - Director, Fleet Operations (Published FACC)

012   H.O. Files (Published FACC)

013   COMNAVPAC (Published FACC)

014   COMNAVFE (Published FACC)

015   H.O. Chart Reports and Charts (Published FACC)

016   H.O. Notice to Mariners (Published FACC)

017   Lloyds and Marine Underwriter's Reports (Published FACC)

018   The Imperial Japanese Navy in WW II (Published FACC)

019   U.S. Navy at War 1941-1945 (Published FACC)

020   German, Japanese, and Italian Submarine Losses in WW II (Published FACC)

021   Swedish Merchant Losses 1914-1920 (Published FACC)

022   H.O. Wreck Information List and Supplement dated 10 MAR 1945 and 30 SEP 1946 (Published FACC)

023   American Ship Casualties of WW I (Published FACC)

024   U.S. Coast Guard and Geodetic Survey Records (Published FACC)

025   Tenth Fleet Records (OP-374) (Published FACC)

026   Naval Losses of All Nations 9/3/39 - 8/15/45 (Published FACC)

027   Italian Naval and Merchant Losses, WW II (Published FACC)

028   List of Danish War Losses 1914 - 1918 (Published FACC)

029   British Merchant Vessels Captured or Destroyed by Enemy Action 1914 - 1918 (Published FACC)

030   Abstracts of Losses 1914 - 1918 (Published FACC)

031   British and Foreign Merchant Ships Lost During WW II (Published FACC)

032   A List of Neutral Ships Sunk by Germany (Published FACC)

033   Greek Losses WW II (Published FACC)

034   Italian Naval Losses - WW I (Published FACC)

035   Spanish Merchant Losses - WW I (Published FACC)

036   Netherlands Merchant Losses - WW I (Published FACC)

037   Italian Merchant Losses - WW I (Published FACC)

038   Maritime Declarations for Norwegian Ships for War Losses 1914 - 1918 (Published FACC)

039   Reports of Known Wrecks by U.S. Coast Guard Districts 1950 (Published FACC)

040   France - Naval and Merchant Losses during WW I (Published FACC)

041   Sonar Reports and MAD Reports, U.S. Navy (Published FACC)

042   Maritime Commission also ONI List WW I (Published FACC)

043   Smaling Soforklaringer - Danish Ship War Losses 1914 - 1918 (Published FACC)

D.3.3 TOD3 FACC Attribute Glossary (Continued)

**WSR    Source of report  (DIGEST Status: Published FACC)**

The source of a reported non-submarine contact.  Reference STANAG 3715.

044    Merchant Vessels of the U.S. Lost (Commerce Department) (Published FACC)

045    Naval Chronology WW II (Published FACC)

046    Ship Visit Reports (Published FACC)

047    Spanish Hydrographic Office (Published FACC)

048    British Admiralty Wreck Charts 1921 (Published FACC)

049    Swedish Board of Shipping and Navigation, Hydrographic Dept. (Published FACC)

050    British Admiralty Wreck Charts, 1961 (Published FACC)

051    Portugal Hydrographic Office (Published FACC)

052    Italian Navy Survey (Published FACC)

053    State of Shipping Casualties (Resulting in total loss in St. Lawrence River and Gulf, on the Atlantic Coast from 1896 up to date) (Published FACC)

054    Italian Naval Surveys Charts and Lists (Published FACC)

055    ONI (Published FACC)

057    R.C.N. Wreck List (RCN Pub. 272) (Published FACC)

058    Dutch Wreck List (Published FACC)

059    North Sea Fishing Charts (Published FACC)

060    Photographs of Pinnacles and Miscellaneous Metals (Published FACC)

061    Coast and Geodetic Survey (National Ocean Survey) Charts (Published FACC)

062    Radio Navigation Warning (Published FACC)

063    OMAN National Hydrographic Office (Published FACC)

998    Not Applicable (Published FACC)

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CONCLUDING MATERIAL


Custodian:                                            Preparing Activity
Navy – NO                                             NGA – MP
                                                      (Project GINT-0361)




NOTE: The activities listed above were interested in this document as of the
date of this document.  Since organizations and responsibilities can change,
you should verify the currency of the information above by using the ASSIST
Online database at http://assist.daps.dla.mil/.