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Note: The document identifier and heading has been changed on this page to reflect that this is a performance specification. There are no other changes to this document. The document identifier on subsequent pages has not been changed, but will be changed the next time this document is revised.

# PERFORMANCE SPECIFICATION
# VECTOR SMART MAP (VMap) Level 0

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

## 1. SCOPE

1.1

1.2 Purpose. This product specification provides a description of the content, accuracy, data format, and design of the VMap Level 0 product. Conformance to these specifications will assure uniformity of treatment among all mapping and charting elements engaged in a coordinated production and maintenance program for this product.

1.3 Security.

1.3.1 Security classification of specification. This product specification is UNCLASSIFIED.

1.3.2 Security classification of product. The CD-ROMs (Compact Discs - Read Only Memory) containing VMap Level 0 data are UNCLASSIFIED.

**Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Director, Defense Mapping Agency, ATTN: PR, Mail Stop A-13, 8613 Lee Highway, Fairfax, VA 22031-2137 by using the Standardization Document Improvement Proposal (DD Form 1426) or by letter.**

**AMSC N/A** **AREA MCGT**

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2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 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 listed in the current Department of Defense Index of Specifications and Standards (DODISS) and the supplement thereto, cited in the solicitation (see 6.2).

STANDARDS

MILITARY

| | | |
|---|---|---|
| MIL-STD-490R | - | Specification Practices |
| MIL-STD-600001 | - | Mapping, Charting & Geodesy Accuracy Standard, 26 February 1990 |
| MIL-STD-2407 | - | Vector Product Format, 1993 |
| MIL-STD-600010 | - | DMA Stock Number Bar Coding |

(Unless otherwise indicated, copies of federal and Military Specifications, standards, and handbooks are available from the Standards Documents Order Desk, Bldg. 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the document versions are those cited in the solicitation.

DMA SPECIFICATIONS

Digital Geographic Information Exchange Standard, Part 4: Feature and Attribute Coding Catalog (FACC) Edition 1.2, January 1994.

DMA Technical Manual (DMA TM) 8358.1 - Datums, Ellipsoids, Grids, and Grid Reference Systems. (Stock Number DMATR 8351 TEXT)

DMA Technical Manual (DMA TM) 8350.2 - Department of Defense World Geodetic System, 1984. (Stock Number DMATR 8350 WGS 84)

(These publications are available from DMA by writing to: Defense Mapping Agency, Combat Support Center, ATTN: DDCP, 6001 MacArthur Blvd., Bethesda, MD 20816-5001.)

2.2 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

Bureau of the Budget, United States National Map Accuracy Standard, GPO, 1947.

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(This standard is printed in its entirety in Thompson, Morris M., Maps for America, U.S. Geological Survey, Third Edition, 1988, page 104.)

ISO 9660. 1988 (E). International Organization for Standardization Information Processing - Volume and File Structure of CD-ROM for Information Interchange. First Edition, 1988.

(Application for copies should be addressed to the American National Standards Institute, 1430 Broadway, New York, NY 10018.)

(Non-government standards and other publications are normally available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other information services.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein (except for related associated detail specifications, specification sheets, or MS standards), 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 Accuracy.

3.1.1 Absolute horizontal accuracy. This represents the difference between the recorded horizontal coordinates of features and their true positions. Absolute horizontal accuracy is expressed as a circular error at 90 percent probability (.9p).

The absolute horizontal accuracy of VMap Level 0 for all features derived from Operational Navigation Charts (ONCs) is 2,040 meters rounded to the nearest 5 meters at 90 percent circular error (CE), World Geodetic System (WGS 84). The absolute horizontal accuracy of VMap Level 0 for all features derived from Jet Navigation Charts (JNCs) is 4,270 meters at 90 percent circular error.

3.1.2 Absolute vertical accuracy. This represents the difference between an assigned elevation and the true elevation at a specific point. In this comparison, both elevations must be referenced to mean sea level (MSL). A point's elevation may be determined through interpolation of the digital contour file or it may be listed as a vertex coordinate of a feature.

For VMap Level 0 derived from cartographic source, vertical elevation values shall be filled with the VPF null (NaN), as defined in the VPF Mil-Standard Section 5.5.2, unless an elevation value is provided on the source material.

The absolute vertical accuracy of VMap Level 0 is the same as for the original ONC and JNC lithographs at 90 percent linear error (LE), mean sea level.

a. Contour accuracy. The accuracy of contours collected from ONC source is ±152.4 meters.

b. Spot elevations. The accuracy of spot elevations collected from ONC source is ±30 meters.

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3.1.3 Relative accuracy. DMA does not have a formal relative accuracy objective for this product.

3.2 Datum.

3.2.1 Horizontal datum. The horizontal datum for this VMap product shall be WGS84 as identified in DMA TM 8350.2.

3.2.2 Vertical datum. The vertical datum for this VMap product shall be mean sea level (MSL).

3.3 Data density levels.

a. VMap Level 0 data are collected at a density of detail that approximates that of DMA Standard small scale products.

b. Based on its data collection density, if VMap Level 0 data are to be output in hard-copy form, the appropriate scale for this output is at 1:1,000,000.

3.4 Database source and extent. The geographic extent of the VMap Level 0 product is global and consists of multiple regional databases. VMap Level 0 data from standard DMA source products are derived from the feature content defined in the associated military specification. Exceptions to the defined feature content may be found in this specification.

3.5 Continuity. All VMap Level 0 data are subject to the inclusion conditions specified in Appendix section 80.

a. Each VMap database shall be organized into VPF libraries such that a seamless product is produced where data are present. No data overlap may exist in the libraries of this VMap database.

b. Where data collection procedures require individual source sheets, digital files or other media to be combined, features crossing source boundaries shall be continuous whenever possible. Exceptions to this rule occur when more current source data are used and the feature position or presence has changed, or a mismatch occurs due to different specifications of the incorporated source data. In these cases, a discontinuity along a source boundary shall occur and be documented in the Data Quality coverage.

3.6 Thematic layer organization. VMap Level 0 products are organized into thematic layers. Each VMap thematic layer is stored as a single coverage within a VPF library. There are two reference coverages and ten thematic coverages in the data library level (TABLE 1), and one reference coverage and three thematic coverages in the reference library (TABLE 1).

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TABLE 1. VMap coverages by VPF structure level.

| VPF Structure Level | VMap Coverages (thematic layers) | Coverage (Directory) Name |
|---|---|---|
| Reference Library | Library Reference | libref |
| | Database Reference | dbref |
| | Political Entities | polbnd |
| | Place Names | placenam |
| Data Libraries | Library Reference | libref |
| | Tile Reference | tileref |
| | Boundaries | bnd |
| | Data Quality | dq |
| | Elevation | elev |
| | Hydrography | hydro |
| | Industry | ind |
| | Physiography | phys |
| | Population | pop |
| | Transportation | trans |
| | Utilities | util |
| | Vegetation | veg |

3.7 Dimensions.

3.7.1 Unit of measure. The unit of measure for VMap is metric.

3.8 Feature and attribute coding scheme. VMap Level 0 implements the Digital Geographic Information Exchange Standard (DIGEST) Feature Attribute Coding Catalog (FACC). See Appendix section 80 for a listing of the FACC feature codes and attribute codes allowable for VMap Level 0 thematic files.

a. Unknown, not applicable and null values. In cases where FACC does not assign an unknown or null attribute value, and one is required to populate a field, refer to data dictionary tables in Appendix section 80 for the appropriate unknown and null value for the attribute column.

(1) Unknown value condition. The FACC system supports the use of an attribute value that signifies an "unknown" condition. Generally, with few exceptions, FACC implements a value of 0 to represent an unknown data condition for integer values. For text data types, the field will contain the characters "UNK".

During data capture, it may not be possible to determine the value of an attribute using the inclusion conditions or collateral data sources. When FACC provides an attribute value to support the "unknown" condition, it must be used. In cases where the "0" value is already used to represent a valid number, an alternative value is needed to represent the unknown condition. These values may be found in Appendix section 80.

(2) Null value conditions. Some features classes may have attribute columns present in the feature table which are defined for some features, but not others. In this case a

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null value is entered for those attribute values when they do not apply to the feature code. The convention for implementing the null value for FACC is based on the VPF-defined null.

In general, the maximum negative value is used to represent a null value for integer and an "N/A" for fixed length text data types. For variable length text data types (T*), a zero-length null is used. The null value will be present in a field when an attribute column is not defined for a feature code.

3.9 Coordinate system. VMap data shall be stored in decimal degrees as geographic coordinates with southern and western hemispheres having a negative sign for latitude and longitude, respectively. The horizontal resolution for geographic coordinates shall be stored to the equivalent precision of 0.1 arc-seconds or 0.00002 decimal degrees.

3.10 Data format. VMap Level 0 shall be produced in Vector Product Format (VPF), which provides a standard format for storing digital vector cartographic data. Refer to the VPF military standard (MIL-STD-2407) for more detail on VPF format and structure. This specification provides guidance for the specific implementation of VMap Level 0 in VPF.

3.11 Database description. Each VMap database is a vector-based product implemented in VPF. This product is designed to support Geographic Information System (GIS) applications with geographic data at small resolution. Data at this resolution are separated into ten thematic layers, where each layer contains thematically consistent data. The VMap thematic layers are organized into coverages contained in VPF libraries (see TABLE 1). The VMap database also contains a reference library containing generalized data coverages to orient the user to the database. Each coverage contains a set of files that describe the features in that thematic layer.

3.11.1 File structure. VMap Level 0 data shall utilize the standard Disk Operating System (DOS) directory structure as specified in the VPF Military Standard.

3.11.2 Distribution medium. VMap will be distributed on CD-ROM disc implementing ISO 9660 for CD-ROM formatting. Multiple libraries may exist on one CD-ROM. Each library shall be fully contained on a single disc.

3.12 VPF table and file structure. Three types of VPF files are implemented in this VMap database: directories, tables, and indices.

3.12.1 Directories. All VMap Level 0 database files and tables are contained in a hierarchy of system-level directories in accordance with the VPF standard. Contained within these directories are the tables and indexes that provide information about the database.

3.12.2 VPF tables. Each directory within the VMap Level 0 database contains VPF tables as defined in the VPF Mil-Standard (MIL-STD-2407).

3.12.3 Indices. The VMap Level 0 product contains four types of indices: spatial indices, thematic indices, variable-length indices and feature index tables. The structure and format of indices are defined in MIL-STD-2407. A bucket size of 8 shall be used for the creation of spatial indices.

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3.13 VMap directory organization.

3.13.1 VMap digital files are organized into four VPF structure levels: Database, Library, Coverage, and Feature Class (See FIGURE 1). Database, Library, and Coverage are represented as directories. The Feature Class Level is represented by a group of files stored at the coverage level. A feature class is defined as a group of features that share a homogeneous set of attributes and consists of one or more primitive tables and one or more attribute tables. If a coverage is tiled, these primitive tables will be stored in subdirectories of the coverage directory. There shall be only one database directory in the VMap Level 0 database. The VMap database directory shall be duplicated on each CD-ROM where one or more library directories are present. Each database contains two types of libraries: data libraries and one reference library. Within each library, there are reference coverages and thematic coverages.

3.13.2 The VMap reference library directory (**rference**) shall contain three thematic coverage directories. These coverages are not tiled. VMap data library directories shall contain up to ten thematic coverage directories. Library directory names reflect the geographic content of the library and will be provided to the producer as part of the source package.

3.13.3 VMap thematic data at the VPF coverage level in each data library are tiled in order to manage the large amounts of data. Therefore, primitive files are stored in a hierarchy of tile directories under each VPF coverage directory. See section 3.15 for the VMap level 0 tiling scheme.

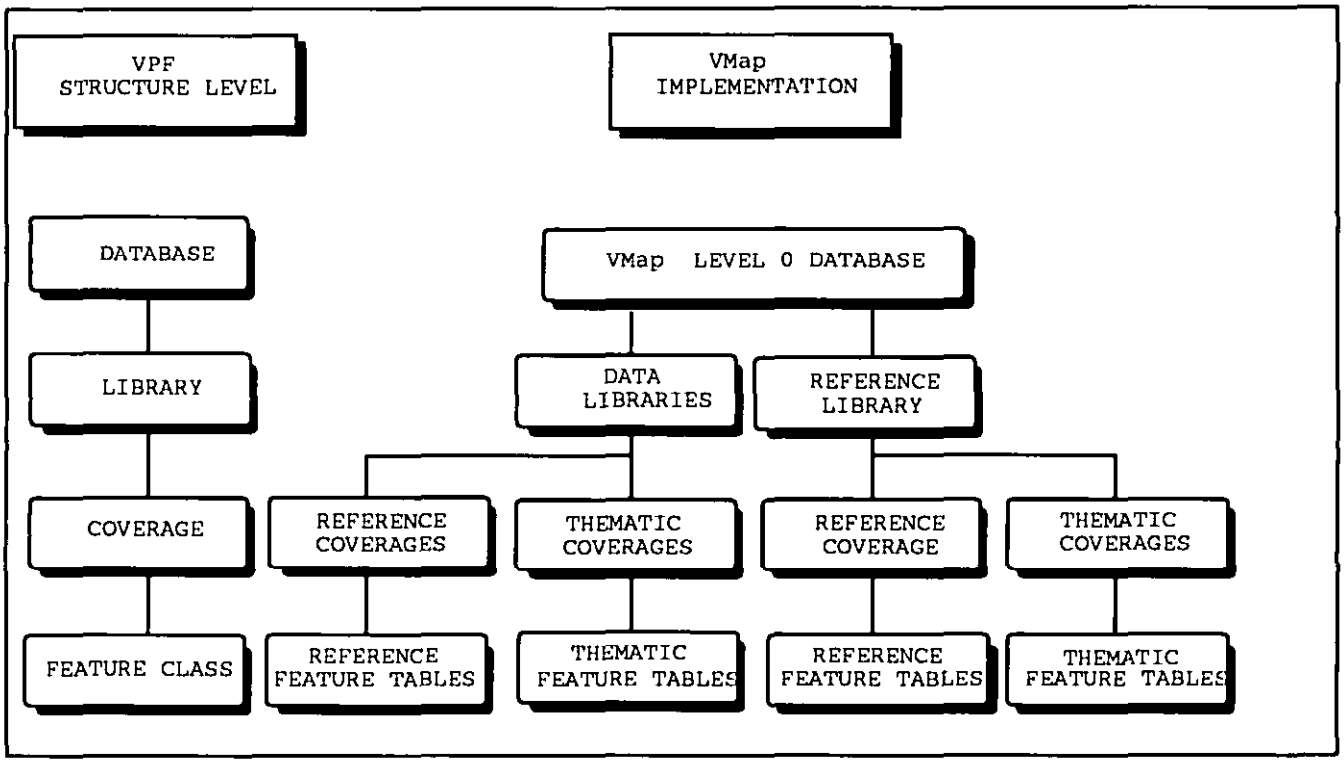


FIGURE 1. VPF structure levels and VMap implementation.

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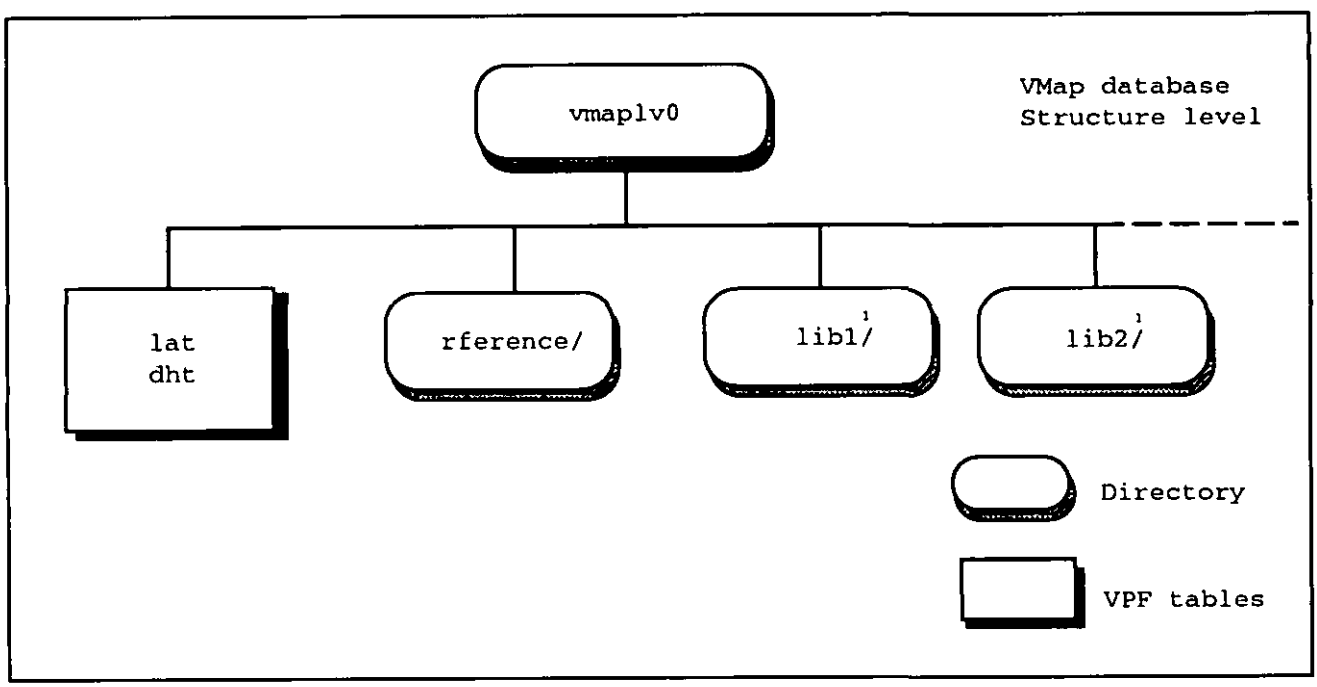
3.14 VPF structure levels, tables, and files. The following sections present the tables and files according to VPF structure level. The structure levels are presented as follows: database, library, coverage, and feature class. All directory names and file names shall be represented in lowercase letters. Each VPF directory contains VPF tables and files that provide information about the VMap database. Some files contain geographic data represented as spatial and tabular files. Other files contain metadata that provide descriptive information about the database and are represented as tabular files. The record layout and content of the VMap Level 0 tables and files are described in Appendix sections 40 through 80.

3.14.1 Database directory files. The VMap database contains one database directory. The database directory name shall be represented in lowercase letters. The database directory shall be present on each CD-ROM disc containing VMap Level 0 libraries, and it shall be the first file appearing on a CD-ROM. The tables and files contained in the VMap database directory are described below. A representation of the tables and files appearing in the VMap database level are depicted in FIGURE 2.




[1]These are representative directory names for VMap libraries.

FIGURE 2. VMap database directory.

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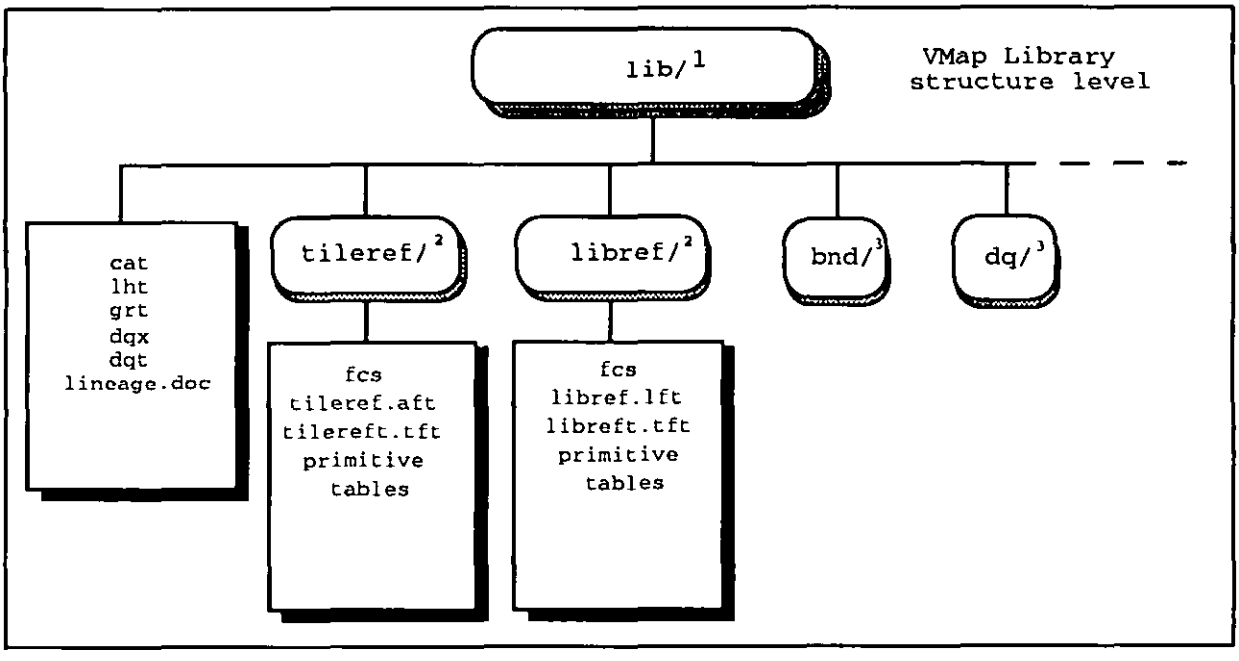
TABLE 2. VMap database table and file names and description.

| Table or File Description | Table or File Name |
|---|---|
| VMap database directory | vmaplv0/ |
| Library Attribute Table | lat |
| Database Header Table | dht |
| Reference Library | rference/ |
| VMap Level 0 library directories | lib/[1] |

[1]This is a representative directory name for a VMap library.

3.14.2 Library directory files. The contents of each VMap library are stored in a directory whose name shall be represented in lowercase letters no more than eight characters in length. The entire contents of one or more VMap libraries shall be contained on a CD-ROM. A representation of the tables and files present in a VMap library is given in FIGURES 3 and 4.




[1]These are representative directory names for VMap libraries.
[2]These represent reference coverage directories.
[3]These represent thematic coverage directories.

FIGURE 3. VMap data library structure.

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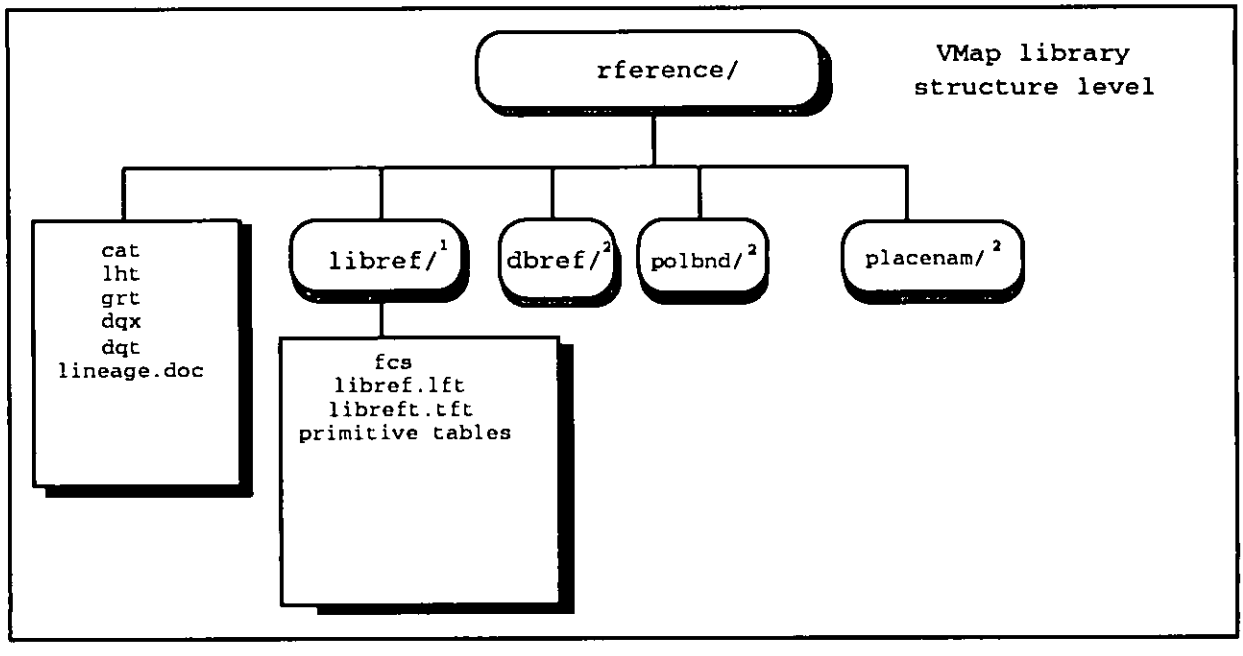


[1]Reference coverage directories.
[2]Thematic coverage directories.

FIGURE 4. VMap reference library structure.

a. Library metadata. Each library directory shall contain five required metadata tables and one variable-length index. These include the coverage attribute table (**cat**), library header table (**lht**), geographic reference table (**grt**), data quality index (**dqx**), data quality table (**dqt**), and lineage narrative table (**lineage.doc**). Each VMap library must contain these six VPF files. Content and format for the **cat**, **lht**, **grt**, **dqt** and **dqx** are defined MIL-STD-2407. Product specific content information is defined in the Appendix Section 70 to this specification.

The **lineage.doc** table is a data quality file related to the **dqt** which describes how the data were processed for the database. It provides a textual description of the procedures used to collect the data in each VMap library, including special processing techniques, processing tolerances, feature interpretation rules, and basic production quality assurance procedures, feature integration schemes, and database design issues. This information is common to all coverages in the library.

b. Library coverages. Each tiled VMap Level 0 library shall contain a Tile Reference Coverage (**tileref**) and a Library Reference Coverage (**libref**) as defined in MIL-STD-2407.

The **rference** library is untiled and shall contain a Library Reference coverage (**libref**).

The VMap Level 0 **libref** coverages shall be based on representative transportation and political/administrative boundary information in the library area.

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TABLE 3. VMap library tables, file names, and description.

| Table or File Description | Table or File Name |
|---|---|
| Directory | vmaplv0/lib/[1] |
| Coverage Attribute Table | cat |
| Library Header Table | lht |
| Geographic Reference Table | grt |
| Data Quality Index File | dqx |
| Data Quality Table | dqt |
| Lineage Documentation File | lineage.doc |
| Tile Reference Coverage Directory | vmaplv0/lib/tileref/ |
| Feature Class Schema Table | fcs |
| Tile Reference Area Feature Table | tileref.aft |
| Tile Reference Text Feature Table | tilereft.tft |
| Primitive Tables[2] | primitive table and indices |
| Library Reference Coverage Directory | vmaplv0/lib/libref/ |
| Feature Class Schema Table | fcs |
| Library Reference Line Feature Table | libref.lft |
| Library Reference Text Feature Table | libreft.tft |
| Primitive Tables[2] | primitive tables and indices |

[1]This is a representative directory name for VMap libraries.
[2]Primitive tables are described in 3.14.5.

3.14.3 Coverage directory files. All thematic coverages are contained within a library directory. All VMap Level 0 thematic coverages share the same coordinate system, are spatially registered to one another, and contain tiled primitive tables. A list of the VMap Level 0 coverage directories and a brief description are shown in TABLE 4. A representation of the tables and files in the data coverages are depicted in FIGURE 5. A representation of the tables and files in the reference library coverages is depicted in FIGURE 6.

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TABLE 4. Directories and descriptions for VMap Level 0 thematic coverages.

| Library | Coverage Description | Coverage Name |
|---|---|---|
| Data Libraries | Library Reference | libref |
| | Tile Reference | tileref |
| | Boundaries | bnd |
| | Data Quality | dq |
| | Elevation | elev |
| | Hydrography | hydro |
| | Industry | ind |
| | Physiography | phys |
| | Population | pop |
| | Transportation | trans |
| | Utilities | util |
| | Vegetation | veg |
| Reference Library | Library Reference | libref |
| | Database Reference | dbref |
| | Political Entities | polbnd |
| | Place Names | placenam |

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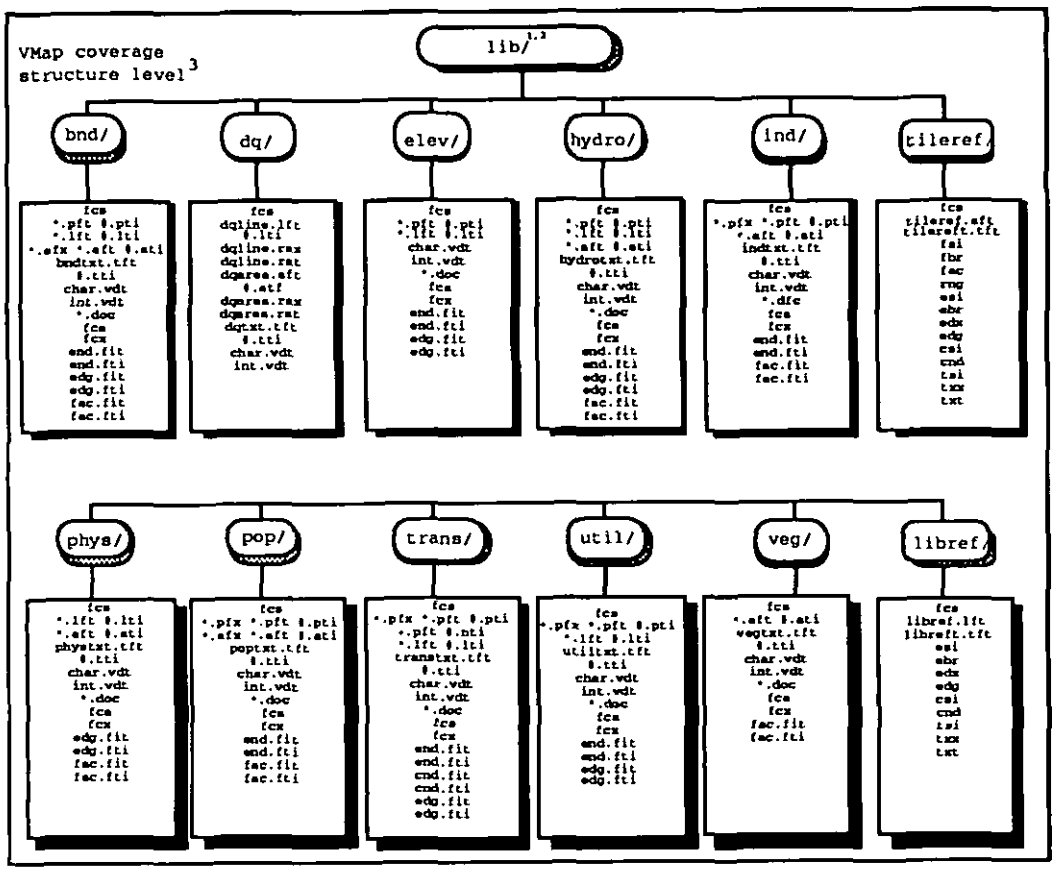


1 This is a representative VMap library directory name.
2 The actual combination of tables in each coverage is based on the features present within the coverage for that library.
3 Primitive information is stored in tile subdirectories under each coverage.
* The asterisk is replaced with the prefix of the point, line, or area feature class name.
\+ The plus is replaced with the prefix of the node feature class name that has the same file extensions as the point feature tables.
\# The pound is replaced with the prefix of the thematic index name, which is based on the column name to which the index refers.

FIGURE 5. VMap Level 0 data library roadmap.

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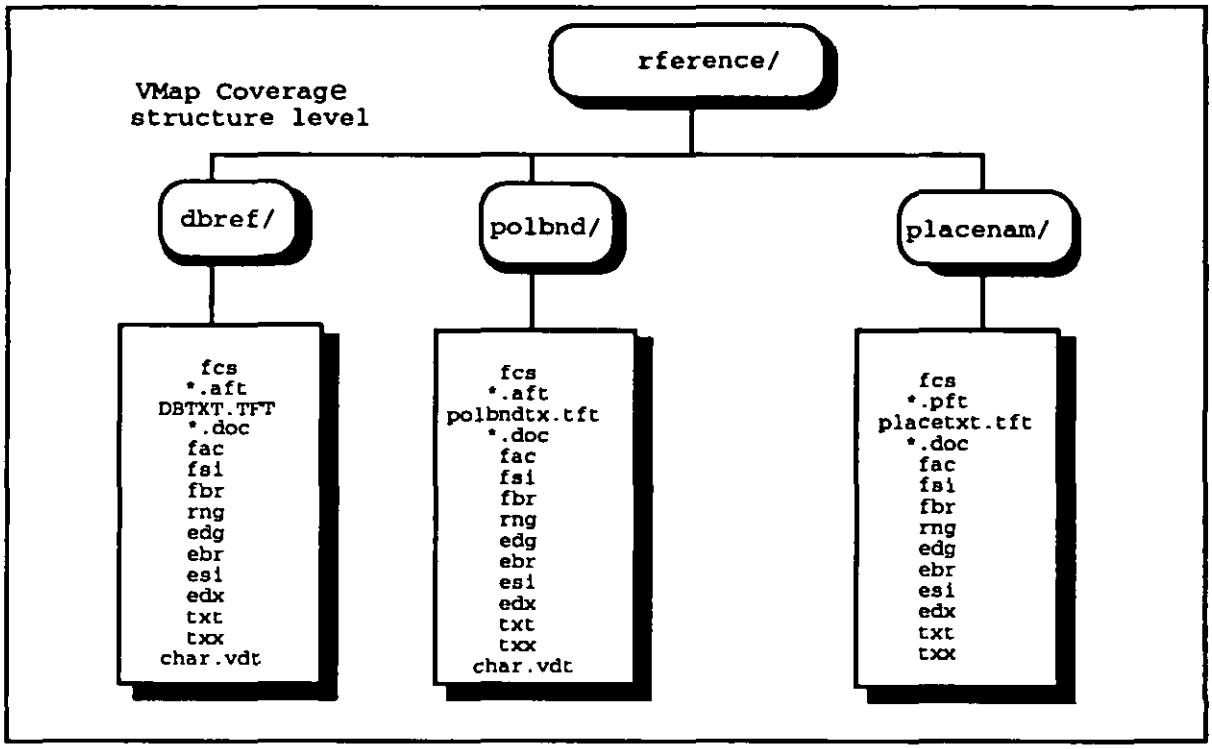


* The asterisk is replaced with the prefix of the point, node, line, or area feature class name.

FIGURE 6. VMap Level 0 Reference Library roadmap.

a. Coverage metadata. The metadata tables and their content will vary with each coverage. Each coverage directory shall contain one feature class schema table (**fcs**). All coverages that contain feature tables having the FACC feature code column will have a character value description table (**char.vdt**). If FACC coded attributes are present, the description of their values will be defined in an integer value description table (**int.vdt**). Other optional metadata tables include documentation tables (e.g., ***.doc**) that provide data quality information in textual format pertaining to the coverage, a feature table, or an attribute column. Content and format for these tables are defined in MIL-STD-2407. Product specific content information is provided in the Appendix, Sections 70 and 80, to this specification.

For VMap Level 0 data libraries, all coverages except **tileref**, **libref** and **dq** shall implement feature indices (feature index tables (**fit**) and a feature class attribute (**fca**) table). Examples of a **fca** and **fit** for VMap Level 0 are provided in Tables 6 and 7.

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TABLE 5. VMap coverage metadata tables and description.

| Metadata Tables | Description |
|---|---|
| <coverage name> | Directory File |
| fcs | Feature class schema table |
| FEATURE TABLES | Point, node, line, or area feature tables and indexes |
| char.vdt | Character value description table |
| int.vdt | Integer value description table |
| <coverage>.doc | Documentation table for a coverage |
| <feature class>.doc | Documentation table for a feature class |
| <attribute>.doc | Documentation table for an attribute within a feature class |
| fca | Feature class attribute table |

TABLE 6. Feature class attribute table (**fca**) definition.

| | | | |
|---|---|---|---|
| {Header length}L; | | | |
| 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,-,-,-,:; | | | |
| 1 | dangerp | p | Danger Point Features |
| 2 | watrcrsl | l | Water Courses |
| 3 | inwatera | a | Inland Water Areas |
| : | : | : | : |
| n | n | n | n |

TABLE 7. Format and example of content for feature index table (**fit**).

| | | | | |
|---|---|---|---|---|
| {Header length}L; | | | | |
| Feature Index Table;-; | | | | |
| id=I,1,P,Row Identifier,-,-,-,: | | | | |
| prim_id=I,1,N,Primitive ID,-,*_fit1.fti,-,: | | | | |
| tile_id[1]=S,1,N,Tile Reference ID,-,*_fit2.fti,-,: | | | | |
| fc_id=I,1,N,Feature Class ID,-,*_fit3.fti,-,: | | | | |
| feature_id=I,1,N,Feature Table ID,-,*_fit4.fti,-,:; | | | | |
| 1 | 23 | 1 | 8 | 1 |
| 2 | 189 | 1 | 4 | 56 |
| 3 | 566 | 4 | 6 | 787 |
| 4 | 76 | 3 | 5 | 452 |
| : | : | : | : | : |
| n | n | n | n | n |

[1] This column will not be present for untiled coverages.

Note: For the thematic index name, replace the * with the primitive table name being indexed (ex. **edg_fit1.fti**).

Documentation tables. Documentation (or narrative) tables provide data quality information that describes how the data were processed for a coverage. Topics can include processing

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tolerances, feature interpretation rules, and basic production quality assurance procedures. Three levels of documentation tables may be present in a coverage. These levels include coverage, feature class, and attribute. The presence of documentation tables will vary with each VMap Level 0 coverage.

<Coverage> documentation table. Each coverage may have an optional documentation table. If present, this table shall be named so that the prefix contains the same name as the coverage, and the suffix is **.doc**. This table may contain information that pertains to the lineage and data quality characteristics in general for all features for the coverage.

<Feature class> documentation table. Any feature class table may have an associated documentation table, <feature class>.**doc**, which is referenced in the feature class table header. Information in this table will pertain to all features in the feature class. The documentation table prefix will reflect the appropriate feature class.

<Attribute> documentation table. Any attribute column defined in a feature table may have an associated documentation table, <attribute>.**doc**, which may be referenced in the header of the table and associated with the particular attribute column definition. This table contains information pertaining to that attribute or its values. The documentation table prefix will reflect the appropriate attribute column name. If documentation tables are created for the same attribute column in multiple feature class tables within a coverage, each will have a separate documentation file identified by a unique prefix.

b. Data coverages. There are up to ten thematic coverage directories present in any VMap data library. Within a library, coverage directories shall not be included if no data exists for that coverage within the library's geographic area. The contents of each VMap Level 0 data coverage are stored in a directory whose name shall be represented in lowercase letters with a three-to-five-character name representative of the thematic layer name (i.e., **bnd** for Boundaries coverage, **trans** for Transportation), as shown in FIGURE 5. There are three thematic coverage directories present in the VMap reference library. The coverage directory names contain from five to eight characters as shown in FIGURE 6.

c. Coverage topology. The topology level of each coverage within a library is defined by the types of feature classes present (see 3.14.4). A coverage with level 0 topology can contain point and line feature classes. There are no topological relationships between primitives. Coverages with level 2 topology must contain a line feature class and may also contain a point feature class. Level 3 topology coverages must contain faces. The topology level of each coverage within a library is specified in the library's coverage attribute table (**cat**). The number specified in the **level** column represents the topology level for the entire coverage regardless of the type of data present. For example, if area features are not present in a particular Vegetation coverage,

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level 3 topology will still be built for the coverage based on the value of "3" specified in the **cat** in the level column for the Vegetation coverage. Topology is not supported between coverages.

3.14.4 Feature class structure level.

3.14.4.1 Feature class definition. A feature class is defined as a group of features sharing a homogeneous set of attributes and consists of one or more attribute tables and one or more primitive tables. These primitive tables store the spatial or geometric information defining the location of features. In tiled coverages, primitive tables are stored in subdirectories of the coverage directory. Each coverage shall contain at least one feature class. Although a feature class is considered to be a structure level of VPF, along with the data bases, library, and coverage levels, feature classes are not represented as directories. Rather, the feature class level is represented by a combination of files stored at the coverage level.

The definition of all possible features and attributes for each feature class in a VMap Level 0 coverage is presented in Appendix section 80.

a. Feature class types. The VMap database contains five types of feature classes as defined by MIL-STD-2407: point, node, line, area, and text. The suffixes for each feature class type are shown in TABLE 8. The node feature class is a subtype of the point feature class.

TABLE 8. Feature table suffixes.

| | |
|---|---|
| Point Feature Table | .pft |
| Node Feature Table | .pft |
| Line Feature Table | .lft |
| Area Feature Table | .aft |
| Text Feature Table | .tft |

b. Feature class/feature table names. Feature class names and descriptions are product specific. Feature class names for VMap Level 0 thematic coverages are shown in Table 9.

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TABLE 9. VMap Level 0 thematic coverages and feature classes.

| Coverage Name | Feature classes | | | | |
|---|---|---|---|---|---|
| | Point | Node | Line | Area | Text |
| bnd | polbndp | | barrierl<br>coastl<br>depthl<br>polbndl | oceansea<br>polbnda | bndtxt |
| dq | | | dqline | dqarea | dqtxt |
| elev | elevp | | contourl | | |
| hydro | dangerp<br>miscp | | aquecanl<br>dangerl<br>miscl<br>watrcrsl | inwatera | hydrotxt |
| ind | extractp<br>misindp<br>storagep | | | extracta<br>fishinda | indtxt |
| phys | | | cutfill<br>lndfrml | grounda<br>landicea<br>seaicea | phystxt |
| pop | builtupp<br>mispopp | | | builtupa<br>mispopa | poptxt |
| trans | aerofacp<br>rryardp | transtrc | mistranl<br>railrdl<br>roadl<br>traill<br>transtrl | | transtxt |
| util | utilp | | pipel<br>utill | | utiltxt |
| veg | | | | cropa<br>rangea<br>swampa<br>treesa | vegtxt |

**Note:** Additional data quality point, node, line, area, and text feature classes may be implemented for all coverages (except **dq**) where desired.

c. Number of feature classes. The complete set of possible feature classes within each coverage is described in this specification; however, only those feature classes containing data shall be present in a coverage. The presence or absence of a feature class depends upon data content and availability.

d. Text feature symbology. The text feature class has an associated related attribute table called the **symbol.rat**. This table contains information that may be used to replicate the font, style, and point size of text strings found on an original ONC map sheet or other source for representation on a plot or subsequently

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printed map. 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 the MIL-STD-2407.

3.14.4.2 Feature table structure and contents. All feature tables (in tiled coverages) have the same structure. Each contains a row identifier column (or **id**) followed by an "**f_code**" attribute column. The **f_code** field for each record contains a five-character FACC code value. The heading of subsequent attribute columns, if present, is a three-character FACC attribute code. The attribute fields for each record will contain representative values for the corresponding **f_code**. Following the last FACC attribute code column there is a **tile_id** column. This column contains the row **id** of the tile reference area feature table record where the tile path name is stored and references the location of a primitive table. The last column in every feature table is a primitive identifier column which contains primitive record identifier for the feature record. This column is identified as ***_id** (the * is replaced with the **end**, **cnd**, **edg**, **fac**, or **txt** primitive table name). Sample point, node, line, area, and text feature tables are presented in TABLES 10 to 14.

TABLE 10. Format and example of content for a tiled point feature table (**elevp.pft**).

```
{HEADER LENGTH}L;
ELEVATION 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,-,-,:
ela=S,1,N,ELEVATION ACCURACY,int.vdt,-,-,:
zv2=S,1,N,HIGHEST Z-VALUE (METERS),int.vdt,-,-,:
tile_id[1]=S,1,N,TILE REFERENCE ID,-,tile1_id.pti,-,:
end_id=I,1,N,ENTITY NODE PRIMITIVE ID,-,end1_id.pti,-,:;
```

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | CA030 | 1 | 1 | 100 | 1 | 1 |
| 2 | CA035 | 2 | 1 | 56 | 2 | |
| : | : | : | : | : | : | : |
| N | N | N | N | N | N | N |

[1]This column will not be present for untiled point feature tables.

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TABLE 11. Format and example of content for a tiled node feature table (transtrc.pft).

```
{Header length}L;
Transportation Structures Node Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code1.nti,-,:
tuc=S,1,N,Transportation Use Category,int.vdt,-,-,:
tile_id[1]=S,1,N,Tile Reference ID,-,tile1_id.nti,-,:
cnd_id=I,1,N,Connected Node Primitive ID,-,cnd1_id.nti,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | AQ040 | 4 | 1 | 1 |
| : | : | : | : | : |
| n | n | n | n | n |

[1]This column will not be present for untiled node feature tables.

TABLE 12. Format and example content for a tiled line feature table (watrcrsl.lft).

```
{Header length}L;
Water Course Line Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:
hyc=I,1,N,Hydrological Category,int.vdt,-,-,:
tile_id[1]=S,1,N,Tile Reference ID,-,tile1_id.lti,-,:
edg_id=I,1,N,Edge Primitive ID,-,edg1_id.lti,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | BH140 | 8 | 1 | 1 |
| : | : | : | : | : |
| n | n | n | n | n |

[1]This column will not be present for untiled line feature tables.

TABLE 13. Format and example content for a tiled area feature table (inwatera.aft).

```
{Header length}L;
Inland Water Area Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code2.ati,-,:
hyc=S,1,N,Hydrological Category,int.vdt,-,-,:
tile_id[1]=S,1,N,Tile Reference ID,-,tile2_id.ati,-,:
fac_id=I,1,N,Face Primitive ID,-,fac2_id.ati,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | BH090 | 6 | 1 | 2 |
| 2 | BH000 | 8 | 2 | 3 |
| : | : | : | : | : |
| n | n | n | n | n |

[1]This column will not be present for untiled area feature tables.

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TABLE 14. Format and example of content for a tiled text feature table (hydrotxt.tft).

| | | | | |
|---|---|---|---|---|
| {Header length}L; | | | | |
| Hydrography Text Feature Table;-; | | | | |
| id=I,1,P,Row Identifier,-,-,-,: | | | | |
| f_code=T,5,N,FACC Feature Code,-,f_code1.tti,-,: | | | | |
| symbol_id=S,1,N,Symbol Identification,-,-,-,: | | | | |
| tile_id[1]=S,1,N,Tile Reference ID,-,tile1_id.tti,-,: | | | | |
| txt_id=I,1,N,Text Primitive ID,-,txt1_id.tti,-,:; | | | | |
| 1 | ZD040 | 1 | 1 | 23 |
| 2 | ZD045 | 2 | 2 | 45 |
| : | : | : | : | : |
| n | n | n | n | n |

[1]This column will not be present for untiled text feature tables.

3.14.5 Primitive tables and associated files. VMap implements the four geometric primitives (entity node (**end**), connected node (**cnd**), edge (**edg**) and face (**fac**) ) and one cartographic primitive (text (**txt**) ) as defined in MIL-STD-2407. The primitive tables contained in any coverage are dependent on the feature classes present in that coverage. The foreign key columns contained in primitive tables shall be tailored to the coverage's topology level defined in the **cat**. For coverages with level 2 topology, entity node tables will not have a containing face column and edge tables will not have left and right face columns. Primitive level supporting files, defined in MIL-STD-2407, are implemented as shown in Table 15. Example VMap Level 0 primitive tables are shown in Tables 16-20.

TABLE 15. Primitive table and associated files.

| Primitive Table | File Names | Table Description |
|---|---|---|
| edge table | esi | edge spatial index file |
| | ebr | edge bounding rectangle table |
| | edx | edge variable-length index file |
| | edg | edge primitive table |
| face table | fsi | face spatial index file |
| | fbr | face bounding rectangle table |
| | fac | face primitive table |
| | rng | ring table |
| entity node table | nsi | entity node spatial index file |
| | end | entity node primitive table |
| connected node table | csi | connected node spatial index file |
| | cnd | connected node primitive table |
| text table | tsi | text spatial index file |
| | txx | text variable-length index file |
| | txt | text primitive table |

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TABLE 16. Format and example of content for entity node primitive table (end).

```
{Header length}L;
Entity Node Primitive Table;-;
id= I,1,P,Row Identifier,-,-,-,:
*.pft_id=I,1,N,Point Feature Table Identifier,-,-,-,:
containing_face[1]=I,1,N,Foreign Key to Face Table,-,-,-,:
coordinate=Z,1,N,Coordinates of Entity Node,-,-,-,:;
```

| | | | |
|---|---|---|---|
| 1 | 1 | 0 | -7.893952 43.774712 0.000000 |
| 2 | 2 | 3 | -7.893897 43.773613 0.000000 |
| 3 | 3 | 0 | -7.843663 43.768391 0.000000 |
| : | : | : | : |
| n | n | n | x.xxxxxx y.yyyyyy z.zzzzzz |

**Note:** The "*" preceding the ".**pft_id**" is replaced with the appropriate point feature class name. A feature class name must be entered for each point feature class present in the data.

[1] The **containing_face** column is present only for coverages of level 3 topology.

TABLE 17. Format and example of content for connected node primitive table (cnd).

```
{Header length}L;
Connected Node Primitive Table;-;
id=I,1,P,Row Identifier,-,-,-,:
*.pft_id=I,1,N,Node Feature Table Identifier,-,-,-,:
first_edge=I,1,N,Foreign Key to Edge Table,-,-,-,:
coordinate=Z,1,N,Coordinates of Connected Node,-,-,-,:;
```

| | | | |
|---|---|---|---|
| 1 | 1 | 0 | -7.893952 43.774712 0.000000 |
| 2 | 2 | 3 | -7.893897 43.773613 0.000000 |
| 3 | 3 | 0 | -7.843663 43.768391 0.000000 |
| : | : | : | : |
| n | n | n | x.xxxxxx y.yyyyyy z.zzzzzz |

**Note:** The "*" preceding the ".**pft_id**" is replaced with the appropriate node feature class name. A feature class name must be entered for each node feature class present in the data.

first_edge

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TABLE 18. Format and example of content for edge (**edg**) primitive table.

```
{Header length}L;
Edge Primitive Table;-;
id=I,1,P,Row Identifier,-,-,-,:
*.lft_id=I,1,N,Line Feature Table ID,-,-,-,:
start_node=I,1,N,Start/Left Node,-,-,-,:
end_node=I,1,N,End/Right Node,-,-,-,:
right_face[1]=K,1,N,Right Face,-,-,-,:
left_face[1]=K,1,N,Left Face,-,-,-,:
right_edge=K,1,N,Right Edge from End Node,-,-,-,:
left_edge=K,1,N,Left Edge from Start Node,-,-,-,:
coordinates=Z,*,N,Coordinates of Edge,-,-,-:;
```

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 2 | 6 260<br>210 | 1 0 0 | 29 196<br>14 | 26 12<br>18 | -10.00 45.00 9.90 |
| 2 | 2 | 3 | 5 | 5 0 0 | 8 260<br>214 | 30 198<br>12 | 76 52<br>48 | -7.70 43.69 9.50<br>-7.80 43.70 10.69<br>-7.90 43.80 9.96 |
| : | : | : | : | : | : | : | : | : |
| n | n | n | n | n n n | n n n | n n n | n n n | x.xxxxxx y.yyyyyy<br>z.zzzzzz |

**Note:** The "*" preceding the "**.lft_id**" is replaced with the appropriate line feature class names. A feature class name must be entered for each line feature class present in the data.

[1]The **right_face** and **left_face** columns are required only for coverages with level 3 topology.

TABLE 19. Format and example of content for face (**fac**) primitive table.

```
{Header length}L;
Face Primitive Table;-;
id=I,1,P,Row Identifier,-,-,-,:
*.aft_id=I,1,N,Area Feature Table ID,-,-,-,:
ring_ptr=I,1,N,Foreign Key to Ring Table,-,-,-,:;
```

| | | |
|---|---|---|
| 1 | null | 1 |
| 2 | 75 | 13 |
| 3 | 97 | 14 |
| : | : | : |
| n | n | n |

**Note:** The "*" preceding the "**.aft_id**" is replaced with the appropriate area feature class name. A feature class name must be entered for each area feature class present in the data.

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TABLE 20. Format and example of content for text (txt) primitive table.

```
{Header length}L;
Text Primitive Table;-;
id=I,1,P,Row Identifier,-,-,-,:
*.tft_id=I,1,N,text feature table id,-,-,-,:
string=T,*,N,Text String,-,-,-,:
shape_line=C,*,N,Shape of Text String,-,-,-,:;
```

| | | | |
|---|---|---|---|
| 1 | 1 | Nolanville | -5.811609 43.662006 |
| 2 | 2 | Killeen | -8.574136 43.435287 |
| 3 | 3 | Harker Heights | -7.437326 42.881957 |
| 4 | 4 | Wainwright Heights | -6.835582 40.736553 |
| : | : | : | : |
| n | n | n | n |

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3.15 VMap tiling schemes. As stated in 3.14.2, the **tileref** coverage defines the tiling scheme for each VMap library. The tiling schemes for VMap Level 0 libraries will differ in their spatial extent and number of tiles per library. The tiling scheme for each library implements pairs of alphanumeric characters to represent the coordinate positions of the tiles. VMap libraries shall be partitioned in a systematic tile structure based upon the Geographic Reference System (GEOREF).

All thematic coverages in a library share the same tiling structure and coordinate system. Although a coverage is said to be tiled, tiling of data actually occurs at the primitive level. This ensures that all feature tables are stored intact directly under the coverage directory. For tiled coverages, primitive tables are organized on the basis of physical tile partitions. Tile directories are located under coverage directories such that the primitive tables are subdivided in a hierarchy of directories and are stored under the last tile directory. A representation of the table and file organization for VMap Level 0 tiled primitive tables and files is depicted in FIGURE 8.

3.15.1 VMap Level 0 tiling scheme. The VMap Level 0 database will contain data in variable sized tiles based on the GEOREF reference system as defined in the tileref of each library. The tiling scheme for $5^{\circ}$ by $5^{\circ}$ tiles is illustrated in this section. The following tile sizes, which vary by latitude, will be used in VMap Level 0 in both northern and southern latitudes:

| Latitude | Tile Size (Degrees Longitude by Degrees Latitude) |
|---|---|
| $0^{\circ}$-$40^{\circ}$ | $5^{\circ} \times 5^{\circ}$ |
| $40^{\circ}$-$50^{\circ}$ | $5^{\circ} \times 6^{\circ}$ |
| $50^{\circ}$-$60^{\circ}$ | $5^{\circ} \times 8^{\circ}$ |
| $60^{\circ}$-$65^{\circ}$ | $5^{\circ} \times 10^{\circ}$ |
| $65^{\circ}$-$70^{\circ}$ | $5^{\circ} \times 12^{\circ}$ |
| $70^{\circ}$-$75^{\circ}$ | $5^{\circ} \times 15^{\circ}$ |
| $75^{\circ}$-$80^{\circ}$ | $5^{\circ} \times 20^{\circ}$ |
| $80^{\circ}$-$90^{\circ}$ | $5^{\circ} \times 90^{\circ}$ |

The tiling scheme for $5^{\circ}$ by $5^{\circ}$ tiles is illustrated in this section.

a. VMap Level 0 tile directory hierarchy. The primitive tables for each VMap Level 0 coverage are partitioned among tile directories that are ordered in a four-tier hierarchy based on the GEOREF naming convention. The first, second, and third tier subdirectories contain only pointers to the fourth subdirectory, where all primitive tables are stored. The tiling scheme may be viewed as pairs of letters and numbers which represent the standard GEOREF cells.

b. Tile directory description and naming. The first pair of letters represents the coarsest, $15^{\circ}$ by $15^{\circ}$ standard GEOREF division, and represents the first coordinate pair identifying the tile name. This pair of letters also represents the first and second directory tiers of the tiling scheme. The first letter represents the first tile partition of the southwest coordinate in the x direction (longitude). There are a maximum of 24 subdirectories lettered from A to Z (omitting I and O), according to the $15^{\circ}$

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bands of GEOREF longitude zones. The second letter represents the second partition of the southwest coordinate in the y direction (latitude). There are a maximum of 12 subdirectories lettered from A to M (omitting I), according to the 15° GEOREF latitude zones for a total of 288 15° by 15° cells globally. (FIGURES 7 & 8)

The second pair of letters represents the 1° by 1° standard GEOREF divisions, and represents the second coordinate pair of the tile name. This pair of letters also represents the third and fourth directory tiers of the tiling scheme. The first letter represents the x coordinate (longitude) of the southwest corner of the VMap Level 0 tile. There are a maximum of 15 subdirectories lettered from A to Q (omitting I and O), according to the 1° bands of GEOREF longitude zones. The second letter represents the y coordinate (latitude) of the southwest corner of the tile. There are a maximum of 15 subdirectories lettered from A to Q (omitting I and O) according to the 1° bands of GEOREF latitude zones. These letters partition each 15° by 15° GEOREF cell into a total of 225 1° by 1° cells. (FIGURES 7 & 8)

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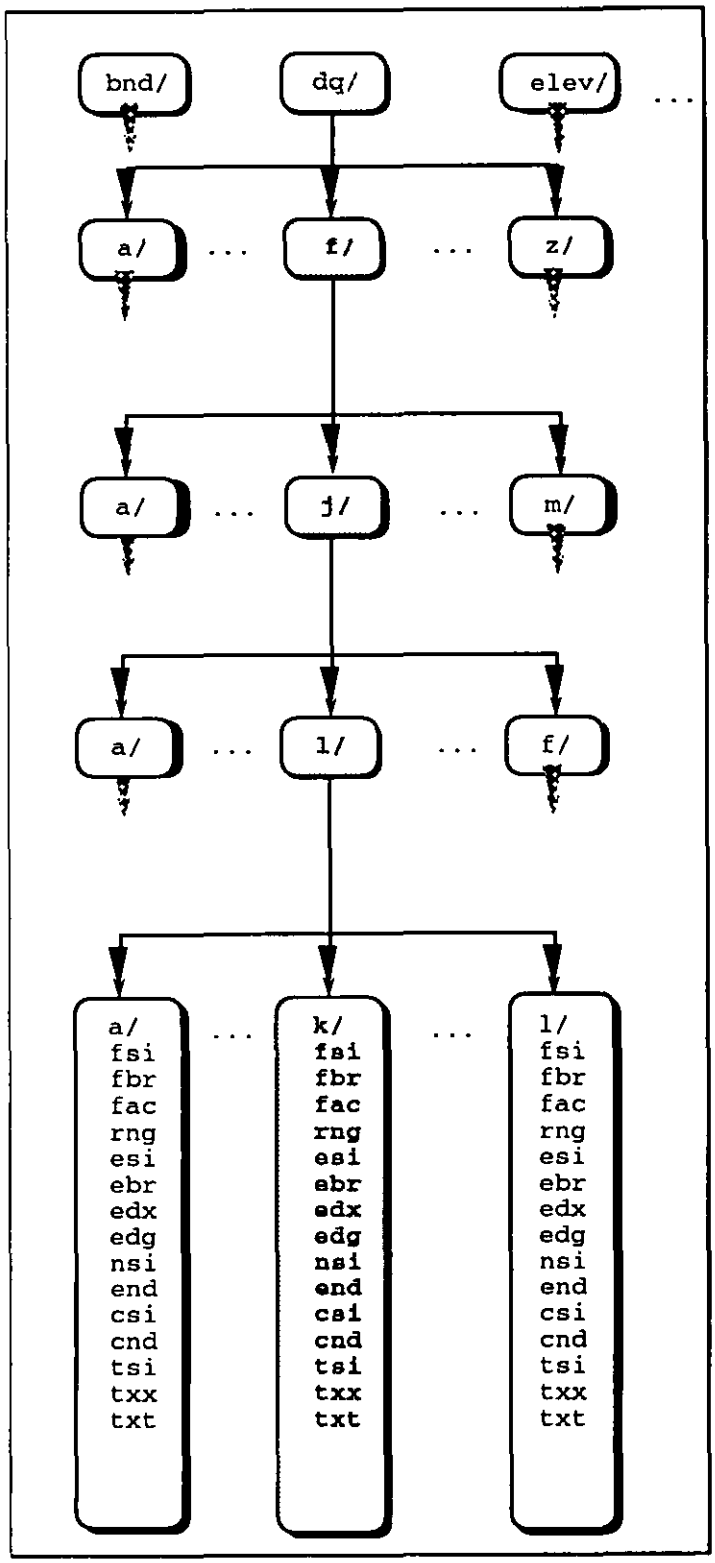


**Level 0 Coverage Directories**

First partition of 24 tile subdirectories lettered A to Z (15° bands of GEOREF longitude zones)

Second partition of 12 tile subdirectories lettered A to M (15° bands of GEOREF latitude zones)

Third partition of tile subdirectories lettered A to Q (divides the 15° longitude zones into 15 1° GEOREF longitude zones)

Fourth partition of tile subdirectories lettered A to Q (divides the 15° latitude zones into 15 1° GEOREF latitude zones)

FIGURE 7. VMap Level 0 tile directory hierarchy.

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VMap LEVEL 0 TILING SCHEME BASED ON GEOREF:
EXAMPLE OF NAMING CONVENTIONS FOR 5° BY 5° TILE

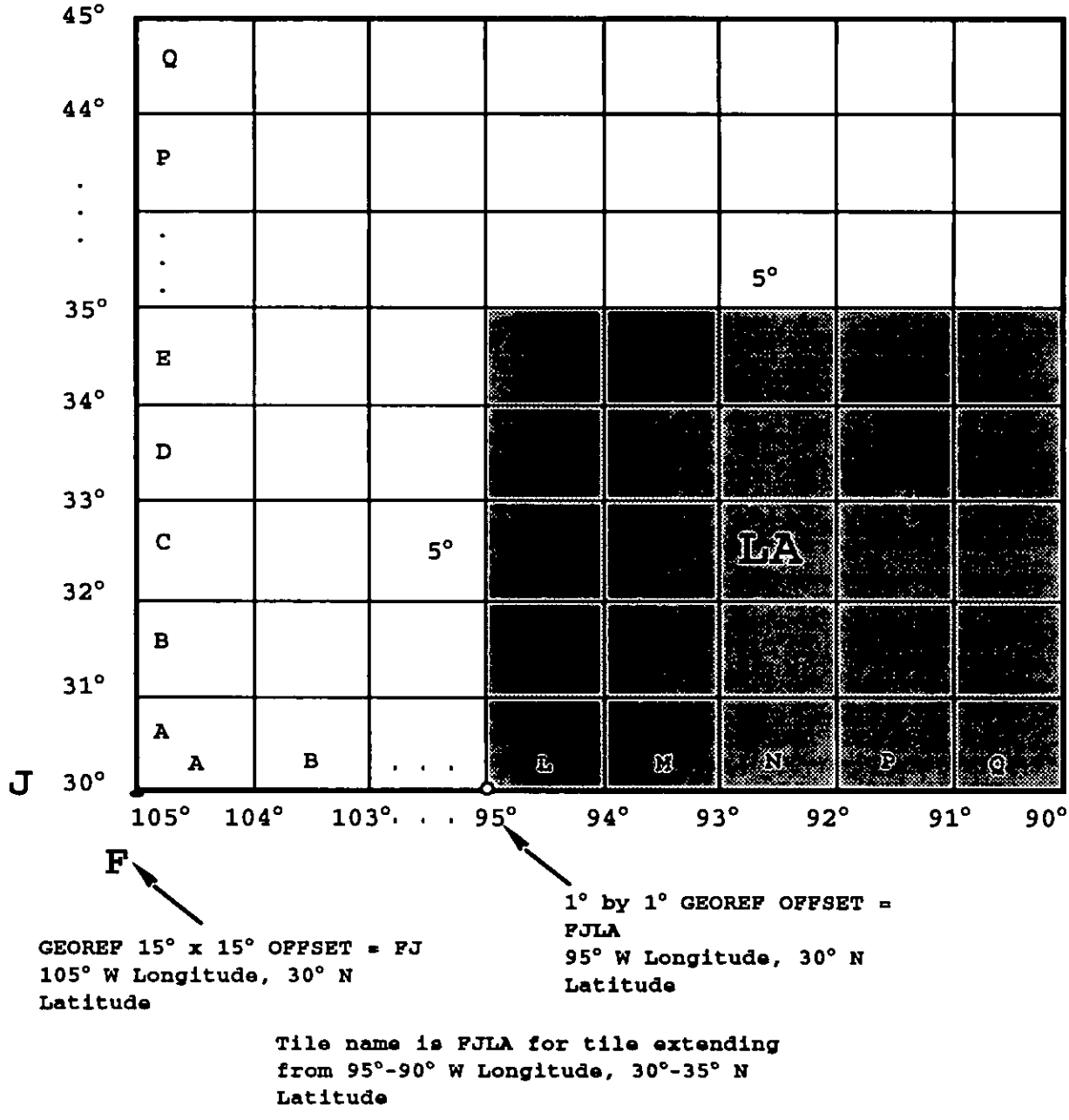


FIGURE 8. Coordinates for a 15° by 15° cell of GEOREF system (FJ).

3.15.2 Cross-tile topology. 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 primitive table that establishes a "cross-tile" link over the tile partitions. This enables the database to function as a seamless unit for analysis purposes.

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3.16 Naming conventions. TABLE 21 provides the naming conventions for the table extensions or table names for the following: feature table extensions, primitive table names, thematic index extensions, spatial index file names, variable-length index extensions.

TABLE 21. Naming conventions for VMap tables and files.

| Table or File Type | Area | Line | Point | Node | Text |
|---|---|---|---|---|---|
| Feature Table | aft | lft | pft | pft | tft |
| Primitive Table | fac | edg | end | cnd | txt |
| Thematic Index | ati | lti | pti | nti | tti |
| Spatial Index | fsi | esi | nsi | csi | tsi |
| Variable-length Index | afx | lfx | pfx | pfx | txx |

4. QUALITY ASSURANCE

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements (examinations and tests) as specified herein. Except as otherwise specified in the contract or purchase order, contractors may use their own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in this specification where such inspections are deemed necessary to ensure that supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall meet all requirements of sections 3 and 5. The accuracy reviews set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of responsibility for ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract.

4.1.2 Final product quality. The final VMap product quality will reflect the quality expressed by each applicable military standard. A series of independent data quality inspections shall be undertaken to ensure the quality of the VMap product.

5. PACKAGING

5.1 General. The VMap package shall contain at least one CD-ROM with associated user documentation.

5.1.1 CD-ROM labeling. Each CD-ROM label shall indicate the DMA stock number, the geographic extent of the CD-ROM, and the database edition number and date.

5.1.2 Installation instructions. Installation instructions shall be provided on a separate sheet in the VMap package, or as part of the CD case insert.

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5.1.3 Packing list. A packing list shall be included in the VMap package to notify an user of the contents of the VMap package.

5.2 Containers. [DMASC will provide insert text describing cardboard cases upon receipt from HQ.]

5.2.1 VMap outer container. The outer container shall be used to distribute and store all VMap materials. The outer container shall consist of a material with thickness sufficient to protect the contents. The VMap database name and a bar code shall be present on the outer container. The VMap materials shall be shrink-wrapped prior to shipping.

5.2.2 CD-ROM cases. The CD-ROM disc or discs shall be distributed in 100% recyclable cardboard sleeves.

6. NOTES

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

6.1 Intended use.

6.1.1 General usage. The VMap Level 0 product is intended for use as a low-resolution, general purpose database which can support GIS applications.

6.2 Acquisition requirements. When this specification is used in acquisition, the applicable issue of the DODISS must be cited in the solicitation (see 2.1.1 and 2.2).

6.3 Subject term (keyword) listing.

FACC
GEOREF
GIS
THEMATIC LAYERS
VPF

6.4 Definitions. See MIL-STD-2407 for definition of terms used in this specification.

6.4.1 Acronyms.

| | |
|---|---|
| ANSI | American National Standards Institute |
| ASCC | Air Standardization Coordinating Committee Agreements |
| CD-ROM | Compact Disc-Read Only Memory |
| CE | Circular Error |
| DCW | Digital Chart of the World |
| DMA | Defense Mapping Agency |
| DoD | Department of Defense |
| DODISS | Department of Defense Index of Specifications and Standards |
| DOS | Disk Operating System |
| DPS | Digital Production System |
| FACC | Feature Attribute Coding Catalog |
| GEOREF | Geographic Reference System |

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| | |
|---|---|
| GIS | Geographic Information System |
| IEEE | Institute of Electrical and Electronics Engineers |
| ISO | International Organization for Standardization |
| JOG | Joint Operations Graphic |
| LE | Linear Error |
| MC&G | Mapping, Charting, and Geodesy |
| MSL | Mean Sea Level |
| NMAS | National Map Accuracy Standard |
| ONC | Operational Navigation Chart |
| PC | Personal Computer |
| QA | Quality Assurance |
| QC | Quality Control |
| QSTAGs | Quadripartite Standardization Agreements |
| STANAG | NATO Standardization Agreement |
| VGA | Virtual Graphics Array |
| VPF | Vector Product Format |
| VMap | Vector Smart Map |
| WGS | World Geodetic System |

6.5 International standardization agreements. "Certain provisions of this specification are subject to international standardization agreement. When amendment, revision, or cancellation of this specification is proposed that will modify the international agreement concerned, the preparing activity will take appropriate action through international standardization channels, including departmental standardization offices, to change the agreement or make other appropriate accommodations."

6.5.1 International Standardization Agreements (STANAGs). STANAG 2211, "Geodetic Datums, Spheroids, Grids, and Cell References".

6.5.2 Quadripartite Standardization Agreements (QSTAGs). This section is not applicable to this specification.

6.5.3 Air Standardization Coordinating Committee Agreements (ASCC AIR STDs/STDs/ADV PUBs). This section is not applicable to this specification.

6.5.4 International MC&G agreements. This section is not applicable to this specification.

6.5.5 Executive orders. This section is not applicable to this specification.

6.5.6 Inter-Agency agreements. This section is not applicable to this specification.

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6.5.7 Other documentation. This section is not applicable to this specification.

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# APPENDIX

## 10. SCOPE

10.1 Scope. This appendix is a mandatory part of the specification. The information contained herein is intended for compliance.

## 20. APPLICABLE DOCUMENTS

This section is not applicable to this appendix.

## 30. VMap Data Dictionary Organization

30.1 Data dictionary organization. The data provided in this appendix are organized according to VPF structure levels. The VMap database tables appear first; they are described in Appendix section 40. The information provided in database tables applies to the entire Level 0 database. The VMap Level 0 database contains two types of libraries: the reference library described in sections 50 and 60, and one or more data libraries (containing the geographic data). Data libraries are described in sections 70 and 80. Section 50 contains the library VPF tables and files and the VPF coverage (**libref**) for the reference library. Section 60 contains the data coverages for the reference library. Section 70 contains the library VPF tables and files and VPF coverages (**tileref** and **libref**) for the data libraries. Section 80 contains the data coverages (spatial and attribute data) for the data libraries.

Section 90 contains a listing of the FACC feature codes with descriptions and the feature types they represent for VMap Level 0 libraries. Section 90 also contains a list of attribute codes with their associated features and feature types.

For this data dictionary, a brief description of each feature table is provided. All VPF tables consist of a header that is followed by the actual record contents. This appendix contains examples of the records that may be contained in actual tables. The data structure and contents for both the metadata tables and feature tables that may be present within a coverage are defined in this appendix. Tables not described in this appendix are described in the main sections of this product specification. Specifically, the format of metadata tables (such as documentation tables) is defined in section 3.14.3, the format and structure of index files are defined in section 3.12.3, and the format and structure of primitive tables are defined in section 3.14.5.

30.2 Notes regarding table format.

a. The header portion of each table (top half of each illustration) defines the entries required for the VPF table header; the content portion (bottom half) of each table defines the record entries for the data fields.

b. A semicolon (;) is a separator for the four components of a header.

c. The colon (:) indicates the end of a column definition.

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d. Carriage returns are embedded in the text for readability only. All header information shall be a continuous string of characters with no carriage returns.

e. For more information on the format of a VPF table, see section 3.12.

f. For tables with a large number of columns and only one record entry (i.e., **dht**, **lht**, **grt**), the backslash character (\) at the end of a line in the data records section indicates that the record entry is continued for each column for that record; no carriage returns are implied. This format permits the data records for a large number of columns to be represented so that they may fit on a page of this appendix.

40. VMap database VPF tables and contents

The structure and content of each VPF table in the VMap (VMAPLV0) database directory are described in this section.

40.1 Database metadata tables. The VMap database directory file name is the first file to appear on a CD-ROM followed by database metadata files as follows:

| | |
|---|---|
| **vmaplv0** | database directory file |
| **lat** | library attribute table |
| **dht** | database header table |

40.1.1 Library attribute table. The **lat** contains the geographic extent of each library in the database (TABLE 22).

TABLE 22. Format and content for library attribute table (**lat**).

| | | | | | |
|---|---|---|---|---|---|
| {Header length}L;<br>Library Attribute Table;-;<br>id=I,1,P,Row Identifier,-,-,-,:<br>library_name=T,8,N,Library name,-,-,-,:<br>xmin=F,1,N,Westernmost longitude,-,-,-,:<br>ymin=F,1,N,Southernmost latitude,-,-,-,:<br>xmax=F,1,N,Easternmost longitude,-,-,-,:<br>ymax=F,1,N,Northernmost latitude,-,-,-,:; | | | | | |
| 1 | rference | -180.0 | -90.0 | 180.0 | 90.0 |
| 2 | eastus[1] | -90.0 | 30.0 | -75.0 | 45.0 |
| 3 | westus[1] | -120.0 | 30.0 | -105.0 | 45.0 |
| 4 | northus[1] | -90.0 | 60.0 | -75.0 | 45.0 |
| : | : | : | : | : | : |
| n | n | n | n | n | n |

[1] The names and extent of the libraries are only examples, actual names will be provided as part of the source package.

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40.1.2 Database header table. The **dht** describes the database (TABLE 23).

TABLE 23. Format and content for database header table (**dht**).

```
{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,50,N,Producer of this database,-,-,-,:
addressee=T,100,N,Address of the producer,-,-,-,:
media_volumes=T,1,N,Number of Volumes in this database,-,-,-,:
seq_numbers=T,1,N,The Sequential Number(s) in this database,-,-,-,:
num_data_sets=T,1,N,Number of Libraries,-,-,-,:
security_class=T,1,N,Security Classification,-,-,-,:
downgrading=T,3,N,Downgrading,-,-,-,:
downgrade_date=D,1,N,Date,-,-,-,:
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,-,-,-,:;
```

```
1\
1.0\
VMAPLV0\
Vector Smart Map:  a general-purpose database design to support GIS
applications.\
ISO 9660\
HQ DMA PRW 8613 Lee Highway Fairfax VA 22031-2137\
N/A\
1\
1\
1\
U\
NO\
                .\
UNRESTRICTED\
1\
1\
19930930        .
```

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## 50. REFERENCE LIBRARY

Each database will contain a reference library named **rference**. This library will contain smaller scale coverages which show a generalized extent of the database. Each coverage contains reference information designed to orient the user to the location and extent of the database and the libraries in it.

The structure and content of each VPF table in a reference library directory are provided in this section. Those records that vary are indicated by footnotes.

50.1 Reference library metadata tables. The **rference** library shall contain the following metadata tables at the library level.

| | |
|---|---|
| **rference** | directory file |
| **cat** | coverage attribute table |
| **dqt** | data quality table |
| **dqx** | data quality index file |
| **grt** | geographic reference table |
| **lht** | library header table |
| **lineage.doc** | an optional documentation table |

50.1.1 Coverage attribute table. The following **cat** shall be present in the **rference** library. TABLE 24 depicts the records that are present in the **cat**.

TABLE 24. Format and content for **rference** coverage attribute table (**cat**).

{Header length}L;
Coverage Attribute Table;-;
id=I,1,P,Row Identifier,-,-,-,:
coverage_name=T,8,N,Coverage name,-,-,-,:
description=T,50,N,Coverage description,-,-,-,:
level=S,1,N,Topology level,-,-,-,:;

| | | | |
|---|---|---|---|
| 1 | libref | Library Reference | 2 |
| 2 | dbref | Database Reference | 3 |
| 3 | polbnd | Political Entities | 3 |
| 4 | placenam | Place Names | 0 |

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50.1.2 Library header table. The following **lht** shall be present in the **rference** library. the format and content of the library header table for each library is presented in TABLE 25.

TABLE 25. Format and content for **rference** library header table (**lht**).

```
{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,-,-,-,:
releasability=T,20,N,Releasability,-,-,-,:;
```

```
1\
VMAP LEVEL 0\
rference\
Small-scale data to give users a geographic reference of VMap Level 0
database.\
8\
Various\
Various\
Various\
Various\
Various\
                .\
U\
NO\
                .\
UNRESTRICTED
```

**Note:** Each line represents the record value for each defined column.

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50.1.3 Geographic reference table. The following **grt** shall be present in the **rference** library.

TABLE 26. Format and content for a **rference** geographic reference table (**grt**).

```
{Header length}L;
Geographic Reference Table;-;
id=I,1,P,Row Identifier,-,-,-,:
data_type=T,3,N,Data Type,-,-,-,:
units=T,3,N,Units,-,-,-,:
ellipsoid_name=T,15,N,Ellipsoid,-,-,-,:
ellipsoid_detail=T,50,N,Ellipsoid Details,-,-,-,:
vert_datum_name=T,15,N,Datum Vertical Reference,-,-,-,:
vert_datum_code=T,3,N,Vertical Datum Code,-,-,-,:
sound_datum_name=T,15,N,Sounding Datum,-,-,-,:
sound_datum_code=T,3,N,Sounding Datum Code,-,-,-,:
geo_datum_name=T,15,N,Datum Geodetic Name,-,-,-,:
geo_datum_code=T,3,N,Datum Geodetic Code,-,-,-,:
projection_name=T,20,N,Projection Name,-,-,-,;
```

```
1\
GEO\
M\
WGS 84\
A=6378137 B=6356752 Meters\
MEAN SEA LEVEL\
015\
N/A\
N/A\
WGS 84\
WGE\
Dec. Deg. (unproj.)\
```

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50.1.4 Data quality table. The following data quality table shall be in the library directory for the **rference** library. The record content of this table may vary for each library. The format and sample content of the **dqt** for each library is presented in TABLE 27.

TABLE 27. Format and content for example data quality table (dqt).

```
{Header length}L;
Library Data Quality Table;lineage.doc;
id=I,1,P,Row Identifier,-,-,-,:
vpf_level=T,8,N,VPF Level,-,-,-,:
vpf_level_name=T,8,N,Name of VPF Level,-,-,-,:
feature_complete=T,*,N,Feature Completeness Percent,-,-,-,:
attrib_complete=T,*,N,Attribute Completeness Percent,-,-,-,:
logical_consist=T,*,N,Logical Consistency,-,-,-,:
edition_num=T,8,N,Edition Number,-,-,-,:
creation_date=D,1,N,Creation Date,-,-,-,:
revision_date=D,1,N,Revision Date,-,-,-,:
spec_name=T,*,N,Product Specification Name,-,-,-,:
spec_date=D,1,N,Product Specification Date,-,-,-,:
earliest_source=D,1,N,Date of Earliest Source,-,-,-,:
latest_source=D,1,N,Date of Latest Source,-,-,-,:
collection_spec=T,*,N,Collection Specification Name,-,-,-,:
abs_horiz_acc=T,*,N,Absolute Horizontal Accuracy of VPF Level,-,-,-,:
abs_horiz_units=T,20,N,Unit of Measure for Absolute Horizontal Accuracy,-,-,-,:
abs_vert_acc=T,*,N,Absolute Vertical Accuracy of VPF Level,-,-,-,:
abs_vert_units=T,20,N,Unit of Measure for Absolute Vertical Accuracy,-,-,-,:
rel_horiz_acc=T,*,N,Point to Point Horizontal Accuracy of VPF Level,-,-,-,:
rel_horiz_units=T,20,N,Unit of Measure for Point to Point Horizontal Accuracy,-,-,-,:
rel_vert_acc=T,*,N,Point to Point Vertical Accuracy of VPF Level,-,-,-,:
rel_vert_units=T,20,N,Unit of Measure for Point to Point Vertical Accuracy,-,-,-,:
comments=T,*,N,Miscellaneous Comments,-,-,-,:;
```

```
1\
library\
rference\
All features in this library are captured from the source materials and
generalized as necessary to depict referential information.\
All features in this library have valid attribute codes assigned to them in
accordance with this specification.\
All data are topologically correct.  No duplicate features are present within
a coverage.
All areas are completely described as extracted from the source materials.
No undershoots or overshoots are present. All data were consistently captured
using the rules described in the documentation table associated with this
table and in the various feature table narrative files present at the
coverage level within the library.\
```

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```
1\
                .\
                .\
VMap Level 0 Product Specification\
19930930        .\
                .\
                .\
VMap Level 0 Product Specification\
N/A\
N/A\
N/A\
N/A\
N/A\
N/A\
N/A\
N/A\
Additional descriptions of data lineage are available in the documentation
table associated with this data quality table (called lineage.doc).
```

50.1.5 Lineage narrative table. Information regarding the data contained in the library is captured in the **lineage.doc** file (TABLE 28).

TABLE 28. Format and sample content for lineage documentation table (**lineage.doc**).

```
{Header length}L;
Lineage Documentation Table;-;
id=I,1,P,Row Identifier,-,-,-,:
text=T,80,N,Text information,-,-,-,:;
```

| | |
|---|---|
| 1 | This table describes characteristics of the feature data within |
| 2 | this library. Three subjects are discussed: (1) special |
| 3 | automation techniques, (2) source materials, and (3) database |
| 4 | design issues. The table does not contain a full description |
| 5 | of the data production process. |
| : | : |
| n | ... |

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50.2 Reference library coverage and tables. Each **rference** library in a database shall be untiled, and will contain the following directory file and tables.

50.2.1 Library Reference coverage directory and files. The library reference coverage directory contains the following files:

| | |
|---|---|
| **libref** | directory file |
| **cnd** | connected node table |
| **ebr** | edge bounding rectangle table |
| **edg** | edge primitive table |
| **edx** | edge variable length index file |
| **esi** | edge spatial index table |
| **fcs** | feature class schema table |
| **libref.lft** | library reference line feature table |
| **libreft.tft** | library reference text feature table (optional) |
| **tsi** | text spatial index file |
| **txt** | text primitive table |
| **txx** | text variable length index file |

50.2.1.1 Library Reference feature class schema table. A feature class schema table shall be present in the library reference coverage. The format and content of the **fcs** are presented in TABLE 29.

TABLE 29. Content and format for **libref** feature class schema table (**fcs**).

Thematic Layer: Library Reference
Coverage Name: **libref**
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,6,N,Column Name in Second Table,-,-,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | libref | libref.lft | edg_id | edg | id |
| 2 | libref | edg | libref.lft_id | libref.lft | id |
| 3 | libreft | libreft.tft | txt_id | txt | id |
| 4 | libreft | txt | libreft.tft_id | libreft.tft | id |

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50.2.1.2 Library reference feature tables. The feature tables implemented in the library reference coverage are specified in TABLES 30 to 31.

TABLE 30. Format and content for **libref line** feature table (**libref.lft**).

Thematic Layer: Library Reference
Coverage Name: **libref**
Table Description: Library Reference Line Feature Table
Table Name: **libref.lft**

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

| | | |
|---|---|---|
| 1 | BA010 | 1 |
| 2 | FA000 | 2 |
| 3 | AP030 | 3 |
| : | : | : |
| n | n | n |

TABLE 31. Format and content for **libref** text feature table (**libreft.tft**).

Thematic Layer: Library Reference
Coverage Name: **libref**
Table Description: Library Reference Text Feature Table
Table Name: **libreft.tft**

| |
|---|
| {Header length}L;<br>Library Reference Text Feature Table;-;<br>id=I,1,P,Row Identifier,-,-,-,:<br>f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:<br>txt_id=I,1,N,Text Primitive ID,-,-,-,:; |

| | | |
|---|---|---|
| 1 | ZD040 | 1 |
| 2 | ZD040 | 2 |
| 3 | ZD045 | 3 |
| : | : | : |
| n | n | n |

50.2.1.3 Library reference primitive tables. The edge, connected node, and text primitive tables in the library reference coverage directory have the same format as the coverage primitive files (reference TABLES 16 to 20). Although the text feature table is optional, a sample text primitive table is presented to show sample values for the **string** column (TABLE 32). The text string depicting the library name will be appropriately placed near the top center of each library reference coverage in an appropriately sized font.

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The structure and format of the variable-length index files and spatial index files are provided in section 3.12.3. The structure and format of the bounding rectangle tables are described in section 3.14.5.

TABLE 32. Format and example of content for **libref** text primitive table (**txt**).

Thematic Layer: Library Reference
Coverage Name: **libref**
Table Description: Text Primitive Table
Table Name: **txt**

```
{Header length}L;
Text Primitive Table;-;
id=I,1,P,Row Identifier,-,-,-,:
libreft.txt_id=I,1,N,text feature table id,-,-,-,:
string=T,*,N,Text String,-,-,-,:
shape_line=C,*,N,Shape of Text String,-,-,-,:;
```

| | | | |
|---|---|---|---|
| 1 | 1 | Text string[1] | -5.811609,43.662006 |
| : | : | : | : |
| n | n | n | n |

[1] The names and extent of the Level 1 libraries, or other geographic identifiers.

TABLE 33. Library reference character value description table.

Thematic Layer: Library Reference
Coverage Name: **libref**
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,24,N,Description of Value,-,-,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | libref.lft | f_code | AP030 | Road |
| 2 | libref.lft | f_code | BA010 | Coastline/Shoreline |
| 3 | libref.lft | f_code | FA000 | Administrative Boundary |
| 4 | libreft.tft | f_code | ZD040 | Named Location |
| 5 | libreft.tft | f_code | ZD045 | Text Description |
| 6 | dqline.lft | f_code | AP030 | Road |
| 7 | dqline.lft | f_code | BA010 | Coastline/Shoreline |
| 8 | dqline.lft | f_code | FA000 | Administrative Boundary |
| 9 | dqline.lft | f_code | ZD045 | Text Description |

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60. **rference** library coverage tables and content

60.1 Coverage table and file order. Coverages for the **rference** library are shown in TABLE 34. For each coverage, the feature class schema table is described first, followed by the feature tables. The type and content of documentation tables will vary with each coverage. For each feature table the attribute names, description, and attribute values are also represented. A summary of the **rference** coverages and feature classes is presented in TABLE 35.

The structure and content of each VPF table in the **rference** library directory are provided in this section. Those records that vary are indicated by footnotes.

Thematic index files identified in the header of a feature table are defined in section 3.12.3. The structure and format of the variable-length index files and spatial index files are provided in section 3.12.3. The structure and format of the bounding rectangle tables are described in section 3.14.5.

TABLE 34. **rference** coverages.

| |
|---|
| Library Reference Coverage |
| Database Reference coverage |
| Political Entities coverage |
| Place Names coverage |

TABLE 35. **rference** Library feature table(s) in coverages.

| Coverage name | Feature classes | | | | |
|---|---|---|---|---|---|
| | Point | Node | Line | Area | Text |
| libref[1] | | | libref.lft | | libreft.tft |
| dbref | | | | dbref.aft | dbtxt.tft |
| polbnd | | | | polbnd.aft | polbndtx.tft |
| placenam | placenam.pft | | | | placetxt.tft |

[1] Described in section 50.2.1.2.

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60.2 **dbref** coverage. This coverage contains the generalized small-scale outlines of each data library in the VMap Level 0 database. The files in this coverage are presented in TABLES 36-39.

TABLE 36. Content and format for **dbref** coverage feature class schema table.

Thematic Layer: Database Reference
Coverage Name: **dbref**
Table Description: Database Reference Feature Class Schema Table
Table Name: **fcs**

```
{Header length}L;
Database 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,2,N,Column Name in Second Table,-,-,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | dbref | dbref.aft | fac_id | fac | id |
| 2 | dbref | fac | dbref.aft_id | dbref.aft | id |
| 3 | dbtxt | dbtxt.tft | txt_id | txt | id |
| 4 | dbtxt | txt | dbtxt.tft_id | dbtxt.tft | id |

TABLE 37. **dbref** area feature table.

Thematic Layer: Database Reference
Coverage Name: **dbref**
Table Description: Database Reference Area Feature Table
Table Name: **dbref.aft**

```
{Header length}L;
Database Reference Area Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
library_name=T,8,N,VMap Library Name,-,-,-,:
fac_id=I,1,N,Face Primitive ID,-,-,-,:;
```

| | | |
|---|---|---|
| 1 | lib1[1] | 2 |
| 2 | lib2[1] | 3 |
| 3 | : | 4 |
| : | : | : |
| n | n | n |

[1] Library names in VMap products will vary.

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TABLE 38. **dbref** text feature table.

Thematic Layer: Database Reference
Coverage Name: **dbref**
Table Description: Database Reference Text Feature Table
Table Name: **dbtxt.tft**

| |
|---|
| {Header length}L;<br>Database Reference Text Feature Table;-;<br>id=I,1,P,Row Identifier,-,-,-,:<br>f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:<br>txt_id=I,1,N,Text Primitive ID,-,-,-,:; |

| | | |
|---|---|---|
| 1 | ZD040 | 1 |
| : | : | : |
| n | n | n |

TABLE 39. Database reference character value description table.

Thematic Layer: Database Reference
Coverage Name: **dbref**
Table Description: Database Reference Character Value Description Table
Table Name: **char.vdt**

| |
|---|
| {Header length}L;<br>Database Reference 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,24,N,Description of Value,-,-,-,:; |

| | | | | |
|---|---|---|---|---|
| 1 | dbtxt.tft | f_code | ZD040 | Named Location |
| 2 | dbtxt.tft | f_code | ZD045 | Text Description |

60.3 **polbnd** coverage. This coverage contains the generalized small-scale outlines of the political entities in the VMap Level 0 database. The files for this coverage are described in TABLES 40-43.

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TABLE 40. Content and format for **polbnd** coverage feature class schema table.

Thematic Layer: Political Entities
Coverage Name: **polbnd**
Table Description: Political Entities Feature Class Schema Table
Table Name: **fcs**

```
{Header length}L;
Political Entities 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,2,N,Column Name in Second Table,-,-,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | polbnd | polbnd.aft | fac_id | fac | id |
| 2 | polbnd | fac | polbnd.aft_id | polbnd.aft | id |
| 3 | polbndtx | polbndtx.tft | txt_id | txt | id |
| 4 | polbndtx | txt | polbndtx.tft_id | polbndtx.tft | id |

TABLE 41. **polbnd** area feature table.

Thematic Layer: Political Entities
Coverage Name: **polbnd**
Table Description: Political Entities Area Feature Table
Table Name: **polbnd.aft**

```
{Header length}L;
Political Entities Area Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
country_name=T,40,N,Political Entity Name,-,-,-,:
fac_id=I,1,N,Face Primitive ID,-,-,-,:;
```

| | | |
|---|---|---|
| 1 | United States of America | 2 |
| 2 | Canada | 3 |
| 3 | Mexico | 4 |
| 4 | : | 5 |
| : | : | : |
| n | n | n |

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TABLE 42. polbnd text feature table.

Thematic Layer: Political Entities
Coverage Name: **polbnd**
Table Description: Political Entities Text Feature Table
Table Name: **polbndtx.tft**

| |
|---|
| {Header length}L;<br>Political Entities Text Feature Table;-;<br>id=I,1,P,Row Identifier,-,-,-,:<br>f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:<br>txt_id=I,1,N,Text Primitive ID,-,-,-,:; |

| | | |
|---|---|---|
| 1 | ZD040 | 1 |
| : | : | : |
| n | n | n |

TABLE 43. Political entities character value description table.

Thematic Layer: Political Entities
Coverage Name: **polbnd**
Table Description: Political Entities Character Value Description Table
Table Name: **char.vdt**

| |
|---|
| {Header length}L;<br>Political Entities 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,16,N,Description of Value,-,-,-,:; |

| | | | | |
|---|---|---|---|---|
| 1 | polbndtx.tft | f_code | ZD040 | Named Location |
| 2 | polbndtx.tft | f_code | ZD045 | Text Description |

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60.4 **placenam** *coverage*. This coverage contains named places in the VMap Level 0 database. The files for this coverage are described in TABLES 44-46.

TABLE 44. Content and format for **placenam** coverage feature class schema table.

Thematic Layer: Place Names
Coverage Name: **placenam**
Table Description: Place Names Feature Class Schema Table
Table Name: **fcs**

```
{Header length}L;
Place Names 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,2,N,Column Name in Second Table,-,-,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | placenam | placenam.pft | end_id | end | id |
| 2 | placenam | end | placenam.pft_id | placenam.pft | id |
| 3 | placetxt | placetxt.tft | txt_id | txt | id |
| 4 | placetxt | txt | placetxt.tft_id | placetxt.tft | id |

TABLE 45. **placenam** point feature table.

Thematic Layer: Place Names
Coverage Name: **placenam**
Table Description: Place Names Point Feature Table
Table Name: **placenam.pft**

```
{Header length}L;
Place Names Point Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
place_name=T,40,N,Place Name,-,-,-,:
end_id=I,1,N,Entity Node Primitive ID,-,-,-,:;
```

| | | |
|---|---|---|
| 1 | Gulf of Mexico[1] | 1 |
| 2 | Chicago[1] | 2 |
| 3 | Boston[1] | 3 |
| 4 | Lake Superior[1] | 4 |
| : | : | : |
| n | n | n |

[1] Representative place names.

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TABLE 46. placenam text feature table.

| | |
|---|---|
| Thematic Layer: | Place Names |
| Coverage Name: | **placenam** |
| Table Description: | Place Names Text Feature Table |
| Table Name: | **placetxt.tft** |

| | |
|---|---|
| {Header length}L;<br>Place Names Text Feature Table;-;<br>id=I,1,P,Row Identifier,-,-,-,:<br>name=T,20,N,Place Name,-,-,-,:<br>txt_id=I,1,N,Text Primitive ID,-,-,-,:; | |
| 1 | Richmond |
| 2 | Denver |
| 3 | Baltimore |
| : | : |
| n | n |

70. DATA Library

The structure and content of each VPF table in a data library of the VMap database are provided in this section. The actual record contents of the metadata tables will vary with each library. Those records that vary are indicated by footnotes.

Each VMap library is represented as a directory file.

70.1 Library metadata tables. Each data library shall contain the following metadata tables at the library level.

| | |
|---|---|
| **lib1**[1] | directory file |
| **cat** | coverage attribute table |
| **dqt** | data quality table |
| **dqx** | data quality index file |
| **grt** | geographic reference table |
| **lht** | library header table |
| **lineage.doc** | an optional documentation table |

[1] Representative directory name for a Level 0 library.

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70.1.1 Coverage attribute table. The following **cat** shall be present in every data library. TABLE 47 depicts all of the possible records that may be present in the **cat**.

TABLE 47. Format and sample content for coverage attribute table (**cat**).

| | | | |
|---|---|---|---|
| {Header length}L; | | | |
| Coverage Attribute Table;-; | | | |
| id=I,1,P,Row Identifier,-,-,-,: | | | |
| coverage_name[1]=T,8,N,Coverage name,-,-,-,: | | | |
| description=T,24,N,Coverage description,-,-,-,: | | | |
| level[2]=S,1,N,Topology level,-,-,-,:; | | | |
| 1 | libref | Library Reference | 2 |
| 2 | tileref | Tile Reference | 3 |
| 3 | bnd | Boundaries | 3 |
| 4 | dq | Data Quality | 3 |
| 5 | elev | Elevation | 2 |
| 6 | hydro | Hydrography | 3 |
| 7 | ind | Industry | 3 |
| 8 | phys | Physiography | 3 |
| 9 | pop | Population | 3 |
| 10 | trans | Transportation | 2 |
| 11 | util | Utilities | 2 |
| 12 | veg | Vegetation | 3 |

[1] This table depicts all possible coverages that may be present in a library, presence of these coverages will vary with data availability. If the library does not contain any data for a particular coverage, then the record describing that coverage will not be present.

[2] The number specified in the **level** column represents the topology level for the entire coverage regardless of the type of data present. For example, if area features are not present in a particular Vegetation coverage, level 3 topology will still be built for the coverage based on the value of "3" specified in the **cat** in the level column for the Vegetation coverage.

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70.1.2 Library header table. The following LHT shall be present in every library. The format and sample content of the library header table for each library is presented in TABLE 48. The record content of this table will vary for each library.

TABLE 48. Format and content for example library header table (lht).

```
{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[1]=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,-,-,-,:
releasability=T,20,N,Releasability,-,-,-,:;
```

```
1\
VMap LEVEL 0\
eusproto[1]\
Digital data from the Digital Chart of the World database at scale of
1:1,000,000.\
8\
1000000\
ONC\
Refer to lineage.doc\
11\
Operational Navigation Charts\
198701          .\
U\
NO\
                .\
UNRESTRICTED
```

[1] Replace with appropriate record content for each library.
**Note:** Each line represents the record value for each defined column.

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70.1.3 Geographic reference table. The following **grt** shall be present in every library. The record content of this table may vary for each library. The format and sample content of the geographic reference table for each library is presented in TABLE 49.

TABLE 49. Format and sample content for a geographic reference table (**grt**).

```
{Header length}L;
Geographic Reference Table;-;
id=I,1,P,Row Identifier,-,-,-,:
data_type=T,3,N,Data Type,-,-,-,:
units=T,3,N,Units of Measure Code for Library,-,-,-,:
ellipsoid_name=T,15,N,Ellipsoid,-,-,-,:
ellipsoid_detail=T,50,N,Ellipsoid Details,-,-,-,:
vert_datum_name=T,15,N,Datum Vertical Reference,-,-,-,:
vert_datum_code=T,3,N,Vertical Datum Code,-,-,-,:
sound_datum_name=T,15,N,Sounding Datum,-,-,-,:
sound_datum_code=T,3,N,Sounding Datum Code,-,-,-,:
geo_datum_name=T,15,N,Datum Geodetic Name,-,-,-,:
geo_datum_code=T,3,N,Datum Geodetic Code,-,-,-,:
projection_name=T,20,N,Projection Name,-,-,-,:;
```

```
1\
GEO\
M\
WGS 84\
A=6378137 B=6356752 Meters\
MEAN SEA LEVEL\
015\
N/A\
N/A\
WGS 84\
WGE\
Dec. Deg. (unproj.)\
```

70.1.4 Data quality table. The following data quality table shall be present at the library level for every library. The record content of this table may vary for each library. The format and sample content of the **dqt** for each library is presented in TABLE 50.

TABLE 50. Format and content for example data quality table (**dqt**).

```
{Header length}L;
Library Data Quality Table;lineAGE.doc;
id=I,1,P,Row Identifier,-,-,-,:
vpf_level=T,8,N,VPF Level,-,-,-,:
vpf_level_name[1]=T,8,N,Name of VPF Level,-,-,-,:
feature_complete=T,*,N,Feature Completeness Percent,-,-,-,:
attrib_complete=T,*,N,Attribute Completeness Percent,-,-,-,:
logical_consist=T,*,N,Logical Consistency,-,-,-,:
edition_num=T,8,N,Edition Number,-,-,-,:
creation_date=D,1,N,Creation Date,-,-,-,:
revision_date=D,1,N,Revision Date,-,-,-,:
spec_name[2]=T,*,N,Product Specification Name,-,-,-,:
spec_date=D,1,N,Product Specification Date,-,-,-,:
earliest_source=D,1,N,Date of Earliest Source,-,-,-,:
latest_source=D,1,N,Date of Latest Source,-,-,-,:
```

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```
collection_spec=T,*,N,Collection Specification Name,-,-,-,:
abs_horiz_acc=T,*,N,Absolute Horizontal Accuracy of VPF Level,-,-,-,:
abs_horiz_units=T,20,N,Unit of Measure for Absolute Horizontal Accuracy,-,-,-,:
abs_vert_acc=T,*,N,Absolute Vertical Accuracy of VPF Level,-,-,-,:
abs_vert_units=T,20,N,Unit of Measure for Absolute Vertical Accuracy,-,-,-,:
rel_horiz_acc=T,*,N,Point-to-Point Horizontal Accuracy of VPF Level,-,-,-,:
rel_horiz_units=T,20,N,Unit of Measure for Point-to-Point Horizontal Accuracy,-,-,-,:
rel_vert_acc=T,*,N,Point-to-Point Vertical Accuracy of VPF Level,-,-,-,:
rel_vert_units=T,20,N,Unit of Measure for Point-to-Point Vertical Accuracy,-,-,-,:
comments=T,*,N,Miscellaneous Comments,-,-,-,:;
```

```
1\
library\
eusproto\
All features in this library were converted from the source digital DCW data
using the rules for feature extraction and inclusion conditions in accordance
with this specification.\
All features in this library have valid attribute codes assigned to them in
accordance with this specification.\
All data are topologically correct.  No duplicate features are present within
a coverage.
All areas are completely described as extracted from the source materials.
No undershoots or overshoots are present.  All data were consistently
captured using the rules described in the documentation table associated with
this table and in the various feature table narrative files present at the
coverage level within the library.\
1\
19930930       .,\
               .,\
VMap Level 0 Product Specification
19930930       .\
19870100       .\
19890600       .\
Digital Chart of the World MILSPEC MIL-D-89009\
Chart-specific accuracies derived during the DCW project are available as
area feature attributes in the data quality coverage.\
Meters\
Chart-specific accuracies derived during the DCW project are available as
area feature attributes in the data quality coverage.\
Meters\
Unknown\
N/A\
Unknown\
N/A\
Additional descriptions of data lineage are available in the documentation
table associated with this data quality table (called lineage.doc).
```

1 Replace with appropriate VMap library name for each appropriate library.
2 This field length has been modified to accommodate the complete product specification name.
3 These values are for example only refer to section 3.1 for clarification.

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70.1.5 Lineage narrative table. Information regarding the data contained in the library is captured in the **lineage.doc** file (TABLE 51).

TABLE 51. Format and sample content for lineage documentation table (**lineage.doc**).

| | |
|---|---|
| {Header length}L; | |
| Lineage Documentation Table;-; | |
| id=I,1,P,Feature table primary key,-,-,-,: | |
| text=T,80,N,Text information,-,-,-,:; | |
| 1 | This table describes characteristics of the feature data within |
| 2 | this coverage. Three subjects are discussed: (1) special |
| 3 | automation techniques, (2) feature coincidence, and (3) database |
| 4 | design issues. The table does not contain a full description |
| 5 | of the data production process. |
| : | |
| n | ... |

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70.2 Data library reference coverages and tables. The following coverages, including directory files and tables, apply to all tiled data libraries.

70.2.1 Tile Reference coverage directory and files. The tile reference coverage directory contains the following files:

| | |
|---|---|
| **tileref** | directory file |
| **cnd** | connected node table |
| **ebr** | edge bounding rectangle table |
| **edg** | edge primitive table |
| **edx** | edge variable length index file |
| **esi** | edge spatial index table |
| **fac** | face primitive table |
| **fbr** | face bounding rectangle |
| **fcs** | feature class schema table |
| **fsi** | face spatial index table |
| **rng** | ring table |
| **tileref.aft** | tile reference area feature table |
| **tilereft.tft** | tile reference text feature table (optional) |
| **tsi** | text spatial index file |
| **txt** | text primitive table |
| **txx** | text variable length index file |

70.2.1.1 Tile Reference feature class schema table. A feature class schema table shall be present in every tile reference coverage (**tileref**). The format and content of the **fcs** is presented in TABLE 52. The record content of this table may vary for each tile reference coverage depending upon the presence or absence of a text feature class.

TABLE 52. Content and format for **tileref** feature class schema table.

Thematic Layer: Tile Reference
Coverage Name: **tileref**
Table Description: Feature Class Schema Table
Table Name: **fcs**

```
{Header length}L;
Tile 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,2,N,Column Name in Second Table,-,-,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | tileref | tileref.aft | fac_id | fac | id |
| 2 | tileref | fac | tileref.aft_id | tileref.aft | id |
| 3 | tilereft | tilereft.tft | txt_id | txt | id |
| 4 | tilereft | txt | tilereft.tft_id | tilereft.tft | id |

70.2.1.2 Tile reference feature tables. The feature tables implemented in the tile reference coverage are specified in TABLES 53 and 54. The text feature table is optional. If it is present, there is a one-to-one correspondence between the records of the tile reference area feature table and text feature table.

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TABLE 53. Format and sample content for Level 0 **tileref** area feature table.

Thematic Layer: Tile Reference
Coverage Name: **tileref**
Table Description: Tile Reference Area Feature Table
Table Name: **tileref.aft**

| {Header length}L;<br>Tile Reference Area Feature Table;-;<br>id=I,1,P,Row Identifier,-,-,-,:<br>tile_name=T,9,N,VMap Library Tile Path Name,-,-,-,:<br>fac_id=I,1,N,Face Primitive ID,-,-,-,:; | | |
|---|---|---|
| 1 | \F\J\A\A\[1] | 2 |
| 2 | \F\J\A\F\[1] | 3 |
| 3 | \F\J\A\L\[1] | 4 |
| 4 | \F\J\F\A\[1] | 5 |
| : | : | : |
| n | n | n |

[1] The sample tile path names for libraries.

TABLE 54. Format and content for **tileref** text feature table.

Thematic Layer: Tile Reference
Coverage Name: **tileref**
Table Description: Tile Reference Text Feature Table
Table Name: **tilereft.tft**

| {Header length}L;<br>Tile Reference Text Feature Table;-;<br>id=I,1,P,Row Identifier,-,-,-,:<br>tile_name=T,4,N,Tile Name,-,-,-,:<br>txt_id=I,1,N,Text Primitive ID,-,-,-,:; | | |
|---|---|---|
| 1 | FJAA | 1 |
| 2 | FJAF | 2 |
| 3 | : | 3 |
| : | : | : |
| n | n | n |

70.2.1.3 Tile Reference primitive tables. The face, edge, and text primitive tables in the tile reference coverage directory have the same format as the primitive files (reference TABLES 16-20). Although the text feature table is optional, a sample text primitive table is presented to show sample values for the **string** column (TABLE 55).

The structure and format of the variable-length index files and spatial index files are provided in section 3.12.3. The structure and format of the bounding rectangle tables are described in section 3.14.5.

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TABLE 55. Format and example of content for **tileref** text primitive table.

Thematic Layer: **tileref**
Coverage Name: **tileref**
Table Description: Text Primitive Table
Table Name: **txt**

| |
|---|
| {Header length}L;<br>Text Primitive Table;-;<br>id=I,1,P,Row Identifier,-,-,-,:<br>tilereft.txt_id=I,1,N,text feature table id,-,-,-,:<br>string=T,*,N,Text String,-,-,-,:<br>shape_line=C,*,N,Shape of Text String,-,-,-,:; |

| | | | |
|---|---|---|---|
| 1 | 1 | \F\J\A\A\[1] | -5.811609,43.662006 |
| 2 | 2 | \F\J\A\F\[1] | -8.574136,43.435287 |
| 3 | 3 | \F\J\A\L\[1] | -7.437326,42.881957 |
| 4 | 4 | \F\J\F\A\[1] | -6.835582,40.736553<br>-6.825007,40.846355 |
| : | : | : | : |
| n | n | n | n |

[1] Sample tile path names for libraries.

70.2.2 Library Reference coverage directory and files. The library reference coverage directory contains the following files:

| | |
|---|---|
| **libref** | directory file |
| **cnd** | connected node table |
| **ebr** | edge bounding rectangle table |
| **edg** | edge primitive table |
| **edx** | edge variable length index file |
| **esi** | edge spatial index table |
| **fcs** | feature class schema table |
| **libref.lft** | library reference line feature table |
| **libreft.tft** | library reference text feature table (optional) |
| **tsi** | text spatial index file |
| **txt** | text primitive table |
| **txx** | text variable length index file |

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70.2.2.1 Library Reference feature class schema table. A feature class schema table shall be present in every library reference coverage (**libref**). The format and content of the **fcs** is presented in TABLE 56. The record content of this table may vary for each library reference coverage, depending upon the presence or absence of a text feature class.

TABLE 56. Content and format for **libref** feature class schema table.

Thematic Layer: **libref**
Coverage Name: **libref**
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,2,N,Column Name in Second Table,-,-,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | libref | libref.lft | edg_id | edg | id |
| 2 | libref | edg | libref.lft_id | libref.lft | id |
| 3 | libreft | libreft.tft | txt_id | txt | id |
| 4 | libreft | txt | libreft.tft_id | libreft.tft | id |

70.2.2.2 Library Reference feature tables. The feature tables implemented in the library reference coverage are specified in TABLES 57-60.

TABLE 57. Format and content for **libref** line feature table.

Thematic Layer: **libref**
Coverage Name: **libref**
Table Description: Library Reference Line Feature Table
Table Name: **libref.lft**

```
{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,-,-,-,:;
```

| | | |
|---|---|---|
| 1 | FA000 | 1 |
| 2 | BA010 | 2 |
| : | : | : |
| n | n | n |

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TABLE 58. Format and content for **libref** text feature table.

Thematic Layer: Library Reference
Coverage Name: **libref**
Table Description: Library Reference Text Feature Table
Table Name: **libreft.tft**

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

| | | |
|---|---|---|
| 1 | ZD040 | 1 |
| 2 | ZD040 | 2 |
| 3 | ZD045 | 3 |
| : | : | : |
| n | n | n |

70.2.2.3 Library Reference primitive tables. The edge, connected node, and text primitive tables in the library reference coverage directory have the same format as the coverage primitive files (reference TABLES 16-20). Although the text feature table is optional, a sample text primitive table is presented to show sample values for the **string** column (TABLE 59). The text string depicting the library name will be placed appropriately near the top center of each library reference coverage in an appropriately sized font.

The structure and format of the variable-length index files and spatial index files are provided in section 3.12.3. The structure and format of the bounding rectangle tables are described in section 3.14.5.

TABLE 59. Format and example of content for **libref** text primitive table.

Thematic Layer: Library Reference
Coverage Name: **libref**
Table Description: Text Primitive Table
Table Name: **txt**

```
{Header length}L;
Text Primitive Table;-;
id=I,1,P,Row Identifier,-,-,-,:
libreft.txt_id=I,1,N,text feature table id,-,-,-,:
string=T,*,N,Text String,-,-,-,:
shape_line=C,*,N,Shape of Text String,-,-,-,:;
```

| | | | |
|---|---|---|---|
| 1 | 1 | Text string[1] | -5.811609,43.662006 |
| : | : | : | : |
| n | n | n | n |

[1] The names and extent of the Level 0 libraries, or other geographic identifiers.

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TABLE 60. Library reference character value description table.

Thematic Layer: **libref**
Coverage Name: **libref**
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,24,N,Description of Value,-,-,-,:;

| | | | | |
|---|---|---|---|---|
| 1 | libref.lft | f_code | BA010 | Coastline/Shoreline |
| 2 | libref.lft | f_code | FA000 | Administrative Boundary |
| 3 | libreft.tft | f_code | ZD040 | Named Location |
| 4 | libreft.tft | f_code | ZD045 | Text Description |
| 5 | dqline.lft | f_code | BA010 | Coastline/Shoreline |
| 6 | dqline.lft | f_code | FA000 | Administrative Boundary |
| 7 | dqline.lft | f_code | ZD045 | Text Description |

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## 80. VMap LEVEL 0 THEMATIC COVERAGE DIRECTORY RECORD LAYOUT.

80.1 General. For each coverage (TABLE 61), the feature class schema table is described first, followed by the feature tables, then value description tables. The type and content of documentation tables will vary with each coverage. The feature class schema (**fcs**) table given for each coverage contains entries for each possible feature class in the coverage. Only those feature classes actually present in the coverage shall have entries in the **fcs**. For each feature table, the attribute names, descriptions, and values are given. A summary of the VMap Level 0 thematic layers, coverages, and feature classes is presented in TABLE 62.

The format and content for thematic indices, spatial indices and variable-length indices are defined in MIL-STD-2407.

TABLE 61. VMap Level 0 coverages.

| |
|---|
| Boundaries coverage |
| Data quality coverage |
| Elevation coverage |
| Hydrography coverage |
| Industry coverage |
| Physiography coverage |
| Population coverage |
| Transportation coverage |
| Utilities coverage |
| Vegetation coverage |

Data quality feature tables can be present in any coverage when appropriate. Symbol related attribute tables are present in any coverage with a text feature table. These tables may appear in multiple libraries; to avoid redundancy, they are discussed only once, starting in section 80.1.1.

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TABLE 62. VMap Level 0 feature table(s) in tiled coverages.

| Coverage name | Feature tables | | | | |
|---|---|---|---|---|---|
| | Point | Node | Line | Area | Text |
| bnd | polbndp.pft | | barrierl.lft<br>coastl.lft<br>depthl.lft<br>polbndl.lft | oceansea.aft<br>polbnda.aft | bndtxt.tft |
| dq | | | dqline.lft | dqarea.aft | dqtxt.tft |
| elev | elevp.pft | | contourl.lft | | |
| hydro | dangerp.pft<br>miscp.pft | | aquecanl.lft<br>dangerl.lft<br>miscl.lft<br>watrcrsl.lft | inwatera.aft | hydrotxt.tft |
| ind | extractp.pft<br>misindp.pft<br>storagep.pft | | | extracta.aft<br>fishinda.aft | indtxt.tft |
| phys | | | cutfill.lft<br>lndfrml.lft | grounda.aft<br>landicea.aft<br>seaicea.aft | phystxt.tft |
| pop | builtupp.pft<br>mispopp.pft | | | builtupa.aft<br>mispopa.aft | poptxt.tft |
| trans | aerofacp.pft<br>rryardp.pft | transtrc.pft | mistranl.lft<br>railrdl.lft<br>roadl.lft<br>traill.lft<br>transtrl.lft | | transtxt.tft |
| util | utilp.pft | | pipel.lft<br>utill.lft | | utiltxt.tft |
| veg | | | | cropa.aft<br>rangea.aft<br>swampa.aft<br>treesa.aft | vegtxt.tft |

**Note:** Additional data quality point, node, line, area, and text feature tables may be implemented for all coverages (except **dq**) where desired.

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80.1.1 VMap Level 0 data quality feature classes in thematic coverages. Each VMap coverage may contain data quality information for individual point, node, line, or area features. Data quality feature classes have been defined for each coverage to describe data quality information for any or all of the point, node, line, and area features in a coverage (TABLES 63 to 66). Data quality feature tables presented in this section may be implemented if needed in any VMap Level 0 coverage.

Two other data quality tables may be defined—data quality text feature tables (TABLE 67), which contain information about text features, and data quality description related attribute tables (TABLE 68), which contain descriptions for particular features.

Using data quality tables within a coverage is a way to store information about specific features or feature classes within that coverage. A Data Quality coverage may also be implemented in the database; its use is described in section 80.3.

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TABLE 63. Data quality point feature table.

Thematic Layer: <applicable layer>
Coverage Name: <any coverage> (e.g., **bnd** or **elev**)
Table Description: Data Quality Point Feature Table
Table Name: **dqpoint.pft**
**dq** Layer Number: Use Applicable Layer Number

```
{Header length}L;
Data Quality Point Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
dqdescr_id=S,1,N,dq Description Related Row Identifier,-,-,-,:
feature_class=T,8,N,Feature Class,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,dqf_code.pti,-,:
tile_id=S,1,N,Tile Reference ID,-,dqtil_id.pti,-,:
end_id=I,1,N,Entity Node Primitive ID,-,dqend_id.pti,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | 1 | elevp | CA030 | 1 | 1 |
| : | : | : | : | : | : |
| n | n | n | n | n | n |

| Column | Description | Value | Value Meaning |
|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | |
| **dqdescr_id** | Data Quality Description Related Row Identifier | | This is the relate key to the **dqdescr.rat** |
| **feature_class** | VMap Point Feature Class | | Pertinent point feature class name in the coverage to which the data quality information applies |
| **f_code** | FACC Feature Code | any | Capture the F_CODE for the point feature to which the **dq** statement applies |
| | | ZD045 | Text Description. For **dq** pertaining to a point feature with no other applicable F_CODE |

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TABLE 64. Data quality node feature table.

| | |
|---|---|
| Thematic Layer: | <applicable layer> |
| Coverage Name: | <any coverage> (e.g., **hydro** or **trans**) |
| Table Description: | Data Quality Node Feature Table |
| Table Name: | **dqnode.pft** |
| **dq** Layer Number: | Use Applicable Layer Number |

```
(Header length)L;
Data Quality Node Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
dqdescr_id=S,1,N,dq Description Related Row Identifier,-,-,-,:
feature_class=T,8,N,Feature Class,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,dqf_code.nti,-,:
tile_id=S,1,N,Tile Reference ID,-,dqtil_id.nti,-,:
cnd_id=I,1,N,Connected Node Primitive ID,-,dqcnd_id.nti,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | 1 | transtrc | AL210 | 1 | 1 |
| : | : | : | : | : | : |
| n | n | n | n | n | n |

| Column | Description | Value | Value Meaning |
|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | |
| **dqdescr_id** | Data Quality Description Related Row Identifier | | This is the relate key to the **dqdescr.rat** |
| **feature_class** | VMap Node Feature Class | | Pertinent node feature class name in the coverage to which the data quality information applies |
| **f_code** | FACC Feature Code | | |
| | | any | Capture the F_CODE for the node feature to which the **dq** statement applies |
| | | ZD045 | Text Description. For **dq** pertaining to a node feature with no other applicable F_CODE |

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TABLE 65. Data quality line feature table.

Thematic Layer: <applicable layer>
Coverage Name: <any coverage> (e.g., **bnd** or **elev**)
Table Description: Data Quality Line Feature Table
Table Name: **dqline.lft**
**dq** Layer Number: Use Applicable Layer Number

```
{Header length}L;
Data Quality Line Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
dqdescr_id=S,1,N,dq Description Related Row Identifier,-,-,-,:
feature_class=T,8,N,Feature Class,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,dqf_code.lti,-,:
tile_id=S,1,N,Tile Reference ID,-,dqtil_id.lti,-,:
edg_id=I,1,N,Edge Primitive ID,-,dqedg_id.lti,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | 1 | polbndl | FA000 | 1 | 1 |
| : | : | : | : | : | : |
| n | n | n | n | n | n |

| Column | Description | Value | Value Meaning |
|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | |
| **dqdescr_id** | Data Quality Description Related Row Identifier | | This is the relate key to the **dqdescr.rat** |
| **feature_class** | VMap Line Feature Class | | Pertinent line feature class name in the coverage to which the data quality information applies |
| **f_code** | FACC Feature Code | | |
| | | any | Capture the F_CODE for the line feature to which the **dq** statement applies |
| | | ZD045 | Text Description. For **dq** pertaining to a line feature with no other applicable F_CODE |

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TABLE 66. Data quality area feature table.

| | |
|---|---|
| Thematic Layer: | <applicable layer> |
| Coverage Name: | <any coverage> (e.g., **bnd** or **elev**) |
| Table Description: | Data Quality Area Feature Table |
| Table Name: | **dqarea.aft** |
| **dq** Layer Number: | Use Applicable Layer Number |

```
{Header length}L;
Data Quality Area Feature Table;~;
id=I,1,P,Row Identifier,-,-,-,:
dqdescr_id=S,1,N,dq Description Related Row Identifier,-,-,-,:
feature_class=T,8,N,Feature Class,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,dqf_code.ati,-,:
tile_id=S,1,N,Tile Reference ID,~,dqtil_id.ati,-,:
fac_id=I,1,N,Face Primitive ID,-,dqfac_id.ati,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | 1 | builtupa | AL020 | 1 | 2 |
| : | : | : | : | : | : |
| n | n | n | n | n | n |

| Column | Description | Value | Value Meaning |
|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | |
| **dqdescr_id** | Data Quality Description Related Row Identifier | | This is the relate key to the **dqdescr.rat** |
| **feature_class** | VMap Area Feature Class | | Pertinent area feature class name in the coverage to which the data quality information applies |
| **f_code** | FACC Feature Code | | |
| | | any | Capture the F_CODE for the area feature to which the **dq** statement applies |
| | | ZD045 | Text Description. For **dq** pertaining to an area feature with no other applicable F_CODE |

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TABLE 67. Data quality text feature table.

| | |
|---|---|
| Thematic Layer: | <applicable layer> |
| Coverage Name: | <any coverage> (e.g., **bnd** or **elev**) |
| Table Description: | Data Quality Text Feature Table |
| Table Name: | **dqtext.tft** |
| **dq** Layer Number: | Use Applicable Layer Number |

| | | |
|---|---|---|
| {Header length}L; | | |
| Data Quality Text Feature Table;-; | | |
| id=I,1,P,Row Identifier,-,-,-,: | | |
| tile_id=S,1,N,Tile Reference ID,-,dqtil_id.tti,-: | | |
| txt_id=I,1,N,Text Primitive ID,-,dqtxt_id.tti,-,:; | | |
| 1 | 1 | 1 |
| : | : | : |
| n | n | n |

| Column | Description | Value | Value Meaning |
|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | |

This is all that is required.

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TABLE 68. Data quality description related attribute table.

Thematic Layer: <applicable layer>
Coverage Name: <any coverage> (e.g., **bnd** or **elev**)
Table Description: Data Quality Description Related Attribute Table
Table Name: **dqdescr.rat**
**dq** Layer Number: Not Applicable

| {Header length}L;<br>Data Quality Description Related Attribute Table;-;<br>id=I,1,P,Row Identifier,-,-,-,:<br>dqdescr=T,*,N,dq Description for Feature,-,-,-,:; | |
|---|---|
| 1 | Existence doubtful |
| : | : |
| n | n |

| Column | Description | Value | Value Meaning |
|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | |
| **dqdescr** | Data Quality Description for Feature | | |
| | | | Data quality information present on a source that is appropriate to describe at the feature level |

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80.1.2 Symbology. The symbology for the geometric features in the VMap database is defined in the application software. Diacritical marks and non-Roman characters for text are not incorporated in the VMap database. The text display table in each coverage has an associated symbol related attribute table (**symbol.rat**), which provides information on how to symbolize text for representation on a plot or lithograph. Other application software packages may be written to access the symbology related attribute table.

80.1.3 Symbology related attribute table. The symbol related attribute table (TABLE 69) will be present whenever a text feature table is present in a VMap Level 0 coverage. To avoid duplication in this appendix, the **symbol.rat** is presented only once, but it may be present in multiple VMap Level 0 coverages. The **symbol.rat** defines the fonts, font sizes, text style, and color for each text record specified in a text feature table. There is a many-to-one correspondence between the records of the text feature table and the **symbol.rat**.

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TABLE 69. Symbol related attribute table.

Thematic Layer: <applicable layer>
Coverage Name: <any coverage> (e.g., **bnd** or **elev**)
Table Description: Symbol Related Attribute Table
Table Name: **symbol.rat**
**dq** Layer Number: Not Applicable

```
{Header length}L;
Symbol Related Attribute Table;-;
id=I,1,P,Row Identifier,-,-,-,:
symbol_id=S,1,N,Symbol Identification,-,-,-,:
fon=S,1,N,Type of Font,int.vdt,-,-,:
sty=S,1,N,Style of Text,int.vdt,-,-,:
size=S,1,N,Font Size in Points,-,-,-,:
col=S,1,U,Color of Text,int.vdt,-,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 12 | 1 |
| : | : | : | : | : | : |
| n | n | n | n | n | n |

| Column | Description | Value | Value Meaning |
|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | |
| **symbol_id** | Symbol Identification | | |
| | | 1 | 1,1,12,1 |
| | | 2 | 1,1,8,1 |
| | | 3 | 1,1,16,1 |
| | | 5 | 1,1,7,1 |
| | | 6 | 1,1,8,9 |
| | | 7 | 1,1,5,1 |
| | | 8 | 1,1,6,1 |
| | | 9 | 1,1,6,9 |
| | | 10 | 1,1,5,4 |
| | | 12 | 1,1,7,4 |
| | | 13 | 1,1,8,4 |
| | | 16 | 1,1,6,4 |
| | | 18 | 1,1,12,4 |
| | | 21 | 1,1,10,1 |
| | | 25 | 1,1,14,1 |
| | | 29 | 1,1,4,1 |
| | | 31 | 1,1,9,1 |
| | | 34 | 1,1,9,4 |
| | | 35 | 1,1,10,4 |
| | | 36 | 1,1,7,12 |
| | | 37 | 1,1,14,4 |
| | | 38 | 1,1,16,4 |
| | | 39 | 1,1,5,9 |
| | | 40 | 1,1,7,9 |
| | | 41 | 1,1,14,9 |
| | | 42 | 1,1,16,9 |
| **fon** | Type of Font | 1 | Machine Default |
| **sty** | Style of Text | 1 | Kern |
| | | 2 | Proportional |
| | | 3 | Constant |

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| | | | |
|---|---|---|---|
| **size** | Font Size in Points | | |
| | | 4 | |
| | | 5 | |
| | | 6 | |
| | | 7 | |
| | | 8 | |
| | | 9 | |
| | | 10 | |
| | | 12 | |
| | | 14 | |
| | | 16 | |
| **col** | Color of Text | 1 | Black |
| | | 4 | Blue |
| | | 9 | Red-Brown |
| | | 12 | Magenta |

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80.2 Boundaries coverage.

TABLE 70. Content and format for boundaries coverage feature class schema table.

Thematic Layer: Boundaries
Coverage Name: **bnd**
Table Description: Boundaries Feature Class Schema Table
Table Name: **fcs**
**dq** Layer Number: 1

{Header length}L;
Boundaries 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,9,N,Column Name in Second Table,-,-,-,:;

| | | | | | |
|---|---|---|---|---|---|
| 1 | polbndp | polbndp.pft | end_id | end | id |
| 2 | polbndp | end | polbndp.pft_id | polbndp.pft | id |
| 3 | barrier1 | barrier1.lft | edg_id | edg | id |
| 4 | barrier1 | edg | barrier1.lft_id | barrier1.lft | id |
| 5 | coast1 | coast1.lft | edg_id | edg | id |
| 6 | coast1 | edg | coast1.lft_id | coast1.lft | id |
| 7 | depth1 | depth1.lft | edg_id | edg | id |
| 8 | depth1 | edg | depth1.lft_id | depth1.lft | id |
| 9 | polbnd1 | polbnd1.lft | edg_id | edg | id |
| 10 | polbnd1 | edg | polbnd1.lft_id | polbnd1.lft | id |
| 11 | oceansea | oceansea.aft | fac_id | fac | id |
| 12 | oceansea | fac | oceansea.aft_id | oceansea.aft | id |
| 13 | polbnda | polbnda.aft | fac_id | fac | id |
| 14 | polbnda | fac | polbnda.aft_id | polbnda.aft | id |
| 15 | dqpoint | dqpoint.pft | end_id | end | id |
| 16 | dqpoint | end | dqpoint.pft_id | dqpoint.pft | id |
| 17 | dqpoint | dqpoint.pft | dqdescr_id | dqdescr.rat | id |
| 18 | dqline | dqline.lft | edg_id | edg | id |
| 19 | dqline | edg | dqline.lft_id | dqline.lft | id |
| 20 | dqline | dqline.lft | dqdescr_id | dqdescr.rat | id |
| 21 | dqarea | dqarea.aft | fac_id | fac | id |
| 22 | dqarea | fac | dqarea.aft_id | dqarea.aft | id |
| 23 | dqarea | dqarea.aft | dqdescr_id | dqdescr.rat | id |
| 24 | dqtext | dqtext.tft | txt_id | txt | id |
| 25 | dqtext | txt | dqtext.tft_id | dqtext.tft | id |
| 26 | bndtxt | bndtxt.tft | txt_id | txt | id |
| 27 | bndtxt | txt | bndtxt.tft_id | bndtxt.tft | id |
| 28 | bndtxt | bndtxt.tft | symbol_id | symbol.rat | symbol_id |

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TABLE 71. Political boundary point feature table.

Thematic Layer: Boundaries
Coverage Name: **bnd**
Table Description: Political Boundary Point Feature Table
Table Name: **polbndp.pft**
dq Layer Number: 1

```
{Header length}L;
Political Boundary Point Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:
nam=T,*,N,Name,char.vdt,-,-,:
na2=T,2,N,Second Name,char.vdt,-,-,:
na3=T,1,N,Classification Name,char.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile1_id.pti,-,:
end_id=I,1,N,Entity Node Primitive ID,-,end1_id.pti,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | FA001 | US | N | 1 | 1 |
| : | : | : | : | : | : |
| n | n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | FA001 | Administrative Area | |
| **nam** | Name | UNK | Unknown | FA001 |
| | | actual value | (e.g. Pitcairn Island) | FA001 |
| **na2** | Second Name | | | |
| | | Two-character country codes | | FA001 |
| | | AA | Aruba | |
| | | AC | Antigua and Barbuda | |
| | | AF | Afghanistan | |
| | | AG | Algeria | |
| | | AJ | Azerbaijan | |
| | | AL | Albania | |
| | | AM | Armenia | |
| | | AN | Andorra | |
| | | AO | Angola | |
| | | AQ | American Samoa | |
| | | AR | Argentina | |
| | | AS | Australia | |
| | | AT | Ashmore and Cartier Islands | |
| | | AU | Austria | |
| | | AV | Anguilla | |
| | | AY | Antarctica | |
| | | BA | Bahrain | |
| | | BB | Barbados | |
| | | BC | Botswana | |
| | | BD | Bermuda | |
| | | BE | Belgium | |
| | | BF | Bahamas, The | |

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| | |
|---|---|
| BG | Bangladesh |
| BH | Belize |
| BK | Bosnia and Herzegovina |
| BL | Bolivia |
| BM | Burma |
| BN | Benin |
| BO | Belarus |
| BP | Solomon Islands |
| BQ | Navassa Island |
| BR | Brazil |
| BT | Bhutan |
| BU | Bulgaria |
| BV | Bouvet Island |
| BX | Brunei |
| BY | Burundi |
| CA | Canada |
| CB | Cambodia |
| CD | Chad |
| CE | Sri Lanka |
| CF | Congo |
| CG | Zaire |
| CH | China |
| CI | Chile |
| CJ | Cayman Islands |
| CK | Cocos (Keeling) Islands |
| CM | Cameroon |
| CN | Comoros |
| CO | Colombia |
| CQ | Northern Mariana Islands |
| CR | Coral Sea Islands |
| CS | Costa Rica |
| CT | Central African Republic |
| CU | Cuba |
| CV | Cape Verde |
| CW | Cook Islands |
| CY | Cyprus |
| DA | Denmark |
| DJ | Djibouti |
| DO | Dominica |
| DQ | Jarvis Island |
| DR | Dominican Republic |
| EC | Ecuador |
| EG | Egypt |
| EI | Ireland |
| EK | Equatorial Guinea |
| EN | Estonia |
| ER | Eritrea |
| ES | El Salvador |
| ET | Ethiopia |
| EZ | Czech Republic |
| FG | French Guiana |
| FI | Finland |
| FJ | Fiji |
| FK | Falkland Islands (Islas Malvinas) |
| FM | Micronesia, Federated States of |
| FO | Faroc Islands |
| FP | French Polynesia |
| FQ | Baker Island |

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| | |
|---|---|
| FR | France |
| FS | French Southern and Antarctic Lands |
| GA | Gambie, The |
| GB | Gabon |
| GG | Georgia |
| GH | Ghana |
| GI | Gibraltar |
| GJ | Grenada |
| GK | Guernsey |
| GL | Greenland |
| GM | Germany |
| GP | Guadeloupe |
| GQ | Guam |
| GR | Greece |
| GT | Guatemala |
| GV | Guinea |
| GY | Guyana |
| HA | Haiti |
| HK | Hong Kong |
| HM | Heard Island andMcDonald Islands |
| HO | Honduras |
| HQ | Howland Island |
| HR | Croatia |
| HU | Hungary |
| IC | Iceland |
| ID | Indonesia |
| IM | Man, Isle of |
| IN | India |
| IO | British Indian Ocean Territory |
| IP | Clipperton Island |
| IR | Iran |
| IS | Israel |
| IT | Italy |
| IV | Cote d'lvoire (Ivory Coast) |
| IZ | Iraq |
| JA | Japan |
| JE | Jersey |
| JM | Jamaica |
| JN | Jan Mayen |
| JO | Jordan |
| JQ | Johnson Atoll |
| KE | Kenya |
| KG | Kyrgyzstan |
| KN | Korea, North |
| KQ | Kingman Reef |
| KR | Klribati |
| KS | Korea, South |
| KT | Christmas Island |
| KU | Kuwait |
| KZ | Kazakhstan |
| LA | Laos |
| LE | Lebanon |
| LG | Latvia |
| LH | LIthuania |
| LI | Liberia |
| LO | Slovakia |
| LQ | Palrnyra Atoll |
| LS | Liechtenstein |

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| | |
|---|---|
| LT | Lesotho |
| LU | Luxembourg |
| LY | Libya |
| MA | Madagascar |
| MB | Martinique |
| MC | Macau |
| MD | Moldova |
| MF | Mayotie |
| MG | Mongolia |
| MH | Montserrat |
| MI | Malawi |
| MK | Macedonia, The Former Yugoslav Republic of |
| ML | Mali |
| MN | Monaco |
| MO | Morocco |
| MP | Mauritius |
| MQ | Midway Islands |
| MR | Mauritania |
| MT | Malta |
| MU | Oman |
| MV | Maldives |
| MX | Mexico |
| MY | Malaysia |
| MZ | Mozambique |
| NC | New Caledonia |
| NE | Nioe |
| NF | Norfolk Island |
| NG | Niger |
| NH | Vanuatu |
| NI | Nigeria |
| NL | Netherlands |
| NO | Norway |
| NP | Nepal |
| NR | Nauru |
| NS | Suriname |
| NT | Netherlands Antilles |
| NU | Nicaragua |
| NZ | New Zealand |
| PA | Paraguay |
| PC | Pitcairn Islands |
| PE | Peru |
| PF | Paracel Islands |
| PG | Spratly Islands |
| PK | Pakistan |
| PL | Poland |
| PM | Panama |
| PO | Portugal |
| PP | Papua New Guinea |
| PS | Pacific Islands (Palau), Trust Territory of the |
| PU | Guinea-Bissau |
| QA | Qatar |
| RE | Reunion |
| RM | Marshall Islands |
| RO | Romania |
| RP | Philippines |
| RQ | Puerto Rico |
| RS | Russia |

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| | |
|---|---|
| RW | Rwanda |
| SA | Saudi Arabia |
| SB | Saint Pierre and Miquelon |
| SC | Saint Kitts and Nevis |
| SE | Seychelles |
| SF | South Africa |
| SG | Senegal |
| SH | Saint Helena |
| SI | Slovenia |
| SL | Sierra Leone |
| SM | San Marino |
| SN | Singapore |
| SO | Somalia |
| SP | Spain |
| ST | Saint Lucia |
| SU | Sudan |
| SV | Svalbard |
| SW | Sweden |
| SX | South Georgia and the South Sandwich Islands |
| SY | Syria |
| SZ | Switzerland |
| TC | United Arab Emirates |
| TD | Trinidad and Tobago |
| TH | Thailand |
| TI | Tajikistan |
| TK | Turks and Caicas Islands |
| TL | Tokelau |
| TN | Tonga |
| TO | Togo |
| TP | Sao Tome and Principe |
| TS | Tunisla |
| TU | Turkey |
| TV | Tuvalu |
| TX | Turkmenistan |
| TZ | Tanzania |
| UG | Uganda |
| UK | United Kingdom |
| UP | Ukraine |
| US | United States |
| UV | Burkina |
| UY | Uruguay |
| UZ | Uzbekistan |
| VC | Saint Vincent and the Grenadines |
| VE | Venezuela |
| VI | Virgin Islands, British |
| VM | Vietnam |
| VQ | Virgin Islands |
| VT | Holy See |
| WA | Namibia |
| WF | Wallis and Futuna |
| WI | Western Sahara |
| WQ | Wake Island |
| WS | Western Samoa |
| WZ | Swaziland |
| YM | Yemen |
| ZA | Zambia |
| ZI | Zimbabwe |

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| | | | |
|---|---|---|---|
| na3 | Classification Name | | |
| | A | Asia | FA001 |
| | E | Europe | FA001 |
| | F | Africa | FA001 |
| | N | North America | FA001 |
| | S | South America | FA001 |
| | T | Antarctic Area | FA001 |
| | U | Australian Area | FA001 |

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TABLE 72. Barrier line feature table.

Thematic Layer: Boundaries
Coverage Name: **bnd**
Table Description: Barrier Line Feature Table
Table Name: **barrierl.lft**
**dq** Layer Number: 1

| | | | |
|---|---|---|---|
| {Header length}L; | | | |
| Barrier Line Feature Table;-; | | | |
| id=I,1,P,Row Identifier,-,-,-,: | | | |
| f_code=T,5,N,FACC Feature Code,char.vdt,-,-,: | | | |
| tile_id=S,1,N,Tile Reference ID,-,tile1_id.lti,-,: | | | |
| edg_id=I,1,N,Edge Primitive ID,-,edg1_id.lti,-,:; | | | |
| 1 | AL260 | 1 | 1 |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | AL260 | Wall | |

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TABLE 73. Coast line feature table.

Thematic Layer: Boundaries
Coverage Name: **bnd**
Table Description: Coast Line Feature Table
Table Name: **coastl.lft**
**dq** Layer Number: 1

```
{Header length}L;
Coast 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,-,-,:
exs=S,1,N,Existence Category,int.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile2_id.lti,-,:
edg_id=I,1,N,Edge Primitive ID,-,edg2_id.lti,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | BA010 | 0 | 0 | 1 | 1 |
| : | : | : | : | : | : |
| n | n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | BA010 | Coastline/Shoreline | |
| **acc** | Accuracy Category | | | |
| | | 0 | Unknown | BA010 |
| | | 1 | Accurate | BA010 |
| | | 2 | Approximate | BA010 |
| **exs** | Existence Category | | | |
| | | 0 | Unknown | BA010 |
| | | 1 | Definite | BA010 |
| | | 44 | Approximate/About | BA010 |
| | | 46 | Man-made | BA010 |
| | | 55 | Unexamined/Unsurveyed | BA010 |
| | | 60 | Indefinite (Shoreline) | BA010 |

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TABLE 74. Depth line feature table.

Thematic Layer: *Boundaries*
Coverage Name: **bnd**
Table Description: Depth Line Feature Table
Table Name: **depthl.lft**
**dq** Layer Number: 1

| |
|---|
| {Header length}L; |
| Depth Line Feature Table;-; |
| id=I,1,P,Row Identifier,-,-,-,: |
| f_code=T,5,N,FACC Feature Code,char.vdt,-,-,: |
| crv=S,1,N,Depth Curve or Contour Value (meters),-,-,-,: |
| tile_id=S,1,N,Tile Reference ID,-,tile3_id.lti,-,: |
| edg_id=I,1,N,Edge Primitive ID,-,edg3_id.lti,-,:; |

| | | | | |
|---|---|---|---|---|
| 1 | BE015 | 0 | 1 | 1 |
| : | : | : | : | : |
| n | n | n | n | n |

| 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 | |
| **crv** | Depth Curve or Contour Value (meters) | | | |
| | | 200 | | BE015 |
| | | 600 | | BE015 |
| | | 1000 | | BE015 |
| | | 2000 | | BE015 |
| | | 4000 | | BE015 |
| | | 6000 | | BE015 |
| | | 8000 | | BE015 |

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TABLE 75. Political boundary line feature table.

Thematic Layer: Boundaries
Coverage Name: **bnd**
Table Description: Political Boundary Line Feature Table
Table Name: **polbnd1.lft**
**dq** Layer Number: 1

```
{Header length}L;
Political Boundary Line Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code4.lti,-,:
acc=S,1,N,Accuracy Category,int.vdt,-,-,:
bst=S,1,N,Boundary Status Type,int.vdt,-,-,:
use=S,1,N,Usage,int.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile4_id.lti,-,:
edg_id=I,1,N,Edge Primitive ID,-,edg4_id.lti,-,:;
```

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | FA000 | 1 | 1 | 23 | 1 | 1 |
| 2 | FA020 | 1 | 1 | -32768 | 2 | 2 |
| 3 | FA030 | 1 | 1 | -32768 | 3 | 3 |
| 4 | FA050 | 2 | 1 | -32768 | 4 | 4 |
| 5 | FA060 | 2 | 1 | 23 | 5 | 5 |
| 6 | FA110 | -32768 | -32768 | -32768 | 6 | 6 |
| : | : | : | : | : | : | : |
| n | n | n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | FA000 | Administrative Boundary | |
| | | FA020 | Armistice Line | |
| | | FA030 | Cease-Fire Line | |
| | | FA040 | Claim Line | |
| | | FA050 | Mandate Line/Convention Line | |
| | | FA060 | Defacto Boundary | |
| | | FA110 | International Date Line (no attributes) | |
| **acc** | Accuracy Category | | | |
| | | -32768 | Null | FA110 |
| | | 1 | Accurate | FA000, FA020, FA030, FA040, FA050, FA060 |
| | | 2 | Approximate | FA000, FA020, FA030, FA040, FA050, FA060 |
| **bst** | Boundary Status Type | | | |
| | | -32768 | Null | FA110 |
| | | 1 | Definite | FA000, FA020, FA030, FA040, FA050, FA060 |
| | | 2 | Indefinite | FA000, FA020, FA030, FA040, FA050, FA060 |
| | | 3 | In Dispute | FA060 |
| | | 4 | No Defined Boundary | FA060 |

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| use | Usage | | | |
|---|---|---|---|---|
| | | -32768 | Null | FA020, FA030, FA040<br>FA050, FA110 |
| | | 23 | International | FA000, FA060 |
| | | 26 | Primary/1st Order | FA000 |

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TABLE 76. Ocean/Sea area feature table.

Thematic Layer: Boundaries
Coverage Name: **bnd**
Table Description: Ocean/Sea Area Feature Table
Table Name: **oceansea.aft**
**dq** Layer Number: 1

| | | | | |
|---|---|---|---|---|
| {Header length}L;<br>Ocean/Sea Area Feature Table;-;<br>id=I,1,P,Row Identifier,-,-,-,:<br>f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:<br>nam=T,*,N,Name,-,-,-,:<br>tile_id=S,1,N,Tile Reference ID,-,tile1_id.ati,-,:<br>fac_id=I,1,N,Face Primitive ID,-,fac1_id.ati,-,:; | | | | |
| 1 | BA040 | North Atlantic Ocean | 1 | 2 |
| : | : | : | : | : |
| n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | BA040 | Water (except Inland) | |
| **nam** | Name | | | |
| | | Character text string representing the ocean or sea name as depicted in IHO Special Publication 23 | | BA040 |

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TABLE 77. Political boundary area feature table.

Thematic Layer: Boundaries
Coverage Name: **bnd**
Table Description: Political Boundary Area Feature Table
Table Name: **polbnda.aft**
**dq** Layer Number: 1

```
{Header length}L;
Political Boundary Area Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code2.ati,-,:
nam=T,*,N,Name,char.vdt,-,-,:
na2=T,2,N,Second Name,char.vdt,-,-,:
na3=T,1,N,Classification Name,char.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile2_id.ati,-,:
fac_id=I,1,N,Face Primitive ID,-,fac2_id.ati,-,:;
```

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | FA001 | Virginia | US | N | 1 | 2 |
| : | : | : | : | : | : | : |
| n | n | n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | FA001 | Administrative Area | |
| | | FA070 | Demilitarized Zone | |
| | | FA170 | Zone of Occupation | |
| **nam** | Name | | | |
| | | zero-length | Null | FA070, FA170 |
| | | | Character text string | FA001 |
| | | | "UNK" (no entry present for feature) | FA001 |
| **na2** | Second Name | | | |
| | | Two-character country codes | | FA001, FA070, FA170 |
| | | AA | Aruba | |
| | | AC | Antigua and Barbuda | |
| | | AF | Afghanistan | |
| | | AG | Algeria | |
| | | AJ | Azerbaijan | |
| | | AL | Albania | |
| | | AM | Armenia | |
| | | AN | Andorra | |
| | | AO | Angola | |
| | | AQ | American Samoa | |
| | | AR | Argentina | |
| | | AS | Australia | |
| | | AT | Ashmore and Cartier Islands | |
| | | AU | Austria | |
| | | AV | Anguilla | |
| | | AY | Antarctica | |
| | | BA | Bahrain | |
| | | BB | Barbados | |

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| | |
|---|---|
| BC | Botswana |
| BD | Bermuda |
| BE | Belgium |
| BF | Bahamas, The |
| BG | Bangladesh |
| BH | Belize |
| BK | Bosnia and Herzegovina |
| BL | Bolivia |
| BM | Burma |
| BN | Benin |
| BO | Belarus |
| BP | Solomon Islands |
| BQ | Navassa Island |
| BR | Brazil |
| BT | Bhutan |
| BU | Bulgaria |
| BV | Bouvet Island |
| BX | Brunei |
| BY | Burundi |
| CA | Canada |
| CB | Cambodia |
| CD | Chad |
| CE | Sri Lanka |
| CF | Congo |
| CG | Zaire |
| CH | China |
| CI | Chile |
| CJ | Cayman Islands |
| CK | Cocos (Keeling) Islands |
| CM | Cameroon |
| CN | Comoros |
| CO | Colombia |
| CQ | Northern Mariana Islands |
| CR | Coral Sea Islands |
| CS | Costa Rica |
| CT | Central African Republic |
| CU | Cuba |
| CV | Cape Verde |
| CW | Cook Islands |
| CY | Cyprus |
| DA | Denmark |
| DJ | Djibouti |
| DO | Dominica |
| DQ | Jarvis Island |
| DR | Dominican Republic |
| EC | Ecuador |
| EG | Egypt |
| EI | Ireland |
| EK | Equatorial Guinea |
| EN | Estonia |
| ER | Eritrea |
| ES | El Salvador |
| ET | Ethiopia |
| EZ | Czech Republic |
| FG | French Guiana |
| FI | Finland |
| FJ | Fiji |
| FK | Falkland Islands (Islas Malvinas) |

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| | |
|---|---|
| FM | Micronesia, Federated States of |
| FO | Faroc Islands |
| FP | French Polynesia |
| FQ | Baker Island |
| FR | France |
| FS | French Southern and Antarctic Lands |
| GA | Gambie, The |
| GB | Gabon |
| GG | Georgia |
| GH | Ghana |
| GI | Gibraltar |
| GJ | Grenada |
| GK | Guernsey |
| GL | Greenland |
| GM | Germany |
| GP | Guadeloupe |
| GQ | Guam |
| GR | Greece |
| GT | Guatemala |
| GV | Guinea |
| GY | Guyana |
| HA | Haiti |
| HK | Hong Kong |
| HM | Heard Island andMcDonald Islands |
| HO | Honduras |
| HQ | Howland Island |
| HR | Croatia |
| HU | Hungary |
| IC | Iceland |
| ID | Indonesia |
| IM | Man, Isle of |
| IN | India |
| IO | British Indian Ocean Territory |
| IP | Clipperton Island |
| IR | Iran |
| IS | Israel |
| IT | Italy |
| IV | Cote d'lvoire (Ivory Coast) |
| IZ | Iraq |
| JA | Japan |
| JE | Jersey |
| JM | Jamaica |
| JN | Jan Mayen |
| JO | Jordan |
| JQ | Johnson Atoll |
| KE | Kenya |
| KG | Kyrgyzstan |
| KN | Korea, North |
| KQ | Kingman Reef |
| KR | Klribati |
| KS | Korea, South |
| KT | Christmas Island |
| KU | Kuwait |
| KZ | Kazakhstan |
| LA | Laos |
| LE | Lebanon |
| LG | Latvia |
| LH | LIthuania |

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| | |
|---|---|
| LI | Liberia |
| LO | Slovakia |
| LQ | Palrnyra Atoll |
| LS | Liechtenstein |
| LT | Lesotho |
| LU | Luxembourg |
| LY | Libya |
| MA | Madagascar |
| MB | Martinique |
| MC | Macau |
| MD | Moldova |
| MF | Mayotie |
| MG | Mongolia |
| MH | Montserrat |
| MI | Malawi |
| MK | Macedonia, The Former Yugoslav Republic of |
| ML | Mali |
| MN | Monaco |
| MO | Morocco |
| MP | Mauritius |
| MQ | Midway Islands |
| MR | Mauritania |
| MT | Malta |
| MU | Oman |
| MV | Maldives |
| MX | Mexico |
| MY | Malaysia |
| MZ | Mozambique |
| NC | New Caledonia |
| NE | Nioe |
| NF | Norfolk Island |
| NG | Niger |
| NH | Vanuatu |
| NI | Nigeria |
| NL | Netherlands |
| NO | Norway |
| NP | Nepal |
| NR | Nauru |
| NS | Suriname |
| NT | Netherlands Antilles |
| NU | Nicaragua |
| NZ | New Zealand |
| PA | Paraguay |
| PC | Pitcairn Islands |
| PE | Peru |
| PF | Paracel Islands |
| PG | Spratly Islands |
| PK | Pakistan |
| PL | Poland |
| PM | Panama |
| PO | Portugal |
| PP | Papua New Guinea |
| PS | Pacific Islands (Palau), Trust Territory of the |
| PU | Guinea-Bissau |
| QA | Qatar |
| RE | Reunion |
| RM | Marshall Islands |

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| | |
|---|---|
| RO | Romania |
| RP | Philippines |
| RQ | Puerto Rico |
| RS | Russia |
| RW | Rwanda |
| SA | Saudi Arabia |
| SB | Saint Pierre and Miquelon |
| SC | Saint Kitts and Nevis |
| SE | Seychelles |
| SF | South Africa |
| SG | Senegal |
| SH | Saint Helena |
| SI | Slovenia |
| SL | Sierra Leone |
| SM | San Marino |
| SN | Singapore |
| SO | Somalia |
| SP | Spain |
| ST | Saint Lucia |
| SU | Sudan |
| SV | Svalbard |
| SW | Sweden |
| SX | South Georgia and the South Sandwich Islands |
| SY | Syria |
| SZ | Switzerland |
| TC | United Arab Emirates |
| TD | Trinidad and Tobago |
| TH | Thailand |
| TI | Tajikistan |
| TK | Turks and Caicas Islands |
| TL | Tokelau |
| TN | Tonga |
| TO | Togo |
| TP | Sao Tome and Principe |
| TS | Tunisla |
| TU | Turkey |
| TV | Tuvalu |
| TX | Turkmenistan |
| TZ | Tanzania |
| UG | Uganda |
| UK | United Kingdom |
| UP | Ukraine |
| US | United States |
| UV | Burkina |
| UY | Uruguay |
| UZ | Uzbekistan |
| VC | Saint Vincent and the Grenadines |
| VE | Venezuela |
| VI | Virgin Islands, British |
| VM | Vietnam |
| VQ | Virgin Islands |
| VT | Holy See |
| WA | Namibia |
| WF | Wallis and Futuna |
| WI | Western Sahara |
| WQ | Wake Island |
| WS | Western Samoa |
| WZ | Swaziland |

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| | | | |
|---|---|---|---|
| | YM | Yemen | |
| | ZA | Zambia | |
| | ZI | Zimbabwe | |
| na3 | Classification Name | | |
| | A | Asia | FA001, FA070, FA170 |
| | E | Europe | FA001, FA070, FA170 |
| | F | Africa | FA001, FA070, FA170 |
| | N | North America | FA001, FA070, FA170 |
| | S | South America | FA001, FA070, FA170 |
| | T | Antarctic Area | FA001, FA070, FA170 |
| | U | Australian Area | FA001, FA070, FA170 |

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TABLE 78. Boundaries text feature table.

| | |
|---|---|
| Thematic Layer: | Boundaries |
| Coverage Name: | **bnd** |
| Table Description: | Boundaries Text Feature Table |
| Table Name: | **bndtxt.tft** |
| **dq** Layer Number: | 1 |

```
{Header length}L;
Boundaries Text Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code1.tti,-,:
symbol_id=S,1,N,Symbol Identification,-,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile1_id.tti,-,:
txt_id=I,1,N,Text Primitive ID,-,txt1_id.tti,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | ZD040 | TBD | 1 | 1 |
| 2 | ZD045 | TBD | 4 | 45 |
| : | : | : | : | : |
| n | n | n | n | n |

| 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 | |
| | | ZD045 | Text Description | |

**symbol_id** Symbol Identification

(Refer to Symbol Related Attribute Table for selection of values)

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TABLE 79. Boundaries feature class attribute table.

Thematic Layer: Boundaries
Coverage Name: **bnd**
Table Description: Boundaries Feature Class Attribute Table
Table Name: **fca**
**dq** Layer Number: 1

```
{Header length}L;
Boundaries 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,-,-,-,:;
```

| | | | |
|---|---|---|---|
| 1 | polbndp | P | Political Boundary |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **fclass** | Feature Class Name | | | |
| | | **polbndp** | | |
| | | **barrierl** | | |
| | | **coastl** | | |
| | | **depthl** | | |
| | | **polbndl** | | |
| | | **oceansea** | | |
| | | **polbnda** | | |
| | | **bndtxt** | | |
| **type** | Feature Type | | | |
| | | P | Point Feature | **polbndp** |
| | | L | Line Feature | **barrierl,coastl, depthl,polbndl** |
| | | A | Area Feature | **oceansea,polbnda** |
| | | T | Text Feature | **bndtxt** |
| **descr** | Description | | | |
| | | Political Boundary | | |
| | | Point Features | | **polbndp** |
| | | Barrier Line Features | | **barrierl** |
| | | Coastlines | | **coastl** |
| | | Depth Contours | | **depthl** |
| | | Political Boundaries | | **polbndl** |
| | | Oceans/Seas | | **oceansea** |
| | | Administrative Areas | | **polbnda** |
| | | Boundaries Coverage Text | | **bndtxt** |

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TABLE 80. Boundaries character value description table.

Thematic Layer: Boundaries
Coverage Name: **bnd**
Table Description: Boundaries Character Value Description Table
Table Name: **char.vdt**
**dq** Layer Number: 1

```
{Header length}L;
Boundaries 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,50,N,Description of Value,-,-,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | polbndp.pft | f_code | FA001 | Administrative Area |
| 2 | polbndp.pft | na2 | AA | Aruba |
| 3 | polbndp.pft | na2 | AC | Antigua and Barbuda |
| 4 | polbndp.pft | na2 | AF | Afghanistan |
| 5 | polbndp.pft | na2 | AG | Algeria |
| 6 | polbndp.pft | na2 | AJ | Azerbaijan |
| 7 | polbndp.pft | na2 | AL | Albania |
| 8 | polbndp.pft | na2 | AM | Armenia |
| 9 | polbndp.pft | na2 | AN | Andorra |
| 10 | polbndp.pft | na2 | AO | Angola |
| 11 | polbndp.pft | na2 | AQ | American Samoa |
| 12 | polbndp.pft | na2 | AR | Argentina |
| 13 | polbndp.pft | na2 | AS | Australia |
| 14 | polbndp.pft | na2 | AT | Ashmore and Cartier Islands |
| 15 | polbndp.pft | na2 | AU | Austria |
| 16 | polbndp.pft | na2 | AV | Anguilla |
| 17 | polbndp.pft | na2 | AY | Antarctica |
| 18 | polbndp.pft | na2 | BA | Bahrain |
| 19 | polbndp.pft | na2 | BB | Barbados |
| 20 | polbndp.pft | na2 | BC | Botswana |
| 21 | polbndp.pft | na2 | BD | Bermuda |
| 22 | polbndp.pft | na2 | BE | Belgium |
| 23 | polbndp.pft | na2 | BF | Bahamas, The |
| 24 | polbndp.pft | na2 | BG | Bangladesh |
| 25 | polbndp.pft | na2 | BH | Belize |
| 26 | polbndp.pft | na2 | BK | Bosnia and Herzegovina |
| 27 | polbndp.pft | na2 | BL | Bolivia |
| 28 | polbndp.pft | na2 | BM | Burma |
| 29 | polbndp.pft | na2 | BN | Benin |
| 30 | polbndp.pft | na2 | BO | Belarus |
| 31 | polbndp.pft | na2 | BP | Solomon Islands |
| 32 | polbndp.pft | na2 | BQ | Navassa Island |
| 33 | polbndp.pft | na2 | BR | Brazil |
| 34 | polbndp.pft | na2 | BT | Bhutan |
| 35 | polbndp.pft | na2 | BU | Bulgaria |
| 36 | polbndp.pft | na2 | BV | Bouvet Island |
| 37 | polbndp.pft | na2 | BX | Brunei |
| 38 | polbndp.pft | na2 | BY | Burundi |
| 39 | polbndp.pft | na2 | CA | Canada |

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|---|---|---|---|---|
| 40 | polbndp.pft | na2 | CB | Cambodia |
| 41 | polbndp.pft | na2 | CD | Chad |
| 42 | polbndp.pft | na2 | CE | Sri Lanka |
| 43 | polbndp.pft | na2 | CF | Congo |
| 44 | polbndp.pft | na2 | CG | Zaire |
| 45 | polbndp.pft | na2 | CH | China |
| 46 | polbndp.pft | na2 | CI | Chile |
| 47 | polbndp.pft | na2 | CJ | Cayman Islands |
| 48 | polbndp.pft | na2 | CK | Cocos (Keeling) Islands |
| 49 | polbndp.pft | na2 | CM | Cameroon |
| 50 | polbndp.pft | na2 | CN | Comoros |
| 51 | polbndp.pft | na2 | CO | Colombia |
| 52 | polbndp.pft | na2 | CQ | Northern Mariana Islands |
| 53 | polbndp.pft | na2 | CR | Coral Sea Islands |
| 54 | polbndp.pft | na2 | CS | Costa Rica |
| 55 | polbndp.pft | na2 | CT | Central African Republic |
| 56 | polbndp.pft | na2 | CU | Cuba |
| 57 | polbndp.pft | na2 | CV | Cape Verde |
| 58 | polbndp.pft | na2 | CW | Cook Islands |
| 59 | polbndp.pft | na2 | CY | Cyprus |
| 60 | polbndp.pft | na2 | DA | Denmark |
| 61 | polbndp.pft | na2 | DJ | Djibouti |
| 62 | polbndp.pft | na2 | DO | Dominica |
| 63 | polbndp.pft | na2 | DQ | Jarvis Island |
| 64 | polbndp.pft | na2 | DR | Dominican Republic |
| 65 | polbndp.pft | na2 | EC | Ecuador |
| 66 | polbndp.pft | na2 | EG | Egypt |
| 67 | polbndp.pft | na2 | EI | Ireland |
| 68 | polbndp.pft | na2 | EK | Equatorial Guinea |
| 69 | polbndp.pft | na2 | EN | Estonia |
| 70 | polbndp.pft | na2 | ER | Eritrea |
| 71 | polbndp.pft | na2 | ES | El Salvador |
| 72 | polbndp.pft | na2 | ET | Ethiopia |
| 73 | polbndp.pft | na2 | EZ | Czech Republic |
| 74 | polbndp.pft | na2 | FG | French Guiana |
| 75 | polbndp.pft | na2 | FI | Finland |
| 76 | polbndp.pft | na2 | FJ | Fiji |
| 77 | polbndp.pft | na2 | FK | Falkland Islands (Islas Malvinas) |
| 78 | polbndp.pft | na2 | FM | Micronesia, Federated States of |
| 79 | polbndp.pft | na2 | FO | Faroc Islands |
| 80 | polbndp.pft | na2 | FP | French Polynesia |
| 81 | polbndp.pft | na2 | FQ | Baker Island |
| 82 | polbndp.pft | na2 | FR | France |
| 83 | polbndp.pft | na2 | FS | French Southern and Antarctic Lands |
| 84 | polbndp.pft | na2 | GA | Gambie, The |
| 85 | polbndp.pft | na2 | GB | Gabon |
| 86 | polbndp.pft | na2 | GG | Georgia |
| 87 | polbndp.pft | na2 | GH | Ghana |
| 88 | polbndp.pft | na2 | GI | Gibraltar |
| 89 | polbndp.pft | na2 | GJ | Grenada |
| 90 | polbndp.pft | na2 | GK | Guernsey |
| 91 | polbndp.pft | na2 | GL | Greenland |
| 92 | polbndp.pft | na2 | GM | Germany |
| 93 | polbndp.pft | na2 | GP | Guadeloupe |

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| 94 | polbndp.pft | na2 | GQ | Guam |
| 95 | polbndp.pft | na2 | GR | Greece |
| 96 | polbndp.pft | na2 | GT | Guatemala |
| 97 | polbndp.pft | na2 | GV | Guinea |
| 98 | polbndp.pft | na2 | GY | Guyana |
| 99 | polbndp.pft | na2 | HA | Haiti |
| 100 | polbndp.pft | na2 | HK | Hong Kong |
| 101 | polbndp.pft | na2 | HM | Heard Island andMcDonald Islands |
| 102 | polbndp.pft | na2 | HO | Honduras |
| 103 | polbndp.pft | na2 | HQ | Howland Island |
| 104 | polbndp.pft | na2 | HR | Croatia |
| 105 | polbndp.pft | na2 | HU | Hungary |
| 106 | polbndp.pft | na2 | IC | Iceland |
| 107 | polbndp.pft | na2 | ID | Indonesia |
| 108 | polbndp.pft | na2 | IM | Man, Isle of |
| 109 | polbndp.pft | na2 | IN | India |
| 110 | polbndp.pft | na2 | IO | British Indian Ocean Territory |
| 111 | polbndp.pft | na2 | IP | Clipperton Island |
| 112 | polbndp.pft | na2 | IR | Iran |
| 113 | polbndp.pft | na2 | IS | Israel |
| 114 | polbndp.pft | na2 | IT | Italy |
| 115 | polbndp.pft | na2 | IV | Cote d'lvoire (Ivory Coast) |
| 116 | polbndp.pft | na2 | IZ | Iraq |
| 117 | polbndp.pft | na2 | JA | Japan |
| 118 | polbndp.pft | na2 | JE | Jersey |
| 119 | polbndp.pft | na2 | JM | Jamaica |
| 120 | polbndp.pft | na2 | JN | Jan Mayen |
| 121 | polbndp.pft | na2 | JO | Jordan |
| 122 | polbndp.pft | na2 | JQ | Johnson Atoll |
| 123 | polbndp.pft | na2 | KE | Kenya |
| 124 | polbndp.pft | na2 | KG | Kyrgyzstan |
| 125 | polbndp.pft | na2 | KN | Korea, North |
| 126 | polbndp.pft | na2 | KQ | Kingman Reef |
| 127 | polbndp.pft | na2 | KR | Klribati |
| 128 | polbndp.pft | na2 | KS | Korea, South |
| 129 | polbndp.pft | na2 | KT | Christmas Island |
| 130 | polbndp.pft | na2 | KU | Kuwait |
| 131 | polbndp.pft | na2 | KZ | Kazakhstan |
| 132 | polbndp.pft | na2 | LA | Laos |
| 133 | polbndp.pft | na2 | LE | Lebanon |
| 134 | polbndp.pft | na2 | LG | Latvia |
| 135 | polbndp.pft | na2 | LH | LIthuania |
| 136 | polbndp.pft | na2 | LI | Liberia |
| 137 | polbndp.pft | na2 | LO | Slovakia |
| 138 | polbndp.pft | na2 | LQ | Palrnyra Atoll |
| 139 | polbndp.pft | na2 | LS | Liechtenstein |
| 140 | polbndp.pft | na2 | LT | Lesotho |
| 141 | polbndp.pft | na2 | LU | Luxembourg |
| 142 | polbndp.pft | na2 | LY | Libya |
| 143 | polbndp.pft | na2 | MA | Madagascar |
| 144 | polbndp.pft | na2 | MB | Martinique |
| 145 | polbndp.pft | na2 | MC | Macau |
| 146 | polbndp.pft | na2 | MD | Moldova |
| 147 | polbndp.pft | na2 | MF | Mayotie |

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|---|---|---|---|---|
| 148 | polbndp.pft | na2 | MG | Mongolia |
| 149 | polbndp.pft | na2 | MH | Montserrat |
| 150 | polbndp.pft | na2 | MI | Malawi |
| 151 | polbndp.pft | na2 | MK | Macedonia, The Former Yugoslav Republic of |
| 152 | polbndp.pft | na2 | ML | Mali |
| 153 | polbndp.pft | na2 | MN | Monaco |
| 154 | polbndp.pft | na2 | MO | Morocco |
| 155 | polbndp.pft | na2 | MP | Mauritius |
| 156 | polbndp.pft | na2 | MQ | Midway Islands |
| 157 | polbndp.pft | na2 | MR | Mauritania |
| 158 | polbndp.pft | na2 | MT | Malta |
| 159 | polbndp.pft | na2 | MU | Oman |
| 160 | polbndp.pft | na2 | MV | Maldives |
| 161 | polbndp.pft | na2 | MX | Mexico |
| 162 | polbndp.pft | na2 | MY | Malaysia |
| 163 | polbndp.pft | na2 | MZ | Mozambique |
| 164 | polbndp.pft | na2 | NC | New Caledonia |
| 165 | polbndp.pft | na2 | NE | Nioe |
| 166 | polbndp.pft | na2 | NF | Norfolk Island |
| 167 | polbndp.pft | na2 | NG | Niger |
| 168 | polbndp.pft | na2 | NH | Vanuatu |
| 169 | polbndp.pft | na2 | NI | Nigeria |
| 170 | polbndp.pft | na2 | NL | Netherlands |
| 171 | polbndp.pft | na2 | NO | Norway |
| 172 | polbndp.pft | na2 | NP | Nepal |
| 173 | polbndp.pft | na2 | NR | Nauru |
| 174 | polbndp.pft | na2 | NS | Suriname |
| 175 | polbndp.pft | na2 | NT | Netherlands Antilles |
| 176 | polbndp.pft | na2 | NU | Nicaragua |
| 177 | polbndp.pft | na2 | NZ | New Zealand |
| 178 | polbndp.pft | na2 | PA | Paraguay |
| 179 | polbndp.pft | na2 | PC | Pitcairn Islands |
| 180 | polbndp.pft | na2 | PE | Peru |
| 181 | polbndp.pft | na2 | PF | Paracel Islands |
| 182 | polbndp.pft | na2 | PG | Spratly Islands |
| 183 | polbndp.pft | na2 | PK | Pakistan |
| 184 | polbndp.pft | na2 | PL | Poland |
| 185 | polbndp.pft | na2 | PM | Panama |
| 186 | polbndp.pft | na2 | PO | Portugal |
| 187 | polbndp.pft | na2 | PP | Papua New Guinea |
| 188 | polbndp.pft | na2 | PS | Pacific Islands (Palau), Trust Territory of the |
| 189 | polbndp.pft | na2 | PU | Guinea-Bissau |
| 190 | polbndp.pft | na2 | QA | Qatar |
| 191 | polbndp.pft | na2 | RE | Reunion |
| 192 | polbndp.pft | na2 | RM | Marshall Islands |
| 193 | polbndp.pft | na2 | RO | Romania |
| 194 | polbndp.pft | na2 | RP | Philippines |
| 195 | polbndp.pft | na2 | RQ | Puerto Rico |
| 196 | polbndp.pft | na2 | RS | Russia |
| 197 | polbndp.pft | na2 | RW | Rwanda |
| 198 | polbndp.pft | na2 | SA | Saudi Arabia |
| 199 | polbndp.pft | na2 | SB | Saint Pierre and Miquelon |

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|---|---|---|---|---|
| 200 | polbndp.pft | na2 | SC | Saint Kitts and Nevis |
| 201 | polbndp.pft | na2 | SE | Seychelles |
| 202 | polbndp.pft | na2 | SF | South Africa |
| 203 | polbndp.pft | na2 | SG | Senegal |
| 204 | polbndp.pft | na2 | SH | Saint Helena |
| 205 | polbndp.pft | na2 | SI | Slovenia |
| 206 | polbndp.pft | na2 | SL | Sierra Leone |
| 207 | polbndp.pft | na2 | SM | San Marino |
| 208 | polbndp.pft | na2 | SN | Singapore |
| 209 | polbndp.pft | na2 | SO | Somalia |
| 210 | polbndp.pft | na2 | SP | Spain |
| 211 | polbndp.pft | na2 | ST | Saint Lucia |
| 212 | polbndp.pft | na2 | SU | Sudan |
| 213 | polbndp.pft | na2 | SV | Svalbard |
| 214 | polbndp.pft | na2 | SW | Sweden |
| 215 | polbndp.pft | na2 | SX | South Georgia and the South Sandwich Islands |
| 216 | polbndp.pft | na2 | SY | Syria |
| 217 | polbndp.pft | na2 | SZ | Switzerland |
| 218 | polbndp.pft | na2 | TC | United Arab Emirates |
| 219 | polbndp.pft | na2 | TD | Trinidad and Tobago |
| 220 | polbndp.pft | na2 | TH | Thailand |
| 221 | polbndp.pft | na2 | TI | Tajikistan |
| 222 | polbndp.pft | na2 | TK | Turks and Caicas Islands |
| 223 | polbndp.pft | na2 | TL | Tokelau |
| 224 | polbndp.pft | na2 | TN | Tonga |
| 225 | polbndp.pft | na2 | TO | Togo |
| 226 | polbndp.pft | na2 | TP | Sao Tome and Principe |
| 227 | polbndp.pft | na2 | TS | Tunisla |
| 228 | polbndp.pft | na2 | TU | Turkey |
| 229 | polbndp.pft | na2 | TV | Tuvalu |
| 230 | polbndp.pft | na2 | TX | Turkmenistan |
| 231 | polbndp.pft | na2 | TZ | Tanzania |
| 232 | polbndp.pft | na2 | UG | Uganda |
| 233 | polbndp.pft | na2 | UK | United Kingdom |
| 234 | polbndp.pft | na2 | UP | Ukraine |
| 235 | polbndp.pft | na2 | US | United States |
| 236 | polbndp.pft | na2 | UV | Burkina |
| 237 | polbndp.pft | na2 | UY | Uruguay |
| 238 | polbndp.pft | na2 | UZ | Uzbekistan |
| 239 | polbndp.pft | na2 | VC | Saint Vincent and the Grenadines |
| 240 | polbndp.pft | na2 | VE | Venezuela |
| 241 | polbndp.pft | na2 | VI | Virgin Islands, British |
| 242 | polbndp.pft | na2 | VM | Vietnam |
| 243 | polbndp.pft | na2 | VQ | Virgin Islands |
| 244 | polbndp.pft | na2 | VT | Holy See |
| 245 | polbndp.pft | na2 | WA | Namibia |
| 246 | polbndp.pft | na2 | WF | Wallis and Futuna |
| 247 | polbndp.pft | na2 | WI | Western Sahara |
| 248 | polbndp.pft | na2 | WQ | Wake Island |
| 249 | polbndp.pft | na2 | WS | Western Samoa |
| 250 | polbndp.pft | na2 | WZ | Swaziland |
| 251 | polbndp.pft | na2 | YM | Yemen |
| 252 | polbndp.pft | na2 | ZA | Zambia |

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|---|---|---|---|---|
| 253 | polbndp.pft | na2 | ZI | Zimbabwe |
| 254 | polbndp.pft | na3 | A | Asia |
| 255 | polbndp.pft | na3 | E | Europe |
| 256 | polbndp.pft | na3 | F | Africa |
| 257 | polbndp.pft | na3 | N | North America |
| 258 | polbndp.pft | na3 | S | South America |
| 259 | polbndp.pft | na3 | T | Antarctic Area |
| 260 | polbndp.pft | na3 | U | Australian Area |
| 261 | polbndp.pft | nam | UNK | No entry present |
| 262 | barrierl.lft | f_code | AL260 | Wall |
| 263 | coastl.lft | f_code | BA010 | Coastline/Shoreline |
| 264 | depthl.lft | f_code | BE015 | Depth Contour |
| 265 | polbndl.lft | f_code | FA000 | Administrative Boundary |
| 266 | polbndl.lft | f_code | FA020 | Armistice Line |
| 267 | polbndl.lft | f_code | FA030 | Cease-Fire Line |
| 268 | polbndl.lft | f_code | FA040 | Claim Line |
| 269 | polbndl.lft | f_code | FA050 | Mandate Line/Convention Line |
| 270 | polbndl.lft | f_code | FA060 | Defacto Boundary |
| 271 | polbndl.lft | f_code | FA110 | International Date Line |
| 272 | oceansea.aft | f_code | BA040 | Water (except Inland) |
| 273 | polbnda.aft | f_code | FA001 | Administrative Area |
| 274 | polbnda.aft | f_code | FA070 | Demilitarized Zone |
| 275 | polbnda.aft | f_code | FA170 | Zone of Occupation |
| 276 | polbnda.aft | nam | UNK | No entry present |
| 277 | polbnda.aft | na2 | AA | Aruba |
| 278 | polbnda.aft | na2 | AC | Antigua and Barbuda |
| 279 | polbnda.aft | na2 | AF | Afghanistan |
| 280 | polbnda.aft | na2 | AG | Algeria |
| 281 | polbnda.aft | na2 | AJ | Azerbaijan |
| 282 | polbnda.aft | na2 | AL | Albania |
| 283 | polbnda.aft | na2 | AM | Armenia |
| 284 | polbnda.aft | na2 | AN | Andorra |
| 285 | polbnda.aft | na2 | AO | Angola |
| 286 | polbnda.aft | na2 | AQ | American Samoa |
| 287 | polbnda.aft | na2 | AR | Argentina |
| 288 | polbnda.aft | na2 | AS | Australia |
| 289 | polbnda.aft | na2 | AT | Ashmore and Cartier Islands |
| 290 | polbnda.aft | na2 | AU | Austria |
| 291 | polbnda.aft | na2 | AV | Anguilla |
| 292 | polbnda.aft | na2 | AY | Antarctica |
| 293 | polbnda.aft | na2 | BA | Bahrain |
| 294 | polbnda.aft | na2 | BB | Barbados |
| 295 | polbnda.aft | na2 | BC | Botswana |
| 296 | polbnda.aft | na2 | BD | Bermuda |
| 297 | polbnda.aft | na2 | BE | Belgium |
| 298 | polbnda.aft | na2 | BF | Bahamas, The |
| 299 | polbnda.aft | na2 | BG | Bangladesh |
| 300 | polbnda.aft | na2 | BH | Belize |
| 301 | polbnda.aft | na2 | BK | Bosnia and Herzegovina |
| 302 | polbnda.aft | na2 | BL | Bolivia |
| 303 | polbnda.aft | na2 | BM | Burma |
| 304 | polbnda.aft | na2 | BN | Benin |
| 305 | polbnda.aft | na2 | BO | Belarus |
| 306 | polbnda.aft | na2 | BP | Solomon Islands |

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|---|---|---|---|---|
| 307 | polbnda.aft | na2 | BQ | Navassa Island |
| 308 | polbnda.aft | na2 | BR | Brazil |
| 309 | polbnda.aft | na2 | BT | Bhutan |
| 310 | polbnda.aft | na2 | BU | Bulgaria |
| 311 | polbnda.aft | na2 | BV | Bouvet Island |
| 312 | polbnda.aft | na2 | BX | Brunei |
| 313 | polbnda.aft | na2 | BY | Burundi |
| 314 | polbnda.aft | na2 | CA | Canada |
| 315 | polbnda.aft | na2 | CB | Cambodia |
| 316 | polbnda.aft | na2 | CD | Chad |
| 317 | polbnda.aft | na2 | CE | Sri Lanka |
| 318 | polbnda.aft | na2 | CF | Congo |
| 319 | polbnda.aft | na2 | CG | Zaire |
| 320 | polbnda.aft | na2 | CH | China |
| 321 | polbnda.aft | na2 | CI | Chile |
| 322 | polbnda.aft | na2 | CJ | Cayman Islands |
| 323 | polbnda.aft | na2 | CK | Cocos (Keeling) Islands |
| 324 | polbnda.aft | na2 | CM | Cameroon |
| 325 | polbnda.aft | na2 | CN | Comoros |
| 326 | polbnda.aft | na2 | CO | Colombia |
| 327 | polbnda.aft | na2 | CQ | Northern Mariana Islands |
| 328 | polbnda.aft | na2 | CR | Coral Sea Islands |
| 329 | polbnda.aft | na2 | CS | Costa Rica |
| 330 | polbnda.aft | na2 | CT | Central African Republic |
| 331 | polbnda.aft | na2 | CU | Cuba |
| 332 | polbnda.aft | na2 | CV | Cape Verde |
| 333 | polbnda.aft | na2 | CW | Cook Islands |
| 334 | polbnda.aft | na2 | CY | Cyprus |
| 335 | polbnda.aft | na2 | DA | Denmark |
| 336 | polbnda.aft | na2 | DJ | Djibouti |
| 337 | polbnda.aft | na2 | DO | Dominica |
| 338 | polbnda.aft | na2 | DQ | Jarvis Island |
| 339 | polbnda.aft | na2 | DR | Dominican Republic |
| 340 | polbnda.aft | na2 | EC | Ecuador |
| 341 | polbnda.aft | na2 | EG | Egypt |
| 342 | polbnda.aft | na2 | EI | Ireland |
| 343 | polbnda.aft | na2 | EK | Equatorial Guinea |
| 344 | polbnda.aft | na2 | EN | Estonia |
| 345 | polbnda.aft | na2 | ER | Eritrea |
| 346 | polbnda.aft | na2 | ES | El Salvador |
| 347 | polbnda.aft | na2 | ET | Ethiopia |
| 348 | polbnda.aft | na2 | EZ | Czech Republic |
| 349 | polbnda.aft | na2 | FG | French Guiana |
| 350 | polbnda.aft | na2 | FI | Finland |
| 351 | polbnda.aft | na2 | FJ | Fiji |
| 352 | polbnda.aft | na2 | FK | Falkland Islands (Islas Malvinas) |
| 353 | polbnda.aft | na2 | FM | Micronesia, Federated States of |
| 354 | polbnda.aft | na2 | FO | Faroc Islands |
| 355 | polbnda.aft | na2 | FP | French Polynesia |
| 356 | polbnda.aft | na2 | FQ | Baker Island |
| 357 | polbnda.aft | na2 | FR | France |
| 358 | polbnda.aft | na2 | FS | French Southern and Antarctic Lands |
| 359 | polbnda.aft | na2 | GA | Gambie, The |
| 360 | polbnda.aft | na2 | GB | Gabon |

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| 361 | polbnda.aft | na2 | GG | Georgia |
| 362 | polbnda.aft | na2 | GH | Ghana |
| 363 | polbnda.aft | na2 | GI | Gibraltar |
| 364 | polbnda.aft | na2 | GJ | Grenada |
| 365 | polbnda.aft | na2 | GK | Guernsey |
| 366 | polbnda.aft | na2 | GL | Greenland |
| 367 | polbnda.aft | na2 | GM | Germany |
| 368 | polbnda.aft | na2 | GP | Guadeloupe |
| 369 | polbnda.aft | na2 | GQ | Guam |
| 370 | polbnda.aft | na2 | GR | Greece |
| 371 | polbnda.aft | na2 | GT | Guatemala |
| 372 | polbnda.aft | na2 | GV | Guinea |
| 373 | polbnda.aft | na2 | GY | Guyana |
| 374 | polbnda.aft | na2 | HA | Haiti |
| 375 | polbnda.aft | na2 | HK | Hong Kong |
| 376 | polbnda.aft | na2 | HM | Heard Island andMcDonald Islands |
| 377 | polbnda.aft | na2 | HO | Honduras |
| 378 | polbnda.aft | na2 | HQ | Howland Island |
| 379 | polbnda.aft | na2 | HR | Croatia |
| 380 | polbnda.aft | na2 | HU | Hungary |
| 381 | polbnda.aft | na2 | IC | Iceland |
| 382 | polbnda.aft | na2 | ID | Indonesia |
| 383 | polbnda.aft | na2 | IM | Man, Isle of |
| 384 | polbnda.aft | na2 | IN | India |
| 385 | polbnda.aft | na2 | IO | British Indian Ocean Territory |
| 386 | polbnda.aft | na2 | IP | Clipperton Island |
| 387 | polbnda.aft | na2 | IR | Iran |
| 388 | polbnda.aft | na2 | IS | Israel |
| 389 | polbnda.aft | na2 | IT | Italy |
| 390 | polbnda.aft | na2 | IV | Cote d'lvoire (Ivory Coast) |
| 391 | polbnda.aft | na2 | IZ | Iraq |
| 392 | polbnda.aft | na2 | JA | Japan |
| 393 | polbnda.aft | na2 | JE | Jersey |
| 394 | polbnda.aft | na2 | JM | Jamaica |
| 395 | polbnda.aft | na2 | JN | Jan Mayen |
| 396 | polbnda.aft | na2 | JO | Jordan |
| 397 | polbnda.aft | na2 | JQ | Johnson Atoll |
| 398 | polbnda.aft | na2 | KE | Kenya |
| 399 | polbnda.aft | na2 | KG | Kyrgyzstan |
| 400 | polbnda.aft | na2 | KN | Korea, North |
| 401 | polbnda.aft | na2 | KQ | Kingman Reef |
| 402 | polbnda.aft | na2 | KR | Klribati |
| 403 | polbnda.aft | na2 | KS | Korea, South |
| 404 | polbnda.aft | na2 | KT | Christmas Island |
| 405 | polbnda.aft | na2 | KU | Kuwait |
| 406 | polbnda.aft | na2 | KZ | Kazakhstan |
| 407 | polbnda.aft | na2 | LA | Laos |
| 408 | polbnda.aft | na2 | LE | Lebanon |
| 409 | polbnda.aft | na2 | LG | Latvia |
| 410 | polbnda.aft | na2 | LH | LIthuania |
| 411 | polbnda.aft | na2 | LI | Liberia |
| 412 | polbnda.aft | na2 | LO | Slovakia |
| 413 | polbnda.aft | na2 | LQ | Palrnyra Atoll |
| 414 | polbnda.aft | na2 | LS | Liechtenstein |

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| | | | | |
|---|---|---|---|---|
| 415 | polbnda.aft | na2 | LT | Lesotho |
| 416 | polbnda.aft | na2 | LU | Luxembourg |
| 417 | polbnda.aft | na2 | LY | Libya |
| 418 | polbnda.aft | na2 | MA | Madagascar |
| 419 | polbnda.aft | na2 | MB | Martinique |
| 420 | polbnda.aft | na2 | MC | Macau |
| 421 | polbnda.aft | na2 | MD | Moldova |
| 422 | polbnda.aft | na2 | MF | Mayotie |
| 423 | polbnda.aft | na2 | MG | Mongolia |
| 424 | polbnda.aft | na2 | MH | Montserrat |
| 425 | polbnda.aft | na2 | MI | Malawi |
| 426 | polbnda.aft | na2 | MK | Macedonia, The Former Yugoslav Republic of |
| 427 | polbnda.aft | na2 | ML | Mali |
| 428 | polbnda.aft | na2 | MN | Monaco |
| 429 | polbnda.aft | na2 | MO | Morocco |
| 430 | polbnda.aft | na2 | MP | Mauritius |
| 431 | polbnda.aft | na2 | MQ | Midway Islands |
| 432 | polbnda.aft | na2 | MR | Mauritania |
| 433 | polbnda.aft | na2 | MT | Malta |
| 434 | polbnda.aft | na2 | MU | Oman |
| 435 | polbnda.aft | na2 | MV | Maldives |
| 436 | polbnda.aft | na2 | MX | Mexico |
| 437 | polbnda.aft | na2 | MY | Malaysia |
| 438 | polbnda.aft | na2 | MZ | Mozambique |
| 439 | polbnda.aft | na2 | NC | New Caledonia |
| 440 | polbnda.aft | na2 | NE | Nioe |
| 441 | polbnda.aft | na2 | NF | Norfolk Island |
| 442 | polbnda.aft | na2 | NG | Niger |
| 443 | polbnda.aft | na2 | NH | Vanuatu |
| 444 | polbnda.aft | na2 | NI | Nigeria |
| 445 | polbnda.aft | na2 | NL | Netherlands |
| 446 | polbnda.aft | na2 | NO | Norway |
| 447 | polbnda.aft | na2 | NP | Nepal |
| 448 | polbnda.aft | na2 | NR | Nauru |
| 449 | polbnda.aft | na2 | NS | Suriname |
| 450 | polbnda.aft | na2 | NT | Netherlands Antilles |
| 451 | polbnda.aft | na2 | NU | Nicaragua |
| 452 | polbnda.aft | na2 | NZ | New Zealand |
| 453 | polbnda.aft | na2 | PA | Paraguay |
| 454 | polbnda.aft | na2 | PC | Pitcairn Islands |
| 455 | polbnda.aft | na2 | PE | Peru |
| 456 | polbnda.aft | na2 | PF | Paracel Islands |
| 457 | polbnda.aft | na2 | PG | Spratly Islands |
| 458 | polbnda.aft | na2 | PK | Pakistan |
| 459 | polbnda.aft | na2 | PL | Poland |
| 460 | polbnda.aft | na2 | PM | Panama |
| 461 | polbnda.aft | na2 | PO | Portugal |
| 462 | polbnda.aft | na2 | PP | Papua New Guinea |
| 463 | polbnda.aft | na2 | PS | Pacific Islands (Palau), Trust Territory of the |
| 464 | polbnda.aft | na2 | PU | Guinea-Bissau |
| 465 | polbnda.aft | na2 | QA | Qatar |
| 466 | polbnda.aft | na2 | RE | Reunion |

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| | | | | |
|---|---|---|---|---|
| 467 | polbnda.aft | na2 | RM | Marshall Islands |
| 468 | polbnda.aft | na2 | RO | Romania |
| 469 | polbnda.aft | na2 | RP | Philippines |
| 470 | polbnda.aft | na2 | RQ | Puerto Rico |
| 471 | polbnda.aft | na2 | RS | Russia |
| 472 | polbnda.aft | na2 | RW | Rwanda |
| 473 | polbnda.aft | na2 | SA | Saudi Arabia |
| 474 | polbnda.aft | na2 | SB | Saint Pierre and Miquelon |
| 475 | polbnda.aft | na2 | SC | Saint Kitts and Nevis |
| 476 | polbnda.aft | na2 | SE | Seychelles |
| 477 | polbnda.aft | na2 | SF | South Africa |
| 478 | polbnda.aft | na2 | SG | Senegal |
| 479 | polbnda.aft | na2 | SH | Saint Helena |
| 480 | polbnda.aft | na2 | SI | Slovenia |
| 481 | polbnda.aft | na2 | SL | Sierra Leone |
| 482 | polbnda.aft | na2 | SM | San Marino |
| 483 | polbnda.aft | na2 | SN | Singapore |
| 484 | polbnda.aft | na2 | SO | Somalia |
| 485 | polbnda.aft | na2 | SP | Spain |
| 486 | polbnda.aft | na2 | ST | Saint Lucia |
| 487 | polbnda.aft | na2 | SU | Sudan |
| 488 | polbnda.aft | na2 | SV | Svalbard |
| 489 | polbnda.aft | na2 | SW | Sweden |
| 490 | polbnda.aft | na2 | SX | South Georgia and the South Sandwich Islands |
| 491 | polbnda.aft | na2 | SY | Syria |
| 492 | polbnda.aft | na2 | SZ | Switzerland |
| 493 | polbnda.aft | na2 | TC | United Arab Emirates |
| 494 | polbnda.aft | na2 | TD | Trinidad and Tobago |
| 495 | polbnda.aft | na2 | TH | Thailand |
| 496 | polbnda.aft | na2 | TI | Tajikistan |
| 497 | polbnda.aft | na2 | TK | Turks and Caicas Islands |
| 498 | polbnda.aft | na2 | TL | Tokelau |
| 499 | polbnda.aft | na2 | TN | Tonga |
| 500 | polbnda.aft | na2 | TO | Togo |
| 501 | polbnda.aft | na2 | TP | Sao Tome and Principe |
| 502 | polbnda.aft | na2 | TS | Tunisla |
| 503 | polbnda.aft | na2 | TU | Turkey |
| 504 | polbnda.aft | na2 | TV | Tuvalu |
| 505 | polbnda.aft | na2 | TX | Turkmenistan |
| 506 | polbnda.aft | na2 | TZ | Tanzania |
| 507 | polbnda.aft | na2 | UG | Uganda |
| 508 | polbnda.aft | na2 | UK | United Kingdom |
| 509 | polbnda.aft | na2 | UP | Ukraine |
| 510 | polbnda.aft | na2 | US | United States |
| 511 | polbnda.aft | na2 | UV | Burkina |
| 512 | polbnda.aft | na2 | UY | Uruguay |
| 513 | polbnda.aft | na2 | UZ | Uzbekistan |
| 514 | polbnda.aft | na2 | VC | Saint Vincent and the Grenadines |
| 515 | polbnda.aft | na2 | VE | Venezuela |
| 516 | polbnda.aft | na2 | VI | Virgin Islands, British |
| 517 | polbnda.aft | na2 | VM | Vietnam |
| 518 | polbnda.aft | na2 | VQ | Virgin Islands |
| 519 | polbnda.aft | na2 | VT | Holy See |

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| | | | | |
|---|---|---|---|---|
| 520 | polbnda.aft | na2 | WA | Namibia |
| 521 | polbnda.aft | na2 | WF | Wallis and Futuna |
| 522 | polbnda.aft | na2 | WI | Western Sahara |
| 523 | polbnda.aft | na2 | WQ | Wake Island |
| 524 | polbnda.aft | na2 | WS | Western Samoa |
| 525 | polbnda.aft | na2 | WZ | Swaziland |
| 526 | polbnda.aft | na2 | YM | Yemen |
| 527 | polbnda.aft | na2 | ZA | Zambia |
| 528 | polbnda.aft | na2 | ZI | Zimbabwe |
| 529 | polbnda.aft | na3 | A | Asia |
| 530 | polbnda.aft | na3 | E | Europe |
| 531 | polbnda.aft | na3 | F | Africa |
| 532 | polbnda.aft | na3 | N | North America |
| 533 | polbnda.aft | na3 | S | South America |
| 534 | polbnda.aft | na3 | T | Antarctic Area |
| 535 | polbnda.aft | na3 | U | Australian Area |
| 536 | bndtxt.tft | f_code | ZD040 | Named Location |
| 537 | bndtxt.tft | f_code | ZD045 | Text Description |
| 538 | fca | type | A | Area Feature |
| 539 | fca | type | L | Line Feature |
| 540 | fca | type | P | Point/Node Feature |
| 541 | fca | type | T | Text Feature |
| 542 | dqpoint.pft | f_code | FA001 | Administrative Area |
| 543 | dqpoint.pft | f_code | ZD045 | Text Description |
| 544 | dqline.lft | f_code | AL260 | Wall |
| 545 | dqline.lft | f_code | BA010 | Coastline/Shoreline |
| 546 | dqline.lft | f_code | BE015 | Depth Contour |
| 547 | dqline.lft | f_code | FA000 | Administrative Boundary |
| 548 | dqline.lft | f_code | FA020 | Armistice Line |
| 549 | dqline.lft | f_code | FA030 | Cease-Fire Line |
| 550 | dqline.lft | f_code | FA040 | Claim Line |
| 551 | dqline.lft | f_code | FA050 | Mandate Line/Convention Line |
| 552 | dqline.lft | f_code | FA060 | Defacto Boundary |
| 553 | dqline.lft | f_code | FA110 | International Date Line |
| 554 | dqline.lft | f_code | ZD045 | Text Description |
| 555 | dqarea.aft | f_code | BA040 | Water (except Inland) |
| 556 | dqarea.aft | f_code | FA001 | Administrative Area |
| 557 | dqarea.aft | f_code | FA070 | Demilitarized Zone |
| 558 | dqarea.aft | f_code | FA170 | Zone of Occupation |
| 559 | dqarea.aft | f_code | ZD045 | Text Description |

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TABLE 81. Boundaries integer value description table.

Thematic Layer: Boundaries
Coverage Name: **bnd**
Table Description: Boundaries Integer Value Description Table
Table Name: **int.vdt**
**dq** Layer Number: 1

```
{Header length}L;
Boundaries 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,50,N,Description of Value,-,-,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | coastl.lft | acc | 0 | Unknown |
| 2 | coastl.lft | acc | 1 | Accurate |
| 3 | coastl.lft | acc | 2 | Approximate |
| 4 | coastl.lft | exs | 0 | Unknown |
| 5 | coastl.lft | exs | 1 | Definite |
| 6 | coastl.lft | exs | 44 | Approximate/About |
| 7 | coastl.lft | exs | 46 | Man-made |
| 8 | coastl.lft | exs | 55 | Unexamined/Unsurveyed |
| 9 | coastl.lft | exs | 60 | Indefinite (Shoreline) |
| 10 | polbndl.lft | acc | 1 | Accurate |
| 11 | polbndl.lft | acc | 2 | Approximate |
| 12 | polbndl.lft | bst | 1 | Definite |
| 13 | polbndl.lft | bst | 2 | Indefinite |
| 14 | polbndl.lft | bst | 3 | In Dispute |
| 15 | polbndl.lft | bst | 4 | No Defined Boundary |
| 16 | polbndl.lft | use | 23 | International |
| 17 | polbndl.lft | use | 26 | Primary/1st Order |
| 18 | symbol.rat | fon | 1 | Machine Default |
| 19 | symbol.rat | sty | 1 | Kern |
| 20 | symbol.rat | sty | 2 | Proportional |
| 21 | symbol.rat | sty | 3 | Constant |
| 22 | symbol.rat | col | 1 | Black |
| 23 | symbol.rat | col | 4 | Blue |
| 24 | symbol.rat | col | 9 | Red-Brown |
| 25 | symbol.rat | col | 12 | Magenta |

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80.3 Data quality coverage. A data quality coverage may be implemented as shown in TABLES 82 to 89. This coverage may contain information that affects the entire library. For example, the line feature table **dqline.lft** (TABLE 83) and line related attribute table **dqline.rat** (TABLE 84) are used to describe data quality conditions that result from the edge-matching of two source sheets.

TABLE 82. Content and format for data quality coverage feature class schema table.

| | |
|---|---|
| Thematic Layer: | Data Quality |
| Coverage Name: | **dq** |
| Table Description: | Data Quality Feature Class Schema Table |
| Table Name: | **fcs** |
| **dq** Layer Number: | Not Applicable |

{Header length}L;
Data Quality 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,9,N,Column Name in Second Table,-,-,-,:;

| | | | | | |
|---|---|---|---|---|---|
| 1 | dqline | dqline.lft | edg_id | edg | id |
| 2 | dqline | edg | dqline.lft_id | dqline.lft | id |
| 3 | dqline | dqline.lft | dqline_id | dqline.rat | dqline_id |
| 4 | dqline | dqline.rat | dqline_id | dqline.lft | dqline_id |
| 5 | dqarea | dqarea.aft | fac_id | fac | id |
| 6 | dqarea | fac | dqarea.aft_id | dqarea.aft | id |
| 7 | dqarea | dqarea.aft | source_id | dqarea.rat | source_id |
| 8 | dqarea | dqarea.rat | source_id | dqarea.aft | source_id |
| 9 | dqtxt | dqtxt.tft | txt_id | txt | id |
| 10 | dqtxt | txt | dqtxt.tft_id | dqtxt.tft | id |
| 11 | dqtxt | dqtxt.tft | symbol_id | symbol.rat | symbol_id |

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TABLE 83. Data quality line feature table.

Thematic Layer: Data Quality
Coverage Name: **dq**
Table Description: Data Quality Line Feature Table
Table Name: **dqline.lft**
**dq** Layer Number: Not Applicable

```
{Header length}L;
Data Quality Line Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
dqline_id=I,1,N,Data Quality Line Feature Identifier,-,-,-,:
source1=T,6,N,First Source Sheet or Data ID,-,-,-,:
source2=T,6,N,Second Source Sheet or Data ID,-,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile1_id.lti,-,:
edg_id=I,1,N,Edge Primitive ID,-,edg1_id.lti,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | 68 | G21 | G20 | 1 | 1 |
| : | : | : | : | : | : |
| n | n | n | n | n | n |

| Column | Description | Value | Value Meaning |
|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | |
| **dqline_id** | Data Quality Line Feature Identifier | | Data quality line feature identifier |
| **source1** | Source Sheet or Data Identifier on One Side | | This item contains the name of an ONC map sheet number or other source located on one side of the line (e.g., G21) and requires a data quality description (see **dqline.rat**) |
| **source2** | Source Sheet or Data Identifier on Other Side | | This item contains the name of an ONC map sheet number or other source located on the other side of the line (e.g., G20) and requires a data quality description (see **dqline.rat**) |

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TABLE 84. Data quality line related attribute table.

| | |
|---|---|
| Thematic Layer: | Data Quality |
| Coverage Name: | **dq** |
| Table Description: | Data Quality Line Related Attribute Table |
| Table Name: | **dqline.rat** |
| **dq** Layer Number: | Not Applicable |

```
{Header length}L;
Data Quality Line Related Attribute Table;-;
id=I,1,P,Row Identifier,-,-,-,:
dqline_id=I,1,N,Line Feature Identifier,-,-,-,:
layer=T,5,N,Data Quality Thematic Layer,-,-,-,:
dqdescr=T,*,N,dq Description for Line Feature,-,-,-,:;
```

| | | | |
|---|---|---|---|
| 1 | 2 | elev | Sources are positionally irreconcilable along this edge |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning |
|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | |
| **dqline_id** | Line Feature Identifier | | Relate item to the ***dqline.lft*** |
| **layer** | Data Quality Thematic Layer | | This is the thematic layer identifier for each layer in an VMap Level 0 library |
| **dqdescr** | Data Quality Description for Line Feature | | This item contains a text string describing specific conditions occurring within the database for a particular line feature. Typically this refers to edgematch problems observed between two source maps and identifies any steps taken to ameliorate the problem. |

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TABLE 85. Data quality area feature table.

Thematic Layer: Data Quality
Coverage Name: **dq**
Table Description: Data Quality Area Feature Table
Table Name: **dqarea.aft**
**dq** Layer Number: Not Applicable

```
{Header length}L;
Data Quality Area Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
source_id=T,6,N,Source Identification Name or Number,-,-,-,:
comp_date=D,1,N,Map Compilation Date,-,-,-,:
rev_date=D,1,N,Map Revision Date,-,-,-,:
print_date=D,1,N,Map Print Date,-,-,-,:
source_info=T,*,N,General Sheet Information,-,-,-,:
abs_horiz_acc=S,1,N,Absolute Horizontal Accuracy (meters),-,-,-,:
abs_vert_acc=S,1,N,Absolute Vertical Accuracy (meters),-,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile1_id.ati,-,:
fac_id=I,1,N,Face Primitive ID,-,fac1_id.ati,-,:;
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | G21 | 197008000000 00. | 198701000000 00. | 1989030000000 0. | Roads… | 200 | 600 | 1 | 2 |
| : | : | : | : | : | : | : | : | : | : |
| n | n | n | n | n | n | n | n | n | n |

| Column | Description | Value | Value Meaning |
|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | |
| **source_id** | Source Identification Name or Number | | Alphanumeric String of the ONC, other map sheet, or Source Name or Identification Number |
| **comp_date** | Compilation Date of Source | | Appropriate date value or space character filled if null |
| **rev_date** | Last Revision Date of Source | | Appropriate date value or space character filled if null |
| **print_date** | Print Date of Source Sheet or Litho Date of Most Current Revision | | Appropriate date value or space character filled if null |

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| | | |
|---|---|---|
| **source_info** | General Source Information | Contains a description of conditions occurring in the database such as sheetwide phenomena, regional phenomena, or marginalia. Character String of the map sheet information (i.e., all roads are approximately aligned). |
| **abs_horiz_acc** | Absolute Horizontal Accuracy (meters) | DMA-specified absolute horizontal accuracy |
| **abs_vert_acc** | Absolute Vertical Accuracy (meters) | DMA-specified absolute vertical accuracy |

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TABLE 86. Data quality area related attribute table.

Thematic Layer: Data Quality
Coverage Name: **dq**
Table Description: Data Quality Area Related Attribute Table
Table Name: **dqarea.rat**
**dq** Layer Number: Not Applicable

```
(Header length)L;
Data Quality Area Related Attribute Table;-;
id=I,1,P,Row Identifier,-,-,-,:
source_id=T,6,N,Source ID Number,-,-,-,:
layer=T,5,N,Data Quality Thematic Layer,-,-,-,:
dqdescr=T,*,N,dq Description for Area Feat,-,-,-,:;
```

| | | | |
|---|---|---|---|
| 1 | G21 | hydro | Sources irreconcilable |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning |
|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | |
| **source_id** | Source Identification Number | | Alphanumeric String of the Identification Number of the ONC, other map sheet, or source material |
| **layer** | Data Quality Thematic Layer | | This is the thematic layer identifier for each coverage in an VMap Level 0 library |
| **dqdescr** | Data Quality Description for Area Feature | | This item contains a text string describing specific conditions occurring within the database for a particular area feature. Typically this refers to edgematch problems observed between two source maps and identifies any steps taken to ameliorate the problem. |

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TABLE 87. Data quality text feature table.

Thematic Layer: Data Quality
Coverage Name: **dq**
Table Description: Data Quality Text Feature Table
Table Name: **dqtxt.tft**
**dq** Layer Number: Not Applicable

```
{Header length}L;
Data Quality Text Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:
symbol_id=S,1,N,Symbol Identification,-,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile1_id.tti,-,:
txt_id=I,1,N,Text Primitive ID,-,txt1_id.tti,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | ZD045 | TBD | 1 | 1 |
| : | : | : | : | : |
| n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | ZD045 | Text Description | |

**symbol_id** Symbol Identification

(Refer to Symbol Related Attribute Table for selection of values)

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TABLE 88. Data quality character value description table.

| | |
|---|---|
| Thematic Layer: | Data Quality |
| Coverage Name: | **dq** |
| Table Description: | Data Quality Character Value Description Table |
| Table Name: | **char.vdt** |
| **dq** Layer Number: | Not Applicable |

```
{Header length}L;
Data Quality 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,50,N,Description of Value,-,-,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | dqtxt.tft | f_code | ZD045 | Text Description |

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TABLE 89. Data quality integer value description table.

| | |
|---|---|
| Thematic Layer: | Data Quality |
| Coverage Name: | **dq** |
| Table Description: | Data Quality Integer Value Description Table |
| Table Name: | **int.vdt** |
| **dq** Layer Number: | Not Applicable |

```
{Header length}L;
Data Quality 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,50,N,Description of Value,-,-,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | symbol.rat | fon | 1 | Machine Default |
| 2 | symbol.rat | sty | 1 | Kern |
| 3 | symbol.rat | sty | 2 | Proportional |
| 4 | symbol.rat | sty | 3 | Constant |
| 5 | symbol.rat | col | 1 | Black |
| 6 | symbol.rat | col | 4 | Blue |
| 7 | symbol.rat | col | 9 | Red-Brown |
| 8 | symbol.rat | col | 12 | Magenta |

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80.4 Elevation coverage.

TABLE 90. Content and format for elevation coverage feature class schema table.

Thematic Layer: Elevation
Coverage Name: elev
Table Description: Elevation Feature Class Schema Table
Table Name: fcs
dq Layer Number: 2

```
{Header length}L;
Elevation 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,9,N,Column Name in Second Table,-,-,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | elevp | elevp.pft | end_id | end | id |
| 2 | elevp | end | elevp.pft_id | elevp.pft | id |
| 3 | contour1 | contour1.lft | edg_id | edg | id |
| 4 | contour1 | edg | contour1.lft_id | contour1.lft | id |
| 5 | dqpoint | dqpoint.pft | end_id | end | id |
| 6 | dqpoint | end | dqpoint.pft_id | dqpoint.pft | id |
| 7 | dqpoint | dqpoint.pft | dqdescr_id | dqdescr.rat | id |
| 8 | dqline | dqline.lft | edg_id | edg | id |
| 9 | dqline | edg | dqline.lft_id | dqline.lft | id |
| 10 | dqline | dqline.lft | dqdescr_id | dqdescr.rat | id |
| 11 | dqtext | dqtext.tft | txt_id | txt | id |
| 12 | dqtext | txt | dqtext.tft_id | dqtext.tft | id |

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TABLE 91. Elevation point feature table.

Thematic Layer: Elevation
Coverage Name: **elev**
Table Description: Elevation Point Feature Table
Table Name: **elevp.pft**
dq Layer Number: 2

```
{Header length}L;
Elevation 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,-,-,:
ela=S,1,N,Elevation Accuracy,int.vdt,-,-,:
zv2=S,1,N,Highest Z-value (meters),int.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile1_id.pti,-,:
end_id=I,1,N,Entity Node Primitive ID,-,end1_id.pti,-,:;
```

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | CA030 | 1 | 1 | 50 | 1 | 1 |
| : | : | : | : | : | : | : |
| n | n | n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | CA030 | Spot Elevation | |
| | | CA035 | Inland Water Elevation | |
| **acc** | Accuracy Category | | | |
| | | 1 | Accurate | CA030 |
| | | 2 | Approximate | CA030, CA035 |
| **ela** | Elevation Accuracy | | | |
| | | 0 | Unknown | CA030, CA035 |
| | | 1 | Accurate | CA030, CA035 |
| | | 2 | Approximate | CA030 |
| **zv2** | Highest Z-value (meters) | | | |
| | | 29999 | Unknown | CA030, CA035 |
| | | -400 to 11999 | | CA030, CA035 |

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TABLE 92. Contour line feature table.

Thematic Layer: Elevation
Coverage Name: **elev**
Table Description: Contour Line Feature Table
Table Name: **contour1.lft**
**dq** Layer Number: 2

```
{Header length}L;
Contour Line Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:
hqc=S,1,N,Hypsography Portrayal Category,int.vdt,-,-,:
zv2=S,1,N,Highest Z-value (meters),int.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile1_id.lti,-,:
edg_id=I,1,N,Edge Primitive ID,-,edg1_id.lti,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | CA010 | 0 | 29999 | 1 | 1 |
| : | : | : | : | : | : |
| n | n | n | n | n | n |

**Note:** A **contour.doc** table may be implemented when the source data are in feet and the contour values must be converted to meters.

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | CA010 | Contour Line (Land) | |
| **hqc** | Hypsography Portrayal Category | | | |
| | | 0 | Unknown | CA010 |
| | | 2 | Intermediate | CA010 |
| | | 4 | Form Lines | CA010 |
| | | 6 | Depression Intermediate | CA010 |
| | | 12 | Intermediate Approximate | CA010 |
| | | 13 | Supplementary Approximate | CA010 |
| | | 18 | Intermediate Depression Approximate | CA010 |
| | | 19 | Carrying Contour (coincident contours) | CA010 |
| | | 20 | Supplemental Carrying Contour | CA010 |
| | | 21 | Supplementary | CA010 |
| | | 22 | Supplemental Depression | CA010 |
| | | 23 | Supplemental Depression Approximate | CA010 |
| **zv2** | Highest Z-value (meters) | | | |
| | | 29999 | Unknown | CA010 |
| | | -400 to 11999 | | CA010 |

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TABLE 93. Elevation feature class attribute table.

Thematic Layer: Elevation
Coverage Name: **elev**
Table Description: Elevation Feature Class Attribute Table
Table Name: **fca**
**dq** Layer Number: 2

| |
|---|
| {Header length}L; |
| Elevation 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,-,-,-,:; |

| | | | |
|---|---|---|---|
| 1 | elevp | P | Spot Elevations |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **fclass** | Feature Class Name | | | |
| | | **elevp** | | |
| | | **contourl** | | |
| **type** | Feature Type | | | |
| | | P | Point Feature | **elevp** |
| | | L | Line Feature | **contourl** |
| **descr** | Description | | | |
| | | Spot Elevations | | **elevp** |
| | | Elevation Contours | | **contourl** |

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TABLE 94. Elevation character value description table.

| | |
|---|---|
| Thematic Layer: | Elevation |
| Coverage Name: | **elev** |
| Table Description: | Elevation Character Value Description Table |
| Table Name: | **char.vdt** |
| **dq** Layer Number: | 2 |

{Header length}L;
Elevation 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,50,N,Description of Value,-,-,-,:;

| | | | | |
|---|---|---|---|---|
| 1 | elevp.pft | f_code | CA030 | Spot Elevation |
| 2 | elevp.pft | f_code | CA035 | Inland Water Elevation |
| 3 | contourl.lft | f_code | CA010 | Contour Line (Land) |
| 4 | fca | type | L | Line Feature |
| 5 | fca | type | P | Point/Node Feature |
| 6 | dqpoint.pft | f_code | CA030 | Spot Elevation |
| 7 | dqpoint.pft | f_code | CA035 | Inland Water Elevation |
| 8 | dqpoint.pft | f_code | ZD045 | Text Description |
| 9 | dqline.lft | f_code | CA010 | Contour Line (Land) |
| 10 | dqline.lft | f_code | ZD045 | Text Description |

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TABLE 95. Elevation integer value description table.

Thematic Layer: Elevation
Coverage Name: **elev**
Table Description: Elevation Integer Value Description Table
Table Name: **int.vdt**
**dq** Layer Number: 2

{Header length}L;
Elevation 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,50,N,Description of Value,-,-,-,:;

| | | | | |
|---|---|---|---|---|
| 1 | elevp.pft | acc | 1 | Accurate |
| 2 | elevp.pft | acc | 2 | Approximate |
| 3 | elevp.pft | ela | 0 | Unknown |
| 4 | elevp.pft | ela | 1 | Accurate |
| 5 | elevp.pft | ela | 2 | Approximate |
| 6 | elevp.pft | zv2 | 29999 | Unknown |
| 7 | contourl.lft | hqc | 0 | Unknown |
| 8 | contourl.lft | hqc | 2 | Intermediate |
| 9 | contourl.lft | hqc | 4 | Form Lines |
| 10 | contourl.lft | hqc | 6 | Depression Intermediate |
| 11 | contourl.lft | hqc | 12 | Intermediate Approximate |
| 12 | contourl.lft | hqc | 13 | Supplementary Approximate |
| 13 | contourl.lft | hqc | 18 | Intermediate Depression Approximate |
| 14 | contourl.lft | hqc | 19 | Carrying Contour (coincident contours) |
| 15 | contourl.lft | hqc | 20 | Supplemental Carrying Contour |
| 16 | contourl.lft | hqc | 21 | Supplementary |
| 17 | contourl.lft | hqc | 22 | Supplemental Depression |
| 18 | contourl.lft | hqc | 23 | Supplemental Depression Approximate |
| 19 | contourl.lft | zv2 | 29999 | Unknown |
| 20 | symbol.rat | fon | 1 | Machine Default |
| 21 | symbol.rat | sty | 1 | Kern |
| 22 | symbol.rat | sty | 2 | Proportional |
| 23 | symbol.rat | sty | 3 | Constant |
| 24 | symbol.rat | col | 1 | Black |
| 25 | symbol.rat | col | 4 | Blue |
| 26 | symbol.rat | col | 9 | Red-Brown |
| 27 | symbol.rat | col | 12 | Magenta |

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80.5 Hydrography coverage.

TABLE 96. Content and format for hydrography coverage feature class schema table.

Thematic Layer: Hydrography
Coverage Name: **hydro**
Table Description: Hydrography Feature Class Schema Table
Table Name: **fcs**
**dq** Layer Number: 3

```
{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,9,N,Column Name in Second Table,-,-,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | dangerp | dangerp.pft | end_id | end | id |
| 2 | dangerp | end | dangerp.pft_id | dangerp.pft | id |
| 3 | miscp | miscp.pft | end_id | end | id |
| 4 | miscp | end | miscp.pft_id | miscp.pft | id |
| 5 | aquecanl | aquecanl.lft | edg_id | edg | id |
| 6 | aquecanl | edg | aquecanl.lft_id | aquecanl.lft | id |
| 7 | dangerl | dangerl.lft | edg_id | edg | id |
| 8 | dangerl | edg | dangerl.lft_id | dangerl.lft | id |
| 9 | miscl | miscl.lft | edg_id | edg | id |
| 10 | miscl | edg | miscl.lft_id | miscl.lft | id |
| 11 | watrcrsl | watrcrsl.lft | edg_id | edg | id |
| 12 | watrcrsl | edg | watrcrsl.lft_id | watrcrsl.lft | id |
| 13 | inwatera | inwatera.aft | fac_id | fac | id |
| 14 | inwatera | fac | inwatera.aft_id | inwatera.aft | id |
| 15 | dqpoint | dqpoint.pft | end_id | end | id |
| 16 | dqpoint | end | dqpoint.pft_id | dqpoint.pft | id |
| 17 | dqpoint | dqpoint.pft | dqdescr_id | dqdescr.rat | id |
| 18 | dqline | dqline.lft | edg_id | edg | id |
| 19 | dqline | edg | dqline.lft_id | dqline.lft | id |
| 20 | dqline | dqline.lft | dqdescr_id | dqdescr.rat | id |
| 21 | dqarea | dqarea.aft | fac_id | fac | id |
| 22 | dqarea | fac | dqarea.aft_id | dqarea.aft | id |
| 23 | dqarea | dqarea.aft | dqdescr_id | dqdescr.rat | id |
| 24 | dqtext | dqtext.tft | txt_id | txt | id |
| 25 | dqtext | txt | dqtext.tft_id | dqtext.tft | id |
| 26 | hydrotxt | hydrotxt.tft | txt_id | txt | id |
| 27 | hydrotxt | txt | hydrotxt.tft_id | hydrotxt.tft | id |
| 28 | hydrotxt | hydrotxt.tft | symbol_id | symbol.rat | symbol_id |

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TABLE 97. Danger point feature table.

Thematic Layer: Hydrography
Coverage Name: **hydro**
Table Description: Danger Point Feature Table
Table Name: **dangerp.pft**
**dq** Layer Number: 3

| | | | |
|---|---|---|---|
| {Header length}L; | | | |
| Danger Point Feature Table;-; | | | |
| id=I,1,P,Row Identifier,-,-,-,: | | | |
| f_code=T,5,N,FACC Feature Code,char.vdt,f_code1.pti,-,: | | | |
| tile_id=S,1,N,Tile Reference ID,-,tile1_id.pti,-,: | | | |
| end_id=I,1,N,Entity Node Primitive ID,-,end1_id.pti,-,:; | | | |
| 1 | BD130 | 1 | 1 |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | BD130 | Rock | |
| | | BD180 | Wreck | |

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TABLE 98. Miscellaneous point feature table.

Thematic Layer: Hydrography
Coverage Name: **hydro**
Table Description: Miscellaneous Point Feature Table
Table Name: **miscp.pft**
**dq** Layer Number: 3

| |
|---|
| {Header length}L; |
| Miscellaneous Point Feature Table;-; |
| id=I,1,P,Row Identifier,-,-,-,: |
| f_code=T,5,N,FACC Feature Code,char.vdt,f_code2.pti,-,: |
| tile_id=S,1,N,Tile Reference ID,-,tile2_id.pti,-,: |
| end_id=I,1,N,Entity Node Primitive ID,-,end2_id.pti,-,:; |

| | | | |
|---|---|---|---|
| 1 | BA030 | 1 | 1 |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | BA030 | Island | |
| | | BH120 | Rapids | |
| | | BH170 | Spring/Water-Hole | |
| | | BH180 | Waterfall | |
| | | BI020 | Dam/Weir | |
| | | BI030 | Lock | |
| | | BI040 | Sluice Gate | |

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TABLE 99. Aqueduct/Canal/Flume/Penstock line feature table.

Thematic Layer: Hydrography
Coverage Name: **hydro**
Table Description: Aqueduct/Canal/Flume/Penstock Line Feature Table
Table Name: **aquecanl.lft**
**dq** Layer Number: 3

```
{Header length}L;
Aqueduct/Canal/Flume/Penstock Line Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:
exs=S,1,N,Existence Category,int.vdt,-,-,:
loc=S,1,N,Location Category,int.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile1_id.lti,-,:
edg_id=I,1,N,Edge Primitive ID,-,edg1_id.lti,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | BH000 | 6 | 0 | 1 | 1 |
| : | : | : | : | : | : |
| n | n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | BH000 | Inland Water | |
| **exs** | Existence Category | | | |
| | | 1 | Definite | BH000 |
| | | 5 | Under Construction | BH000 |
| | | 6 | Abandoned/Disused | BH000 |
| **loc** | Location Category | | | |
| | | 0 | Unknown | BH000 |
| | | 4 | Below Surface/Submerged Underground | BH000 |
| | | 8 | On Ground Surface | BH000 |
| | | 25 | Suspended or Elevated Above Ground or Water Surface | BH000 |

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TABLE 100. Danger line feature table.

Thematic Layer: Hydrography
Coverage Name: **hydro**
Table Description: Danger Line Feature Table
Table Name: **danger1.lft**
**dq** Layer Number: 3

| | | | |
|---|---|---|---|
| {Header length}L; | | | |
| Danger Line Feature Table;-; | | | |
| id=I,1,P,Row Identifier,-,-,-,: | | | |
| f_code=T,5,N,FACC Feature Code,char.vdt,f_code2.lti,-,: | | | |
| tile_id=S,1,N,Tile Reference ID,-,tile2_id.lti,-,: | | | |
| edg_id=I,1,N,Edge Primitive ID,-,edg2_id.lti,-,:; | | | |
| 1 | BD000 | 1 | 1 |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | BD000 | Underwater-Danger/Hazard | |
| | | BD120 | Reef | |

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TABLE 101. Miscellaneous line feature table.

Thematic Layer: Hydrography
Coverage Name: **hydro**
Table Description: Miscellaneous Line Feature Table
Table Name: **miscl.lft**
dq Layer Number: 3

| |
|---|
| {Header length}L; |
| Miscellaneous Line Feature Table;-; |
| id=I,1,P,Row Identifier,-,-,-,: |
| f_code=T,5,N,FACC Feature Code,char.vdt,f_code3.lti,-,: |
| tile_id=S,1,N,Tile Reference ID,-,tile3_id.lti,-,: |
| edg_id=I,1,N,Edge Primitive ID,-,edg3_id.lti,-,:; |

| | | | |
|---|---|---|---|
| 1 | BB040 | 1 | 1 |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| id | Row Identifier | Sequential beginning with 1 | | |
| f_code | FACC Feature Code | | | |
| | | BB040 | Breakwater/Groyne | |
| | | BB230 | Seawall | |
| | | BI020 | Dam/Weir | |

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TABLE 102. Water course line feature table.

Thematic Layer: Hydrography
Coverage Name: **hydro**
Table Description: Water Course Line Feature Table
Table Name: **watrcrsl.lft**
**dq** Layer Number: 3

```
{Header length}L;
Water Course Line Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:
hyc=S,1,N,Hydrological Category,int.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile4_id.lti,-,:
edg_id=I,1,N,Edge Primitive ID,-,edg4_id.lti,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | BH140 | 6 | 1 | 1 |
| 2 | BH140 | 8 | 2 | 2 |
| 3 | BH140 | 8 | 3 | 3 |
| : | : | : | : | : |
| n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | BH140 | River/Stream | |
| **hyc** | Hydrological Category | | | |
| | | 6 | Non-Perennial/Intermittent/ Fluctuating | BH140 |
| | | 8 | Perennial/Permanent | BH140 |

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TABLE 103. Inland water area feature table.

Thematic Layer: Hydrography
Coverage Name: **hydro**
Table Description: Inland Water Area Feature Table
Table Name: **inwatera.aft**
**dq** Layer Number: 3

```
{Header length}L;
Inland Water Area Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code1.ati,-,:
hyc=S,1,N,Hydrological Category,int.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile1_id.ati,-,:
fac_id=I,1,N,Face Primitive ID,-,fac1_id.ati,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | BH090 | 6 | 1 | 2 |
| 2 | BH000 | 6 | 2 | 3 |
| 3 | BH000 | 8 | 2 | 4 |
| : | : | : | : | : |
| n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | BH090 | Land Subject to Inundation | |
| | | BH000 | Inland Water | |
| **hyc** | Hydrological Category | | | |
| | | 6 | Non-Perennial/Intermittent/ Fluctuating | BH090, BH000 |
| | | 8 | Perennial/Permanent | BH000 |

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TABLE 104. Hydrography text feature table.

Thematic Layer: Hydrography
Coverage Name: **hydro**
Table Description: Hydrography Text Feature Table
Table Name: **hydrotxt.tft**
**dq** Layer Number: 3

| |
|---|
| {Header length}L; |
| Hydrography Text Feature Table;-; |
| id=I,1,P,Row Identifier,-,-,-,: |
| f_code=T,5,N,FACC Feature Code,char.vdt,f_code1.tti,-,: |
| symbol_id=S,1,N,Symbol Identification,-,-,-,: |
| tile_id=S,1,N,Tile Reference ID,-,tile1_id.tti,-,: |
| txt_id=I,1,N,Text Primitive ID,-,txt1_id.tti,-,:; |

| | | | | |
|---|---|---|---|---|
| 1 | ZD040 | TBD | 1 | 1 |
| 2 | ZD045 | TBD | 4 | 45 |
| : | : | : | : | : |
| n | n | n | n | n |

| 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 | |
| | | ZD045 | Text Description | |
| **symbol_id** | Symbol Identification (Refer to Symbol Related Attribute Table for selection of values) | | | |

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TABLE 105. Hydrography feature class attribute table.

Thematic Layer: Hydrography
Coverage Name: **hydro**
Table Description: Hydrography Feature Class Attribute Table
Table Name: **fca**
**dq** Layer Number: 3

```
{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,-,-,-,:;
```

| | | | |
|---|---|---|---|
| 1 | dangerp | P | Danger Point Features |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable Feature Class for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **fclass** | Feature Class Name | | | |
| | | **dangerp** | | |
| | | **miscp** | | |
| | | **aquecanl** | | |
| | | **dangerl** | | |
| | | **miscl** | | |
| | | **watrcrsl** | | |
| | | **inwatera** | | |
| | | **hydrotxt** | | |
| **type** | Feature Type | | | |
| | | P | Point Feature | **dangerp, miscp** |
| | | L | Line Feature | **aquecanl, dangerl, miscl, watrcrsl** |
| | | A | Area Feature | **inwatera** |
| | | T | Text Feature | **hydrotxt** |
| **descr** | Description | | | |
| | | Danger Point Features | | **dangerp** |
| | | Miscellaneous Point Features | | **miscp** |
| | | Aqueducts/Canals/Flumes/ Penstocks | | **aquecanl** |
| | | Danger Line Features | | **dangerl** |
| | | Miscellaneous Line Features | | **miscl** |
| | | Water Courses | | **watrcrsl** |
| | | Inland Water Areas | | **inwatera** |
| | | Hydrography Coverage Text | | **hydrotxt** |

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TABLE 106. Hydrography character value description table.

Thematic Layer: Hydrography
Coverage Name: **hydro**
Table Description: Hydrography Character Value Description Table
Table Name: **char.vdt**
**dq** Layer Number: 3

```
{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,50,N,Description of Value,-,-,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | dangerp.pft | f_code | BD130 | Rock |
| 2 | dangerp.pft | f_code | BD180 | Wreck |
| 3 | miscp.pft | f_code | BA030 | Island |
| 4 | miscp.pft | f_code | BH120 | Rapids |
| 5 | miscp.pft | f_code | BH170 | Spring/Water-Hole |
| 6 | miscp.pft | f_code | BH180 | Waterfall |
| 7 | miscp.pft | f_code | BI020 | Dam/Weir |
| 8 | miscp.pft | f_code | BI030 | Lock |
| 9 | miscp.pft | f_code | BI040 | Sluice Gate |
| 10 | aquecanl.lft | f_code | BH000 | Inland Water |
| 11 | dangerl.lft | f_code | BD000 | Underwater-Danger/Hazard |
| 12 | dangerl.lft | f_code | BD120 | Reef |
| 13 | miscl.lft | f_code | BB040 | Breakwater/Groyne |
| 14 | miscl.lft | f_code | BB230 | Seawall |
| 15 | miscl.lft | f_code | BI020 | Dam/Weir |
| 16 | watrcrsl.lft | f_code | BH140 | River/Stream |
| 17 | inwatera.aft | f_code | BH090 | Land Subject to Inundation |
| 18 | inwatera.aft | f_code | BH000 | Inland Water |
| 19 | hydrotxt.tft | f_code | ZD040 | Named Location |
| 20 | hydrotxt.tft | f_code | ZD045 | Text Description |
| 21 | fca | type | A | Area Feature |
| 22 | fca | type | L | Line Feature |
| 23 | fca | type | P | Point/Node Feature |
| 24 | fca | type | T | Text Feature |
| 25 | dqpoint.pft | f_code | BD130 | Rock |
| 26 | dqpoint.pft | f_code | BD180 | Wreck |
| 27 | dqpoint.pft | f_code | BA030 | Island |
| 28 | dqpoint.pft | f_code | BH120 | Rapids |
| 29 | dqpoint.pft | f_code | BH170 | Spring/Water-Hole |
| 30 | dqpoint.pft | f_code | BH180 | Waterfall |
| 31 | dqpoint.pft | f_code | BI020 | Dam/Weir |
| 32 | dqpoint.pft | f_code | BI030 | Lock |
| 33 | dqpoint.pft | f_code | BI040 | Sluice Gate |
| 34 | dqpoint.pft | f_code | ZD045 | Text Description |
| 35 | dqline.lft | f_code | BH000 | Inland Water |
| 36 | dqline.lft | f_code | BD000 | Underwater-Danger/Hazard |
| 37 | dqline.lft | f_code | BD120 | Reef |
| 38 | dqline.lft | f_code | BB040 | Breakwater/Groyne |
| 39 | dqline.lft | f_code | BB230 | Seawall |
| 40 | dqline.lft | f_code | BI020 | Dam/Weir |

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| | | | | |
|---|---|---|---|---|
| 41 | dqline.lft | f_code | BH140 | River/Stream |
| 42 | dqline.lft | f_code | ZD045 | Text Description |
| 43 | dqarea.aft | f_code | BH090 | Land Subject to Inundation |
| 44 | dqarea.aft | f_code | BH000 | Inland Water |
| 45 | dqarea.aft | f_code | ZD045 | Text Description |

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TABLE 107. Hydrography integer value description table.

Thematic Layer: Hydrography
Coverage Name: **hydro**
Table Description: Hydrography Integer Value Description Table
Table Name: **int.vdt**
**dq** Layer Number: 3

{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,50,N,Description of Value,-,-,-,:;

| | | | | |
|---|---|---|---|---|
| 1 | aquecanl.lft | exs | 1 | Definite |
| 2 | aquecanl.lft | exs | 5 | Under Construction |
| 3 | aquecanl.lft | exs | 6 | Abandoned/Disused |
| 4 | aquecanl.lft | loc | 0 | Unknown |
| 5 | aquecanl.lft | loc | 4 | Below Surface/Submerged/Underground |
| 6 | aquecanl.lft | loc | 8 | On Ground Surface |
| 7 | aquecanl.lft | loc | 25 | Suspended/Elevated Above Ground or Water Surface |
| 8 | watrcrsl.lft | hyc | 6 | Non-Perennial/Intermittent/Fluctuating |
| 9 | watrcrsl.lft | hyc | 8 | Perennial/Permanent |
| 10 | inwatera.aft | hyc | 6 | Non-Perennial/Intermittent/Fluctuating |
| 11 | inwatera.aft | hyc | 8 | Perennial/Permanent |
| 12 | symbol.rat | fon | 1 | Machine Default |
| 13 | symbol.rat | sty | 1 | Kern |
| 14 | symbol.rat | sty | 2 | Proportional |
| 15 | symbol.rat | sty | 3 | Constant |
| 16 | symbol.rat | col | 1 | Black |
| 17 | symbol.rat | col | 4 | Blue |
| 18 | symbol.rat | col | 9 | Red-Brown |
| 19 | symbol.rat | col | 12 | Magenta |

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80.6 Industry coverage.

TABLE 108. Content and format for industry coverage feature class schema table.

Thematic Layer: Industry
Coverage Name: **ind**
Table Description: Industry Feature Class Schema Table
Table Name: **fcs**
**dq** Layer Number: 4

```
{Header length}L;
Industry 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,9,N,Column Name in Second Table,-,-,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | extractp | extractp.pft | end_id | end | id |
| 2 | extractp | end | extractp.pft_id | extractp.pft | id |
| 3 | misindp | misindp.pft | end_id | end | id |
| 4 | misindp | end | misindp.pft_id | misindp.pft | id |
| 5 | storagep | storagep.pft | end_id | end | id |
| 6 | storagep | end | storagep.pft_id | storagep.pft | id |
| 7 | extracta | extracta.aft | fac_id | fac | id |
| 8 | extracta | fac | extracta.aft_id | extracta.aft | id |
| 9 | fishinda | fishinda.aft | fac_id | fac | id |
| 10 | fishinda | fac | fishinda.aft_id | fishinda.aft | id |
| 11 | dqpoint | dqpoint.pft | end_id | end | id |
| 12 | dqpoint | end | dqpoint.pft_id | dqpoint.pft | id |
| 13 | dqpoint | dqpoint.pft | dqdescr_id | dqdescr.rat | id |
| 14 | dqarea | dqarea.aft | fac_id | fac | id |
| 15 | dqarea | fac | dqarea.aft_id | dqarea.aft | id |
| 16 | dqarea | dqarea.aft | dqdescr_id | dqdescr.rat | id |
| 17 | dqtext | dqtext.tft | txt_id | txt | id |
| 18 | dqtext | txt | dqtext.tft_id | dqtext.tft | id |
| 19 | indtxt | indtxt.tft | txt_id | txt | id |
| 20 | indtxt | txt | indtxt.tft_id | indtxt.tft | id |
| 21 | indtxt | indtxt.tft | symbol_id | symbol.rat | symbol_id |

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TABLE 109. Extraction point feature table.

Thematic Layer: Industry
Coverage Name: **ind**
Table Description: Extraction Point Feature Table
Table Name: **extractp.pft**
**dq** Layer Number: 4

| |
|---|
| {Header length}L; |
| Extraction Point Feature Table;-; |
| id=I,1,P,Row Identifier,-,-,-,: |
| f_code=T,5,N,FACC Feature Code,char.vdt,f_code1.pti,-,: |
| txt=T,*,N,Text Attribute,-,-,-,: |
| tile_id=S,1,N,Tile Reference ID,-,tile1_id.pti,-,: |
| end_id=I,1,N,Entity Node Primitive ID,-,end1_id.pti,-,:; |

| | | | | |
|---|---|---|---|---|
| 1 | AA010 | | 1 | 1 |
| : | : | : | : | : |
| n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | AA010 | Mine/Quarry | |
| | | AA050 | Well | |
| | | AA052 | Oil/Gas Field | |
| | | BH155 | Salt Evaporator | |
| **txt** | Text Attribute | | | |
| | | Character text string | | AA050, AA052, BH155 |
| | | zero-length Null | | AA010 |

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TABLE 110. Miscellaneous industry point feature table.

Thematic Layer: Industry
Coverage Name: **ind**
Table Description: Miscellaneous Industry Point Feature Table
Table Name: **misindp.pft**
**dq** Layer Number: 4

| | | | | |
|---|---|---|---|---|
| {Header length}L; | | | | |
| Miscellaneous Industry Point Feature Table;-; | | | | |
| id=I,1,P,Row Identifier,-,-,-,: | | | | |
| f_code=T,5,N,FACC Feature Code,char.vdt,f_code2.pti,-,: | | | | |
| txt=T,*,N,Text Attribute,-,-,-,: | | | | |
| tile_id=S,1,N,Tile Reference ID,-,tile2_id.pti,-,: | | | | |
| end_id=I,1,N,Entity Node Primitive ID,-,end2_id.pti,-,:; | | | | |
| 1 | AC000 | Steel Works | 1 | 1 |
| : | : | : | : | : |
| n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | AC000 | Processing Plant/Treatment Plant | |
| | | AC040 | Oil/Gas Facilities | |
| | | AL240 | Tower (Non-communication) | |
| **txt** | Text Attribute | | | |
| | | Character text string | | AC000, AC040, AL240 |

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TABLE 111. Storage point feature table.

Thematic Layer: Industry
Coverage Name: **ind**
Table Description: Storage Point Feature Table
Table Name: **storagep.pft**
**dq** Layer Number: 4

| |
|---|
| {Header length}L; |
| Storage Point Feature Table;-; |
| id=I,1,P,Row Identifier,-,-,-,: |
| f_code=T,5,N,FACC Feature Code,char.vdt,f_code3.pti,-,: |
| txt=T,*,N,Text Attribute,-,-,-,: |
| tile_id=S,1,N,Tile Reference ID, -,tile3_id.pti,-,: |
| end_id=I,1,N,Entity Node Primitive ID,-,end3_id.pti,-,:; |

| | | | | |
|---|---|---|---|---|
| 1 | AM070 | Oil Tank | 3 | 3 |
| 2 | AM080 | Water Tower | 4 | 4 |
| : | : | : | : | : |
| n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | AM010 | Depot (Storage) | |
| | | AM070 | Tank | |
| | | AM080 | Water Tower | |
| **txt** | Text Attribute | | | |
| | | Character text string | | AM010, AM070, AM080 |

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TABLE 112. Extraction area feature table.

Thematic Layer: Industry
Coverage Name: **ind**
Table Description: Extraction Area Feature Table
Table Name: **extracta.aft**
**dq** Layer Number: 4

| | | | | |
|---|---|---|---|---|
| *{Header length}L;* | | | | |
| Extraction Area Feature Table;-; | | | | |
| id=I,1,P,Row Identifier,-,-,-,: | | | | |
| f_code=T,5,N,FACC Feature Code,char.vdt,f_code1.ati,-,: | | | | |
| min=S,1,N,Mining Category,int.vdt,-,-,: | | | | |
| tile_id=S,1,N,Tile Reference ID,-,tile1_id.ati,-,: | | | | |
| fac_id=I,1,N,Face Primitive ID,-,fac1_id.ati,-,:; | | | | |
| 1 | AA010 | 0 | 1 | 2 |
| 2 | BH155 | 999 | 3 | 3 |
| : | : | : | : | : |
| n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | AA010 | Mine/Quarry | |
| | | AA052 | Oil/Gas Field | |
| | | BH155 | Salt Evaporator | |
| **min** | Mining Category | | | |
| | | 0 | Unknown | AA010 |
| | | 8 | Peat Cuttings | AA010 |
| | | 999 | Other | AA052, BH155 |

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TABLE 113. Fishery industry area feature table.

Thematic Layer: Industry
Coverage Name: **ind**
Table Description: Fishery Industry Area Feature Table
Table Name: **fishinda.aft**
**dq** Layer Number: 4

| | | | |
|---|---|---|---|
| {Header length}L; | | | |
| Fishery Industry Area Feature Table;-; | | | |
| id=I,1,P,Row Identifier,-,-,-,: | | | |
| f_code=T,5,N,FACC Feature Code,char.vdt,-,-,: | | | |
| tile_id=S,1,N,Tile Reference ID,-,tile2_id.ati,-,: | | | |
| fac_id=I,1,N,Face Primitive ID,-,fac2_id.ati,-,:; | | | |
| 1 | BH050 | 1 | 2 |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | BH050 | Fish Hatchery/Fish Farm/Marine Farm | |

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TABLE 114. Industry text feature table.

Thematic Layer: Industry
Coverage Name: **ind**
Table Description: Industry Text Feature Table
Table Name: **indtxt.tft**
**dq** Layer Number: 4

```
{Header length}L;
Industry Text Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code1.tti,-,:
symbol_id=S,1,N,Symbol Identification,-,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile1_id.tti,-,:
txt_id=I,1,N,Text Primitive ID,-,txt1_id.tti,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | ZD040 | TBD | 1 | 1 |
| 2 | ZD045 | TBD | 4 | 45 |
| : | : | : | : | : |
| n | n | n | n | n |

| 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 | |
| | | ZD045 | Text Description | |
| **symbol_id** | Symbol Identification | | | |
| | (Refer to Symbol Related Attribute Table for selection of values) | | | |

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TABLE 115. Industry feature class attribute table.

Thematic Layer: Industry
Coverage Name: **ind**
Table Description: Industry Feature Class Attribute Table
Table Name: **fca**
**dq** Layer Number: 4

```
{Header length}L;
Industry 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,-,-,-,:;
```

| | | | |
|---|---|---|---|
| 1 | extractp | P | Extraction Point Features |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **fclass** | Feature Class Name | | | |
| | | **extractp** | | |
| | | **misindp** | | |
| | | **storagep** | | |
| | | **extracta** | | |
| | | **fishinda** | | |
| | | **indtxt** | | |
| **type** | Feature Type | | | |
| | | P | Point Feature | **extractp, misindp, storagep** |
| | | A | Area Feature | **extracta, fishinda** |
| | | T | Text Feature | **indtxt** |
| **descr** | Description | | | |
| | | Extraction Point Features | | **extractp** |
| | | Miscellaneous Industry Point Features | | **misindp** |
| | | Storage Point Features | | **storagep** |
| | | Extraction Areas | | **extracta** |
| | | Fish Hatcheries/Fish Farms | | **fishinda** |
| | | Industry Coverage Text | | **indtxt** |

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TABLE 116. Industry character value description table.

Thematic Layer: Industry
Coverage Name: **ind**
Table Description: Industry Character Value Description Table
Table Name: **char.vdt**
**dq** Layer Number: 4

{Header length}L;
Industry 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,50,N,Description of Value,-,-,-,:;

| | | | | |
|---|---|---|---|---|
| 1 | extractp.pft | f_code | AA010 | Mine/Quarry |
| 2 | extractp.pft | f_code | AA050 | Well |
| 3 | extractp.pft | f_code | AA052 | Oil/Gas Field |
| 4 | extractp.pft | f_code | BH155 | Salt Evaporator |
| 5 | misindp.pft | f_code | AC000 | Processing Plant/Treatment Plant |
| 6 | misindp.pft | f_code | AC040 | Oil/Gas Facilities |
| 7 | misindp.pft | f_code | AL240 | Tower (Non-communication) |
| 8 | storagep.pft | f_code | AM010 | Depot (Storage) |
| 9 | storagep.pft | f_code | AM070 | Tank |
| 10 | storagep.pft | f_code | AM080 | Water Tower |
| 11 | extracta.aft | f_code | AA010 | Mine/Quarry |
| 12 | extracta.aft | f_code | AA052 | Oil/Gas Field |
| 13 | extracta.aft | f_code | BH155 | Salt Evaporator |
| 14 | fishinda.aft | f_code | BH050 | Fish Hatchery/Fish Farm/Marine Farm |
| 15 | indtxt.tft | f_code | ZD040 | Named Location |
| 16 | indtxt.tft | f_code | ZD045 | Text Description |
| 17 | fca | type | A | Area Feature |
| 18 | fca | type | P | Point/Node Feature |
| 19 | fca | type | T | Text Feature |
| 20 | dqpoint.pft | f_code | AA010 | Mine/Quarry |
| 21 | dqpoint.pft | f_code | AA050 | Well |
| 22 | dqpoint.pft | f_code | AA052 | Oil/Gas Field |
| 23 | dqpoint.pft | f_code | BH155 | Salt Evaporator |
| 24 | dqpoint.pft | f_code | AC000 | Processing Plant/Treatment Plant |
| 25 | dqpoint.pft | f_code | AC040 | Oil/Gas Facilities |
| 26 | dqpoint.pft | f_code | AL240 | Tower (Non-communication) |
| 27 | dqpoint.pft | f_code | AM010 | Depot (Storage) |
| 28 | dqpoint.pft | f_code | AM070 | Tank |
| 29 | dqpoint.pft | f_code | AM080 | Water Tower |
| 30 | dqpoint.pft | f_code | ZD045 | Text Description |
| 31 | dqarea.aft | f_code | AA010 | Mine/Quarry |
| 32 | dqarea.aft | f_code | AA052 | Oil/Gas Field |
| 33 | dqarea.aft | f_code | BH155 | Salt Evaporator |
| 34 | dqarea.aft | f_code | BH050 | Fish Hatchery/Fish Farm/Marine Farm |
| 35 | dqarea.aft | f_code | ZD045 | Text Description |

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TABLE 117. Industry integer value description table.

Thematic Layer: Industry
Coverage Name: **ind**
Table Description: Industry Integer Value Description Table
Table Name: **int.vdt**
**dq** Layer Number: 4

{Header length}L;
Industry 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,50,N,Description of Value,-,-,-,:;

| | | | | |
|---|---|---|---|---|
| 1 | extracta.aft | min | 0 | Unknown |
| 2 | extracta.aft | min | 8 | Peat Cuttings |
| 3 | extracta.aft | min | 999 | Other |
| 4 | symbol.rat | fon | 1 | Machine Default |
| 5 | symbol.rat | sty | 1 | Kern |
| 6 | symbol.rat | sty | 2 | Proportional |
| 7 | symbol.rat | sty | 3 | Constant |
| 8 | symbol.rat | col | 1 | Black |
| 9 | symbol.rat | col | 4 | Blue |
| 10 | symbol.rat | col | 9 | Red-Brown |
| 11 | symbol.rat | col | 12 | Magenta |

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80.7 Physiography coverage.

TABLE 118. Content and format for physiography coverage feature class schema table.

Thematic Layer: Physiography
Coverage Name: **phys**
Table Description: Physiography Feature Class Schema Table
Table Name: **fcs**
**dq** Layer Number: 5

{Header length}L;
Physiography 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,9,N,Column Name in Second Table,-,-,-,:;

| | | | | | |
|---|---|---|---|---|---|
| 1 | cutfill | cutfill.lft | edg_id | edg | id |
| 2 | cutfill | edg | cutfill.lft_id | cutfill.lft | id |
| 3 | lndfrml | lndfrml.lft | edg_id | edg | id |
| 4 | lndfrml | edg | lndfrml.lft_id | lndfrml.lft | id |
| 5 | grounda | grounda.aft | fac_id | fac | id |
| 6 | grounda | fac | grounda.aft_id | grounda.aft | id |
| 7 | landicea | landicea.aft | fac_id | fac | id |
| 8 | landicea | fac | landicea.aft_id | landicea.aft | id |
| 9 | seaicea | seaicea.aft | fac_id | fac | id |
| 10 | seaicea | fac | seaicea.aft_id | seaicea.aft | id |
| 11 | dqline | dqline.lft | edg_id | edg | id |
| 12 | dqline | edg | dqline.lft_id | dqline.lft | id |
| 13 | dqline | dqline.lft | dqdescr_id | dqdescr.rat | id |
| 14 | dqarea | dqarea.aft | fac_id | fac | id |
| 15 | dqarea | fac | dqarea.aft_id | dqarea.aft | id |
| 16 | dqarea | dqarea.aft | dqdescr_id | dqdescr.rat | id |
| 17 | dqtext | dqtext.tft | txt_id | txt | id |
| 18 | dqtext | txt | dqtext.tft_id | dqtext.tft | id |
| 19 | phystxt | phystxt.tft | txt_id | txt | id |
| 20 | phystxt | txt | phystxt.tft_id | phystxt.tft | id |
| 21 | phystxt | phystxt.tft | symbol_id | symbol.rat | symbol_id |

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TABLE 119. Cut/Fill line feature table.

Thematic Layer: Physiography
Coverage Name: **phys**
Table Description: Cut/Fill Line Feature Table
Table Name: **cutfill.lft**
**dq** Layer Number: 5

| | | | |
|---|---|---|---|
| {Header length}L; | | | |
| Cut/Fill Line Feature Table;-; | | | |
| id=I,1,P,Row Identifier,-,-,-,: | | | |
| f_code=T,5,N,FACC Feature Code,char.vdt,-,-,: | | | |
| tile_id=S,1,N,Tile Reference ID,-,tile1_id.lti,-,: | | | |
| edg_id=I,1,N,Edge Primitive ID,-,edg1_id.lti,-,:; | | | |
| 1 | DB090 | 1 | 1 |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | DB090 | Embankment/Fill | |

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TABLE 120. Landform line feature table.

Thematic Layer: Physiography
Coverage Name: **phys**
Table Description: Landform Line Feature Table
Table Name: **lndfrml.lft**
**dq** Layer Number: 5

| | | | |
|---|---|---|---|
| {Header length}L; | | | |
| Landform Line Feature Table;-; | | | |
| id=I,1,P,Row Identifier,-,-,-,: | | | |
| f_code=T,5,N,FACC Feature Code,char.vdt,f_code2.lti,-,: | | | |
| tile_id=S,1,N,Tile Reference ID,-,tile2_id.lti,-,: | | | |
| edg_id=I,1,N,Edge Primitive ID,-,edg2_id.lti,-,:; | | | |
| 1 | BJ040 | 1 | 1 |
| 2 | DB010 | 2 | 2 |
| 3 | DB080 | 3 | 3 |
| 4 | DB110 | 4 | 4 |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | BJ040 | Ice Cliff | |
| | | DB010 | Bluff/Cliff/Escarpment | |
| | | DB080 | Depression | |
| | | DB090 | Embankment/Fill | |
| | | DB110 | Fault | |
| | | DB160 | Rock Strata/Rock Formation | |

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TABLE 121. Ground area feature table.

Thematic Layer: Physiography
Coverage Name: **phys**
Table Description: Ground Area Feature Table
Table Name: **grounda.aft**
**dq** Layer Number: 5

```
Header length}L;
Ground Area Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:
smc=S,1,N,Surface Material Category,int.vdt,-,-,:
swc=S,1,N,Soil Wetness Condition,int.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile1_id.ati,-,:
fac_id=I,1,N,Face Primitive ID,-,fac1_id.ati,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | DA010 | 88 | 3 | 1 | 2 |
| : | : | : | : | : | : |
| n | n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | DA010 | Ground Surface Element | |
| **smc** | Surface Material Category | | | |
| | | 0 | Unknown | DA010 |
| | | 52 | Lava | DA010 |
| | | 88 | Sand | DA010 |
| | | 119 | Distorted Surface | DA010 |
| **swc** | Soil Wetness Condition | | | |
| | | 0 | Unknown | DA010 |
| | | 3 | Wet | DA010 |

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TABLE 122. Land ice area feature table.

Thematic Layer: Physiography
Coverage Name: **phys**
Table Description: Land Ice Area Feature Table
Table Name: **landicea.aft**
**dq** Layer Number: 5

| | | | |
|---|---|---|---|
| {Header length}L; | | | |
| Land Ice Area Feature Table;-; | | | |
| id=I,1,P,Row Identifier,-,-,-,: | | | |
| f_code=T,5,N,FACC Feature Code,char.vdt,-,-,: | | | |
| tile_id=S,1,N,Tile Reference ID,-,tile2_id.ati,-,: | | | |
| fac_id=I,1,N,Face Primitive ID,-,fac2_id.ati,-,:; | | | |
| 1 | BJ100 | 1 | 2 |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | BJ100 | Snow Field/Ice Field | |

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TABLE 123. Sea ice area feature table.

Thematic Layer: Physiography
Coverage Name: **phys**
Table Description: Sea Ice Area Feature Table
Table Name: **seaicea.aft**
**dq** Layer Number: 5

```
{Header length}L;
Sea Ice Area Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code3.ati,-,:
nam=T,*,N,Name,char.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile3_id.ati,-,:
fac_id=I,1,N,Face Primitive ID,-,fac3_id.ati,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | BJ065 | AY | 1 | 2 |
| : | : | : | : | : |
| n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | BJ065 | Ice Shelf | |
| | | BJ070 | Pack Ice | |
| | | BJ080 | Polar Ice | |
| **nam** | Name | UNK | Unknown | BJ080 |
| | | | | BJ065 BJ070 |
| | | actual value (e.g., Pitcairn Island) | | BJ065 BJ070 |
| | | | | BJ080 |

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TABLE 124. Physiography text feature table.

Thematic Layer: Physiography
Coverage Name: **phys**
Table Description: Physiography Text Feature Table
Table Name: **phystxt.tft**
**dq** Layer Number: 5

```
{Header length}L;
Physiography Text Feature Table;~;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code1.tti,-,:
symbol_id=S,1,N,Symbol Identification,-,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile1_id.tti,-,:
txt_id=I,1,N,Text Primitive ID,-,txt1_id.tti,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | ZD040 | TBD | 1 | 1 |
| 2 | ZD045 | TBD | 4 | 45 |
| : | : | : | : | : |
| n | n | n | n | n |

| 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 | |
| | | ZD045 | Text Description | |
| **symbol_id** | Symbol Identification | | | |
| | (Refer to Symbol Related Attribute Table for selection of values) | | | |

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TABLE 125. Physiography feature class attribute table.

Thematic Layer: Physiography
Coverage Name: **phys**
Table Description: Physiography Feature Class Attribute Table
Table Name: **fca**
**dq** Layer Number: 5

```
{Header length}L;
Physiography 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,-,-,-,:;
```

| | | | |
|---|---|---|---|
| 1 | cutfill | L | Cuts and Fills |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **fclass** | Feature Class Name | | | |
| | | **cutfill** | | |
| | | **lndfrml** | | |
| | | **grounda** | | |
| | | **landicea** | | |
| | | **seaicea** | | |
| | | **phystxt** | | |
| **type** | Feature Type | | | |
| | | L | Line Feature | **cutfill, lndfrml** |
| | | A | Area Feature | **grounda, landicea,seaice** |
| | | T | Text Feature | **phystxt** |
| **descr** | Description | | | |
| | | Cuts and Fills | | **cutfill** |
| | | Landform Line Features | | **lndfrml** |
| | | Ground Surface Areas | | **grounda** |
| | | Snow/Ice Fields and Glaciers | | **landicea** |
| | | Sea Ice Areas | | **seaicea** |
| | | Physiography Coverage Text | | **phystxt** |

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TABLE 126. Physiography character value description table.

Thematic Layer: Physiography
Coverage Name: **phys**
Table Description: Physiography Character Value Description Table
Table Name: **char.vdt**
**dq** Layer Number: 5

{Header length}L;
Physiography 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,50,N,Description of Value,-,-,-,:;

| | | | | |
|---|---|---|---|---|
| 1 | cutfill.lft | f_code | DB090 | Embankment/Fill |
| 2 | lndfrml.lft | f_code | BJ040 | Ice Cliff |
| 3 | lndfrml.lft | f_code | DB010 | Bluff/Cliff/Escarpment |
| 4 | lndfrml.lft | f_code | DB080 | Depression |
| 5 | lndfrml.lft | f_code | DB090 | Embankment/Fill |
| 6 | lndfrml.lft | f_code | DB110 | Fault |
| 7 | lndfrml.lft | f_code | DB160 | Rock Strata/Rock Formation |
| 8 | grounda.aft | f_code | DA010 | Ground Surface Element |
| 9 | landicea.aft | f_code | BJ100 | Snow Field/Ice Field |
| 10 | seaicea.aft | f_code | BJ065 | Ice Shelf |
| 11 | seaicea.aft | f_code | BJ070 | Pack Ice |
| 12 | seaicea.aft | f_code | BJ080 | Polar Ice |
| 13 | seaicea.aft | nam | UNK | No entry present |
| 14 | phystxt.tft | f_code | ZD040 | Named Location |
| 15 | phystxt.tft | f_code | ZD045 | Text Description |
| 16 | fca | type | A | Area Feature |
| 17 | fca | type | L | Line Feature |
| 18 | fca | type | T | Text Feature |
| 19 | dqline.lft | f_code | DB090 | Embankment/Fill |
| 20 | dqline.lft | f_code | BJ040 | Ice Cliff |
| 21 | dqline.lft | f_code | DB010 | Bluff/Cliff/Escarpment |
| 22 | dqline.lft | f_code | DB080 | Depression |
| 23 | dqline.lft | f_code | DB090 | Embankment/Fill |
| 24 | dqline.lft | f_code | DB110 | Fault |
| 25 | dqline.lft | f_code | DB160 | Rock Strata/Rock Formation |
| 26 | dqline.lft | f_code | ZD045 | Text Description |
| 27 | dqarea.aft | f_code | DA010 | Ground Surface Element |
| 28 | dqarea.aft | f_code | BJ100 | Snow Field/Ice Field |
| 29 | dqarea.aft | f_code | BJ065 | Ice Shelf |
| 30 | dqarea.aft | f_code | BJ070 | Pack Ice |
| 31 | dqarea.aft | f_code | BJ080 | Polar Ice |
| 32 | dqarea.aft | f_code | ZD045 | Text Description |

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TABLE 127. Physiography integer value description table.

| | |
|---|---|
| Thematic Layer: | Physiography |
| Coverage Name: | **phys** |
| Table Description: | Physiography Integer Value Description Table |
| Table Name: | **int.vdt** |
| **dq** Layer Number: | 5 |

```
{Header length}L;
Physiography 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,50,N,Description of Value,-,-,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | grounda.aft | smc | 0 | Unknown |
| 2 | grounda.aft | smc | 52 | Lava |
| 3 | grounda.aft | smc | 88 | Sand |
| 4 | grounda.aft | smc | 119 | Distorted Surface |
| 5 | grounda.aft | swc | 0 | Unknown |
| 6 | grounda.aft | swc | 3 | Wet |
| 7 | symbol.rat | fon | 1 | Machine Default |
| 8 | symbol.rat | sty | 1 | Kern |
| 9 | symbol.rat | sty | 2 | Proportional |
| 10 | symbol.rat | sty | 3 | Constant |
| 11 | symbol.rat | col | 1 | Black |
| 12 | symbol.rat | col | 4 | Blue |
| 13 | symbol.rat | col | 9 | Red-Brown |
| 14 | symbol.rat | col | 12 | Magenta |

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80.8 Population coverage.

TABLE 128. Content and format for population coverage feature class schema table.

Thematic Layer: Population
Coverage Name: **pop**
Table Description: Population Feature Class Schema Table
Table Name: **fcs**
**dq** Layer Number: 6

(Header length)L;
Population 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,9,N,Column Name in Second Table,-,-,-,:;

| | | | | | |
|---|---|---|---|---|---|
| 1 | builtupp | builtupp.pft | end_id | end | id |
| 2 | builtupp | end | builtupp.pft_id | builtupp.pft | id |
| 3 | mispopp | mispopp.pft | end_id | end | id |
| 4 | mispopp | end | mispopp.pft_id | mispopp.pft | id |
| 5 | builtupa | builtupa.aft | fac_id | fac | id |
| 6 | builtupa | fac | builtupa.aft_id | builtupa.aft | id |
| 7 | mispopa | mispopa.aft | fac_id | fac | id |
| 8 | mispopa | fac | mispopa.aft_id | mispopa.aft | id |
| 9 | dqpoint | dqpoint.pft | end_id | end | id |
| 10 | dqpoint | end | dqpoint.pft_id | dqpoint.pft | id |
| 11 | dqpoint | dqpoint.pft | dqdescr_id | dqdescr.rat | id |
| 12 | dqline | dqline.lft | edg_id | edg | id |
| 13 | dqline | edg | dqline.lft_id | dqline.lft | id |
| 14 | dqline | dqline.lft | dqdescr_id | dqdescr.rat | id |
| 15 | dqarea | dqarea.aft | fac_id | fac | id |
| 16 | dqarea | fac | dqarea.aft_id | dqarea.aft | id |
| 17 | dqarea | dqarea.aft | dqdescr_id | dqdescr.rat | id |
| 18 | dqtext | dqtext.tft | txt_id | txt | id |
| 19 | dqtext | txt | dqtext.tft_id | dqtext.tft | id |
| 20 | poptxt | poptxt.tft | txt_id | txt | id |
| 21 | poptxt | txt | poptxt.tft_id | poptxt.tft | id |
| 22 | poptxt | poptxt.tft | symbol_id | symbol.rat | symbol_id |

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TABLE 129. Built-up area point feature table.

Thematic Layer: Population
Coverage Name: **pop**
Table Description: Built-Up Area Point Feature Table
Table Name: **builtupp.pft**
**dq** Layer Number: 6

| | | | | |
|---|---|---|---|---|
| {Header length}L; | | | | |
| Built-Up Area Point Feature Table;-; | | | | |
| id=I,1,P,Row Identifier,-,-,-,: | | | | |
| f_code=T,5,N,FACC Feature Code,char.vdt,-,-,: | | | | |
| nam=T,*,N,Name,char.vdt,-,-,: | | | | |
| tile_id=S,1,N,Tile Reference ID,-,tile1_id.pti,-,: | | | | |
| end_id=I,1,N,Entity Node Primitive ID,-,end1_id.pti,-,:; | | | | |
| 1 | AL020 | UNK | 1 | 1 |
| : | : | : | : | : |
| n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | AL020 | Built-Up Area | |
| **nam** | Name | | | |
| | | Character text string | | AL020 |
| | | "UNK" (no entry present for feature) | | AL020 |

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TABLE 130. Miscellaneous population point feature table.

Thematic Layer: Population
Coverage Name: **pop**
Table Description: Miscellaneous Population Point Feature Table
Table Name: **mispopp.pft**
**dq** Layer Number: 6

```
{Header length}L;
Miscellaneous Population Point Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code2.pti,-,:
nam=T,*,N,Name,char.vdt,-,-,:
txt=T,*,N,Text Attribute,char.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile2_id.pti,-,:
end_id=I,1,N,Entity Node Primitive ID,-,end2_id.pti,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | AI030 | | Camp | 1 | 1 |
| : | : | : | : | : | : |
| n | n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | AI030 | Camp | |
| | | AK160 | Stadium/Amphitheatre | |
| | | AL015 | Building | |
| | | AL025 | Cairn | |
| | | AL105 | Settlement | |
| | | AL130 | Monument | |
| | | AL135 | Native Settlement | |
| | | AL200 | Ruins | |
| | | AL260 | Wall | |
| | | BC050 | Lighthouse | |
| | | SU001 | Military Base | |
| **nam** | Name | | | |
| | | zero-length | Null | AI030, AK160, AL015, AL025, AL105, AL130, AL200, AL260, BC050, SU001 |
| | | Character text string | | AL135 |
| | | "UNK" (no entry present for feature) | | AL135 |
| **txt** | Text Attribute | | | |
| | | zero-length | Null | AL135 |
| | | Character text string | | AI030, AK160, AL015, AL025, AL105, AL130, AL200, AL260, BC050, SU001 |
| | | "UNK" (no entry | | AI030, AK160, AL015, AL025, |

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| | |
|---|---|
| present for feature) | AL105, AL130, AL200, AL260, BC050, SU001 |

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TABLE 131. Built-up area area feature table.

| | |
|---|---|
| Thematic Layer: | Population |
| Coverage Name: | **pop** |
| Table Description: | Built-Up Area Area Feature Table |
| Table Name: | **builtupa.aft** |
| **dq** Layer Number: | 6 |

```
{Header length}L;
Built-Up Area Area Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:
nam=T,*,N,Name,char.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile1_id.ati,-,:
fac_id=I,1,N,Face Primitive ID,-,fac1_id.ati,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | AL020 | UNK | 1 | 2 |
| : | : | : | : | : |
| n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | AL020 | Built-Up Area | |
| **nam** | Name | | | |
| | | Character text string | | AL020 |
| | | "UNK" (no entry present for feature) | | AL020 |

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TABLE 132. Miscellaneous population area feature table.

Thematic Layer: Population
Coverage Name: **pop**
Table Description: Miscellaneous Population Area Feature Table
Table Name: **mispopa.aft**
**dq** Layer Number: 6

```
{Header length}L;
Miscellaneous Population Area Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code2.ati,-,:
nam=T,*,N,Name,char.vdt,-,-,:
txt=T,*,N,Text Attribute,char.vdt,-,-:
tile_id=S,1,N,Tile Reference ID,-,tile2_id.ati,-,:
fac_id=I,1,N,Face Primitive ID,-,fac2_id.ati,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | AK040 | | | 1 | 2 |
| 2 | AL135 | UNK | | 2 | 3 |
| 3 | SU001 | | UNK | 3 | 4 |
| : | : | : | : | : | : |
| n | n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | AK040 | Athletic Field | |
| | | AK130 | Race Track | |
| | | AL135 | Native Settlement | |
| | | SU001 | Military Base | |
| **nam** | Name | | | |
| | | zero-length | Null | AK040, AK130, SU001 |
| | | Character text string | | AL135 |
| | | "UNK" (no entry present for feature) | | AL135 |
| **txt** | Text Attribute | | | |
| | | zero-length | Null | AK040, AK130, AL135 |
| | | Character text string | | SU001 |
| | | "UNK" (no entry present for feature) | | SU001 |

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TABLE 133. Population text feature table.

| | |
|---|---|
| Thematic Layer: | Population |
| Coverage Name: | **pop** |
| Table Description: | Population Text Feature Table |
| Table Name: | **poptxt.tft** |
| **dq** Layer Number: | 6 |

| |
|---|
| {Header length}L; |
| Population Text Feature Table;-; |
| id=I,1,P,Row Identifier,-,-,-,: |
| f_code=T,5,N,FACC Feature Code,char.vdt,f_code1.tti,-,: |
| symbol_id=S,1,N,Symbol Identification,-,-,-,: |
| tile_id=S,1,N,Tile Reference ID,-,tile1_id.tti,-,: |
| txt_id=I,1,N,Text Primitive ID,-,txt1_id.tti,-,:; |

| | | | | |
|---|---|---|---|---|
| 1 | ZD040 | TBD | 1 | 1 |
| 2 | ZD045 | TBD | 4 | 45 |
| : | : | : | : | : |
| n | n | n | n | n |

| 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 | |
| | | ZD045 | Text Description | |
| **symbol_id** | Symbol Identification | | | |
| | (Refer to Symbol Related Attribute Table for selection of values) | | | |

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TABLE 134. Population feature class attribute table.

Thematic Layer: Population
Coverage Name: **pop**
Table Description: Population Feature Class Attribute Table
Table Name: **fca**
**dq** Layer Number: 6

```
{Header length}L;
Population 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,-,-,-,:;
```

| | | | |
|---|---|---|---|
| 1 | builtupp | P | Built-up Area Points |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **fclass** | Feature Class Name | | | |
| | | **builtupp** | | |
| | | **mispopp** | | |
| | | **builtupa** | | |
| | | **mispopa** | | |
| | | **poptxt** | | |
| **type** | Feature Type | | | |
| | | P | Point Feature | **builtupp, mispopp** |
| | | A | Area Feature | **builtupa, mispopa** |
| | | T | Text Feature | **poptxt** |
| **descr** | Description | | | |
| | | Built-Up Area Points | | **builtupp** |
| | | Miscellaneous Population Points | | **mispopp** |
| | | Built-Up Areas | | **builtupa** |
| | | Miscellaneous Population Areas | | **mispopa** |
| | | Population Coverage Text | | **poptxt** |

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TABLE 135. Population character value description table.

Thematic Layer: Population
Coverage Name: **pop**
Table Description: Population Character Value Description Table
Table Name: **char.vdt**
**dq** Layer Number: 6

(Header length)L;
Population 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,50,N,Description of Value,-,-,-,:;

| | | | | |
|---|---|---|---|---|
| 1 | builtupp.pft | f_code | AL020 | Built-Up Area |
| 2 | builtupp.pft | nam | UNK | No entry present |
| 3 | mispopp.pft | f_code | AI030 | Camp |
| 4 | mispopp.pft | f_code | AK160 | Stadium/Amphitheatre |
| 5 | mispopp.pft | f_code | AL015 | Building |
| 6 | mispopp.pft | f_code | AL025 | Cairn |
| 7 | mispopp.pft | f_code | AL105 | Settlement |
| 8 | mispopp.pft | f_code | AL130 | Monument |
| 9 | mispopp.pft | f_code | AL135 | Native Settlement |
| 10 | mispopp.pft | f_code | AL200 | Ruins |
| 11 | mispopp.pft | f_code | AL260 | Wall |
| 12 | mispopp.pft | f_code | BC050 | Lighthouse |
| 13 | mispopp.pft | f_code | SU001 | Military Base |
| 14 | mispopp.pft | nam | UNK | No entry present |
| 15 | mispopp.pft | txt | UNK | No entry present |
| 16 | builtupa.aft | f_code | AL020 | Built-Up Area |
| 17 | builtupa.aft | nam | UNK | No entry present |
| 18 | mispopa.aft | f_code | AK040 | Athletic Field |
| 19 | mispopa.aft | f_code | AK130 | Race Track |
| 20 | mispopa.aft | f_code | AL135 | Native Settlement |
| 21 | mispopa.aft | f_code | SU001 | Military Base |
| 22 | mispopa.aft | nam | UNK | No entry present |
| 23 | mispopa.aft | txt | UNK | No entry present |
| 24 | poptxt.tft | f_code | ZD040 | Named Location |
| 25 | poptxt.tft | f_code | ZD045 | Text Description |
| 26 | fca | type | A | Area Feature |
| 27 | fca | type | P | Point/Node Feature |
| 28 | fca | type | T | Text Feature |
| 29 | dqpoint.pft | f_code | AL020 | Built-Up Area |
| 30 | dqpoint.pft | f_code | AI030 | Camp |
| 31 | dqpoint.pft | f_code | AK160 | Stadium/Amphitheatre |
| 32 | dqpoint.pft | f_code | AL015 | Building |
| 33 | dqpoint.pft | f_code | AL025 | Cairn |
| 34 | dqpoint.pft | f_code | AL105 | Settlement |
| 35 | dqpoint.pft | f_code | AL130 | Monument |
| 36 | dqpoint.pft | f_code | AL135 | Native Settlement |
| 37 | dqpoint.pft | f_code | AL200 | Ruins |

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| | | | | |
|---|---|---|---|---|
| 38 | dqpoint.pft | f_code | AL260 | Wall |
| 39 | dqpoint.pft | f_code | BC050 | Lighthouse |
| 40 | dqpoint.pft | f_code | SU001 | Military Base |
| 41 | dqpoint.pft | f_code | ZD045 | Text Description |
| 42 | dqarea.aft | f_code | AL020 | Built-Up Area |
| 43 | dqarea.aft | f_code | AK040 | Athletic Field |
| 44 | dqarea.aft | f_code | AK130 | Race Track |
| 45 | dqarea.aft | f_code | AL135 | Native Settlement |
| 46 | dqarea.aft | f_code | SU001 | Military Base |
| 47 | dqarea.aft | f_code | ZD045 | Text Description |

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TABLE 136. Population integer value description table.

| | |
|---|---|
| Thematic Layer: | Population |
| Coverage Name: | **pop** |
| Table Description: | Population Integer Value Description Table |
| Table Name: | **int.vdt** |
| **dq** Layer Number: | 6 |

```
{Header length}L;
Population 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,50,N,Description of Value,-,-,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | symbol.rat | fon | 1 | Machine Default |
| 2 | symbol.rat | sty | 1 | Kern |
| 3 | symbol.rat | sty | 2 | Proportional |
| 4 | symbol.rat | sty | 3 | Constant |
| 5 | symbol.rat | col | 1 | Black |
| 6 | symbol.rat | col | 4 | Blue |
| 7 | symbol.rat | col | 9 | Red-Brown |
| 8 | symbol.rat | col | 12 | Magenta |

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80.9 Transportation coverage.

TABLE 137. Content and format for transportation coverage feature class schema table.

Thematic Layer: Transportation
Coverage Name: **trans**
Table Description: Transportation Feature Class Schema Table
Table Name: **fcs**
**dq** Layer Number: 7

```
{Header length}L;
Transportation 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,9,N,Column Name in Second Table,-,-,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | aerofacp | aerofacp.pft | end_id | end | id |
| 2 | aerofacp | end | aerofacp.pft_id | aerofacp.pft | id |
| 3 | rryardp | rryardp.pft | end_id | end | id |
| 4 | rryardp | end | rryardp.pft_id | rryardp.pft | id |
| 5 | transtrc | transtrc.pft | cnd_id | cnd | id |
| 6 | transtrc | cnd | transtrc.pft_id | transtrc.pft | id |
| 7 | mistranl | mistranl.lft | edg_id | edg | id |
| 8 | mistranl | edg | mistranl.lft_id | mistranl.lft | id |
| 9 | railrdl | railrdl.lft | edg_id | edg | id |
| 10 | railrdl | edg | railrdl.lft_id | railrdl.lft | id |
| 11 | roadl | roadl.lft | edg_id | edg | id |
| 12 | roadl | edg | roadl.lft_id | roadl.lft | id |
| 13 | traill | traill.lft | edg_id | edg | id |
| 14 | traill | edg | traill.lft_id | traill.lft | id |
| 15 | transtrl | transtrl.lft | edg_id | edg | id |
| 16 | transtrl | edg | transtrl.lft_id | transtrl.lft | id |
| 17 | dqpoint | dqpoint.pft | end_id | end | id |
| 18 | dqpoint | end | dqpoint.pft_id | dqpoint.pft | id |
| 19 | dqpoint | dqpoint.pft | dqdescr_id | dqdescr.rat | id |
| 20 | dqnode | dqnode.pft | cnd_id | cnd | id |
| 21 | dqnode | cnd | dqnode.pft_id | dqnode.pft | id |
| 22 | dqnode | dqnode.pft | dqdescr_id | dqdescr.rat | id |
| 23 | dqline | dqline.lft | edg_id | edg | id |
| 24 | dqline | edg | dqline.lft_id | dqline.lft | id |
| 25 | dqline | dqline.lft | dqdescr_id | dqdescr.rat | id |
| 26 | dqtext | dqtext.tft | txt_id | txt | id |
| 27 | dqtext | txt | dqtext.tft_id | dqtext.tft | id |
| 28 | transtxt | transtxt.tft | txt_id | txt | id |
| 29 | transtxt | txt | transtxt.tft_id | transtxt.tft | id |
| 30 | transtxt | transtxt.tft | symbol_id | symbol.rat | symbol_id |

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TABLE 138. Airport point feature table.

Thematic Layer: Transportation
Coverage Name: **trans**
Table Description: Airport Point Feature Table
Table Name: **aerofacp.pft**
**dq** Layer Number: 7

```
(Header length)L;
Airport Point Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:
iko=T,4,N,ICAO Designator,char.vdt,-,-,:
nam=T,*,N,Name,char.vdt,-,-,:
na3=T,*,N,Name,char.vdt,-,-,:
use=S,1,N,Usage,int.vdt,-,-,:
zv3=S,1,N,Airfield/Aerodrome Elevation (meters),int.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile1_id.pti,-,:
end_id=I,1,N,Entity Node Primitive ID,-,end1_id.pti,-,:;
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | GB005 | 1234 | XYZ | 8 | 230 | 1 | 1 |
| 2 | : | : | : | : | : | 2 | 2 |
| : | : | : | : | : | : | : | : |
| n | n | n | n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | GB005 | Airport/Airfield | |
| **iko** | ICAO Designator | | | |
| | | Character text string | | GB005 |
| | | "UNK" (no entry present for feature) | | |
| **nam** | Name | | | |
| | | Character text string | | GB005 |
| | | "UNK" (no entry present for feature) | | GB005 |
| **na3** | Classification Name | | | |
| | | Character text string | | GB005 |
| | | "UNK" (no entry present for feature) | | |
| **use** | Usage | | | |
| | | 0 | Unknown | GB005 |
| | | 8 | Military | GB005 |
| | | 22 | Joint Military/Civilian | GB005 |
| | | 49 | Civilian/Public | GB005 |
| | | 999 | Other | GB005 |
| **zv3** | Airfield/Aerodrome Elevation (meters) | | | |
| | | 29999 | Unknown | GB005 |
| | | -400 to 9999 | | GB005 |

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TABLE 139. Railroad yard point feature table.

Thematic Layer: Transportation
Coverage Name: **trans**
Table Description: Railroad Yard Point Feature Table
Table Name: **rryardp.pft**
**dq** Layer Number: 7

| | | | |
|---|---|---|---|
| {Header length}L; | | | |
| Railroad Yard Point Feature Table;-; | | | |
| id=I,1,P,Row Identifier,-,-,-,: | | | |
| f_code=T,5,N,FACC Feature Code,char.vdt,-,-,: | | | |
| tile_id= S,1,N,Tile Reference ID,-,tile2_id.pti,-,: | | | |
| end_id=I,1,N,Entity Node Primitive ID,-,end2_id.pti,-,:; | | | |
| 1 | AN060 | 1 | 2 |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | AN060 | Railroad Yard/Marshalling Yard | |

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TABLE 140. Transportation structures node feature table.

Thematic Layer: Transportation
Coverage Name: **trans**
Table Description: Transportation Structures Node Feature Table
Table Name: **transtrc.pft**
**dq** Layer Number: 7

| |
|---|
| {Header length}L; |
| Transportation Structures Node Feature Table;-; |
| id=I,1,P,Row Identifier,-,-,-,: |
| f_code=T,5,N,FACC Feature Code,char.vdt,f_code1.nti,-,: |
| tuc=S,1,N,Transportation Use Category,int.vdt,-,-,: |
| tile_id=S,1,N,Tile Reference ID,-,tile1_id.nti,-,: |
| cnd_id=I,1,N,Connected Node Primitive ID,-,cnd1_id.nti,-,:; |

| | | | | |
|---|---|---|---|---|
| 1 | AQ130 | 4 | 1 | 1 |
| : | : | : | : | : |
| n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | AL210 | Snow Shed/Rock Shed | |
| | | AQ040 | Bridge/Overpass/Viaduct | |
| | | AQ064 | Causeway | |
| | | AQ070 | Ferry Crossing | |
| | | AQ130 | Tunnel | |
| | | BH070 | Ford | |
| **tuc** | Transportation Use Category | | | |
| | | 3 | Railroad | AL210, AQ040, AQ064, AQ070, AQ130 |
| | | 4 | Road | AL210, AQ040, AQ064, AQ070, AQ130, BH070 |

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TABLE 141. Miscellaneous transportation line feature table.

Thematic Layer: Transportation
Coverage Name: **trans**
Table Description: Miscellaneous Transportation Line Feature Table
Table Name: **mistranl.lft**
**dq** Layer Number: 7

| |
|---|
| (Header length)L; |
| Miscellaneous Transportation Line Feature Table;-; |
| id=I,1,P,Row Identifier,-,-,-,: |
| f_code=T,5,N,FACC Feature Code,char.vdt,f_code1.lti,-,: |
| tile_id=S,1,N,Tile Reference ID,-,tile1_id.lti,-,: |
| edg_id=I,1,N,Edge Primitive ID,-,edg1_id.lti,-,:; |

| | | | |
|---|---|---|---|
| 1 | AQ010 | 1 | 1 |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | AQ010 | Aerial Cableway Lines/Ski Lift Lines | |
| | | BB190 | Pier/Wharf/Quay | |

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TABLE 142. Railroad line feature table.

Thematic Layer: Transportation
Coverage Name: **trans**
Table Description: Railroad Line Feature Table
Table Name: **railrdl.lft**
**dq** Layer Number: 7
exs=55 for schematic railroad connectors added in urbanized areas for network connectivity.

```
{Header length}L;
Railroad Line Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:
exs=S,1,N,Existence Category,int.vdt,-,-,:
fco=S,1,N,Feature Configuration,int.vdt,-,-,:
rrc=S,1,N,Railroad Categories,int.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile2_id.lti,-,:
edg_id=I,1,N,Edge Primitive ID,-,edg2_id.lti,-,:;
```

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | AN010 | 28 | 3 | 0 | 1 | 1 |
| : | : | : | : | : | : | : |
| n | n | n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | AN010 | Railroad | |
| **exs** | Existence Category | | | |
| | | 2 | Doubtful | AN010 |
| | | 5 | Under Construction | AN010 |
| | | 28 | Operational | AN010 |
| | | 55 | Unexamined/Unsurveyed | AN010 |
| | | 59 | Not Usable | AN010 |
| **fco** | Feature Configuration | | | |
| | | 0 | Unknown | AN010 |
| | | 2 | Multiple | AN010 |
| | | 3 | Single | AN010 |
| **rrc** | Railroad Categories | | | |
| | | 0 | Unknown | AN010 |
| | | 2 | Car-Line | AN010 |

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TABLE 143. Road line feature table.

Thematic Layer: Transportation
Coverage Name: **trans**
Table Description: Road Line Feature Table
Table Name: **roadl.lft**
**dq** Layer Number: 7
exs=55 for schematic road connectors added in urbanized areas for network connectivity.

```
{Header length}L;
Road 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,-,-,:
exs=S,1,N,Existence Category,int.vdt,-,-,:
med=S,1,N,Median Category,int.vdt,-,-,:
rtt=S,1,N,Route Intended Use,int.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile3_id.lti,-,:
edg_id=I,1,N,Edge Primitive ID,-,edg3_id.lti,-,:;
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | AP030 | 2 | 5 | 2 | 13 | 1 | 1 |
| : | : | : | : | : | : | : | : |
| n | n | n | n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | AP030 | Road | |
| **acc** | Accuracy Category | | | |
| | | 1 | Accurate | AP030 |
| | | 2 | Approximate | AP030 |
| **exs** | Existence Category | | | |
| | | 2 | Doubtful | AP030 |
| | | 5 | Under Construction | AP030 |
| | | 28 | Operational | AP030 |
| | | 55 | Unexamined/Unsurveyed | AP030 |
| **med** | Median Category | | | |
| | | 0 | Unknown | AP030 |
| | | 1 | With Median | AP030 |
| | | 2 | Without Median | AP030 |
| **rtt** | Route Intended Use | | | |
| | | 0 | Unknown | AP030 |
| | | 14 | Primary Route | AP030 |
| | | 15 | Secondary Route | AP030 |

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TABLE 144. Trails and tracks line feature table.

Thematic Layer: Transportation
Coverage Name: **trans**
Table Description: Trails and Tracks Line Feature Table
Table Name: **traill.lft**
**dq** Layer Number: 7

| | | | | |
|---|---|---|---|---|
| {Header length}L; | | | | |
| Trails and Tracks Line Feature Table;-; | | | | |
| id=I,1,P,Row Identifier,-,-,-,: | | | | |
| f_code=T,5,N,FACC Feature Code,char.vdt,-,-,: | | | | |
| exs=S,1,N,Existence Category,int.vdt,-,-,: | | | | |
| tile_id=S,1,N,Tile Reference ID,-,tile4_id.lti,-,: | | | | |
| edg_id=I,1,N,Edge Primitive ID,-,edg4_id.lti,-,:; | | | | |
| 1 | AP050 | 2 | 2 | 1 |
| : | : | : | : | : |
| n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | AP050 | Trail | |
| **exs** | Existence Category | | | |
| | | 2 | Doubtful | AP050 |
| | | 5 | Under Construction | AP050 |
| | | 28 | Operational | AP050 |

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TABLE 145. Transportation structures line feature table.

| | |
|---|---|
| Thematic Layer: | Transportation |
| Coverage Name: | **trans** |
| Table Description: | Transportation Structures Line Feature Table |
| Table Name: | **transtrl.lft** |
| **dq** Layer Number: | 7 |

| |
|---|
| (Header length)L; |
| Transportation Structures Line Feature Table;-; |
| id=I,1,P,Row Identifier,-,-,-,: |
| f_code=T,5,N,FACC Feature Code,char.vdt,f_code5.lti,-,: |
| tuc=S,1,N,Transportation Use Category,int.vdt,-,-,: |
| tile_id= S,1,N,Tile Reference ID,-,tile5_id.lti,-,: |
| edg_id=I,1,N,Edge Primitive ID,-,edg5_id.lti,-,:; |

| | | | | |
|---|---|---|---|---|
| 1 | AL210 | 4 | 1 | 1 |
| : | : | : | : | : |
| n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | AL210 | Snow Shed/Rock Shed | |
| | | AQ040 | Bridge/Overpass/Viaduct | |
| | | AQ064 | Causeway | |
| | | AQ070 | Ferry Crossing | |
| | | AQ130 | Tunnel | |
| | | BH070 | Ford | |
| **tuc** | Transportation Use Category | | | |
| | | 3 | Railroad | AL210, AQ040, AQ064, AQ070, AQ130 |
| | | 4 | Road | AL210, AQ040, AQ064, AQ070, AQ130, BH070 |

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TABLE 146. Transportation text feature table.

Thematic Layer: Transportation
Coverage Name: **trans**
Table Description: Transportation Text Feature Table
Table Name: **transtxt.tft**
**dq** Layer Number: 7

| |
|---|
| {Header length}L; |
| Transportation Text Feature Table;-; |
| id=I,1,P,Row Identifier,-,-,-,: |
| f_code=T,5,N,FACC Feature Code,char.vdt,f_code1.tti,-,: |
| symbol_id=S,1,N,Symbol Identification,-,-,-,: |
| tile_id=S,1,N,Tile Reference ID,-,tile1_id.tti,-,: |
| txt_id=I,1,N,Text Primitive ID,-,txt1_id.tti,-,:; |

| | | | | |
|---|---|---|---|---|
| 1 | ZD040 | TBD | 1 | 1 |
| 2 | ZD045 | TBD | 4 | 45 |
| : | : | : | : | : |
| n | n | n | n | n |

| 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 | |
| | | ZD045 | Text Description | |
| **symbol_id** | Symbol Identification (Refer to Symbol Related Attribute Table for selection of values) | | | |

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TABLE 147. Transportation feature class attribute table.

Thematic Layer: Transportation
Coverage Name: **trans**
Table Description: Transportation Feature Class Attribute Table
Table Name: **fca**
**dq** Layer Number: 7

```
{Header length}L;
Transportation 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,-,-,-,:;
```

| | | | |
|---|---|---|---|
| 1 | aerofacp | P | Airport/Facilities Points |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **fclass** | Feature Class Name | | | |
| | | **aerofacp** | | |
| | | **rryardp** | | |
| | | **transtrc** | | |
| | | **mistranl** | | |
| | | **railrdl** | | |
| | | **roadl** | | |
| | | **traill** | | |
| | | **transtrl** | | |
| | | **transtxt** | | |
| **type** | Feature Type | | | |
| | | P | Point Feature | **aerofacp, rryardp** |
| | | P | Node Feature | **transtrc** |
| | | L | Line Feature | **mistranl, railrdl, roa traill, transtrl** |
| | | T | Text Feature | **transtxt** |
| **descr** | Description | | | |
| | | Airport Facilities Points | | **aerofacp** |
| | | Railroad Yard Points | | **rryardp** |
| | | Transportation Structures Points | | **transtrc** |
| | | Miscellaneous Transportation Line Features | | **mistranl** |
| | | Railroads | | **railrdl** |
| | | Roads | | **roadl** |
| | | Trails and Tracks | | **traill** |
| | | Transportation Structures Lines | | **transtrl** |
| | | Transportation Coverage Text | | **transtxt** |

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TABLE 148. Transportation character value description table.

Thematic Layer: Transportation
Coverage Name: **trans**
Table Description: Transportation Character Value Description Table
Table Name: **char.vdt**
**dq** Layer Number: 7

(Header length)L;
Transportation 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,50,N,Description of Value,-,-,-,:;

| | | | | |
|---|---|---|---|---|
| 1 | aerofacp.pft | f_code | GB005 | Airport/Airfield |
| 2 | aerofacp.pft | iko | UNK | No entry presen |
| 3 | aerofacp.pft | nam | UNK | No entry present |
| 4 | aerofacp.pft | na3 | UNK | No entry present |
| 5 | rryardp.pft | f_code | AN060 | Railroad Yard/Marshalling Yard |
| 6 | transtrc.pft | f_code | AL210 | Snow Shed/Rock Shed |
| 7 | transtrc.pft | f_code | AQ040 | Bridge/Overpass/Viaduct |
| 8 | transtrc.pft | f_code | AQ064 | Causeway |
| 9 | transtrc.pft | f_code | AQ070 | Ferry Crossing |
| 10 | transtrc.pft | f_code | AQ130 | Tunnel |
| 11 | transtrc.pft | f_code | BH070 | Ford |
| 12 | mistranl.lft | f_code | AQ010 | Aerial Cableway Lines/Ski Lift Line |
| 13 | mistranl.lft | f_code | BB190 | Pier/Wharf/Quay |
| 14 | railrdl.lft | f_code | AN010 | Railroad |
| 15 | roadl.lft | f_code | AP030 | Road |
| 16 | traill.lft | f_code | AP050 | Trail |
| 17 | transtrl.lft | f_code | AL210 | Snow Shed/Rock Shed |
| 18 | transtrl.lft | f_code | AQ040 | Bridge/Overpass/Viaduct |
| 19 | transtrl.lft | f_code | AQ064 | Causeway |
| 20 | transtrl.lft | f_code | AQ070 | Ferry Crossing |
| 21 | transtrl.lft | f_code | AQ130 | Tunnel |
| 22 | transtrl.lft | f_code | BH070 | Ford |
| 23 | transtxt.tft | f_code | ZD040 | Named Location |
| 24 | transtxt.tft | f_code | ZD045 | Text Description |
| 25 | fca | type | L | Line Feature |
| 26 | fca | type | P | Point/Node Feature |
| 27 | fca | type | T | Text Feature |
| 28 | dqpoint.pft | f_code | GB005 | Airport/Airfield |
| 29 | dqpoint.pft | f_code | AN060 | Railroad Yard/Marshalling Yard |
| 30 | dqnode.pft | f_code | AL210 | Snow Shed/Rock Shed |
| 31 | dqnode.pft | f_code | AQ040 | Bridge/Overpass/Viaduct |
| 32 | dqnode.pft | f_code | AQ064 | Causeway |
| 33 | dqnode.pft | f_code | AQ070 | Ferry Crossing |
| 34 | dqnode.pft | f_code | AQ130 | Tunnel |
| 35 | dqnode.pft | f_code | BH070 | Ford |
| 36 | dqpoint.pft | f_code | ZD045 | Text Description |
| 37 | dqline.lft | f_code | AQ010 | Aerial Cableway Lines/Ski Lift Line |
| 38 | dqline.lft | f_code | BB190 | Pier/Wharf/Quay |
| 39 | dqline.lft | f_code | AN010 | Railroad |
| 40 | dqline.lft | f_code | AP030 | Road |

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| | | | | |
|---|---|---|---|---|
| 41 | dqline.lft | f_code | AP050 | Trail |
| 42 | dqline.lft | f_code | AL210 | Snow Shed/Rock Shed |
| 43 | dqline.lft | f_code | AQ040 | Bridge/Overpass/Viaduct |
| 44 | dqline.lft | f_code | AQ064 | Causeway |
| 45 | dqline.lft | f_code | AQ070 | Ferry Crossing |
| 46 | dqline.lft | f_code | AQ130 | Tunnel |
| 47 | dqline.lft | f_code | BH070 | Ford |
| 24 | dqline.lft | f_code | ZD045 | Text Description |

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TABLE 149. Transportation integer value description table.

Thematic Layer: Transportation
Coverage Name: **trans**
Table Description: Transportation Integer Value Description Table
Table Name: **int.vdt**
**dq** Layer Number: 7

{Header length}L;
Transportation 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,50,N,Description of Value,-,-,-,:

| | | | | |
|---|---|---|---|---|
| 1 | aerofacp.pft | use | 0 | Unknown |
| 2 | aerofacp.pft | use | 8 | Military |
| 3 | aerofacp.pft | use | 22 | Joint Military/Civilian |
| 4 | aerofacp.pft | use | 49 | Civilian/Public |
| 5 | aerofacp.pft | use | 999 | Other |
| 6 | aerofacp.pft | zv3 | 29999 | Unknown |
| 7 | transtrc.pft | tuc | 3 | Railroad |
| 8 | transtrc.pft | tuc | 4 | Road |
| 9 | railrdl.lft | exs | 2 | Doubtful |
| 10 | railrdl.lft | exs | 5 | Under Construction |
| 11 | railrdl.lft | exs | 28 | Operational |
| 12 | railrdl.lft | exs | 55 | Unexamined/Unsurveyed |
| 13 | railrdl.lft | exs | 59 | Not Usable |
| 14 | railrdl.lft | fco | 0 | Unknown |
| 15 | railrdl.lft | fco | 2 | Multiple |
| 16 | railrdl.lft | fco | 3 | Single |
| 17 | railrdl.lft | rrc | 0 | Unknown |
| 18 | railrdl.lft | rrc | 2 | Car-Line |
| 19 | roadl.lft | acc | 1 | Accurate |
| 20 | roadl.lft | acc | 2 | Approximate |
| 21 | roadl.lft | exs | 2 | Doubtful |
| 22 | roadl.lft | exs | 5 | Under Construction |
| 23 | roadl.lft | exs | 28 | Operational |
| 24 | roadl.lft | exs | 55 | Unexamined/Unsurveyed |
| 25 | roadl.lft | med | 0 | Unknown |
| 26 | roadl.lft | med | 1 | With Median |
| 27 | roadl.lft | med | 2 | Without Median |
| 28 | roadl.lft | rtt | 0 | Unknown |
| 29 | roadl.lft | rtt | 14 | Primary Route |
| 30 | roadl.lft | rtt | 15 | Secondary Route |
| 31 | traill.lft | exs | 2 | Doubtful |
| 32 | traill.lft | exs | 5 | Under Construction |
| 33 | traill.lft | exs | 28 | Operational |
| 34 | transtrl.lft | tuc | 3 | Railroad |
| 35 | transtrl.lft | tuc | 4 | Road |
| 36 | symbol.rat | fon | 1 | Machine Default |
| 37 | symbol.rat | sty | 1 | Kern |
| 38 | symbol.rat | sty | 2 | Proportional |
| 39 | symbol.rat | sty | 3 | Constant |
| 40 | symbol.rat | col | 1 | Black |
| 41 | symbol.rat | col | 4 | Blue |
| 42 | symbol.rat | col | 9 | Red-Brown |
| 43 | symbol.rat | col | 12 | Magenta |

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80.10 Utilities coverage.

TABLE 150. Content and format for utilities coverage feature class schema table.

Thematic Layer: Utilities
Coverage Name: **util**
Table Description: Utilities Feature Class Schema Table
Table Name: **fcs**
**dq** Layer Number: 8

```
{Header length}L;
Utilities 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,9,N,Column Name in Second Table,-,-,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | utilp | utilp.pft | end_id | end | id |
| 2 | utilp | end | utilp.pft_id | utilp.pft | id |
| 3 | pipel | pipel.lft | edg_id | edg | id |
| 4 | pipel | edg | pipel.lft_id | pipel.lft | id |
| 5 | utill | utill.lft | edg_id | edg | id |
| 6 | utill | edg | utill.lft_id | utill.lft | id |
| 7 | dqpoint | dqpoint.pft | end_id | end | id |
| 8 | dqpoint | end | dqpoint.pft_id | dqpoint.pft | id |
| 9 | dqpoint | dqpoint.pft | dqdescr_id | dqdescr.rat | id |
| 10 | dqline | dqline.lft | edg_id | edg | id |
| 11 | dqline | edg | dqline.lft_id | dqline.lft | id |
| 12 | dqline | dqline.lft | dqdescr_id | dqdescr.rat | id |
| 13 | dqtext | dqtext.tft | txt_id | txt | id |
| 14 | dqtext | txt | dqtext.tft_id | dqtext.tft | id |
| 15 | utiltxt | utiltxt.tft | txt_id | txt | id |
| 16 | utiltxt | txt | utiltxt.tft_id | utiltxt.tft | id |
| 17 | utiltxt | utiltxt.tft | symbol_id | symbol.rat | symbol_id |

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TABLE 151. Utility point feature table.

Thematic Layer: Utilities
Coverage Name: **util**
Table Description: Utility Point Feature Table
Table Name: **utilp.pft**
**dq** Layer Number: 8

```
{Header length}L;
Utility Point Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code1.pti,-,:
txt=T,*,N,Text Attribute,-,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile1_id.pti,-,:
end_id=I,1,N,Entity Node Primitive ID,-,end1_id.pti,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | AT050 | Radio Station | 1 | 1 |
| : | : | : | : | : |
| n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | AD010 | Power Plant | |
| | | AD030 | Substation/Transformer Yard | |
| | | AQ116 | Pumping Station | |
| | | AT050 | Communication Building | |
| | | AT080 | Communication Tower | |
| **txt** | Text Attribute | | | |
| | | Character text string | | AD010, AD030, AQ116, AT050, AT080 |

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TABLE 152. Pipeline line feature table.

Thematic Layer: Utilities
Coverage Name: **util**
Table Description: Pipeline Line Feature Table
Table Name: **pipel.lft**
**dq** Layer Number: 8

| |
|---|
| {Header length}L; |
| Pipeline Line Feature Table;-; |
| id=I,1,P,Row Identifier,-,-,-,: |
| f_code=T,5,N,FACC Feature Code,char.vdt,-,-,: |
| loc=S,1,N,Location Category,int.vdt,-,-,: |
| tile_id=S,1,N,Tile Reference ID,-,tile1_id.lti,-,: |
| edg_id=I,1,N,Edge Primitive ID,-,edg1_id.lti,-,:; |

| | | | | |
|---|---|---|---|---|
| 1 | AQ113 | 4 | 1 | 1 |
| : | : | : | : | : |
| n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | AQ113 | Pipeline/Pipe | |
| **loc** | Location Category | | | |
| | | 4 | Below Surface/Submerged/ Underground | AQ113 |
| | | 8 | On Ground Surface | AQ113 |

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TABLE 153. Utility line feature table.

Thematic Layer: Utilities
Coverage Name: **util**
Table Description: Utility Line Feature Table
Table Name: **util1.lft**
**dq** Layer Number: 8

| |
|---|
| {Header length}L; |
| Utility Line Feature Table;-; |
| id=I,1,P,Row Identifier,-,-,-,: |
| f_code=T,5,N,FACC Feature Code,char.vdt,f_code2.lti,-,: |
| tile_id=S,1,N,Tile Reference ID,-,tile2_id.lti,-,: |
| edg_id=I,1,N,Edge Primitive ID,-,edg2_id.lti,-,:; |

| | | | |
|---|---|---|---|
| 1 | AT030 | 1 | 1 |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | AT030 | Power Transmission Line | |
| | | AT060 | Telephone Line/Telegraph Line | |

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TABLE 154. Utilities text feature table.

Thematic Layer: Utilities
Coverage Name: **util**
Table Description: *Utilities Text Feature Table*
Table Name: **utiltxt.tft**
**dq** Layer Number: 8

| |
|---|
| {Header length}L; |
| Utilities Text Feature Table;-; |
| id=I,1,P,Row Identifier,-,-,-,: |
| f_code=T,5,N,FACC Feature Code,char.vdt,f_code1.tti,-,: |
| symbol_id=S,1,N,Symbol Identification,-,-,-,: |
| tile_id=S,1,N,Tile Reference ID,-,tile1_id.tti,-,: |
| txt_id=I,1,N,Text Primitive ID,-,txt1_id.tti,-,:; |

| | | | | |
|---|---|---|---|---|
| 1 | ZD040 | TBD | 1 | 1 |
| 2 | ZD045 | TBD | 4 | 45 |
| : | : | : | : | : |
| n | n | n | n | n |

| 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 | |
| | | ZD045 | Text Description | |
| **symbol_id** | | Symbol Identification (Refer to Symbol Related Attribute Table for selection of values) | | |

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TABLE 155. Utilities feature class attribute table.

Thematic Layer: Utilities
Coverage Name: util
Table Description: Utilities Feature Class Attribute Table
Table Name: fca
dq Layer Number: 8

```
{Header length}L;
Utilities 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,-,-,-,:;
```

| | | | |
|---|---|---|---|
| 1 | utilp | P | Utility Point Features |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| id | Row Identifier | Sequential beginning with 1 | | |
| fclass | Feature Class Name | | | |
| | | utilp | | |
| | | pipel | | |
| | | util1 | | |
| | | utiltxt | | |
| type | Feature Type | | | |
| | | P | Point Feature | utilp |
| | | L | Line Feature | pipel, util1 |
| | | T | Text Feature | utiltxt |
| descr | Description | | | |
| | | Utility Point Features | | utilp |
| | | Pipelines | | pipel |
| | | Power Transmission/Telephone/ Telegraph Lines | | util1 |
| | | Utilities Coverage Text | | utiltxt |

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TABLE 156. Utilities character value description table.

Thematic Layer: Utilities
Coverage Name: **util**
Table Description: Utilities Character Value Description Table
Table Name: **char.vdt**
**dq** Layer Number: 8

{Header length}L;
Utilities 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,50,N,Description of Value,-,-,-,:;

| | | | | |
|---|---|---|---|---|
| 1 | utilp.pft | f_code | AD010 | Power Plant |
| 2 | utilp.pft | f_code | AD030 | Substation/Transformer Yard |
| 3 | utilp.pft | f_code | AQ116 | Pumping Station |
| 4 | utilp.pft | f_code | AT050 | Communication Building |
| 5 | utilp.pft | f_code | AT080 | Communication Tower |
| 6 | pipel.lft | f_code | AQ113 | Pipeline/Pipe |
| 7 | utill.lft | f_code | AT030 | Power Transmission Line |
| 8 | utill.lft | f_code | AT060 | Telephone Line/Telegraph Line |
| 9 | utiltxt.tft | f_code | ZD040 | Named Location |
| 10 | utiltxt.tft | f_code | ZD045 | Text Description |
| 11 | fca | type | L | Line Feature |
| 12 | fca | type | P | Point/Node Feature |
| 13 | fca | type | T | Text Feature |
| 14 | dqpoint.pft | f_code | AD010 | Power Plant |
| 15 | dqpoint.pft | f_code | AD030 | Substation/Transformer Yard |
| 16 | dqpoint.pft | f_code | AQ116 | Pumping Station |
| 17 | dqpoint.pft | f_code | AT050 | Communication Building |
| 18 | dqpoint.pft | f_code | AT080 | Communication Tower |
| 19 | dqpoint.tft | f_code | ZD045 | Text Description |
| 20 | dqline.lft | f_code | AQ113 | Pipeline/Pipe |
| 21 | dqline.lft | f_code | AT030 | Power Transmission Line |
| 22 | dqline.lft | f_code | AT060 | Telephone Line/Telegraph Line |
| 23 | dqarea.aft | f_code | ZD045 | Text Description |

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TABLE 157. Utilities integer value description table.

Thematic Layer: Utilities
Coverage Name: **util**
Table Description: Utilities Integer Value Description Table
Table Name: **int.vdt**
**dq** Layer Number: 8

{Header length}L;
Utilities 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,50,N,Description of Value,-,-,-,:;

| | | | | |
|---|---|---|---|---|
| 1 | pipel.lft | loc | 4 | Below Surface/Submerged/Underground |
| 2 | pipel.lft | loc | 8 | On Ground Surface |
| 3 | symbol.rat | fon | 1 | Machine Default |
| 4 | symbol.rat | sty | 1 | Kern |
| 5 | symbol.rat | sty | 2 | Proportional |
| 6 | symbol.rat | sty | 3 | Constant |
| 7 | symbol.rat | col | 1 | Black |
| 8 | symbol.rat | col | 4 | Blue |
| 9 | symbol.rat | col | 9 | Red-Brown |
| 10 | symbol.rat | col | 12 | Magenta |

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80.11 Vegetation coverage.

TABLE 158. Content and format for Vegetation coverage feature class schema table.

Thematic Layer: Vegetation
Coverage Name: **veg**
Table Description: Vegetation Feature Class Schema Table
Table Name: **fcs**
**dq** Layer Number: 9

{Header length}L;
Vegetation 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,9,N,Column Name in Second Table,-,-,-,:;

| | | | | | |
|---|---|---|---|---|---|
| 1 | firebrkl | firebrkl.lft | edg_id | edg | id |
| 2 | firebrkl | edg | firebrkl.lft_id | firebrkl.lft | id |
| 3 | hedgel | hedgel.lft | edg_id | edg | id |
| 4 | hedgel | edg | hedgel.lft_id | hedgel.lft | id |
| 5 | cropa | cropa.aft | fac_id | fac | id |
| 6 | cropa | fac | cropa.aft_id | cropa.aft | id |
| 7 | grassa | grassa.aft | fac_id | fac | id |
| 8 | grassa | fac | grassa.aft_id | grassa.aft | id |
| 9 | oasisa | oasisa.aft | fac_id | fac | id |
| 10 | oasisa | fac | oasisa.aft_id | oasisa.aft | id |
| 11 | orcharda | orcharda.aft | fac_id | fac | id |
| 12 | orcharda | fac | orcharda.aft_id | orcharda.aft | id |
| 13 | swampa | swampa.aft | fac_id | fac | id |
| 14 | swampa | fac | swampa.aft_id | swampa.aft | id |
| 15 | treesa | treesa.aft | fac_id | fac | id |
| 16 | treesa | fac | treesa.aft_id | treesa.aft | id |
| 17 | tundraa | tundraa.aft | fac_id | fac | id |
| 18 | tundraa | fac | tundraa.aft_id | tundraa.aft | id |
| 19 | vegvoida | vegvoida.aft | fac_id | fac | id |
| 20 | vegvoida | fac | vegvoida.aft_id | vegvoida.aft | id |
| 21 | dqarea | dqarea.aft | fac_id | fac | id |
| 22 | dqarea | fac | dqarea.aft_id | dqarea.aft | id |
| 23 | dqarea | dqarea.aft | dqdescr_id | dqdescr.rat | id |
| 24 | dqtext | dqtext.tft | txt_id | txt | id |
| 25 | dqtext | txt | dqtext.tft_id | dqtext.tft | id |
| 26 | vegtxt | vegtxt.tft | txt_id | txt | id |
| 27 | vegtxt | txt | vegtxt.tft_id | vegtxt.tft | id |
| 28 | vegtxt | vegtxt.tft | symbol_id | symbol.rat | symbol_id |

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TABLE 159. Firebreak Line Feature Table.

Thematic Layer: Vegetation
Coverage Name: **veg**
Table Description: Firebreak Line Feature Table
Table Name: **firebrkl.lft**
**dq** Layer Number: 9

| |
|---|
| (Header length)L; |
| Firebreak Line Feature Table;-; |
| id=I,1,P,Row Identifier,-,-,-,: |
| f_code=T,5,N,FACC Feature Code,char.vdt,-,-,: |
| wid=S,1,N,Width (meters),int.vdt,-,-,: |
| tile_id=S,1,N,Tile Reference ID,-,tile1_id.lti,-,: |
| edg_id=I,1,N,Edge Primitive ID,-,edg1_id.lti,-,:; |

| | | | | |
|---|---|---|---|---|
| 1 | EC040 | 75 | 1 | 1 |
| : | : | : | : | : |
| n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | EC040 | Cleared Way/Cut Line/Firebreak | |
| **wid** | Width (meters) | | | |
| | | 0 | Unknown | EC040 |
| | | >=25 | | EC040 |

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TABLE 160. Hedge Line Feature Table.

Thematic Layer: Vegetation
Coverage Name: **veg**
FeatureTable Description: Hedge Line Feature Table
Table Name: **hedge1.lft**
**dq** Layer Number: 9

| |
|---|
| {Header length}L; |
| Hedge Line Feature Table;-; |
| id=I,1,P,Row Identifier,-,-,-,: |
| f_code=T,5,N,FACC Feature Code,char.vdt,-,-,: |
| tile_id=S,1,N,Tile Reference ID,-,tile2_id.lti,-,: |
| edg_id=I,1,N,Edge Primitive ID,-,edg2_id.lti,-,:; |

| | | | |
|---|---|---|---|
| 1 | EA020 | 1 | 1 |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | EA020 | Hedgerow | |

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TABLE 161. Cropland Area Feature Table.

Thematic Layer: Vegetation
Coverage Name: **veg**
Table Description: Cropland Area Feature Table
Table Name: **cropa.aft**
**dq** Layer Number: 9

```
{Header length}L;
Cropland Area Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code1.ati,-,:
ftc=S,1,N,Farming Type Category,int.vdt,-,-,:
veg=S,1,N,Vegetation Characteristics,int.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile1_id.ati,-,:
fac_id=I,1,N,Face Primitive ID,-,fac1_id.ati,-,:;
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | EA010 | 3 | 1 | 1 | 2 |
| 2 | BH135 | 3 | -32768 | 2 | 3 |
| : | : | : | : | : | : |
| n | n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | EA010 | Cropland | |
| | | BH135 | Rice Field | |
| **ftc** | Farming Type Category | | | |
| | | 0 | Unknown | EA010,BH135 |
| | | 1 | Shifting Cultivation/ Crop Rotation | EA010 |
| | | 3 | Terraced | EA010,BH135 |
| | | 999 | Other | EA010,BH135 |
| **veg** | Vegetation Characteristics | | | |
| | | -32768 | Null | BH135 |
| | | 0 | Unknown | EA010 |
| | | 1 | Dry Crops | EA010 |
| | | 999 | Other | EA010 |

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TABLE 162. Grassland Area Feature Table.

Thematic Layer: Vegetation
Coverage Name: **veg**
Table Description: Grassland Area Feature Table
Table Name: **grassa.aft**
**dq** Layer Number: 9

```
{Header length}L;
Grassland Area Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code2.ati,-,:
dmb=S,1,N,Density Measure(Brush/Undergrowth),int.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile2_id.ati,-,:
fac_id=I,1,N,Face Primitive ID,-,fac2_id.ati,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | BH077 | -32768 | 4 | 2 |
| 2 | EB010 | -32768 | 1 | 3 |
| 3 | EB020 | 0 | 2 | 4 |
| 4 | EC010 | -32768 | 3 | 5 |
| : | : | : | : | : |
| n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | BH077 | Hummock | |
| | | EB010 | Grassland | |
| | | EB020 | Scrub/Brush | |
| | | EC010 | Bamboo/Cane | |
| **dmb** | Density Measure(Brush/Undergrowth) | | | |
| | | -32768 | Null | BH077,EB010,EC010 |
| | | 0 | Unknown | EB020 |
| | | 1-100 | Allowable values | EB020 |

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TABLE 163. Oasis Area Feature Table.

Thematic Layer: Vegetation
Coverage Name: **veg**
Table Description: Oasis Area Feature Table
Table Name: **oasisa.aft**
**dq** Layer Number: 9

| | | | |
|---|---|---|---|
| {Header length}L; | | | |
| Oasis Area Feature Table;-; | | | |
| id=I,1,P,Row Identifier,-,-,-,: | | | |
| f_code=T,5,N,FACC Feature Code,char.vdt,-,-,: | | | |
| tile_id=S,1,N,Tile Reference ID,-,tile3_id.ati,-,: | | | |
| fac_id=I,1,N,Face Primitive ID,-,fac3_id.ati,-,:; | | | |
| 1 | EC020 | 1 | 2 |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | EC020 | Oasis | |

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TABLE 164. Orchard Area Feature Table.

Thematic Layer: Vegetation
Coverage Name: **veg**
Table Description: Orchard Area Feature Table
Table Name: **orchard a.aft**
**dq** Layer Number: 9

```
{Header length}L;
Orchard Area Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code4.ati,-,:
pro=S,1,N,Product Category,int.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile4_id.ati,-,:
fac_id=I,1,N,Face Primitive ID,-,fac4_id.ati,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | EA030 | -32768 | 1 | 2 |
| 2 | EA040 | 126 | 2 | 3 |
| 3 | EA050 | -32768 | 3 | 4 |
| : | : | : | : | : |
| n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | EA030 | Nursery | |
| | | EA040 | Orchard/Plantation | |
| | | EA050 | Vineyards | |
| **pro** | Product Category | | | |
| | | -32768 | Null | EA030,EA050 |
| | | 0 | Unknown | EA040 |
| | | 85 | Rubber | EA040 |
| | | 120 | Bananas | EA040 |
| | | 121 | Cotton | EA040 |
| | | 122 | Bamboo/Cane | EA040 |
| | | 123 | Coffee | EA040 |
| | | 124 | Common fruit and/or nut | EA040 |
| | | 125 | Palms | EA040 |
| | | 126 | Palmetto | EA040 |
| | | 999 | Other | EA040 |

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TABLE 165. Marsh/Swamp Area Feature Table.

Thematic Layer: Vegetation
Coverage Name: **veg**
Table Description: Marsh/Swamp Area Feature Table
Table Name: **swampa.aft**
**dq** Layer Number: 9

```
{Header length}L;
Marsh/Swamp Area Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code5.ati,-,:
veg=S,1,N,Vegetation Characteristics,int.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile5_id.ati,-,:
fac_id=I,1,N,Face Primitive ID,-,fac5_id.ati,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | BH015 | 7 | 1 | 2 |
| 2 | BH095 | -32768 | 2 | 3 |
| : | : | : | : | : |
| n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | BH015 | Bog | |
| | | BH095 | Marsh/Swamp | |
| **veg** | Vegetation Characteristics | | | |
| | | -32768 | Null | BH095 |
| | | 0 | Unknown | BH015 |
| | | 6 | Cranberry | BH015 |
| | | 7 | Peat | BH015 |
| | | 999 | Other | BH015 |

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TABLE 166. Trees Area Feature Table.

Thematic Layer: Vegetation
Coverage Name: **veg**
Table Description: Trees Area Feature Table
Table Name: **treesa.aft**
**dq** Layer Number: 9

```
{Header length}L;
Trees Area Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:
dmt=S,1,N,Density Measure (% Tree/Canopy Cover),int.vdt,-,-,:
exs=S,1,N,Existence Category,int.vdt,-,-,:
nam=T,*,N,Name,char.vdt,-,-,:
pht=S,1,N,Predominant Height (meters),int.vdt,-,-,:
veg=S,1,N,Vegetation Characteristics,int.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile6_id.ati,-,:
fac_id=I,1,N,Face Primitive ID,-,fac6_id.ati,-,:;
```

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | EC030 | 32 | 31 | Mariposa Grove | 90 | 12 | 1 | 2 |
| : | : | : | : | : | : | : | : | : |
| n | n | n | n | n | n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | EC030 | Trees | |
| **dmt** | Density Measure (% Tree/Canopy Cover) | | | |
| | | 0 | Unknown | EC030 |
| | | >=25 | | EC030 |
| **exs** | Existence Category | | | |
| | | 0 | Unknown | EC030 |
| | | 31 | Isolated | EC030 |
| | | 61 | Not Isolated | EC030 |
| **nam** | Name | | | |
| | | Character text string | | EC030 |
| | | "UNK" (no name present for feature) | | EC030 |

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| | | | | |
|---|---|---|---|---|
| **pht** | Predominant Height (meters) | | | |
| | | 0 | Unknown | EC030 |
| | | > 3 | | EC030 |
| **veg** | Vegetation Characteristics | | | |
| | | 0 | Unknown | EC030 |
| | | 11 | Casuarina | EC030 |
| | | 12 | Coniferous | EC030 |
| | | 16 | Nipa Palm | EC030 |
| | | 17 | Palm | EC030 |
| | | 18 | Filao | EC030 |
| | | 19 | Mangrove | EC030 |
| | | 24 | Deciduous | EC030 |
| | | 25 | Evergreen | EC030 |
| | | 29 | Eucalyptus | EC030 |
| | | 38 | Cypress | EC030 |
| | | 50 | Mixed Trees | EC030 |
| | | 999 | Other | EC030 |

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TABLE 167. Tundra Area Feature Table.

Thematic Layer: Vegetation
Coverage Name: **veg**
Table Description: Tundra Area Feature Table
Table Name: **tundraa.aft**
**dq** Layer Number: 9

| | | | |
|---|---|---|---|
| {Header length}L;<br>Tundra Area Feature Table;-;<br>id=I,1,P,Row Identifier,-,-,-,:<br>f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:<br>tile_id=S,1,N,Tile Reference ID,-,tile7_id.ati,-,:<br>fac_id=I,1,N,Face Primitive ID,-,fac7_id.ati,-,:; | | | |
| 1 | BJ110 | 1 | 2 |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **f_code** | FACC Feature Code | | | |
| | | BJ110 | Tundra | |

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TABLE 168. Vegetation Void Collection Area Feature Table.

Thematic Layer: Vegetation
Coverage Name: **veg**
Table Description: Vegetation Void Collection Area Feature Table
Table Name: **vegvoida.aft**
**dq** Layer Number: 9

```
{Header length}L;
Vegetation Void Collection Area Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:
vca=S,1,N,Void Collection Attribute,int.vdt,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile8_id.ati,-,:
fac_id=I,1,N,Face Primitive ID,-,fac8_id.ati,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1<br>:<br>n | ZD020<br>:<br>n | 2<br>:<br>n | 1<br>:<br>n | 2<br>:<br>n |

| Column | Description | Value | Value Meaning | Applicable f_code for Each Attribute Value |
|---|---|---|---|---|
| id | Row Identifier | Sequential beginning with 1 | | |
| f_code | FACC Feature Code | | | |
| | | ZD020 | Void Collection Area | |
| vca | Void Collection Attribute | | | |
| | | 0 | Unknown | ZD020 |
| | | 2 | Area Too Rough to Collect | ZD020 |
| | | 3 | No Available Imagery | ZD020 |
| | | 6 | No Available Map Source | ZD020 |
| | | 7 | No Suitable Imagery | ZD020 |

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TABLE 169. Vegetation Text Feature Table.

Thematic Layer: Vegetation
Coverage Name: **veg**
Table Description: Vegetation Text Feature Table
Table Name: **vegtxt.tft**
**dq** Layer Number: 9

```
{Header length}L;
Vegetation Text Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code.tti,-,:
symbol_id=S,1,N,Symbol Identification,-,-,-,:
tile_id=S,1,N,Tile Reference ID,-,tile1_id.tti,-,:
txt_id=I,1,N,Text Primitive ID,-,txt1_id.tti,-,:;
```

| | | | | |
|---|---|---|---|---|
| 1 | ZD040 | TBD | 1 | 1 |
| 2 | ZD045 | TBD | 4 | 45 |
| : | : | : | : | : |
| n | n | n | n | n |

| 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 | |
| | | ZD045 | Text Description | |
| **symbol_id** | Symbol Identification (Refer to Symbol Related Attribute Table for selection of values) | | | |

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TABLE 170. Vegetation Feature Class Attribute Table.

Thematic Layer: Vegetation
Coverage Name: **veg**
Table Description: Vegetation Feature Class Attribute Table
Table Name: **fca**
**dq** Layer Number: 9

```
{Header length}L;
Vegetation 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,-,-,-,:;
```

| | | | |
|---|---|---|---|
| 1 | oasisp | P | Oases |
| : | : | : | : |
| n | n | n | n |

| Column | Description | Value | Value Meaning | Applicable Feature Class for Each Attribute Value |
|---|---|---|---|---|
| **id** | Row Identifier | Sequential beginning with 1 | | |
| **fclass** | Feature Class Name | | | |
| | | **oasisp** | | |
| | | **treesp** | | |
| | | **firebrkl** | | |
| | | **hedgel** | | |
| | | **cropa** | | |
| | | **grassa** | | |
| | | **oasisa** | | |
| | | **orcharda** | | |
| | | **swampa** | | |
| | | **treesa** | | |
| | | **tundraa** | | |
| | | **vegvoida** | | |
| | | **vegtxt** | | |
| **type** | Feature Type | | | |
| | | P | Point Feature | **oasisp, treesp** |
| | | L | Line Feature | **firebrkl, hedgel** |
| | | A | Area Feature | **cropa, grassa, oasisa, orcharda, swampa, treesa, tundraa, vegvoida** |
| | | T | Text Feature | **vegtxt** |
| **descr** | Description | | | |
| | | Oases | | **oasisp, oasisa** |
| | | Tree (landmark) | | **treesp** |
| | | Cleared Way/ Cut Line/Firebreaks | | **firebrkl** |
| | | Hedgerow | | **hedgel** |
| | | Croplands | | **cropa** |
| | | Grasslands | | **grassa** |
| | | Orchards/Vineyards | | **orcharda** |
| | | Marshs/Swamps | | **swampa** |
| | | Trees | | **treesa** |
| | | Tundra | | **tundraa** |

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| | |
|---|---|
| Vegetation Void Collection Area | **vegvoida** |
| Vegetation Coverage Text | **vegtxt** |

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TABLE 171. Vegetation Character Value Description Table.

Thematic Layer: Vegetation
Coverage Name: **veg**
Table Description: Vegetation Character Value Description Table
Table Name: **char.vdt**
**dq** Layer Number: 9

{Header length}L;
Vegetation 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,21,N,Description of Value,-,-,-,:;

| | | | | |
|---|---|---|---|---|
| 1 | firebrkl.lft | f_code | EC040 | Cleared Way/Cut Line/Firebreak |
| 2 | hedgel.lft | f_code | EA020 | Hedgerow |
| 3 | cropa.aft | f_code | BH135 | Rice Field |
| 4 | cropa.aft | f_code | EA010 | Cropland |
| 5 | grassa.aft | f_code | BH077 | Hummock |
| 6 | grassa.aft | f_code | EB010 | Grassland |
| 7 | grassa.aft | f_code | EB020 | Scrub/Brush |
| 8 | grassa.aft | f_code | EC010 | Bamboo/Cane |
| 9 | oasisa.aft | f_code | EC020 | Oasis |
| 10 | orcharda.aft | f_code | EA030 | Nursery |
| 11 | orcharda.aft | f_code | EA040 | Orchard/Plantation |
| 12 | orcharda.aft | f_code | EA050 | Vineyards |
| 13 | swampa.aft | f_code | BH015 | Bog |
| 14 | swampa.aft | f_code | BH095 | Marsh/Swamp |
| 15 | treesa.aft | f_code | EC030 | Trees |
| 16 | treesa.aft | nam | UNK | No entry present |
| 17 | tundraa.aft | f_code | BJ110 | Tundra |
| 18 | vegvoida.aft | f_code | ZD020 | Void Collection Area |
| 19 | vegtxt.tft | f_code | ZD040 | Named Location |
| 20 | vegtxt.tft | f_code | ZD045 | Text Description |
| 21 | fca | type | A | Area Feature |
| 22 | fca | type | L | Line Feature |
| 23 | fca | type | P | Point/Node Feature |
| 24 | fca | type | T | Text Feature |
| 25 | dqline.lft | f_code | EC040 | Cleared Way/Cut Line/Firebreak |
| 26 | dqline.lft | f_code | EA020 | Hedgerow |
| 27 | dqline.lft | f_code | ZD045 | Text Description |
| 28 | dqarea.aft | f_code | BH135 | Rice Field |
| 29 | dqarea.aft | f_code | EA010 | Cropland |
| 30 | dqarea.aft | f_code | BH077 | Hummock |
| 31 | dqarea.aft | f_code | EB010 | Grassland |
| 32 | dqarea.aft | f_code | EB020 | Scrub/Brush |
| 33 | dqarea.aft | f_code | EC010 | Bamboo/Cane |
| 34 | dqarea.aft | f_code | EC020 | Oasis |
| 35 | dqarea.aft | f_code | EA030 | Nursery |
| 36 | dqarea.aft | f_code | EA040 | Orchard/Plantation |
| 37 | dqarea.aft | f_code | EA050 | Vineyards |
| 38 | dqarea.aft | f_code | BH015 | Bog |
| 39 | dqarea.aft | f_code | BH095 | Marsh/Swamp |

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| | | | | |
|---|---|---|---|---|
| 40 | dqarea.aft | f_code | EC030 | Trees |
| 41 | dqarea.aft | f_code | BJ110 | Tundra |
| 42 | dqarea.aft | f_code | ZD020 | Void Collection Area |
| 43 | dqarea.aft | f_code | ZD045 | Text Description |

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TABLE 172. Vegetation Integer Value Description Table.

Thematic Layer: Vegetation
Coverage Name: veg
Table Description: Vegetation Integer Value Description Table
Table Name: int.vdt
dq Layer Number: 9

{Header length}L;
Vegetation 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,24,N,Description of Value,-,-,-,:;

| | | | | |
|---|---|---|---|---|
| 1 | firebrkl.lft | wid | 0 | Unknown |
| 2 | cropa.aft | ftc | 0 | Unknown |
| 3 | cropa.aft | ftc | 1 | Shifting Cultivation/Crop Rotation |
| 4 | cropa.aft | ftc | 3 | Terraced |
| 5 | cropa.aft | ftc | 999 | Other |
| 6 | cropa.aft | veg | 0 | Unknown |
| 7 | cropa.aft | veg | 1 | Dry Crops |
| 8 | cropa.aft | veg | 999 | Other |
| 9 | grassa.aft | dmb | 0 | Unknown |
| 10 | orcharda.aft | pro | 0 | Unknown |
| 11 | orcharda.aft | pro | 85 | Rubber |
| 12 | orcharda.aft | pro | 120 | Bananas |
| 13 | orcharda.aft | pro | 121 | Cotton |
| 14 | orcharda.aft | pro | 122 | Bamboo/Cane |
| 15 | orcharda.aft | pro | 123 | Coffee |
| 16 | orcharda.aft | pro | 124 | Common fruit and/or nut |
| 17 | orcharda.aft | pro | 125 | Palms |
| 18 | orcharda.aft | pro | 126 | Palmetto |
| 19 | orcharda.aft | pro | 999 | Other |
| 20 | swampa.aft | veg | 0 | Unknown |
| 21 | swampa.aft | veg | 6 | Cranberry |
| 22 | swampa.aft | veg | 7 | Peat |
| 23 | swampa.aft | veg | 999 | Other |
| 24 | treesa.aft | dmt | 0 | Unknown |
| 25 | treesa.aft | exs | 0 | Unknown |
| 26 | treesa.aft | exs | 31 | Isolated |
| 27 | treesa.aft | exs | 61 | Not Isolated |
| 28 | treesa.aft | pht | 0 | Unknown |
| 29 | treesa.aft | veg | 0 | Unknown |
| 30 | treesa.aft | veg | 11 | Casuarina |
| 31 | treesa.aft | veg | 12 | Coniferous |
| 32 | treesa.aft | veg | 16 | Nipa Palm |
| 33 | treesa.aft | veg | 17 | Palm |
| 34 | treesa.aft | veg | 18 | Filao |
| 35 | treesa.aft | veg | 19 | Mangrove |
| 36 | treesa.aft | veg | 24 | Deciduous |
| 37 | treesa.aft | veg | 25 | Evergreen |
| 38 | treesa.aft | veg | 29 | Eucalyptus |
| 39 | treesa.aft | veg | 38 | Cyprus |

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| | | | | |
|---|---|---|---|---|
| 40 | treesa.aft | veg | 50 | Mixed Trees |
| 41 | treesa.aft | veg | 999 | Other |
| 42 | vegvoida.aft | vca | 0 | Unknown |
| 43 | vegvoida.aft | vca | 2 | Area Too Rough to Collect |
| 44 | vegvoida.aft | vca | 3 | No Available Imagery |
| 45 | vegvoida.aft | vca | 6 | No Available Map Source |
| 46 | vegvoida.aft | vca | 7 | No Suitable Imagery |
| 47 | symbol.rat | fon | 1 | Machine Default |
| 48 | symbol.rat | sty | 1 | Kern |
| 49 | symbol.rat | sty | 2 | Proportional |
| 50 | symbol.rat | sty | 3 | Constant |
| 51 | symbol.rat | col | 1 | Black |
| 52 | symbol.rat | col | 4 | Blue |
| 53 | symbol.rat | col | 9 | Red-Brown |
| 54 | sybmol.rat | col | 12 | Magenta |

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90. VMAP LEVEL 0 FEATURES.

90.1 Description of coverage. Table 173 contains all valid FACC codes and primitive types for each coverage in VMap Level 0 data libraries.

TABLE 173. Level 0 FACC codes by coverage and feature type.

| Layer | FACC Code | Feature Name | end | cnd | edg | fac | txt |
|---|---|---|---|---|---|---|---|
| bnd | AL260 | Wall | | | X | | |
| bnd | BA010 | Coastline/Shoreline | | | X | | |
| bnd | BA040 | Water (except Inland) | | | | X | |
| bnd | BE015 | Depth Contour | | | X | | |
| bnd | FA000 | Administrative Boundary | | | X | | |
| bnd | FA001 | Administrative Area | X | | | X | |
| bnd | FA020 | Armistice Line | | | X | | |
| bnd | FA030 | Cease-Fire Line | | | X | | |
| bnd | FA040 | Claim Line | | | X | | |
| bnd | FA050 | Mandate Line/Convention Line | | | X | | |
| bnd | FA060 | Defacto Boundary | | | X | | |
| bnd | FA070 | Demilitarized Zone | | | | X | |
| bnd | FA110 | International Date Line | | | X | | |
| bnd | FA170 | Zone of Occupation | | | | X | |
| bnd | ZD040 | Named Location | | | | | X |
| bnd | ZD045 | Text Description | | | | | X |
| dq | ZD045 | Text Description | | | | | X |
| elev | CA010 | Contour Line (Land) | | | X | | |
| elev | CA030 | Spot Elevation | X | | | | |
| elev | CA035 | Inland Water Elevation | X | | | | |
| hydro | BA030 | Island | X | | | | |
| hydro | BB040 | Breakwater/Groyne | | | X | | |
| hydro | BB230 | Seawall | | | X | | |
| hydro | BD000 | Underwater-Danger/ Hazard | | | X | | |
| hydro | BD120 | Reef | | | X | | |
| hydro | BD130 | Rock | X | | | | |
| hydro | BD180 | Wreck | X | | | | |
| hydro | BH090 | Land Subject to Inundation | | | | X | |
| hydro | BH120 | Rapids | X | | | | |
| hydro | BH140 | River/Stream | | | X | | |
| hydro | BH170 | Spring/Water-Hole | X | | | | |
| hydro | BH180 | Waterfall | X | | | | |
| hydro | BI020 | Dam/Weir | X | | X | | |
| hydro | BI030 | Lock | X | | | | |
| hydro | BI040 | Sluice Gate | X | | | | |
| hydro | BH000 | Inland Water | | | X | X | |
| hydro | ZD040 | Named Location | | | | | X |
| hydro | ZD045 | Text Description | | | | | X |
| ind | AA010 | Mine/Quarry | X | | | X | |
| ind | AA050 | Well | X | | | | |
| ind | AA052 | Oil/Gas Field | X | | | X | |
| ind | AC000 | Processing Plant/Treatment Plant | X | | | | |
| ind | AC040 | Oil/Gas Facilities | X | | | | |
| ind | AL240 | Tower (Non-Communication) | X | | | | |
| ind | AM010 | Depot (Storage) | X | | | | |
| ind | AM070 | Tank | X | | | | |
| ind | AM080 | Water Tower | X | | | | |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ind | BH050 | Fish Hatchery/Fish Farm/Marine Farm | | | | X | |
| ind | BH155 | Salt Evaporator | X | | | X | |
| ind | ZD040 | Named Location | | | | | X |
| ind | ZD045 | Text Description | | | | | X |
| phys | BJ040 | Ice Cliff | | | X | | |
| phys | BJ065 | Ice Shelf | | | | X | |
| phys | BJ070 | Pack Ice | | | | X | |
| phys | BJ080 | Polar Ice | | | | X | |
| phys | BJ100 | Snow Field/Ice Field | | | | X | |
| phys | DA010 | Ground Surface Element | | | | X | |
| phys | DB010 | Bluff/Cliff/Escarpment | | | X | | |
| phys | DB080 | Depression | | | X | | |
| phys | DB090 | Embankment/Fill | | | X | | |
| phys | DB110 | Fault | | | X | | |
| phys | DB160 | Rock Strata/Rock Formation | | | X | | |
| phys | ZD040 | Named Location | | | | | X |
| phys | ZD045 | Text Description | | | | | X |
| pop | AI030 | Camp | X | | | | |
| pop | AK040 | Athletic Field | | | | X | |
| pop | AK130 | Race Track | | | | X | |
| pop | AK160 | Stadium/Amphitheater | X | | | | |
| pop | AL015 | Building | X | | | | |
| pop | AL020 | Built-Up Area | X | | | X | |
| pop | AL025 | Cairn | X | | | | |
| pop | AL105 | Settlement | X | | | | |
| pop | AL130 | Monument | X | | | | |
| pop | AL135 | Native Settlement | X | | | X | |
| pop | AL200 | Ruins | X | | | | |
| pop | AL260 | Wall | X | | | | |
| pop | BC050 | Lighthouse | X | | | | |
| pop | SU001 | Military Base | X | | | X | |
| pop | ZD040 | Named Location | | | | | X |
| pop | ZD045 | Text Description | | | | | X |
| trans | AL210 | Snow Shed/Rock Shed | | X | X | | |
| trans | AN010 | Railroad | | | X | | |
| trans | AN060 | Railroad Yard/Marshalling Yard | X | | | | |
| trans | AP030 | Road | | | X | | |
| trans | AP050 | Trail | | | X | | |
| trans | AQ010 | Aerial Cableway Lines/Ski Lift Lines | | | X | | |
| trans | AQ040 | Bridge/Overpass/Viaduct | | X | X | | |
| trans | AQ064 | Causeway | | X | X | | |
| trans | AQ070 | Ferry Crossing | | X | X | | |
| trans | AQ130 | Tunnel | | X | X | | |
| trans | BB190 | Pier/Wharf/Quay | | | X | | |
| trans | BH070 | Ford | | X | X | | |
| trans | GB005 | Airport/Airfield | X | | | | |
| trans | ZD040 | Named Location | | | | | X |
| trans | ZD045 | Text Description | | | | | X |
| util | AD010 | Power Plant | X | | | | |
| util | AD030 | Substation/Transformer Yard | X | | | | |
| util | AQ113 | Pipeline/Pipe | | | X | | |
| util | AQ116 | Pumping Station | X | | | | |
| util | AT030 | Power Transmission Line | | | X | | |
| util | AT050 | Communication Building | X | | | | |
| util | AT060 | Telephone Line/Telegraph Line | | | X | | |
| util | AT080 | Communication Tower | X | | | | |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| util | ZD040 | Named Location | | | | | X |
| util | ZD045 | Text Description | | | | | X |
| veg | BH015 | Bog | | | | X | |
| veg | BH077 | Hummock | | | | X | |
| veg | BH095 | Marsh/Swamp | | | | X | |
| veg | BH135 | Rice Field | | | | X | |
| veg | BJ110 | Tundra | | | | X | |
| veg | EA010 | Cropland | | | | X | |
| veg | EA020 | Hedgerow | | | X | | |
| veg | EA030 | Nursery | | | | X | |
| veg | EA040 | Orchard/Plantation | | | | X | |
| veg | EA050 | Vineyards | | | | X | |
| veg | EB010 | Grassland | | | | X | |
| veg | EB020 | Scrub/Brush | | | | X | |
| veg | EC010 | Bamboo/Cane | | | | X | |
| veg | EC020 | Oasis | | | | X | |
| veg | EC030 | Trees | | | | X | |
| veg | EC040 | Cleared Way/Cut Line/Firebreak | | | X | | |
| veg | ZD020 | Void Collection Area | | | | X | |
| veg | ZD040 | Named Location | | | | | X |
| veg | ZD045 | Text Description | | | | | X |

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90.2 Description of features. Table 174 contains all valid attributes for each FACC feature code in VMap Level 0 data libraries.

TABLE 174. Level 0 attributes by FACC codes and feature type.

| Layer | Feature Name | FACC Code | Attr. | end | cnd | edg | fac | txt |
|---|---|---|---|---|---|---|---|---|
| bnd | Wall | AL260 | - | | | x | | |
| bnd | Coastline/Shoreline | BA010 | ACC | | | x | | |
| | | | EXS | | | x | | |
| bnd | Water (except Inland) | BA040 | NAM | | | | x | |
| bnd | Depth Contour | BE015 | CRV | | | x | | |
| bnd | Administrative Boundary | FA000 | ACC | | | x | | |
| | | | BST | | | x | | |
| | | | USE | | | x | | |
| bnd | Administrative Area | FA001 | NAM | | | | x | |
| | | | NA2 | x | | | x | |
| bnd | Armistice Line | FA020 | ACC | | | x | | |
| | | | BST | | | x | | |
| bnd | Cease-Fire Line | FA030 | ACC | | | x | | |
| | | | BST | | | x | | |
| bnd | Claim Line | FA040 | ACC | | | x | | |
| | | | BST | | | x | | |
| bnd | Mandate Line/Convention Line | FA050 | ACC | | | x | | |
| | | | BST | | | x | | |
| bnd | Defacto Boundary | FA060 | ACC | | | x | | |
| | | | BST | | | x | | |
| | | | USE | | | x | | |
| bnd | Demilitarized Zone | FA070 | NA2 | | | | x | |
| bnd | International Date Line | FA110 | - | | | x | | |
| bnd | Zone of Occupation | FA170 | NA2 | | | | x | |
| bnd | Named Location | ZD040 | - | | | | | x |
| bnd | Text Description | ZD045 | - | | | | | x |
| dq | Text Description | ZD045 | - | | | | | x |
| elev | Contour Line (Land) | CA010 | HQC | | | x | | |
| | | | ZV2 | | | x | | |
| elev | Spot Elevation | CA030 | ACC | x | | | | |
| | | | ELA | x | | | | |
| | | | ZV2 | x | | | | |
| elev | Inland Water Elevation | CA035 | ACC | x | | | | |
| | | | ELA | x | | | | |
| | | | ZV2 | x | | | | |
| hydro | Island | BA030 | - | x | | | | |
| hydro | Breakwater/Groyne | BB040 | - | | | x | | |
| hydro | Seawall | BB230 | - | | | x | | |
| hydro | Underwater-Danger/ Hazard | BD000 | - | | | x | | |
| hydro | Reef | BD120 | - | | | x | | |
| hydro | Rock | BD130 | - | x | | | | |
| hydro | Wreck | BD180 | - | x | | | | |
| hydro | Land Subject to Inundation | BH090 | HYC | | | | x | |
| hydro | Rapids | BH120 | - | x | | | | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| hydro | Dam/Weir | BI020 | - | x | | x | | |
| hydro | Lock | BI030 | - | x | | | | |
| hydro | Sluice Gate | BI040 | - | x | | | | |
| hydro | Inland Water | BH000 | EXS | | | x | | |
| | | | HYC | | | | x | |
| | | | LOC | | | x | | |
| hydro | Named Location | ZD040 | - | | | | | x |
| hydro | Text Description | ZD045 | - | | | | | x |
| ind | Mine/Quarry | AA010 | - | x | | | | |
| | | | MIN | | | | x | |
| ind | Well | AA050 | TXT | x | | | | |
| ind | Oil/Gas Field | AA052 | MIN | | | | x | |
| | | | TXT | x | | | | |
| ind | Processing Plant/Treatment Plant | AC000 | TXT | x | | | | |
| ind | Oil/Gas Facilities | AC040 | TXT | x | | | | |
| ind | Tower (Non-Communication) | AL240 | TXT | x | | | | |
| ind | Depot (Storage) | AM010 | TXT | x | | | | |
| ind | Tank | AM070 | TXT | x | | | | |
| ind | Water Tower | AM080 | TXT | x | | | | |
| ind | Fish Hatchery/Fish Farm/Marine Farm | BH050 | - | | | | x | |
| ind | Salt Evaporator | BH155 | MIN | | | | x | |
| | | | TXT | x | | | | |
| ind | Named Location | ZD040 | - | | | | | x |
| ind | Text Description | ZD045 | - | | | | | x |
| phys | Ice Cliff | BJ040 | - | | | x | | |
| phys | Ice Shelf | BJ065 | NA2 | | | | x | |
| phys | Pack Ice | BJ070 | NA2 | | | | x | |
| phys | Polar Ice | BJ080 | NA2 | | | | x | |
| phys | Snow Field/Ice Field | BJ100 | - | | | | x | |
| phys | Ground Surface Element | DA010 | SMC | | | | x | |
| | | | SWC | | | | x | |
| phys | Bluff/Cliff/Escarpment | DB010 | - | | | x | | |
| phys | Depression | DB080 | - | | | x | | |
| phys | Embankment/Fill | DB090 | - | | | x | | |
| phys | Fault | DB110 | - | | | x | | |
| phys | Rock Strata/Rock Formation | DB160 | - | | | x | | |
| phys | Named Location | ZD040 | - | | | | | x |
| phys | Text Description | ZD045 | - | | | | | x |
| pop | Camp | AI030 | TXT | x | | | | |
| pop | Athletic Field | AK040 | - | | | | x | |
| pop | Race Track | AK130 | - | | | | x | |
| pop | Stadium/Amphitheater | AK160 | TXT | x | | | | |
| pop | Building | AL015 | TXT | x | | | | |
| pop | Built-Up Area | AL020 | NAM | x | | | x | |
| pop | Cairn | AL025 | TXT | x | | | | |
| pop | Settlement | AL105 | TXT | x | | | | |
| pop | Monument | AL130 | TXT | x | | | | |
| pop | Native Settlement | AL135 | NAM | x | | | x | |
| pop | Ruins | AL200 | TXT | x | | | | |
| pop | Wall | AL260 | TXT | x | | | | |

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