IEHG

RECOMMENDED INLAND ENC VALIDATION CHECKS

Edition 2.3.5 corr1 April October 2013

Based on Special Publication S-58 Ed. 4.2 of IHO and Ed. 2.3 of the IENC Product Specification (Ed. 2.3.5 of the Encoding Guide for Inland ENCs)

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1. INTRODUCTION

This document was previously Appendix B1, Annex C of S-57 Edition 3.1. It specifies the checks that, at a minimum, producers of IENC validation tools should include in their validation software. This software will be used by hydrographic offices to help ensure that their IENC data are compliant with the Inland ECDIS Standard, Section 2 Product Specification for Inland ENCs. The checklist has been compiled for the IHO from lists of checks provided by a number of hydrographic offices and software companies. The document will be maintained by means of new editions.

IENC validation software checks that the data are in conformance with the Inland ECDIS Standard IENC Product Specification. Any violations are categorised as either "errors" or "warnings". "Errors" are defined as more serious discrepancies or violations. For example, the data may not conform to one of the mandatory requirements of the IENC Product Specification. "Warnings" identify less serious violations or suspicious data. An example would be the apparent location of a building in the sea. The various checks in this document have been categorised with these definitions in mind.

In order to assist software developers, those checks that have been removed from all previous editions of S58 have been retained in Edition 4.2 as struck out text strings.

Note: Within this document the word "overlap" is used. In the context of this document, this means:

- for two objects of type Area, that their geometric primitives have a certain area in common (there is no overlap when they touch at a point or along an edge),
- for an object of type Line and an object of type Area, that the line object has a part of one of its edges lying within the geometric primitive of the area object (there is no overlap when they touch at a point or along an edge).

LIST OF INLAND ENC VALIDATION CHECKS

2.1 Checks relating to S-57 and Inland ENC Data Structure

No	Check	Conformity to:	Cat
	DATA STRUCTURE		
1	Check that no part of an edge is duplicated (i.e. a pair of coordinates identical for two edges).	Part 2 (2.2.1.2)	W
2	Check that all VE edges have a beginning node and an end node.	Part 2 (2.2.1.2)	E
3	Check that the record identifier NAME is unique within the file.	Part 3 (2.2)	E
4	Check that Record Name RCNM contains only the values in table 2.2.	Part 3 (2.2.1)	E
5	Check that the Record Identification Number RCID is in the range 1 to 2 ³² -2.	Part 3 (2.2.2)	E
6	Check the CRC of every file	Part 3 (3.4)	E
7	Check that all objects have legal AGEN, FIDN and FIDS subfield values.	Part 3 (4.3.1) and (4.3.2)	Е
8	Check that an attribute code does not repeat for a single object.	Part 3 (4.4), (4.5) and (5.1.2)	Е
9	For line objects, check that ORNT = 1 [forward] or 2 [reverse], USAG = 255 [null], and MASK = 1 [mask], 2 [show] or 255 [masking is not relevant].	Part 3 (4.7.2) and Appendix B.1 (3.8)	Е
10	For point objects, check that ORNT = 255 [direction is not relevant], USAG = 255 [null], and MASK = 255 [masking is not relevant].	Part 3 (4.7.1)	E
11	Check that all segments with USAG = 3 [exterior boundary truncated by the data limit] are linked to an object M_COVR.	Part 3 (4.7.3.3)	E
12	Check that all feature objects except C_(collection) have a FSPT.	Part 3 (4.7)	Е
13	Check that for linear features comprising multiple edges, the vector records making up the linear feature are referenced sequentially and that the end node of a vector record is the same as the start node of the following vector record.	Part 3 (4.7.2)	W
14	Check for any area object having outer and inner boundaries that two of these boundaries do not share more than one node.	Part 3 (4.7.3)	E
15	Check that the first and last edges bounding an area meet at a common connected node.	Part 3 (4.7.3.1)	Е
16	Check that area outer boundaries are encoded clockwise.	Part 3 (4.7.3.2)	E
17	Check that area inner boundaries are encoded counter clockwise.	Part 3 (4.7.3.2)	E
18	 Check that all areas are defined by: Only one outer boundary (referenced first), Optional zero or more inner boundaries which are closed, sequential and with proper use of USAG. 	Part 3 (4.7.3.2) and (4.7.3.3)	E
19	Check that all spatial edges which coincide with data limit borders (i.e. limits of M_COVR with CATCOV = 1 [coverage available]) are using USAG = 3 [Exterior boundary truncated by the data limit]	Part 3 (4.7.3.3)	W
20	Check that geometry primitive is compatible with object	Product Specification for	Е

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	class.	Inland ENCs, Part 3 (5.1.1) and Supplement No2 Ch.4 (3.3.1)	
21	Check that all vector record pointer (VRPT) fields are pointed to by an edge vector record.	Part 3 (5.1.3)	Е
22	Check for correct sequence of begin/end nodes for edges.	Part 3 (5.1.3.2)	E
23	Check that only SG2D and SG3D coordinates are used in files.	Part 3 (5.1.4)	E
24	Check that soundings are coordinate type SG3D with X, Y and Z values.	Part 3 (5.1.4.1)	E
25	 Check that the beginning and end of an edge are explicitly encoded as connected nodes. Check that the geometry of the connected node is not part of an edge. Check that edges directly reference their begin/end nodes using the vector record pointer. 	Part 3 (5.1.4.4)	E
26	 Check that values in subfields are within the allowable range where applicable: Subfield value ranges according to S-57 format description. Legal ranges for attribute values (for attribute values of type "float", the resolution given in the format statement by the integer part (e.g. <u>XX</u>.X) must not be checked). (see check 91) 	Part 3 (7.2.2.1), (7.3) and Inland ENC Feature Catalogue.	E
27	Check all formatted subfields in S-57.	Part 3 (7.2.2.2)	Е
28	Check that the count of records in DSSI is correct.	Part 3 (7.3.1.2)	Е
29	Check for valid index position for updating in FFPC-NFPT, FSPC-NSPT, SGCC-CCNC, and VRPC-NVPT.	Part 3 (7.6.5) (7.6.7), (7.7.1.5) and (7.7.1.3)	E
30	Check for valid index position for updating in FFPC-FFIX, FSPC-FSIX, SGCC-CCIX, and VRPC-VPIX.	Part 3 (7.7.1.5), (7.6.5), (7.6.7) and (7.7.1.3)	E
31	For all edges, check that all SG2D coordinates are different from the start and end node coordinates.	Part 3 (7.7.1.6)	E
32	Check that record updates refer to a valid record NAME.	Part 3 (8.3.2)	E
33	Check that any attribute update refers to a valid record NAME and attribute label.	Part 3 (8.3.3)	E
34	Check that pointer index updating refers to a valid record NAME and index within pointer fields FFPT, FSPT and VRPT.	Part 3 (8.3.4)	E
35	Check if record version RVER is out of sequence for objects.	Part 3 (8.4.2.1) and (8.4.3.1)	E
36	For record updates for feature/vector updates, check that if it is DELETE: the record does not contain further fields, or MODIFY/INSERT: the record contains more information about the update.	Part 3 (8.4.2.2) and (8.4.3.1)	Е
37	Check that update and base data have the same lexical level.	Part 3 (8.4.2.2a)	E
38	Check that an update record only contains one FFPC field [8.4.2.3], and one VRPC field [8.4.3.2b], and one FSPC field [8.4.2.4], and one SGCC field [8.4.3.3].	See references in the column to the left.	E
39	Check for connectivity of line segments in an edge after April 2013	Part 3 (8.4.3.3)	E on 235

	updating.		
40	 Check that any two feature objects of type Line satisfying all of the following conditions are chained together: both objects are encoded with the same class and attribute values, both objects refer to linear features for which all referenced edges are encoded with the same spatial attribute values, linear features of both objects have one (or two) common connected node(s) which is (are) a beginning node or an end node of each linear feature, each common connected node is not shared by more than two objects satisfying the three above conditions. 	Logical consistency	W
41	Check that all areas are closed.	Logical consistency	Е
42	Check that VE edges linked to Group 1 objects appear twice with different ORNT values, or are linked to objects M_COVR with CATCOV = 1 [coverage available].	Logical consistency	E
43			147
44	Check that all values (except the shallowest and deepest) DRVAL1 and DRVAL2 of DEPARE and depare of type area are also values of VALDCO.	Logical consistency EG 1.3.1 – I11-e, I11-f, I12-g, I12-h	W
45	Check that no edge is shared by two or more line objects of the same object class, except for objects from the following list which may share geometry if they are populated with different attribute values: berths, cblohd, CBLSUB, CONVYR, convyr, FERYRT, feryrt, MORFAC, NAVLNE, PIPSOL, RECTRC.	Logical consistency	W
46	Check for any object having both attributes DATEND and DATSTA encoded with explicit values that DATEND is the same or later than DATSTA.	Logical consistency	E
47	Check for any LIGHTS object having SECTR1 encoded that SECTR2 is also encoded (with a different value) and vice versa.	Logical consistency	E
48	Check for any M_SREL object having SCVAL1 and SCVAL2 encoded that the value of SCVAL1 has been set to a larger scale than SCVAL2 (i.e. attribute value for SCVAL1 is smaller than attribute value for SCVAL2).	Logical consistency	E
49	Check for any object having DRVAL1 and DRVAL2 encoded that DRVAL1 is smaller than or equal to DRVAL2.	Logical consistency	E
50	Check that all the nodes that compose the geometry of any RECTRC with CATTRK=1 [based on a system of fixed marks] or NAVLNE are on a straight line.	Logical consistency	W
51	Check that no edge is shared by a COALNE object and a SLCONS/slcons object of type line or by a COALNE object and a SLCONS/slcons object of the type area covered by a LNDARE and having WATLEV/watlev undefined or encoded with the values (2) [always dry] or (1) [partly submerged at high water]	Logical consistency	W
	Chock that any SLOCED chicat is sovered by a	Appendix P4	
53	Check that any SLOGRD object is covered by a LNDARE object of type Area. Check that any SLOTOP object is covered by a LNDARE object of type Area or is on its border.	Appendix B1, Annex A (4.7.4, 4.7.5, 4.8.4)	E
54	Check for any CRANES, cranes, BUISGL, LNDMRK or	Logical consistency	W

	 SILTNK object, and for any DAYMAR object which is not a slave in a master/slave relationship or part of an overlay cell: if it is of type Area, that it is covered by a LNDARE, bridge, FLODOC, flodoc, PONTON or ponton object of type Area, if it is of type Point, that:		
55	Check that no line or point LNDARE object is situated within a LNDARE object of type Area, except for cases where it is covered by a LAKARE, RIVERS, lokbsn or CANALS object.	Logical consistency	W
56	Check that any BUAARE object is covered by a LNDARE object of type Area or is coincident with a LNDARE of type point.	Logical consistency	W
57	Check for any COALNE object which does not share spatial geometry with a LNDARE or SLCONS object that it is not situated within a LNDARE object of type Area, or that it does not have a LNDARE object of type Area on both sides.	Logical consistency	W

58			
59	Check that no OBSTRN object of type Line bounds an OBSTRN object of type Area.	Logical consistency	W
60	Check that no CBLSUB object is situated within a LNDARE object of type Area.	Logical consistency	W
61	 Check for any object with WATLEV = 3 [always under water/submerged]: if it is of type Line or Area, that: it is not within or overlaps an intertidal area (DEPARE with DRVAL2 ≤ 0), or it is not within or overlaps a LNDARE object of type Area, if it is of type Point, that: it is not within an intertidal area, or it is not within a LNDARE object of type Area, or it is not coincident with a LNDARE object of type point, or it is not situated on a LNDARE object of type line. 	Logical consistency	W
62	Check for all PONTON, ponton, HULKES, hulkes, flodoc or FLODOC objects of type Area that no edge of their limits shares the geometry of a line COALNE, slcons or SLCONS object, except when this edge also shares the geometry of a LNDARE object of type Area.	Logical consistency	W
63	Check that no RECTRC object overlaps or intersects a linear or area object LNDARE, PONTON, ponton, HULKES, hulkes, FLODOC, flodoc or other objects having WATLEV/watlev = 1 [partly submerged at high water] or 2 [always dry].	Logical consistency	E

64	Check that no point or area achare object is situated within or overlaps another object with attribute RESTRN	Logical consistency	W
L	or restrn containing value 1 [anchoring prohibited].		
65	Check that LIGHTS objects in the same spatial position	Logical consistency	W
	whose sectors overlap each other have at least one of	-	
	the values encoded differently for these attributes:		
	CATLIT, EXCLIT, LITCHR, SIGPER or SIGGRP.		
	Remark: This check must not be applied to LIGHTS		
	objects with STATUS 4 [not in use]		
66	Check for any SOUNDG having the value (1) or nothing	Logical consistency	₩
	for EXPSOU that any depth value is situated within a		
	DEPARE or a DRGARE of the corresponding range. See		
	new checks 1768 and 1769		
67	Check that no object is duplicated (same class, same	Data structure	W
	attribute description and same geometry).		
68	Check if there is an update to an object without the		W
	corresponding text/graphic file.		
69	Check that the Agency Code of feature objects is valid.	Appendix A, Annex A	₩
70			
71	Check that no object of type Area (except for objects	Logical consistency	W
	where all of the edges have USAG = 3) has all of its		
	edges masked (i.e. USAG = 3 [exterior boundary		
	truncated by the data limit] or MASK = 1 [mask]).		
	Check that no object of type Line has any of it's edges		
	masked (i.e. MASK = 1 [mask]).		
72	Check that no loop exists in the graph of hierarchical	Logical consistency	W
	relationships (e.g. no master object is slave of its own		
	slave,).		
73	Check that no attribute value contains a leading or a	Logical consistency	W
	trailing space and no attribute of type List contains any	-	
	space.		
74	Check for any floating DEPCNT object (i.e. which does not	Logical consistency	Е
-	share any edge with a Group 1 object) which is within an	g.ca coc.c,	_
	area DEPARE object, that DRVAL2 > VALDCO > DRVAL1		
	Remark: This check must only be applied if both		
	DRVAL1 and DRVAL2 for the DEPARE object are		
	encoded with explicit and different attribute values.		
75	Check for any floating DEPCNT object (i.e. which does not	Logical consistency	W
	share any edge with a Group 1 object) which is within an	- 3	
	area DRGARE object, that VALDCO > DRVAL1.		
	Remark: This check must only be applied if DRVAL1 for		
	the DRGARE object is encoded with an explicit value.		
76	Check that no DEPCNT object is within a FLODOC,	Logical consistency	Е
	HULKES, LNDARE or PONTON object of type Area.	,	
77	Check that no DEPCNT object crosses another	Logical consistency	Е
	DEPCNT object.	,	
78	Check for any area object that no boundary crosses	Topology	Е
	itself.	. 57	
79	Check for any line object that no component edges of a	Topology	W
	line object cross without a connected node at the	. 57	
	crossing point.		
-			

80	Check that no area object has incorrect boundary nesting. i.e. at least one of the following cases detected:	Topology	Е
	An internal boundary is completely within an internal boundary;		
	An internal boundary is completely outside an external boundary;		
	 An external boundary is completely within an internal boundary. 		
81	Check that no spot sounding coincides with another spot sounding (of the same or different depth).	Topology	E
82	Check that no linear or area object is using the same edge more than once.	Topology	Е
83	Check that no node coincides with another node (connected or isolated).	Topology	W
84	Check that no physically isolated node is marked as connected (and vice versa).	Part 3 (2.2.1)	E
85	Check that all AGEN subfield values (in DSID and FOID fields) in an update (ER) file are identical to the AGEN subfield values in the DSID base (EN) file.	Part 3 (4.3.1) and (7.3.1.1)	E
86	Check that any feature record of type Point (including sounding feature record) only references one vector record.	Part 3 (4.7.1)	W
87	Check for edges with degenerated geometry (when consecutive vertices coincide).	Part 3 (4.7.2)	E
88	For area features, check that ORNT = 1 [forward] or 2 [reverse], USAG = 1 [exterior], 2 [interior] or 3 [exterior boundary truncated by the data limit] and MASK = 1 [mask], 2 [show] or 255 [masking is not relevant].	Part 3 (4.7.3)	E
89	Check that no master object references the same object as slave more than once and that no slave object is referenced by more than one master object.	Part 3 (6.3)	E
90	Check the conformity of the DDR (Data Descriptive Record). (In a catalogue file, it <u>only</u> contains the description of the catalogue file structure. In an EN file, it <u>only</u> contains the description of the base cell file structure. In an ER file, it <u>only</u> contains the description of the update cell file structure).	Part 3 (7) and Part 3 (A.2)	W
91	Check for all attribute values of type "float", that the number of digits in the integer part is smaller than or equal to the number of digits given in the format statement (e.g. XX .X).	Part 3 (7.2.2.1), (7.3) and Appendix A, Chapter 2.	W
92	Check for any update (ER) file having RUIN = 3 [modify] in the FRID field, that the FOID field for the modified object is identical in the base (EN) and update (ER) files.	Part 3 (8.4.2)	E
93	Check for any object with WATLEV = 4 [covers and uncovers] or 5 [awash]: • if it is of type Line or Area, that: - it is not within or overlaps a LNDARE object of type Area, • if it is of type Point, that: - it is not within a LNDARE object of type Area, or - it is not coincident with a LNDARE object of type	Logical consistency	W
	point, or - it is not situated on a LNDARE object of type line.		
94	Check that no ER file contains instructions for the FSPC field to modify a FSPT field of a feature object to a value	Logical consistency	E

	that it already contains.		
i1	Check that only LNDMRK objects having CATLMK = 18	Logical consistency	W
	[windmill] or 19 [windmotor], have been encoded with		
	CONDTN = 4 [wingless].		

2.2 Checks relating to the Inland ENC Product Specification edition 2.3

	Inland ENC PRODUCT SPECIFICATION		
500	Check that all data are within the cell limits.	2.2	Е
501			
502	Check that the dataset file contains no more than 5 megabytes of data.	2.2	W
503	Check that all objects in a cell have a unique FOID.	3.1	E -W
504	Check for all prohibited object classes for Inland ENC.	3.2	Е
505	Check for mandatory meta object classes.	3.4 and Inland ENC Encoding Guide	E
506	Check that mandatory subfields in EN and ER files contain a value (which may be a missing attribute value in the ATVL subfield of the ATTF field).	3.5.1 and Part 3 (2.1)	E
507	Check for all mandatory attributes.	3.5.2 and	Е
		Inland ENC Encoding Guide and Inland ENC Feature Catalogue	
508	Check that COLPAT is encoded for every object (except LIGHTS) with more than one COLOUR. Check that no object with a value for COLPAT has only one COLOUR.	3.5.2 Logical consistency	E
509	Check for all the following cases that the mandatory attribute has a value: CTNARE: INFORM DEPARE: DRVAL1 and DRVAL2 depare: DRVAL1 and DRVAL2 DEPCNT: VALDCO m_sdat: verdat m_vdat: verdat m_nsys: marsys Remark: For these objects, the above mandatory attributes are meaningless without values.	3.5.2 and Inland ENC Encoding Guide and Inland ENC Feature Catalogue	W
510	attributes are meaningless without values.		
511	Check that all S-57 attributes, that are not mentioned in the Inland ENC Feature Catalogue, are not used"	IENC Feature Catalogue	E
512	Check for numeric attribute values (i.e. of type float ('F') or integer('I')) padded with non-significant zeroes.	3.5.4	E
513	Check that an attribute on an individual Geo object does not have the same value as the general value defined by the meta object.	3.5.6	E
514	Check that no use of cartographic objects has been made.	3.6	E
515	Check that all edges with USAG = 3 [exterior boundary, truncated by the data limit] have MASK = 255 [null].	3.8	E

516	 Check that all master/slave relations are valid. If the master object is of type point, check that the slave object is sharing the same node as the master object. If the master object is of type line, check that the slave object is situated on the line covered by the master object. If the master object is of type area, check that the slave object is situated within or on the boundary of the area covered by the master object. NOTE: bridge, CRANES, cranes, FLODOC, flodoc, HULKES, hulkes, PONTON, ponton, OBSTRN, PYLONS, SILTNK and WRECKS objects must be considered as possible structure objects. 	3.9 and Inland ENC Encoding Guide	W
517	 For a collection feature record: Check that it references at least two other feature objects. Check that it does not reference itself. Check that PRIM = 255 [no geometry]. Check that there is only one master relationship per collection feature – all others must be slaves. Check that if a relationship is peer, then all other features in the collection are peer. 	3.9 and Inland ENC Encoding Guide	E
518	 Check that all feature objects belong to the correct group: Check for all Group 1 objects having a Geometric Primitive of type Area, that the GROUP subfield [GRUP] of the Feature Record Identifier [FRID] is set to (1) [Group 1]. Check for all others feature objects that the GROUP subfield [GRUP] of the Feature Record Identifier [FRID] is set to (2) [Group 2]. 	3.10 IENC Product Specification 3.10.1	E
519	Check Group 1 coverage and consistency in cells of usage 1 to 9.	3.10.1 and Inland ENC Encoding Guide	Е
	 complies with ENC Prod Spec: Check that the general text in the ATTF field is lexical level (0) [NB see right for explanation], with appropriate encoding of DSSI-ATTF. Check that the general text in the NATF field is lexical levels (0), (1) or (2) with appropriate encoding of DSSI-NATF. If attribute NINFOM contains data, check that corresponding INFORM contains data: or report an error if they do not contain data. Report an error if lexical level (2) is used anywhere 	and 3.5.5 Inland ENC Encoding Guide	
	else than in the NATF field. The report should contain a statement if international character sets are used and the invoking sequence, so that a check can be made on the language used. Check the consistency between the use of international characters and the encoding of DSSI-AALL/NALL. Check that the UT and FT are encoded at the lexical level specified and used for that field. Check that all national language attributes are		

	encoded in the Feature Record National Attribute		
	(NATF) field.		
	 Check that all feature object attributes (non national) are encoded in the Feature Record Attribute (ATTF) 		
	field.		
521	Check that OBJNAM and NOBJNM values, or INFORM	3.11.1	W
02.	and NINFOM values, are different for any particular	0	••
	object.		
522	Check that if NOBJNM is encoded, then OBJNAM has	3.11.1	W
	also been encoded.	Inland ENC Encoding Guide	
523	Check that HDAT = 2 [WGS 84].	4.1	Е
524	Check that DUN I = 1 [metres] or 3 [feet].	4.4	E
		Inland ENC Product	
		Specification 4.4	
525	Check that PUN I = 1 [metres] or 4 [feet].	4.4	E
		Inland ENC Product	
F26	Chapt that COLIN 4 [latituda/langituda]	Specification 4.4	
526 527	Check that COUN = 1 [latitude/longitude]. Check that all files referenced by TXTDSC, NTXTDS	4.4 5.4.1 and	E E
321	and PICREP attributes exist.	5.4.1 and 5.6.4	
	and FIGILE attributes exist.	3.0.4	
528	Check for existence of a catalogue file.	5.4.1	Е
529	Check that volume names are in accordance with the	5.4.2	Ē
	Inland ENC Product Specification.		_
530	Check that the directory structure for physical media is in	5.4.3	Е
	accordance with the Inland ENC Product Specification.		
	An ENC_ROOT directory must exist in the first		
	volume.		
531	Check that file names are in accordance with the Inland	5.6.1, 5.6.2 and 5.6.3	E
	ENC Product Specification.		
532	Check that text and graphic file names are unique, with	5.6.4	W
	extension (e.gTXT, .HTM, .XML, .JPG and .TIF) for		
533	new editions and re-issues. Check that the DSID-UADT subfield is not used in an ER	5.7	Е
555	file.	5.7	_
534	Check that a delete cell message only contains the DSID	5.7	Е
001	field with EDTN = 0.	0.7	_
535	Check that the CRC value computed on the received file	5.9.1	Е
	is the same as the CRC value transmitted.		
536	Check that only fields that have a repetition factor repeat.	6.1.3	Е
537	Check that the format of the catalogue file is correct.	6.2	E
538	Check that CADT-IMPL = "BIN".	6.2.2	Е
539	Check that DSID-PROF subfield value is either 1 [EN] or	6.3 and 6.4	E
F 40	2 [ER].	00 - 10 4	
540	Check that mandatory records, fields and subfields for	6.3 and 6.4	E
	EN and ER files are included and contain data and that		
541	prohibited records, fields and subfields are not used. Check that the SIGGRP format is correct for all LIGHTS,		Е
341	except for fixed LIGHTS, which must not have a value	Inland ENC Encoding Guide	Ľ
	for SIGGRP.	Inland ENO Encoding Suide	
542	Check that any attribute value SIGGRP starts and		Е
	finishes with a bracket.	Inland ENC Encoding Guide	-
543			
544	Check that any area covered by a M_COVR object with	2.2 and	Е
	CATCOV = 2 [no coverage available] does not contain any	Inland ENC Encoding Guide	
	other object.		
545	Check that each object has a valid object class code as	3.2 and	E

	defined by the Inland ENC Feature Catalogue	Inland ENC Feature Catalogue		
546	Check that each attribute has a valid attribute class code as defined by the Inland ENC Feature Catalogue.	3.2 and Inland ENC Feature Catalogue	E	
547	Check that no object contains attributes outside the list of permissible attributes for the object's class (as defined in the Inland ENC Feature Catalogue) for the specified object.	3.2 and Inland ENC Feature Catalogue	E	
548	Check that M_COVR meta objects provide exhaustive non-overlapping coverage of the whole cell.	3.4 and Inland ENC Encoding Guide	Е	
549	Check that all DEPARE, depare and DRGARE objects are covered by M_QUAL objects without gaps or overlaps. (This check may only be used outside of Europe) 3.4 and Inland ENC Encoding Guide			
550				
551	Check that text attribute values do not use format effecting (C0) characters (C0 as defined in S-57 Part 3, Annex B). Check that the delete character is only used in the update mechanism (i.e. in records with RUIN = 3 [modify]).	3.5.5	E	
552	Check for any object that has been encoded with one of the new attribute values introduced in S-57 Edition 3.1 that INFORM contains a description of the enumerate value.	3.5.7	E	
553	Check that no Group 1 object contains the attributes DATSTA, DATEND, PERSTA or PEREND	3.10.1 and logical consistency	Е	
554	Check for any edge used by only one M_COVR object with CATCOV = 1 [coverage available], that it is also shared with one, and only one, Group 1 object.	3.10.1	E	
555	Check that the order of data in each base or update file is correct.	6.1.1	E	
556	Check for the limits of data set files given in the Catalogue Directory field (CATD) of the catalogue file (subfields SLAT, WLON, NLAT, ELON): 1. That the limits for base cell files are identical to the furthest coordinates of M_COVR geometry found in the corresponding base cell files. 2. That the limits for update cell files are identical to the limits of the base cell file to which they apply.	5.6.3, 6.2.2 and logical consistency	E	
557	Check that any SIGSEQ attribute value conforms to the correct structure (i.e. string content in accordance with format specification).	Inland ENC Encoding Guide	E	
558	Check for any object having SIGSEQ encoded that the value of SIGPER is equal to the sum of intervals of light and intervals of eclipse described by SIGSEQ.	Inland ENC Encoding Guide and logical consistency	E	
559	Check that no STATUS attribute value contains an impossible combination: • 3 [recommended] with 4 [not in use]; • 4 [not in use] with 9 [mandatory]; • 16 [watched] with 17 [un-watched]; • 8 [private] with 14 [public].	Inland ENC Encoding Guide and logical consistency	W	
560	Check that all feature objects in a data set having the same FOID have the same description (same object class and attribute values) and are of type Line or Area.	3.1	E	
561	Check that all feature objects in a data set having the	3.1	臣	

Same FOID are not part of a collection object or a master/slave relationship.			T	
563 Check for any RESARE object that has been encoded with values (27) [Environmentally Sensitive Sea Area (ESSA)] and/or (28) [Particularly Sensitive Sea Area (PSSA)] for CATREA, that at least one of the attributes INFORM or TXTDSC contains the meaning of the value. The text must commence with the meaning of the value (i.e. Environmentally Sensitive Sea Area (ESSA) or Particularly Sensitive Sea Area (ESSA) or RESARE having CATREA = 27 [Environmentally Sensitive Sea Area (ESSA)] at least one object of the following list: ARCSLN, ASLXIS, NEWOBJ, or RESARE having CATREA = 27 [Environmentally Sensitive Sea Area (ESSA)] or 28 [Particularly Sensitive Sea Area (ESSA)] or 28 [Particularly Sensitive Sea Area (ESSA)] or 29 [Particularly Sensitive Sea Area (ESSA)] or 29 [Particularly Sensitive Sea Area (ESSA)] or 40 [Particularly Sensiti		same FOID are not part of a collection object or a		
Check for any RESARE object that has been encoded with values (27) [Environmentally Sensitive Sea Area (ESSA)] and/or (28) [Particularly Sensitive Sea Area (PSSA)] for CATREA, that at least one of the attributes INFORM or TXTDSC contains the meaning of the value. The text must commence with the meaning of the value (i.e. Environmentally Sensitive Sea Area (ESSA) or Particularly Sensitive Sea Area (ESSA) or Particularly Sensitive Sea Area (PSSA). Check for any base (EN) or update (ER) file containing at least one object of the following list: ARCSLN, ASLXIS, NEWOBJ, or RESARE having CATREA = 27 [Environmentally Sensitive Sea Area (ESSA)] or 28 [Particularly Sensitive Sea Area (ESSA)] or 28 [Particularly Sensitive Sea Area (PSSA)]. • that it contains the following subfield values in the DSID field: - (03.1) for the STED subfield, - (2.0) for the PRED subfield. • that it has the text "STED:3.1.1;" included in the COMT subfield of the DSID field. • that it contains the following subfield values in the DSID field: - (03.1) for the STED subfield, - (2.0) for the PRED subfield, - (2.0)		master/slave relationship.		
with values (27) [Environmentally Sensitive Sea Area (ESSA)] and/or (28) [Particularly Sensitive Sea Area (PSSA)] for CATREA, that at least one of the attributes INEORM or TXTDSC contains the meaning of the value (i.e. Environmentally Sensitive Sea Area (ESSA) or Particularly Sensitive Sea Area (ESSA)] or 28 [Particularly Sensitive Sea Area (ESSA)], • that it contains the following subfield values in the DSID field: - (03.1) for the STED subfield, • that it sentains the text "STED:3.1.1;" included in the COMT subfield of the DSID field. • that it contains the following subfield values in the DSID field: • that it contains the following subfield values in the DSID field: - (03.1) for the STED subfield, • that it contains the following subfield values in the DSID field: - (03.1) for the STED subfield, • that it contains the following subfield values in the DSID field: - (03.1) for the STED subfield, • that it has the text "STED:3.1.1;" included in the COMT subfield of the DSID field: - (03.1) for the STED subfield, • that it has the text "STED:3.1.1;" included in the COMT subfield of the DSID field:	562			
with values (27) [Environmentally Sensitive Sea Area (ESSA)] and/or (28) [Particularly Sensitive Sea Area (PSSA)] for CATREA, that at least one of the attributes INEORM or TXTDSC contains the meaning of the value (i.e. Environmentally Sensitive Sea Area (ESSA) or Particularly Sensitive Sea Area (ESSA)] or 28 [Particularly Sensitive Sea Area (ESSA)], • that it contains the following subfield values in the DSID field: - (03.1) for the STED subfield, • that it sentains the text "STED:3.1.1;" included in the COMT subfield of the DSID field. • that it contains the following subfield values in the DSID field: • that it contains the following subfield values in the DSID field: - (03.1) for the STED subfield, • that it contains the following subfield values in the DSID field: - (03.1) for the STED subfield, • that it contains the following subfield values in the DSID field: - (03.1) for the STED subfield, • that it has the text "STED:3.1.1;" included in the COMT subfield of the DSID field: - (03.1) for the STED subfield, • that it has the text "STED:3.1.1;" included in the COMT subfield of the DSID field:				
at least one object of the following list: ARCSLN, ASLXIS, NEWOBJ, or RESARE having CATREA = 27 [Environmentally Sensitive Sea Area (ESSA)] or 28 [Particularly Sensitive Sea Area (ESSA)] or 28 [Particularly Sensitive Sea Area (ESSA)], that it contains the following subfield values in the DSID field: (2.0) for the PRED subfield, that it has the text "STED:3.1.1;" included in the COMT subfield of the DSID field. COMT subfield of the DSID field, that it contains the following subfield values in the DSID field: (03.1) for the STED subfield, that it contains the following subfield values in the DSID field: (03.1) for the STED subfield, that it has the text "STED:3.1.1;" included in the COMT subfield of the DSID field.	563	with values (27) [Environmentally Sensitive Sea Area (ESSA)] and/or (28) [Particularly Sensitive Sea Area (PSSA)] for CATREA, that at least one of the attributes INFORM or TXTDSC contains the meaning of the value. The text must commence with the meaning of the value (i.e. Environmentally Sensitive Sea Area (ESSA) or	· ·	E
file which has the text "STED:3.1.1;" included in the COMT subfield of the DSID field, that it contains the following subfield values in the DSID field: (03.1) for the STED subfield, (2.0) for the PRED subfield, that it has the text "STED:3.1.1;" included in the COMT subfield of the DSID field.	564	at least one object of the following list: ARCSLN, ASLXIS, NEWOBJ, or RESARE having CATREA = 27 [Environmentally Sensitive Sea Area (ESSA)] or 28 [Particularly Sensitive Sea Area (PSSA)], that it contains the following subfield values in the DSID field: (03.1) for the STED subfield, (2.0) for the PRED subfield, that it has the text "STED:3.1.1;" included in the	Ch.4 (6.3.2.1	E
566	565	file which has the text "STED:3.1.1;" included in the COMT subfield of the DSID field, that it contains the following subfield values in the DSID field: -(03.1) for the STED subfield, -(2.0) for the PRED subfield, that it has the text "STED:3.1.1;" included in the	• •	E
	566			

2.3 Checks relating to Inland ECDIS

	Inland ECDIS		
1000	Check that the file extension is sequential until a new edition of the base set is issued.	Inland ENC Product Specification	E
1001	Check if DSID-UPDN is out of sequence.	Inland ENC Product Specification	E
1002	Check for proper usage of file extension, EDTN, UPDN, UADT and ISDT for re-issues of an ENC.	Inland ENC Product Specification	E
1003	Check that EDTN starts one higher than the previous edition number.	Inland ENC Product Specification	E
1004	Check that the file names of a base set and the reissue are identical.	Inland ENC Product Specification	E
	See check 1797		
i1001	Check that all external files in an exchange set are referenced by a dataset in the same exchange set.	Inland ENC Product Specification	W

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2.4 Checks relating to the Inland ENC Encoding Guide

	Inland ENC Encoding Guide		
		Appendix B.1- Annex A	
1500	Check that certain area objects do not overlap for logical reasons: LNDARE and SBDARE. LNDARE and CBLARE, achare, achbrt,	Logical consistency, IENC EG 4.8.14	W
	FAIRWY, TWRTPT, lokbsn, lkbspt.		
1501	Check that no M_HDAT objects exist.	2.1.1	€
1502			107
1503	Check that no object has an attribute value for verdat without a value for at least one of ELEVAT, HEIGHT, VERCCL, VERCLRorVERCOP. Exceptions are m_vdat and m_sdat objects (subject to their own QA tests).	IENC EG C.1.4/C.1.5	W
1504	Check that the value in the Vertical Datum subfield (VDAT) of the Data Set Parameter field (DSPM) is not null.	Logical consistency	E
1505	Check that there are no m_vdat objects which have an attribute value for verdat equal to that given in the Vertical Datum subfield (VDAT) of the Data Set Parameter field (DSPM).	IENC EG C.1.5	E
1506	Check that all Geo objects which have attribute values relative to a Height Datum and which cross a m_vdat object boundary are split at that boundary.	IENC EG C.1.5	E
1507	Check that no m_vdat objects overlap one another.	IENC EG C.1.5	Е
1508	Check that no m_sdat objects overlap one another.	IENC EG C.1.4	E
1509	Check that no VERDAT attribute exists for the objects DEPARE DEPCNT, DRGARE, OBSTRN, SOUNDG, UWTROC, or WRECKS.	2.1.3	E
1510	Check that the value in the Sounding Datum subfield (SDAT) of the Data Set Parameter field (DSPM) is not null.	Logical consistency	E
1511	Check that there are no m_sdat objects, that have an attribute value for verdat equal to that given in the Sounding Datum subfield (SDAT) of the Data Set Parameter field (DSPM).	IENC EG C.1.4	E
1512	Check that all SOUNDG objects and all those objects that have at least one of VALSOU, VALDCO, WATLEV, watlev, DRVAL1 or DRVAL2 encoded with an explicit value and which cross a m_sdat object boundary are split at that boundary.	IENC EG C 1.4 / I 1.8	E
1513			
1514	Check that no M_UNIT objects exist	2.1.4	
1515	Check that if an object contains a value for the attributes DATEND, DATSTA, PEREND, PERSTA, SORDAT, SUREND or SURSTA, that this value conforms to ISO 8601:1988.	IENC EG B.J	E
1516	Check that any Group 2 seasonal/periodic object (if the object class is concerned at once by the attributes STATUS, PERSTA and PEREND) with the attribute STATUS containing the value (5) [periodic/intermittent] also has the start and end of the active period encoded in PERSTA and PEREND, and vice versa.	IENC EG B.J	W

1517			
1518	Check that the value of the Producing agency subfield (AGEN) of the Data Set Identification field (DSID) is correct, and that it is the same as the first two characters of the data set file name.	IENC PS 6.3.2.1	E
1519	Check that no M_PROD objects exist.	2.2.1	E
			1
1520	Check that the value of the Edition Number (EDTN) subfield of the Data Set Identification field (DSID) is correct.	IENC PS 5.7	E
1521	Check that the value of the Update Number (UPDN) subfield of the Data Set Identification field (DSID) is correct, and that it is equivalent to the extension of the data set file name, except in the case of a re-issue; in which case, it should be equal to the last update number.	IENC PS 5.7	E
1522	Check that the value of the Update application date (UADT) subfield of the Data Set Identification field (DSID) is correct for data sets with a file name extension of ".000", or that it is null in all other cases.	IENC PS 5.7	E
1523	Check that the value of the Issue date (ISDT) subfield of the Data Set Identification field (DSID) is correct, and that for data sets with a file name extension of ".000" it is greater than or equal to the value of the Update application date (UADT) subfield.	PS 5.7	E
1524			
1525			
1526			
1527	Check that any DRVAL2 attribute value for M_QUAL objects is greater than or equal to the maximum depth to which the GATZOC category for that M_QUAL object indicates.	2.2.3.1	E
1528	Check that if there is an attribute value for TECSOU for a given M_QUAL object, that only one sounding technique has been used within that M_QUAL object coverage.	2.2.3.1	E
1529	Check that no object falling within a given M_QUAL object coverage has an attribute value for TECSOU that is equivalent to an attribute value for TECSOU on the M_QUAL object.	IENC EG C.1.2/ C.1.6/ C.1.7 IENC PS 3.5.6	E For US/ RU
1530	Check that no object falling within a given M_QUAL object coverage has an attribute value for SOUACC that is equivalent to the SOUACC or CATZOC attributes for the M_QUAL object.	IENC EG C.1.2/ C.1.6/ C.1.7 IENC PS 3.5.6	E For US/ RU
1531	Check that no M_QUAL object has attribute values for POSACC, SOUACC, QUASOU or TECSOU which are equivalent to or degrade the accuracy indicated by the	IENC EG C.1.2/ C.1.6/ C.1.7	E For US/ RU

attribute value of CATZOC.

Ε

For US/

RU

IENC PS 3.5.6

IENC EG C.1.2

given M_QUAL object that it relates to the oldest survey

1532 Check that if there is an attribute value for SURSTA for a

of two or more surveys for that M_QUAL object

	coverage.		
1533			
1534			
1535			
1536			
1537			
1538			
			1
1539			
1539 1540	Check that SORIND has not been used for encoding the	0.000 and 0.054	E
	SURATH.	2.2.3.2 and 2.2.5.1	=
1541			
1542			
1543	Check that no object falling within a given M_ACCY object coverage has an attribute value for QUAPOS that is equivalent to the QUAPOS attribute for the M_ACCY object.	2.2.4.1	E
1544			
1545			
1546			
1547	Check that any bathymetric or hydrographic object that is of Point geometric type with an attribute value for SORIND has a corresponding attribute value for SORDAT, and that the values are different to those given by SORIND and SORDAT of the overlying M_SREL.	2.2.5.1	₩
1548	Check that any non-bathymetric object, which has an attribute value for SORIND has a corresponding attribute value for SORDAT.	IENC EG B.B / C.1.7 IENC PS 3.5.6	W For EU/US
1549	Check that the value in the Compilation Scale of data subfield (CSCL) of the Data Set Parameter field (DSPM) is not null.	IENC PS 6.3.2.3	Е
1550			
1551			
1552	Check that no object contains the attribute SCAMAX.	2.2.7	E
1553	Check that any value of SCAMIN is set to a scale value smaller than or equal to the compilation scale of the data for the area.	Logical consistency	E
1554	Check that no Group 1 area objects and no meta objects have been encoded with the attribute SCAMIN.	IENC EG C.1, D.1.4, G.3.7, G.3.11, G.3.14, I.1.3, I.1.5, I.1.6, I.1.7, I.1.9	E
1555	Check that no attribute value for INFORM and NINFOM contains formatting characters (C0 as defined in S-57 Part 3, Annex B). (see check 551)	2.3	E
1556	Check that any text files forming part of the dataset are Hypertext Metafiles (HTM), text (TXT), or Standardized External XML files (XML).	IENC EG B, B	E
1557			
1558			
1559			
1560			
			1
1561			
1562			
1002	April 2013		ion 2 3 5

1563 Check that any RIVERS, CANALS or LAKARE objects are covered by a LNDARE object of type Area. 1564 1565 Check for all LNDARE object of type Area that any edge of the limits shares the geometry of at least one object of the following list: • linear objects: COALNE, SLCONS, slcons, GATCON, gatcon, DAMCON, TOM, RIVERS, TUNNEL, DRYDOC, CANALS, LAKARE, lokbs, DOCARE, LNDARE. • area objects with WATLEV = 1 [partly submerged at high waterfor 2 [always dry] SLCONS, slcons, MORFAC, WRECKS, OBSTRN, PYLONS, UMTROC. • area objects with watlev = 1 [partly submerged at high waterfor 2 [always dry] or 8 [above mean water level]: slcons, uwtroc • area object bounds an area RIVERS, CANALS, LAKARE DOCARE, DRYDOC lokbsn, hulkes, ponton or flodoc object, except when this edge is also shared by a boundary of a DEPARE, depare, DRGARE, PONTON, FLODOC or HULKES object 1566 Check that any SLCONS and slcons objects of type Area are covered by a LNDARE, DEPARE or depare object of type Area. 1569 Check that any SLCONS and slcons objects of type Area with WATLEV = 3 [always under water/submerged], 4 [covers and uncovers] or 5 [awash] are covered by DEPARE and/or depare objects of type Area. 1560 Check that any SLCONS objects of type Area with WATLEV = 3 [always under water/submerged], 4 [covers and uncovers] or 5 [awash] are covered by DEPARE and/or depare objects of type Area. 1570 Check that any SLCONS objects of type Area with watlev = 3 [always under water/submerged], 4 [covers and uncovers] or 5 [awash] are covered by DEPARE and/or depare objects of type Area. 1570 Check that any DRYDOC object is covered by a LNDARE object of type Area. 1571 Check that any DRYDOC object is covered by a LNDARE object of type Area. 1572 Check that har DeCARE object is bounded (except for the gate) by a separate object SLCONS or COALNE. 1575 Check that no DRYDOC object is bounded (except for the gate) by a separate object SLCONS or COALNE. 1576 Check that no DRYDOC object is bounded (except for the gate) by a separate object SLCONS or C		Ta		
1565 Check for all LNDARE objects of type Area that any edge of the limits shares the geometry of at least one object of the following list: • linear objects: COALNE, SLCONS, slcons, GATCON, gatcon, DAMCON. • area objects: M. COVR, GATCON, gatcon, DAMCON, RIVERS, TUNNEL, DRYDOC, CANALS, LAKARE, lokshs, DOCARE, LNDARE. • area objects with WATLEV = 1 [partly submerged at high waterlor 2 [always dry] or 8 [above mean water level]; slcons, wtorco • area objects with water = 1 [partly submerged at high waterlor 2 [always dry] or 8 [above mean water level]; slcons, wtorco • area objects with water = 1 [partly submerged at high waterlor 2 [always dry] or 8 [above mean water level]; slcons, wtorco • area object by with the start of the st	1563	Check that any RIVERS, CANALS or LAKARE objects		Е
Check for all LNDARE objects of type Area that any edge of the limits shares the geometry of at least one object of the following list:		are covered by a LNDARE object of type Area.	IENC EG D.1.1/ D.1.2/ D.1.5	
of the limits shares the geometry of at least one object of the following list: • linear objects: COALNE, SLCONS, slcons, GATCON, gatcon, DAMCON. • area objects: M_COVR, GATCON, gatcon, DAMCON, RIVERS, TUNNEL, DRYDOC, CANALS, LAKARE, lokbsn, DOCARE, LNDARE. • area objects with WATLEV = 1 [partly submerged at high water]or 2 [always dry] SLCONS, slcons, MORFAC, WRECKS, OBSTRN, PYLONS, UWTROC., • area objects with watlev = 1 [partly submerged at high water]or 2 [always dry] or 8 [above mean water level]; slcons, uwtroc 1566 Check that no edge of a COALNE or linear, SLCONS or slcons object bounds an area RIVERS, CANALS, LAKARE DOCARE, DRYDOC lokbsn, hulkes, ponton or flodoc object, except when this edge is also shared by a boundary of a DEPARE, depare, DRGARE, PONTON, FLODOC or HULKES object 1567 1568 Check that any SLCONS and slcons objects of type Area are covered by a LNDARE, DEPARE or depare object of type Area. 1569 Check that any SLCONS objects of type Area with WATLEV = 3 [always under water/submerged], 4 [covers and uncovers] or 5 [awash] are covered by DEPARE and/or depare objects of type Area. 1510 Check that any SLCONS objects of type Area with watlev = 3 [always under water/submerged], 4 [covers and uncovers] or 5 [both mean water level] are covered by DEPARE, and/or depare objects of type Area. 1570 1571 1572 1573 Check that any DRYDOC object is covered by a LNDARE object of type Area. 1575 Check that there are no flodoc objects, that have an attribute value for verdat equal to that given in the Vertical Datum subfield (VDAT) of the Data Set Parameter field (DSPM) or in the verdat attribute of the Meta object of vida. 1576 1578 Check that no DGCARE object is bounded (except for the gate) by a separate object SLCONS or COALNE. 1577 1578 Check that no GATCON object has an attribute value-for 4.6.6.4 E				
area objects: M. COVR, GATCON, gatcon, DAMCON, RIVERS, TUNNEL, DRYDOC, CANALS, LAKARE, lokbsn, DOCARE, LNDARE. area objects with WATLEV = 1 [partly submerged at high waterlor 2 [always dry] SLCONS, stcons, MORFAC, WRECKS, OBSTRN, PYLONS, UWTROC. area objects with watlev = 1 [partly submerged at high waterlor 2 [always dry] or 8 [above mean water level]: stcons, uwtroc Check that no edge of a COALNE or linear, SLCONS or stcons object bounds an area RIVERS, CANALS, LAKARE DOCARE, DRYDOC lokbsn, hulkes, ponton or flodoc object, except when this edge is also shared by a boundary of a DEPARE, depare, DRGARE, PONTON, FLODOC or HULKES object 1567 1568 Check that any SLCONS and slcons objects of type Area are covered by a LNDARE, DEPARE or depare object of type Area. 1569 Check that any SLCONS objects of type Area with WATLEV = 3 [always under water/submerged], 4 [covers and uncovers] or 3 [awsh] are covered by DEPARE and/or depare objects of type Area. 15101 Check that any slcons objects of type Area with watlev = 3 [always under water/submerged], 4 [covers and uncovers] or 9 [below mean water level] are covered by DEPARE, and/or depare objects of type Area. 1570 1571 1572 Check that any DRYDOC object is covered by a LNDARE object of type Area. 1574 Check that no DRYDOC object is bounded (except for the gate) by a separate object SLCONS or COALNE. 1575 1576 Check that there are no flodoc objects, that have an attribut value for verdat equal to that given in the Vertical Datum subfield (VDAT) of the Data Set Parameter field (DSPM) or in the verdat attribute of the Meta object in Sunded (except for the gate) by a separate object SLCONS or COALNE. 1577 1578 Check that no DOCARE object is bounded (except for the gate) by a separate object SLCONS or COALNE. 1577 1578 Check that no DOCARE object is bounded (except for the gate) by a separate object SLCONS or COALNE.	1565	of the limits shares the geometry of at least one object of the following list:		W
high waterfor 2 [always dry] SLCONS, slcons, MORFAC, WRECKS, OBSTRN, PYLONS, UWTROC. area objects with watlev = 1 [partly submerged at high waterfor 2 [always dry] or 8 [above mean water level]: slcons, uwtroc 1566 Check that no edge of a COALNE or linear, SLCONS or slcons object bounds an area RIVERS, CANALS, LAKARE DOCARE, DRYDOC lokbsn, hulkes, ponton or flodoc object, except when this edge is also shared by a boundary of a DEPARE, depare, DRGARE, PONTON, FLODOC or HULKES object 1567 1568 Check that any SLCONS and slcons objects of type Area are covered by a LNDARE, DEPARE or depare object of type Area. 1569 Check that any SLCONS objects of type Area with WATLEV = 3 [always under water/submerged], 4 [covers and uncovers] or 5 [awash] are covered by DEPARE and/or depare objects of type Area. 1561 Check that any SLCONS objects of type Area with watlev = 3 [always under water/submerged], 4 [covers and uncovers] or 9 [below mean water level] are covered by DEPARE and/or depare objects of type Area. 1570 DEPARE, and/or depare objects of type Area. 1570 Check that any DRYDOC object is bounded (except for the gate) by a separate object SLCONS or COALNE. 1575 1575 Check that there are no flodoc objects, that have an attribute value for verdat equal to that given in the Vertical Datum subfield (VDAT) of the Data Set Parameter field (DSPM) or in the verdat attribute of the Meta object m vdat. 4676 Check that no DOCARE object is bounded (except for the gate) by a separate object SLCONS or COALNE. 1577 1578 Check that no DOCARE object is bounded (except for the gate) by a separate object SLCONS or COALNE. 4679 Check that no DOCARE object is bounded (except for the gate) by a separate object SLCONS or COALNE.		area objects: M_COVR, GATCON, gatcon, DAMCON, RIVERS, TUNNEL, DRYDOC, CANALS, LAKARE, lokbsn, DOCARE, LNDARE.		
high water/or 2 (always dry) or 8 (above mean water level): slcons, uwtroc 1566 Check that no edge of a COALNE or linear, SLCONS or slcons object bounds an area RIVERS, CANALS, LAKARE DOCARE, DRYDOC lokbsn, hulkes, ponton or flodoc object, except when this edge is also shared by a boundary of a DEPARE, depare, DRGARE, PONTON, FLODOC or HULKES object 1567 1568 Check that any SLCONS and slcons objects of type Area are covered by a LNDARE, DEPARE or depare object of type Area. 1569 Check that any SLCONS objects of type Area with WATLEV = 3 (always under water/submerged), 4 (covers and uncovers) or 5 (awash) are covered by DEPARE and/or depare objects of type Area. 11501 Check that any slcons objects of type Area with watlev = 3 (always under water/submerged), 4 (covers and uncovers) or 9 (below mean water level) are covered by DEPARE, and/or depare objects of type Area. 1570 1571 1572 1573 Check that any DRYDOC object is covered by a LNDARE object of type Area. 4674 Check that on DRYDOC object is bounded (except for the gate) by a separate object SLCONS or COALNE. 1575 Into Check that there are no flodoc objects, that have an attribute value for verdat equal to that given in the Vertical Datum subfield (VDAT) of the Data Set Parameter field (DSPM) or in the verdat attribute of the Meta object m_vdat. 1578 Check that no DCARE object is bounded (except for the gate) by a separate object SLCONS or COALNE. 1579 Check that no DCARE object is bounded (except for the gate) by a separate object SLCONS or COALNE. 1570 Check that no DCARE object is bounded (except for the gate) by a separate object SLCONS or COALNE. 1571 Check that no GATCON object has an attribute value for 4.6.6.4 E		high water]or 2 [always dry] SLCONS, slcons, MORFAC, WRECKS, OBSTRN,		
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1568 Check that any SLCONS and slcons objects of type Area are covered by a LNDARE, DEPARE or depare object of type Area. 1569 Check that any SLCONS objects of type Area with WATLEV = 3 [always under water/submerged], 4 [covers and uncovers] or 5 [awash] are covered by DEPARE and/or depare objects of type Area. IENC EG G.2	1567			
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attribute value for verdat equal to that given in the Vertical Datum subfield (VDAT) of the Data Set Parameter field (DSPM) or in the verdat attribute of the Meta object m_vdat. 1576 Check that no DOCARE object is bounded (except for the gate) by a separate object SLCONS or COALNE. 1577 1578 1579 Check that no GATCON object has an attribute value for 4.6.6.4			50.005	
1576 Check that no DOCARE object is bounded (except for the gate) by a separate object SLCONS or COALNE. 1577 1578 1579 Check that no GATCON object has an attribute value for 4.6.6.4	i1502	attribute value for verdat equal to that given in the Vertical Datum subfield (VDAT) of the Data Set Parameter field (DSPM) or in the verdat attribute of the	EG G.3.7	Е
1578 1579 Check that no GATCON object has an attribute value for 4.6.6.4		Check that no DOCARE object is bounded (except for	4.6.6.3	E
1579 Check that no GATCON object has an attribute value for 4.6.6.4				
	1579		4.6.6.4	E

4.500	101 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1
1580	Check that any area GATCON object is covered by a	IENO EO O 4 E	_
	DEPARE or a depare object of type Area.	IENC EG G.4.5	E
i1503	Check that any area gatcon object is covered by a	IENC EG G.4.5	W
	DEPARE or a depare object of type Area.		For EU
i1504	Check that there are no gatcon objects, that have an	EG G.4.5	E
	attribute value for verdat equal to that given in the		For EU
	Vertical Datum subfield (VDAT) of the Data Set		
	Parameter field (DSPM) or in the verdat attribute of the		
	Meta object m_vdat.		
1581			
i1505	Check that any area lokbsn object is covered by a DEPARE	EG G.4.3	Е
	or a depare object of type Area.		
i1506	Check that all objects which belong to one lock (lokbsn or	EG G.4.3/	Е
	lkbspt) must be combined to one aggregation area (C_AGGR.)	G.4.4	
i1507	Check that all lokbsn objects have a value for the	EG G.4.3	Е
	attributes horcll and horclw.		
1582			
1583			
	Check that any area MORFAC object with a WATLEV		Е
	attribute value of 2 [always dry] is covered by a LNDARE	IENC EG G.3.12	
	object of type Area.		
i1508	Check that any MORFAC object shares only one	IENC EG G.3.13	Е
	SEAARE object.		
1585	,		
1586			
	Check that any ponton object of type Area is covered by	IENC EG G.3.11	E
	a DEPARE or depare object of type Area.		
1587			
	Check that any hulkes object of type Area is covered by a	IENC EG G.3.14	E
	DEPARE or depare object of type Area.		_
1588	Check that no object CRANES has an attribute value for	4.6.9.3	₽
	VERACC without an attribute value for VERCLR.		_
1589			
	Check that any LNDRGN object is covered (partially or		W
	entirely) by a LNDARE object of type Area (or contains a	IENC EG B.E/ D.2.2	
	point or a line LNDARE).		
1591	,		
1592			
1593			
1594			
	Check that no SLOTOP object with a value of (6) [cliff]		W
1000	for the attribute CATSLO shares the same geo-spatial	logical consistency	
	position and geometry as a COALNE object.	logical conclusioney	
1596	Check that no SLOGRD object with a value of (6) for the	4 .7.5	₩
	attribute CATSLO shares the same geo-spatial position	5	
	and geometry as a COALNE object.		
1597	Check that no RIVERS object shares the same geo-		E
	spatial position and geometry as a SEAARE object.	IENC EG D.1.1/ D.1.2	
1598	, , , , , , , , , , , , , , , , , , , ,	- · · · - · · · -	
1599			
1600			
1601			
1602	Check that no LAKARE object shares the same geo-		E
.002	spatial position and geometry as a SEAARE object.	IENC EG D.1.5	-
1603	Check that no LAKSHR objects exist.	4.7.8	E
1604	Chock that he Entrol he objects oxide.	1.7.0	_
1004	April 2012		tion 2 2 5

1605		
1606		

1607			
1608			
1609	Check that no CANALS object shares the same geospatial position and geometry as a SEAARE object.	IENC EG D.1.1, D.1.3	E
1610	epanar pooner and geometry as a car a near especia	.2, 2	
1611			
1612	Check that any TUNNEL object is covered by LNDARE, DEPARE, depare or DRGARE objects.	IENC EG G.1.7	W
1613			
1614	Check that no TUNNEL object has any other non-hydrographic object (RAILWY, ROADWY etc) encoded within it.	IENC EG G 1.7	E
1615	Check that no object TUNNEL has an attribute value for VERACC without an attribute value for VERCLR.	4.8.3	E
1616			
1617	Check that any DAMCON object of type Area is covered by a LNDARE object of type Area.	IENC EG G.4.2	E
1618			
1619	Check that any DYKCON object of type Area is covered by a LNDARE object of type Area.	IENC EG G.2.1	E
1620	Check for any edge of a DYKCON object which is shared by both a LNDARE object of type area and a DEPARE, depare, or DRGARE object of type area, that it is also shared by a linear SLCONS or slcons object without a value for CATSLC or catslc.	IENC EG G.2.1	Е
1621	Check that no ROADWY object has a value of (7) for the attribute CATROD.	4.8.8	₩
1622	Check that no object BRIDGE has an attribute value for VERACC without an attribute value for at least one of VERCLR, VERCCL or VERCOP.	4. 8.10	E
1623	Check that if an object bridge overlaps navigable water, its supports are encoded as PYLONS with a value of (4) [bridge pylon/tower] or (5) [bridge pier] for the attribute CATPYL.	IENC EG G.1.10	Е
i1511	Check that all objects of a bridge (pylons, lights, sistat) which belong to one bridge must be combined to one aggregation area (C_AGGR.)	IENC EG G.1/ R.2.1	Е
i1512	Check that there are no bridge objects, that have an attribute value for verdat equal to that given in the Vertical Datum subfield (VDAT) of the Data Set Parameter field (DSPM) or in the verdat attribute of the Meta object m_vdat.		Е
1624	Check that no object CONVYR has an attribute value for VERACC without an attribute value for VERCLR.	4.8.11	E
1625	Check that, if one of the component objects (AIRARE) of an airfield is encoded using a collection object, that only C_ASSO is used.		W
1626			
1627			
1628			
1629			
1630			
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4000				
1633				
1634				
1635 1636				
	WATLEV attribute	LONS object of type Area with a value of 1 [partly submerged at high dry] is covered by a LNDARE object of	IENC EG G.1.10	E
	Check that any pic according IENC fo	ture files that form part of the ENC are rmat description.	IENC EG B.B IENC PS 5.6.4	E
1639				
1640				_
1641		TROC or uwtroc object shares the on as a SOUNDG object.	IENC EG J.1.1	E
1642				
1643	(type Line) object i	depth contours merge, a DEPARE s created, and that the value for EPCNT object is equal to the value for EPARE object.	5.4.1 and 5.4.3	₩
1644				
1645		orall succession of DRVAL1 and ole maritime area is continuous.	5.4.3	₩
1646				
1647				
1648				
1649				
1650				
1651				
1652				
1653				
1654 1655				
1656				
1657		TROC object that the combination of rresponds to the following table.	6.1.2	W
	VALSOU	1	WATLEV	
	.,		3, 4 or 5	1
	unknown		-, - -	
			unknown	
	< 0		4	
	0		5	+
			<u> </u>	
	> 0		3	
i1514		roc object that the combination of rresponds to the following table.		
		VALSOU	watlev	_
		Unknown < 0	1,2,3,4,8,9, unknown 4,8	
		0	5,8,9	

	> 0	3,8,9	
1658		3,0,0	
1659			
1660			
1661			
1662	Check that any area WRECKS or area OBSTRN object is covered by a DEPARE, LNDARE or depare object of type Area.	IENC EG J.2.1	E
i1515	Check that no area hrbbsn object is covered by a LNDARE object of type Area.	IENC EG G.3.10	E
i1516	Check that any area lkbspt object is covered by a DEPARE or depare object of type Area.	IENC EG G.4.4	Е
i1523	Check that there are no wtwprf objects, that have an attribute value for verdat equal to that given in the Vertical Datum subfield (VDAT) of the Data Set Parameter field (DSPM) or in the verdat attribute of the Meta object m_vdat.	IENC EG I.3.5	E
i1524	Check that no object wtwprf has an attribute value for HEIGHT without an attribute value for reflev.	IENC EG I.3.5	Е
i1537	Check that there are no boylat objects, that have an attribute value for marsys equal to that given in the marsys attribute of the Meta object m_nsys.	IENC EG O.1.2	E
i1539	Check, if any bcnlat object shares the same geo-spatial position and geometry as a DAYMAR, that the DAYMAR object is encoded as the slave object.	IENC EG O.2.1	E
i1545	Check that any tisdge object is associated (using the collection object C_ASSO with the other objects of the facility).	IENC EG T.1.1	W
	dition 2.3.5 April 2012		

W

i1548		ECKS object has a IN with value (2200		C EG 2.1	E		
i1549		WRECKS object w vater/submerged] h		C EG 2.1	Е		
1664							
1665							
1666							
1667							
1668							
1669	attribute values	DBSTRN object tha corresponds to the	followir	ng table.	IENC E	EG J.3.1	W
	Other attributes encoded.	which do not appe	ar in the	e table may be			
	VALSOU	WATLEV				I	
	VALSOU						
		3, 4, 5 or unknown					
	unknown						
	unknown	1 or 2					
		7					
	VALSOU < 0	4					
		4					
	VALSOU = 0	5					
	VALSOU > 0	3					
		3					
1670		WRECKS or OBS					W
	encoded values TECSOU, VALS	or OBSTRN point of the attributes Q SOU and WATLEV values for the shallo	UASOU for the	l, SOUACC, area object are	IENC E	EG J.3.1	
1671		ne object whose ge			Logical c	onsistency	E
	with the geometrand attribute variations SORDAT and S	try of an area object lues except for attri SCAMIN.	t of the butes S	same class ORIND,		,	
1672	an area object of	ccurrence of any poor of the same class a ARE, WRECKS and	nd attrib	oute values,	Logical c	onsistency	E
1673							
1674							
1675							
1676		RESARE object ha TREA also has a v RN.	9.	1.2	W		
1677							
1678							
1679	('E'), float ('F'), i one value.	bbject that attributes integer ('I') or code	A') contain only			E	
1680	Check that no F	RECTRC object cor ATUS.	ntains a	value of (3) for	10	.1.1	₩
1681	Check for any of a value for ORII	one way RECTRC on ENT encoded, that	the dire	ction of	IENC E	EG L.1.2	Е
	digitizing is cons	sistent (i.e. deviatio	nan 5 degrees)				

	T		1
	with the direction of the traffic flow (as encoded in		
	ORIENT).		
1682			
1683			
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1692			
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1696			
1697			
1698			
1699			
1700			
1701			
1702			
1703	Check for any CBLSUB object, if the attribute CATCBL is		Е
1700	encoded, that the value is (1) [power line], (3)	IENC EG K.1.1	_
	[transmission line] (4) [telephone], (5) [telegraph] or (6)		
	[mooring cable/chain]. only optional now)		
1704			Е
	meaningful value, attribute catcbl with value (1) [power	IENC EG G.1.8	
	line], (3) [transmission line], (4) [telephone], (5)		
	[telegraph], (6) [mooring cable/chain] or (7) [ferry cable].		
1705	Check that no CBLOHD object contains an attribute	11.5.2	E
	value for VERACC, without an attribute value for at least		
	one of VERCLR or VERCSA.		
1706			
1707	Check that any CBLARE object has the attribute		Е
	CATCBL with value (1) [power line], (3) [transmission	IENC EG K.1.2	
	line], (4) [telephone], (5) [telegraph] or 6 [mooring		
	cable/chain) (only optional now) and attribute RESTRN		
	with value (1). (only optional now)		
1708			
1709			
1710	•	11.6.3	₽
	VERACC without an attribute value for VERCLR.		
1711	Check that no PIPOHD object has an attribute value for	11.6.3	E
	VERDAT without an attribute value for VERCLR.		
1712			
1713			
1714		11.7.1 and 6.2.2	₩
	the attribute CATOBS also has a value of (4) for the		
	attribute STATUS.		
1715			
1716			1
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1718			
1/10			
4740			
1719			
1720			
1721			
	Oh saluthat any manifesticual aid any issue at abisetic		14/
1722	Check that any navigational aid equipment object is a	JENIO EO NI 4 O 4 O 6 O 4	W
	slave to a navigational aid structure object or another	IENC EG N.1, O.1, O.2, O.4,	
	navigational aid equipment object.	P.1, Q.1	
	When two objects (including one DAYMAR) contained in		
	the list of structure objects are part of the navigational		
	aid, then the DAYMAR object must be considered as an		
1	equipment object.		
	NOTE: CRANES, FLODOC, HULKES, hulkes, PONTON,		
	pontoon, OBSTRN, PYLONS, SILTNK and WRECKS		
	objects must be considered as possible structure objects,		
	in addition to the list given in Annex A (12.1.1) of S-57.		
	Only one object can be coded as master in a		
	master/slave relation.		
1723	Check that all point objects comprising a navigational aid		Е
	are pointing to the same point spatial object.	IENC EG N.1, O.1, O.2, O.4,	
		P.1, Q.1	
1724	Check that no navigational aid equipment object contains		W
	a value for OBJNAM equivalent to the OBJNAM value of	IENC EG O.1, O.2, O.4, P.1	
	the master object.		
1725			
1726	Check that the entire area of the data set is covered by		Е
	one or more m nsys objects, with a value for the attribute	IENC EG C.1.3	_
	marsys indicating the buoyage system in operation.	12110 20 0.1.0	
1727	Check that no m_nsys object overlaps any other m_nsys		Е
1121	object.	IENC EG C.1.3	_
1728	object.	ILINO EO C.1.5	
1120			
1729	Check for any geo object forming part of a navigational		W
	aid (buoy or beacon), that the combination of	IENC EG C.1.3	
	characteristics for structure, topmark and lights conforms		
	to CEVNI, Russian inland waterway regulatios or the		
	IALA system being used (given in marsys or MARSYS of		
	the geo object or, if not encoded, in marsys of the meta-		
	object m_nsys).		
	This check must not be applied to objects having a value		
	of (9) [no system] or (10) [other system] for the attribute		
	MARSYS, and to slave objects if the master object has a		
	value of (9) [no system] or (10) [other system] for the		
	attribute MARSYS.		
	Optional attributes may be either encoded or undefined.		
	Mandatory attributes must be encoded with explicit		
1	values (i.e. not "unknown").		

	T		
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1737			
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1739			
1740			
1741			
1742			
1743	Check that no Buoy object contains a value for the		Е
	attribute marsys that is identical to the value for marsys	IENC EG O.1	_
	within the object m_nsys that covers the Buoy object.		
1744	, = , , ,		
1745			
1746			
1747			
1748			
1749			
1750			
1751	Check that no LIGHTS object has a value for ORIENT		E
1731	without a value of (1) [directional function] for CATLIT.	IENC EG N.1	
1752	Check that no LIGHTS object with a value of (1) [fixed]	IENO EO IV. I	E
1732	for LITCHR contains the attributes SIGGRP, SIGPER	IENC EG N.1	_
	and SIGSEQ.	IENO EO IV. I	
1753	Check that no LIGHTS object has an attribute value for	12.8.1	E
1700	VERDAT without an attribute value for HEIGHT.	12.0.1	_
1754	VERBALL MAINEAGUA CALLEGA COLLEGA COLL		
1755			
1756	Check that no LIGHTS object having a value of (4)		Е
1700	[leading light] for the attribute CATLIT has a value for	IENC EG N.1	_
	ORIENT, unless CATLIT also contains a value of (1)	12110 20 11.1	
	[directional function].		
1757	Land Carrott of the Carrotter of the Car		
1758			
1759			
1760			
1761			
1762			
	Check that the Relationship Indicator [RIND] subfield of	15 and Appendix B.1 (3.9)	Е
1703	the Feature Record to Feature object Pointer [FFPT] field		
	for any C_ASSO or C_AGGR object is set to (3) [peer].		
1764	Check that no permanent object with a value of (1)	logical	E
1704	[permanent] for the attribute STATUS has PERSTA	consistency	
	and/or PEREND encoded.	Consistency	
1765	and of 1 EILEND OHOOGOG.		
1766	Check for any attribute PICREP, TXTDSC and NTXTDS		Е
1700	that the attribute value only contains one file name.	IENC EG B	-
1767	and the attribute value only contains one me name.	ILINO LO D	
1768		5.3	W
1769		ა.ა	V V
1709			

1771	Check	for an	v eda	e which	h is s	hared	hv a [DEPCNT	-				W
1771								AL2), bu		Logica	al cons	istency	"
	by no li	by no line DEPARE, that:										·	
			of DR										
	 (Minimum value of DRVAL1), and (Minimum value of DRVAL2) = VALDCO ≥ (Maximum value of DRVAL1). 												
772	(17)	aximun	n value	OI DR	VALI).								+
773													
774													+
775	Check	for any	equipn	nent ob	ject (se	e UO	C 12.1.1) which					W
	is situa									ENC E	G N.1,	O.1, O.2	
				onal aid				or					
				ne spat									
				(ES, LN	IDARE	, PON	TON or						
		LONS		or a line C	ы ОП) oblo	P4 C0	VIV/VD					
				E, DAM									
				FLODO									
				HD, pip									
	slo	ons or	SLCO	NS obje	ect.								
776	Check												W
	LITCH		oded v	vith the	corres	pondir	ig value	for		IEN	NC EG	N.1	
	SIGGRP:												
	• LITCHR = 7 [isophase], then SIGGRP = (1)												
	LITCHR = 9 [interrupted quick-flashing], then SIGGRP = ()												
777	Check			nters of	f anv c	ollectio	n obiec	t in a					W
	cell refe				. ,								
	objects	that ex	ist in th	nat cell.									
778													
770	01 1			EDADE	1. 1	. l	ND) / A L /						-
779	Check to DRV		area D	EPARE	= objec	t nas L)RVAL1	equai		IENI	C E C I	1 and	E
	IO DKV	ALZ.								IENC EG I.1 and logical			
										CC	nsiste		
780												,	
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	1.1.2.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1		T
	object as slave, has a value of (33) [light support] for the attribute FUNCTN.		
1782	attribute Fonctiv.		
	Check that no object of type Area with:	logical	W
1700	- WATLEV = 4 [covers and uncovers] overlaps a	consistency	V V
	DEPARE or depare object with DRVAL1 >= 0.	consistency	
	- WATLEV = 5 [awash] overlaps a DEPARE or		
	depare object with DRVAL1 > 0.		
1784	Check for any spatial object that no attribute HORDAT,	logical	W
	POSACC, or QUAPOS is populated with a missing value	consistency	''
	(unknown).	33.13.313.13)	
1785			
	Check that any objects of type Area with WATLEV = 2	logical	W
1700	[always dry] are	consistency	''
	covered by LNDARE objects of type Area.	conclusionary	
1787	Check for any objects NAVLNE and RECTRC sharing an	logical	W
1707	edge that they	consistency	V V
	have the same or reciprocal attribute value for ORIENT.	consistency	
1788	Check that when one object NAVLNE and one object		W
1700	RECTRC share an	Logical consistency	V V
	edge, they belong to the same C_AGGR object.	Logical consistency	
1789	Check for any object NAVLNE and RECTRC of type	Logical	W
1703	Line with a value for ORIENT encoded, that the	consistency	V V
	orientation of the spatial	consistency	
	geometry is consistent (i.e. deviation less than 5		
	degrees) with the attribute		
	value (or the reciprocal value) encoded in ORIENT.		
1790	Check for any LIGHTS having ORIENT encoded with an		W
1730	explicit value, that:	Logical consistency	V V
	SECTR1 and SECTR2 are not populated, or	Logical consistency	
	• it is not aggregated to a RECTRC or a NAVLNE in a		
	collection object		
	C_AGGR, or		
	• the structure object which is the master of this LIGHTS		
	in a		
	master/slave relationship is not aggregated to a RECTRC		
	or a NAVLNE		
	in a collection object C_AGGR.		
1791	Check for any NAVLNE having CATNAV = 3 [leading line	Logical	W
1751	bearing a	consistency	
	recommended track] that a RECTRC with CATTRK = 1	consistency	
	[based on a system of fixed marks] shares a part of the		
	line geometry used for the NAVLNE, and vice versa.		
1792	Check that no cell crosses the 180° meridian.	Encoding Bulletin EB18	W
1793	Chock that he con crosses the recommendant.	Encoding Ballotin EB 10	• • • •
	Check for any LIGHTS object having CATLIT = 1	Logical	W
1134	[directional function] and	consistency	V V
	which is a slave in a master/slave relationship, that the	CONSISTENCY	
	master object is not a		
	BOYCAR, BOYLAT, BOYSAW or BOYSPP.		
1705	Check for any master object in a master/slave	Logical	W
1130	relationship containing	consistency	VV
	temporal attribution (DATEND, DATSTA, PEREND,	Consistency	
	PERSTA) that its slave		
	objects also contain the same temporal attributes.		
1796	objects also contain the same temporal attributes.		
1796 1797	Chack that name of the following feeture chiest and goom	octric primitivo	-
1191	Check that none of the following feature object and geom	ieuic piiiiiuve	
Г.	lition 2.3.5 April 2013		1

	combinations, which do not display in inland ECDIS, are dataset: - bridge of type point; - DAMCON of type point; - PIPSOL of type point; - ROADWY of type point; - TUNNEL of type point.	present in the	
i1550	For any DEPARE with QUASOU=2 (depth unknown). Check that DRVAL1=UNKNOWN if the DEPARE is bounded by a COALNE, whose edges have attribute QUAPOS=4	IENC EG I.1.9	W
i1551	For any DEPARE with QUASOU=2 (depth unknown). Check that DRVAL1=0 if the DEPARE is bounded by a COALNE, whose edges have attribute QUAPOS not equal 4	IENC EG I.1.9	W
i1552	For any DEPARE with QUASOU=8 (reported), Check that at least one of DRVAL1 or DRVAL2 are encoded.	Logical consistency	E
i1553	Check that any curent feature has populated at least one of the velocity attributes: curvhw , curvlw , curvmw , curvow	Logical consistency	W
i1554	Check that any curent feature with geometric primitive = Area has a value for attribute direction of impact (dirimp)	IENC EG H.1.1	W
i1555	Check that any curent feature with geometric primitive = Point has a value for attribute ORIENT	IENC EG H.1.1	W
i1556	Check that if feature curent has water level name attribute entered then the corresponding velocity attribute must also be encoded: hignam must have curvhw lownam must have curvlw meanam must have curvmw othnam must have curvow	IENC EG H.1.1	Е

2.5 Checks relating to allowable attribute values for particular object classes

2000		for any object that attributes only contain allowable		W
	values class.	listed in the following table for the given object	consistency	
	x-y-z	allowable values (alone or in a list)		
	*	all the pre-defined attribute values as listed in the IENC Feature Catalogue are allowed.		
	#	the attribute is mandatory, and the missing value (Unknown) is allowed.		
	(#)	the attribute is mandatory, but the missing value (Unknown) is prohibited (no logical sense).		

Attribute	Object Class code Allowable attribute values		Allowable attribute values
BCNSHP		2	(1,2,3,4,5)

	BCNISD	6	* #
	BCNLAT	7	1,5 #
	bcnlat	17028	1,5 #
-	•	•	
BOYSHP		4	(1,2,3,4,5,6,8)
	BOYCAR	14	*#
	BOYISD	16	4,5 #
	BOYLAT	17	* #
	BOYSAW	18	*#
	BOYSPP	19	*#
	boylat	17029	* #
BURDEP		5	numerical, 1 decimal digit
	TUNNEL	151	*
CATAIR		7	(1,2,4,6)
	AIRARE	2	*
CATBRG		9	(1,3,4,5,9,12)
	bridge	17011	* #
	1		<u></u>
CATBUA		10	(1,2,3,4,5)
	BUAARE	13	*
		1	Tu a a n
CATCAM		13	(1,2,3,4)
	BOYCAR	14	* #
0.4705			(4.0.4.5.0)
CATCBL	00: 45=	11	(1,3,4,5,6)
	CBLARE	20	* *
	CBLSUB	22	
CATCOA		145	(4.2.2.4.5.6.7.0.0.40.44)
CATCOA	COALNE	15	(1,2,3,4,5,6,7,8,9,10,11)
	COALNE	30	
CATCON		17	(2)
CATCON	CONVYR	34	(2) * #
		17034	# * #
	convyr	17004	п
CATCOV		18	(1,2)
OATOOV	M_COVR	302	* (#)
	I III OO AIK	1002	\" <i>I</i>
CATCRN		19	(2,3,4,5)
S/ (TOI(IV	CRANES	35	\(\(\cdots \cdo
	cranes	17030	*
	Cianes	17000	
CATDAM		20	(1,2,3)
O/ (1 D/\(\v)	DAMCON	38	* #
	DANICON	100	, n
CATDIS		21	(1,2,3,4)
5/(1510	dismar	17004	*#
I	uisiliai	17004	П

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CATDDO		100	(2.4.5)
CATDPG		23	(2,4,5)
	DMPGRD	48	* #
CATFNC		24	(1,4)
	FNCLNE	52	*#
		L	
CATFOG		27	(1,2,3,4,5,6,7,8,9,10)
0/11/00	FOGSIG	58	* #
	FOGSIG	30	#
OATED)/		0.5	(4.0)
CATFRY		25	(1,2)
	FERYRT	53	*#
CATGAT		29	(2,4)
	GATCON	61	4#
	gatcon	17031	*#
	gatoon	117001	
CATHAF		30	(5)
CATTAL	UDDE 40	64	(5) *#
	HRBFAC	04	#
0.4711111		16:	1(4.0.0.4.5)
CATHLK		31	(1,2,3,4,5)
	HULKES	65	*#
CATLAM		36	(1,2,3,4)
	BCNLAT	7	*#
	BOYLAT	17	*#
	JOILAI	1 * *	"
CATLIT		37	(1 / 12 13 1/ 15)
CATLIT	LICUTO		(1,4,12,13,14,15)
	LIGHTS	75	
		1	14.00.4.7.07.00.40.40.40.40.40.40.40.40.40.40.40.40.
CATLMK		35	(1.2.3.4.5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21)
	LNDMRK	74	*#
CATMFA		38	(1,2,3,4)
	MARCUL	82	*#
		1	1
CATMOR		40	(1,3, 5,7)
3/11/011	MORFAC	84	* #
	INICINI AC	04	π
CATNIAN		144	(4.2.2)
CATNAV	NIA 2 // 2 / -	41	(1,2,3)
	NAVLNE	85	<u> </u>
Γ <u>-</u>		1	T
CATOBS		42	(1,2,3,4,5,6,7,8,9,10)
	OBSTRN	86	*
CATOLB		44	(1,2)
	OILBAR	89	*
	JILDAN	100	
CATPIP		17	(2.2.4.6)
CATPIP	DIDADE	47	(2,3,4,6)
	PIPARE	92	i i
	PIPSOL	94	*
	pipohd	17024	* #
			· · · · · · · · · · · · · · · · · · ·

CATPRA		48	(1,2,3,4,5,6,7,8,9,10)
	PRDARE	97	*
		<u> </u>	
CATPYL		49	(1,2,3,4,5)
	PYLONS	98	*#
CATRAS		51	(1)
	RADSTA	102	* #
CATREA		56	(4,5,9,12,19,22,23,25,26)
	RESARE	112	12
	resare	17005	*
CATROD		57	(1,2,3,4)
	ROADWY	116	*#
CATRTB		52	(1,2,3)
	RTPBCN	103	* #
0.4707.		150	1(40.54.50)
CATSEA		59	(13,51,53)
	SEAARE	119	*
0.470		100	14,000
CATSIL	· · · ·	63	(1,2,3,4)
	SILTNK	125	*
047005	<u> </u>	los	[4 00]
CATSCF	0110510	65	(1 – 33)
	SMCFAC	128	<u></u>
CATSLC		60	(4.2.4.5.6.7.0.0.40.44.42.42.44.45.46)
CATSLC	SLCONS	122	(1,2,4,5,6,7,8,9,10,11,12,13,14,15,16)
	SECONS	122	#
CATSLO		64	(2,3,6)
OATOLO		04	(2,0,0)
	SLOGRD	127	2,3 #
	SLOTOP	126	*#
	OLOTOI	120	l II
CATSPM		66	(6,10,12,37,39,41,45,50,54,55)
67 TT 61 TT	BOYSPP	19	*#
	1 = = . •	1."	
CATTRK		54	(1,2)
	RECTRC	109	*#
L		1	•
CATTSS		67	(1,2)
	TSEZNE	150	*#
	•		
CATVEG		68	(6,13)
	VEGATN	155	*#
	•		
CATWRK		71	(1,2,3,4,5)
	WRECKS	159	*#
	·		
CATZOC		72	(1,2,3,4,5,6)
	M_QUAL	308	*
	~ ~		

COLOUR		75	(1,2,3,4,5,6,7,8,9,10,11,12,13)
	BCNISD	6	(2,3) #
	BCNLAT	7	* #
	BOYCAR	14	*#
	BOYISD	16	(2,3) #
	BOYLAT	17	* #
	BOYSAW	18	* #
	BOYSPP	19	* #
	DAYMAR	39	* #
	LIGHTS	75	* #
	TOPMAR	144	* #
	bcnlat	17028	* #
	boylat	17029	* #
	daymar	17035	* #
		•	•
COLPAT		76	(1,2,3,4,5,6)
	BCNISD	6	1#
	BCNLAT	7	*

COLPAT		76	(1,2,3,4,5,6)
	BCNISD	6	1#
	BCNLAT	7	*
	BOYCAR	14	*
	BOYISD	16	1#
	BOYLAT	17	*
	BOYSAW	18	* #
	BOYSPP	19	*
	DAYMAR	39	*
	TOPMAR	144	*
	bcnlat	17028	*
	boylat	17029	*
	daymar	17035	*

COMCHA		77	free text
	comare	17055	* #
	rdocal	17017	*#

CONDTN		81	(1,2,3,4,5)	
	ADMARE	1	3	
	AIRARE	2	1,2,3,5	
	BCNISD	6	1,2,3,5	
	BCNLAT	7	1,2,3,5	
	BUAARE	13	1,2,3,5	
	BUISGL	12	*	
	CBLARE	20	1,2,3,5	
	CONVYR	34	1,2,3,5	
	CRANES	35	1,2,3,5	
	DAMCON	38	1,2,3,5	
	DAYMAR	39	1,2,3,5	
	DRYDOC	47	1,2,3,5	
	DYKCON	49	1,2,3,5	
	FLODOC	57	1,2,3,5	
	FNCLNE	52	1,2,3,5	
	FRPARE	60	1,2,3,5	
	GATCON	61	1,2,3,5	
	HRBFAC	64	1,2,3,5	
	HULKES	65	1,2,3,5	
	LIGHTS	75	1,2,3,5	
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	wtwgag	17067	1,2,3,5
	vehtrf	17069	1,2,3,5
	termnl	17064	1,2,3,5
	sistaw	17008	1,2,3,5
	sistat	17007	1,2,3,5
	slcons	17032	1,2,3,5
	refdmp	17062	1,2,3,5
	prtare	17059	1,2,3,5
	ponton	17021	1,2,3,5
	pipohd	17024	1,2,3,5
	notmrk	17050	1,2,3,5
			1
	lokbsn	17016	1,2,3,5
	Ikbspt	17058	1,2,3,5
	hulkes	17020	1,2,3,5
	hrbfac	17015	1,2,3,5
	hrbbsn	17056	1,2,3,5
	hrbare	17014	1,2,3,5
	gatcon	17031	1,2,3,5
	flodoc	17025	1,2,3,5
	excnst	17070	1,2,3,5
	daymar	17035	1,2,3,5
	cranes	17030	1,2,3,5
	convyr	17034	1,2,3,5
	cblohd	17012	1,2,3,5
	bunsta	17054	1,2,3,5
	bridge	17011	1,2,3,5
	bcnlat	17028	1,2,3,5
	TUNNEL	151	1,2,3,5
	TOPMAR	144	1,2,3,5
	SMCFAC	128	1,2,3,5
	SLOTOP	126	1,2,3,5
	SLCONS	122	1,2,3,5
	SILTNK	125	1,2,3,5
	SEAARE	119	1,2,3,5
	RTPBCN	103	1,2,3,5
	ROADWY	116	1,2,3,5
	RAILWY	106	1,2,3,5
	PYLONS	98	1,2,3,5
	PRDARE	97	1,2,3,5
	PONTON	95	1,2,3,5
	PIPSOL	94	1,2,3,5
	PIPARE	92	1,2,3,5
	PILPNT	90	1,2,3,5
	MORFAC	84	1,2,3,5
	LNDRGN	73	1,2,3,5
	LNDMRK	74	*

CONRAD		82	(3)
	BCNISD	6	*
	BOYCAR	14	*
	BOYISD	16	*
	BOYLAT	17	*

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	BOYSAW	18	*
	BOYSPP	19	*
	boylat	17029	*
CONVIS		83	(1,2)
	BUISGL	12	*
	LNDMRK	74	*#
	PRDARE	97	*
	VEGATN	155	*
	•	•	
DATEND		85	numerical (CCYYMMDD)
	ADMARE	1	*
	AIRARE	2	*
	BCNISD	6	*
	BCNLAT	7	*
	BOYCAR	14	*
	BOYISD	16	*
	BOYLAT	17	*
	BOYSAW	18	*
	BOYSPP	19	*
	BUAARE	13	*
	BUISGL	12	*
	CANALS	23	*
	CBLARE	20	*
	CBLSUB	22	*
	COALNE	30	*
	CONVYR	34	*
	CRANES	35	*
	CTNARE	27	*
	DAMCON	38	*
	DAYMAR	39	*
	DEPARE	42	Attribute deleted for this object class
	DEPCNT	43	*
	DRGARE	46	Attribute deleted for this object class
	DRYDOC	47	*
	DYKCON	49	*
	FAIRWY	51	*
	FERYRT	53	*
	FLODOC	57	Attribute deleted for this object class
	FNCLNE	52	*
	FOGSIG	58	*
	FRPARE	60	*
	GATCON	61	*
	HRBFAC	64	*
	HULKES	65	Attribute deleted for this object class
	LAKARE	69	*
	LIGHTS	75	*
	LNDARE	71	Attribute deleted for this object class
	LNDMRK	74	*
	LNDRGN	73	*
	MARCUL	82	*
	MORFAC	84	*
		85	*
	NAVLNE	υυ	

OBSTRN

86

	PONTON	95	Attribute deleted for this object class
	PRDARE	97	*
	PYLONS	98	*
	RADSTA	102	*
	RAILWY	106	*
	RECTRC	109	*
	RESARE	112	*
	RIVERS	114	*
	ROADWY	116	*
	RSCSTA	111	*
	RTPBCN	103	*
	SEAARE	119	*
	SILTNK	125	*
	SLCONS	122	*
	SLOGRD	127	*
	SLOTOP	126	*
	SMCFAC	128	*
	SOUNDG	129	*
	TOPMAR	144	*
	TSEZNE	150	*
	TUNNEL	151	*
	TWRTPT	152	*
	UWTROC	153	*
	VEGATN	155 159	*
	WRECKS	17001	*
	achare achbrt	17001	*
	bcnlat	17000	*
	berths	17028	*
	bridge	17010	*
	boylat	17011	*
	bunsta	17054	*
	cblohd	17012	*
	chkpnt	17027	*
	comare	17055	*
	convyr	17034	*
	cranes	17030	*
	curent	17019	*
	depare	17003	Attribute deleted for this object class
	daymar	17035	*
	dismar	17004	*
	excnst	17070	*
	feryrt	17013	*
	flodoc	17025	*
	gatcon	17031	*
	hrbare	17014	*
	hrbbsn	17056	*
	hrbfac	17015	*
	hulkes	17020	*
1	lg_sdm	18001	

lg_vsp	18002	*
lkbspt	17028	*
lokbsn	17016	*
notmrk	17050	*
pipohd	17024	*
ponton	17021	*
prtare	17059	*
rdocal	17017	*
refdmp	17062	*
resare	17005	*
sistat	17007	*
sistaw	17008	*
slcons	17032	*
termnl	17064	*
trnbsn	17065	*
uwtroc	17033	*
vehtrf	17069	*
wtware	17066	*
wtwaxs	17051	*
wtwgag	17067	*
wtwprf	17052	*

DATSTA		86	numerical (CCYYMMDD)
	ADMARE	1	*
	AIRARE	2	*
	BCNISD	6	*
	BCNLAT	7	*
	BOYCAR	14	*
	BOYISD	16	*
	BOYLAT	17	*
	BOYSAW	18	*
	BOYSPP	19	*
	BUAARE	13	*
	BUISGL	12	*
	CANALS	23	*
	CBLARE	20	*
	CBLSUB	22	*
	COALNE	30	*
	CONVYR	34	*
	CRANES	35	*
	CTNARE	27	*
	DAMCON	38	*
	DAYMAR	39	*
	DEPARE	42	Attribute deleted for this object class
	DEPCNT	43	*
	DRGARE	46	Attribute deleted for this object class
	DRYDOC	47	*
	DYKCON	49	*
	FAIRWY	51	*
	FERYRT	53	*
	FLODOC	57	Attribute deleted for this object class
	FNCLNE	52	*
	FOGSIG	58	*
	FRPARE	60	*

GATCON	61	*
HRBFAC	64	*
HULKES	65	Attribute deleted for this object class
LAKARE	69	*
LIGHTS	75	*
LNDARE	71	Attribute deleted for this object class
LNDMRK	74	*
LNDRGN	73	*
MARCUL	82	*
MORFAC	84	*
NAVLNE	85	*
OBSTRN	86	*
OILBAR	89	*
PILPNT	90	*
PIPARE	92	*
PIPSOL	94	*
PONTON	95	Attribute deleted for this object class
PRDARE	97	*
PYLONS	98	*
RADSTA	102	*
RAILWY	102	*
RECTRC	100	*
RESARE	112	*
	114	*
RIVERS		*
ROADWY	116	*
RSCSTA	111	*
RTPBCN	103	*
SEAARE	119	*
SILTNK	125	*
SLCONS	122	*
SLOGRD	127	*
SLOTOP	126	*
SMCFAC	128	*
SOUNDG	129	*
TOPMAR	144	
TSEZNE	150	*
TUNNEL	151	
TWRTPT	152	*
UWTROC	153	*
VEGATN	155	*
WRECKS	159	*
achare	17001	*
achbrt	17000	
bcnlat	17028	*
berths	17010	*
boylat	17029	*
bridge	17011	*
bunsta	17054	*
cblohd	17012	*
chkpnt	17027	*
comare	17055	*
convyr	17034	*
 cranes	17030	*
curent	17019	*

depare	17003	Attribute deleted for this object class
dayma	r 17035	*
dismar	17004	*
excnst	17070	*
feryrt	17013	*
flodoc	17025	*
gatcon	17031	*
hrbare	17014	*
hrbbsn	17056	*
hrbfac	17015	*
hulkes	17020	*
lg_sdm		*
lg_vsp	18002	*
Ikbspt	17028	*
lokbsn		*
notmrk	17050	*
pipohd		*
ponton		*
prtare	17059	*
rdocal	17017	*
refdmp		*
resare	17005	*
sistat	17007	*
sistaw	17008	*
slcons		*
termnl	17064	*
trnbsn		*
uwtroc		*
vehtrf	17069	*
wtware		*
wtwaxs		*
wtwga		*
wtwprf	17052	*

DRVAL1		87	numerical, 2 decimal digits
	DEPARE	42	* #
	DRGARE	46	*
	DRYDOC	47	*
	FLODOC	57	*
	M_QUAL	308	*
	RECTRC	109	*
	berths	17010	*
	depare	17003	* #
	excnst	17070	* #
	flodoc	17025	*

DRVAL2		88	Numerical, 2 decimal digits
	DEPARE	42	* #
	RECTRC	109	*
	depare	17003	* #

ELEVAT		90	numerical, 2 decimal digits
	wtwgag	17067	*

EVOLIT		100	(4.0.0.4)
EXCLIT	1.101.170	92	(1,2,3,4)
	LIGHTS	75	, and the second
EVECUL		100	(4.0.0)
EXPSOU	****	93	(1,2,3)
	MARCUL	82	^
FUNCTAL		104	(0. 40)
FUNCTN		94	(2 – 42)
	BUISGL	12	*
	LNDMRK	74	^
LIEIOLIE		105	
HEIGHT	D)///0011	95	numerical, 2 decimal digits
	DYKCON	49	
	vehtrf	17069	* #
	wtwprf	17052	, and the second
LIODOLD		100	Land Coll Official Para
HORCLR	DDVDCC	98	numerical, 2 decimal digits
	DRYDOC	47	* *
	FLODOC	57	*
	GATCON	61	^# *
	TUNNEL	151	* *
	bridge	17011	*
	flodoc	17025	
	gatcon	17031	* #
	trnbsn	17065	^
LIODIEN		100	Land Carl O. La Carl L. Park
HORLEN	DD\/D00	99	numerical, 2 decimal digits
	DRYDOC	47	*
	FLODOC	57	*
	flodoc	17025	*
	hrbbsn	17056	*
	Ikbspt	17058	*
	lokbsn	17016	
HORWID		100	numerical, 2 decimal digits
HOKWID	DRYDOC	100 47	*
	FLODOC	57	*
	flodoc	17025	*
	hrbbsn	17025	*
	Ikbspt	17058	*
	lokbsn	17016	*
<u></u>	IONDOIL	1.7010	
INFORM		102	free text
51111	ADMARE	1	*
	AIRARE	2	*
	BCNISD	6	*
	BCNLAT	7	*
	BOYCAR	14	*
	BOYISD	16	*
	BOYLAT	17	*
	BOYSAW	18	*
	BOYSPP	19	*
	BUAARE	13	*
	BUISGL	12	*
	CANALS	23	*
L		1	I

	TUNNEL	151	* April 2012 Edition 2.2.5
	TSEZNE	150	
	TOPMAR	144	*
	SMCFAC	128	*
	SLOTOP	126	*
	SLOGRD		*
	SLCONS	122	*
	SILTNK	125 122	*
	SEAARE	119	*
	RTPBCN	103	*
	RSCSTA	111	*
	ROADWY	116	*
	RIVERS	114	*
	RESARE	112	*
	RECTRC	109	*
	RAILWY	106	*
	RADSTA	102	*
	PYLONS	98	*
	PRDARE	97	*
	PONTON	95	*
	PIPSOL	94	*
	PIPARE	92	*
	PILPNT	90	*
	OILBAR	89	*
	OBSTRN	86	*
	NAVLNE	85	*
	MORFAC	84	*
	MARCUL	82	*
	LNDRGN	73	*
	LNDMRK	74	*
	LNDARE	71	*
	LIGHTS	75	*
	LAKARE	69	*
	HULKES	65	*
	HRBFAC	64	*
	GATCON	61	*
	FRPARE	60	*
	FOGSIG	58	*
	FNCLNE	52	*
	FLODOC	57	*
	FERYRT	53	*
	FAIRWY	51	*
	DYKCON	49	*
	DRYDOC	47	*
	DMPGRD	48	*
	DEPARE	42	*
	DAYMAR	39	*
	DAMCON	38	*
	CTNARE	27	* #
	CRANES	35	*
	CONVYR	34	*
	COALNE	30	*
	CBLSUB	22	*
I	CBLARE	20	*

Т	WRTPT	152	*
	INSARE	154	*attribute deleted for this object class
	JWTROC	153	*
	EGATN	155	*
	VRECKS	159	*
	_AGGR	400	*
	C_ASSO	401	*
	chare	17001	*
	chbrt	17000	*
	cnlat	17028	*
	erths	17010	*
	oylat	17029	*
	ridge	17011	*
	ounsta	17054	*
	blohd	17012	*
	hkpnt	17012	*
	omare	17027	*
		17033	*
	onvyr	17034	*
	ranes	17030	*
	urent		*
	laymar	17035	*
	lismar	17004	*
	xcnst	17070	*
	eryrt	17013	*
	lodoc	17025	*
	atcon	17031	*
	rbare	17014	*
	rbbsn	17056	
	rbfac	17015	*
	ulkes	17020	*
	kbspt	17058	*
	okbsn	17016	*
	otmrk	17050	*
	ipohd	17024	*
	onton	17021	*
	rtare	17059	*
	docal	17017	*
	efdmp	17062	*
	esare	17005	*
	istat	17007	*
	istaw	17008	*
	lcons	17032	*
te	ermnl	17064	*
tı	rnbsn	17065	*
u	wtroc	17033	*
v	ehtrf	17069	*
w	vtware	17066	*
	vtwaxs	17051	*
	vtwgag	17067	*
	vtwprf	17052	*
	n_vdat	17023	*

JRSDTN		103	(1,2,3)
	ADMARE	1	* #

LITCHR		107	(4 2 2 4 7 0)
LITCHK	LICUTO	75	(1,2,3,4,7,9) * #
	LIGHTS	/5	#
LITVIC		100	(4)
LITVIS	LIGUE	108	(4)
	LIGHTS	75	<u> </u>
MADOVO	1	1400	(4.0)
MARSYS	DOVOAD	109	(1,2)
	BOYCAR	14	*
	BOYISD	16	*
	BOYLAT	17	* *
	BOYSAW	18	
	BOYSPP	19	*
MLTYLT		110	numerical, min = 2
	LIGHTS	75	*
	1	T	T
NATCON		112	(1,2,3,4,5,6,7,8,9)
	DAMCON	38	*
	MORFAC	84	*
	ROADWY	116	4,5
	SLCONS	122	*
	sicons	17032	*
			•
NATION		111	free text, 2 characters
	ADMARE	1	*#
	chkpnt	17027	*#
			•
NATSUR		113	(1,2,3,4,5,6,7,8,9,11,14,17,18)
	OBSTRN	86	9
	SLOGRD	127	*
	SLOTOP	126	*
	UWTROC	153	*
	achare	17001	*
	achbrt	16000	*
	resare	17005	*
	uwtroc	17033	*
1	1	1 222	
NINFOM		300	free text
	ADMARE	1	*
	AIRARE	2	*
	BCNISD	6	*
	BCNLAT	7	*
	BOYCAR	14	*
	BOYISD	16	*
	BOYLAT	17	*
	BOYSAW	18	*
<u> </u>	BOYSPP	19	*
	BUAARE	13	*
1		12	*
	BUISGL	23	*
1	LCANALS	123	
	CBLARE	20	*

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T		1.
CBLSUB	22	*
COALNE	30	*
CONVYR	34	*
CRANES	35	*
CTNARE	27	*
DAMCON	38	*
DAYMAR	39	*
DEPARE	42	*
DMPGRD	48	*
DRYDOC	47	*
DYKCON	49	*
FAIRWY	51	*
FERYRT	53	*
FLODOC	57	*
FNCLNE	52	*
FOGSIG	58	*
FRPARE	60	*
GATCON	61	*
	64	*
HRBFAC		*
HULKES LAKARE	65	*
	69	*
LIGHTS	75	*
LNDARE	71	*
LNDMRK	74	*
LNDRGN	73	
MARCUL	82	*
MORFAC	84	*
NAVLNE	85	*
OBSTRN	86	*
OILBAR	89	*
PILPNT	90	*
PIPARE	92	*
PIPSOL	94	*
PONTON	95	*
PRDARE	97	*
PYLONS	98	*
RADSTA	102	*
RAILWY	106	*
RECTRC	109	*
RESARE	112	*
RIVERS	114	*
ROADWY	116	*
RSCSTA	111	*
RTPBCN	103	*
SEAARE	119	*
SILTNK	125	*
SLCONS	122	*
SLOGRD	127	*
SLOTOP	126	*
SMCFAC	128	*
TOPMAR	144	*
TSEZNE	150	*
TUNNEL	151	*
TWRTPT	152	*
Edition 2.3.5		April 2013

UNSAR	RE 154	*attribute deleted for this object class
UWTRO		*
VEGAT		*
WRECI		*
		*
C_AGG		*
C_ASS		*
achare		*
achbrt	17000	*
bcnlat	17028 17010	*
berths		*
boylat	17029	*
bridge	17011	*
bunsta		*
cblohd		*
chkpnt		*
comare		*
convyr		*
cranes		*
curent	17019	*
dayma		
dismar		*
excnst		*
feryrt	17013	*
flodoc	17025	*
gatcon		*
hrbare	17014	*
hrbbsn		*
hrbfac	17015	*
hulkes	17020	*
Ikbspt	17058	*
lokbsn		*
notmrk		*
pipohd		*
ponton		*
prtare	17059	*
rdocal	17017	*
refdmp		*
resare	17005	*
sistat	17007	*
sistaw	17008	*
slcons		*
termnl	17064	*
trnbsn	17065	*
uwtroc		*
vehtrf	17069	*
wtware		*
wtwaxs		*
wtwgag		*
wtwprf		*
m_vda	t 17023	*

NOBJNM		301	free text
	ADMARE	1	*
	AIRARE	2	*

BCNIAT 7 - BOYCAR 14 - BOYSAW 18 - BOYSAW 18 - BOYSP 19 - BUSCI 12 - CANALS 23 - CBLARE 20 - CBLSUB 22 - COALINE 30 - CONVYR 34 - CRANES 35 - CTHARE 27 - DAMCON 38 Attribute deleted for this object class DAYMAR 39 - DRYDOC 47 - DYKCON 49 - FARRYY 51 - FERYRT 53 - FLODOC 57 - FOCINE 52 - FOOSIG 58 - FRARE 60 - GATCON 61 - HRBFAC 64 - HULKES 65 - LAKARE 69 - LIGHTS 75 - LNDARE 71 - LNDARE 72 - PIPSOL 94 - PIPSOL 97 - PYLONS 98 - RADSTA 102 - RAILWY 106 - RESTRE 112 - RIVERS 114 - ROADWY 116 - RSCSTA 111 - RTBCN 103 - ADMIZUIS	DONIOD		*
BOYCAR	BCNISD	6	
BOYLAN 14 BOYLAT 17 - BOYSAW 18 - BOYSAW 18 - BOYSAW 18 - BOYSPP 19 - BUAARE 13 - BUISGL 12 - CANALS 23 - CBLARE 20 - CALARE 20 - CALARE 30 - CONVYR 34 - CRANES 35 - CTHARE 27 - DAMCON 38 - Attribute deleted for this object class DAYMAR 39 - DAYMAR 39 - DAYMAR 39 - DAYMON 49 - FAIRWY 51 - FAIRWY 51 - FOSSIG 58 - FOSSIG 58 - FRARE 60 - GATCON 61 - HREFAC 64 - HULKES 65 - LAKARE 69 - LIGHTS 75 - LIDMRK 74 - LIDMRK 75 - LIDMRK 76 - DAYMON 35 - PILPNT 90 - PILP			
BOYSAW			
BOYSAW			
BOYSPP	BOYLAT		*
BUAARE	BOYSAW	18	*
BUISGL 12 * CANALS 23 * CBLARE 20 * CBLARE 20 * CBLARE 20 * CBLSUB 22 * COALNE 30 * CONVYR 34 * CRANES 35 * CTINARE 27 * DAMCON 38 Attribute deleted for this object class DAYMAR 39 * DMPGRD 48 * DRYDOC 47 * DWKCON 49 * FAIRWY 51 * FERYRT 53 * FLODOC 57 * FNCLNE 52 * FOGSIG 58 * FRPARE 60 * GATCON 61 * HRBFAC 64 * HULKES 65 * LAKARE 69 * LIGHTS 75 * LIDDARE 71 * CLICK 10 *	BOYSPP	19	*
CANALS 23 * GBLARE 20 * CBLSUB 22 * COALNE 30 * CONVYR 34 * CRANES 35 * CTNARE 27 * DAMCON 38 Attribute deleted for this object class DAYMAR 39 * DMPGRD 48 * DRYDOC 47 * DYKCON 49 * FARWY 51 * FERYRT 53 * FLODOC 57 * FNCLNE 52 * FOGSIG 58 * FRPARE 60 * GATCON 61 * HRBFAC 64 * HULKES 65 * LLKARE 69 * LIGHTS 75 * LNDARE 71 * LNDARE 85 * MARCUL 82 * MACUL 82 * MACUL 83 * MARCUL 82 * MACUL 84 * NAVLNE 85 * OBSTRN 86 * OILBAR 89 * PILPNT 90 * PILPNT	BUAARE	13	*
CANALS 23 * CBLARE 20 * CBLSUB 22 * COALNE 30 * CONVYR 34 * CRANES 35 * CTNARE 27 * DAMCON 38 Attribute deleted for this object class DAYMAR 39 * DMPGRD 48 * DRYDOC 47 * DYKCON 49 * FAIRWY 51 * FERYRT 53 * FLODOC 57 * FNCLNE 52 * FOGSIG 58 * FRPARE 60 * GATCON 61 * HRBFAC 64 * HULKES 65 * LLKARE 69 * LIGHTS 75 * LNDARE 71 * LNDMRK 74 * CNDMRACUL 82 * MARCUL 82 * MORFAC 84 * NAYLNE 85 * DBSTRN 86 * OBSTRN 99 * PILPNT 90 * PIPARE 92 * PIPSOL 94 * PONTON 95 * PROAD *	BUISGL	12	*
CBLARE 20 * CBLUB 22 * COALNE 30 * CONVYR 34 * * CRANES 35 * CTNARE 27 * * DAMCON 38 Attribute deleted for this object class DAYMAR 39 * * PARCON Attribute deleted for this object class DAYMAR 39 * * PARCON Attribute deleted for this object class DAYMAR 39 * PARCON Attribute deleted for this object class DAYMAR 39 * PARCON Attribute deleted for this object class DAYMAR 39 * PARCON Attribute deleted for this object class DAYMAR 39 * PARCON Attribute deleted for this object class DAYMAR Attribute deleted for this object class Attribute deleted for this object class DAYMAR DAYMAR Attribute deleted for this object class DAYMAR DAYMAR DAYMA		23	*
CBLSUB 22 *			*
COALNE 30 * CONYR 34 * CRANES 35 * CTNARE 27 * ADAMCON 38 Attribute deleted for this object class DAYMAR 39 * DAYMON 49 * DAYCON 49 * DAYC			*
CONVYR 34 * CRANES 35 * CTNARE 27 * DAMCON 38 Attribute deleted for this object class DAYMAR 39 * DMPGRD 48 * DRYDOC 47 * DYKCON 49 * FAIRWY 51 * FERYRT 53 * FLODOC 57 * FNCLNE 52 * FOGSIG 58 * FRPARE 60 * GATCON 61 * CHANES 65 * CHAN			*
CRANES 35 * CTNARE 27 * DAMCON 38 Attribute deleted for this object class DAYMAR 39 * DMPGRD 48 * DRYDOC 47 * DYKCON 49 * FAIRWY 51 * FERYRT 53 * FLODOC 57 * FNCLNE 52 * FOGSIG 58 * FRPARE 60 * GATCON 61 * HRBFAC 64 * HULKES 65 * LAKARE 69 * LIGHTS 75 * LNDARE 71 * LNDMRK 74 * LNDMRK 74 * LNDMRK 74 * LNDMRK 74 * CNDMRK 74 * CNDMR 85 * MARCUL 82 * MORFAC 84 * NAVLNE 85 * OBSTRN 86 * OILBAR 89 * PILPNT 90 * PIPARE 92 * PIPSOL 94 * PONTON 95 * PRDARE 97 * PYLONS 98 * RADSTA 102 * RACCORN 111 * RESCREA			*
CTNARE 27 * DAMCON 38 Attribute deleted for this object class			*
DAMCON 38			*
DAYMAR 39			Attribute deleted for this object class
DAYMAR 39			•
DRYDOC 47 *			
DYKCON			
FAIRWY 51 * FERYRT 53 * FERYRT 53 * FLODOC 57 * FNCLNE 52 * FOGSIG 58 * FRPARE 60 * GATCON 61 * FULL FOR FAIR FAIR FAIR FAIR FAIR FAIR FAIR FAI			
FERYRT			
FLODOC 57 *			
FNCLNE 52 * FOGSIG 58 * FRPARE 60 * GATCON 61 * HRBFAC 64 * HULKES 65 * LAKARE 69 * LIGHTS 75 * LNDARE 71 * LNDARE 71 * LNDRGN 73 * MARCUL 82 * MORFAC 84 * NAVINE 85 * OBSTRN 86 * OILBAR 89 * PILPNT 90 * PILPNT 90 * PIPARE 92 * PIPSOL 94 * PONTON 95 * PRDARE 97 * PYLONS 98 * RADSTA 102 * RAILWY 106 * RECTRC 109 * RESARE 112 * RIVERS 114 * ROADWY 116 * RSCSTA 111 * RTPBCN 103 *			
FOGSIG 58 FRPARE 60 * GATCON 61 * HRBFAC 64 * HULKES 65 * LAKARE 69 * LIGHTS 75 * LNDARE 71 * LNDARK 74 * LNDRGN 73 * MARCUL 82 * MORFAC 84 * NAVLNE 85 * OBSTRN 86 * OILBAR 89 * PILPNT 90 * PIPARE 92 * PIPSOL 94 * PONTON 95 * PRDARE 97 * PYLONS 98 * RADSTA 102 * RAILWY 106 * RECTRC 109 * RESARE 112 * RIVERS 114 * ROADWY 116 * RSCSTA 111 * RTPBCN 103 *			
FRPARE 60 * GATCON 61 * HRBFAC 64 * HULKES 65 * LAKARE 69 * LIGHTS 75 * LIGHTS 75 * LNDARE 71 * LNDMRK 74 * LNDMRK 73 * MARCUL 82 * MORFAC 84 * NAVLNE 85 * OBSTRN 86 * OILBAR 89 * PILPNT 90 * PIPARE 92 * PIPSOL 94 * PONTON 95 * PRDARE 97 * PYLONS 98 * RADSTA 102 * RAILWY 106 * RECTRC 109 * RESARE 112 * RIVERS 1114 * ROADDWY 1116 * RSCSTA 111 * RTPBCN 103 *			
GATCON 61 * HRBFAC 64 * HULKES 65 * LAKARE 69 * LIGHTS 75 * LNDARE 71 * LNDMRK 74 * LNDRGN 73 * MARCUL 82 * MORFAC 84 * NAVLNE 85 * OBSTRN 86 * OILBAR 89 * PILPNT 90 * PIPARE 92 * PIPSOL 94 * PONTON 95 * PRDARE 97 * PYLONS 98 * RADSTA 102 * RAILWY 106 * RECTRC 109 * RESARE 112 * RIVERS 1114 * ROADWY 116 * RSCSTA 111 * RTPBCN 103 *			
HRBFAC 64			
HULKES			
LAKARE 69 * LIGHTS 75 * LNDARE 71 * LNDMRK 74 * LNDRGN 73 * MARCUL 82 * MORFAC 84 * NAVLNE 85 * OBSTRN 86 * OILBAR 89 * PILPNT 90 * PIPARE 92 * PIPSOL 94 * PONTON 95 * PRDARE 97 * PYLONS 98 * RADSTA 102 * RAILWY 106 * RECTRC 109 * RESARE 112 * RIVERS 114 * ROADWY 116 * RSCSTA 111 * RTPBCN 103 *	HRBFAC		*
LIGHTS 75 * LNDARE 71 * LNDMRK 74 * LNDRGN 73 * MARCUL 82 * MORFAC 84 * NAVLNE 85 * OBSTRN 86 * OILBAR 89 * PILPNT 90 * PIPARE 92 * PIPSOL 94 * PONTON 95 * PRDARE 97 * PYLONS 98 * RADSTA 102 * RAILWY 106 * RECTRC 109 * RESARE 112 * RIVERS 114 * ROADWY 116 * RSCSTA 111 * RTPBCN 103 *	HULKES	65	*
LIGHTS 73 LNDARE 71 * LNDMRK 74 * LNDRGN 73 * MARCUL 82 * MORFAC 84 * NAVLNE 85 * OBSTRN 86 * OILBAR 89 * PILPNT 90 * PIPARE 92 * PIPSOL 94 * PONTON 95 * PRDARE 97 * PYLONS 98 * RADSTA 102 * RAILWY 106 * RECTRC 109 * RESARE 112 * RIVERS 114 * ROADWY 116 * RSCSTA 111 * RTPBCN 103 *	LAKARE	69	*
LNDMRK 74 * LNDRGN 73 * MARCUL 82 * MORFAC 84 * NAVLNE 85 * OBSTRN 86 * OILBAR 89 * PILPNT 90 * PIPARE 92 * PIPSOL 94 * PONTON 95 * PRDARE 97 * PYLONS 98 * RADSTA 102 * RAILWY 106 * RECTRC 109 * RESARE 112 * RIVERS 114 * ROADWY 116 * RSCSTA 111 * RTPBCN 103 *	LIGHTS	75	*
LNDMRN	LNDARE	71	*
MARCUL 82 *	LNDMRK	74	*
MARCUL 82	LNDRGN	73	*
MORFAC 84 * NAVLNE 85 * OBSTRN 86 * OILBAR 89 * PILPNT 90 * PIPARE 92 * PIPSOL 94 * PONTON 95 * PRDARE 97 * PYLONS 98 * RADSTA 102 * RAILWY 106 * RECTRC 109 * RESARE 112 * RIVERS 114 * ROADWY 116 * RSCSTA 111 * RTPBCN 103 *	MARCUL		*
NAVLNE			*
OBSTRN 86 * OILBAR 89 * PILPNT 90 * PIPARE 92 * PIPSOL 94 * PONTON 95 * PRDARE 97 * PYLONS 98 * RADSTA 102 * RAILWY 106 * RECTRC 109 * RESARE 112 * RIVERS 114 * ROADWY 116 * RSCSTA 111 * RTPBCN 103 *			*
OILBAR 89 * PILPNT 90 * PIPARE 92 * PIPSOL 94 * PONTON 95 * PRDARE 97 * PYLONS 98 * RADSTA 102 * RAILWY 106 * RECTRC 109 * RESARE 112 * RIVERS 114 * ROADWY 116 * RSCSTA 111 * RTPBCN 103 *			*
PILPNT 90 * PIPARE 92 * PIPSOL 94 * PONTON 95 * PRDARE 97 * PYLONS 98 * RADSTA 102 * RAILWY 106 * RECTRC 109 * RESARE 112 * RIVERS 114 * ROADWY 116 * RSCSTA 111 * RTPBCN 103 *			*
PIPARE 92 * PIPSOL 94 * PONTON 95 * PRDARE 97 * PYLONS 98 * RADSTA 102 * RAILWY 106 * RECTRC 109 * RESARE 112 * RIVERS 114 * ROADWY 116 * RSCSTA 111 * RTPBCN 103 *			*
PIPSOL 94 * PONTON 95 * PRDARE 97 * PYLONS 98 * RADSTA 102 * RAILWY 106 * RECTRC 109 * RESARE 112 * RIVERS 114 * ROADWY 116 * RSCSTA 111 * RTPBCN 103 *			*
PONTON 95 * PRDARE 97 * PYLONS 98 * RADSTA 102 * RAILWY 106 * RECTRC 109 * RESARE 112 * RIVERS 114 * ROADWY 116 * RSCSTA 111 * RTPBCN 103 *			*
PRDARE 97 * PYLONS 98 * RADSTA 102 * RAILWY 106 * RECTRC 109 * RESARE 112 * RIVERS 114 * ROADWY 116 * RSCSTA 111 * RTPBCN 103 *			*
PYLONS 98 * RADSTA 102 * RAILWY 106 * RECTRC 109 * RESARE 112 * RIVERS 114 * ROADWY 116 * RSCSTA 111 * RTPBCN 103 *			*
RADSTA 102 * RAILWY 106 * RECTRC 109 * RESARE 112 * RIVERS 114 * ROADWY 116 * RSCSTA 111 * RTPBCN 103 *			*
RAILWY 106 * RECTRC 109 * RESARE 112 * RIVERS 114 * ROADWY 116 * RSCSTA 111 * RTPBCN 103 *			
RECTRC 109 * RESARE 112 * RIVERS 114 * ROADWY 116 * RSCSTA 111 * RTPBCN 103 *			
RESARE 112 * RIVERS 114 * ROADWY 116 * RSCSTA 111 * RTPBCN 103 *			
RIVERS 114 * ROADWY 116 * RSCSTA 111 * RTPBCN 103 *			
ROADWY			
RSCSTA 111 * RTPBCN 103 *			
RTPBCN 103 *			
RIFBUN 103			
		103	

j l	uwtroc	17033	*
	trnbsn	17065	*
	termnl	17064	*
	slcons	17032	*
	sistaw	17008	*
	sistat	17007	*
	resare	17005	
	refdmp	17062	*
	rdocal	17017	*
	prtare	17059	*
	ponton	17021	*
	pipohd	17024	*
	notmrk	17050	*
	lokbsn	17016	*
	lkbspt	17058	*
	hulkes	17020	*
	hrbfac	17015	*
	hrbbsn	17056	*
	hrbare	17014	*
	gatcon	17031	*
	flodoc	17025	*
	feryrt	17013	*
	excnst	17070	Attribute deleted for this object class
	dismar	17004	*
	daymar	17035	*
	curent	17019	*
	cranes	17030	*
	convyr	17034	*
	comare	17055	*
	chkpnt	17027	*
	cblohd	17012	*
	bunsta	17054	*
	bridge	17011	*
	boylat	17029	*
	berths	17010	*
	bcnlat	17028	*
	achbrt	17000	*
	achare	17001	*
	C_ASSO	401	*
	C_AGGR	400	*
	WRECKS	159	*
	VEGATN	155	*
	UWTROC	153	*
	UNSARE	154	*
	TWRTPT	152	*
	TUNNEL	151	*
	TSEZNE	150	*
	TOPMAR	144	*
	SMCFAC	128	*
	SLOTOP	126	*
	SLOGRD	127	*
	SLCONS	122	*
	SILTNK	125	*
	SEAARE	119	*

vehtrf	17069	*
wtware	17066	*
wtwaxs	17051	*
wtwgag	17067	*
wtwprf	17052	*
m_vdat	17023	*attribute deleted for this object class

NTXTDS		304	free text
	RSCSTA	111	*
	C_AGGR	400	*
	C_ASSO	401	*
	feryrt	17013	*
	m_vdat	17023	*

OBJNAM		116	free text
	ADMARE	1	*#
	AIRARE	2	*
	BCNISD	6	*
	BCNLAT	7	*
	BOYCAR	14	*
	BOYISD	16	*
	BOYLAT	17	*
	BOYSAW	18	*
	BOYSPP	19	*
	BUAARE	13	*
	BUISGL	12	*
	CANALS	23	*
	CBLARE	20	*
	CBLSUB	22	*
	COALNE	30	*
	CONVYR	34	*
	CRANES	35	*
	CTNARE	27	*
	DAMCON	38	Attribute deleted for this object class
	DAYMAR	39	*
	DMPGRD	48	*
	DRYDOC	47	*
	DYKCON	49	*
	FAIRWY	51	*
	FERYRT	53	*
	FLODOC	57	*
	FNCLNE	52	*
	FOGSIG	58	*
	FRPARE	60	*
	GATCON	61	*
	HRBFAC	64	* #
	HULKES	65	*
	LAKARE	69	*
	LIGHTS	75	*
	LNDARE	71	*
	LNDMRK	74	*
	LNDRGN	73	* #
	MARCUL	82	*
	MORFAC	84	*

NAVI NE	0.5	*
NAVLNE	85	*
OBSTRN	86	*
OILBAR	89	*
PILPNT	90	*
PIPARE	92	
PIPSOL	94	*
PONTON	95	*
PRDARE	97	*
PYLONS	98	*
RADSTA	102	*
RAILWY	106	*
RECTRC	109	*
RESARE	112	*
RIVERS	114	*
ROADWY	116	*
RSCSTA	111	*
RTPBCN	103	*
SEAARE	119	*#
SILTNK	125	*
SLCONS	122	*
SLOGRD	127	*
SLOTOP	126	*
SMCFAC	128	*
TOPMAR	144	*
TSEZNE	150	*
TUNNEL	151	*
TWRTPT	152	*
UNSARE	154	*
UWTROC	153	*
VEGATN	155	*
WRECKS	159	*
C_AGGR	400	* #
C ASSO	401	*
achare	17001	*
achbrt	17000	*
bcnlat	17028	*
berths	17010	*
boylat	17010	*
bridge	17029	*
bunsta	17011	*
cblohd	17012	*
chkpnt	17012	*
comare	17055	*
convyr	17033	*
cranes	17034	*
curent	17030	*
daymar	17019	*
daymar	17004	*
excnst	17070	Attribute deleted for this object class
feryrt	17070	*
	17013	*
flodoc	17025	*
gatcon		*
hrbare	17014	*
hrbbsn	17056	April 2012 Edition 2.2.5

m_vdat	17023	*attribute deleted for this object class
wtwprf	17052	*
wtwgag	17067	*
wtwaxs	17051	* #
wtware	17066	*
vehtrf	17069	*
uwtroc	17033	*
trnbsn	17065	*
termnl	17064	*
slcons	17032	*
sistaw	17008	*
sistat	17007	*
resare	17005	*
refdmp	17062	*
rdocal	17017	*
prtare	17059	*
ponton	17021	*
pipohd	17024	*
notmrk	17050	*
lokbsn	17016	*
Ikbspt	17058	*
hulkes	17020	*
hrbfac	17015	*

ORIENT		117	numerical, 2 decimal digits
	LIGHTS	75	*
	NAVLNE	85	* #
	RECTRC	109	* #
	TWRTPT	152	* #
	curent	17019	*
	daymar	17035	*
	notmrk	17050	*
	rdocal	17017	*#

PEREND		118	numerical (CCYYMMDD)
	ADMARE	1	*
	AIRARE	2	*
	BCNISD	6	*
	BCNLAT	7	*
	BOYCAR	14	*
	BOYISD	16	*
	BOYLAT	17	*
	BOYSAW	18	*
	BOYSPP	19	*
	BUAARE	13	*
	BUISGL	12	*
	CANALS	23	*
	CBLARE	20	*
	CBLSUB	22	*
	COALNE	30	*
	CONVYR	34	*
	CRANES	35	*
	CTNARE	27	*
	DAMCON	38	*

DAYMAR	39	*
DEPARE	42	Attribute deleted for this object class
DEPCNT	43	*
DEFORT	46	Attribute deleted for this object class
DRYDOC	47	*
DYKCON	49	*
FAIRWY	51	*
FERYRT	53	*
FLODOC	57	Attribute deleted for this object class
FNCLNE	52	*
FOGSIG	58	*
FRPARE	60	*
GATCON	61	*
HRBFAC	64	*
HULKES	65	Attribute deleted for this object class
	69	*
LAKARE		*
LIGHTS LNDARE	75 71	
LNDMRK	74	Attribute deleted for this object class
		*
LNDRGN	73	*
MARCUL	82	*
MORFAC	84	*
NAVLNE	85	*
OBSTRN	86	*
OILBAR	89	*
PILPNT	90	*
PIPARE	92	*
PIPSOL	94	
PONTON	95	Attribute deleted for this object class
PRDARE	97	*
PYLONS	98	*
RADSTA	102	*
RAILWY	106	*
RECTRC	109	
RESARE	112	*
RIVERS	114	*
ROADWY	116	*
RSCSTA	111	*
RTPBCN	103	*
SEAARE	119	*
SILTNK	125	*
SLCONS	122	*
SLOGRD	127	*
SLOTOP	126	*
SMCFAC	128	*
SOUNDG	129	*
TOPMAR	144	*
TSEZNE	150	*
TUNNEL	151	*
TWRTPT	152	*
UNSARE	154	*attribute deleted for this object class
UWTROC	153	*
VEGATN	155	*
WRECKS	159	*

· · · · · · · · · · · · · · · · · · ·	17004	*
achare	17001	*
achbrt	17000	
bcnlat	17028	*
berths	17010	*
boylat	17029	*
bridge	17011	*
bunsta	17054	*
cblohd	17012	*
chkpnt	17027	*
comare	17055	*
convyr	17034	*
cranes	17030	*
curent	17019	*
daymar	17035	*
depare	17003	Attribute deleted for this object class
dismar	17004	*
excnst	17070	*
feryrt	17013	*
flodoc	17025	*
gatcon	17031	*
hrbare	17014	*
hrbbsn	17056	*
hrbfac	17015	*
hulkes	17020	*
lg_sdm	18001	*
lg_vsp	18002	*
Ikbspt	17058	*
lokbsn	17016	*
notmrk	17050	*
pipohd	17024	*
ponton	17021	*
prtare	17059	*
rdocal	17017	*
refdmp	17062	*
resare	17005	*
sistat	17007	*
sistaw	17008	*
slcons	17032	*
termnl	17064	*
trnbsn	17065	*
uwtroc	17033	*
vehtrf	17069	*
wtware	17066	*
wtware	17051	*
wtwaxs	17067	*
wtwgag	17052	*
m_vdat	17032 17023	*attribute deleted for this object class
m_vuat	17020	-attribute deleted for trils object class

PERSTA		119	numerical (CCYYMMDD)
	ADMARE	1	*
	AIRARE	2	*
	BCNISD	6	*
	BCNLAT	7	*
	BOYCAR	14	*

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150//05	140	*	1
BOYISD	16	* *	
BOYLAT	17	* *	
BOYSAW	18	*	
BOYSPP	19		
BUAARE	13	*	
BUISGL	12		
CANALS	23	*	
CBLARE	20	*	
CBLSUB	22	*	
COALNE	30	*	
CONVYR	34	*	
CRANES	35	*	
CTNARE	27	*	
DAMCON	38	*	
DAYMAR	39	*	
DEPARE	42	Attribute deleted for this object class	
DEPCNT	43	*	
DRGARE	46	Attribute deleted for this object class	
DRYDOC	47	*	
DYKCON	49	*	
FAIRWY	51	*	
FERYRT	53	*	
FLODOC	57	Attribute deleted for this object class	
FNCLNE	52	*	
FOGSIG	58	*	
FRPARE	60	*	
GATCON	61	*	
HRBFAC	64	*	
HULKES	65	Attribute deleted for this object class	
LAKARE	69	*	
LIGHTS	75	*	
LNDARE	71	Attribute deleted for this object class	
LNDMRK	74	*	
LNDRGN	73	*	
MARCUL	82	*	
MORFAC	84	*	
NAVLNE	85	*	
OBSTRN	86	*	
OILBAR	89	*	
PILPNT	90	*	
PIPARE	92	*	
PIPSOL	94	*	
PONTON	95	Attribute deleted for this object class	
PRDARE	97	*	
PYLONS	98	*	
RADSTA	102	*	
RAILWY	106	*	
RECTRC	109	*	
RESARE	112	*	
RIVERS	114	*	
ROADWY	116	*	
RSCSTA	111	*	
RTPBCN	103	*	
SEAARE	119	*	
		April 2013	Edition 2.3.5

		1.
SILTNK	125	*
SLCONS	122	*
SLOGRD	127	*
SLOTOP	126	*
SMCFAC	128	*
SOUNDG	129	*
TOPMAR	144	*
TSEZNE	150	*
TUNNEL	151	*
TWRTPT	152	*
UNSARE	154	*attribute deleted for this object class
UWTROC	153	*
VEGATN	155	*
WRECKS	159	*
achare	17001	*
		*
achbrt	17000	*
bcnlat	17028	*
berths	17010	*
boylat	17029	* *
bridge	17011	
bunsta	17054	*
cblohd	17012	*
chkpnt	17027	*
comare	17055	*
convyr	17034	*
cranes	17030	*
curent	17019	*
		*
daymar	17035	^
daymar depare	17035 17003	Attribute deleted for this object class
depare dismar	17003 17004	Attribute deleted for this object class
depare dismar excnst	17003	Attribute deleted for this object class *
depare dismar excnst feryrt	17003 17004 17070 17013	Attribute deleted for this object class * *
depare dismar excnst feryrt flodoc	17003 17004 17070 17013 17025	Attribute deleted for this object class * * *
depare dismar excnst feryrt flodoc gatcon	17003 17004 17070 17013 17025 17031	Attribute deleted for this object class * * * * *
depare dismar excnst feryrt flodoc gatcon hrbare	17003 17004 17070 17013 17025 17031 17014	Attribute deleted for this object class * * * * * * *
depare dismar excnst feryrt flodoc gatcon hrbare hrbbsn	17003 17004 17070 17013 17025 17031 17014 17056	Attribute deleted for this object class * * * * * * * * * * * *
depare dismar excnst feryrt flodoc gatcon hrbare hrbbsn hrbfac	17003 17004 17070 17013 17025 17031 17014 17056 17015	Attribute deleted for this object class * * * * * * * * * * * *
depare dismar excnst feryrt flodoc gatcon hrbare hrbbsn hrbfac hulkes	17003 17004 17070 17013 17025 17031 17014 17056 17015 17020	Attribute deleted for this object class * * * * * * * * * * * *
depare dismar excnst feryrt flodoc gatcon hrbare hrbbsn hrbfac hulkes lg_sdm	17003 17004 17070 17013 17025 17031 17014 17056 17015 17020 18001	Attribute deleted for this object class * * * * * * * * * * * *
depare dismar excnst feryrt flodoc gatcon hrbare hrbbsn hrbfac hulkes lg_sdm lg_vsp	17003 17004 17070 17013 17025 17031 17014 17056 17015 17020 18001 18002	Attribute deleted for this object class * * * * * * * * * * * *
depare dismar excnst feryrt flodoc gatcon hrbare hrbbsn hrbfac hulkes lg_sdm lg_vsp lkbspt	17003 17004 17070 17013 17025 17031 17014 17056 17015 17020 18001 18002 17058	Attribute deleted for this object class * * * * * * * * * * * *
depare dismar excnst feryrt flodoc gatcon hrbare hrbbsn hrbfac hulkes lg_sdm lg_vsp lkbspt lokbsn	17003 17004 17070 17013 17025 17031 17014 17056 17015 17020 18001 18002 17058 17016	Attribute deleted for this object class * * * * * * * * * * * *
depare dismar excnst feryrt flodoc gatcon hrbare hrbbsn hrbfac hulkes Ig_sdm Ig_vsp Ikbspt Iokbsn notmrk	17003 17004 17070 17013 17025 17031 17014 17056 17015 17020 18001 18002 17058 17016 17050	Attribute deleted for this object class * * * * * * * * * * * *
depare dismar excnst feryrt flodoc gatcon hrbare hrbbsn hrbfac hulkes lg_sdm lg_vsp lkbspt lokbsn notmrk pipohd	17003 17004 17070 17013 17025 17031 17014 17056 17015 17020 18001 18002 17058 17016 17050 17024	Attribute deleted for this object class * * * * * * * * * * * *
depare dismar excnst feryrt flodoc gatcon hrbare hrbbsn hrbfac hulkes lg_sdm lg_vsp lkbspt lokbsn notmrk pipohd ponton	17003 17004 17070 17013 17025 17031 17014 17056 17015 17020 18001 18002 17058 17016 17050 17024 17021	Attribute deleted for this object class * * * * * * * * * * * *
depare dismar excnst feryrt flodoc gatcon hrbare hrbbsn hrbfac hulkes lg_sdm lg_vsp lkbspt lokbsn notmrk pipohd ponton prtare	17003 17004 17070 17013 17025 17031 17014 17056 17015 17020 18001 18002 17058 17016 17050 17024 17021 17029	Attribute deleted for this object class * * * * * * * * * * * *
depare dismar excnst feryrt flodoc gatcon hrbare hrbbsn hrbfac hulkes lg_sdm lg_vsp lkbspt lokbsn notmrk pipohd ponton prtare rdocal	17003 17004 17070 17013 17025 17031 17014 17056 17015 17020 18001 18002 17058 17016 17050 17024 17021 17029 17017	Attribute deleted for this object class * * * * * * * * * * * *
depare dismar excnst feryrt flodoc gatcon hrbare hrbbsn hrbfac hulkes lg_sdm lg_vsp lkbspt lokbsn notmrk pipohd ponton prtare rdocal refdmp	17003 17004 17070 17013 17025 17031 17014 17056 17015 17020 18001 18002 17058 17016 17050 17024 17024 17021 17059 17017	Attribute deleted for this object class * * * * * * * * * * * *
depare dismar excnst feryrt flodoc gatcon hrbare hrbbsn hrbfac hulkes lg_sdm lg_vsp lkbspt lokbsn notmrk pipohd ponton prtare rdocal refdmp resare	17003 17004 17070 17013 17025 17031 17014 17056 17015 17020 18001 18002 17058 17016 17050 17024 17021 17021 17059 17017	Attribute deleted for this object class * * * * * * * * * * * *
depare dismar excnst feryrt flodoc gatcon hrbare hrbbsn hrbfac hulkes lg_sdm lg_vsp lkbspt lokbsn notmrk pipohd ponton prtare rdocal refdmp resare sistat	17003 17004 17070 17013 17025 17031 17014 17056 17015 17020 18001 18002 17058 17016 17050 17024 17021 17059 17017 17062 17005 17007	Attribute deleted for this object class * * * * * * * * * * * *
depare dismar excnst feryrt flodoc gatcon hrbare hrbbsn hrbfac hulkes lg_sdm lg_vsp lkbspt lokbsn notmrk pipohd ponton prtare rdocal refdmp resare sistat sistaw	17003 17004 17070 17013 17025 17031 17014 17056 17015 17020 18001 18002 17058 17016 17050 17024 17021 17059 17017 17062 17005 17007	Attribute deleted for this object class * * * * * * * * * * * *
depare dismar excnst feryrt flodoc gatcon hrbare hrbbsn hrbfac hulkes lg_sdm lg_vsp lkbspt lokbsn notmrk pipohd ponton prtare rdocal refdmp resare sistat sistaw slcons	17003 17004 17070 17013 17025 17031 17014 17056 17015 17020 18001 18002 17058 17016 17050 17024 17021 17059 17017 17062 17005 17007 17008 17008	Attribute deleted for this object class * * * * * * * * * * * *
depare dismar excnst feryrt flodoc gatcon hrbare hrbbsn hrbfac hulkes lg_sdm lg_vsp lkbspt lokbsn notmrk pipohd ponton prtare rdocal refdmp resare sistat sistaw	17003 17004 17070 17013 17025 17031 17014 17056 17015 17020 18001 18002 17058 17016 17050 17024 17050 17024 17059 17017 17062 17005 17007 17008 17008 17032 17064	Attribute deleted for this object class * * * * * * * * * * * *
depare dismar excnst feryrt flodoc gatcon hrbare hrbbsn hrbfac hulkes lg_sdm lg_vsp lkbspt lokbsn notmrk pipohd ponton prtare rdocal refdmp resare sistat sistaw slcons	17003 17004 17070 17013 17025 17031 17014 17056 17015 17020 18001 18002 17058 17016 17050 17024 17021 17059 17017 17062 17005 17007 17008 17008	Attribute deleted for this object class * * * * * * * * * * * *

m_vdat	17023	*attribute deleted for this object class
wtwprf	17052	*
wtwgag	17067	*
wtwaxs	17051	*
wtware	17066	*
vehtrf	17069	*
uwtroc	17033	*

	PIPARE	92	*
	PILPNT	90	*
	OILBAR	89	*
	OBSTRN	86	*
	NAVLNE	85	*
	MORFAC	84	*
	MARCUL	82	*
	LNDRGN	73	*
	LNDMRK	74	*
	LNDARE	71	*
	LIGHTS	75	*
	LAKARE	69	*
	HULKES	65	*
	HRBFAC	64	*
	GATCON	61	*
	FOGSIG FRPARE	60	*
	FNCLNE	52 58	*
	FLODOC		*
	FERYRT	53 57	*
	FAIRWY	51	*
	DYKCON	49	*
	DRYDOC	47	*
	DAYMAR	39	*
	DAMCON	38	*
	CTNARE	27	*
	CRANES	35	*
	CONVYR	34	*
	COALNE	30	*
	CBLSUB	22	*
	CBLARE	20	*
	CANALS	23	*
	BUISGL	12	*
	BUAARE	13	*
	BOYSPP	19	*
	BOYSAW	18	*
	BOYLAT	17	*
	BOYISD	16	*
	BOYCAR	14	*
	BCNLAT	7	*
	BCNISD	6	*
	AIRARE	2	*
PICREP	ADMARE	120	free text

1000405	107	*
PRDARE	97	
PYLONS	98	*
RADSTA	102	*
RAILWY	106	*
RECTRC	109	*
RESARE	112	*
RIVERS	114	*
ROADWY	116	*
RSCSTA	111	*
RTPBCN	103	*
SEAARE	119	*
SILTNK	125	*
SLCONS	122	*
SLOGRD	127	*
SLOTOP	126	*
SMCFAC	128	*
TOPMAR	144	*
TSEZNE	150	*
TUNNEL	151	*
TWRTPT	151	*
	152	*
UWTROC		*
VEGATN	155	*
WRECKS	159	*
C_AGGR	400	*
C_ASSO	401	
achare	17001	*
achbrt	17000	*
bcnlat	17028	*
berths	17010	*
boylat	17029	*
bridge	17011	*
bunsta	17054	*
cblohd	17012	*
chkpnt	17027	*
comare	17055	*
convyr	17034	*
cranes	17030	*
curent	17019	*
daymar	17035	*
dismar	17004	*
excnst	17070	*
feryrt	17013	*
flodoc	17025	*
gatcon	17031	*
hrbare	17014	*
hrbbsn	17056	*
hrbfac	17035	*
hulkes	17013	*
Ikbspt	17058	*
lokbsn	17036	*
notmrk	11/010	
	17050	*
pipohd	17050	*
	17024	*
ponton prtare		

	T	T	1.	
	rdocal	17017	*	
	refdmp	17062	*	
	resare	17005	*	
	sistat	17007	*	
	sistaw	17008	*	
	slcons	17032	*	
	termnl	17064	*	
	trnbsn	17065	*	
	uwtroc	17033	*	
	vehtrf	17069	*	
	wtware	17066	*	
	wtwaxs	17051	*	
	wtwgag	17067	*	
	wtwprf	17052	*	
	-	•		
PILDST		121	deleted	
		· ·	•	
POSACC		401	numerical,2 decimal digits	
	M_QUAL	308	*	
		•	-	
PRODCT		123	(1,2,3,4,5,6,7,8,14,15,17,21,22)	
	CONVYR	34	*	
	PIPARE	92	*	
	PIPSOL	94	*	
	PRDARE	97	*	
	SILTNK	125	*	
	convyr	17034	*	
	pipohd	17024	*#	
	pipona	1		
QUAPOS		402	(4,10)	
	M_SREL	310	*	
	1		-	
QUASOU		125	(1,2,3,4,6,7,8,9,10,11)	
	DEPARE	42	(1,2,8,10,11)	
	M_SREL	310	(1,2,8,10,11) #	
	MARCUL	82	(1,2,3,4,6,7,8,9)	
	1		(1,-,-,1,1,-,-)	
	UNSARE	154	(2,8)	
	UWTROC	153	(1,2,8,10,11)	
	WRECKS	159	(1,2,8,10,11)	
	berths	17010	(1,2,8,10,11)	
	depare	17003	(1,2,8,10,11)	
	uwtroc	17033	1,2,8,10,11	
1	,	1	, , , , , , , , , , , , , , , , , , , ,	
RADWAL		126	free text	
	RTPBCN	103	*	
<u> </u>			ı	
RESTRN		131	(1,3,5,7,8,24)	
	CBLARE	20	1	
	DMPGRD	48	*	
	PIPARE	92	1 #	
	RESARE	112	1,7,8 #	
L		I		
SCAMIN		133	numerical, min = "1"	
	<u> </u>		April 2013	Edition 2 3 5

ADM	ADE	4	* 11
ADM		1	*#
AIRA		2	*#
BCNI		6	*#
BCNI		7	*#
BOY		14	*#
BOYI		16	*#
BOYL		17	*#
BOYS		18	*#
BOYS		19	*#
BUAA		13	*#
BUIS		12	*#
CANA		23	*#
CBLA		20	*#
CBLS		22	*#
COAL		30	*#
CON		34	*#
CRAN		35	*#
CTN/		27	*#
DAM		38	*#
DAYN		39	*#
DEPO		43	*#
DMP		48	* #
DRYI	OOC	47	* #
DYK	CON	49	* #
FAIR	WY	51	*#
FERY	/RT	53	*#
FNCL	NE	52	*#
FOGS	SIG	58	*#
FRPA	ARE	60	*#
GATO	CON	61	*#
HRBI	FAC	64	*#
LAKA	ARE	69	*#
LIGH	TS	75	*#
LND/	\RE	71	* #attribute deleted for this object class
LNDN	VIRK	74	*#
LNDF	RGN	73	*#
MAR		82	*#
MOR	FAC	84	*#
NAVL		85	*#
OBST		86	*#
OILB		89	*#
PILPI		90	*#
PIPAI		92	*#
PIPS		94	*#
PONT		95	* #attribute deleted for this object class
PRDA		97	*#
PYLC		98	*#
RADS		102	*#
RAIL		106	*#
REC1		109	*#
RESA		112	*#
RIVE		114	*#
ROAI		116	*#
RSCS		111	*#
Edition 2.3.5			April 2013

RTPBCN	103	* #
SEAARE	119	<i>#</i> * <i>#</i>
SILTNK	125	* #
SLCONS	123	* #
SLOGRD	127	* #
SLOGRD	126	* #
SMCFAC	128	# * #
		# * #
SOUNDG	129	* #
TOPMAR	144	# * #
TSEZNE	150	* #
TUNNEL	151	
TWRTPT	152	* #
UWTROC	153	* #
VEGATN	155	* #
WRECKS	159	* # *
C_AGGR	400	
C_ASSO	401	*#
achare	17001	*#
achbrt	17000	*#
bcnlat	17028	*#
berths	17010	*#
boylat	17029	*#
bridge	17011	*#
bunsta	17054	* #
cblohd	17012	* #
chkpnt	17027	* #
comare	17055	* #
convyr	17034	* #
cranes	17030	* #
curent	17019	* #
daymar	17035	* #
dismar	17004	* #
excnst	17070	* #
feryrt	17013	* #
flodoc	17025	*#
gatcon	17031	*#
hrbare	17014	*#
hrbbsn	17056	*#
hrbfac	17015	*#
hulkes	17020	*#
Ikbspt	17058	*#
lokbsn	17016	*#
notmrk	17050	* #
pipohd	17024	* #
ponton	17021	*#
prtare	17059	*#
rdocal	17017	*#
refdmp	17062	*#
resare	17005	* #
sistat	17007	*#
sistaw	17008	*#
slcons	17032	* #
termnl	17064	* #
trnbsn	17065	* #

	uwtroc	17033	*#
	vehtrf	17069	*#
	wtware	17066	*#
	wtwaxs	17051	*#
	wtwgag	17067	*#
	wtwprf	17052	*#
		11100	
SECTR1		136	numerical, 2 decimal digits
	LIGHTS	75	*
SECTR2		137	numerical, 2 decimal digits
	LIGHTS	75	*
		•	
SIGFRQ		139	numerical
	FOGSIG	58	*
	-	•	
SIGGEN		140	(1,2)
	FOGSIG	58	*
SIGGRP		141	free text
	FOGSIG	58	*
	LIGHTS	75	*
	RTPBCN	103	*
SIGPER		142	numerical, 2 decimal digits
	FOGSIG	58	*
	LIGHTS	75	*
		1	
SIGSEQ		143	free text
	FOGSIG	58	* *
	LIGHTS	75	
SORDAT	1	117	Numerical (CCVVMMDD)
SURDAT	M COVD	147 302	Numerical (CCYYMMDD)
	M_COVR		*
	M_NPUB	305 308	*
	M_QUAL	310	*
	M_SREL ADMARE	1	*
	AIRARE	2	*
	BCNISD	6	*
	BCNLAT	7	*
	BOYCAR	14	*
	BOYISD	16	*
	BOYLAT	17	*
	BOYSAW	18	*
	BOYSPP	19	*
	BUAARE	13	*
	BUISGL	12	*
	CANALS	23	*
	CBLARE	20	*
	CBLSUB	22	*
	COALNE	30	*
	CONVYR	134	*
	CONVYR CRANES	34 35	*

	1	*
CTNARE	27	*
DAMCON	38	
DAYMAR	39	*
DEPARE	42	*
DEPCNT	43	*
DMPGRD	48	*
DRGARE	46	*
DRYDOC	47	*
DYKCON	49	*
FAIRWY	51	*
FERYRT	53	*
FLODOC	57	*
FNCLNE	52	*
FOGSIG	58	*
FRPARE	60	*
GATCON	61	*
HRBFAC	64	*
HULKES	65	*
LAKARE	69	*
LIGHTS	75	*
LNDARE	71	*
LNDMRK	74	*
	73	*
LNDRGN		*
MARCUL	82	*
MORFAC	84	*
NAVLNE	85	*
OBSTRN	86	*
OILBAR	89	*
PILPNT	90	*
PIPARE	92	*
PIPSOL	94	*
PONTON	95	
PRDARE	97	*
PYLONS	98	*
RADSTA	102	*
RAILWY	106	*
RECTRC	109	*
RESARE	112	*
RIVERS	114	*
ROADWY	116	*
RSCSTA	111	*
RTPBCN	103	*
SEAARE	119	*
SILTNK	125	*
SLCONS	122	*
SLOGRD	127	*
SLOTOP	126	*
SMCFAC	128	*
SOUNDG	129	*
TOPMAR	144	*
TSEZNE	150	*
TUNNEL	151	*
TWRTPT	152	*
UNSARE	154	*
1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	1 -	April 2013 Edition 2.3.5

<u></u>			
l	JWTROC	153	*
\	/EGATN	155	*
\	NRECKS	159	*
(C_AGGR	400	*
	C_ASSO	401	*
	achare	17001	*
	achbrt	17000	*
	ocnlat	17028	*
	perths	17010	*
	poylat	17029	*
	oridge	17011	*
	ounsta	17054	*
	blohd	17012	*
	chkpnt	17012	*
	comare	17055	*
		17033	*
	convyr cranes	17034	*
		17030	*
	curent	17019	*
	daymar	17033	*
	depare		*
	dismar	17004	*
	excnst	17070	*
	eryrt	17013	*
	lodoc	17025	*
	gatcon	17031	*
	nrbare	17014	
	nrbbsn	17056	*
	nrbfac	17015	*
	nulkes	17020	*
	g_sdm	18001	*
	g_vsp	18002	*
	kbspt	17058	*
	okbsn	17016	*
	m_nsys	17018	*
	n_sdat	17022	*
r	n_vdat	17023	*
r	notmrk	17050	*
l k	oipohd	17024	*
l k	onton	17021	*
F	ortare	17059	*
r	docal	17017	*
r	efdmp	17062	*
	esare	17005	*
	sistat	17007	*
	sistaw	17008	*
	sicons	17032	*
	ermnl	17064	*
	isdge	17068	*
	rnbsn	17065	*
	uwtroc	17033	*
	ehtrf	17069	*
	vtware	17066	*
	vtwaxs	17051	*
		17067	*
i V	wtwgag	17007	

	wtwprf	17052	*
005=		14.5	
SORIND		148	free text
	M_COVR	302	*
	M_NPUB	305	*
	M_QUAL	308	*
	M_SREL	310	*
	ADMARE	1	*
	AIRARE	2	*
	BCNISD	6	*
	BCNLAT	7	*
	BOYCAR	14	*
	BOYISD	16	*
	BOYLAT	17	*
	BOYSAW	18	*
	BOYSPP	19	*
	BUAARE	13	*
	BUISGL	12	*
	CANALS	23	*
	CBLARE	20	*
	CBLSUB	22	*
	COALNE	30	*
	CONVYR	34	*
	CRANES	35	*
	CTNARE	27	*
	DAMCON	38	*
	DAYMAR	39	*
	DEPARE	42	*
	DEPCNT	43	*
	DMPGRD	48	*
	DRGARE	46	*
	DRYDOC	47	*
	DYKCON	49	*
	FAIRWY	51	*
	FERYRT	53	*
	FLODOC	57	*
	FNCLNE	52	*
	FOGSIG	58	*
	FRPARE	60	*
	GATCON	61	*
	HRBFAC	64	*
	HULKES	65	*
	LAKARE	69	*
	LIGHTS	75	*
	LNDARE	71	*
	LNDMRK	74	*
	LNDRGN	73	*
	MARCUL	82	*
	MORFAC	84	*
	NAVLNE	85	*
	OBSTRN	86	*
	OILBAR	89	*
	PILPNT	90	*
	PIPARE	92	*
L			A - 21 0040

DIDCOL	104	*
PIPSOL	94	*
PONTON	95	
PRDARE	97	*
PYLONS	98	*
RADSTA	102	*
RAILWY	106	*
RECTRC	109	*
RESARE	112	*
RIVERS	114	*
ROADWY	116	*
RSCSTA	111	*
RTPBCN	103	*
SEAARE	119	*
SILTNK	125	*
SLCONS	122	*
SLOGRD	127	*
SLOTOP	126	*
SMCFAC	128	*
SOUNDG	129	*
TOPMAR	144	*
TSEZNE	150	*
TUNNEL	151	*
TWRTPT	152	*
UNSARE	154	*
UWTROC	153	*
VEGATN	155	*
WRECKS	159	*
C_AGGR	400	*
C ASSO	401	*
achare	17001	*
achbrt	17000	*
bcnlat	17028	*
berths	17010	*
boylat	17029	*
bridge	17011	*
bunsta	17054	*
cblohd	17012	*
chkpnt	17027	*
comare	17055	*
convyr	17034	*
cranes	17030	*
curent	17019	*
daymar	17035	*
depare	17003	*
dismar	17004	*
excnst	17070	*
feryrt	17013	*
flodoc	17025	*
gatcon	17031	*
hrbare	17014	*
hrbbsn	17056	*
hrbfac	17015	*
hulkes	17020	*
lg_sdm	18001	*
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lg_vsp	18002	*
lkbspt	17058	*
lokbsn	17016	*
m_nsy	s 17018	*
m_sda	t 17022	*
m_vda		*
notmrl	(17050	*
pipoho	17024	*
pontor	17021	*
prtare	17059	*
rdocal	17017	*
refdmp	17062	*
resare	17005	*
sistat	17007	*
sistaw	17008	*
sicons	17032	*
termnl	17064	*
tisdge	17068	*
trnbsn	17065	*
uwtrod	17033	*
vehtrf	17069	*
wtware	17066	*
wtwax	s 17051	*
wtwga	g 17067	*
wtwpri		*

SOUACC		144	numerical, 2 decimal digits
	M_QUAL	308	*
	MARCUL	82	*
	berths	17010	*

STATUS		149	(2,3,4,8,9,12,14,16,17,18)
	CBLARE	20	18
	CBLSUB	22	(18
	FERYRT	53	2,3,4,8,9,12,14,16,17
	LIGHTS	75	2,3,4,8,9,12,14,16,17
	MARCUL	82	2,4
	PIPARE	92	18
	PIPSOL	94	18
	PRDARE	97	2,12,16,17
	RSCSTA	111	2,4
	SLCONS	122	2,3,4,8,9,12,14,16,17
	TSEZNE	150	3,9
	WRECKS	159	12,16,17,18
	achare	17001	2,3,4,8,9,12,14,16,17
	achbrt	17000	2,3,4,8,9,12,14,16,17
	berths	17010	2,3,4,8,9,12,14,16,17
	comare	17005	2,3,4,8,9,12,14,16,17
	feryrt	17013	2,3,4,8,9,12,14,16,17
	notmrk	17050	2,3,4,8,9,12,14,16,17

SURATH		150	free text
	M_SREL	310	* #

			1
SUREND		151	Numerical (CCYYMMDD)
	M_QUAL	308	*
	M_SREL	310	* #
0.100=4		1	
SURSTA		152	Numerical (CCYYMMDD)
	M_QUAL	308	
	M_SREL	310	* #
CLIDTVD		450	(0)
SURTYP	M CDEL	153 310	(2)
	M_SREL	310	
TECSOU		156	(1-14)
120000	M_QUAL	308	(1 - 14) *
	WRECKS	159	*
	WILLOWS	100	
TOPSHP		171	(1-33)
	DAYMAR	39	*#
	TOPMAR	144	*#
	daymar	17035	*#
<u> </u>			
TRAFIC		172	(1,2,3,4)
	RECTRC	109	*#
	TWRTPT	152	* #
	rdocal	17017	*#
TXTDSC		158	free text
	M_NPUB	305	* #
	ADMARE	1	*
	AIRARE	2	*
	BCNISD	6	*
	BCNLAT	7	* *
	BOYCAR	14	*
	BOYISD	16 17	*
	BOYLAT		*
	BOYSAW BOYSPP	18 19	*
	BUAARE	13	*
	BUISGL	12	*
	CANALS	23	*
	CBLARE	20	*
	CBLSUB	22	*
	COALNE	30	*
	CONVYR	34	*
	CRANES	35	*
	CTNARE	27	*
	DAMCON	38	*
	DAYMAR	39	*
	DMPGRD	48	*
	DRYDOC	47	*
	DYKCON	49	*
	FAIRWY	51	*
	FERYRT	53	*
	FLODOC	57	*

	chkpnt	17027	*
	cblohd	17012	*
	bunsta	17054	*
	bridge	17011	*
	boylat	17029	*
	berths	17010	*
	bcnlat	17028	*
	achbrt	17000	*
	achare	17001	*
	C_ASSO	401	*
	C_AGGR	400	*
	WRECKS	159	*
	VEGATN	155	*
	UWTROC	153	*
	TWRTPT	152	*
	TUNNEL	151	*
	TSEZNE	150	*
	TOPMAR	144	*
	SMCFAC	128	*
	SLOTOP	126	*
	SLOGRD	127	*
	SLCONS	122	*
	SILTNK	125	*
	SEAARE	119	*
	RTPBCN	103	*
	RSCSTA	111	*
	ROADWY	116	*
	RIVERS	114	*
	RESARE	112	*
	RECTRC	109	*
	RAILWY	106	*
	RADSTA	102	*
	PYLONS	98	*
	PRDARE	97	*
	PONTON	95	*
	PIPSOL	94	*
	PIPARE	92	*
	PILPNT	90	*
	OILBAR	89	*
	OBSTRN	86	*
	NAVLNE	85	*
	MORFAC	84	*
	MARCUL	82	*
	LNDRGN	73	*
	LNDMRK	74	*
	LNDARE	71	*
_	LIGHTS	75	*
	LAKARE	69	*
	HULKES	65	*
	HRBFAC	64	*
	GATCON	61	*
	FRPARE	60	*
	FNCLNE FOGSIG	52 58	*
l	ENCL NE	50	*

	comare	17055	*
	convyr	17033	*
	cranes	17034	*
	curent	17030	*
			*
	daymar	17035	*
	dismar	17004	*
	excnst	17070	*
	feryrt	17013	* *
	flodoc	17025	
	gatcon	17031	*
	hrbare	17014	*
	hrbbsn	17056	*
	hrbfac	17015	*
	hulkes	17020	*
	Ikbspt	17058	*
	lokbsn	17016	*
	m_vdat	17023	*
	notmrk	17050	*
	pipohd	17024	*
	ponton	17021	*
	prtare	17059	*
	rdocal	17017	*
	refdmp	17062	*
	resare	17005	*
	sistat	17007	*
	sistaw	17008	*
	sicons	17032	*
	termnl	17064	*
	trnbsn	17065	*
	uwtroc	17033	*
	vehtrf	17069	*
	wtware	17066	*
	wtware	17051	*
	wtwgag	17067	*
	wtwgag	17057	*
	WWDII	17032	
VALDCO		174	numerical, 1 decimal digit
VALLEGE	DEPCNT	43	* #
	DEI OITI	40	l II
VALMXR		177	numerical, 1 decimal digit
.,	FOGSIG	58	*
	11 00010	100	
VALSOU		179	numerical, 2 decimal digits
*/\LOO	MARCUL	82	*
	OBSTRN	86	*
	UWTROC	153	* #
	WRECKS	159	*
		17033	*#
	uwtroc	17033	π
VERCCL		182	numerical, 2 decimal digits
VERCOL	bridge		numericai, 2 decimai digits
	bridge	17011	
VEDCLD		104	numerical 2 decimal digita
VERCLR	CONVOC	181	numerical, 2 decimal digits
	CONVYR	34	
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Edition 2.3.5

	CRANES	35	*
	GATCON	61	*
	TUNNEL	151	*
	bridge	17011	*
	cblohd	17012	*#
	convyr	17034	*
	cranes	17030	*
	gatcon	17031	*
	pipohd	17024	*#
	pipolia	1 •= .	
VERCOP		183	numerical, 2 decimal digits
1211001	bridge	17011	*
	10.10.90	1	
VERDAT		185	(4)
72.73771	GATCON	61	*
	OATOON	0 1	
WATLEV		187	(1,2,3,4,5,7)
	MARCUL	82	\(\cdot\)-1
	MORFAC	84	1,2,3,4,5
	OBSTRN	86	1,2,3,4,5
	PYLONS	98	1,2,3,4,5 #
	SLCONS	122	1,2,3,4,5
	UWTROC	153	1,2,3,4,5 #
	WRECKS	159	1,2,3,4,5
addmrk		47050	(4.0.0.4.5)
addillik		17050 17050	(1,2,3,4,5)
	notmrk	17050	
ontrof		17099	fron tout
aptref	tiodae	17099	free text
	tisdge	17000	
bnkwtw		17105	(4.2)
DIIKWIW	n o t m r l c	17105	(1,2)
	notmrk	17030	
bunves		17065	(4.2)
burives	humata	17065	(1,2) * #
	bunsta	17054	#
catach	1	17000	(1 2 3 4 5 6 7 0 10 11 12 12)
Catacii		17000	(1,2,3,4,5,6,7,9,10,11,12,13)
	achare	17001	*
	achbrt	17001	*
	activit	17000	
catbrt		17066	(1,2,3,4,5,6,7,8)
Calbit	berths	17000	(1,2,3,4,3,0,7,0)
	มะเนเร	17010	
catbun		17067	(1,2,3)
Calbuil	hungto	17067	(1,2,3)
	bunsta	17004	
catcbl		17101	(1 3 4 5 6 7)
CalCDI	oblek d	17101	(1,3,4,5,6,7)
	cblohd	17012	#
ootool		17000	(4.2.2.4.5.6.7.9.0.40.44)
catccl		17068	(1,2,3,4,5,6,7,8,9,10,11)
	wtware	17066 17051	* #
	wtwaxs		

catchp		17010	(1,2)
Catcrip	chkpnt	17010	* #
	cnkpnt	17027	#
	T	1,	
catcom		17069	(1,2,3,4,5,6,7,8)
	comare	17055	*
	rdocal	17017	*
			·
catexs		17100	(1,2,3,4,5)
	excnst	17070	*#
	- CACHOL	1	
catfry		17007	(4)
cattry	£t		* #
	feryrt	17013	<u>"</u> #
catgag		17078	(1,2,3,4,5)
	wtwgag	17067	*
		<u></u>	
cathaf		17008	(1,3,4,6,7,8,9,10,11,12,13,16,17)
	hrbfac	17015	4,6,9,12,13,16,17 #
	termnl	17064	1,3,7,8,10,11 #
	Cillin	17004	1,0,1,0,10,11 //
cathbr		17070	(1 2 2 4 5)
Callibr	Land	17070	(1,2,3,4,5)
	hrbare	17014	1*
cathlk		17102	(1,2,3,4,5,6)
	hulkes	17020	*
	•		
catlam		17011	(1-23)
	bcnlat	17028	*#
	boylat	17029	*#
	Doylat	17023	π
a a tra ma la		47050	(4 440)
catnmk		17052	(1 – 116)
	notmrk	17050	*#
			1
catrfd		17071	(1,2,3,4)
	refdmp	17062	*
	-		
catrsc		17106	(1,2,3,4,5,6,7,8,10)
	RSCSTA	111	1,2,4,5,6,7,8,10
	1	1	1 , , , , , , , , , , , , , , , , , , ,
lg_fnc		18009	attribute class deleted
19_1110		10003	מנוווטענפ טומסס עסוסנסע
In and		46004	attelle i ta alaga dalata d
lc_sp1		18024	attribute class deleted
lc_sp2		18025	attribute class deleted
catsit		17002	(2,6,8,10)
	sistat	17007	*#
	1 - 2	1	1
catsiw		17003	(15,16,18)
Cataliv	oioto:	17003	*#
	sistaw	17006	#
		1,	(0 = 0 0 10 10)
catslc		17012	(2,7,8,9,18,19)
	slcons	17032	*#
Edition	0.0 F		April 2013

Cattab 17092 (1,2)				
Catvtr	cattab		17092	(1.2)
Catvitr	outtab	tisdae		* #
Clsdng		tiougo	17.000	
Clsdng	catvtr		17091	(1,2,3,4,5,6)
Clsdng		vehtrf		*#
achare		•	<u>'</u>	
Achief 17000 *	clsdng		17055	(1,2,3,4,5)
achlort 17000 *				
Curvhw 17010 *		achare	17001	*
Curvhw		achbrt		
Curviw		berths	17010	*
Curviw				
Curvlw	curvhw			
curvmw 17097 numerical, 1 decimal digit curvow 17098 numerical, 1 decimal digit curvow 17098 numerical, 1 decimal digit dirimp 17056 (1,2,3,4,5) bcnlat 17028 1,2,3,4 curent 17019 1,2,3,4 daymar 17035 1,2,3,4 notmrk 17050 * sistat 17007 1,2,3,4 tisdge 17068 1,2,3,4 wtware 17068 1,2,3,4 disbk1 17057 numerical, 1 decimal digit notmrk 17050 * disbk2 17058 numerical, 1 decimal digit notmrk 17050 * disipd 17060 numerical, 1 decimal digit notmrk 17050 * disipu 17059 numerical, 1 decimal digit notmrk 17059 numerical, 1 decimal digit notmrk 17050 * wtwgag 17067 *		curent	17019	*
curvmw 17097 numerical, 1 decimal digit curvow 17098 numerical, 1 decimal digit curvow 17098 numerical, 1 decimal digit dirimp 17056 (1,2,3,4,5) bcnlat 17028 1,2,3,4 curent 17019 1,2,3,4 daymar 17035 1,2,3,4 notmrk 17050 * sistat 17007 1,2,3,4 tisdge 17068 1,2,3,4 wtware 17068 1,2,3,4 disbk1 17057 numerical, 1 decimal digit notmrk 17050 * disbk2 17058 numerical, 1 decimal digit notmrk 17050 * disipd 17060 numerical, 1 decimal digit notmrk 17050 * disipu 17059 numerical, 1 decimal digit notmrk 17059 numerical, 1 decimal digit notmrk 17050 * wtwgag 17067 *		1	47000	Towns orient Andrews I distri
Curvmw	curviw			
Curvow		curent	17019	
Curvow	CHEVIONA		17007	numerical 1 decimal digit
Curvow	GuiVIIIW	curent		*
dirimp		curent	17019	
dirimp	curvow		17098	numerical 1 decimal digit
dirimp	Carvow	curent		
bcnlat		Garone	1.7010	
bcnlat	dirimp		17056	(1.2.3.4.5)
Curent 17019 1,2,3,4 daymar 17035 1,2,3,4	'	bcnlat		
notmrk		curent	17019	1,2,3,4
Sistat 17007 1,2,3,4 tisdge 17068 1,2,3,4 wtware 17066 1,2,3,4 #		daymar	17035	1,2,3,4
tisdge 17068 1,2,3,4 wtware 17066 1,2,3,4 # disbk1 17057 numerical, 1 decimal digit notmrk 17050 * disbk2 17058 numerical, 1 decimal digit notmrk 17050 * disipd 17060 numerical, 1 decimal digit notmrk 17050 * wtwgag 17067 * disipu 17059 numerical, 1 decimal digit notmrk 17050 * wtwgag 17067 * eleval 17061 numerical, 2 decimal digits				*
Mtware		sistat		1,2,3,4
disbk1				
notmrk		wtware	17066	1,2,3,4 #
notmrk				
notmrk			1,	
disbk2	disbk1			
notmrk 17050 * disipd 17060 numerical, 1 decimal digit notmrk 17050 * wtwgag 17067 * disipu 17059 numerical, 1 decimal digit notmrk 17050 * wtwgag 17067 * eleva1 17061 numerical, 2 decimal digits		notmrk	17050	<u></u>
notmrk 17050 * disipd 17060 numerical, 1 decimal digit notmrk 17050 * wtwgag 17067 * disipu 17059 numerical, 1 decimal digit notmrk 17050 * wtwgag 17067 * eleva1 17061 numerical, 2 decimal digits	dichk2		17059	numorical 1 decimal digit
disipd 17060 numerical, 1 decimal digit notmrk 17050 * wtwgag 17067 * disipu 17059 numerical, 1 decimal digit notmrk 17050 * wtwgag 17067 * eleva1 17061 numerical, 2 decimal digits	UISDKZ	notmrk		
notmrk 17050 * wtwgag 17067 * disipu 17059 numerical, 1 decimal digit notmrk 17050 * wtwgag 17067 * eleva1 17061 numerical, 2 decimal digits		Houlik	117000	
notmrk 17050 * wtwgag 17067 * disipu 17059 numerical, 1 decimal digit notmrk 17050 * wtwgag 17067 * eleva1 17061 numerical, 2 decimal digits	disipd		17060	numerical. 1 decimal digit
wtwgag 17067 * disipu 17059 numerical, 1 decimal digit notmrk 17050 * wtwgag 17067 * eleva1 17061 numerical, 2 decimal digits		notmrk		
disipu 17059 numerical, 1 decimal digit notmrk 17050 * wtwgag 17067 * eleva1 17061 numerical, 2 decimal digits				*
notmrk	<u>[</u>			1
notmrk 17050 * wtwgag 17067 * eleva1 17061 numerical, 2 decimal digits	disipu		17059	numerical, 1 decimal digit
wtwgag 17067 * eleva1 17061 numerical, 2 decimal digits		notmrk		
eleva1 17061 numerical, 2 decimal digits				*
j				
depare 17003 *	eleva1			
		depare	17003	*
		1	T	
eleva2 17062 numerical, 2 decimal digits	eleva2			·
depare 17003 *		depare	17003	

fnctnm		17063	(1,2,3,4,5)
1110011111	notmrk	17050	*#
	Hounk	117000	
hignam		17081	free text
	curent	17019	*
	wtwgag	17067	*
	1 99		
higwat		17080	numerical, 2 decimal digits
J	wtwgag	17067	*
horcll		17074	numerical, 2 decimal digits
	flodoc	17025	*
	Ikbspt	17058	*#
	lokbsn	17016	* #
horclw		17075	numerical, 2 decimal digits
	flodoc	17025	*
	Ikbspt	17058	* #
	lokbsn	17016	* #
hunits		17103	(1,2,3,4,5,6)
	bridge	17011	*
	cblohd	17012	*
	depare	17003	*#
	dismar	17004	* #
	excnst	17070	* #
	gatcon	17031	*
	pipohd	17024	*
	wtwgag	17067	*
	wtwprf	17052	1,2,3,5,6 #
1		10015	(4.0.0.5.0.7.0.0.40)
lc_ase		18015	(1,2,3,5,6,7,8,9,10)
	lg_sdm	18001	* # * #
	lg_vsp	18002	<u>"</u> #
lc_asi		18014	(1 2 3 5 6 7 8 0 10)
10_asi	lg_sdm	180014	(1,2,3,5,6,7,8,9,10) * #
		18001	# *#
	lg_vsp	10002	π
lc_cce		18017	(1,2,4,5,6,7,8,9)
	lg_sdm	18001	*#
	lg_vsp	18002	*#
[∣.a_ <u>, Դ</u>	10002	<u> 1 "</u>
lc_cci		18016	(1,2,4,5,6,7,8,9)
10_001	lg_sdm	18001	* #
	lg_vsp	18002	*#
<u> </u>	<u> </u>		1
lc_cse		18013	(1,2,3,5-32)
	lg_sdm	18001	*#
	lg_vsp	18002	*#
	, v – ,		·
lc_csi		18012	(1,2,3,5 – 32)
	lg_sdm	18001	*#
		•	•

	1	40000	* #
	lg_vsp	18002	*#
1		140000	The second of the least restrict
lg_bme		18003	numerical, 2 decimal digits
	lg_sdm	18001	* #
	T		T.
lg_des		18010	free text
	lg_sdm	18001	*
	lg_vsp	18002	*
lg_drt		18005	numerical, 2 decimal digits
	lg_sdm	18001	*#
lg_lgs		18004	numerical, 2 decimal digits
	lg_sdm	18001	* #
lg_pbr		18011	free text
	lg_sdm	18001	*
	lg_vsp	18002	*
	· · ·	•	
lg_rel		18008	(1,2,3,4)
	lg_sdm	18001	*#
	lg_vsp	18002	*#
	<u> </u>	<u>-</u>	1
lg_spd		18001	numerical, 2 decimal digits
<u>J</u> 1	lg_vsp	18002	*#
	1.90	1.000	
lg_spr		18002	(1,2,3)
. <u>g_</u> op.	lg_vsp	18002	* #
	1.3	1.555	
lg_wdp		18006	numerical, 1 decimal digit
<u>19_114</u>	lg_sdm	18001	* #
	ig_oaiii	1.0001	
lg_wdu		18007	(1,2,3)
ig_waa	lg_sdm	18001	*#
	ig_suiii	10001	
lownam		17083	free text
lownam	curent	17019	*
	wtwgag	17067	*
	wwgag	17007	
lowwat		17082	numerical, 2 decimal digits
	wtwgag	17067	*
	ıyuy	117007	1
marsys		17009	(1,2,9,10,11,12,13,14,15)
maraya	boylat	17009	\(\(\daggregarrow\)\(\daggregarro\)\(\daggregarrow\)\(\daggregarro\)\(\daggregarrow\)\(\daggregarrow\)\(\daggregarrow\)\(\dag
	m_nsys	17023	*#
	notmrk	17050	*
	ı nodink	177000	
meanam		17085	free text
meanam	curent	17003	*
		17019	*
	wtwgag	17007	
maawat		17084	numerical, 2 decimal digits
meawat	14/414/0000	17084	numericai, 2 decimai digits
i	wtwgag	11/06/	

_	.	.	
othnam		17087	free text
	curent	17019	*
]	wtwgag	17067	*
			_
othwat		17086	numerical, 2 decimal digits
	wtwgag	17067	*
reflev		17088	(1,2,3,4,5,6,7,8,9)
	wtwgag	17067	*
	wtwprf	17052	*
		47004	(4.0.7.0.40.44.07.00.00.00.04.00.00.04.05.05.07)
restrn		17004	(1,2,7,8,13,14,27,28,29,30,31,32,33,34,35,36,37)
 	achare	17001	1,2,7,8,13,14,27,28,29,30,31,32,33,34,35,36
	achbrt	17000 17005	1,2,7,8,13,14,27,28,29,30,31,32,33,34,35,36 * #
	resare	17005	" #
schref		17093	free text
3011161	tisdge	17093	* #
	แอน yc	17000	
sdrlev		17089	free text
341101	wtwgag	17067	*
	11111949	11.001	
shptyp		33066	(1-15)
- 1 71	tisdge	17068	*#
	1 9		
trshgd		17076	(1,2,3,4,5,6,7,8,9,10)
	berths	17010	*
	termnl	17064	*
	·		
unlocd		17077	free text
	GATCON	61	*
	C_AGGR	400	*
	achare	17001	*
	achbrt	17000	*
	berths	17010	*
	bridge	17011	*
	bunsta	17054	*
	cblohd	17012	*
	chkpnt	17027	*
	dismar	17004	*
	excnst	17070	*
	gatcon	17031	*
	hrbare	17014 17056	*
	hrbbsn hulkes	17056	*
	Ikbspt	17020	*
	lokbsn	17036	*
	pipohd	17016	*
	ponton	17024	*
	prtare	17021	*
	rdocal	17039	*
	refdmp	17017	*
	sistat	17002	*
	termnl	17064	*
		11.00-	

			_ _
	trnbsn	17065	*
	vehtrf	17069	*
	wtware	17066	*
	wtwgag	17067	*
useshp		17094	(1,2,3)
	tisdge	17068	*#
vcrlev		17090	free text
	wtwgag	17067	*
verdat		17005	(12,31,32,33,34,35,36,37,38,39,40,41)
	berths	17010	*
	bridge	17011	*
	cblohd	17012	*
	convyr	17034	*
	cranes	17030	*
	excnst	17070	*
	flodoc	17025	*
	gatcon	17031	*
	m_sdat	17022	*#
	m_vdat	17023	*#
	pipohd	17024	*
	vehtrf	17069	*
	wtwgag	17067	*
	wtwprf	17052	*
watlev		17104	(1,2,3,4,8,9)
	slcons	17032	*
	uwtroc	17033	*#
	4111.55	11.000	
wtwdis		17064	numerical
	bridge	17011	*
	cblohd	17012	*
	depare	17003	*#
	dismar	17004	*#
	excnst	17070	*#
	gatcon	17031	*
	pipohd	17024	*
	wtwgag	17067	*
	wtwprf	17052	*#
	i ii i	1002	1 "