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Throughout this document the term “dataset” is used to refer to digital as well as non-digital datasets. The term “dataset” is used

to refer to maps and geological models as well as collections of data.

One of the concepts in BS ISO 19115:2003 is that of inheritance of metadata from a larger dataset to a subset of that larger dataset. For example, the metadata for a subset of a larger dataset taken to create a 3D model would 'inherit' much of the metadata from the larger dataset. We have prepared for the implementation of this inheritance aspect by defining a 'largerWorkCitation' relationship from the subset to larger dataset where 'largerWorkCitation' means 'reference to a master dataset of which this is one part'.
(See *Group of Associated Elements : Dataset Association*)

Elements Relating to the Dataset

Element: Title

Definition of Element:

1. This element represents the name that is in common usage for the dataset.
2. It provides a clear and concise indication of the content of the dataset.
3. The Metadata Contributor and Metadata Steward should agree a title.

Allowable Content:

1. Careful consideration should be given when naming a dataset. It is an important element for the identification and discovery of a dataset.
2. The name should be in plain language (i.e. not solely in acronym form) and should convey a clear impression of the information contained in the dataset, i.e. when the data were collected.
3. The title should be as descriptive as possible without being verbose. It should include the spatial and, if the dataset is not currently maintained, the temporal extent of the dataset
4. An ordinary user should easily understand the title of the dataset. In other words, it should not be composed entirely of acronyms or short titles that are only evident to an existing user or someone in the custodian organisation associated with the dataset.
5. A plain language name for the dataset should be used in preference to acronyms unless the acronym is commonly used and widely recognised by the public
6. If the dataset is also known by an acronym or synonym include this at the end of the full name.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	CharacterString	160.

Format Rules:

1. The title should be in Title case.
2. The title should not include any special characters such as ampersands (&), double quotes (“”), single quotes (‘), less than and greater than signs (<>) and percents (%) as these may be misrepresented when being published or searched. Special characters that may be used include round brackets “()”, hyphens “-“ and commas.

Other Comments:

Datasets need not be in digital form. They also include printed and manuscript cartographic resources such as maps, geological models and aerial photographs. Note that a dataset is often not a single file – but a collection of files that are only meaningful when used together – for example, a collection of GIS files

Examples:

1. Geochemical Baseline Survey of the Environment (G-BASE) for the UK
2. Geological Memoirs of England and Wales

- | |
|--|
| 3. 2D Model of the Base of the Bogside Iron Stone in Fife, Scotland
4. Arc8 files for the Rockall Trough Project 1997/8 |
|--|

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.1 #360	ISO_CITATION.RESTITLE

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Element: Collection Title

Definition of Element:
The title of the collection – i.e. to identify whether the dataset is a DGSM, BGS-geoIDS or Maps dataset

Allowable Content:
Controlled by a dictionary

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Dictionary	-

Format Rules:
Controlled by a dictionary

Other Comments:
Nil

Examples:
<ol style="list-style-type: none"> 1. DGSM 2. BGS-geoIDS

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.1 # 371	ISO_CITATION.COLLTITLE

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Element: Presentation Form

Definition of Element:
The mode in which the dataset exists (for example, whether it is a table of data, a 3-dimensional model or a collection of rocks)

Allowable Content:
Controlled by a dictionary

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Dictionary	-

Format Rules:
Controlled by a dictionary

Other Comments:
In the case of DGSM metadata use: <u>modelDigital</u> for digital models such as earthVision surfaces <u>tableDigital</u> for a list of data in a tabular form (such as an Oracle table, an Excel spreadsheet, a comma delimited file) For more information on formats see Recording Types of Format

Examples:
<ol style="list-style-type: none"> 1. documentHardcopy 2. imageDigital 3. mapDigital 4. mapHardcopy 5. modelDigital 6. tableDigital

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.1 #368	ISO_CITATION.PRESFORM

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Element: Abstract (KAH 30 Sep 2004)**Definition of Element:**

This element is a brief narrative summary of the content of the dataset. Like the Title of a dataset, careful consideration should be given when preparing an Abstract as it is an important element for the identification and discovery of a dataset. *After the title, it is likely to be the first part of the metadata a user looks at; a good abstract will help the user decide whether the dataset or model will be of interest.*

Allowable Content:

1. Generally, the Abstract should describe the contents of the dataset for a non-expert user, in plain language.
2. It should be more than a repeat of the title.
3. It should include details of the quantity of data as well as a critical overview of the data. For BGS-geoIDS datasets the purpose(s) for which the data were collected should also be included.
4. ~~Other~~ *A summary of the following information is usefully conveyed in the abstract even though the detail may be held elsewhere in the metadata. This is so that the casual or occasional user can get a “feel” for the dataset or model.*
 - a. A textual description of the spatial and temporal extent of the data contained in the dataset.
 - b. Whether the dataset is a stand alone dataset or part of an integrated system.
 - c. Completeness – are there any data absent from the dataset? Explain which data are included or excluded and why.
 - d. Logical consistency, e.g. have different classifications of strata been used in different areas?
 - e. A textual description of the spatial coverage (e.g. whether the coverage is gridded or scattered data; whether the coverage is even or very variable)
 - f. A description of the scientific concept behind the dataset

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	CharacterString	4000

Format Rules:

Free text.
Sentences are preferred.

Other Comments:

Nil

Examples:

1. Between 1976 and 1982, the Overseas Directorate of the British Geological Survey, United Kingdom and the Geological Survey of Bolivia, Santa Cruz, carried out a major reconnaissance geological mapping, geochemical sampling and mineral exploration programme of that part of the Precambrian Brazilian Shield lying within eastern Bolivia. Previous geological work had been undertaken in the area, but this was the first time that a systematic and fully

integrated survey had been attempted.
 The Project area is approximately 220,000 square kilometres.

2. The geochemical samples were analysed in the Project laboratories in Santa Cruz and in the GEOBOL geochemical laboratories in La Paz. Uranium analyses were carried out by a commercial laboratory in the UK. The results of the Project are incorporated in 21 comprehensive reports in both English and Spanish. Twelve describe the geology, geochemistry and mineral potential of the individual 1:250,000 map areas and the remainder are devoted to the geology and mineral potential of areas of special geological or economic interest. The stream sediments were determined for: Ag, Co, Cu, Fe, Mn, Ni, Pb, Zn, As, U, B, Ba, Be, Cr, La, Li, Mo, Nb, Sn, Sr, Y, and Zr. These results are presented in an atlas as 22 single element 1:1 million scale, classed proportional symbol, point source data maps in which the symbols are overprinted on a simplified geological base map in order to facilitate rapid data interpretation. A 1:4 million scale moving average map based on a 4 x 4 km cell size and a 10 km search radius, printed alongside the symbol map, identifies the major regional variations.
3. This model covers the area within the ring road. The drift is not subdivided. The most detailed work is within the carboniferous where several coal seams are modelled in detail. Modelling of intrusions are rudimentary with no attention to distinguishing composition. Completeness: Geological data from boreholes drilled post 1999 are not included in this model. Classification of geological Units is based on the Survey's best understanding at the time of compilation. The drift is not subdivided. Modelling of intrusions are "rudimentary" with no attention to distinguishing composition. The model has been subject to rigorous peer review and approval by senior management within the DGSM project following the DGSM best practice guidelines. Grid incorrect in NE segment (due to software features). Crop lines taken from non-edge matched sheets of different vintages and rationalised with new interpretations - this model and published maps may not be consistent. Data are derived from boreholes - an average of 20 boreholes per sq km penetrate solid, whilst an average of 2 per square km penetrate the carboniferous. The information has been collated and aggregated using similar techniques to that used for 1:50000 scale geological mapping - geological subdivisions reflecting those portrayed on these maps.

ISO Reference	Table Implementation
ISO 19115:2003 B.2.2.1	ISO_DATAIDENT.IDABS

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Group of Associated Elements : Dataset Reference Date

Elements:	
Date	
Date Type	
Date Precision	
Date Relation	
Obligation	Maximum Occurrence
Mandatory	3, no more than one for each Date Type

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.4 #362	ISO_REFDATE

This group of elements is used to describe dates associated with the dataset. There are three types of dates allowed, creation, publication or revision. Only one date of each type is allowed. There are precision elements associated with each date given. The *Date Precision* element is used to indicate whether the date is precise to the week, to the day, to the century etc. The *Date Relation* element is used to indicate whether the date event (creation, publication or revision) happened before, after or at the recorded date.

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Element: Date

Definition of Element:
When a given event occurred.

Allowable Content:
Date and time

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory *	1**	Date	

Format Rules:
To avoid confusion dates and times should be supplied as follows: <ul style="list-style-type: none"> a) If only the year is known, YYYY b) If only the month and year are known, MON-YYYY c) If the day is known, DD-MON-YYYY d) If the time is known, DD-MON-YYYY HH24:MM.

Other Comments:
*There are three types of date allowed (see Date Type) only one of these needs to be entered.
** Only one date of each date type is allowed.

Examples:
<ol style="list-style-type: none"> 1. 2003 2. Nov-2003 3. 11-Nov-2003 4. 11-Nov-2003 14:30

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.4 #394	ISO_DATEREF.REFDATE

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Element: Date Type

Definition of Element:
Identifies the event relevant to Date.

Allowable Content:
<p>Constrained by a dictionary to the three types allowed by ISO 19115: creation, publication, revision</p> <p>creation: date identifies when the dataset was brought into existence</p> <p>publication: date identifies when the dataset was issued</p> <p>revision: date identifies when the resource was examined or re-examined and improved or amended.</p>

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory*	1**	Dictionary	-

Format Rules:
Constrained by dictionary.

Other Comments:
<ol style="list-style-type: none"> *Each Date must have an associated Date Type <p>**Date can have only one Date Type.</p> <ol style="list-style-type: none"> The 'Date of Extraction' of a (sub)dataset from the main dataset, such as the date some borehole data were extracted from Oracle for modelling, should be given a Date Type of 'creation'; it is the date that data(sub)set was created

Examples:
<ol style="list-style-type: none"> creation publication revision

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.4 #395	ISO_DATEREF.REFDATETYPE

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Element: Date Precision

Definition of Element:
Precision of date e.g. Century, Year, Minute etc. I.e. whether the date is known to the nearest century, year, minute etc.

Allowable Content:
Constrained by dictionary

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory*	1	Dictionary	-

Format Rules:
Constrained by dictionary

Other Comments:
*Each Date must have a Date Precision

Examples:
<ol style="list-style-type: none"> 1. century 2. day 3. decade

ISO Reference	Table Implementation
ISO 19115:2003 B.4.2 ISO/TS 19103	ISO_DATEREF.ADD_REFDATEPRECISION

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Element: Date Relation**Definition of Element:**

Temporal relationship of the Dataset Reference Date to the Dataset, i.e. before, after or equals.

Allowable Content:

Constrained by dictionary.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory*	1	Dictionary	-

Format Rules:

Constrained by dictionary

Other Comments:

1. *Each Date must have a Date Relation
2. The purpose of this field is to allow us to specify when an event (such as the creation of a dataset) occurred when we don't know exactly; so we can say "before 1910" or "after 1950" and so on.
3. The default will be equals

Examples:

1. before
2. after
3. equals

ISO Reference	Table Implementation
ISO 19115:2003 N.4.2 ISO/TS 19103	ISO_DATEREF.ADD_TM_RELATIVEPOSITION

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Element: Frequency of Update

Definition of Element:
Frequency with which changes and additions are made to the resource after the initial resource is completed.

Allowable Content:
Constrained by dictionary.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory*	1	Dictionary	-

Format Rules:
Constrained by dictionary.

Other Comments:
Nil.
* This section is not used within the DGSM metadata.

- Examples:**
1. daily
 2. weekly
 3. fortnightly
 4. asNeeded
 5. irregular

ISO Reference	Table Implementation
ISO 19115:2003 B.2.5.1 #143	ISO_DATAIDENT.MAINTFREQ

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Element: Lineage (KAH 30 September 2004)

Definition of Element:
<ol style="list-style-type: none"> 1. Lineage is a history of both the source data and the processing steps used to produce the dataset. 2. It is information about the events and source data used in constructing the dataset. <p>Note: In the case of DGSM metadata, a general overview of the source of data and processing of those data to create a data(sub)set or model should be given here. More detailed information on the exact nature of each step, such as file names and date of each processing step should be given in the Group of Associated Elements: Lineage Steps section.</p>

Allowable Content:
<ol style="list-style-type: none"> 1. The source data used to produce the dataset may consist of one or more data sources. The history of the source data generally includes: · a description of the source data · the scale(s) of the source data · the media type(s) of the source data · the date(s) of the source data · dates of various parts of the process. 2. The processing steps are the sequence of operational steps performed on the source data to arrive at the final dataset. The history of the processing steps generally includes: · the data capture method(s) · any intermediate processing method(s) · the method(s) used to generate the final product. 3. For example, in the case of DGSM, enter a general description of how the data(sub)set or model has been prepared. Include: <ol style="list-style-type: none"> a. How the data have been processed (e.g. 'Gridded using earthVision v5.1, using "Exact scattered data range" option, setting "multiple data point gridding level" to 4, checking the "Extrapolate outside data areas" box and choosing the "Normal minimum tension" option', 2). Any geographic coordinate conversions and transformations (and details of those conversions and transformations) must also be recorded here, b. A description of how the data have been selected for inclusion, and a description of any "extra" data included or data subsequently amended (e.g. NT18NW/BJ/62/22 added for base of Ayr Hard), c. A description of how any data have been selected for exclusion (e.g. 'all bores with locational accuracy less than 100 m removed – ~100 bores affected').

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	CharacterString	4000.

Format Rules:
<ol style="list-style-type: none"> 1. Free text. 2. Sentences are preferred.

Other Comments:
The purpose of this field is to allow the dataset to be recreated from the original data

sources by recording details of the history of creation and modification. This will not always be possible due to the nature of scientific interpretation (e.g. different team members will not place a crop line in exactly the same position from the same information) but the processes gone through need recording.

In the case of DGSM metadata, if more detailed information is needed, use the Lineage Step section to record each step in detail

Examples:

1. The original data are data sheets and records made during collection of the samples. The data from the forms were transferred to an Oracle database, and location maps plotted using computer graphics software.
2. Data collected and interpreted by BGS engineering geologists, in collaboration with overseas counterparts
3. The datasets in each project have been prepared in a consistent manner. The track data is either digitised from hardcopy or loaded from tapes received from the customer. Interpretations are digitised consistently with appropriate flags to denote geology.

ISO Reference	Table Implementation
ISO 19115:2003 B.2.4.2 #83	ISO_DATAIDENT.STATEMENT

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Group of Associated Elements : Vertical Reference System

Elements:	
Vertical Coordinate Reference System	
Vertical Units of Measure	
Obligation	Maximum Occurrence
Mandatory	1

ISO Reference	Table Implementation
ISO 19115:2003	

This is only used within the DGSM metadata.

It is used to describe the vertical coordinate system used for the vertical component of the data (sub)set or model and the units used.

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Element: Vertical Coordinate Reference System

Definition of Element:
Provides information about the origin from which the vertical reference values are measured

Allowable Content:
Constrained by a dictionary

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Dictionary	-

Format Rules:
Constrained by dictionary.

Other Comments:
If the Vertical Coordinate Reference System is given, the Vertical Units of Measure must also be given

Examples:
<ol style="list-style-type: none"> 1. Height above Ordnance Datum Newlyn 2. Height above Columbia River datum

ISO Reference	Table Implementation
ISO 19115:2003	

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Element: Vertical Units of Measure

Definition of Element:
Vertical units used for the Vertical Coordinate Reference System

Allowable Content:
Constrained by dictionary.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Dictionary	-

Format Rules:
Constrained by dictionary.

Other Comments:
If the Vertical Units of Measure is given, the Vertical Coordinate Reference System must also be given

Examples:
<ol style="list-style-type: none"> 1. feet 2. meters

ISO Reference	Table Implementation
ISO 19115:2003	

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Element: Progress Status

Definition of Element:
The status of the dataset

Allowable Content:
Use: ‘onGoing’ whilst the dataset is being created ‘underDevelopment’ when the dataset has been finished but not approved ‘completed’ once the dataset has been approved (or has been finished and doesn’t need approval)

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory*	1	Dictionary	-

Format Rules:
Controlled by a dictionary

Other Comments:
*Mandatory for DGSM Metadata Default value is ‘underDevelopment’

Examples:
<ol style="list-style-type: none"> 1. completed 2. historicalArchive 3. obsolete 4. onGoing 5. underDevelopment

ISO Reference	Table Implementation
ISO 19115:2003 B.2.2.1 #28	

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Element: Minimum Valid Scale (KAH 27 October 2004)

Definition of Element:
The minimum scale at which the model is valid

Allowable Content:
Enter the minimum scale at which a model is valid

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory*	1	Number	7

Format Rules:
Integer
If, for instance, the minimum valid scale is 1:50000, enter 50000

Other Comments:
*Only used in DGSM Model Metadata

Examples:
1. 50000
2. 250000
3. 1000000
Where a model is valid from 1:10000 to 1:25000, enter here 25000.

ISO Reference	Table Implementation
ISO 19115:2003	ISO_DATAIDENT.ADD_VALID_SCALE_MIN

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Element: Maximum Valid Scale

Definition of Element:
The maximum scale at which the model is valid

Allowable Content:
Enter the maximum scale at which a model is valid

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory*	1	Number	7

Format Rules:
Integer
If, for instance, the maximum valid scale is 1:10000, enter 10000

Other Comments:
*Only used in DGSM Model Metadata

Examples:
1. 5000
2. 10000
3. 50000
Where a model is valid from 1:10000 to 1:25000, enter here 10000.

ISO Reference	Table Implementation
ISO 19115:2003	ISO_DATAIDENT.ADD_VALID_SCALE_MAX

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Element: Intended Usages

Definition of Element:
The purpose for which the dataset was prepared.

Allowable Content:
A description the purpose for which the model was prepared

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory*	1	CharacterString	2000

Format Rules:
<ol style="list-style-type: none"> Free text Sentences are preferred.

Other Comments:
<p>* This section is only used within the DGSM Model Metadata This section will identify the aim of the modelling exercise, and will be a prime tool in assessment of 'fitness for purpose'.</p>

Examples:
<ol style="list-style-type: none"> Prepared as part of a survey for assessing the sand and gravel resources on a regional scale; the deposits are not outlined completely nor their grade established throughout.

ISO Reference	Table Implementation
ISO 19115:2003	

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Element: Dataset Topic Category

Definition of Element:
Main theme(s) of the dataset.

Allowable Content:
1. The only value allowed is 'geoscientificInformation'

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	Many	CharacterString	40

Format Rules:
Nil

Other Comments:
Subdivisions of geoscientificInformation are dealt with by keywords

Examples:
geoscienceInformation

ISO Reference	Table Implementation
ISO 19115:2003 B.2.2.1 #41	ISO_TPCAT.TPCAT

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Group of Associated Elements : On-line Resource

Definition of Element:
<p>Location (address) for on-line access using a Uniform Resource Locator address or similar addressing scheme</p> <p>Whilst, if details of the on-line resource have already been defined, just the on-line resource can be entered, the group of elements that define the on-line resource need to be entered if the resource has not been defined. These are:</p> <ol style="list-style-type: none"> 1. Linkage/URL Address 2. Protocol 3. Application Profile 4. Resource Name 5. Full Description 6. Function Name

Obligation	Maximum Occurrence
Optional*	Many

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.5 #396	ISO_ONLINERES

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Element: Linkage/URL Address

Definition of Element:
Location (address) for on-line access using a Uniform Resource Locator address or similar addressing scheme

Allowable Content:
The URL address

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	characterString	1024

Format Rules:
A standard URL address.

Other Comments:
Nil

Examples:
<ol style="list-style-type: none"> 1. http://www.bgs.ac.uk/ 2. file://Mhnts9.nmh.ac.uk\Groupdata\Falkland\falk.DAT

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.5 #397	ISO_ONLINERES.LINKAGE

Element: Protocol

Definition of Element:
The connection protocol to be used

Allowable Content:
This field will rarely be used

Obligation	Maximum Occurrence	Field Type	Field Length
Optional	1	characterString	256

Format Rules:

Other Comments:

Examples:

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.5 #398	ISO_ONLINERES.PROTOCOL

Element: Application Protocol

Definition of Element:
The name of the application profile that can be used with the on line resource

Allowable Content:
This field will rarely be used

Obligation	Maximum Occurrence	Field Type	Field Length
Optional	1	characterString	256

Format Rules:

Other Comments:

Examples:

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.5 #399	ISO_ONLINERES.APPPROFILEB

Element: Resource Name

Definition of Element:

The name of the on-line resource

Allowable Content:

A short descriptive name of the on-line resource

Obligation	Maximum Occurrence	Field Type	Field Length
Optional	1	characterString	256

Format Rules:

Free text

Other Comments:

Nil

Examples:

1. Home page of the British Geological Survey
2. Data files for Falkland Islands Geological Survey

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.5 #400	ISO_ONLINERES.ORNAME

Element: Full Description**Definition of Element:**

A detailed text description of what the on-line resource is

Allowable Content:

Free text

Obligation	Maximum Occurrence	Field Type	Field Length
Optional	1	characterString	1024

Format Rules:

Sentences are preferred

Other Comments:

Nil

Examples:

1. This page provides the main entry point to the web pages of the British Geological Survey and links to related organisations. Publications can be downloaded from this site.

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.5 #401	ISO_ONLINERES.ORDESC

Element: Function Name

Definition of Element:
The function performed by the on-line resource

Allowable Content:
Enter whether the resource provides “information”, or provides an “order” process, or is the actual data

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Dictionary	-

Format Rules:
Dictionary Controlled

Other Comments:
Nil

Examples:
<ol style="list-style-type: none"> 1. information 2. order 3. notApplicable 4. notEntered

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.5 #402	ISO_ONLINERES.ORFUNCT

Element: Supplementary Information**Definition of Element:**

Field for the addition of any information not covered elsewhere.

Allowable Content:

Any other descriptive information about the dataset.

Obligation	Maximum Occurrence	Field Type	Field Length
Optional	1	CharacterString	4000

Format Rules:

Free text.

Sentences are preferred.

Other Comments:

Include here details of publications or reports that describe the dataset as well as any other resources where users can find out further information about the dataset such as any related text or diagrams.

In the case of DGSM:

1. for non-digital files, such as project files, enter the location (e.g. MH room 4/5a)
2. it is mandatory to describe any textual information on the Level of Spatial Detail - i.e.
 - a. the type of spatial distribution (e.g. 'line data', 'uniform grid', 'scattered data'),
 - b. the type of coverage (e.g. 'even coverage', 'fairly even coverage', 'very variable coverage'),
 - c. the resolution where practical (e.g. 'approximately 1 data point every 10 m', '50 x 50 m grid size', 'average data density about 10 points per 1 km².').
3. it is mandatory to describe the logical consistency of the dataset - i.e.
 - a. what rules have been applied to the data (e.g. 'Downhole data only divided into solid and drift since 1 April 2000 – see project document 00/5 for coding standards; pre-existing data uses variable standards'),
 - b. any observed "problems" with the data (e.g. 'Grid incorrect in NE segment', 'Crop lines taken from non-edge matched sheets of different vintages').
4. Where there are no known problems or no known rules have been applied to the data, this must be stated.

Examples:

1. Replaces NERS Database
2. See HOLMES, K A 2002. DGSM: Midland Valley of Scotland Modelling: Quality Control (Version 2.0.1). January 2002
Main files kept in IGS(N) store in Murchison House.
Scattered data with average data density about 10 points per 1 sq km. Downhole

data only divided into solid and drift since 1 April 2000 – see project document 00/5 for coding standards; pre-existing data uses variable standards

ISO Reference	Table Implementation
ISO 19115:2003 B.2.2.1 #46	ISO_DATAIDENT.SUPPINFO

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Group of Associated Elements : Dataset Association

Elements:	
Associated Dataset	
Association Type	
Obligation	Maximum Occurrence
Optional	Many*

ISO Reference	Table Implementation
ISO 19115:2003 B.2.2.7 #66.1	NCR_AGGREGATEINFO

These elements describe the datasets association with any related dataset. The name of the related dataset is given together with how it is related, i.e. whether one dataset is part of the other or whether one dataset is sourced from the other etc.

*There can only be one entry where the association type is 'largerWorkCitation' because each data(sub)set can only be derived from one corporate dataset.

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Element: Associated Dataset

Definition of Element:
The identifier of the associated dataset.

Allowable Content:
The associated dataset must have a metadata entry.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Controlled to list of current entries	-

Format Rules:
Restricted to current metadata entries

Other Comments:
Application will supply the titles of current metadata entries to choose from.

Examples:
<ol style="list-style-type: none"> 1. Admiralty Survey Sheets Paper Records 2. Aeromagnetic Survey of Great Britain and Northern Ireland

ISO Reference	Table Implementation
ISO 19115:2003 B.2.2.7 #66.2	NCR_AGGREGATEINFO.ADD_ASSOCIATED_CITATION_ID

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Element: Association Type

Definition of Element:
A description of how the datasets are associated.

Allowable Content:
Constrained by a dictionary.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Dictionary	-

Format Rules:
Constrained by a dictionary.

Other Comments:
<p>For DGSM metadata:</p> <ul style="list-style-type: none"> a. Use 'largerWorkCitation' if, for example, this data is part of the Oracle Borehole Database or a single surface forms part of a multiple surface model. b. Use 'source' if the source of the information is a map or mine plan <p>There can only be one 'largerWorkCitation' given because each data(sub)set can only form part of one larger dataset.</p>

Examples:
<ol style="list-style-type: none"> 1. crossReference 2. source 3. largerWorkCitation

ISO Reference	Table Implementation
ISO 19115:2003 B.2.2.7 #66.4	NCR_AGGREGATEINFO ASSOCTYPE

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Element: Spatial Representation Type

Definition of Element:
Method used to spatially represent geographic information. * This section is not used in the DGSM Dataset Metadata (but is for DGSM Model Metadata)

Allowable Content:
Constrained by dictionary containing such values as vector, grid. For non spatially referenced datasets 'Not Applicable' and for non digital datasets 'Not Available'.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory*	1	CharacterString	20

Format Rules:
Constrained by dictionary.

Other Comments:
Nil *Not used in DGSM Dataset Metadata (but is for DGSM Model Metadata) For more information on formats see Recording Types of Format

Examples:
1. vector 2. grid

ISO Reference	Table Implementation
ISO 19115:2003 B.2.2.1 #37	ISO_SPATRPTYPE.SPATRPTYPE

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Element: Spatial Reference System (KAH 27 October 2004)

Definition of Element:
Spatial reference system of the data itself, e.g. OSGB 1936/British National Grid.

Allowable Content:
Constrained by a dictionary.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory*	Many**	Dictionary	-

Format Rules:
Constrained by a dictionary

Other Comments:
<p>* This section not used in the DGSM Data(sub)set Metadata</p> <p>** In the case of DGSM Model Metadata the maximum occurrence is 1</p> <p>** In the case of BGS-geoIDS metadata this section is not mandatory if the dataset is not spatially referenced (i.e. where there is an entry of 'notApplicable' in the Element: Spatial Representation Type field).</p>

Examples:
<ol style="list-style-type: none"> 1. TM65 2. ED50 3. OSGB 1936/British National Grid

ISO Reference	Table Implementation
ISO 19115:2003 B.2.7.1 #187	ISO_REFSYSINFO.REFSYSID

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Element: Scale (KAH 27 October 2004)

Definition of Element:
The scale of the dataset, specifically the number below the line in a vulgar fraction, as in the 50 000 of 1: 50 000.

Allowable Content:
Integer > 1

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory*	Many**	Integer	15

Format Rules:
Integer > 1

Other Comments:
<p>* Mandatory if the Spatial Resolution of the dataset is given, i.e. for geospatial datasets.</p> <p>* Mandatory in the case of Metadata for DGSM data(sub)sets; it is the scale at which the data(sub)set is normally viewed.</p> <p>* Optional in the case of Metadata for DGSM models; if omitted, then the ' <i>Distance between Data Points</i> ' must be completed.</p> <p>** For DGSM datasets the maximum occurrence is 1.</p> <p>For BGS geoIDs datasets several scales can be given or, for complex datasets, additional details can be recorded in the <i>Supplementary Information</i> field.</p> <p>* For BGS-geoIDS metadata, this section need not be completed where the dataset is not geospatially referenced (i.e. where there is an entry of 'notApplicable' in the Element: Spatial Representation Type field).</p>

Examples:
<ol style="list-style-type: none"> 1. 50 000 2. 10 000

ISO Reference	Table Implementation
ISO 19115:2003 B.2.2.5 #60	ISO_REFRACT.REFDENOM

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Group of Associated Elements : Spatial Resolution of the Dataset

Elements:	
Distance between Data Points	
Units of Distance	
Obligation	Maximum Occurrence
Optional	*Many

ISO Reference	Table Implementation
ISO 19115:2003 B.2.2.5B #61	ISO_RESOL

Distance between Data Points, an example of would be sampling distance. The *Distance between Data Points* has an associated field *Units of Distance*, this is simply the name of the unit of measurement used, e.g. metres or miles.

In the case of DGSM Metadata

the *Scale* is the normal scale used to view the data(sub)set or model

the *Distance between Data Points* is the distance between cells or the average distance between data points

*For DGSM metadata the maximum occurrence is 1.

For BGS geoIDs datasets several resolutions can be given or, for complex datasets, additional details can be recorded in the *Supplementary Information* field.

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Element: Distance between Data Points

Definition of Element:
Distance between sampling points on the ground. (i.e. sampling resolution) In the case of DGSM Metadata, it is the average distance between data points (very roughly) or cells

Allowable Content:
Number > 0

Obligation	Maximum Occurrence	Field Type	Field Length
*Optional	1	Number	15

Format Rules:
> 0

Other Comments:
If Distance between Data Points is given then Units of Distance must also be given.

Examples:
<ol style="list-style-type: none"> 1. 10 2. 25 3. 50

ISO Reference	Table Implementation
ISO 19115:2003 B.2.2.5 #61	ISO_RESOL.SCALEDIST

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Element: Units of Distance

Definition of Element:

Units of measurement used for the Distance between Data Points.

Allowable Content:

Constrained by a dictionary.

Obligation	Maximum Occurrence	Field Type	Field Length
*Optional	1	Dictionary	-

Format Rules:

Constrained by dictionary.

Other Comments:

*Units of Distance must be given if Distance between Data Points is given.

Examples:

1. feet
2. meters

ISO Reference	Table Implementation
ISO 19115:2003 ISO/TS 19103	ISO_RESOL.ADD_UOMLENGTH

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Group of Associated Elements : Constraints

Elements:	
Access Constraint	
Use Constraint	
Additional Information on Access and Use Constraints	
Obligation	Maximum Occurrence
Optional	Many

ISO Reference	Table Implementation
ISO 19115:2003 B.2.3 #67	NCR_ACCESS_CONSTRAINT NCR_USE_CONSTRAINT ISO_DATAIDENT.OTHCONSTS

This group of elements describe the restrictions applied on the access or use of the data. *Access Constraints* describe restrictions on access to the data. *Use Constraints* describe restrictions placed on the use of the data once it has been accessed. Any constraints not listed in the *Access* and *Use Constraint* dictionaries can be entered in the *Additional Information on Access and Use Constraints* field. If the additional information is a restriction on access then one of the *Access Constraints* entered should be “otherRestrictions”, similarly if the additional information is a restriction on use then one of the *Use Constraints* entered should be “otherRestrictions”.

For example:

- (i) ‘Restricted’ may be an access constraint we place on a 3D model surface because it may be withheld from general disclosure but available on ‘License’ to an external client.
- (ii) A published BGS 1:50K geological map will have no access constraints. There will be use constraints on that map; a ‘Copyright’ constraint certainly and possibly others.

If in any doubt whatsoever, enter the constraints as both access and use constraints.

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Element: Access Constraint

Definition of Element:
<ol style="list-style-type: none"> 1. These are constraints applied to assure the protection or privacy or intellectual property, and any special restrictions or limitations on obtaining the resource or metadata. 2. They are constraints on the access to the dataset not constraints on the use that is made of it.

Allowable Content:
Constrained by dictionary.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	Many	Dictionary	-

Format Rules:
Constrained by dictionary.

Other Comments:
If the required constraint is not in the dictionary use otherRestrictions and put the constraint information in the <i>Additional Information on Access and Use Constraints</i> field.

Examples:
<ol style="list-style-type: none"> 1. copyright 2. license 3. otherRestrictions

ISO Reference	Table Implementation
ISO 19115:2003 B.2.3 #70	NCR_ACCESS_CONSTRAINT.ACCESSCONSTS

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Element: Use Constraint

Definition of Element:
<ol style="list-style-type: none"> 1. These are constraints applied to assure the protection or privacy or intellectual property, and any special restrictions or limitations or warnings on using the resource or metadata. 2. They are constraints on the use to which the dataset can be put, not constraints on the access to the dataset.

Allowable Content:
Constrained by dictionary.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	Many	Dictionary	-

Format Rules:
Constrained by dictionary.

Other Comments:
If the required constraint is not in the dictionary use otherRestrictions and put the constraint information in the <i>Additional Information on Access and Use Constraints</i> field.

Examples:
<ol style="list-style-type: none"> 1. copyright 2. license 3. otherRestrictions

ISO Reference	Table Implementation
ISO 19115:2003 B.2.3 #71	NCR_USE_CONSTRAINT.USECONSTS

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Element: Additional Information on Access and Use Constraints

Definition of Element:
Other restrictions and legal prerequisites for accessing and using the resource or metadata.

Allowable Content:
Free text field. It can only be populated if ‘Use Constraint’ or ‘Access Constraint’ has a value of ‘other restrictions’.

Obligation	Maximum Occurrence	Field Type	Field Length
Optional	1	CharacterString	2000

Format Rules:
Free text Sentences are preferred

Other Comments:
Can be used to describe the access for collections, viewing or loan etc.

Examples:
<ol style="list-style-type: none"> 1. Samples available on temporary loan. 2. Boreholes samples can be viewed by appointment. 3. Academic users must acknowledge the source of this model; there may be a fee for non-academic use but in the case of non-commercial use, this may be waived. 4. BGS staff only

ISO Reference	Table Implementation
ISO 19115:2003 B.2.3 #72	ISO_DATAIDENT.OTHCONSTS

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Group of Associated Elements : Storage Format

Elements:	
Storage Type	
Storage Version	
Obligation	Maximum Occurrence
Mandatory*	Many

ISO Reference	Table Implementation
ISO 19115:2003	ADD_STORAGE_FORMAT
n/a	

These elements describe how the dataset is stored. *Storage Type* describes whether the dataset is digital, hardcopy or a collection of specimens-and also further describes the data format, e.g. Oracle or Microsoft Excel for digital datasets, paper or microfiche for hardcopy datasets, or hand specimens or thin sections etc. for specimen collections. *Storage Version* is used to record the version of digital formats; "NotApplicable" is entered where *Storage Version* is not relevant.

*This group of associated elements is not used in the case of DGSM Data(sub)set Metadata.

For more information on formats see **Recording Types of Format**

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Element: Storage Type

Definition of Element:
The type of storage, e.g. Digital, Collection or Hardcopy and details of that storage, e.g. Microsoft Access Database, Rock Thin Section, Paper Copy

Allowable Content:
Constrained by a dictionary.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Dictionary	-

Format Rules:
Constrained by a dictionary.

Other Comments:
Each Storage Type must have a Storage Version.

Examples:
<ol style="list-style-type: none"> 1. Collection: Rock hand specimen 2. Digital: Microsoft Access database 3. Hardcopy: Paper Copy

ISO Reference	Table Implementation
ISO 19115:2003 n/a	ADD_STORAGE_FORMAT.STORAGETYPE

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Element: Storage Version

Definition of Element:
Version of the format (date, number etc.).

Allowable Content:
Date, number etc. If dataset is not digital, value is 'NotApplicable'. If more than one storage version exists, enter all storage versions here

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory*	1*	CharacterString	80

Format Rules:
Free text

Other Comments:
* Storage Version must be given if Storage Type is given.

Examples:
<ol style="list-style-type: none"> 1. v1, 2. 5.1 3. NotApplicable 4. v1.2.3.0.4 and v1.2.3.0.5

ISO Reference	Table Implementation
ISO 19115:2003 n/a	ADD_STORAGE_FORMAT.STORAGE_VERSION

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Group of Associated Elements : Distribution Format

Elements:	
Distribution Format Name	
Distribution Format Version	
Obligation	Maximum Occurrence
Optional (Not used for DGSM Data(sub)set Metadata but Mandatory for DGSM Model Metadata)	Many

ISO Reference	Table Implementation
ISO 19115:2003 B.2.10.4 #284	

These elements describe how the dataset can be distributed. *Distribution Format Name* is used to describe the type of format if the dataset is digital, e.g. Oracle or Microsoft Excel, or for non digital datasets the element is used to describe the form of the dataset, e.g. paper, or material (rock, thin section etc.). *Distribution Format Version* is used to record the version of digital formats; “NotApplicable” is entered where *Storage Version* is not relevant. Some datasets are either not available for distribution or, by their nature (e.g. large physical specimens) cannot be distributed; these limitations to access can be described under *Additional Information on Access and Use Constraints* subject to the conditions described under *Constraints*.

For more information on formats see **Recording Types of Format**

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Element: Distribution Format Name (KAH 27 October 2004)**Definition of Element:**

Name of the data transfer format(s).

Allowable Content:

1. If digital, this is the name of the software format.
2. If non digital, 'paper' or 'material', for example.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	CharacterString	240

Format Rules:

Free Text

Other Comments:

For non-digital data, enter information that will be useful to potential customers. 'Hardcopy' will suffice if the data is supplied as a report or photocopied pages. In the case of specialised non-digital formats (e.g. microfiche) enter something similar to 'Microfiche 105 x 148 mm' so that the potential customer will know what equipment they will need to use the data

If the data is a collection (e.g. a rock collection), again enter information that will be useful to potential customers. 'Material' will normally be sufficient but something similar to 'Powdered samples weighing less than 100g each' should be entered if useful to potential customers.

Some collections may not be available for distribution; details of this should be explained in the Constraints fields.

If, for example, the data are derived from earthVision, but will be sent to people in tab-delimited ASCII, enter 'Tab-delimited ASCII'

Examples:

1. Microsoft Excel
2. Oracle
3. ASCII
4. Hardcopy
5. Material
6. ArcInfo Export
7. Microfiche 105 x 148 mm

ISO Reference	Table Implementation
ISO 19115:2003 B.2.10.4 #285	ISO_FORMAT.FORMATNAME

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Element: Version of Distribution Format

Definition of Element:
Version of the format (date, number etc.).

Allowable Content:
Date, number etc. If dataset is not digital, value is 'NotApplicable'.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory*	1*	CharacterString	240

Format Rules:
Free text

Other Comments:
*Format Version must be given if Format Name is given

Examples:
<ol style="list-style-type: none"> 1. v1 2. 5.1, 3. NotApplicable

ISO Reference	Table Implementation
ISO 19115:2003 B.2.10.4 #286	ISO_FORMAT.FORMATVER

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Element: Dataset Language

Definition of Element:
Language(s) used within the dataset.

Allowable Content:
Constrained by a dictionary, the default is 'English'.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	Many	Dictionary	-

Format Rules:
Constrained by a dictionary, the default is 'English'.

Other Comments:
Nil

Examples:
English

ISO Reference	Table Implementation
ISO 19115:2003 B.2.2.1 #39	ISO_DATA LANG.DATALANG

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Element: Dataset Character Set

Definition of Element:
Full name of the character coding standard used for the dataset

Allowable Content:
Value from ISO 19115 B.5.10. Dictionary controlled

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	Many	Dictionary	-

Format Rules:
Constrained by dictionary. In the case of DGSM Metadata, the default is 'notAvailable'

Other Comments:
Nil

Examples:
<ol style="list-style-type: none"> 1. usAscii 2. notAvailable

ISO Reference	Table Implementation
ISO 19115:2003 B.2.2.1. #40	ISO_DATACHAR.DATACHAR

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Group of Associated Elements : Additional Extent Information for the Dataset (vertical)

Elements:	
Minimum Vertical Extent	
Maximum Vertical extent	
Units of Measurement	
Vertical Datum Used	
Obligation	Maximum Occurrence
Optional	Many

ISO Reference	Table Implementation
ISO 19115:2003 B.3.1.4 #354	ISO_VERTEXTENT

These elements describe the maximum and minimum extents of the dataset. The *Maximum Vertical Extent* and *Minimum Vertical Extent* are measured in *Units of Measurement* from a *Vertical Datum Used*. The *Vertical Datum Used* provides information about the origin from which the extents are measured; five foot underground on a hill is different from five foot underground on a valley floor.

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Element: Minimum Vertical Extent

Definition of Element:
Lowest vertical extent contained in the dataset

Allowable Content:
Number

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory*	1	Real Number	(15 with up to 5 decimal places)

Format Rules:
Nil

Other Comments:
* If Minimum Vertical Extent is given, Maximum Vertical Extent, Units of Measurement and Vertical Datum Used must also be given.

Examples:
<ol style="list-style-type: none"> 1. 22.6 2. -13.725 3. -26E-03

ISO Reference	Table Implementation
ISO 19115:2003 B.3.1.4 #355	ISO_VERTEXTENT.VERTMINVAL

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Element: Maximum Vertical Extent

Definition of Element:
Highest vertical extent contained in the dataset.

Allowable Content:
Number

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Real Number	(15 with up to 5 decimal places)

Format Rules:
Nil

Other Comments:
* If Maximum Vertical Extent is given, Minimum Vertical Extent, Units of Measurement and Vertical Datum Used must also be given

Examples:
<ol style="list-style-type: none"> 1. 22.6 2. -13.725 3. -26E-03

ISO Reference	Table Implementation
ISO 19115:2003 B.3.1.4 #356	ISO_VERTEXTENT.VERTMAXVAL

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Element: Units of Measurement

Definition of Element:

Vertical units used for vertical extent information.

Allowable Content:

Constrained by dictionary.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Dictionary	-

Format Rules:

Constrained by dictionary.

Other Comments:

If vertical extent data are given then a unit of measurement must be given.

Examples:

1. feet
2. inches

ISO Reference	Table Implementation
ISO 19115:2003 B.3.1.4 #357	ISO_VERTEXTENTVERTUOM

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Element: Vertical Datum Used

Definition of Element:
Provides information about the origin from which the maximum and minimum elevation values are measured

Allowable Content:
Constrained by a dictionary

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Dictionary	-

Format Rules:
Constrained by dictionary.

Other Comments:
If vertical extent data are given then Vertical Datum Used must also be given.

Examples:
<ol style="list-style-type: none"> 1. Ordnance Datum Newlyn 2. North American Vertical Datum 1988

ISO Reference	Table Implementation
ISO 19115:2003 B.3.1.4 #358	ISO_VERTEXTENT.VERTDATUM

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Group of Associated Elements : Vertical Scope

Elements:	
Extent Type Code Vertical Scope	
Obligation	Maximum Occurrence
Optional	Many
ISO Reference	
Table Implementation	
ISO 19115:2003	

This is only used within the DGSM model metadata.

The purpose of having an Extension Type Code (i.e. Inclusion or Exclusion) alongside the vertical scope (e.g. Superficial, Holocene) and is that we may wish to make it clear to users, for example, that a model covers “superficial” but excludes the “Holocene”.

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Element: Extent Type Code

Definition of Element:
Indication of whether the vertical scope encompasses the geological divisions covered by the data or not.

Allowable Content:
0 or 1

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory*	1	Boolean	1

Format Rules:
Constrained by list.

Other Comments:
0 – exclusion, 1 – inclusion * If a Vertical Scope is given, the Extent Type Code must also be given

Examples:
0 or 1

ISO Reference	Table Implementation
ISO 19115:2003	

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Element: Vertical Scope

Definition of Element:
The vertical scope (e.g. superficial) of the model

Allowable Content:
Dictionary Controlled

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory*	One	Dictionary	-

Format Rules:
Dictionary Controlled

Other Comments:
* If an Extent Type Code is given, the Vertical Scope must also be given

Examples:
<ol style="list-style-type: none"> 1. Superficial 2. DeepGeology 3. Moderate

ISO Reference	Table Implementation
ISO 19115:2003	

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Group of Associated Elements : Dataset Responsible Party

Elements:	
Name	
Organisation	It is conditional that at least one of these elements is given together with address and contact information.
Position	
Telephone Number	
Facsimile Number	
Address	
City	
Province	
Post Code	
Country	
Email Address	
Web Address	
Role	
Obligation	Maximum Occurrence
Mandatory, it is mandatory that at least one entry with a role of 'pointOfContact' is given	Many

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.1 #374	ISO_RESPARTY

This group of elements describe and give contact information for people who have an association with the dataset. Each *Dataset Responsible Party* has a defined [Role](#) to describe their particular involvement, e.g. distributor, point of contact etc.

Note the difference between a Role and a Position. The Position refers to the position of the person (e.g. Director, Data Manager) within an organisation; the role refers to the role played with regard to the dataset (e.g. originator, point of contact). A single role must always be given for each individual for each dataset.

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Element: Name

Definition of Element:
Name of the Responsible Person.

Allowable Content:
A person's name.

Obligation	Maximum Occurrence	Field Type	Field Length
Conditional*	1	CharacterString	120

Format Rules:
surname, given name, title separated by a comma.

Other Comments:
<ol style="list-style-type: none"> 1. *It is mandatory that at least one entry with a role of "pointOfContact" is given. 2. It is mandatory that at least one of the elements Name, Organisation or Position are supplied.

Examples:
Smith,John,Mr

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.1 #375	ISO_RESPARTY.RPINDNAME

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Element: Organisation

Definition of Element:
Name of the responsible organisation.

Allowable Content:
Name of the organisation.

Obligation	Maximum Occurrence	Field Type	Field Length
Conditional*	1	CharacterString	120

Format Rules:
Free text

Other Comments:
<ol style="list-style-type: none"> 1. *It is mandatory that at least one entry with a role of 'pointOfContact' is given. 2. It is mandatory that at least one of the elements Name, Organisation or Position are supplied.

Examples:
British Coal Board

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.1 #376	RPORGNAME

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Element: Position

Definition of Element:
Post or position of the Responsible Party.

Allowable Content:
Post, job, function, title or position of an individual within an organisation.

Obligation	Maximum Occurrence	Field Type	Field Length
Conditional*	1	CharacterString	40

Format Rules:
Free text

Other Comments:
<ol style="list-style-type: none"> *It is mandatory that at least one entry with a role of 'pointOfContact' is given. It is mandatory that at least one of the elements Name, Organisation or Position are supplied.

Examples:
<ol style="list-style-type: none"> Head of Laboratories Chief geophysicist

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.1 #377	ISO_RESPARTY.RPPOSNAME

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Element: Telephone Number

Definition of Element:

Telephone number of the Responsible Party.

Allowable Content:

Telephone Number

Obligation	Maximum Occurrence	Field Type	Field Length
Optional	Many	CharacterString	25

Format Rules:

'+', followed by the country code, followed by a space. The rest of the number may contain spaces to make it more readable. Omit leading zeros (in most countries).

Other Comments:

Nil

Examples:

+44 115 936 3100 Ex:3344

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.7 #408	ISO_TELEPHONE_1.VOICENUM

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Element: Facsimile Number

Definition of Element:

Facsimile Number of the Responsible Party.

Allowable Content:

Facsimile Number

Obligation	Maximum Occurrence	Field Type	Field Length
Optional	Many	CharacterString	25

Format Rules:

'+', followed by the country code, followed by a space. The rest of the number may contain spaces to make it more readable. Omit leading zeros (in most countries).

Other Comments:

Nil

Examples:

+44 115 936 3100

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.7 #409	ISO_TELEPHONE_2.FAXNUM

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Element: Address**Definition of Element:**

Address of Responsible Party.

Allowable Content:

Number/name, Street.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	CharacterString	TBA

Format Rules:

Follow Universal Postal Union guidelines where appropriate

Other Comments:

Nil

Examples:

1. Murchison House, West Mains Road
2. Kingsley Dunham Centre, Keyworth

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.2 #381	ISO_RESPARTY.DELPOINT

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Element: City**Definition of Element:**

City of the location.

Allowable Content:

City name

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	CharacterString	60

Format Rules:

Free text, in lower case but starting with a capital letter.

Other Comments:

Nil

Examples:

1. London
2. Paris
3. Nottingham

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.2 #382	ISO_RESPARTY.CITY

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Element: Province

Definition of Element:
State, province, county of the location.

Allowable Content:
Name of State, province, county.

Obligation	Maximum Occurrence	Field Type	Field Length
Optional	1	CharacterString	40

Format Rules:
Free text, in lower case but starting with a capital letter.

Other Comments:
Nil

Examples:
<ol style="list-style-type: none"> 1. Cheshire 2. Devon

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.2 #383	ISO_RESPARTYADMINAREA

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Element: Post Code

Definition of Element:
Postal code

Allowable Content:
Post code, zip code etc.

Obligation	Maximum Occurrence	Field Type	Field Length
Optional	1	CharacterString	40

Format Rules:
Follow the guidelines for the relevant country

Other Comments:
Nil

Examples:
NG12 5GG

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.2 #384	ISO_RESPARTY.POSTCODE

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Element: Country

Definition of Element:
Country of the physical address.

Allowable Content:
Name of country.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	CharacterString	60

Format Rules:
Constrained by a dictionary.

Other Comments:
Nil

Examples:
<ol style="list-style-type: none"> 1. United Kingdom 2. Bolivia

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.2 #385	ISO_RESPARTY.COUNTRY

[Index](#)

Element: Email address

Definition of Element:

Address of the electronic mailbox of the responsible organization or individual.

Allowable Content:

Email address.

Obligation	Maximum Occurrence	Field Type	Field Length
Optional	Many	CharacterString	80

Format Rules:

Free text

Other Comments:

No spaces.

Examples:

jhb@bgs.ac.uk

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.2 #386	ISOEMAILADD.EMAILADD

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Element: Web Address

Definition of Element:
Location (address) for on-line access using a Uniform Resource Locator address.

Allowable Content:
Uniform Resource Locator address.

Obligation	Maximum Occurrence	Field Type	Field Length
Optional	1	CharacterString	1024

Format Rules:
Must be a URL in standard format.

Other Comments:
Nil

Examples:
<http://www.bgs.ac.uk/>

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.5 #397	ISO_RESPARTY.CNTONLINRES

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Element: Role

Definition of Element:
Function performed by the Responsible Party.

Allowable Content:
Constrained by a dictionary.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory*	1	Dictionary	-

Format Rules:
Constrained by a dictionary.

Other Comments:
* Each Responsible Party must have a role. There must be at least on <i>Dataset Responsible Party</i> with a role of ‘Point of Contact’ for each dataset.

Examples:
1. pointOfContact 2. originator

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.1 #379	ISO_IDPOC.ROLE

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Group of Associated Elements : Keywords

Elements:	
Keyword	
Thesaurus Name	
Thesaurus Version	
Obligation	Maximum Occurrence
Mandatory	Many

ISO Reference	Table Implementation
ISO 19115:2003 B.2.2.3 #52	NCR_KEYWORD

Keywords are words or phrases used to describe the dataset. They are chosen from a specified thesaurus that holds keywords (and related terms) in a structured hierarchy. This approach enables more thorough searching of metadata records.

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Element: Keyword**Definition of Element:**

Commonly used word(s) or formalised word(s) or phrase(s) used to describe the subject.

Allowable Content:

Constrained by Thesaurus.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	CharacterString	50

Format Rules:

Constrained by Thesaurus.

Other Comments:

A thesaurus application will be available to help in selecting keywords.

Examples:

1. geochemistry
2. borehole
3. seismic

ISO Reference	Table Implementation
ISO 19115:2003 B.2.2.3 #53	NCR_KEYWORD.ADD_KEYWORD_ID*

*Code giving the location of the keyword in the given thesaurus

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Element: Thesaurus

Definition of Element:
Thesaurus of words and phrases.

Allowable Content:
1. This will be the current thesaurus by default-

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Controlled to a fixed list	-

Format Rules:
Free text

Other Comments:
Nil

Examples:
Australian Geoscience, Minerals and Petroleum Thesaurus.

ISO Reference	Table Implementation
ISO 19115:2003 B.2.2.3/55	NCR_KEYWORD.ADD_CITATION_ID*

* Citation identifying given thesaurus
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Element: Thesaurus Version

Definition of Element:

This is a group of elements defining the reference dates for the thesaurus.

Allowable Content:

Default values for the current thesaurus will be entered by the system.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1		

Format Rules:

Default values for the current thesaurus will be entered by the system.

Other Comments:

Nil

Examples:

ISO Reference	Table Implementation
ISO 19115:2003 B.2.2.3/55	NCR_KEYWORD.ADD_CITATION_ID*

* Citation identifying given thesaurus

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Group of Associated Elements: Lineage Steps

Elements:	
Type of Step	
Confidence Level	
Description	
Rationale	
Citation (of included/excluded data items file)	
Date of Step (a Group of Associated Elements)	
Lineage Source (a Group of Associated Elements)	
Obligation	Maximum Occurrence
Mandatory	Many

ISO Reference	Table Implementation
ISO 19115:2003	NCR_PROCESSSTEP (NCR_SOURCE for Lineage Source)

This group of elements is only used within the DGSM metadata

The purpose of this set of elements is to give a full description of each of the processing steps taken in the preparation of the data(sub)set or model so that it can be recreated from the source data. It also includes the rationale behind each processing step.

By making use of the “Citation” element, we are also able to (optionally) include a list of items that are additionally excluded or included in the data file as a result of the lineage step

Lineage Source allows reference to another dataset or model that has been used in the lineage step (see Group of Associated Elements: Lineage Supporting Sources (REH 28 October 2004))

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Element: Type of Step (REH 28 October 2004)**Definition of Element:**

The type of processing step – for example whether it is ‘inclusion’ (of data) step or an ‘exclusion’ (of data) step

Allowable Content:

Constrained by a dictionary

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Dictionary	-

Format Rules:

Constrained by a dictionary

Other Comments:

For DGSM Data(sub)set Metadata, at least one of each of the following types of step needs to be included:

dataInclusion (i.e. a step to include data in the data(sub)set)

dataExclusion (i.e. a step to exclude data from the data(sub)set)

For DGSM Model Metadata, at least one of each of the following types of step needs to be included:

processInterpret (i.e. a step to interpret a complete data(sub)set in light of the scientific conceptual model being used)

processInterpol (i.e. a step to interpolate the complete data(sub)set to generate a model)

dataItemInterpret (i.e. a step to interpret an individual data item (or data items) in light of the scientific conceptual model being used, where different from the interpretation made for the model/dataset as a whole)

dataItemAssump (i.e. a step to make assumptions about an individual data item (or data items) where different from the assumptions made for the model/dataset as a whole)

If any of these mandatory steps have not been used, enter ‘Not Used’ in the Description field, ‘Not Applicable’ in the Rationale field, the current date in the date fields and ‘notApplicable’ in the Confidence Level field.

Examples:

1. dataInclusion
2. dataExclusion
3. processInterpret
4. processInterpol
5. dataItemInterpret
6. dataItemAssump
7. general
8. dataItemInterpol

ISO Reference	Table Implementation
ISO 19115:2003	

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Element: Confidence Level

Definition of Element:

The confidence level given to the Lineage Step

Allowable Content:

Constrained by a dictionary

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Dictionary	-

Format Rules:

Constrained by a dictionary

Other Comments:

Nil

Examples:

1. invalid
2. suspect
3. notEntered
4. notAvailable
5. low
6. moderate
7. high
8. notApplicable

ISO Reference

Table Implementation

ISO 19115:2003

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Element: Description

Definition of Element:
A description of the Lineage Step in sufficient detail to allow another user to carry out that step

Allowable Content:
<p>Include as appropriate for the type of step:</p> <ol style="list-style-type: none"> 1. A statement of the general criteria for including items in the data(sub)set 2. Individual instances that have been included in the data(sub)set 3. A statement of the general criteria for excluding items from the data(sub)set 4. Individual instances that have been excluded from the data(sub)set 5. The interpretation of the dataset in light of the scientific conceptual model being used 6. The methodology used to generate the model from the data 7. How a particular data instance is interpreted differently from that of the data(sub)set generally 8. How a particular data instance is interpolated differently from that of the data(sub)set generally

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	CharacterString	2000

Format Rules:
<ol style="list-style-type: none"> 1. Free Text 2. Sentences are preferred

Other Comments:
Nil

Examples:
<ol style="list-style-type: none"> 1. All boreholes penetrating the base of the Chalk retrieved from BGS.BOREHOLE_GEOLOGY (Type of Step = 'dataInclusion') 2. All boreholes logged by Keith Holmes excluded (Type of Step = 'dataExclusion') 3. Sharp lithological change at the base of chalk indicates basal unconformity (Type of Step = 'processInterpret') 4. Surface generated in EarthVision by interpolation, using minimum curvature, of depth values from boreholes penetrating the base of the Chalk, and also using some boreholes that bottomed in Chalk to constrain the surface in areas of low data density (Type of Step = 'processInterpol') 5. Poor core recovery at the base of the Chalk - the base Chalk is taken as being at the top of the poorly recovered section (Type of Step = 'dataItemInterpret') 6. The borehole is taken to provide a minimum value for the base Chalk depth rather than an absolute value (Type of Step = 'dataItemInterpol') 7. Not Used

ISO Reference	Table Implementation
ISO 19115:2003	

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Element: Rationale

Definition of Element:

The requirement or purpose of the processing step

Allowable Content:

The reasons for the processing step

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	CharacterString	2000

Format Rules:

1. Free Text
2. Sentences are preferred

Other Comments:

Nil

Examples:

1. Model is of the base of the Chalk
2. Few boreholes prove the base of the Chalk in this area so this is used despite possibly unreliable source
3. Keith Holmes's logging is not thought to be of high quality
4. Poor core recovery more likely in the Upper Greensand
5. Not Applicable

ISO Reference

Table Implementation

ISO 19115:2003

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Element: Citation

Definition of Element:

This field is to record the metadata entry for a file containing a list of included or excluded data items

Allowable Content:

Obligation	Maximum Occurrence	Field Type	Field Length
Optional	1	Controlled to current entries	-

Format Rules:

Nil

Other Comments:

Only to be used where the list of included or excluded data items has a separate metadata entry

Examples:

1. List of boreholes excluded from the 3D Model of the Edinburgh Area

ISO Reference

Table Implementation

ISO 19115:2003

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Element: Date of Step (a Group of Associated Elements)

Definition of Element:
The date the Lineage Step was done

Allowable Content:
The Date of Step consists of 3 fields: <ol style="list-style-type: none"> 1. Date and time 2. Precision of date e.g. Century, Year, Minute etc. I.e. whether the date is known to the nearest century, year, minute etc. 3. Temporal relationship of the Date and Time to the Step, i.e. before, after or equals.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	notApplicable	notApplicable

Format Rules:
See the descriptions for <ol style="list-style-type: none"> 1. Group of Associated Elements: Dataset Reference Date – Element: Date 2. Group of Associated Elements: Dataset Reference Date – Element: Date Precision 3. Group of Associated Elements: Dataset Reference Date – Element: Date Relation

Other Comments:
Nil

Examples:
<ol style="list-style-type: none"> 1. 2002 year equals 2. 17-Jun-2004 day before

ISO Reference	Table Implementation
ISO 19115:2003	

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**Group of Associated Elements: Lineage Supporting Sources (REH 28
October 2004)**

Elements:	
Source Description	
Citation	
Obligation	Maximum Occurrence
Optional	Many

ISO Reference	Table Implementation
ISO 19115:2003	NCR_SOURCE

This is only used within the DGSM metadata

The purpose of this set of elements to allow reference to another **supporting** dataset or model used in the Lineage Step (i.e. used in the processing of the current dataset but is not incorporated wholly into the actual dataset or model), whether or not that dataset has an entry in the metadata.

For example

[first example deleted, REH]

1. A DTM may have been used to interpolate additional height values to a dataset where the height values were missing from the original data
2. A velocity model may have been used to convert two-way travel time to depth in metres.

By making use of the “Citation” element, we are able to link to metadata (where it exists) about the datasets that have been used in the processing of the current dataset.

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Element: Source Description (REH 28 October 2004)

Definition of Element:

A description of the supporting data used in the Lineage Step

Allowable Content:

Include as appropriate:

1. A description of the supporting source data
2. reference of the supporting source data

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	CharacterString	160

Format Rules:

Free Text

Other Comments:

Nil

Examples:

1. OS Land-Form PROFILE DTM for NT47 (2004)
2. Velocity model from Ritchie et al (BGS Technical Report WL/90/32)
3. \\Mhnts9\Groupdata\SNEG\IGSN_Maps\NT47.XLS

ISO Reference

Table Implementation

ISO 19115:2003

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Element: Citation

Definition of Element:

The metadata entry for the supporting source data used within the lineage step.

Allowable Content:

There must already be an entry in the metadata for this dataset

Obligation	Maximum Occurrence	Field Type	Field Length
Optional	1	Controlled to current entries	-

Format Rules:

A reference to an existing entry in the metadata

Other Comments:

Note this refers to a dataset that has been used in the processing of the current dataset, such as a DTM (to obtain height data) or a velocity model (to convert two-way travel time to metres) – it does not refer to the current dataset or a subset of it.

Examples:

1. Model for Mid Wales prepared for Bishops Castle Earthquake (1990)

ISO Reference

Table Implementation

ISO 19115:2003

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Group of Associated Elements: Quality Assessments

Elements:	
Quality Measure	
Description	
Result	
Obligation	Maximum Occurrence
Optional*	Many

ISO Reference	Table Implementation
ISO 19115:2003	

This is only used within the DGSM metadata

The purpose of this set of elements is to record what quality checks have been applied to the sub(data)set or model.

The types of check (i.e. Quality Measure) that are available are 'Spurious Data Check', 'Data Density', 'Interpolation/Modelling Check' and 'Fitness for Purpose'.

Description allows a fuller description of the check itself to be documented.

The result of the check is 'Pass', 'Fail' or 'Not applicable'.

* In the case of DGSM data(sub)sets, it is mandatory to record a 'Spurious Data Check'. If it has not been carried out, record in the Description field "Not carried out" and in the Result field "Not applicable".

* In the case of DGSM models, it is mandatory to record an 'Interpolation/Modelling Check', a 'Fitness for Purpose' and a Data Density check.

* If the mandatory checks have not been carried out, record in the Description field "Not carried out" and in the Result field "Not applicable".

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Element: Quality Measure

Definition of Element:
The type of Quality Measure

Allowable Content:
Dictionary Controlled

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Dictionary	-

Format Rules:
Dictionary Controlled

Other Comments:
Nil

Examples:
<ol style="list-style-type: none"> 1. spuriousDataCheck 2. dataDensity 3. interpolModelcheck 4. fitnessForPurpose

ISO Reference	Table Implementation
ISO 19115:2003	

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Element: Description KAH 4 November 2004**Definition of Element:**

A full description of the quality assessment carried out

Allowable Content:

Enter, for example:

1. Description of the checks carried out for spurious data
2. A statement by the modeller on the sufficiency of the data density for the model being created
3. Description of the checks carried out on the interpolation/modelling methods
4. An assessment of the 'fitness for purpose'

Where the quality assessment applies to only part of the dataset/model (or only one of its sources), ensure this is described. For example, if a model is derived from 2 datasets, the dataset density may be sufficient for one of the source datasets but not the other; describe this in this field

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	CharacterString	200

Format Rules:

Free Text

Other Comments:

In the case of a mandatory type of Quality Measure (see Group of Associated Elements: Quality Assessments) which has not been done, enter 'Not carried out'.

Examples:

1. Residuals generated and plotted and bulls eyes investigated (Quality Measure = 'Spurious Data Check')
2. Resulting model checked against regional structural interpretation (Quality Measure = 'Interpolation / Modelling Check')
3. The data subset provides sufficient density of good quality boreholes except in the NE quadrant where model constraint is poor (Quality Measure = 'Data Density Check')
4. Not carried out (This can apply to any Quality Measures and is used where DGSM has defined that a specific type of Quality Measure should be carried out)
5. There is sufficient data density for data derived from the BOREHOLE_GEOLOGY dataset; data derived from the mine plans dataset in the NE quadrant has very variable data density and is insufficient in some areas for developing anything but a regional scale model. (Quality Measure = 'Fitness for Purpose Check')

ISO Reference**Table Implementation**

ISO 19115:2003

ISO_DQELEMENT.MEASDESC

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Element: Result

Definition of Element:
The result (Pass='Y' or Fail='N') of the quality assessment

Allowable Content:
Check Constraint controlled

Obligation	Maximum Occurrence	Field Type	Field Length
Optional*	1	Constraint controlled	-

Format Rules:
Check Constraint controlled

Other Comments:
* The application allows 'Pass', 'Fail' or 'Not Applicable' to be entered. These are translated to 'Y', 'N' and a null in the database
In the case of a mandatory type of Quality Measure (see Group of Associated Elements: Quality Assessments) which has not been done, enter 'Not Applicable'.

Examples:
<ol style="list-style-type: none"> 1. Pass 2. Fail 3. Not Applicable

ISO Reference	Table Implementation
ISO 19115:2003	

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Group of Associated Elements: Graphics File

Elements:	
File Name	
Description	
File Type	
URI	
Obligation	Maximum Occurrence
Optional	Many

ISO Reference	Table Implementation
ISO 19115:2003	

This is only used within the DGSM Model metadata

The purpose of this set of elements is to allow a “thumbnail” of the dataset to be made available with the rest of the metadata. Ideally it should include a legend with the graphic.

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Element: File Name

Definition of Element:

The name of the file that contains the graphic

Allowable Content:

A file name

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	CharacterString	100

Format Rules:

Nil

Other Comments:

Include the extension (e.g. .pdf)

Examples:

1. EW002_berwick.pdf

ISO Reference	Table Implementation
ISO 19115:2003	

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Element: Description

Definition of Element:
A description of the illustration

Allowable Content:
Free text

Obligation	Maximum Occurrence	Field Type	Field Length
Optional	1	CharacterString	200

Format Rules:
<ol style="list-style-type: none"> Free text Sentences are preferred

Other Comments:
Nil

Examples:
<ol style="list-style-type: none"> Low resolution, greyscale, 1:50K Geological Map of Berwick

ISO Reference	Table Implementation
ISO 19115:2003	

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Element: File Type

Definition of Element:

The type of file used for the illustration

Allowable Content:

Free text

Obligation	Maximum Occurrence	Field Type	Field Length
Optional	1	CharacterString	40

Format Rules:

Free text

Other Comments:

Nil

Examples:

1. PDF
2. JPEG

ISO Reference	Table Implementation
ISO 19115:2003	

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Element: URI

Definition of Element:
The Universal Resource Identifier (URI, aka URL) of the file used for the illustration

Allowable Content:
Free text

Obligation	Maximum Occurrence	Field Type	Field Length
Optional	1	CharacterString	200

Format Rules:
Free text

Other Comments:
Nil

Examples:
1. file://mhnts1.nmh.ac.uk/BGScorpDataMH/DiGMapGB/Data/50k/thumbnail/EW002_berwick.pdf

ISO Reference	Table Implementation
ISO 19115:2003	

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Elements Relating to the Metadata

For each dataset, we need information on the metadata for that dataset. This is the purpose of the 'Elements Relating to the Metadata' section. There is one set of metadata information for each dataset.

Group of Associated Elements : Metadata Point of Contact

Elements:	
Name	
Organisation	It is conditional that one of these elements is given together with address and contact information.
Position	
Telephone Number	
Facsimile Number	
Address	
City	
Province	
Post Code	
Country	
Email Address	
Web Address	
Role	
Obligation	Maximum Occurrence
Mandatory, it is mandatory that at least one entry with a role of 'pointOfContact' is given.	Many

ISO Reference	Table Implementation
ISO 19115:2003 B.2.1 #8	ISO_MDCONTACT

Similar to [Dataset Responsible Party](#) elements except that these relate to the person who provided the metadata. The *Role* is always "Point of Contact" for BGS-geoIDS; in the case of DGSM metadata, other *Roles* may be used but it remains mandatory that at least one entry with a role of 'Point of Contact' is given.

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Element: Name**Definition of Element:**

Name of the Metadata Point of Contact .

Allowable Content:

A person's name.

Obligation	Maximum Occurrence	Field Type	Field Length
Conditional*	1	CharacterString	120

Format Rules:

surname, given name, title separated by a delimiter.

Other Comments:

- *It is mandatory that at least one entry with a role of 'pointOfContact' is given. The entry can be Name, Organisation or Position.
- If a name is given, a role must also be given.

Examples:

Smith,John,Mr

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.1 #375	ISO_RESPARTY.RPINDNAME

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Element: Organisation

Definition of Element:
Name of the responsible organisation.

Allowable Content:
Name of the organisation.

Obligation	Maximum Occurrence	Field Type	Field Length
Conditional*	1	CharacterString	120

Format Rules:
Free text

Other Comments:
<ol style="list-style-type: none"> 1. *It is mandatory that at least one entry with a role of 'pointOfContact' is given. The entry can be Name, Organisation or Position. 2. If an Organisation is given, a role must also be given.

Examples:
British Coal Board

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.1 #376	ISO_RESPARTY.RPORGNAME

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Element: Position

Definition of Element:
Post or position of the Metadata Point of Contact.

Allowable Content:
Post, job, function, title or position of an individual within an organisation.

Obligation	Maximum Occurrence	Field Type	Field Length
Conditional*	1	CharacterString	40

Format Rules:
Free text

Other Comments:
<ol style="list-style-type: none"> *It is mandatory that at least one entry with a role of 'pointOfContact' is given. The entry can be Name, Organisation or Position. If a Position is given, a role must also be given.

Examples:
Head of Laboratories
<ol style="list-style-type: none"> Chief geophysicist.

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.1 #378	ISO_RESPARTY.RPPOSNAME

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Element: Telephone Number

see Dataset Point of Contact [Telephone Number](#)

Element: Facsimile Number

see Dataset Point of Contact [Facsimile Number](#)

Element: Address

see Dataset Point of Contact [Address](#)

Element: City

see Dataset Point of Contact [City](#)

Element: Province

see Dataset Point of Contact [Province](#)

Element: Post Code

see Dataset Point of Contact [Post Code](#)

Element: Country

see Dataset Point of Contact [Country](#)

Element: Email address

see Dataset Point of Contact [Email Address](#)

Element: Web Address

see Dataset Point of Contact [Web Address](#)

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Element: Role**Definition of Element:**

Function performed by the Metadata Point of Contact.

Allowable Content:

Constrained by a dictionary.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory*	1	CharacterString	25

Format Rules:

Constrained by a dictionary reduced to one entry 'pointOfContact'..

Other Comments:

* Each Metadata Point of Contact must have a role.

Examples:

pointOfContact

ISO Reference	Table Implementation
ISO 19115:2003 B.3.2.1 #379	ISO_MDCONTACT.ROLE

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Element: Metadata Date Stamp

Definition of Element:
The date that the metadata was created or last modified.

Allowable Content:
Date.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Date	n/a

Format Rules:
Days must be padded with leading zeros if normally presented by a single digit.

Other Comments:
This is the date the metadata was created not when it was entered into the computer.

Examples:
11-Nov-2003

ISO Reference	Table Implementation
ISO 19115:2003 B.2.1 #9	ISO_METADATA.MDDATEST

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Element: Metadata Standard Name

Definition of Element:
Name of the metadata standard (including profile name) used.

Allowable Content:
This will be the current Metadata Standard Name by default.

Obligation	Maximum Occurrence	Field Type	Field Length
Optional	1	CharacterString	240

Format Rules:
This will be entered automatically by the system.

Other Comments:
Nil

Examples:
ISO 19115:2003

ISO Reference	Table Implementation
ISO 19115:2003 B.2.1 #10	ISO_METADATA.MDSTANNAME

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Element: Metadata Standard Version

Definition of Element:
Version of the metadata standard used.

Allowable Content:
For input this will be the current standard version by default.

Obligation	Maximum Occurrence	Field Type	Field Length
Optional	1	CharacterString	TBA

Format Rules:
This will be automatically entered by the system.

Other Comments:
Nil

Examples:
BGS GeoIDs

ISO Reference	Table Implementation
ISO 19115:2003 B.2.1 #11	ISO_METADATA.MDSTANVER

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Element: Metadata Language**Definition of Element:**

Language used for documenting metadata.

Allowable Content:

For BGS GeoIDs metadata this will be English.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	CharacterString	60

Format Rules:

The default ('English') is entered automatically by the system.

Other Comments:

Nil

Examples:

English

ISO Reference	Table Implementation
ISO 19115:2003 B.2.1 #3	ISO_METADATA.MDLANG

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Element: Metadata Character Set

Definition of Element:
Full name of the character coding standard used for the metadata set.

Allowable Content:
Default value from ISO 19115 B.5.10

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Text	20

Format Rules:
The default ('notAvailable') is added automatically by the system.

Other Comments:

Examples:

ISO Reference	Table Implementation
ISO 19115:2003 B.2.1 #4	ISO_METADATA.MDCHAR

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Element: Metadata Progress Status**Definition of Element:**

The status of the metadata

Allowable Content:

Use:

- ‘onGoing’ whilst the metadata is being created
- ‘underDevelopment’ when the metadata has been finished but not approved
- ‘completed’ once the metadata has been approved

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Dictionary	-

Format Rules:

Controlled by a dictionary

Other Comments:

Default value is ‘underDevelopment’

Examples:

1. completed
2. historicalArchive
3. obsolete
4. onGoing
5. underDevelopment

ISO Reference	Table Implementation
ISO 19115:2003 B.2.2.1 #28	ISO_METADATA.IDSTATUS

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Elements Related with the Geographic Location**Group of Associated Elements : Geographic Location of the Dataset by four coordinates (KAH 27 October 2004)**

Elements:	
Extent Type Code	
Geographic Bounding Box	
Time Period (a Group of elements)*	
Obligation	Maximum Occurrence
Conditional, must be given if dataset is geospatially referenced.	Many (1 in the case of DGSM Metadata)

ISO Reference	Table Implementation
ISO 19115:2003 B.3.1.2	ISO_GEOBNDBOX

The *Geographic Bounding Box* elements are the approximate minimum and maximum lat/long coordinates of a geographic area. The *Extent Type Code* indicates whether the *Geographic Bounding Box* describes an area covered by the data or an area where data are not present.

A dataset can have several areas defined in this way, e.g. a dataset covering urban areas could have data from Glasgow and data from Birmingham.

In the case of DGSM Metadata, only one geographic bounding box is allowed.

* Not used in the DGSM metadata

For BGS-geoIDS metadata, this section need not be completed where the dataset is not geospatially referenced (i.e. where there is an entry of 'notApplicable' in the Element: Spatial Representation Type field).

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Element: Extent Type Code

Definition of Element:

Indication of whether the bounding polygon encompasses an area covered by the data or an area where data is not present.

Allowable Content:

0 or 1

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory*	1	Boolean	1

Format Rules:

Constrained by list.

Other Comments:

0 – exclusion, 1 - inclusion

Examples:

0 or 1

ISO Reference	Table Implementation
ISO 19115:2003 B.3.1.2 #340	ISO_GEOBNDBOX.EXTYPECODE

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Element: Geographic Bounding Box

Definition of Element:
<p>This rectangle defines the minimum and maximum coordinates of the geographic area. These coordinates may be used to filter datasets according to the area of interest and to generate a box showing the approximate coverage of a dataset.</p> <p>The Geographic Bounding Box consists of the following four elements:</p> <ul style="list-style-type: none"> • North Bounding Latitude Northern-most coordinate of the limit of the dataset expressed in latitude, in decimal degrees. • South Bounding Latitude Southern-most coordinate of the limit of the dataset expressed in latitude, in decimal degrees. • East Bounding Longitude Eastern-most coordinate of the limit of the dataset expressed in longitude, in decimal degrees. • West Bounding Longitude Western-most coordinate of the limit of the dataset expressed in longitude, in decimal degrees.

Allowable Content:
<ul style="list-style-type: none"> • North Bounding Latitude -90.0 <= North Bounding Latitude value <= 90.0; North Bounding Latitude value >= South Bounding Latitude value. • South Bounding Latitude -90.0 <= South Bounding Latitude value <= 90.0; South Bounding Latitude value <= North Bounding Latitude value. • East Bounding Longitude -180.0 <= East Bounding Longitude value <= 180.0 • West Bounding Longitude -180.0 <= West Bounding Longitude value <= 180.0

Obligation	Maximum Occurrence	Field Type	Field Length
Conditional, mandatory if dataset is geospatial.	1	Number	West & East 5 North and South 4

Format Rules:
Number with up to 2 decimal places

Other Comments:
An approximate reference.

Examples:
<ol style="list-style-type: none"> 1. -2 2 55 57 2. 0.46 0.48 56.56 56.78

ISO Reference	Table Implementation
ISO 19115:2003 B.3.1.2 #347, 346, 345, 344	ISO_GEOBNDBOX. NORTHBL ISO_GEOBNDBOX. SOUTHBL ISO_GEOBNDBOX. EASTBL ISO_GEOBNDBOX. WESTBL

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Element: Time Period

Definition of Element:

The time period relating to the dataset for the Geographic Bounding Box

Allowable Content:

See Group of Associated Elements : Additional Extent Information for the Dataset - Temporal

Obligation	Maximum Occurrence	Field Type	Field Length
Optional	Many	-	-

Format Rules:

See Group of Associated Elements : Additional Extent Information for the Dataset - Temporal

Other Comments:

The dates refer to the data themselves, e.g. when a borehole was drilled and logged rather than when the information was collected later by BGS.
This section is not used within the DGSM metadata

Examples:

See Group of Associated Elements : Additional Extent Information for the Dataset - Temporal

ISO Reference	Table Implementation
ISO 19115:2003 B.3.1.3	ISO_EXTEMPBNDBOX

Group of Associated Elements : Geographic Extent (KAH 27 October 2004)

Elements:	
Extent Type Code	
Gazetteer Title	
Geographic Extent Name	
Time Period (a Group of elements)*	
Obligation	Maximum Occurrence
Optional	Many

ISO Reference	Table Implementation
ISO 19115:2003 B.3.1.2 #348	ISO_GEODESC

These elements describe a geographic area in terms of a *Geographic Extent Name*. The name is a defined term taken from a supplied dictionary (i.e. *Gazetteer*). The *Extent Type Code* indicates whether the *Geographic Extent Name* describes an area covered by the data or an area where data are not present.

A dataset can have several areas or bounding boxes defined in this way, e.g. a dataset covering urban areas could have data from Glasgow and data from Birmingham.

For BGS-geoIDS metadata, this section need not be completed where the dataset is not geospatially referenced (i.e. where there is an entry of 'notApplicable' in the Element: Spatial Representation Type field). However, an entry for some non-geospatially referenced may be appropriate here – for example a collection of reports on Zimbabwean geology would usefully merit an entry of 'Zimbabwe.'

*Not used in the DGSM Metadata

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Element: Extent Type Code**Definition of Element:**

Indication of whether the Geographic Extent name encompasses an area covered by the data or an area where data is not present.

Allowable Content:

0 or 1

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory*	1	Boolean	1

Format Rules:

Constrained by list.

Other Comments:

0 – exclusion, 1 - inclusion

Examples:

0 or 1

ISO Reference	Table Implementation
ISO 19115:2003 B.3.1.2 #340	ISO_GEODESC.EXTYPECODE

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Element: Gazetteer Title

Definition of Element:
The name of the Gazetteer from which the Geographic Extent Name is taken

Allowable Content:
Constrained to an approved list

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Dictionary	-

Format Rules:
Dictionary Controlled

Other Comments:
Nil

Examples:
<ol style="list-style-type: none"> 1. Geographical Hierarchy from Geosaurus 2. Edina and UK Data Archive geoXwalk Gazetteer 3. Alexandria Digital Library Gazetteer Service

ISO Reference	Table Implementation
ISO 19115:2003 B.2.7.3	ISO_GEODESC.ADD_DATAIDENT_ID*

*Identifies citation for the gazetteer.

Element: Geographic Extent Name (KAH 27 October 2004)**Definition of Element:**

The ordinary name of one or more pre-defined, known geographic objects that will reasonably show the extent of geographic coverage of the dataset. It is not intended that this element will show the exact extent of the dataset.
Multiple entries are possible.

Allowable Content:

Constrained by thesauri (i.e. dictionary) of geographic and geological areas.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Dictionary	-

Format Rules:

Constrained by dictionary

Other Comments:

Nil

Examples:

1. Africa
2. England
3. Eire
4. Devon
5. Doncaster

Note: We are dealing with datasets that are both originate from (e.g. geochemical samples from Zimbabwe) and cover (e.g. a collection of reports on Zimbabwean geology) areas. In both cases enter the geographic extent – in this case it would be Zimbabwe.

ISO Reference	Table Implementation
ISO 19115:2003 B.3.1.2 #349	ISO_GEODESC.ADDGEODESC.ID*

*Identifies area from given dictionary.

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Element: Time Period

Definition of Element:
 The time period relating to the dataset for the geographic extent

Allowable Content:
 See Group of Associated Elements : Additional Extent Information for the Dataset - Temporal

Obligation	Maximum Occurrence	Field Type	Field Length
Optional	Many	-	-

Format Rules:
 See Group of Associated Elements : Additional Extent Information for the Dataset - Temporal

Other Comments:
 The dates refer to the data themselves, e.g. when a borehole was drilled and logged rather than when the information was collected later by BGS.
 This section is not used within the DGSM metadata.

Examples:
 See Group of Associated Elements : Additional Extent Information for the Dataset - Temporal

ISO Reference	Table Implementation
ISO 19115:2003 B.3.1.3	ISO_EXTEMP_GEODESC

Group of Associated Elements : Additional Extent Information for the Dataset - Temporal

Elements:	
Start Date	
Start Date Precision	
Start Date Relation	
End Date	
End Date Precision	
End Date Relation	
Obligation	Maximum Occurrence
Optional	Many (to the geographic bounding box rather than the dataset).

ISO Reference	Table Implementation
ISO 19115:2003	ISO_GEOBNDBOX
B.3.1.3	ISO_GEODESC

These dates relate to the data in the dataset for a specific geographic area (e.g. data from Glasgow could be older than data from Birmingham in the same dataset) or bounding box. The dates refer to the data themselves, e.g. when a borehole was drilled and logged rather than when the information was collected later by BGS.

Date Precision and *Date Relation* fields are as for [Dataset Reference Date](#).

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Element: Start Date

Definition of Element:
Start of data collection for the geographic location.

Allowable Content:
Date

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Date	n/a

Format Rules:
To avoid confusion dates and times should be supplied as follows:
a. If only the year is known, YYYY
b. If only the month and year are known, MON-YYYY
c. If the day is known, DD-MON-YYYY
d. If the time is known, DD-MON-YYYY HH24:MM.

Other Comments:
1. If additional temporal extent information is given, all fields must be given. This is the earliest date of the data in the dataset, not the date it was collected, e.g. there may be borehole records dating back to 1850 that were collected in 1990.

Examples:
1. 2003
2. Nov-2003
3. 11-Nov-2003
4. 11-Nov-2003 14:30

ISO Reference	Table Implementation
ISO 19115:2003 B.3.1.3 #351 ISO 8601, ISO 19118	ISO_GEOBNDBOX.BEGIN_REFDATE ISO_GEODESC.BEGIN.REFDATE

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Element: Start Date Precision

Definition of Element:
The precision of the Start Date.

Allowable Content:
Constrained by dictionary containing values such as century, year etc.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	CharacterString	20

Format Rules:
Constrained by dictionary.

Other Comments:
Each Start Date must have a Start Date Precision.

Examples:
<ol style="list-style-type: none"> 1. century 2. year 3. decade

ISO Reference	Table Implementation
ISO 19115:2003	ISO_GEOBNDBOX.BEGIN_ADD_REFDATEPRECISION
B.3.1.3	ISO_GEODESC.BEGIN_ADD_REFDATEPRECISION
ISO 8601, ISO 19108	

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Element: Start Date Relation

Definition of Element:
Temporal relationship of the Start Date to the Data, i.e. before, after or equals.

Allowable Content:
Constrained by dictionary.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	CharacterString	6

Format Rules:
Constrained by dictionary.

Other Comments:
<ol style="list-style-type: none"> Each Start Date must have a Start Date Relation. The purpose of this field is to allow us to specify a date that we don't know exactly; so we can say "before 1910" or "after 1950" and so on. The default will be equals.

Examples:
<ol style="list-style-type: none"> before after equals

ISO Reference	Table Implementation
ISO 19115:2003 B.3.1.3 ISO 8601, ISO 19108	ISO_GEOBNDBOX.BEGIN_ADD_RELATIVEPOSITION ISO_GEODESC.BEGIN_ADD_RELATIVEPOSITION

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Element: End Date**Definition of Element:**

The date the data collection ended at the geographic location.

Allowable Content:

Date

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	Date	TBA

Format Rules:

To avoid confusion dates and times should be supplied as follows:

- a. If only the year is known, YYYY
- b. If only the month and year are known, MON-YYYY
- c. If the day is known, DD-MON-YYYY
- d. If the time is known, DD-MON-YYYY HH24:MM.Date

Other Comments:

1. Each End Date must have an End Date Precision and End Date Relation.
2. This is the latest date of the data in the dataset, not the date it was collected, e.g. there may be borehole records dating back to 1850 that were collected in 1990.

Examples:

1. 2003
2. Nov-2003
3. 11-Nov-2003
4. 11-Nov-2003 14:30

ISO Reference	Table Implementation
ISO 19115:2003 B.3.1.3 ISO 8601, ISO 19108	ISO_GEOBNDBOX.ENDREFDATE ISO_GEODESC.ENDREFDATE

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Element: End Date Precision

Definition of Element:
The precision of the End Date.

Allowable Content:
Constrained by a dictionary containing values such as century, year etc.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory	1	CharacterString	20

Format Rules:
Constrained by dictionary.

Other Comments:
Each End Date must have a End Date Precision.

Examples:
<ol style="list-style-type: none"> 1. century 2. year 3. decade

ISO Reference	Table Implementation
ISO 19115:2003	ISO_GEOBNDBOX.END_ADD_REFDATEPRECISION
B.3.1.3	ISO_GEODESC.END_ADD_REFDATEPRECISION
ISO 8601, ISO 19108	

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Element: End Date Relation

Definition of Element:
Temporal relationship of the End Date to the Data, i.e. before, after or equals.

Allowable Content:
Constrained by dictionary.

Obligation	Maximum Occurrence	Field Type	Field Length
Mandatory*	1	CharacterString	6

Format Rules:
Constrained by dictionary.

Other Comments:
<ol style="list-style-type: none"> Each End Date must have an End Date Relation. The purpose of this field is to allow us to specify a date that we don't know exactly; so we can say "before 1910" or "after 1950" and so on. The default will be equals.

Examples:
<ol style="list-style-type: none"> before after equals

ISO Reference	Table Implementation
ISO 19115:2003 B.3.1.3 ISO 8601, ISO 19108	ISO_GEOBNDBOX.END_ADD_RELATIVEPOSITION ISO_GEODESC.END_ADD_RELATIVEPOSITION

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Recording Types of Format

Within the ISO19115:2003 metadata system and the BGS implementation of this standard several types of format associated with a dataset or model can be recorded. This note aims to explain these types of format. There is some overlap between the various type of format used for most datasets – but there will be cases where there is no such overlap – hence the number of types of format that need to be recorded.

Distribution Format (KAH 27 October 2004)

This is part of the ISO19115:2003 core metadata. It is the format (or formats) in which the dataset can be distributed (i.e. sent to people).

ISO19115:2003 requires that the version of the format is also given. This is not relevant if, for example, the dataset is distributed on paper or the dataset is a thin section collection. The BGS implementation of ISO19115:2003 overcomes this problem by using ‘Not Applicable’ as the version in such cases

Both the format and version are free text fields. This allows as much information as appropriate to be passed on to potential users in a meaningful way.

Each dataset can have several “Distribution Formats”.

Example

	(Distribution) Format	(Distribution) Version
Example 1	Microsoft Excel	2000 9.0.6926 SP-3
Example 2	Hardcopy (A4 double sided)	Not applicable
Example 3	Tab-delimited ASCII	Not applicable

Storage Format

This is not part of ISO19115:2003 but is needed for BGS’s internal use. It is the format in which the data are stored within the BGS.

This is implemented in the same way as “Distribution Format” except that the format is restricted to a limited list. This allows searches to be carried out in the metadata for datasets held in a specific way. (The version is still free text.)

Each dataset can have several “Storage Formats”.

Example

	(Storage) Type	(Storage) Version
Example 1	Digital: Microsoft Excel	2000 9.0.6926 SP-3
Example 2	Hardcopy: Paper Copy	Not applicable

Presentation Form

This is part of ISO19115:2003 but not one of the core requirements. It is the way the dataset is normally presented (i.e. the way it exists).

In some ways it overlaps with “Storage Format” but not entirely; for example, whilst an Excel spreadsheet would normally be a ‘digital table’, a ‘digital image’ could be held in an Excel spreadsheet. (Why this would be done is outside the scope of this document!)

The “Presentation Form” is restricted to a list given ISO19115:2003 (but with a few additions by the BGS).

Each dataset can only have one “PresentationForm”.

Example

	Presentation Form
Example 1	tableDigital
Example 2	documentHardcopy

Spatial Representation Type KAH 27 October 2004

This is part of the ISO19115:2003 core metadata. It is method (or methods) normally used to represent the dataset. It is not the form in which the data exists (“Presentation Form”), nor does it convey anything about the software required to use the dataset. The “Spatial Representation Type” is restricted to a list given ISO19115:2003 (but with a few additions by the BGS).

‘notAvailable’ is used for non-digital datasets (a BGS addition).

‘notApplicable’ is used for non-spatially referenced datasets.

Each dataset can have several “Spatial Representation Types” but BGS has set
a business rule for BGS-geoIDS datasets and DGSM models that only one
spatial representation type is allowed

a business rule for DGSM datasets that this field shouldn’t be completed

These business rules reflect the way BGS organises its datasets.

Example

	Spatial Representation Type
Example 1	vector
Example 2	grid
Example 3	textTable
Example 4	tin
Example 5	stereoModel
Example 6	video