INTERNATIONAL STANDARD ISO 19115:2003
TECHNICAL CORRIGENDUM 1

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Geographic information — Metadata

TECHNICAL CORRIGENDUM 1

Information géographique — Métadonnées

RECTIFICATIF TECHNIQUE 1

Technical Corrigendum 1 to ISO 19115:2003 was prepared by Technical Committee ISO/TC 211, *Geographic information/Geomatics.* Annex A provides a list of changes.

Page 2, Clause 3

Add the following Normative reference:

ISO 19119, *Geographic information — Services*

Page 7, subclause 5.5

Replace the list with the following:

CI	Citation (ISO 19115)
DQ	Data quality (ISO 19115)
DS	Dataset (ISO 19115)
EX	Extent (ISO 19115)
GF	General Feature (ISO 19109)
GM	Geometry (ISO 19107)
LI	Lineage (ISO 19115)
MD	Metadata (ISO 19115)

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RS	Reference System (ISO 19115)
SC	Spatial Coordinates (ISO 19111)
SV	Services (ISO 19119)
TM	Temporal (ISO 19108)

Page 8, subclause 6.2

Replace 6.2 with the following:

Figure 3 is a UML class diagram defining the classes of geographic information to which metadata applies. It specifies that a dataset (DS_DataSet) and aggregations of datasets (DS_Aggregate) must have one or more related Metadata entity sets (MD_Metadata). Metadata may optionally relate to a Feature, Feature Attribute, Feature Type, Feature Property Type (a Metaclass instantiated by Feature association role, Feature attribute type, and Feature operation). The method for relating metadata to feature and attribute instances is defined in ISO 19109. Dataset aggregations may be specified (subclassed) as a general association (DS_OtherAggregate), a dataset series (DS_Series), or a special activity (DS_Initiative). MD_Metadata also applies to other classes of information and services not shown in this diagram (see MD_ScopeCode, B.5.25).

Page 9, subclause 6.2

Replace Figure 3 with the following:

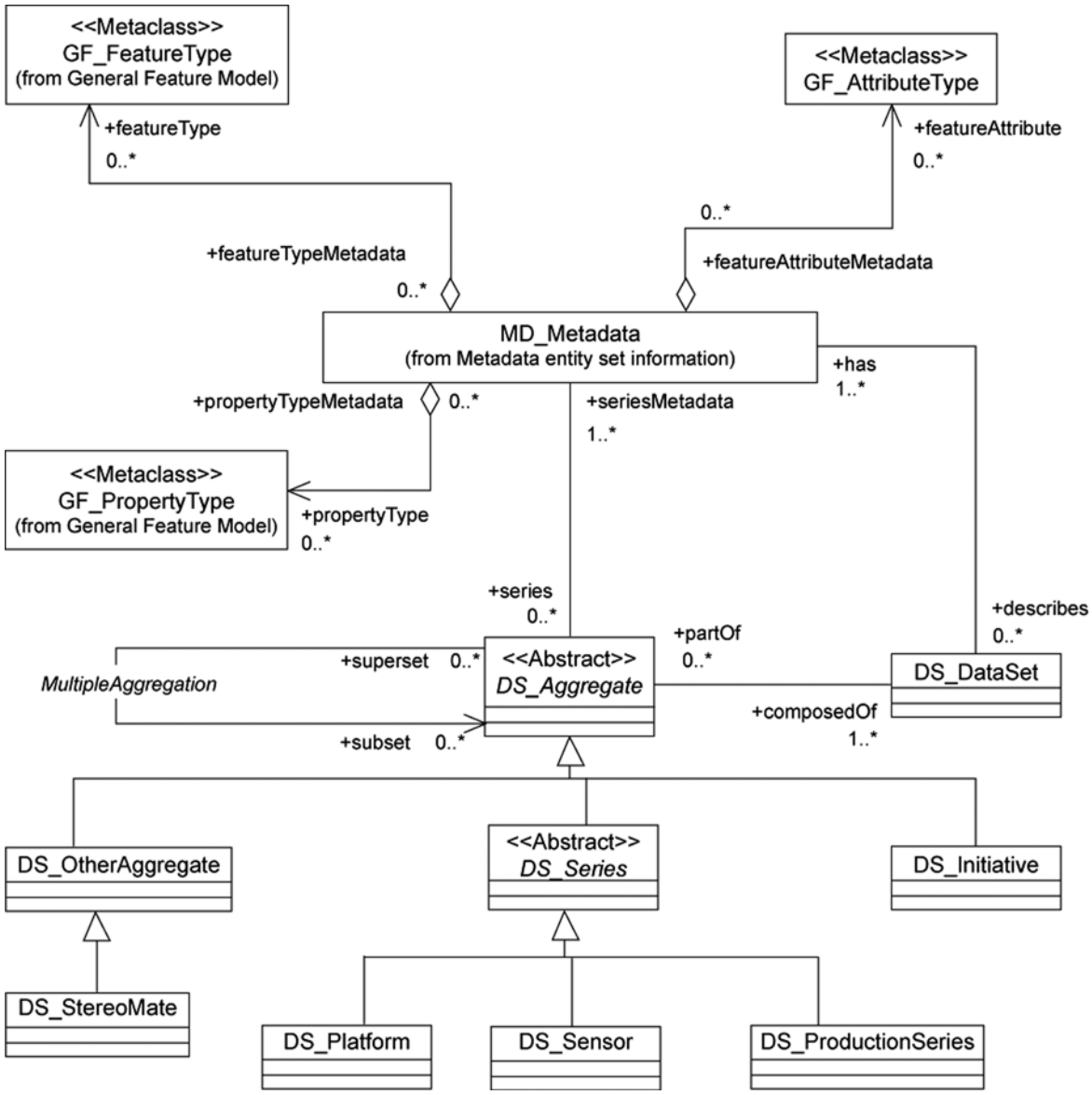

Figure 3 — Metadata application

Page 12, subclause 6.3.2.2

Replace the last paragraph with the following:

The characterSet element of MD_DataIdentification is conditional; it is documented if ISO/IEC 10646-1 is not used.

Page 13, subclause 6.3.2.7

Replace 6.3.2.7 with the following:

This package contains the identification of the spatial and temporal reference system(s) used in a dataset.

Page 19, subclause A.2.1

Replace Figure A.1 with the following:

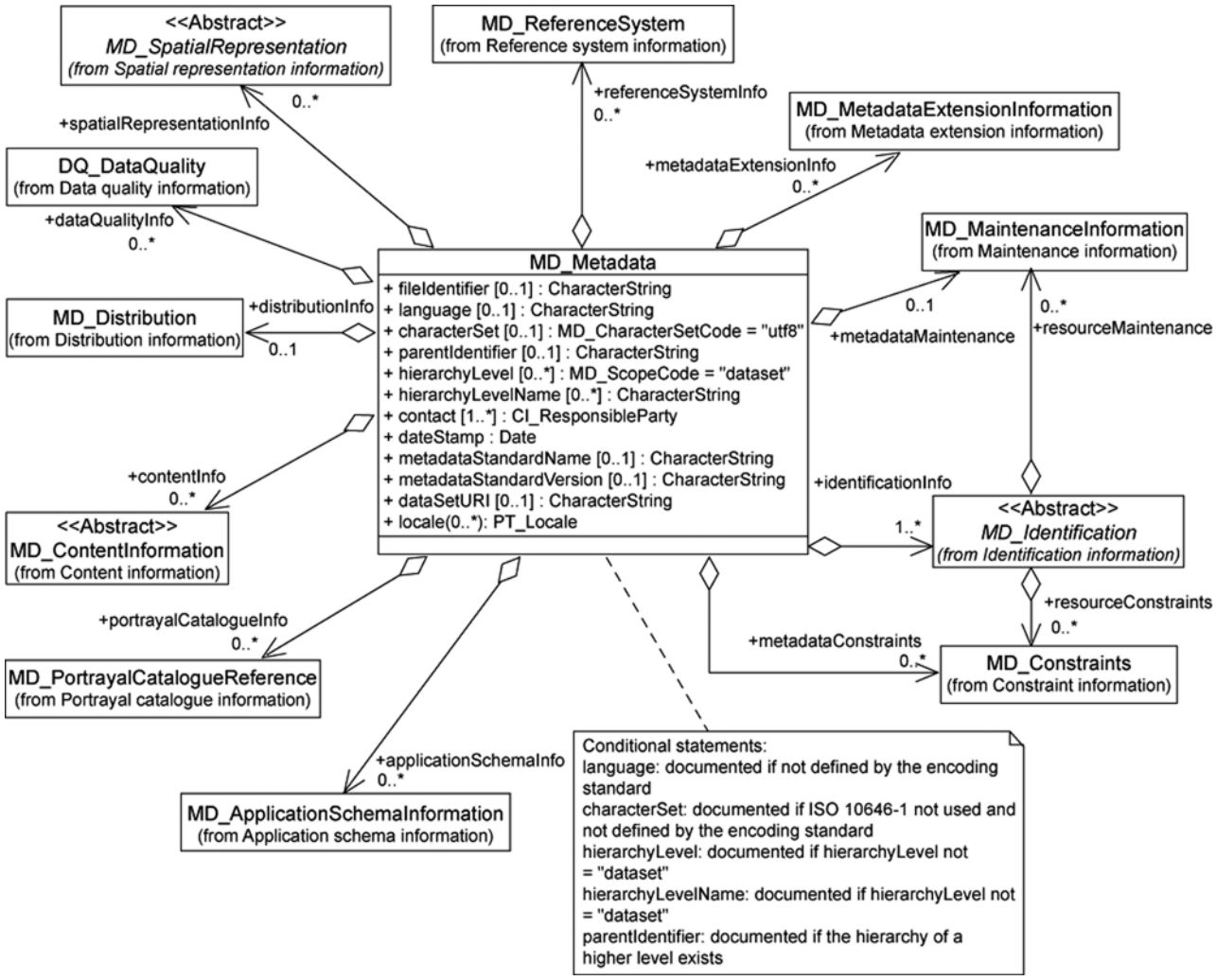

Figure A.1 — Metadata entity set information

Page 19, subclause A.2.2

Replace Figure A.2 with the following:

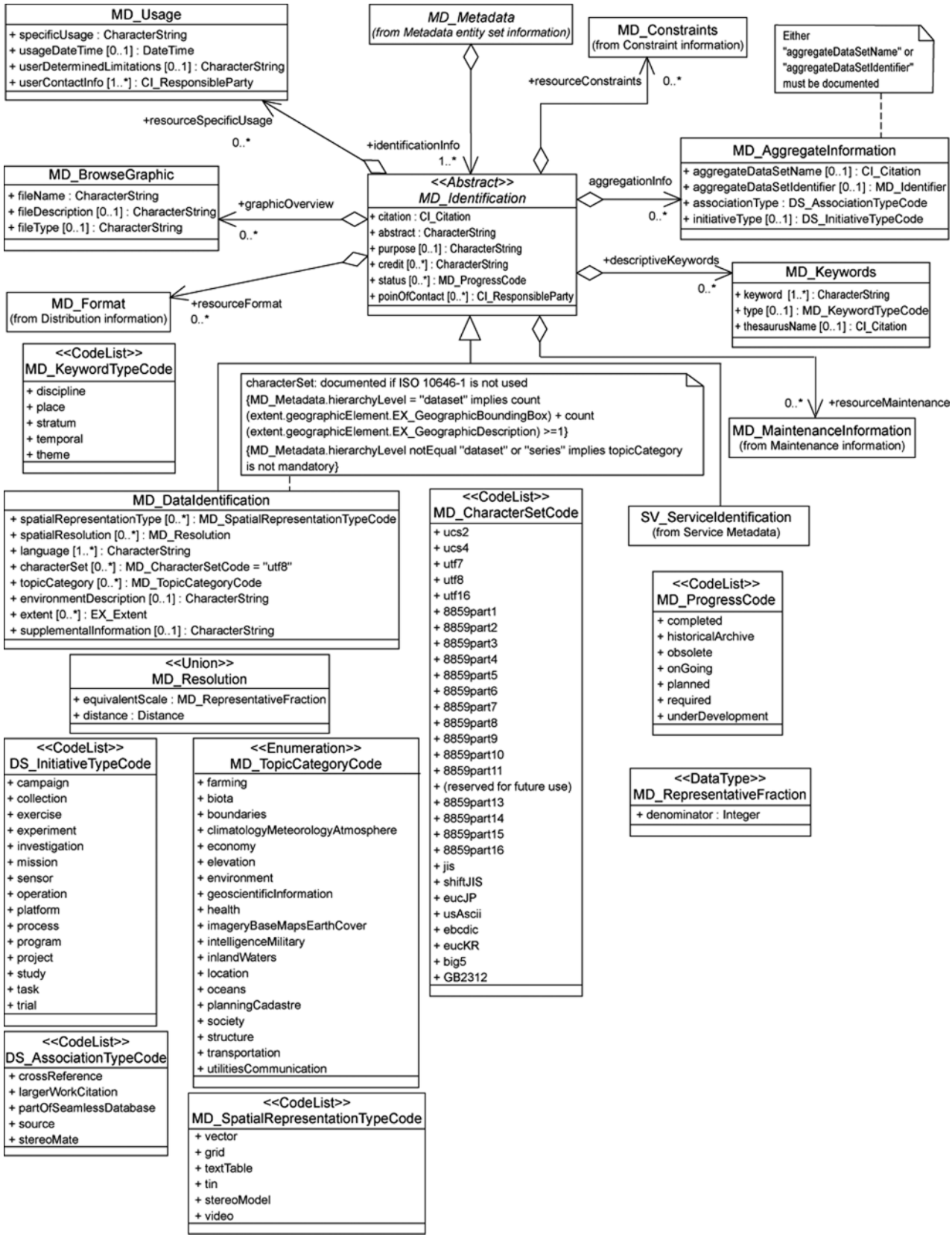

Figure A.2 — Identification information

Page 22, subclause A.2.4.1

Replace Figure A.4 with the following:

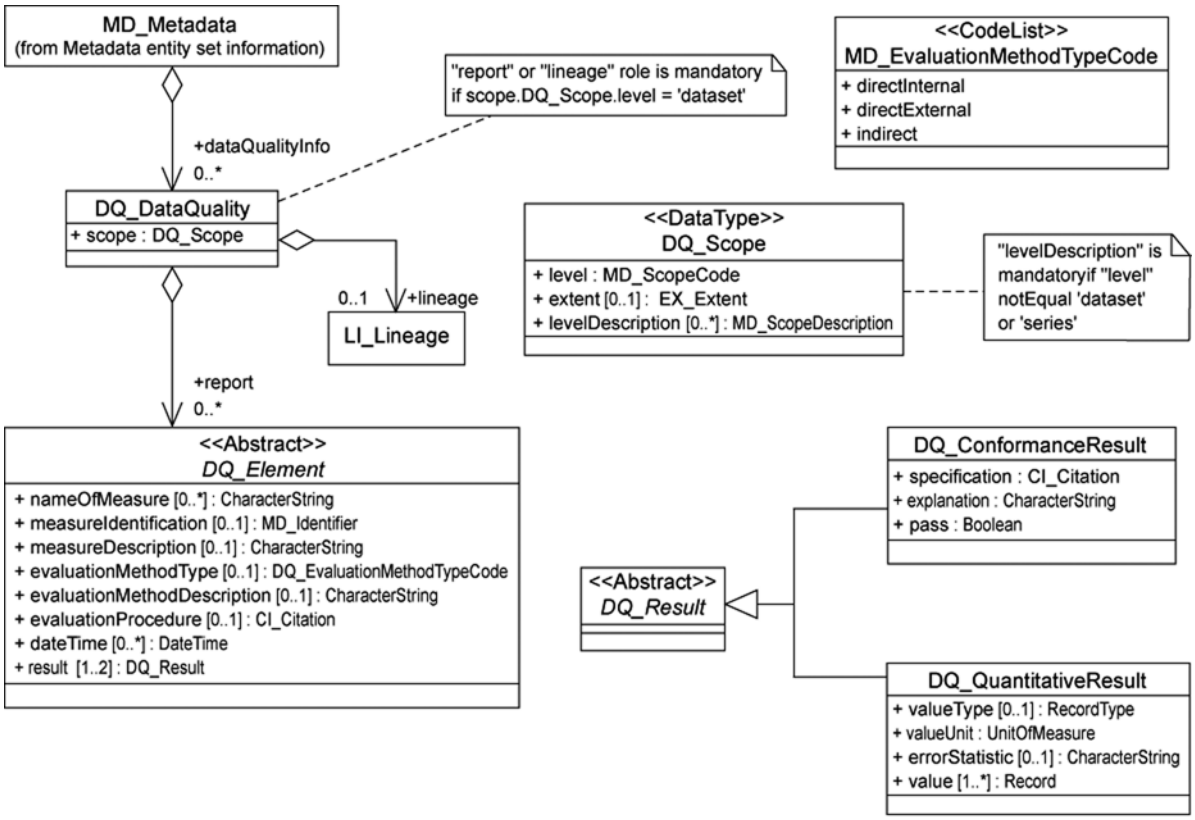

Figure A.4 — Data quality information

Page 23, subclause A.2.4.2

Replace Figure A.5 with the following:

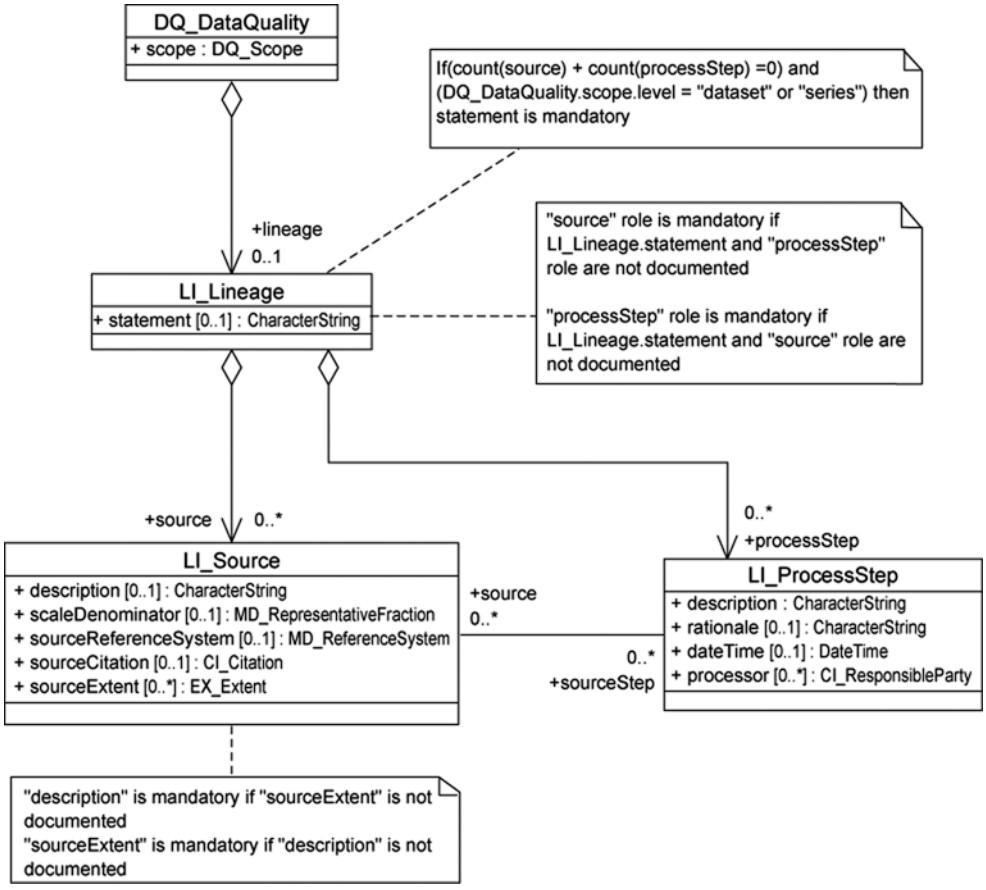

Figure A.5 — Lineage information

Page 24, subclause A.2.4.3

Replace Figure A.6 with the following:

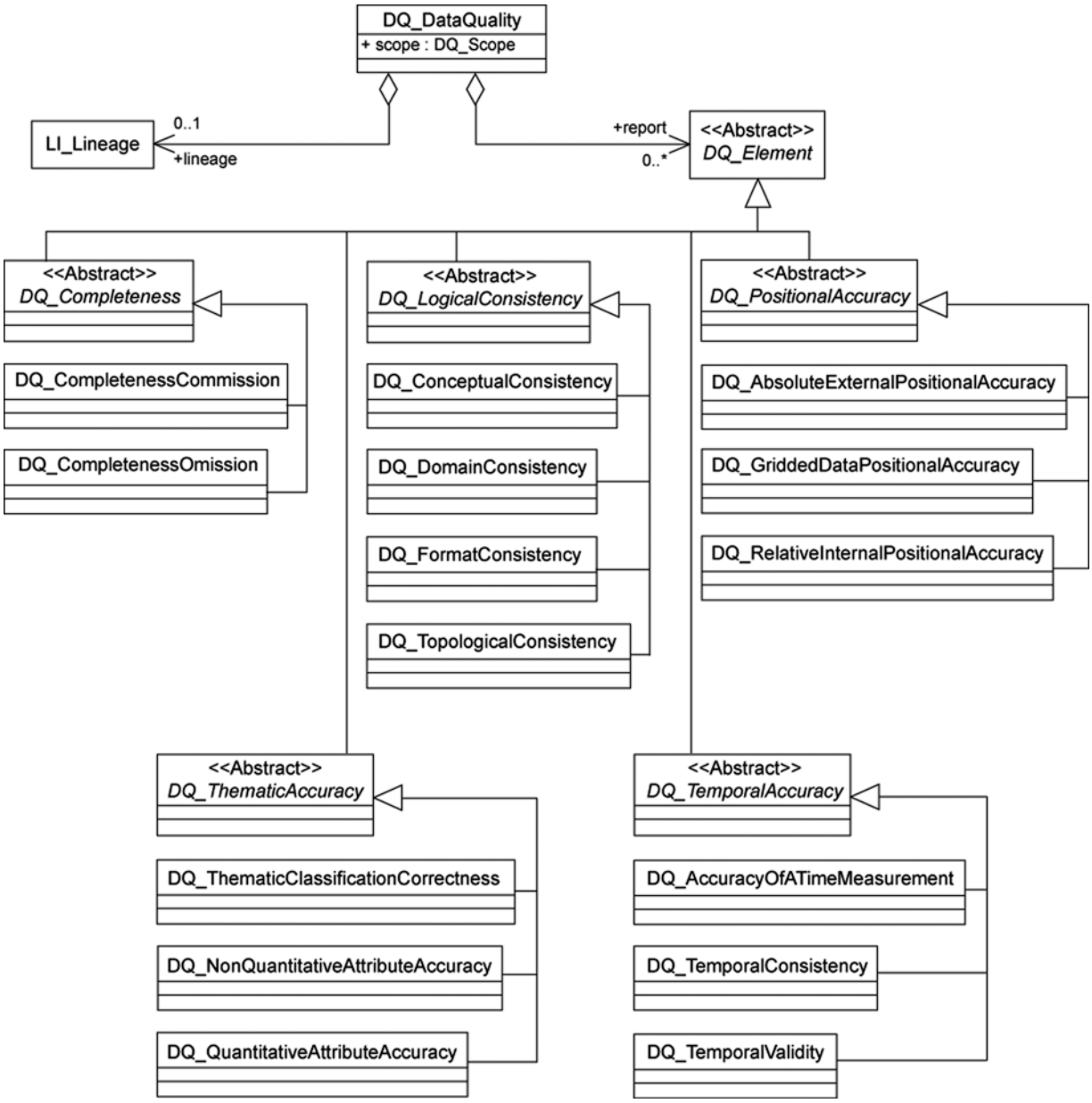

Figure A.6 — Data quality classes and subclasses

Page 25, subclause A.2.5

Replace Figure A.7 with the following:

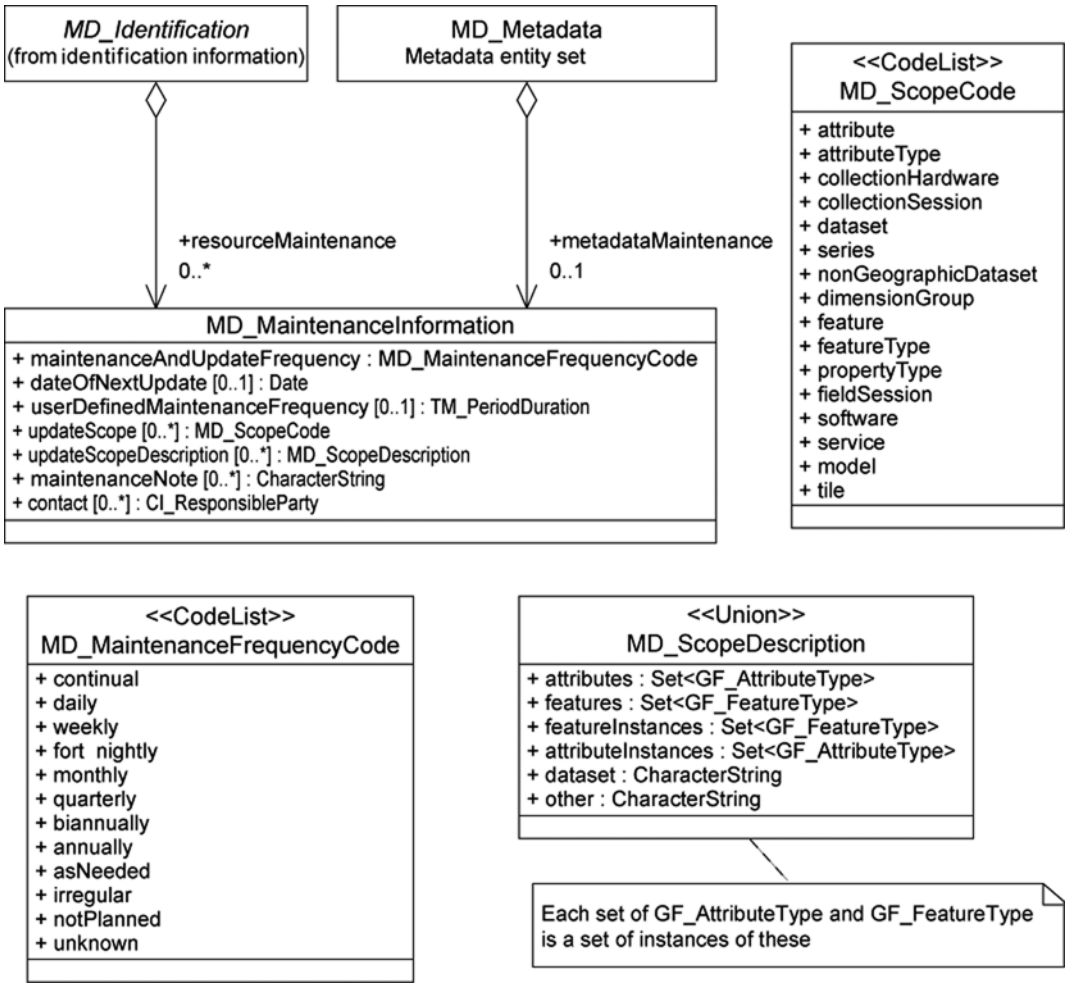

Figure A.7 — Maintenance information

Page 26, subclause A.2.6

Replace Figure A.8 with the following:

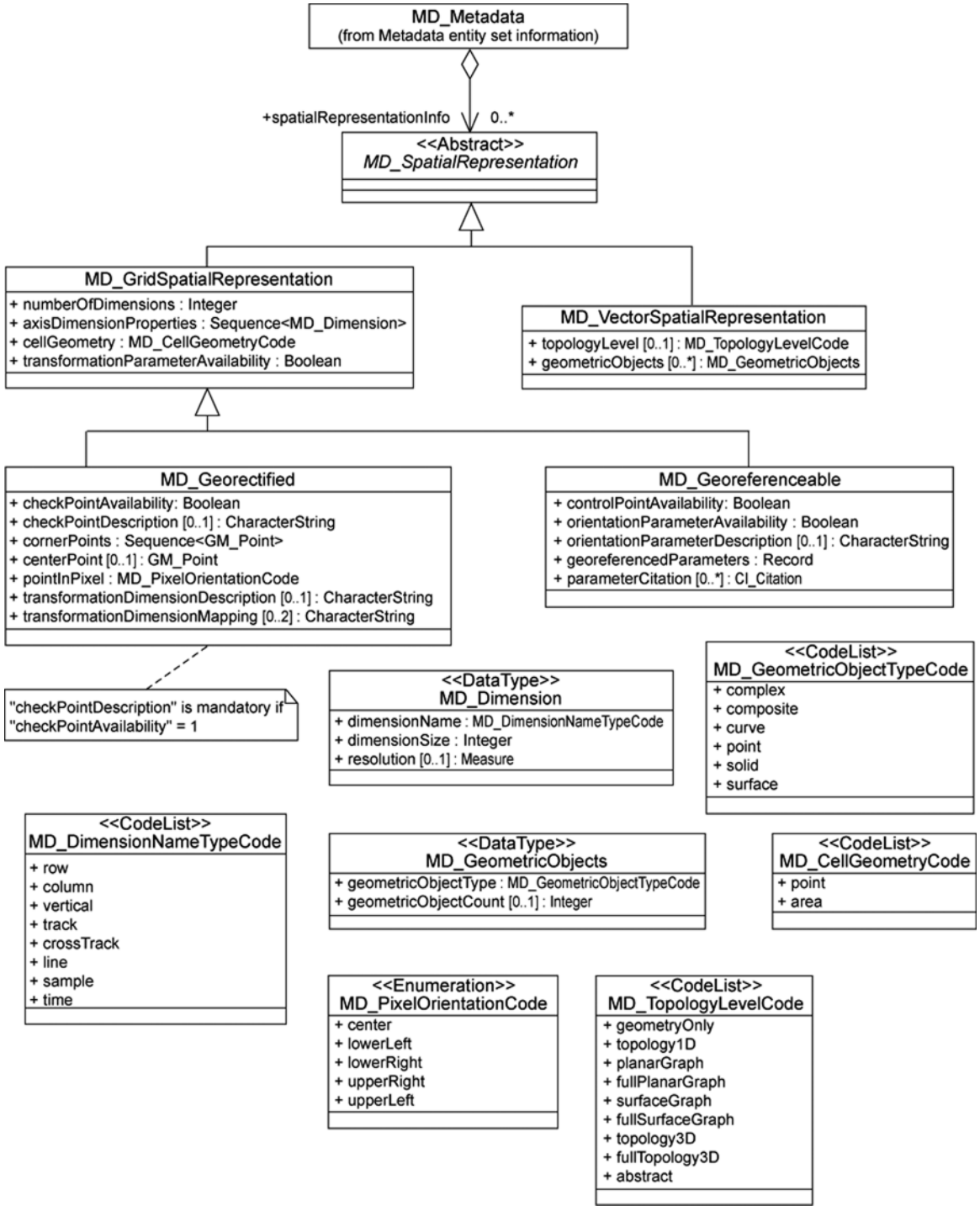

Figure A.8 — Spatial representation information

Page 27, subclause A.2.7

Replace Figure A.9 with the following:

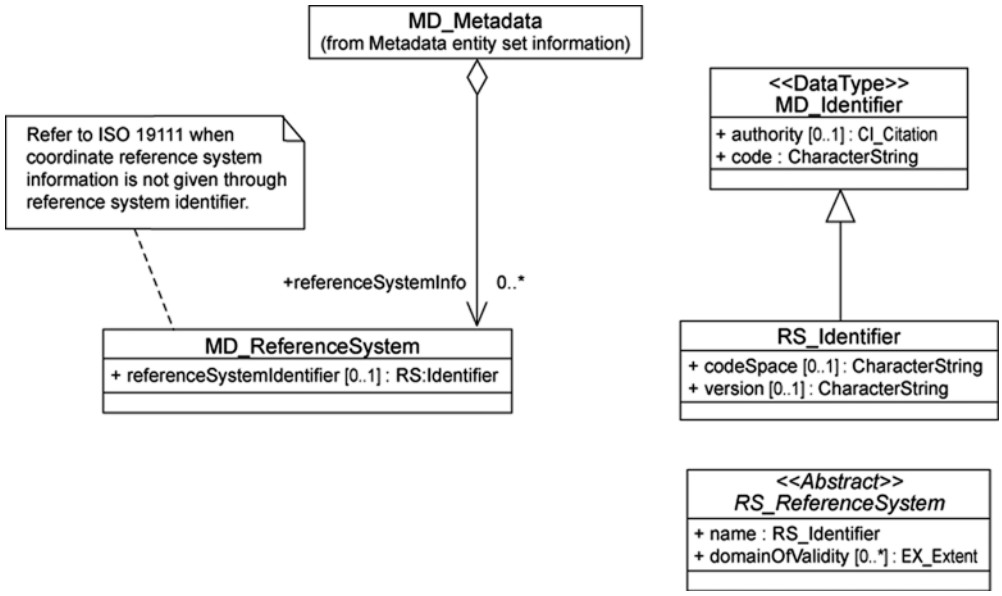

Figure A.9 — Reference system information

Page 28, subclause A.2.8

Replace Figure A.10 with the following:

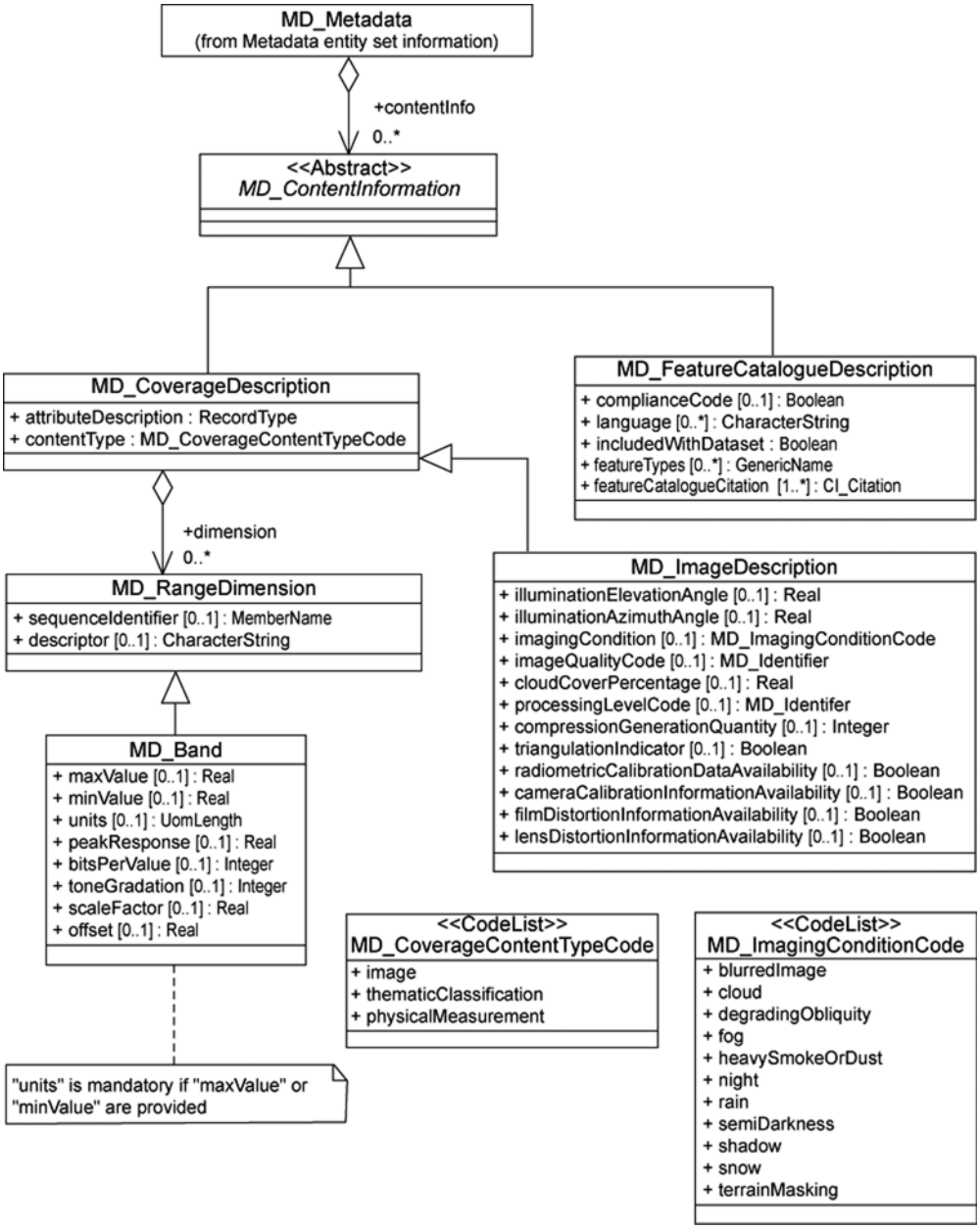

Figure A.10 — Content information

Page 30, subclause A.2.10

Replace Figure A.12 with the following:

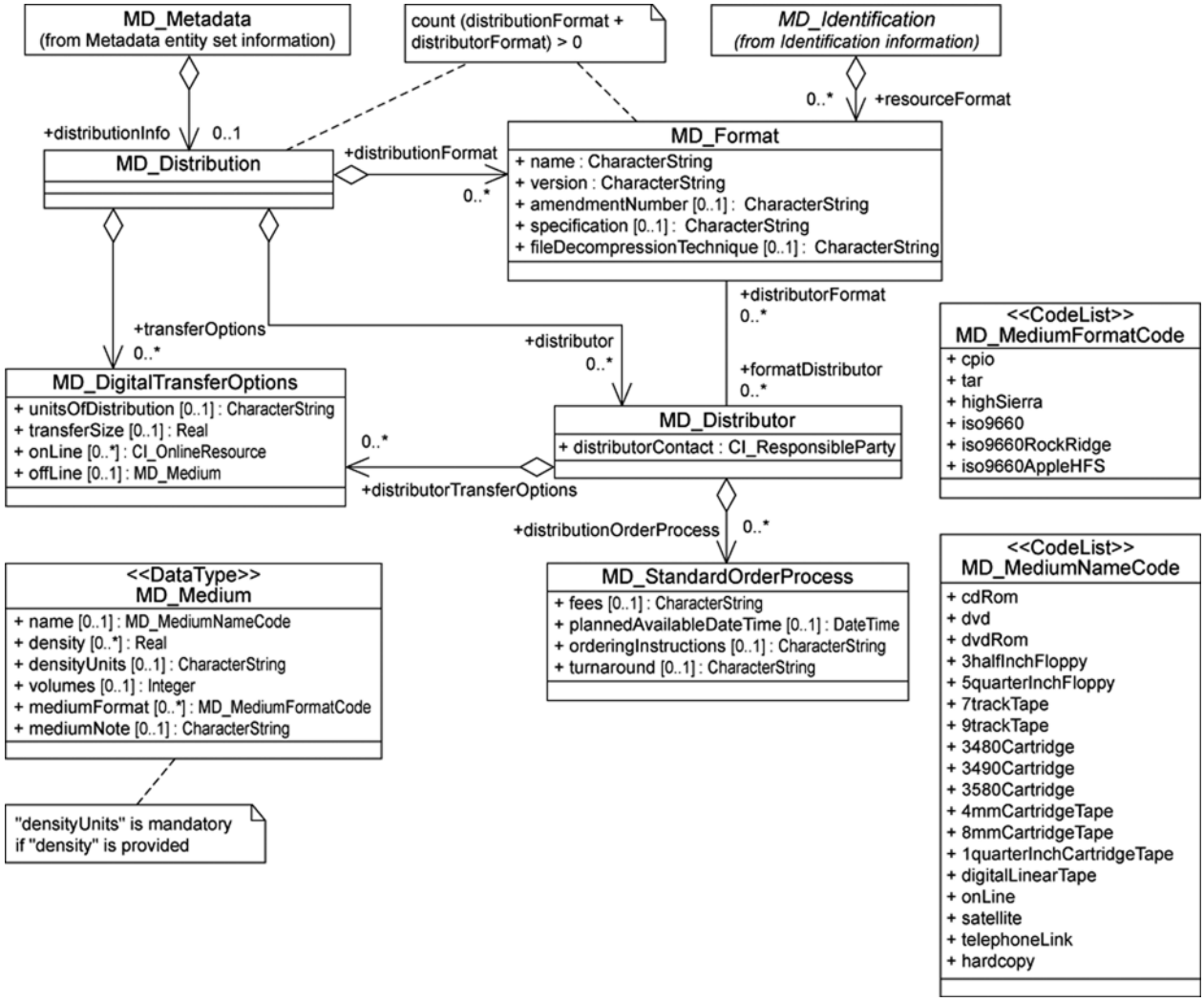

Figure A.12 — Distribution information

Page 31, subclause A.2.11

Replace Figure A.13 with the following:

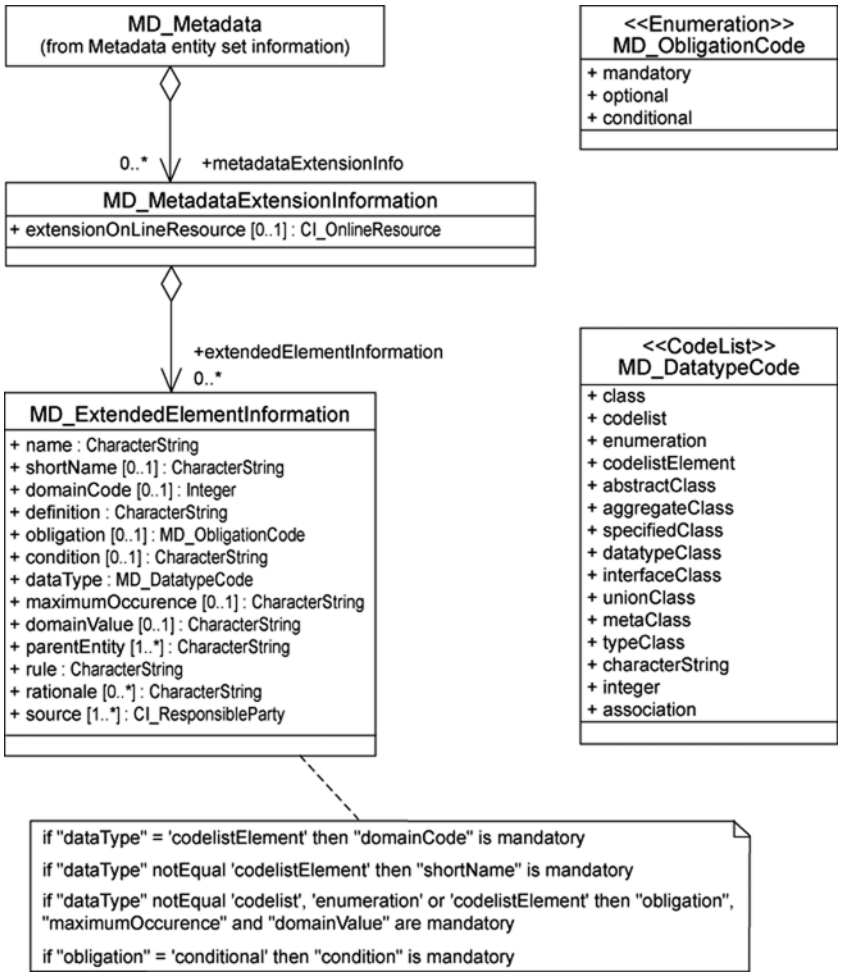

Figure A.13 — Metadata extension information

Page 33, subclause A.3.1

Replace Figure A.15 with the following:

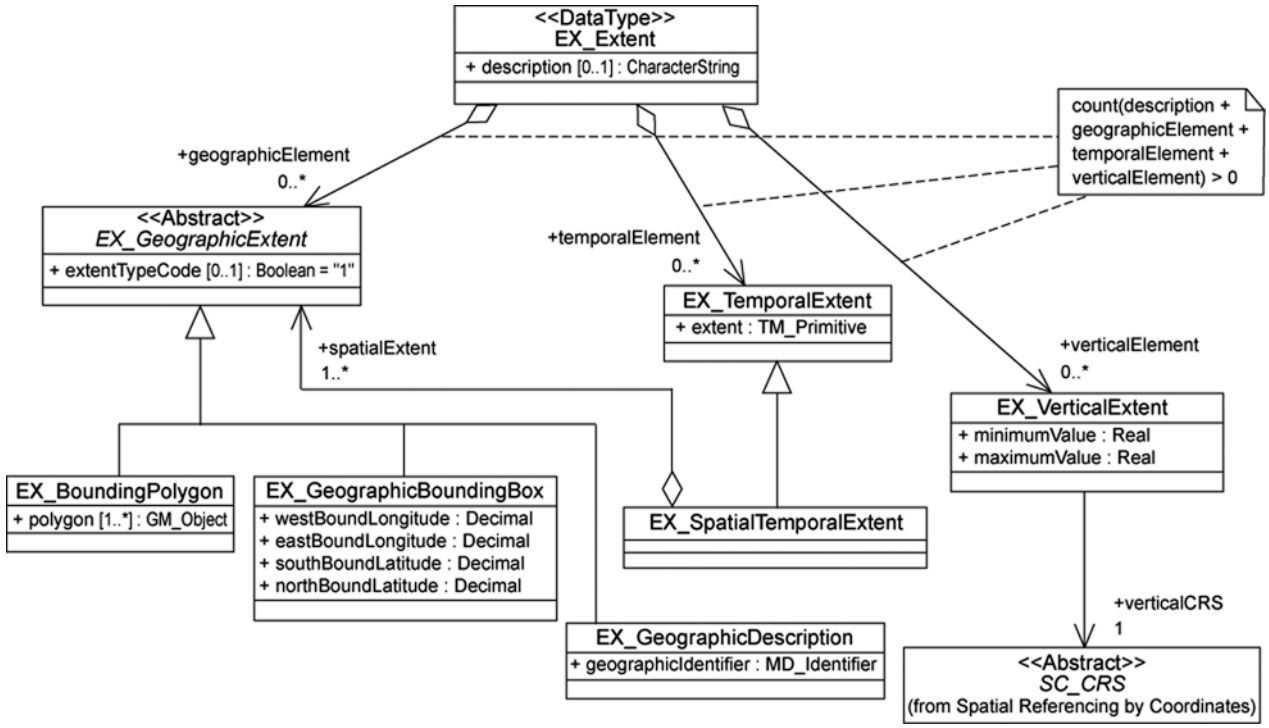

Figure A.15 — Extent information

Page 34, subclause A.3.2

Replace Figure A.16 with the following:

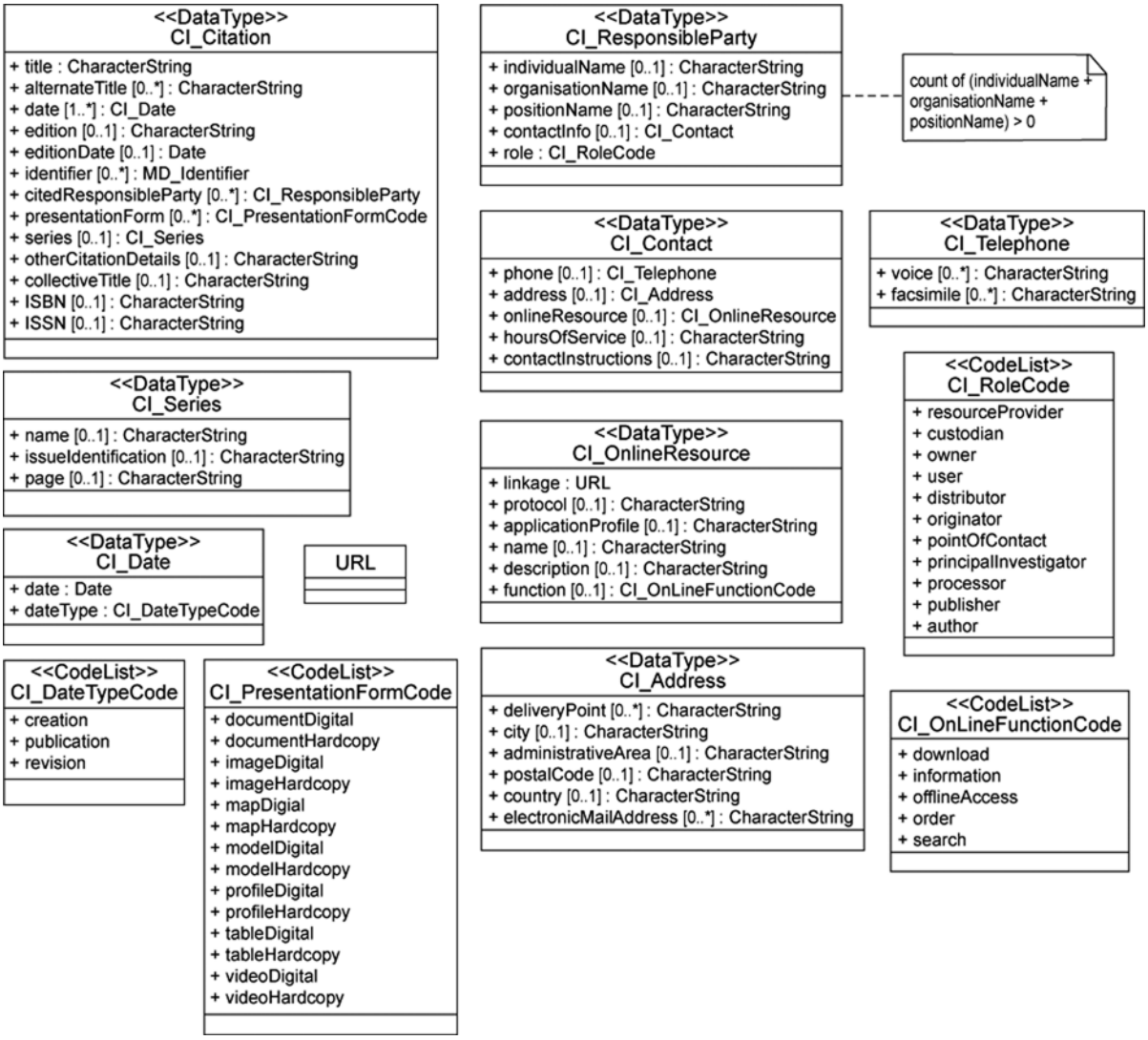

Figure A.16 — Citation and responsible party information

Page 38, subclause B.2.1

Replace row 5 with the following:

5	parentIdentifier	mdParentID	file identifier of the metadata to which this metadata is a subset (child)	C / If there is an upper hierarchy level	1	CharacterString	Free text

Replace row 11 with the following:

11	metadataStandardVersion	mdStanVer	version of the metadata standard (version of the profile) used	O	1	CharacterString	Free text

Add new row 11.2:

11.2	locate	loc	Provides information about an alternatively used localized character string for a linguistic extension	O	N	Class	PT_Locale

Page 42, subclause B.2.2.1

Replace row 47 with the following:

47.	SV_ServiceIdentification	SerIdent	identification of capabilities which a service provider makes available to a service user through a set of interfaces that define a behaviour - See ISO 19119 for further information	Use obligation from referencing object	Use maximum occurrence from referencing object	Specified Class (MD_Identification)	Lines 24-35.1

Page 58, subclause B.2.5.2

Replace rows 150 and 151 with the following:

150.	attributes	attribSet	instances of attribute types to which the information applies	C / features, featureInstances, attributeInstances, dataset and other not documented?	1	Set (B.4.7)	GF_AttributeType (B.4.4)
151.	features	featSet	instances of feature types to which the information applies	C / attributes, featureInstances, attributeInstances, dataset and other not documented?	1	Set (B.4.7)	GF_FeatureType (B.4.4)

Page 60, subclause B.2.6.1

Replace row 165 with the following:

165.	cornerPoints	cornerPts	earth location in the coordinate system defined by the Spatial Reference System and the grid coordinate of the cells at opposite ends of grid coverage along two diagonals in the grid spatial dimensions. There are four corner points in a georectified grid; at least two corner points along one diagonal are required. The first corner point corresponds to the origin of the grid.	M	1	Sequence (B.4.7)	GM_Point <<Type>> (B.4.6)

Page 63, subclause B.2.7.1

Replace the contents of B.2.7.1 with the following:

- UML model shown in Figure A.9

	Name / Role Name	Short Name	Definition	Obligation / Condition	Maximum occurrence	Data type	Domain
186.	MD_ReferenceSystem	RefSystem	information about the reference system	Use obligation/condition from referencing object	Use maximum occurrence from referencing object	Aggregated Class (MD_Metadata)	Line 187
187.	referenceSystemIdentifier	refSysId	name of reference system	Refer to SC_CRS in ISO 19111 when coordinate reference system information is not given through reference system identifier	1	Class	RS_Identifier (B.2.7.3)
188.	intentionally left blank						
189.	intentionally left blank						
190.	intentionally left blank						
191.	intentionally left blank						
192.	intentionally left blank						
193.	intentionally left blank						
194.	intentionally left blank						
195.	*RS_ReferenceSystem*	RefSys	description of the spatial and temporal reference systems used in the dataset	Use obligation/condition from referencing object	Use maximum occurrence from referencing object	Class <<Abstract>>	Lines 196-197
196.	name	refSysName	name of reference system used	M	1	Class	RS_Identifier (B.2.7.3)
197.	domainOfValidity	domOValid	range which is valid for the reference system	O	N	Class	EX_Extent <<DataType>> (B.3.1)
198.	intentionally left blank						
199.	intentionally left blank						
200.	intentionally left blank						

Page 64, subclause B.2.7.2

Replace the contents of B.2.7.2 with the following:

	Name / Role Name	Short Name	Definition	Obligation / Condition	Maximum occurrence	Data type	Domain
201.	intentionally left blank						
202.	intentionally left blank						
203.	intentionally left blank						
204.	intentionally left blank						

Page 65, subclause B.2.7.3

Replace row 205 with the following:

205.	<<DataType>> MD_Identifier	MdIdent	value uniquely identifying an object within a namespace	Use obligation/condition from referencing object	Use maximum occurrence from referencing object	Class	Lines 206-207

Page 65, subclause B.2.7.4

Replace the contents of B.2.7.4 with the following:

	Name / Role Name	Short Name	Definition	Obligation / Condition	Maximum occurrence	Data type	Domain
209.	intentionally left blank						
210.	intentionally left blank						
211.	intentionally left blank						

Page 66, subclause B.2.7.5

Replace the contents of B.2.7.5 with the following:

	Name / Role Name	Short Name	Definition	Obligation / Condition	Maximum occurrence	Data type	Domain
212.	intentionally left blank						
213.	intentionally left blank						
214.	intentionally left blank						

Page 66, subclause B.2.7.5

Replace the contents of B.2.7.6 with the following:

	Name / Role Name	Short Name	Definition	Obligation / Condition	Maximum occurrence	Data type	Domain
215.	intentionally left blank						
216.	intentionally left blank						
217.	intentionally left blank						
218.	intentionally left blank						
219.	intentionally left blank						
220.	intentionally left blank						
221.	intentionally left blank						
222.	intentionally left blank						
223.	intentionally left blank						
224.	intentionally left blank						
225.	intentionally left blank						
226.	intentionally left blank						
227.	intentionally left blank						
228.	intentionally left blank						
229.	intentionally left blank						

	Name / Role Name	Short Name	Definition	Obligation / Condition	Maximum occurrence	Data type	Domain
230.	intentionally left blank						
231.	intentionally left blank						

Page 70, subclause B.2.8.1

Replace row 243 with the following:

243.	MD_ImageDescription	ImgDesc	information about an image's suitability for use	Use obligation/ condition from referencing object	Use maximum occurrence from referencing object	Specified Class (MD_Coverage Description)	Lines 244-255 and 240-242

Page 76, subclause B.2.10.5

Replace row 295 with the following:

295.	volumes	medVol	number of items in the media identified	O	1	Integer	>0

Page 82, subclause B.3.1.2

Replace row 342 with the following:

342.	polygon	polygon	sets of points defining the bounding polygon	M	N	Class	GM_Object (B.4.6)

Page 83, subclause B.3.1.2

Replace rows 344, 345, 346 and 347 with the following:

344.	westBoundLongitude	westBL	western-most coordinate of the limit of the dataset extent, expressed in longitude in decimal degrees (positive east)	M	1	Decimal	-180,0 <= West Bounding Longitude Value <= 180,0
345.	eastBoundLongitude	eastBL	eastern-most coordinate of the limit of the dataset extent, expressed in longitude in decimal degrees (positive east)	M	1	Decimal	-180,0 <= East Bounding Longitude Value <= 180,0
346.	southBoundLatitude	southBL	southern-most coordinate of the limit of the dataset extent, expressed in latitude in decimal degrees (positive north)	M	1	Decimal	-90,0 <= South Bounding Latitude Value <= 90,0; South Bounding Latitude Value <= North bounding Latitude Value
347.	northBoundLatitude	northBL	northern-most, coordinate of the limit of the dataset extent expressed in latitude in decimal degrees (positive north)	M	1	Decimal	-90,0 <= North Bounding Latitude Value <= 90,0; North Bounding Latitude Value >= South Bounding Latitude Value

Page 85, subclause B.3.1.4

Replace rows 357 and 358 with the following:

357.	intentionally left blank						
358.	*role name:* verticalCRS	vertCRS	provides information about the vertical coordinate reference system to which the maximum and minimum elevation values are measured. The CRS identification includes unit of measure.	M	1	Association	SC_CRS (B.4.9)

Page 87, subclause B.3.2.2

Replace row 385 with the following:

385.	country	country	country of the physical address	O	1	CharacterString	Free text

Page 92, subclause B.4.9

Replace B.4.9 with the following:

B.4.9 Vertical coordinate reference system information

SC_CRS: set of parameters describing the relation of gravity-related heights to the Earth. This class is fully documented in ISO 19111.

Page 96, subclause B.5.10

Replace row 18 with the following:

18.	(reserved for future use)	017	a future ISO/IEC 8-bit single-byte coded graphic character set (e.g. possibly ISO/IEC 8859-12)

Page 101, subclause B.5.25

Replace row 2 with the following:

2.	attribute	001	information applies to the attribute value

Replace row 7 with the following:

7.	series	006	information applies to the series Note: “series” applies to any DS_Aggregate.

Page 112, subclause E.2

Replace Figure E.1 with the following:

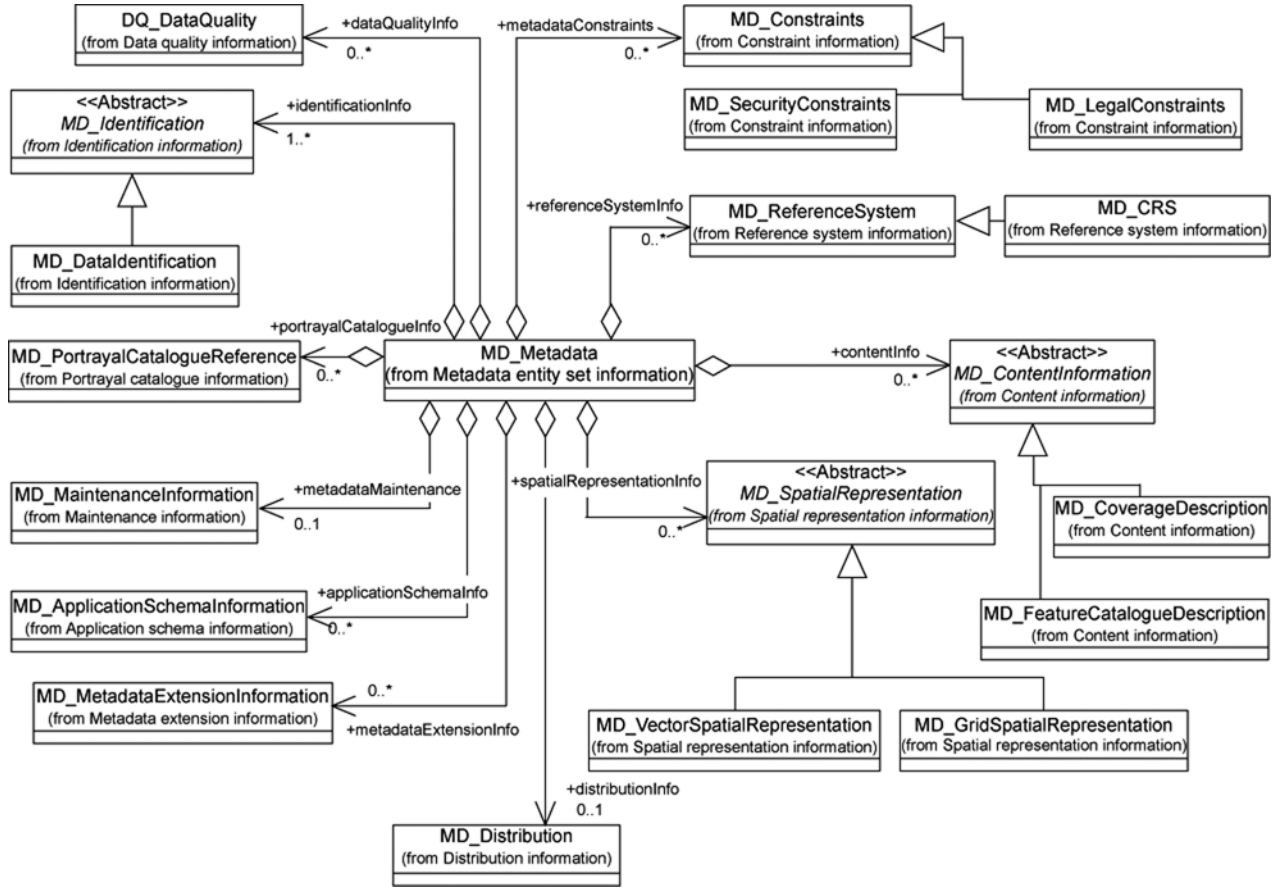

Figure E.1 — Comprehensive dataset metadata profile

Page 114, subclause F.4

Replace list item III with the following:

III) Go to Stage 9.

Page 117, subclause F.10

Replace paragraph three with the following:

Seven possible types of extensions may be documented:

- Definition of a new metadata section.
- Definition of new metadata codelist to replace a “free text” domain.
- Definition of additional metadata codelist elements.
- Definition of a new metadata element.
- Definition of new metadata entity.
- Definition of more stringent metadata obligation.
- Definition of a restricted metadata domain.

Page 126, subclause I.2

Replace the example in I.2 with the following:

MD_Metadata
+identificationInfo
MD_DataIdentification
citation:
. CI_Citation
. title: Exploration Licences for Minerals
. date:
. CI_Date
. date: 193001
. dateType: 001
abstract: Location of all current mineral Exploration Licences issued under the Mining Act, 1971. Exploration Licences provide exclusive tenure rights to explore for mineral resources for up to a maximum of 5 years. Comment is sought on applications for Exploration Licences from numerous sources before granting. Exploration programs are subject to strict environmental and heritage conditions. Exploitation of identified resources must be made under separate mineral production leases.
status: 004
pointOfContact:
. CI_ResponsibleParty
.. contactInfo:
.. CI_Contact
.. phone:
.. …. CI_Telephone
.. …. voice: 61 8 8463 3306
.. …. facsimile: 61 8 8463 3268
.. address:
.. …. CI_Address
.. …. deliveryPoint: GPO Box 167
.. …. city: Adelaide
.. …. administrativeArea: South Australia
.. …. postalCode: 5001
.. …. country: Australia
.. …. electronicMailAddress: pirsa.spatial@saugov.sa.gov.au
.. onlineResource:
.. …. CI_OnlineResource
.. …. linkage: http://www.pir.sa.gov.au
.. role: 007
.. organisationName: Department of Primary Industries and Resources SA
.. positionName: GIS Coordinator
+resourceConstraints
.. MD_Constraints
.. useLimitation: The data should not be used at a scale larger than 1:50 000.
+resourceFormat
.. MD_Format
.. name: ArcInfo Export
.. version: 8.0.2
+resourceFormat
.. MD_Format
.. name: MapInfo
.. version: 6.0
+resourceFormat
.. MD_Format
.. name: DXF
.. version: 14
+resourceFormat
.. MD_Format
.. name: Plotted Maps

..version: Not applicable
+resourceSpecificUsage
. MD_Usage
. specificUsage: Used to supply government, industry and the general public with an up-to-date status and extent of mineral exploration activities throughout the State.
. userContactInfo:
. CI_ResponsibleParty
. role: 007
. positionName: GIS Coordinator
+resourceMaintenance
..MD_MaintenanceInformation
..maintenanceAndUpdateFrequency: 002
+descriptiveKeywords
..MD_Keywords
..keyword: BOUNDARIES Administrative
..keyword: INDUSTRY Mining Exploration
..keyword: MINERALS Exploration
..thesaurusName:
.. CI_Citation
.. title: ANZLIC Search Words
.. date:
.. ….CI_Date
.. ….date: 199607
.. ….dateType: 002
purpose: The dataset was developed to record information necessary for the administration of the Mining Act.
spatialRepresentationType: 001
spatialResolution:
..MD_Resolution
..equivalentScale:
.. MD_RepresentativeFraction
.. denominator: 50000
characterSet: 001
topicCategory: 003
topicCategory: 008
extent:
..EX_Extent
…….. +geographicElement
…….. EX_GeographicBoundingBox
.. ….westBoundLongitude: 129.0
.. ….eastBoundLongitude: 141.0
.. ….southBoundLatitude: -26.0
.. ….northBoundLatitude: -38.5
…….. description: South Australia
language: en
+dataQualityInformation
DQ_DataQuality
scope:
. DQ_Scope
. level: dataset
+lineage
. LI_Lineage
. statement: Source Data History: Exploration Licence boundaries were sourced from the official Mining Register licence documents. Licence boundaries are legally defined to follow lines of latitude and longitude. The register has existed since 1930. Processing Steps: Coordinates entered by keyboard from licence documents. Linework cleaned to remove duplicate arcs. Data adjusted for accurate state border and coastline. Where appropriate, cadastral parcels removed from licence polygons. Associated attribute data also captured from licence documents.
+report
. DQ_CompletenessOmission

. result:
. DQ_QuantitativeResult
. valueUnit
. …. uomName: percent
. value: Spatial data is 100% complete. Associated attribute data is 100% complete.
. DQ_TopologicalConsistency
. result:
. DQ_QuantitativeResult
. valueUnit
. …. uomName: percent
. value: The dataset contains no overshoots, undershoots or duplicate lines. All polygons representing licences contain only one label.
. DQ_PositionalAccuracy
. result:
. DQ_ConformanceResult
. specification:
. CI_Citation
. …. title: Map Boundaries
. …. date
. …. CI_Date
. …. date: 199703
. …. dateType: 002
. explanation: Most boundary locations are constructed from lines of latitude and longitude, hence are scale independent. The accuracy of other boundaries is dependent upon the source, eg. state border, coastline, cadastre.
. pass: 1
. DQ_ThematicAccuracy
. result:
. DQ_QuantitativeResult
. valueUnit
. …. uomName: percent
. value: Validation checks are performed periodically, resulting in an estimated 99% accuracy. These checks include comparisons between reports from the spatial dataset and the digital Mining Register.

+referenceSystemInfo
MD_ReferenceSystem
referenceSystemIdentifier:
. RS_Identifier
. code: GDA 94
. codeSpace: DIPR

fileIdentifier: ANZSA1000001233
language: en
characterSet: 001
contact:
CI_ResponsibleParty
role: 002
organisationName: Department of Primary Industries and Resources SA
dateStamp: 20000803
metadataStandardName: ISO 19115
metadataStandardVersion: FDIS
dataset: https://info.pir.sa.gov.au/geometa/migs/MIGS_Down_cat.jsp

Page 129, subclause I.3

Replace Figure I.1 with the following:

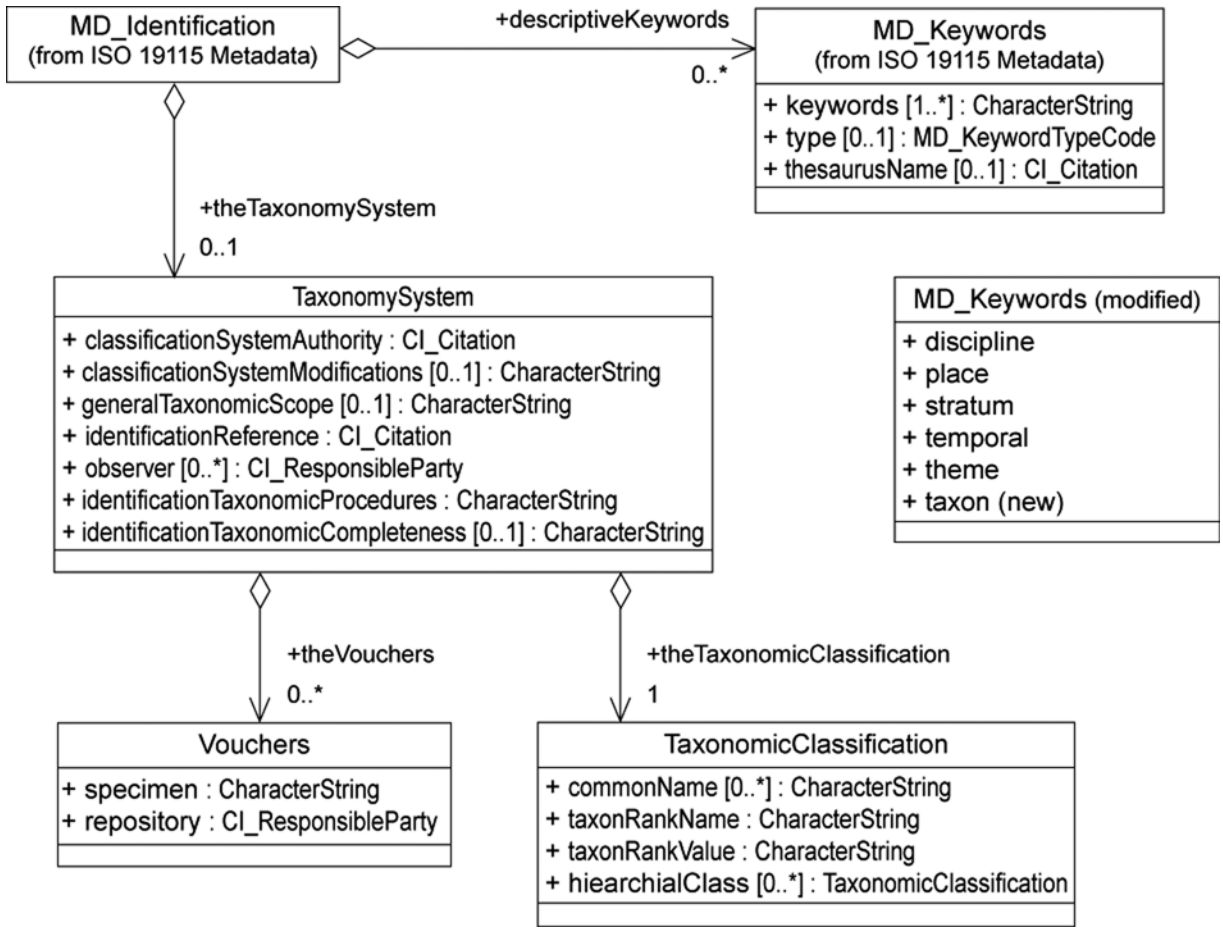

Figure I.1 — Examples of extended metadata

Page 131, subclause I.4

Replace the row “IdentificationReference” (row 6) with the following:

Identification Reference	idref		information on any non-authoritative materials (e.g. field guides) useful for reconstructing the actual process	M	Class	CI_Citation	N	TaxonomySystem	New Metadata class	This information can be useful for someone who wishes to make use of a data set, and perhaps expand on it, following similar procedures	National Biological Information Infrastructure (NBII)

Page 132, subclause I.4

Replace the rows “Role Name: theVouchers” and “Vouchers” (rows. 10 and 11) with the following:

Role name: theVouchers	voucher		information about the voucher	Vouchers used	Association						
Vouchers	Vouchers		information on the types of specimen, the repository, and the individuals who identified the vouchers.	Use obligation/ condition from referencing object	Class		N	TaxonomicSystem	New Metadata class		National Biological Information Infrastructure (NBII)

Page 135, subclause I.4

Replace the row “hierarchicalClass” (row 19) with the following:

Hierachical Class	hiclass		number of recursive sets of taxonomic classification systems	O	Class	Taxonomic Classi-fication	N	Taxonomic Classification	New Metadata attribute	To provide the capability to declare the number of recursive taxonomic classification systems	National Biological Information Infrastructure (NBII)

Annex A
(informative)

Table of changes

Clause No./ Subclause No./ Annex	Paragraph/ Figure/Table/ Note	Changes made
5.5		Lines CC, CV, FC, FE, FT, GR, PF, PS, SI, TP, TS are removed.
6.2	2nd and 4th sentences	The wording in the 2nd and 4th sentences has been clarified.
6.2	Figure 3	The association between DS_Aggregation and DS_DataSet is dual, and the arrowhead is removed. *DS_Series* is defined as an abstract stereotype.
6.3.2.2	Last paragraph	MD_DateIdentification is corrected to MD_DataIdentification.
6.3.2.7		Overlap with ISO 19111. The first sentence is slightly changed and the rest of the paragraph removed.
A.2.1	Figure A.1	Added attribute “locale(0..*): PT_Locale” to Class MD_Metadata. Added to the constraint of MD_Metadata: “parentIdentifier: documented if the hierarchy of a higher level exists”.
A.2.2	Figure A.2	Corrected misspelling of attribute “discipline” in MD_KeywordTypeCode. Changed “MD_IntiativeTypeCode” to “DS_IntiativeTypeCode”. Removed stereotype <<DataType>> from MD_AggregateInformation. Clarified last wording in last sentence of the condition statement. Changed “MD_ServiceIdentification” to “SV_ServiceIdentification” and added (from Service Metadata).
A.2.4.1	Figure A.4	Corrected spelling of Class name “LI_Lineage”. Corrected spelling of role name “+lineage”. Corrected spelling of “lineage” in constraint box. Changed class “*DQ_Result*” to italic.
A.2.4.2	Figure A.5	Corrected spelling of role name “+lineage”. Corrected spelling of “scope” in the constraint of LI_Lineage to “DQ_DataQuality.scope.level” Corrected spelling of “sourceExtent” in the constraint of LI_Source.
A.2.4.3	Figure A.6	Changed “*DQ_Completeness*”, “*DQ_LogicalConsistency*”, “*DQ_PositionalAccuracy*”, “*DQ_ThematicAccuracy*” and “*DQ_TemporalAccuracy*” to italic.
A.2.5	Figure A.7	Added class *MD_Identification* and role resourceMaintenance. Added note box to MD_ScopeDescription.
A.2.6	Figure A.8	Corrected spelling of attribute “checkPointAvailability” in MD_Georectified. Changed “MD_DimensionTypeCode” to “MD_DimensionNameTypeCode”.
A.2.7	Figure A.9	New Figure according to ISO 19111 added. The following classes and related associations and note boxes are deleted: “MD_CRS”, “MD_EllipsoidParameters”, “MD_ProjectionParameters”, “MD_ObliqueLineAzimuth”, “MD_ObliqueLinePoint”.

Clause No./ Subclause No./ Annex	Paragraph/ Figure/Table/ Note	Changes made
A.2.8	Figure A.10	Changed “MD_ContentInformation” to italic. Corrected spelling of attribute “includedWithDataset” in MD_FeatureCatalogue_Description. Corrected spelling of attribute “semiDarkness” in MD_ImageConditionCode. Corrected spelling of attributes “illuminationElevationAngle” and “illuminationAzimuthAngle” in MD_ImageDescription.
A.2.10	Figure A.12	Added class *MD_Identification* and role resourceFormat. Corrected role name “+formatDistributor”. Corrected attribute in MD_Medium from “mediumName” to “mediumNote”.
A.2.11	Figure A.13	Corrected spelling of role name “metadataExtensionInfo”.
A.3.1	Figure A.15	Changed attributes of “EX_ GeographicBoundingBox” from datatype “angle” to “decimal”. Deleted attribute “unitOfMeasure” from “EX_VeritcalExtent”. Changed role name “verticalDatum” to “verticalCRS” Changed class “SC_VerticalDatum” to “*SC_CRS*”.
A.3.2	Figure A.16	Corrected spelling of attribute “administrativeArea” in CI_Address. Corrected class name in attribute “address” in CI_Contact to “CI_Address”.
B.2.1	Row 5	Changed Obligation/Condition in row 5 from “C/ hierarchyLevel is not equal to “dataset”?” to “ C/ If there is an upper hierarchy level”.
B.2.1	Row 11	Changed Definition from “version (profile) of the metadata standard used” to “version of the metadata standard (version of the profile) used”.
B.2.1	Row 11.2	Added new row 11.2 “locate”.
B.2.2.1	Row 47	Added correct class name: “SV_ServiceIdentification”.
B.2.5.2	Row 150	Clarified wording of Definition from “attributes to which the information applies” to “instances of attribute types to which the information applies”.
B.2.5.2	Row 151	Clarified wording of Definition from “features to which the information applies” to “instances of features types to which the information applies”.
B.2.6.1	Row 165	Added sentence at the end of Definition “The first corner point corresponds to the origin of the grid.” to clarify the definition.
B.2.7.1	Table	The table has been replaced with changes described for rows 187 and 189-194 below.
B.2.7.1	Row 187	Obligation/Condition changed.
B.2.7.1	Rows 189-194	Content of rows deleted due to overlap with ISO 19111.
B.2.7.2	Rows 201-204	The table has been replaced. Contents of rows deleted due to overlap with ISO 19111.
B.2.7.3	Row 205	Added <<DataType>> to name of class MD_Identifier.
B.2.7.4	Rows 209-211	The table has been replaced. Content of rows deleted due to overlap with ISO 19111.
B.2.7.5	Rows 212-214	The table has been replaced. Content of rows deleted due to overlap with ISO 19111.
B.2.7.6	Rows 215-231	The table has been replaced. Content of rows deleted due to overlap with ISO 19111.
B.2.8.1	Row 243	Clarified by changing Obligation/Condition from “0” to “Use obligation/condition from referencing object”.
B.2.10.5	Row 295	Corrected Domain from “>0.0” to “>0”.

Clause No./ Subclause No./ Annex	Paragraph/ Figure/Table/ Note	Changes made
B.3.1.2	Row 342	Corrected Domain from “GM_Object (B.4.6) -90 to 90 latitude -180 to 360 longitude” to “GM_Object (B.4.6)”.
B.3.1.2	Row 344	Added missing Data type “Decimal” and removed “Angle” from Domain.
B.3.1.2	Row 345	Corrected Data type to “Decimal” and removed “Angle” from Domain.
B.3.1.2	Row 346	Corrected Data type to “Decimal” and removed “Angle” from Domain.
B.3.1.2	Row 347	Corrected Data type to “Decimal” and removed “Angle” from Domain.
B.3.1.4	Row 357	Content of row deleted due to overlap with ISO 19111.
B.3.1.4	Row 358	Role name changed from “verticalDatum” to “verticalCRS”. Short name changed from “vertDatum” to “vertCRS”. Changed Definition from “provides information about the origin from which the maximum and minimum elevation values are measured” to “provides information about the vertical coordinate reference system to which the maximum and minimum elevation values are measured. The CRS identification includes unit of measure.”
B.3.2.2	Row 385	Removed unnecessary restriction to ISO 3166-3 and changed Domain to “Free text”.
B.4.9		Replaced start of sentence from “SC_VerticalDatum:” to “SC_CRS:”.
B.5.10	Row 18	Corrected “8859 part 12” to “ISO/IEC 8859-12” in Definition.
B.5.25	Row 2	Changed “attribute class” to “attribute value” in Definition.
B.5.25	Row 7	Added note in Definition to clarify use of “series”.
E.2	Figure E.1	Corrected spelling of “Maintenance information” in the class MD_MaintenanceInformation. Added sub-class relationship from *MD_Identification* to MD_DataIdentification. Changed *MD_ContentInformation* to italic. Changed *MD_SpatialRepresentation* to italic.
F.4	III)	Corrected spelling “Go to Stage 9”.
F.10	Bullet list	Changed the order of the last two bullets.
I.2		The order of the elements “dateType” and “date” has been changed throughout the example.
I.3	Figure I.1	Corrected spelling of attribute “place” in MD_Keywords (modified).
I.4	Identification Reference	Added “CI_Citation” in Domain.
I.4	Role name: theVouchers	Added “vouchers used” in Obligation/Condition.
I.4	Vouchers	Changed from “C/ vouchers used” to “Use obligation/condition from referencing object” in Obligation/Condition.
I.4	HierarchicalClass	DataType changed from “Character String” to “Class” Domain changed from “Free Text” to “Taxonomic Classification”.