CCOP STANDARD

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Edition 2

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Geoinformation Metadata

COORDINATING COMMITTEE FOR GEOSCIENCE PROGRAMMES IN EAST AND SOUTHEAST ASIA

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Foreword

The *CCOP Standard of Metadata for Geological Maps* (consisting of 28 elements, hereinafter the *Former Standard*), issued by CCOP Metadata Working Group in March 2003, has been the antecedent in metadata construction in most of the Member Countries of CCOP (COORDINATING COMMITTEE FOR GEOSCIENCE PROGRAMMES IN EAST AND SOUTHEAST ASIA) and has contributed to the improvement of the management and social service of spatial information of geological maps of the Member Countries.

As information technology advances, sharing of geoinformation at a higher level and wider aspects amongst CCOP Member Countries becomes crucial, especially that geo-scientific projects of CCOP cover not only geological mapping, but also energy (oil and gas, coal and geothermal), minerals, groundwater, geo-hazard, coastal zone, geophysics and geochemistry, etc. In this aspect, the *Former Standard* is not enough to describe the available data that the Member Countries have. At the same time, publications of standards regarding metadata by both international standardization organizations and some Member Countries begin to appear, and some of which are closely connected with geological information metadata, including ISO 19115-2003 (E) Geographic information-Metadata and CGS DD2006-05 Geoinformation Metadata Standard of China Geological Survey.

This standard is then developed in 2008 by CCOP Metadata Working Group based on ISO19115 and CGS Standard to meet the needs of CCOP metadata development, with reference to Dublin Core metadata element set (ISO15836: 2003 (E), simplified as Dublin Core hereinafter). It covers the entire metadata contents of the *Former Standard* and *Dublin Core*, and is more normative in structures and definitions, more complete and richer in contents. This standard covers the appropriate geoinformation core metadata standard, and is applicable to the publication and interchange of spatial and non-spatial geoinformation.

This standard is developed by the following experts of the CCOP Metadata Working Group with the collaboration and support of China Geological Survey.

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This standard is released by CCOP.

Geoinformation Metadata

1 Scope

This standard defines the schema required for describing geoinformation. It provides information about the identification, quality, contents, spatial reference information, and the distribution of geoinformation.

This standard applies to the description, dataset information publication, and interchange of the geological datasets which consists of various spatial data and non-spatial information datasets. It can also be referenced in the metadata collection and the metadata database construction.

2 Terms and definitions

For the purpose of this document, the following terms and definitions apply.

2.1 Dataset

Identifiable collection of data.

Note: Collection of data can either be a database or part of a database.

2.2 Metadata

Data about data. It describes the related information about the data, including contents, extents, quality, status, management, owner, and distribution.

2.3 Metadata element

Discrete unit of metadata. Metadata elements are collected and described in tables. These tables are also called metadata dictionary.

2.4 Metadata section

Set of metadata elements describing the same aspect of a dataset. Metadata section can be either a single section or an aggregation of one or more sections and elements.

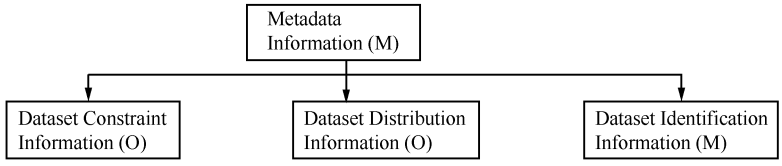

Figure 1 The structure diagram of geoinformation metadata

3 Metadata structure and contents

3.1 Metadata structure

Geoinformation metadata comprises of 4 sections. Figure 1 describes the structure of geoinformation

metadata. Metadata information contains one mandatory (M) section and two optional (O) sections and a common class named ResponsibleParty. Each metadata section contains one or more sections, classes and metadata elements.

3.2 Metadata contents

3.2.1 Metadata information

Metadata information is a mandatory section. It describes the whole metadata information of geoinformation, and is represented by MD_ Metadata. It comprises of the following metadata sections and elements:

Mandatory section:

MD_ Identification

Optional section

MD_ Constraint

MD_ Distribution

Mandatory elements

metadataTitle

metadataStamp

Optional elements

characterSet

language

contact (refer to a common class)

3.2.2 Dataset identification information

Dataset identification information is a mandatory section, and represented by MD_ Identification. MD_ Identification is an aggregation of the following elements:

Mandatory elements:

title

dateRelease

language

abstract

dataRepresentationType

topicCategory

pointOfContact

Conditional elements:

spatialResolution

eastBoundLongitude

westBoundLongitude

southBoundLongitude

northBoundLongitude

geographicIdentification

browseGraphic

coordinateSystemType

referenceSystemName

Optional elements:

subTitle

dateCreation

edition

seriesName

characterSet

projection

3.2.3 Dataset constraint information

Constraint information is an optional section, which describes general limitation for access and restrictions on using the dataset.

Mandatory elements:

useConstraint

Optional elements:

accessConstraint

3.2.4 Dataset distribution information

Dataset distribution information is an optional section, which describes dataset distributor and data-obtaining method.

Mandatory elements:

distributorContact

mediaName

dataFormatName

Optional element:

onlineResource

3.3 Data dictionary

Data dictionary that describes the details of geoinformation metadata sections, elements and classes with names, short names, definitions, obligation/condition, maximum occurrence, types and domain. The dictionary contains 5 tables together with 7 codelists in Annex.

3.3.1 Name/role name

Section name composition: the definition of English names obeys the international constitution, which starts with the ShortName of section and is followed by "_ ", and then plus the English name of related Class. If the section's English name is a single word, then the first letter is capitalized, e.g., MD_ Metadata.

Element name is the sole marker of metadata element.

Table 1 Metadata information (MD _ Metadata)

No.	Section	Name/Role name	Short name	Definition	Obligation/ Condition	Maximum occurrence	Type	Domain
1	MD_ Metadata		Metadata	Root section which defines metadata about dataset or data resources	M	1	Class	1.1 – 1.6
1.1		metadataTitle	mdTitle	Name of metadata	M	1	String	Free Text
1.2		dataStamp	mdDataSt	Date that the metadata was created	M	1	Date	YYYYMMDD (i. e. YearMonthDay)
1.3		*Role name*: identificationInfo	dataIdInfo	Basic information about the resource (s) to which the metadata applies	M	1	Class	**MD_ Identification**
1.4		*Role name*: constraintsInfo	constInfo	Offering general limitation for access and restrictions on using the dataset	O	1	Class	**MD_ Constraint**
1.5		*Role name*: distributionInfo	distribution	Describing dataset distributor and data-obtaining method	O	N	Class	**MD_ Distribution**
1.6		contact	mdContact	Party/person responsible for the metadata information	O	N	Common Class	**ResponsibleParty**

Table 2 Dataset identification information (MD _ Identification)

No.	Section	Element name	Short Name	Definition	Obligation/ Condition	Maximum occurrence	Type	Domain
2	MD_ Identification		Id	Describing basal information about the geological dataset	M	1		2.1 – 2.23
2.1		title	title	Title or name of the dataset	M	1	String	Free Text
2.2		subtitle	subtitle	An alternative title or name of the dataset to describe the dataset	O	1	String	Free Text
2.3		dateCreation	dateCreat	Date of dataset creation	O	1	Date	YYYYMMDD
2.4		dateRelease	dateReles	Date of dataset release	M	1	Date	YYYYMMDD
2.5		edition	edition	Version of dataset	O	1	String	Free Text
2.6		seriesName	seriName	Name of the dataset series	O	1	String	Free Text
2.7		language	dataLan	Language (s) used within the dataset	M	N	String	LanguageCode (CodeList) A.1
2.8		characterSet	dataChar	Full name of the character coding standard used for the dataset	O	1	Class	CharacterSetCode (CodeList) A.2
2.9		abstract	idAbs	Brief narrative summary of the content of the resource (s), including purpose, source and data quality description.	M	1	String	Free Text
2.10		keyWords	kwords	Keywords used to describe the dataset	O	N	String	Free Text
2.11		dataRepresentationType	dataRpType	The expressing way of spatial data of geological information	M	N	Class	RepresentationTypeCode (CodeList) A.3

Continued

No.	Section	Element name	Short Name	Definition	Obligation/ Condition	Maximum occurrence	Type	Domain
2	MD_ Identification		Id	Describing basal information about the geological dataset	M	1		2.1 – 2.23
2.12		spatialResolution	dataScale	A parameter describing the spatial data density of a dataset, such as scaleDenominator, and average ground sampling intervals.	C/Spatial data is applied	N	String	Free Text
2.13		topicCategory	tpCat	Geological category codes of the main theme (s) of the dataset	M	N	Class	GeoTopicCategoryCode (CodeList) A.4
2.14		pointOfContact	idPoC	A person or party related with the dataset	M	N	Common Class	**ResponsibleParty**
2.15		westBoundLongitude	westBL	Western-most coordinate of the limit of the dataset extent, expressed in longitude in decimal degrees (positive east)	C/neither browseGraphic nor geographicIdentification is documented	1	Real Type	Decimal, degree – 180.0 < = West Bounding Longitude Value < = 180.0
2.16		eastBoundLongitude	eastBL	Eastern-most coordinate of the limit of the dataset extent, expressed in longitude in decimal degrees (positive east)	C/westBoundLongitude is documented	1	Real Type	Decimal, degree – 180.0 < = East Bounding Longitude Value < = 180.0
2.17		southBoundLatitude	southBL	Southern-most coordinate of the limit of the dataset extent, expressed in latitude in decimal degrees (positive north)	C/westBoundLongitude is documented	1	Real Type	Decimal, degree – 90.0 < = South Bounding Latitude Value < = 90.0; South Bounding Latitude Value < = North bounding Latitude Value

Continued

No.	Section	Element name	Short Name	Definition	Obligation/ Condition	Maximum occurrence	Type	Domain
2	MD_ Identification		Id	Describing basal information about the geological dataset	M	1		2.1 – 2.23
2.18		northBoundLatitude	northBL	Northern-most, coordinate of the limit of the dataset extent, expressed in latitude in decimal degrees (positive north)	C/westBoundLongitude is documented	1	Real Type	Decimal, degree – 90.0 < = North Bounding Latitude Value < = 90.0; North Bounding Latitude Value > = South Bounding Latitude Value
2.19		geographicIdentification	geoId	Non-spatial location of a dataset. Describe the conventional or well-known geographic names/ scopes of spatial scopes of a dataset, including place names, map sheet names, and their serial numbers	C/browseGraphic is not documented	N	String	Free text
2.20		browseGraphic	browGraph	The browsing map or index map name of a dataset	C/geographicIdentification is not documented	1	String	Free Text
2.21		referenceSystemName	refSysName	Name of spatial reference system based on geographic identifier	C/spatial dataset is documented	1	String	Free Text
2.22		coordinateSystemType	coodType	Name of coordinate system type	C/spatial dataset is documented	1	Class	CoordinateSystemTypeCode (CodeList) A.6
2.23		projection	proj	Parameters of projection of the data	O	N	String	Free Text

Table 3 Dataset constraint Information (MD _ Constraint)

No.	Section	Element name	Short name	Definition	Obligation/ Condition	Maximum occurrence	Type	Domain
3	MD _ Constraint		Consts	Restriction on the access and use of a resource or metadata	O	N		3.1 - 3.2
3.1		accessConstraint	accessConsts	Assure the protection of privacy or intellectual property, and any special restrictions or limitations on obtaining the resource or metadata	O	N	Class	RestrictionCode (CodeList) A.5
3.2		useConstraint	useConsts	Assure the protection of privacy or intellectual property, and any special restrictions or limitations or warnings on using the resource or metadata	M	N	Class	RestrictionCode (CodeList) A.5

Table 4 Dataset distribution information (MD _ Distribution)

No.	Section	Element name	Short name	Definition	Obligation/ Condition	Maximum occurrence	Type	Domain
4	MD _ Distribution		Consts	Restriction on the access and use of a resource or metadata	O	N		4.1 - 4.4
4.1		onlineResource	onLineSrc	Information about online resources from which the resource can be obtained; addresses that offer online access in the model of URL address.	O	N	Class	URL (IETF RFC1738 IETF RFC2056)
4.2		distributorContact	distorCont	Distributor of geological information dataset or data resources	M	N	Common Class	**ResponsibleParty**
4.3		mediaName	medName	Medium name of dataset offered by the distributor	M	1	Class	MediumNameCode (CodeList) A.7
4.4		dataFormatName	fomatName	Name and version of data transfer format (s) offered by the dataset distributor	M	1	String	Free Text

Table 5 Responsible Party Information (ResponsibleParty)

No.	Common Class	Element name	Short name	Definition	Obligation/ Condition	Maximum occurrence	Type	Domain
5	ResponsibleParty		RespParty	Information about the person (s) and organizations associated with the dataset	Use obligation or condition from the referencing object	Use maximum occurrence from the referencing object		5.1 – 5.10
5.1		individualName	rpIndName	Name and title of the responsible person, separated by a delimiter	C/organisationName not documented	1	String	Free Text
5.2		organisationName	rpOrgName	Name of responsible party	C/individualName not documented	1	String	Free Text
5.3		electronicMailAddress	eMailAddr	Public address of the electronic mailbox of the responsible organization or individual	M	N	String	Free Text
5.4		phone	cntPhone	Telephone numbers at which the organization or individual may be contacted	O	N	String	Plain text with arrangement of letters as "+" (international numbering plan prefix) " " (country code) " " (city code) " " (local number), for example, +86 10 58584305
5.5		facsimile	cntFaxNum	Fax numbers at which the organization or individual may be contacted	O	1	String	Free Text
5.6		deliveryPoint	cntDelPnt	Detail physical address at which the organization or individual may be contacted, including road name and room number	O	1	String	Free Text
5.7		city	city	city of the location(city name,county name)	O	1	String	Free Text
5.8		country	country	Country of the responsible party	O	1	Class	LanguageCode (CodeList) A.1
5.9		postCode	postCode	ZIP or other postal code	O	1	String	Free Text
5.10		onlineResource	cntOnlineRes	On-line information that can be used to contact the individual or organization	O	1	String	URL (IETF RFC1738 IETF RFC2056)

Element name composition: the name is consistent with that of ISO19115. The first letter of element's English name is lowercased; if the name consists of multiple words, then the words are concatenated and the first letters of the words are capitalized except the first word, such as "contact" and "topicCategory".

Role names are used to identify metadata abstract model associations and preceded by "Role name" to distinguish them from other metadata elements.

3.3.2 Short name

Except for the codelists, each metadata element has a unique short name in the entire standard.

3.3.3 Definition

Definition offers accurate description of metadata entities and metadata elements.

3.3.4 Obligation/Condition

This is a descriptor indicating whether a metadata section or metadata element shall always be documented in the metadata or sometimes be documented (i.e. contains value (s)). This descriptor may have the following values: M (mandatory), C (conditional), or O (optional).

3.3.4.1 Mandatory (M)

It defines the metadata section or metadata element that should be documented. The optional sections may have the mandatory elements; these elements only become mandatory if the optional sections are used.

3.3.4.2 Conditional (C)

It defines the conditions whether or not the metadata section/element is documented. When the condition is met, the section/element becomes mandatory.

3.3.4.3 Optional (O)

The metadata section or the metadata element may be documented or may not be documented. If an optional section is not used, all the elements contained within that section (including mandatory elements) will also not be used. Optional sections may have mandatory elements; those elements only become mandatory if the optional section is used.

3.3.5 Maximum occurrence

It specifies the maximum number of instances the metadata section or the metadata element may have. Single occurrence is shown by "1"; repeating occurrences are represented by "N".

3.3.6 Data type

It specifies a set of distinct values for representing the metadata elements. For example, integer, real, string, DataTime, and Boolean. The data type attribute is also used to define metadata sections, classes, common classes and metadata associations.

3.3.7 Domain

For a metadata section, the domain indicates the line numbers (the serial numbers of the tables in metadata dictionary) covered by that section. For a metadata element, the domain specifies the values allowed, the section or class names, the codelist names, data type names, or the use of freetext.

Annex A Geoinformation Metadata CodeList (Normative Annex)

This standard contains the following 7 code lists.

A.1 LanguageCode (based on ISO639.2)

No.	English Names	Code	Definition
	LanguageCode	LanguCd	Name of the language used in one or more of CCOP member countries
1	KHM	001	Khmer (in Cambodia)
2	CHI	002	Chinese
3	IDN	003	Indonesian
4	JPN	004	Japanese
5	KOR	005	Korean
6	MAY	006	Malay
7	MON	007	Mongolian
8	PAA	008	Papuan (in Papua New Guinea)
9	TGL	009	Tagalog (in Philippines)
10	FIL	019	Pilipino (in Philippines)
11	THA	011	Thai
12	VIE	013	Vietnamese
13	ENG	014	English
14	POR	015	Portuguese (in Timor-Leste)
15	TET	016	Tetum (in Timor-Leste)

A.2 CharacterSetCode

No.	English Names	Code	Definition
	CharacterSetCode	CharSetCd	Character coding standard
1	UTF8	004	8-bit variable size UCS Transfer Format, based on ISO/IEC 10646
2	ISO-8859-1	006	GB/T 15273.1-1994 Information Process 8-bit single byte coded graphic character sets--Part 1: Latin alphabet No. 1

Contiuned

No.	English Names	Code	Definition
	CharacterSetCode	CharSetCd	Character coding standard
3	usASCII	025	United States ASCII code set (ISO 646 US)
4	BIG5	028	Traditional Chinese code set used in Taiwan, Hong Kong of China and other areas
5	GB2312	029	Simplified Chinese code set
6	Windows-874		Thai character set encoding for Windows (a standard should not be bounded with particular software)
7	TIS 620	030	Thai Industrial Standards, 8-bits character set, a subset of ISO-IR-166, declared by Thai Industrial Standards Institute (TISI)
8	ISO-8859-11	016	ISO/IEC8859-11 Information Process 8-bit single byte coded graphic character sets--Part 11: Latin alphabet /Thai character
9	eucKR	027	Korean character set
10	TCVN3-ABC		8 bit character code set (Vietnam)
11	TCVN 6909: 2001		Unicode font (Vietnam)
12	eucJP	024	Japanese code set used on UNIX based machine (TBC)
13	shiftJIS	023	Japanese code set used on MS-DOS based machine (TBC)
14	others	099	Other characters not defined above

A. 3 RepresentationTypeCode

No.	English Names	Code	Definition
	RepresentationTypeCode	RepTypCode	Types of spatial data
1	Vector	001	Vector data is used to represent geographic data
2	Grid	002	Grid data is used to represent geographic data
3	Text	003	Textual data is used to represent geographic data
4	TIN	004	Use triangulated irregular network to represent geographic data
5	Stereo model	005	Multidimensional representation of data
6	Video	006	Represent data in video
7	Matrix	007	Matrix data
8	Table	008	Tabular data is used to represent geographic data
9	Raster	009	Scanned and digital images
10	Others	099	Other types not defined above

A. 4 GeoTopicCategoryCode

No.	1st Category Name	2nd Category Name	Definition and illustration	code
1	Geography		The study of the Earth and its lands, features, inhabitants, and phenomena	1000
		Fundamental geographic information	General geographic information of geodetic control, elevation, transportation, hydrograph, administrative unit, etc.	1100
		Remote sensing	General remote sensing information, including aero-photographic, air-born radar image, satellite radar image, vehicle-born radar image, etc.	1200
		Geomorphology	The study of landforms and the processes that shape them.	1300
2	Geology		The science and study of the solid and liquid matter that constitutes the Earth.	2000
		Fundamental geology	General geological information, including mineralogy, petrology and petrography, stratigraphy and sedimentology, palaeontology and historical geology, structural geology, specimen and samples, quaternary geology, etc.	2100
		Regional geology	Geological work on a large area for survey and investigation, including geological mapping, regional geological research, tectonics, deep geology, etc.	2200
		Hydrogeology	The area of geology that deals with the distribution and movement of groundwater in the soil and rocks of the Earth's crust, commonly in aquifers. Geology of ground water and hydrology, also including ground water dynamic, mining hydrogeology, regional hydrogeology, etc.	2250
		Engineering geology	The application of the geologic sciences to engineering practice, includes geotechnical engineering, regional engineering geology, soil and rock mechanics, etc.	2300
		Environmental geology and geo-hazard	The study of the interaction of humans with the geologic environment including the biosphere, the lithosphere, the hydrosphere, and to some extent the atmosphere, i. e. , geology on environment and hazard, including geo-hazard, regional environmental geology, environment geochemistry, eco-geology, urban geology, volcanology, earthquake geology	2350
		Geophysics	Geophysics includes theoretic geophysics, applied or exploration geophysics and solid Earth geophysics, such as gravity, magnetism, electric exploration, electromagnetic exploration, seismic exploration, radiometric survey, borehole logging Geothermal survey and integrated geophysical section, etc.	2400

Contiuned

No.	1st Category Name	2nd Category Name	Definition and illustration	code
2	Geology	Geochemistry	Geochemistry includes isotope geochemistry, biogeochemistry, organic geochemistry, regional, environmental and exploration geochemistry, such as rock geochemical exploration, soil geochemical exploration, stream sediment geochemical exploration, atmospheric geochemical exploration, biogeochemical exploration, water geochemical exploration, geo-gas survey, chemical analysis, geochemical mapping, geothermal manifestation, radiometric dating, etc.	2500
		Geological exploration	Geology on searching or discovery of geo-resources, such as minerals, oil & gas, etc. It includes mineral exploration, ore geology, ocean geoexploration, mineral economics, and so on.	2600
		Exploration and mining administration	Regulations, law and relative activities and documents on geological exploration and mining.	2700
		Drilling	Geological drills for exploration, scientific study, etc.	2800
		Globe change	Geology on globe warming and other matters of the Earth	2900
3	Oceanography		The branch of Earth science that studies the ocean.	3000
		Ocean environment	The study or survey of environment of the ocean. It includes ocean survey, ocean hydrology, ocean physical environment, ocean chemistry and pollution, ocean weather, ocean disaster, etc.	3100
		Ocean resources	It includes ocean physical geography, ocean bio-resource, ocean mineral resource, ocean chemical resource, ocean energy resource, ocean tourism resource, etc.	3200
		Ocean economics	Economic study of the ocean	3300
		Ocean administration	Regulations, law and relative activities and documents about the ocean.	3400
		Marine geology	It includes marine geology, ocean geophysics and ocean geochemistry, etc.	3500
		Coast zone	Studies and activities about ocean coast. It includes coast zone geology, coast zone economy, ocean erosion, etc.	3600
4	Geo-Resources		Studies and activities of geologic resource of the Earth	4000
		Mineral resource	Minerals of the Earth, including mineral geology, mineral exploration, mineral exploitation, etc.	4100
		Groundwater	Groundwater of the Earth in aquifers, including groundwater exploration, groundwater production, etc.	4200

Contiuned

No.	1st Category Name	2nd Category Name	Definition and illustration	code
4	Geo-Resources	Oil and Gas	It includes petroleum geology, oil and gas exploration, exploitation or production, oil and gas field, etc.	4300
		Coalbed methane	It includes coalbed methane geology, coalbed methane exploration, coalbed methane production, etc.	4400
		Gas hydrate	It includes both natural and experimental gas hydrate, gas hydrate geology, gas hydrate exploration, gas hydrate exploitation, etc.	4500
		Coal	It include coal geology, coal exploration, coal production, etc.	4600
		Oil shale	It include oil shale geology, oil shale exploration, oil shale production, etc.	4700
		Geothermal	It is related to energy and may refer to heat that comes from within the Earth. It includes geothermal geology, geothermal exploration, geothermal exploitation, geothermal tourism, etc.	4800
5	Geo-Literature		Literatures of and about geology	5000
		Geological publications	Publications of geology, such as books, periodicals, magazines, etc.	5100
		Geological Archives	Geological reports and written materials that mostly are not published	5200
		Geopark	It includes activities, databases, books and other materials about Geopark. A geopark is defined by UNESCO as a territory encompassing one or more sites of scientific importance, not only for geological reasons but also by virtue of its archaeological, ecological or cultural value	5500
6	Others		Can not be classified above	6000

A. 5 RestrictionCode

No.	English Names	Code	Definition
	RestrictionCode	Restrict	Limitation (s) placed upon the access or use of the data
1	copyright	001	Exclusive right to the publication, production, or sale of the rights to a literary, dramatic, musical, or artistic work, or to the use of a commercial print or label, granted by law for a specified period of time to an author, composer, artist, distributor

Continued

No.	English Names	Code	Definition
	RestrictionCode	Restrict	Limitation (s) placed upon the access or use of the data
2	patent	002	Government has granted exclusive right to make, sell, use or license an invention or discovery
3	patentPending	003	Produced or sold information awaiting a patent
4	trademark	004	A name, symbol, or other device identifying a product, officially registered and legally restricted to the use of the owner or manufacturer
5	license	005	Formal permission to do something
6	intellectualPropertyRights	006	Rights to financial benefit from and control of distribution of non-tangible property that is a result of creativity
7	restricted	007	Withheld from general circulation or disclosure
8	otherRestrictions	008	Limitation not listed

A.6 CoordinateSystemTypeCode

No.	English Names	Code	Definition
	CoordinateSystemTypeCode	CoorSysType	
1	Cartesian	001	A *n*-dimensional (*n* stands for an arbitrary positive integer) coordinate system that consists of *n* number axes which perpendicularly cut each other at the origin
2	Geodetic	002	A spherical coordinates of a ground point location expressed in longitudinal and latitudinal degrees
3	Projected	003	Coordinate systems formed through different projection methods
4	Polar	004	A coordinate system that describes the location of a point through the distance between the point and the pole as well as the extensional direction
5	Gravity Related	005	A norm for gravity survey and related calculation
6	WGS 84	4326	World wide GPS coordinate system.

A.7 MediumNameCode

No.	English Names	Code	Definition
	MediumNameCode	MediumNameCd	Name of the medium
1	cdRom	001	Read-only optical disk
2	dvd	002	Digital versatile disk, include rewritable disk
3	dvdRom	003	Digital versatile disk, read only

Continued

No.	English Names	Code	Definition
	MediumNameCode	MediumNameCd	Name of the medium
4	3halfinchFloppy	004	3. 5 inch magnetic disk
5	7trackTape	006	7 track magnetic tape
6	9trackTape	007	9 track magnetic tape
7	3480CatridgeTape	008	3480 cartridge tape drive
8	3490 CatridgeTape	009	3490 cartridge tape drive
9	3590 CatridgeTape	010	3590 cartridge tape drive
10	4mm CatridgeTape	011	4mm magnetic tape
11	8mm CatridgeTape	012	8mm magnetic tape
12	1quaterInch CatridgeTape	013	0. 25 inch magnetic tape
13	digitalLinearTape	014	Half inch cartridge streaming tape drive
14	onLine	015	Direct computer linkage
15	Satellite	016	Linkage through a satellite communication system
16	TelephoneLink	017	Communication through a telephone network
17	hardcopy	018	Pamphlet or leaflet giving descriptive information
18	harddisk	019	Hard disk
19	flashMemory	020	Flash disk
20	electronicMail	021	Offering data in e-mail mode
21	cdRewritable	022	Rewritable optical disk
22	blurayDisk	023	High-definition optical disk
23	portable hard disk	024	Portable Computer hard disk
24	U-disc/flash disc	025	Memory disk of small size
25	videoDigital	026	Digital video recording
26	others	099	Medium not listed

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