



British  
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# Lexicon Database User Guide

Global Programme

Open Report OR/21/019



BRITISH GEOLOGICAL SURVEY

GLOBAL PROGRAMME

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# Lexicon Database User Guide

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# Foreword

This report is the published product of a collaboration between the British Geological Survey (BGS) and the General Department of Geology and Minerals Vietnam (GDGMV) and Ministry of Natural Resources and Environment (MONRE). The wider project has been ongoing since 2017 and delivers against three priority themes:

- 1) Digital Systems
- 2) Urban Geology Policy Development
- 3) Training, Knowledge Exchange and Stakeholder Engagement

These tasks are delivering new digital data technology, new working practices, and increased institutional capacity with respect to urban geoscience.

The Lexicon Database Application outlined in this document is one of a suite of systems developed. This report should be used in conjunction with the other reports related to this collaboration, including:

OR/21/018 – GDGMV Borehole Database Interface User Guide

OR/20/055 – Considerations for Borehole Coding and Coded Borehole Data Checking

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# 1 Introduction

This report details how to use the Lexicon Database Application (Lexicon App), which is a standalone data entry tool that has been adapted for the General Department of Geology and Minerals of Vietnam (GDGMV) from the internal British Geological Survey (BGS) database systems. This database and interface should be used in conjunction with the bespoke Borehole Database that has been built specifically for GDGMV. The Lexicon App was developed as an additional feature to support use of the Borehole Database and wider digital data workflows in GDGMV as part of the Hanoi Urban Project. As such the Lexicon App has not had the same level of development as the main Borehole Database.

Several geological surveys and other geoscience organisations have developed stratigraphic lexicons. This is a compilation, usually in the form of a computer database, of the described geological map units in a region of interest. Typically, each unit in a lexicon has a unique identifier, and other information such as lithology and geological age may be given. In a complex lexicon like the one the BGS uses for the British Isles, each lexicon entry can include literature sources, spatial and stratigraphic relationships with other units, and historic names by which the rocks have previously been known, as the geologic understanding of the region has evolved.

A stratigraphic lexicon serves two main purposes. First, it provides a domain control against which other data sets can be constrained. Each data set that refers to a stratigraphic unit should use the identifier provided by the relevant lexicon. In this way, we ensure that all of the data sets use a consistent stratigraphy, which can then be used to carry out stratigraphic searches on the data. Second, the lexicon acts as a repository of information about the rocks, providing information to the reader and possibly a route into the literature for further reading.

Examples of stratigraphic lexicons include:

- the BGS Lexicon of Named Rock Units (<https://www.bgs.ac.uk/technologies/the-bgs-lexicon-of-named-rock-units/>)
- the United States Geologic Survey / Association of American State Geologists 'Geolex' (<https://ngmdb.usgs.gov/Geolex/search>)
- the Norwegian Interactive Offshore Stratigraphic Lexicon 'Norlex' (<http://nhm2.uio.no/norges/litho.html>)
- the GNS New Zealand Stratigraphic Lexicon (<https://data.gns.cri.nz/stratlex/index.jsp>)
- and Natural Resources Canada's 'Weblex' ([https://weblex.nrcan.gc.ca/weblexnet4/Weblex\\_e.aspx](https://weblex.nrcan.gc.ca/weblexnet4/Weblex_e.aspx)).

This report will cover the initial setup of the Lexicon App, followed by an overview of the Basic functions, and then a description of each data entry tab within the system in turn:

- Summary
- Age
- Lithology
- Setting
- Previous/Alternative names
- Child units
- Type localities
- Text
- References
- Literature references form
- Approvals

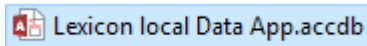
Subsequent updates of the Lexicon Application may affect its appearance, so there may be differences between the figures contained within this report and the most recent version of the interface.

After reading this report, if you have any further queries about the Lexicon App, please contact to the GDGMV Database Manager.



## 2 Lexicon Set Up

Open the Lexicon Local Data Application.



If there are error messages, close/end them, close the application and then re-open it. If they reoccur, contact the database administrator.

Once the App has opened, you should see the screen shown in Figure 1. Select your username from the drop down list on the first page. If your name does not appear in the list, contact the database administrator.

Figure 1: Lexicon log in screen.

Once you have the correct user selected, click “Go”. The Lexicon Data Entry form should then open, showing the first entry (Figure 2).

Figure 2: The Lexicon Data Entry form.

### 3 Lexicon Application Tools

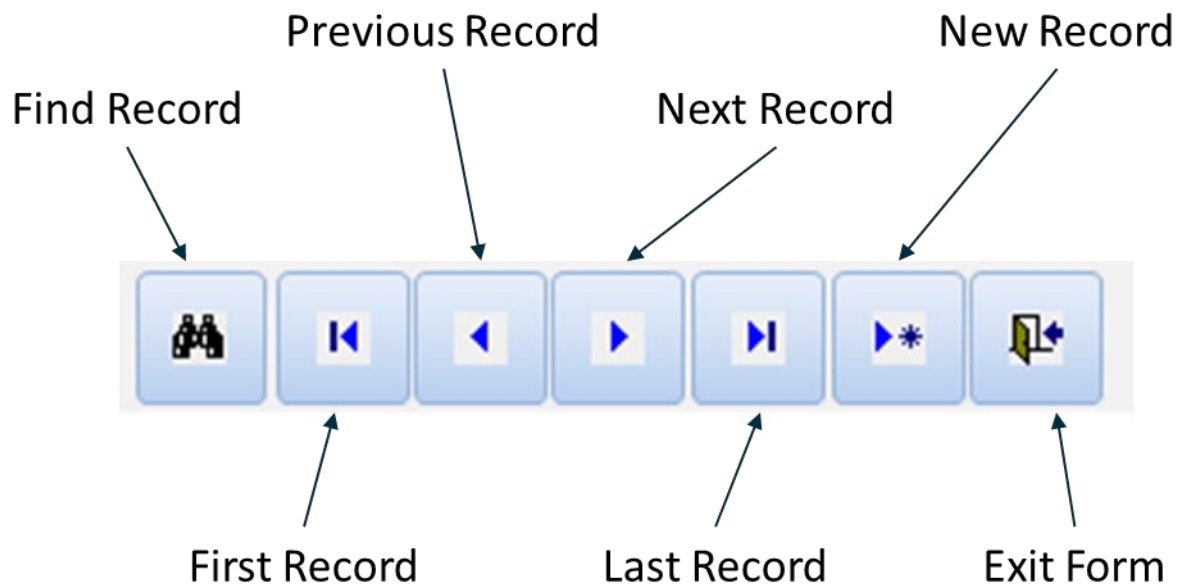


Figure 3: In-App navigation panel.

#### *Find Record*

Clicking the 'Find Record' button, with the symbol of a pair of binoculars, will open the Microsoft Access 'Find and Replace' function. You can also do this by pressing Ctrl+F.

#### *First Record*

The First Record button will navigate to the first entry in the database.

#### *Previous Record*

The Previous Record button will take you to the entry before the one that you are currently viewing.

#### *Next Record*

The Next Record button will take you to the entry after the one that you are currently viewing.

#### *Last Record*

The Last Record button will take you to the final entry in the database.

#### *New Record*

Clicking the New Record button will create a new, blank data entry form.

#### *Exit Form*

Clicking the Exit Form button closes the Lexicon Data Entry Form and takes you back to the Lexicon Log In screen.

## 4 Basic Details – Name, Theme and Class

**Name, Theme and Class**

Lexicon Code *	<input type="text" value="HN"/>	Lex code cannot be changed once it has been created.	Entered by	<input type="text" value=""/>
Unit Name *	<input type="text" value="Hà Nội"/>		Entered on	<input type="text" value="22/04/2020"/>
Theme *	<input type="text" value="Superficial"/>			
Lexicon Class *	<input type="text" value="Lithostratigraphical"/>			
Revision Number *	<input type="text" value="1"/>			
Current / Obsolete *	<input type="text" value="Current"/>			

Figure 4: Name, Theme and Class data entry form in the Lexicon Database Application.

### 4.1 LEXICON CODE:

This should be a simple code for the geological unit with a minimum of 2 and maximum of 5 characters. The code should be unique and with no special characters or symbols, e.g. no accented letters. The current entries have codes that match codes previously defined by GDGMV within the Borehole Database. Once the code has been entered it cannot be changed, so consider it carefully.

### 4.2 UNIT NAME:

This is the name of the geological unit being entered. It is yet to be decided whether the word 'Formation'/'Group'/etc. should be included in the Unit Name – that is a point of consistency for GDGMV to decide upon. The BGS standard practice is to include the rank in the name (see Section 5.1), e.g. the Mercia Mudstone Group.

### 4.3 THEME:

This is the type of geological deposit being entered into the Lexicon database. Typical Theme designations for units within the Hanoi Urban Project are:

- Bedrock deposits - rocks, older than Quaternary age, generally lithified, that underlie the superficial deposits.
- Superficial deposits - deposits of Quaternary age, generally unlithified, that overlie the bedrock.
- Artificial deposits - units that have been created or heavily influenced by humans, e.g. concrete foundations, excavated land, or heavily landscaped areas and golf courses.

The recent Hanoi delta sediments that are the focus of the Hanoi Urban Modelling project are all 'Superficial' deposits. The underlying units are likely to be 'Bedrock'. 'Artificial' deposits can also be highlighted using Theme. For more information and definitions of the themes, please visit <https://www.bgs.ac.uk/technologies/the-bgs-lexicon-of-named-rock-units/>.

### 4.4 LEXICON CLASS:

This is the knowledge and understanding that has led to the definition of the unit, e.g. 'Lithostratigraphical' or 'Age'-based. Units are classified at this level by direct observation, rather than any interpretive categorisation; this is why Lithostratigraphic is used rather than sedimentary/igneous/metamorphic. Typical Class designations for units are:

- Lithostratigraphic units – geological units that obey the Law of Superposition, i.e. that are deposited in layers with the oldest at the base and the youngest at the top, for example sedimentary rocks and lava flows.

- Litho-morpho-genetic units – geological units that are defined by their shape and mode of origin. They are generally superficial deposits and unnamed, for example raised beach deposits, glacial moraines, and river terrace deposits.
- Lithodemic units – geological units that do not obey the Law of Superposition, for example igneous intrusions and ancient highly deformed and metamorphosed terranes.

The superficial deposits in Hanoi are designated as ‘Litho-morpho-genetic’.

#### **4.5 REVISION NUMBER:**

When first entering data for a unit, this should be set as ‘0’. This number should sequentially increase with each subsequent substantial edit. Minor edits, for example correcting spelling mistakes, should not affect this number.

#### **4.6 CURRENT/OBSOLETE:**

Any units that are in modern use should be labelled as ‘Current’. When official changes are made to the unit definition, e.g. complete name changes, merging with another unit, etc., then the outdated unit definition should be coded as ‘Obsolete’ and a new unit created with the new code and definition. Even if a unit name or definition is obsolete, it should be retained within the database and not deleted. This means that the data is not lost, but is archived for later use and clarification. The UK has gone through many phases of Lexicon updates that have resulted in changes in understanding and unit definitions, therefore this function is very useful to be able to see the progression and interpret older data.

## 5 Summary

The Summary Tab contains the basic classification of the unit. This includes the rank of the unit, level of definition provided by this Lexicon entry, formality of the unit definition, whether the unit occurs onshore or offshore, the scope of the definition, and the immediate parent unit(s) (Figure 5). Further details on any of these topics can be described in the Text tab (see Section 12).


Summary	Age	Lithology	Setting	Previous / Alternative Names	Child Units	Type Localities	Text	References	Approvals
Rank of Unit *	Formation								
Definition Level *	INDEX								
Formal / Informal *	Formal								
On / Offshore *	Onshore								
Scope of Definition *	General Scope								
Immediate Parent Unit(s) <span style="color: red;">There can be more than 1 parent unit. To change the parent, remove the existing parent and add the new one.</span>									
 <input type="text"/>									

Figure 5: The Summary Tab of the Lexicon Database Application.

### 5.1 RANK OF UNIT:

This states whether the unit is a Formation/Member/Group, etc. Artificial units have a separate dictionary from the naturally formed units that includes Class and Type. The Rank of a unit is also useful when performing checks on parent/child associations.

### 5.2 DEFINITION LEVEL:

When units are first being entered, the record might only contain the basic data required to create the code. In this situation it should be labelled as either INDEX level or PNDUPG (Pending Upgrade). However the aim is for all lexicon entries to be FULL (all details added), and signed off by the technical leads and database/lexicon supervisors. As the entry is updated, edited, and confirmed the code should be changed to reflect each stage. See Table 1 for an explanation of the dictionary definitions.

At the BGS, the aim is for all units at Member (or equivalent) Rank or higher to have a 'Full' Definition Level. Units with Ranks lower than Member (or equivalent), may not have a full definition, but should have as much information entered as is available.

CODE	TRANSLATION	DESCRIPTION
FULL	Full	Full definition is essentially a short article describing the unit. The aspiration is that all Lexicon entries at member rank (or equivalent) and higher should eventually have a full definition.
FULLPR	Full, pending ratification	Full, Pending Ratification refers to entries that have been upgraded to Full status and are awaiting checking and signoff by an appropriate stratigraphical expert.
FULLWR	Full, without ratification	Full, Without Ratification refers to entries that have been upgraded to Full status, but no appropriate stratigraphical expert is available to check and sign them off.
INDEX	Index Level	Index Level definition is little more than a place-holder with minimal information including name, rank and Lexicon code. New definitions are created at index level. Entries at bed rank and equivalent are unlikely to progress beyond index level.
PNDUPG	Pending Upgrade	Pending Upgrade refers to entries that are awaiting upgrade to Full status. The aspiration is that all Lexicon entries at member rank (or equivalent) and higher should eventually have a full definition.

Table 1: Definition Level Dictionary entry definitions.

### 5.3 FORMAL/INFORMAL:

This reflects whether the unit is an officially recognised term or not. A 'Formal' unit is one that has been fully described in a publication, with definitions of boundaries and descriptions of type localities. In the BGS, Formal units are defined following the recommendations of the North American Stratigraphic Code (North American Commission on Stratigraphic Nomenclature, 2005). The Formality classification of a unit may change as the definitions are peer reviewed and published, and to reflect the formal acceptance of a unit.

### 5.4 ON/OFFSHORE:

This is a simple classification to say whether the unit is only found onshore or offshore, or if it is found in both areas.

### 5.5 SCOPE OF DEFINITION:

This denotes how much of the unit's outcrop the specific unit description is applicable to. If the description is 'Local' in scope, it means that the description does not cover the total outcrop, but rather just part of it – e.g. there may be other parts of the outcrop that look different (see Table 2 for more details).

CODE	TRANSLATION	DESCRIPTION
GENERAL	General Scope	General Scope means the definition applies to the whole outcrop of the unit, onshore and offshore. General scope is used where the definition is used nationwide, whether the rock unit is widespread or restricted to a small area.
LOCAL	Local Scope	Local Scope means the definition, and in particular the description of lithology, applies only to part of the outcrop. A definition with local scope is based on description of the unit in a relatively restricted area, although the unit itself may have a wider range.
UNIVRS	Universal Scope	Universal Scope means the definition applies to the whole unit in Viet Nam at outcrop and subcrop, onshore and offshore.
WIDER	Wider Scope than Viet Nam	Wider Scope than Viet Nam is used rarely for definitions recognised as having wider validity than just in Viet Nam. Relatively few definitions will be considered for this status, but the option remains available.

Table 2: Scope of Definition Dictionary entry definitions.

### 5.6 IMMEDIATE PARENT UNIT(S):

To enter a Parent Unit, it must already be an entry in the database. It is possible to enter more than one immediate parent for a given unit. This may be necessary if, for example, a widely mappable unit can be recognised in different regions where it lies within different parent units. Where possible, Members should be assigned Formations as Parent Units; Formations should be assigned Groups as Parent Units, etc. If a Parent Unit has been assigned in error, the best practice is to remove that entry and add a fresh Parent Unit entry, rather than editing it directly.

## 6 Age

This section refers to the age of the geological unit. Further details on this topic can be described in the Text tab (see Section 12).

Summary	Age	Lithology	Setting	Previous / Alternative Names	Child Units	Type Localities	Text	References	Approvals
	Youngest Age *	<input type="text" value="Late Pleistocene Epoch"/>							
	Predominant Age *	<input type="text" value="Pleistocene Epoch"/>							
	Oldest Age *	<input type="text" value="Mid Pleistocene Epoch"/>							

Figure 6: The Age Tab of the Lexicon Database Application.

### 6.1 YOUNGEST AGE

This is the youngest age represented by the unit. In other terms, what age are the sediments just below the upper contact of the unit?

### 6.2 PREDOMINANT AGE

The predominant age can either be the higher level that matches all ages (as in the example in Figure 6), or it can be the age that represents the majority of the deposit.

### 6.3 OLDEST AGE

This is the oldest age represented by the unit. In other terms, what age are the sediments just above the basal contact of the unit?



# 7 Lithology

Summary	Age	Lithology	Setting	Previous / Alternative Names	Child Units	Type Localities	Text	References	Approvals
---------	-----	-----------	---------	------------------------------	-------------	-----------------	------	------------	-----------

There can be more than 1 lithology.  
To change a lithology code, remove the existing row and enter the new lithology.

Lithology Code *	Amount *	Locally Dominant? *
<input type="checkbox"/> PG - Cuội, Sỏi	Main	Yes
<input type="checkbox"/> GP - Sỏi, Cuội	Subsidiary	Yes
<input type="checkbox"/>		





Figure 7: The Lithology Tab of the Lexicon Database Application.

All lithologies that are part of the unit can be represented here. The Lithology codes used here are the same as those used in the Borehole Database; more details on this can be found in Report OR/21/018 GDGMV Borehole Database Interface User Guide, Section 5.3.1. The dominant lithology can be assigned 'Main' in the Amount category, with additional 'Subsidiary' and 'Trace' lithologies identified. You can also specify when a particular lithology is locally dominant over the 'Main' lithology. If a Lithology has been assigned in error, the best practice is to remove that entry and add a fresh entry with the correct Lithology, rather than editing it directly. Further details on this topic can be described in the Text tab (see Section 12).

## 8 Setting

Summary	Age	Lithology	Setting	Previous / Alternative Names	Child Units	Type Localities	Text	References	Approvals
---------	-----	-----------	---------	------------------------------	-------------	-----------------	------	------------	-----------

Geological Setting

	Alluvial	
		

There can be more than 1 geological setting.

To change the setting, remove the existing row and enter the new one.

Figure 8: The Setting Tab of the Lexicon Database Application.

This tab allows you to assign an environment of deposition/formation/emplacement to the unit being described. Multiple environments can be assigned to each unit. This can include environmental definitions at varying levels, e.g. continental and fluvial system. More options can be added if required. If a Geological Setting has been assigned in error, the best practice is to remove that entry and add a fresh Setting entry, rather than editing it directly. Further details on this topic can be described in the Text tab (see Section 12).

## 9 Previous/Alternative Names

Summary	Age	Lithology	Setting	Previous / Alternative Names	Child Units	Type Localities	Text	References	Approvals
---------	-----	-----------	---------	------------------------------	-------------	-----------------	------	------------	-----------

There can be more than 1 equivalent name.

<input type="text"/>
Equivalence Type *
Description *

Figure 9: The Previous/Alternate names Tab of the Lexicon Database Application.

This section is used to link the current name for a unit with any obsolete, previous, or alternative names. A unit can have multiple alternative and previous names. The previous/alternative unit name being linked to the current unit name must already be in the Lexicon database, so that it is visible in the list of *Equivalent Lexicon Codes*. The *Equivalence Type* is used to state whether it is an older, obsolete code, or whether it is a lateral equivalent unit. More detail of the relationships between these names can be recorded in the *Description* option. It may be the case that this tab is not currently necessary, but as more investigation is done into the units, interpretations may change and it is important to keep a record of this.

# 10 Child Units

Summary	Age	Lithology	Setting	Previous / Alternative Names	Child Units	Type Localities	Text	References	Approvals										
<p>There can be more than 1 child unit. Units must have been entered first before they can be assigned Child status. To change a child, remove the existing one and add the new one.</p> <p>To put lithostratigraphic units in stratigraphic order, number them in Within Parent Order, starting at 1 for the stratigraphically lowest.</p>																			
<table border="1"> <thead> <tr> <th>Immediate Child Unit(s)</th> <th>Within Parent Order</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> HHU</td> <td>3</td> </tr> <tr> <td><input type="checkbox"/> HHM</td> <td>2</td> </tr> <tr> <td><input type="checkbox"/> HHL</td> <td>1</td> </tr> <tr> <td><input type="checkbox"/></td> <td></td> </tr> </tbody> </table>										Immediate Child Unit(s)	Within Parent Order	<input type="checkbox"/> HHU	3	<input type="checkbox"/> HHM	2	<input type="checkbox"/> HHL	1	<input type="checkbox"/>	
Immediate Child Unit(s)	Within Parent Order																		
<input type="checkbox"/> HHU	3																		
<input type="checkbox"/> HHM	2																		
<input type="checkbox"/> HHL	1																		
<input type="checkbox"/>																			

Figure 10: The Child Units Tab of the Lexicon Database Application. HHU – Upper Hai Hung Member; HHM – Middle Hai Hung Member; HHL – Lower Hai Hung Member.

Child Units are the units that are contained within a certain Parent Unit, for example a Group (Parent Unit) may contain three different Formations (Child Units). All Child Units should be listed here, with a 'Parent Order' assigned to illustrate the sequence of units. The oldest, or stratigraphically lowest, unit should be assigned the Parent Order of '1', with this number increasing upwards through the stratigraphy as units get younger. In the example shown in Figure 12, the oldest unit (Lower Hai Hung Member) is given the Parent Order of '1', with the number increasing as the child units get younger. Further details on this topic can be described in the Text tab (see Section 12).

# 11 Type Localities

As described by the North American Commission on Stratigraphic Nomenclature (2005), many kinds of geologic units are best defined by reference to one or more specific, accessible rock successions, known as 'stratotypes' or 'type successions'. These successions should be illustrative and representative of the concept of the unit. Selecting and describing these type successions is an important part of defining a geologic unit.

Summary | Age | Lithology | Setting | Previous / Alternative Names | Child Units | **Type Localities** | Text | References | Approvals

There can be more than 1 type locality. For point data you only need to enter minimum coordinates.

Locality Type \*

Coordinate System \*

Minimum coords

	Deg	Min	Sec		Deg	Min	Sec
Lat (Y)	<input type="text"/>	<input type="text"/>	<input type="text"/>	Long(X)	<input type="text"/>	<input type="text"/>	<input type="text"/>

Maximum coords

	Deg	Min	Sec		Deg	Min	Sec
Lat (Y)	<input type="text"/>	<input type="text"/>	<input type="text"/>	Long (X)	<input type="text"/>	<input type="text"/>	<input type="text"/>

Calculate decimal X,Y degree below

Minimum Coord (X, Y)\*   Maximum Coord (X, Y)

Accuracy on Min Coord\*   Accuracy on Max Coord

Type Locality Description \* Sông Hồng (I.2); Terrace 2 of the Red River at Kim Anh, Đa Phúc, Lâm Thao, Tam Nông etc. areas.

Record: 1 of 1 | No Filter | Search

Use record navigation tool to see /add other entries

Figure 11: The Type Localities Tab of the Lexicon Database Application.

## 11.1 LOCALITY TYPE

This describes the nature of the type locality. The classification is described in Table 3.

CODE	TRANSLATION	DESCRIPTION
TS	Type Section	Type section refers to a geologic section that constitutes the basis for definition or recognition of a named geologic unit or boundary. The type section may be designated at time of original definition of the unit or boundary, or subsequently. It must be illustrative and representative of the unit or boundary being defined. Also known as a stratotype.
TA	Type Area	Type area refers to the geographic territory encompassing the type locality.
RS	Reference Section	Reference section refers to sections, designated at time of original definition of a named geologic unit or subsequently, that illustrate the heterogeneity of the unit or some critical feature not exposed in the type section. Several reference sections may be designated to make a composite type section.
PT	Partial Type Section	Partial type section refers to a type section that does not encompass the entire thickness of the named geologic unit it helps to define.

Table 3: Locality Type Dictionary entry definitions.

## 11.2 COORDINATE SYSTEM

The Coordinate System needs to be assigned before entering coordinates. VN-2000 (either 48N or 49N is preferable) should be selected if the coordinates are in the format 105.83333, 21.16667. If a different format is entered, use one of the other options. If the correct option is not available, either it can be added, or the coordinates can be converted into more commonly used system before entry.

## 11.3 ENTERING COORDINATES

The Lexicon Application can convert coordinates from degrees, minutes and seconds (WGS 84) to X/Y format. If the coordinates are already in the X/Y format, you can enter them directly into the lower boxes. Please be aware of which way round the numbers should go; X = longitude, Y = latitude.

## 11.4 TYPE LOCALITY DESCRIPTION

The Type Locality Description should contain a text description of the type location outcrop with relevant details. Additional useful information to record here may include details of the location itself, e.g. how to get to the outcrop and useful landmarks. It could also be used to record links to associated files, e.g. photographs and sketches of the outcrop.

# 12 Text

Summary	Age	Lithology	Setting	Previous / Alternative Names	Child Units	Type Localities	Text	References	Approvals
<p>The Text is complimentary to the coded data and should be used for more detailed descriptions. Do not change the text in the drop-down lists.</p>									
<input checked="" type="checkbox"/>	Age Information								
<input checked="" type="checkbox"/>	Geographical Limit								
<input checked="" type="checkbox"/>	Lower Boundary						Không chỉnh hợp trên các đá cổ		
<input checked="" type="checkbox"/>	Age of Emplacement								
<input checked="" type="checkbox"/>	Definition of Boundaries								
<input checked="" type="checkbox"/>	Lithogenesis / Env. of Deposition / Mode of Origin						Lũ tích - bồi tích		
<input checked="" type="checkbox"/>	Lithology						a) Cuội, sỏi, 4-45 m; b) dăm - sỏi thạch anh - silic, xen cuội, sỏi. 10-15 m.		
<input checked="" type="checkbox"/>	Relationship to Regional Deformation								
<input checked="" type="checkbox"/>	Shape								
<input checked="" type="checkbox"/>	Source of Name								
<input checked="" type="checkbox"/>	Supplementary Information								
<input checked="" type="checkbox"/>	Thickness						14-60 m.		
<input checked="" type="checkbox"/>	Upper Boundary								
<input checked="" type="checkbox"/>	Younger Units								
<input checked="" type="checkbox"/>	Characteristic Fossils								

Figure 12: The Text Tab of the Lexicon Database Application.

This section is used to record all additional information about the unit. There is no issue with repeating coded data here in free text form. Enter the text in the appropriate box, but don't change anything in the lists on the left-hand side. If additional data types are required, these can be added although the 'Supplementary Information' can also be used to record information that is not covered elsewhere.

# 13 References

Summary Age Lithology Setting Previous / Alternative Names Child Units Type Localities Text References Approvals

There should be 1 principal reference. There can be any number of non-principal references.  
To change a reference, remove the existing reference and enter the new one.

Create New Reference

Reference Type \*

Reference \*

Role

Figure 13: The References Tab of the Lexicon Database Application.

## 13.1 REFERENCE TYPE

There should be one principal reference. This is the reference that provides the main basis for the description of the geological unit. There can be any number of non-principal references.

## 13.2 REFERENCE

Select the reference from the list.

If the reference you need is not on the list, click the 'Create New Reference' button. This opens the 'Literature References' form. See Section 14 below.

## 13.3 ROLE

Use this field to describe the role of this reference in the description. For example, "Main description of unit", or "Radiometric dating", *etc.*



# 14 Literature References

Literature References

Lxn Source Detail Id \*  Lxn Source Detail Id is populated automatically by the database and cannot be edited.

Reference Name \*

Web Url

Figure 14: The Literature References form of the Lexicon Database Application.

The Literature References form shows all of the references currently in the database. You can navigate through the list of references one at a time, using a similar navigation system as outlined in Section 3, and edit them if required.

## 14.1 LXN SOURCE DETAIL ID

This numerical field is populated automatically by the database when you create the new entry. You do not need to manually populate it or edit it.

## 14.2 REFERENCE NAME

The full reference should be entered here, with a standardised format to be agreed and documented by GDGMV.

## 14.3 WEB URL

If the reference is available on the web, record its URL here. Use the format:

<http://domain.name/path/document.html>

You can record as many URLs as required, if the document is available at more than one location on the web. Try to use URLs that are unlikely to change, like permalinks, if available.

# 15 Approvals

Summary	Age	Lithology	Setting	Previous / Alternative Names	Child Units	Type Localities	Text	References	Approvals
---------	-----	-----------	---------	------------------------------	-------------	-----------------	------	------------	-----------

Record the approval chain for the Lexicon entry here.  
Once a row has been entered, you cannot change Revision Number and Approval Step. To change these, remove the row and enter a new row.

Revision Number *	Approval Step *	Role *	Responsible Party *	Date Completed
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Record any comments about the Lexicon entry here.

Revision Number *	Field *	Comment Text *
<input type="text"/>	<input type="text"/>	<input type="text"/>

**15.1 FIGURE 15: THE APPROVALS TAB OF THE LEXICON DATABASE APPLICATION. THE UPPER APPROVALS TAB**

The upper part of the form is for recording who was responsible for each step of revising the Lexicon entry and approving the revision. Record the revision number, which step in the approval process this was, the role of the person in the process, the name of the person, and the date they completed their part of the approval chain. If an entry has been made in error, it is best practice to remove the entry and create a new one.

## 15.1.1 Revision Number:

The Revision Number is a static record of the version of the definition that the Approvals entry refers to. This is necessary to track suggestions and edits, for example any comments about improvements that need to be made about Revision 0 should have been addressed in Revision 1. Another example may be that Revision 0 has gone through the full approvals process, but further information has been added resulting in a 'Revision 1'; in this case Revision 1 may now need to go through another (less detailed) approvals process.

## 15.1.2 Approval Step:

The Approval Step records at which point in the approvals process the entry is currently in. The precise details of the approval chain will vary within each organisation. We supply details of the BGS approvals chain below, however this may not be appropriate for GDGMV.

At the BGS, there are 5 steps to the formal approval process for a Lexicon entry. Firstly, there is an initial application for a Lexicon entry and code (the lexicon applicant). Next there is the creation and authorship of the Lexicon entry (the lexicon author). Then an initial checking of the Lexicon entry by a 'Lexicon Curator', who then forwards the entry to the relevant scientific expert who then performs a detailed technical review. After approval by the scientific expert, the fifth step is the final technical edit by the Lexicon Manager.

### **15.1.3 Role:**

This is the role carried out by the individual in the approval chain making the current Approvals entry. Similar to the description in Section 15.1.2, we have supplied the details for the process at the BGS, but this may not be applicable to the plans for GDGMV. There are five separate roles involved in the BGS approvals process. These roles are:

- The Lexicon Applicant
- The Lexicon Author
- The Lexicon Curator
- The Scientific Expert
- The Lexicon Manager

It is possible for one person to represent multiple roles within this process, however there should always be a separate scientific expert that has not been involved in the creation of the entry to perform a technical check.

### **15.1.4 Responsible Party:**

Select the name of the individual responsible for the Approval Step from the user list.

### **15.1.5 Date Completed:**

This is the date the individual completed their part of the approval chain.

## **15.2 THE LOWER APPROVALS TAB**

The lower part of the form is for recording comments about each revision. This can be used to record the reason each minor edit or major revision was made to the entry.

### **15.2.1 Revision Number:**

This is the Revision number that the Approvals entry refers to, see Section 15.1.1 for more detail.

### **15.2.2 Field:**

This states whether the related comments refer to a minor edit or a major revision of the entry.

### **15.2.3 Comment Text:**

The Comment Text is designed to enable the recording of various information, including details about edits that need to be made or have been made, general observations, caveats regarding the state of the entry, etc.

## References

NORTH AMERICAN COMMISSION ON STRATIGRAPHIC NOMENCLATURE. 2005. North American Stratigraphic Code. *AAPG Bulletin*, Vol. 89, No. 11 (November 2005), pp. 1547-1591.