

## The Blue Book Project – An introduction, project aims and progress to date

### 1. Introduction

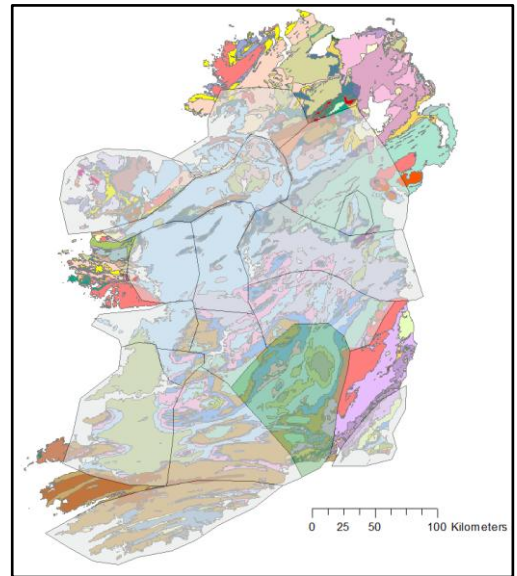
The past half-century of mineral exploration and research activity in Ireland has generated a considerable amount of lithostratigraphic data. Philcox (1984) produced an extremely valuable compilation of this work in an Irish Association for Economic Geology (IAEG) publication titled “**Lower Carboniferous Stratigraphy of the Irish Midlands**”. Colloquially known within the industry as ‘**The Blue Book**’, it focused on the Tournaisian of the Irish Midlands, which proved influential amongst exploration geologists. In the intervening 30+ years, an updated synthesis of this work, incorporating more recent discoveries, has not, however, been produced.

Since 1984, **exploration of Carboniferous strata has expanded both regionally and at depth, placing greater demands on our understanding of the Mississippian lithostratigraphy of Ireland.** The proposed project will produce a revised dynamic stratigraphy of the **Tournaisian and Viséan**, with a comprehensive account of the lithostratigraphy linked to the considerable quantity of unpublished data collected in the last 3 decades.

The final product, with a working title of “**The New Blue Book**” would not be possible without funding from GSI and iCRAG UCD. It will be made **publicly available as a GSI publication via a series of online chapters on distinctive geological provinces**, combining detailed lithological descriptions, colour photographs with hyperspectral scanning data and correlative sections of lithofacies.

### 2. Core Scanning/Photography – Key points

- High quality RGB photographs with additional hyperspectral information (SWIR) will be captured for each of the most representative drillholes using the new core scanner at the GSI core storage facility.
- Specific hyperlinks which can be found in-text will lead the reader to HD photographs of the particular core they are interested in.
- We work in close relationship with companies and consultants for stratigraphic interpretations in each study area. We aim to get the best and most relevant drillholes and stratigraphic information.
- Updateable: Text and hyperlinks can easily be updated as new data and drillholes come in, because it is an online resource.



*Figure 1: Ireland divided into 16 geologically distinct study areas. The study area highlighted in green is ‘Rathdowney Trend – Kilkenny’. This is where work will commence. – (Base map from the GSI 1:500,000 Bedrock Geological Map of Ireland)*



Figure 2: An example of the high quality photographs which will be captured using the GSI Core Scanner in Sandycord. We aim to photograph the most relevant available drillholes which offer the best stratigraphic information in a given area. These photograph

### 3. Online Interactive Viewer

- An online interactive viewer to be developed which can be used in tandem with online chapters to give the reader a wealth of additional information about a particular area they are interested in.
- All data referred to in the chapters can be viewed spatially on a user-friendly interface.
- Interactive layers enable the user to click on an object and download/view the relevant available information (e.g. HD core photos, correlative sections, drillhole logs, reports).
- The online viewer will be publically available, hosted on the GSI website.

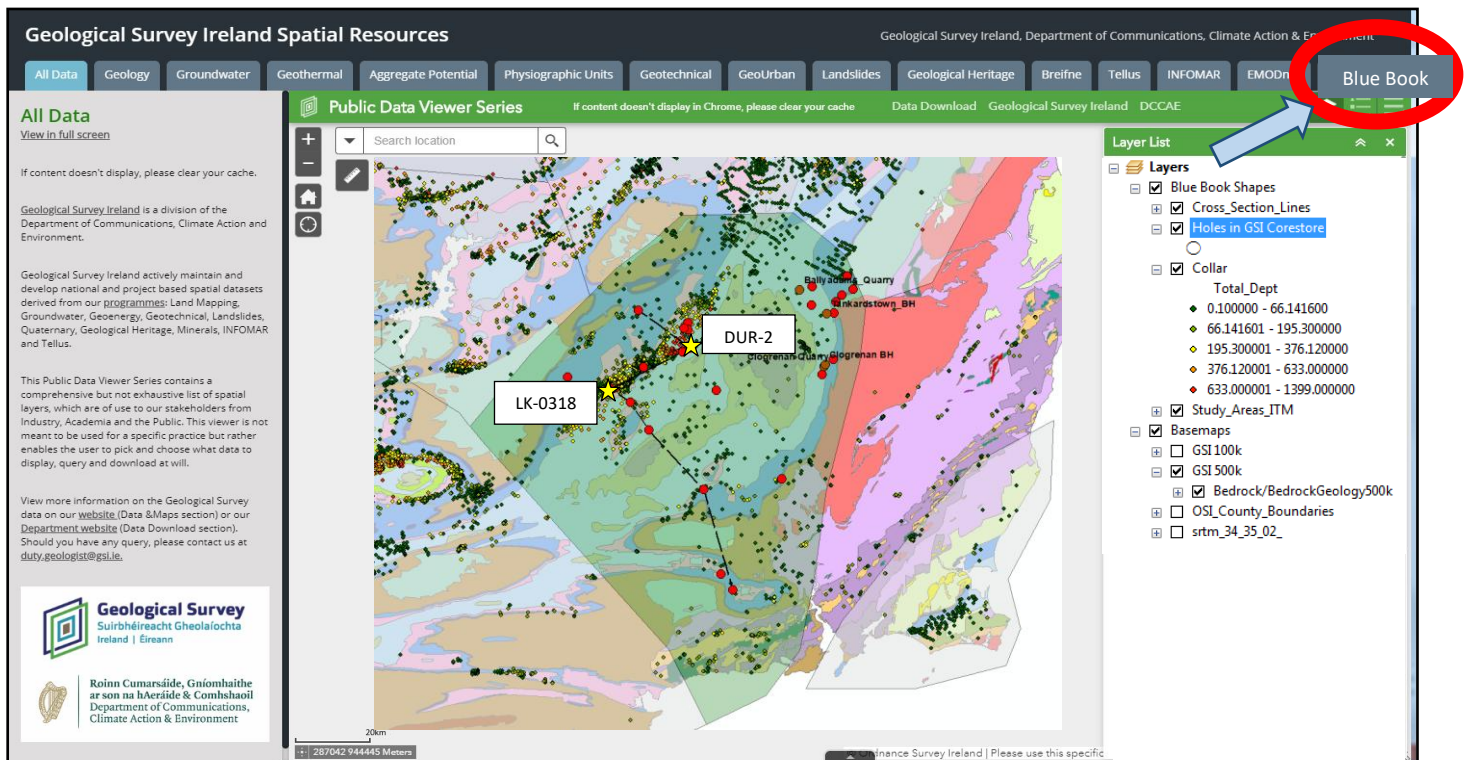


Figure 3: An example of what the Blue Book Online Viewer might look like. A user-friendly interface where data is easily viewed and/or downloaded. Modified from: GSI Spatial Resources Online Viewer

### 4. Progress to date : Rathdowney Trend – Kilkenny

- Work on Study Area 1 (The Rathdowney Trend – Kilkenny) is coming to a close.
- Large scale data compilation of the area has been completed.
- Representative drill holes have been compiled and identified for correlation across the stratigraphic region. A selection of these will be scanned at the GSI core store.
- Text for the Tournaisian stratigraphy has been completed and is currently underway for the Viséan stratigraphy.
- Data transfer and metadata protocols have been established between iCrag and GSI for inclusion in GOLDMINE.
- Draft correlative sections are currently being put together. Expert feedback is being requested regarding style and format.

- Drillhole 'LK-0318' (T.D@ 804.5m) has been transported from Lisheen core store and scanned in Sandyford. Drillhole 'DUR-2' (T.D@ 1050.25m), BA (T.D@328m), GSI-85-2 (T.D@217.4m), GSI-91-25 (T.D@275m), 2649-03 (T.D@204.2m), B-01-1648 (T.D@183.2m), 3321-01 (T.D@274m), have also been scanned.

### West- East Correlative Section from Rathdowney area to Carlow

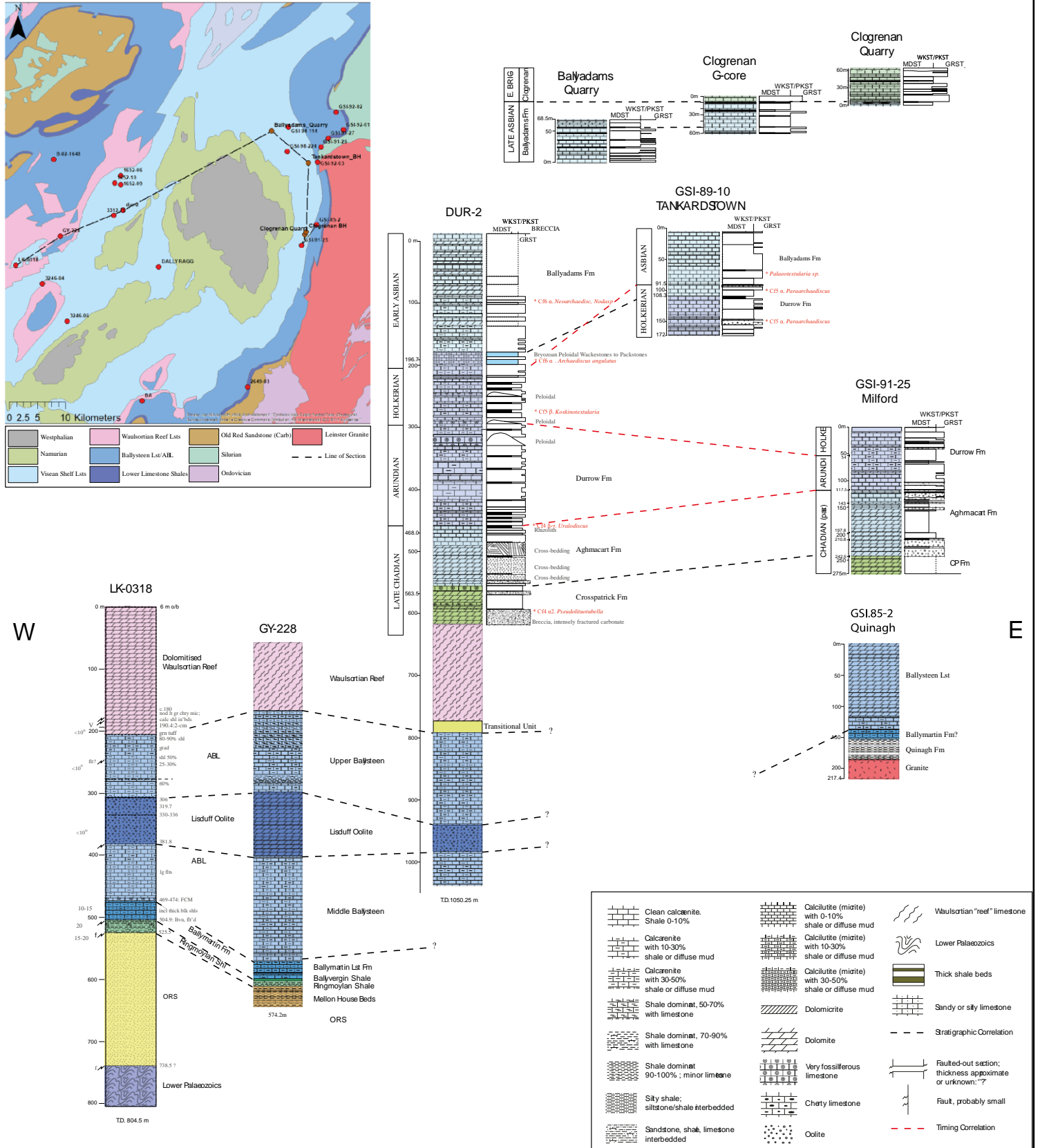


Figure 4: A draft example of a W-E section from Lisheen to the western margin of the Leinster Granite. Feedback is welcomed!