Core Table Manual 2023

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GeologicAI
Fahim Hossain, P.Geo.
fhossain@geologicai.com

GeologicAI

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Home Page Overview

The home page, also known as the processing summary page, is first displayed prior to loading the Core Table and after logging into the project specific account at https://coretable.geologicai.com/Account/Login. This is also accessible through https://www.geologicai.com/ then selecting the

button located in the top-right. It is recommended to bookmark this page for frequent users for ease of login. The home Process Summary page contains live data related to projects, processing, and allows users to view drillholes ready to log on Core Table.

Parent Accounts

Parent accounts are accounts pertaining to each GeologicAI client projects. These accounts have special permissions which employees at GeologicAI use in-house for various tasks. Each project generally has one corresponding Parent account and these parent accounts are used interchangeably within GeologicAI.

A list of Parent accounts and their respective login details can be found at:

WellToolsAccounts

https://enersoftca544.sharepoint.com/:x:/s/ENERSOFTINC/EcDSQ2y0UEVDtqXxDFkNrEsBp-PGYDi5UKvVfsI-cS-pDQ?e=aLVe8p

Child Accounts

Child accounts are linked to Parent accounts and are client/user accounts associated to individual Geologists/users, not to be used interchangeably. These logins are typically associated with individual Microsoft User Logins. Project wide software settings, templates, parameters, etc. can be changed in all Child accounts through their associated Parent account.

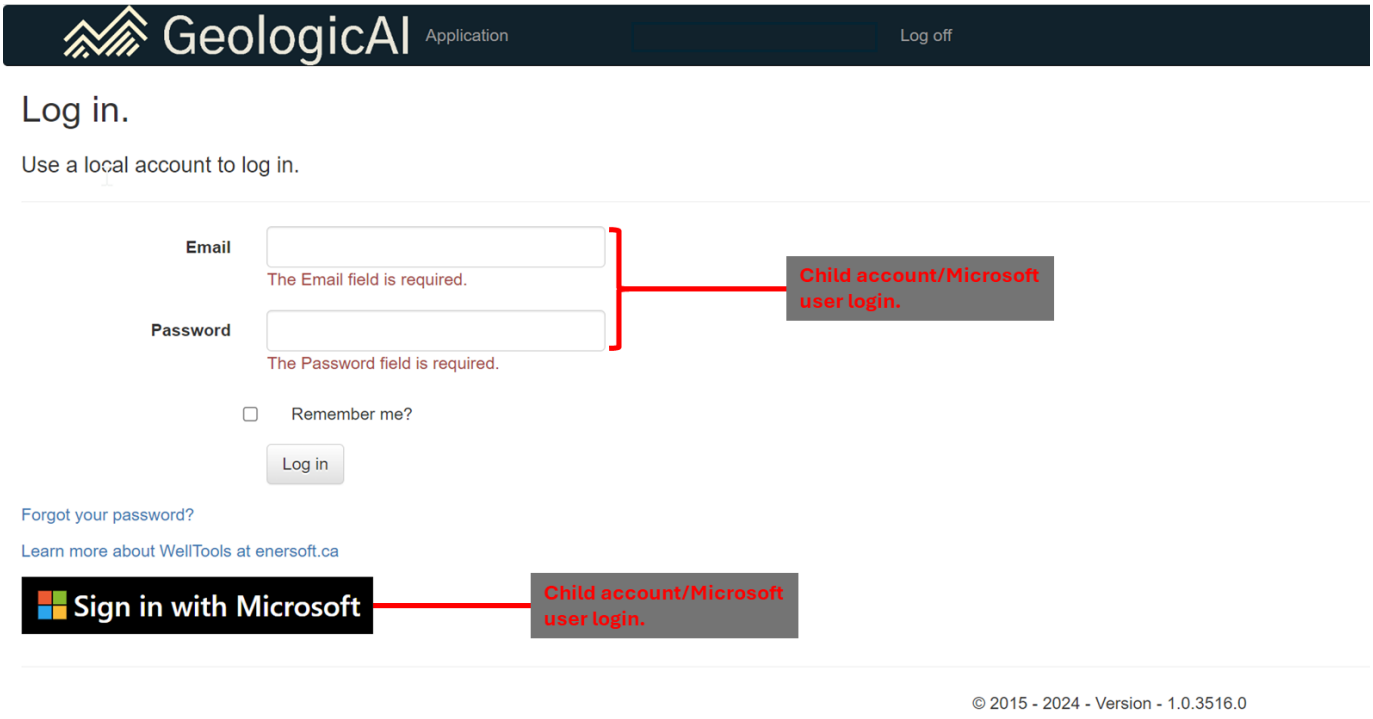

Figure 1: Login Page for Core Table Software.

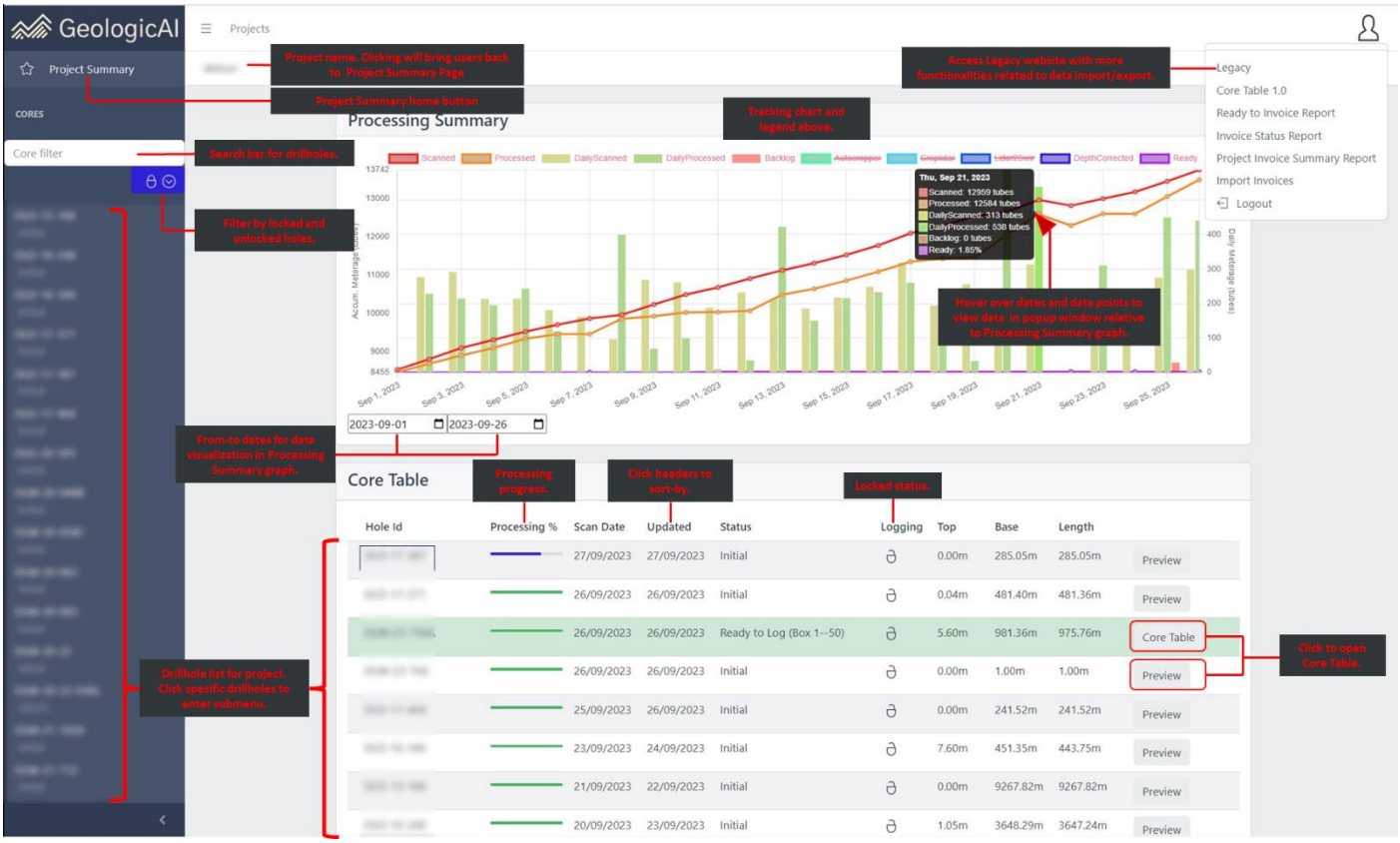

Figure 2: GeologicAI project home page and processing summary. Users can access Core Table through this home page.

Figure 3: Drillhole specific submenu with processing statistics, drillhole locking, and Core Table access.

Navigating The Core Table

Mouse Navigation

The Mouse is the main tool of navigation in the Core Table, allowing users to pan the screen, select and edit intervals, retract and expand menus, and zoom in and out. To pan the screen, simply left-click and drag anywhere either the striplog or overlay side. Users can also utilize the mouse's scroll wheel to pan by holding down and dragging the scroll wheel.

Zooming in and Out

Zooming into and out of photos and striplog data is essential to a Geologist's interpretation in the Core Table. Zooming in the Core Table is a function of the mouse and can be adjusted with the scroll wheel. Scrolling upward enables zoom-in, and downward zoom-out. Clicking and holding the scroll button allows users to pan across the screens.

Adjusting Split-Screen Layout

The Striplog and Overlay screen layout can be adjusted to user preferences should users require greater focus on either side of the Core Table. By left-clicking and dragging the  symbol at the bottom of the screen split, the user can adjust screen sizes of core photos and striplogs.

Tip: To lock the screen proportions, left-click once on the drag-symbol.

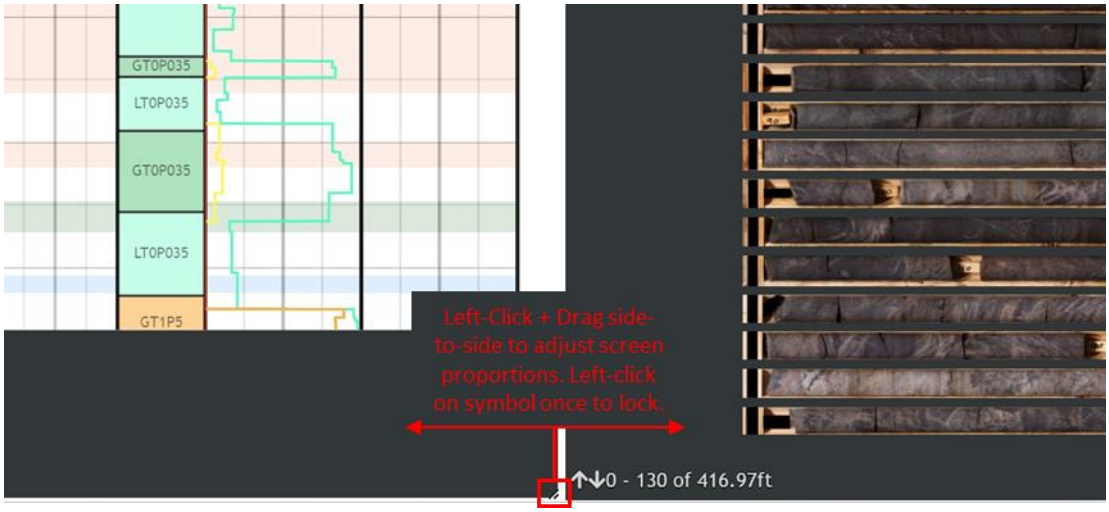

Figure 4: Split-Screen Dragging Tool.

Live Mouse Tracking

Mouse movement and drawing tools in Core Table Striplog and Core Photo views are integrated and communicate in real time. Movement is tracked with a red marker, corresponding to downhole depth on photos and striplogs. At the end of the red marker, live downhole depth is displayed for the user as the mouse moves.

Tip: When hovering over a curve track in the striplog menu (e.g. XRF count curves), point data associated to depths are also displayed as the mouse moves.

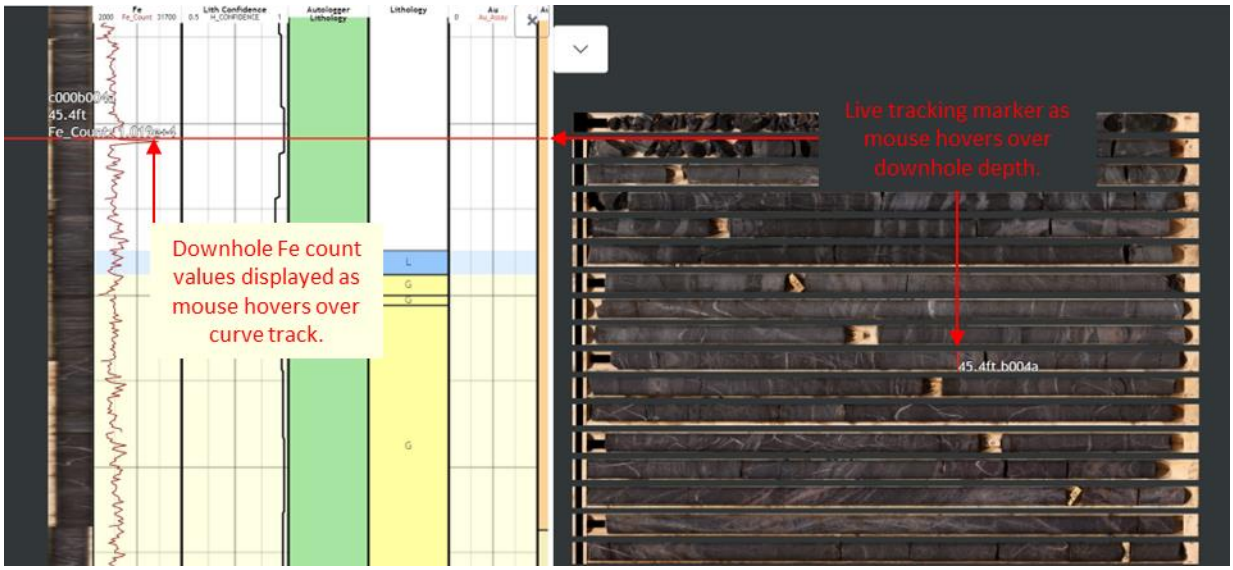

Figure 5: Live mouse tracking with downhole depths in striplogs and core photos.

Keyboard Navigation

An alternative to navigating the Core Table with the Mouse, navigating with the keyboard can prove useful for more controlled and fine-tuned movement. Users can use the arrow keys on their keyboards to move up, down, left, right in both Striplog and Core Table views. Alternatively, keys w, s, a, d can be used respectively. PgU[/PgDn keys can be utilized to scroll through selected intervals in Core Table and Striplog views. A complete list of keyboard shortcuts are included in **Table 1, Table 2, Table 3.**

Hot Keys

The Core Table contains various hotkeys to make navigation and usability efficient for users. It is recommended to reserve computer hotkeys to Core Table and not overwrite the hotkeys with system preferences. A reference to the existing hot keys in Core Table:

Table 1: General Hotkeys

Ctrl Click + Drag	On photos or striplog: Adjust Unit boundary contacts. Hole ctrl to activate the ⇳ symbol, click and drag adjacent to contact boundaries to make adjustments.
Ctrl + S	Save intervals for a well/hole.
Ctrl + Z	Undo intervals that was just drawn/added. More information can be found in the Undo and Redo section.
Ctrl + Y	Redo intervals that was just drawn/added. More information can be found in the Undo and Redo section.
PgUp/PgDn	Scrolls through intervals when an interval is selected in edit mode. The software will scroll through intervals only in the selected track.
Delete	With a selected interval, pressing delete on the keyboard will delete the selected interval.

Table 2: RQD Mode Hotkeys. These hotkeys will be enabled when users enter RQD mode.

Left-Shift	While Left-Shift is held down and the user selects a fracture, the fracture switches between driller fracture and natural fracture types.
Ctrl + B	With Ctrl + B held down, set driller block state is activated. In this state, users can click on a tube to add a driller block. Once the user releases this key, the set driller block state is deactivated.
Ctrl + C	With Ctrl + C held down and a measurements is clicked by the user, the compression lock will toggle on/off.

The following keys are used to interact with the Core Table viewer (developer note: you may want to avoid overriding the functionality of these keys):

Table 3: Core Table Viewer Hotkeys

W, ↑ arrow **S, ↓ arrow** **A, ← arrow** **D, → arrow**	Move viewport up. Move viewport down. Move viewport left. Move viewport right.
0 (Zero)	Zoom in or out to move viewport home and fit to frame.
Ctrl + (mouse scroll)	Zoom in and out (browser window proportions). Performing this on right-hand expandable menu will reduce the size of the menu.
- /_, shift + W, or shift + ↑ arrow	Zoom viewport out.
=/+, shift + S, shift + ↓ arrow	Zoom viewport in.
R	Rotate clockwise. Developer note: feel free to override, just be aware that this key has functionality you may need to disable.
Shift + R	Rotate counterclockwise. Developer note: feel free to override, just be aware that this key has functionality you may need to disable.

Core Table Menus

Basic Menu

The Basic Core Table Menu can be accessed by expanding the sliding menu bar on the right edge of the screen. Left-clicking the at the top-right corner of the screen will expand the sliding menu bar and reveal full menu options.

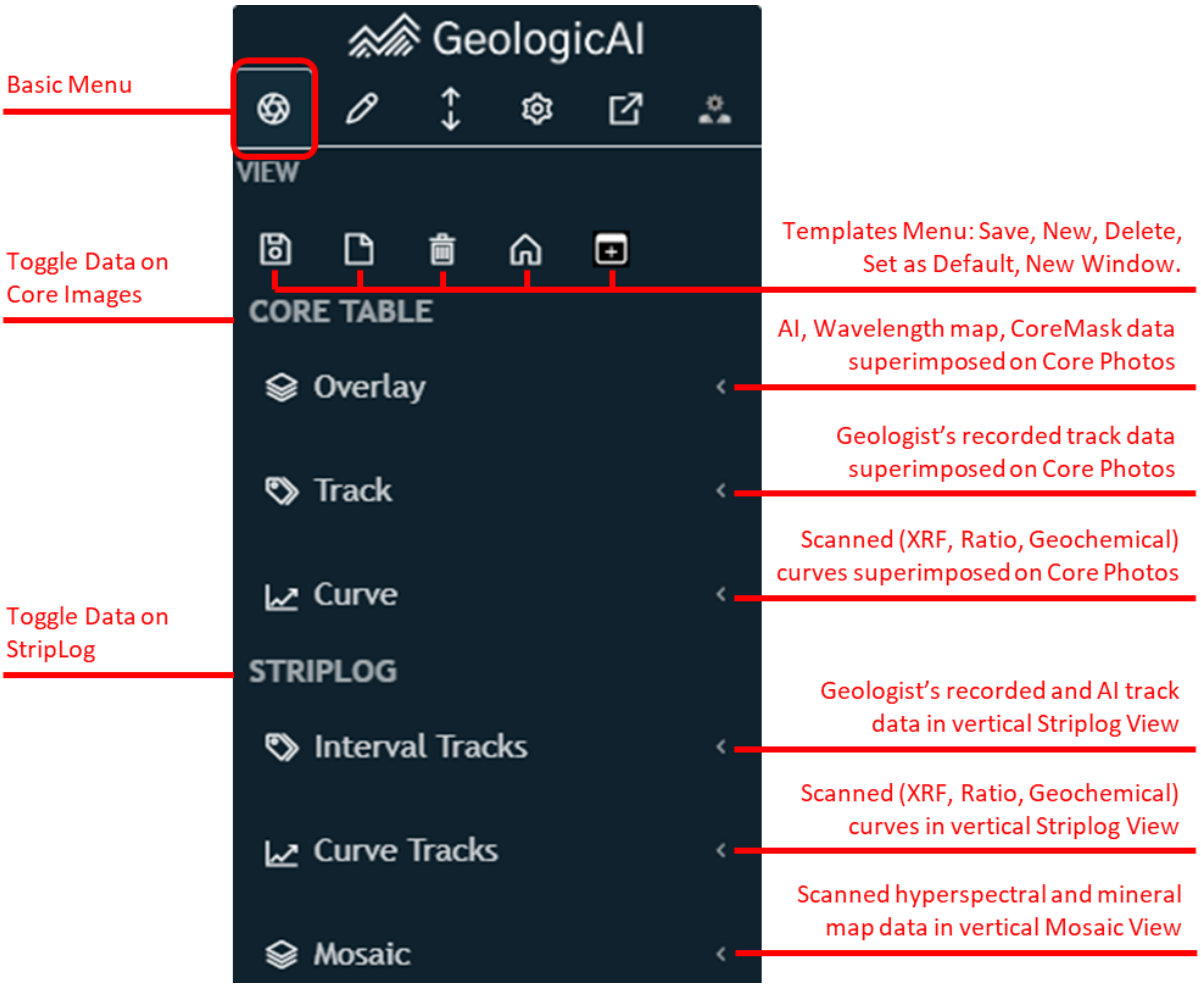

Figure 6: Basic Menu overview.

The Basic Menu is a means to **toggle data** on and off in the Core Image and Striplog windows. Data toggled consists of either data acquired and processed by GeologicAI trailers (XRF, Hyperspectral, Crystallinity, etc), or data recorded by Geologists via logging in the Core Table software (Track data: Lithology, Alteration, Mineralization, etc.).

This data can be visualized as curves and intensity maps superimposed on Core Photos (Core Table → Overlay, Track, Curve), or in a stitched vertical array (StripLog Menu → Interval Tracks, Curve Tracks, Mosaic). These menu options are further illustrated in StripLog and Core Table sections.

Logging Menu

Under construction – Core Table 3.0

Depth-Correction Menu

The Depth-Correction Menu can be accessed by expanding the sliding menu bar on the right edge of the screen. Left-clicking the at the top-right corner of the screen will expand the sliding menu bar and reveal full menu options.

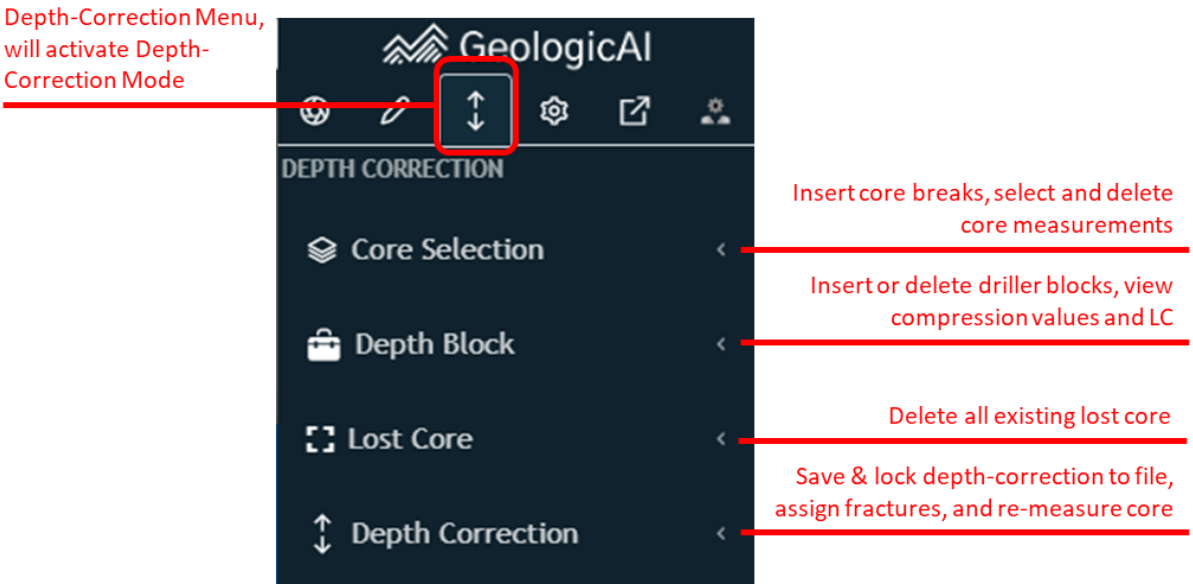

Figure 7: Depth-Correction Menu overview.

The Depth-Correction Menu allows users to activate “Depth-Correction Mode”, displaying RQD core measurements, compression and expansion lines, adjusted core depths, and allows users to add or remove core breaks. More on Depth-Correction can be found in depth-correction and RQD sections.

Settings Menu

The general settings menu is accessible through the expandable right-hand Core Table menu by clicking the . Through this menu, users can adjust usability settings and preferences and run QAQC check to ensure data integrity of exports from Core Table. Track positions and interface color schemes can also be adjusted, as well as JSON file recovery.

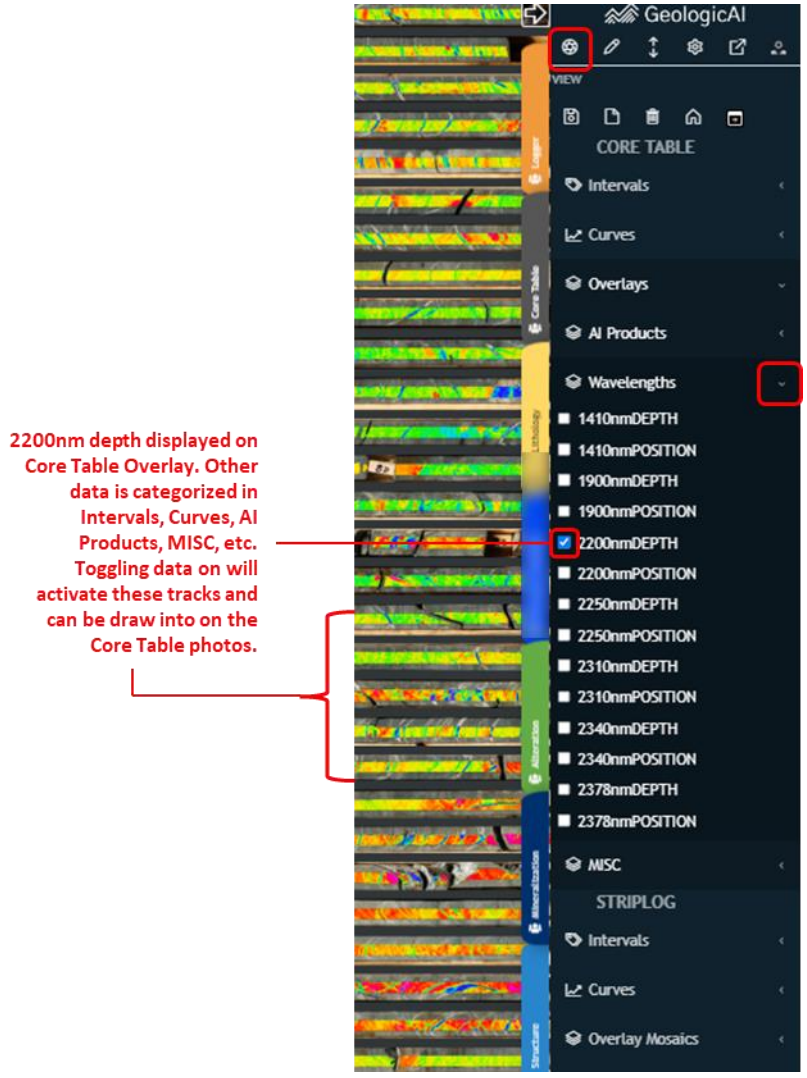

Figure 8: Settings menu in Core Table and available user capabilities within menu.

Collapsible Overlay Menu

The collapsible Core Table menu has many functionalities relating to the Core Photos portion of the software. Within the menu, users can adjust opacity and sizes of track overlays on core photos, toggle active/hidden overlays, and view legends related to hyperspectral absorbance overlays.

Tip: ensure intended tracks are active and inactive to maximize room on Core Table to draw intervals, and turn unnecessary tracks and data off.

Figure 9: Collapsible Overlay Menu overview and various options within.

Dry Filter, Lidar, CoreMask

GeologicAI trailers have the capability of capturing wet and dry photos and this “wetness” intensity can be adjusted in the software. Adjusting the wetness can provide Geologists with a better visual of mineralization, structure, or other rock characteristics.

GeologicAI trailers also capture core lidar, which is essential in AI RQD, depth-correction, and stitching photos to core data. Lidar produces contours of core and core boxes in order to detect identify distance of the core to the camera in frame.

Coremask can be turned on from the menu below in order to mask out objects in photos that are not rock (core boxes, driller blocks, etc.). Coremasks also indicate which portions of core have been used for hyperspectral, XRF, and AI data and the portions ignored for data processing.

To activate the dry filter, Lidar, Coremask, users must:

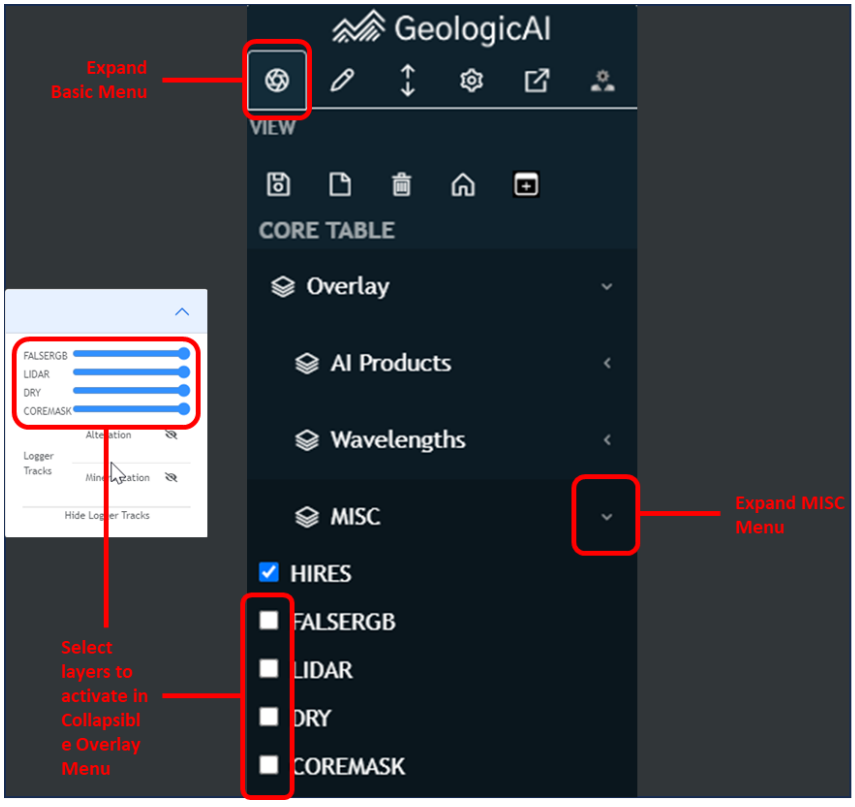

Figure 10: How to activate MISC features in Core Table.

Admin Menu

The Admin Menu can be accessed to change project specific parameters across all drillholes. These settings should not be adjusted by individual users, but rather by project leads, data managers, or supervisors.

-Under construction, Core Table 3.0

Templates

User preferred templates are savable in Core Table. Saving templates will allow the software to remember striplog layouts, active and open tracks in striplog and Core Table views, interval/track scales and colours, and many other user settings.

Once saved, templates will be pre-loaded with the software and accessible across all drillholes in a project. It is recommended to set templates for specific logging tasks to minimize data loading and only view and open necessary data. For example, it is recommended users have separate templates for logging lithology, mineralization, alteration, structure, etc. XRF data may be required in alteration, though not required in structure, therefore saving templates accordingly can save users time and allow Geologist to focus on only necessary data. Templates can be copied to create duplicates, deleted, tabs coloured and renamed to user preferences **Figure 11**.

Tip: to create a new template, it is suggested to copy an existing template first (that is as close to the new template desired) then adjust track orders/scales/colours etc. and save said changes. This will save users time rather than starting a new template from scratch.

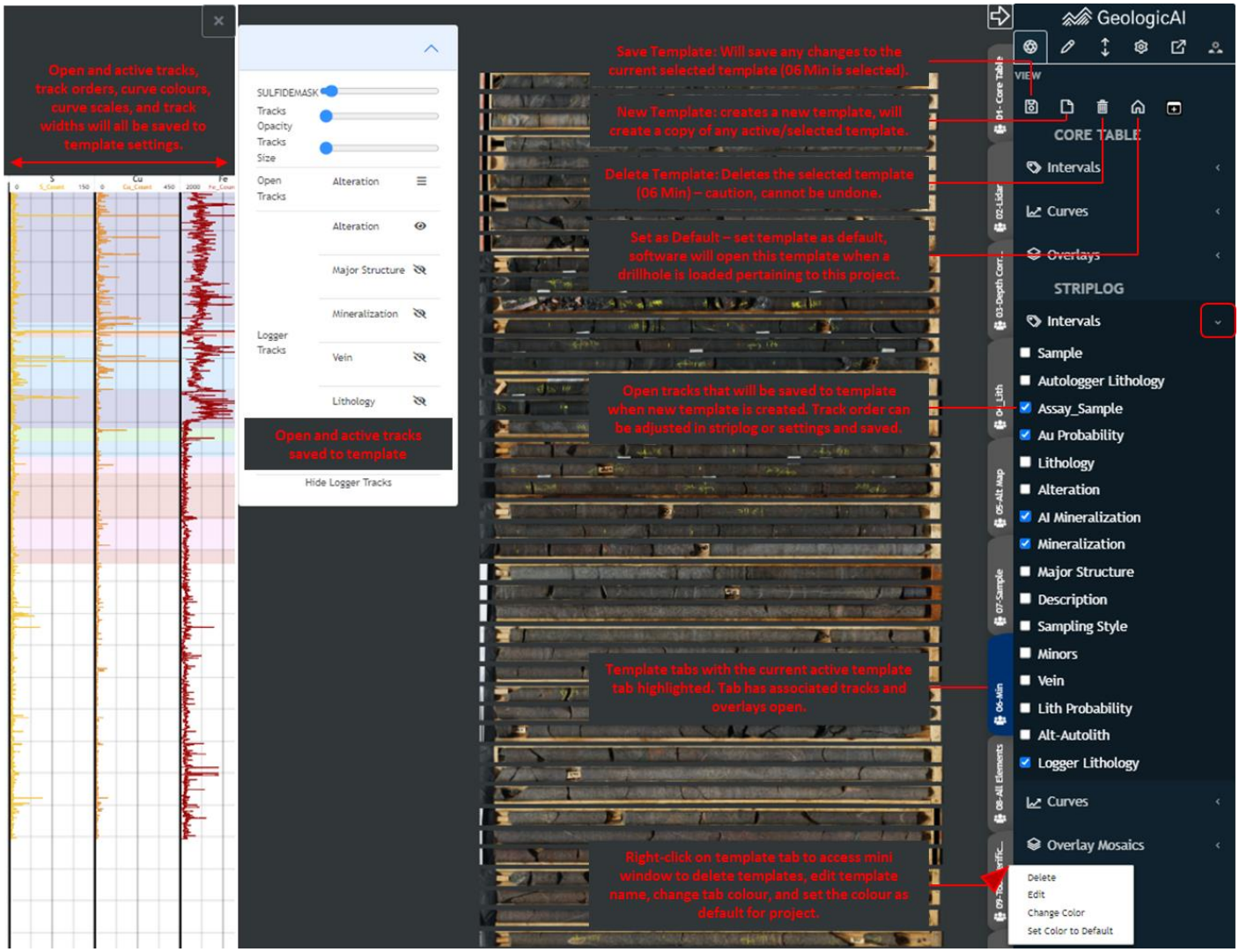

Figure 11: Saving and editing templates in Core Table.

Striplogs

Striplogs are an excellent tool for Geologists to make larger-scaled interpretations of boreholes and represent data on a large vertical scale. Striplogs display three different types of tracks in Core Table, categorized as Interval Tracks, Curve Tracks, and Mosaics. Track position can be dragged across to adjust position to user preferences, curve colours adjusted by double-clicking striplog headers, and range adjusted by clicked upper/lower StripLog limits **Figure 13**.

Toggling Tracks On/Off

Core Table users can toggle tracks on and off per preference on Core Table and Striplog views and can be saved to preferred templates **Figure 11**. Individual track types on Core Table and Striplog views can be accessed in the expandable right-hand menu.

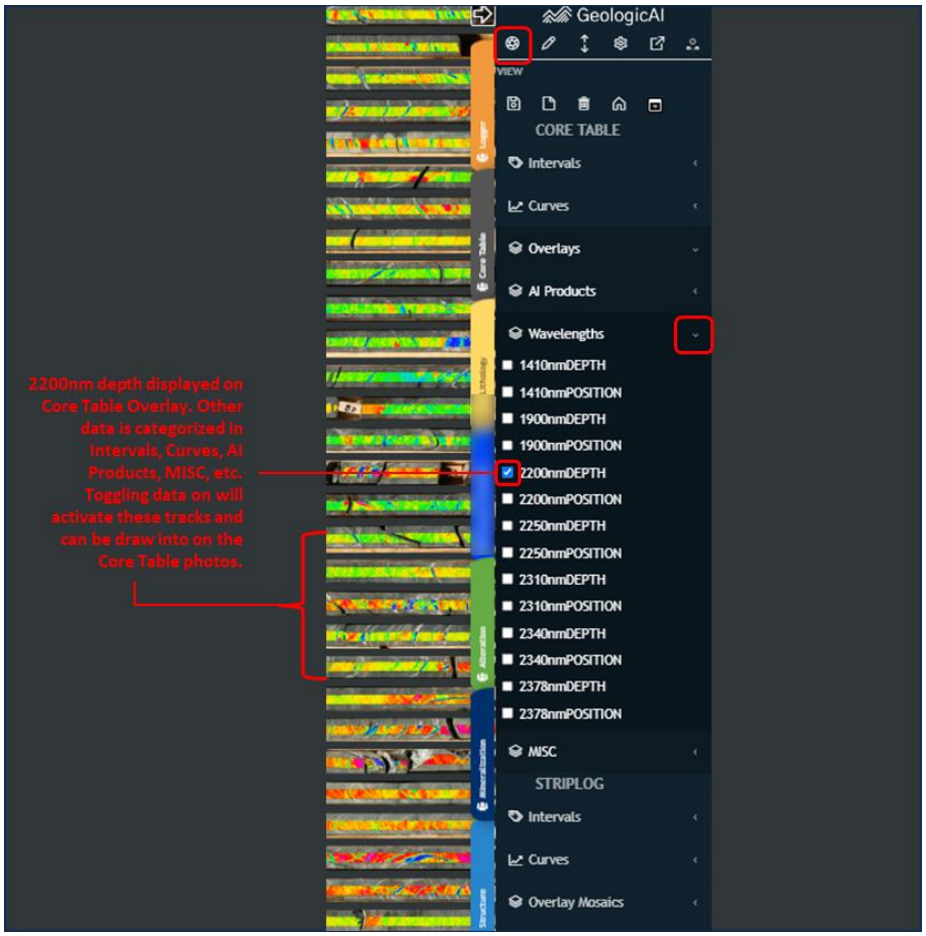

Figure 12: Toggling Tracks on Core Table Overlay.

Interval Tracks

Interval Tracks mostly consist of tracks recorded by Geologists, as well as some AI products produced by GeologicAI. Interval tracks consist of tracks with various fills that reflect the geology of the rock, examples include Lithology, Mineralization, Samples, etc. AI tracks such as Au Probability, AI Mineralization, Autologger etc. may be available for certain projects and are categorized as intervals and recorded as fills. Intervals have numeric from and to values, often encompass large segments, and have subcategories recorded within.

Accessory Tracks

Accessory tracks, another type of interval track in Core Table, encompasses multiple mini interval tracks within a single larger interval track. This is particularly useful for recording overlapping data while exporting it under the same header for database and visualization purposes. Structure and mineralization are examples of when users may like to utilize accessory tracks, as multiple fills can exist for the same interval of rock.

Curve Tracks

Curve tracks, displayed as lines connecting point values downhole, encompass XRF, XRF elemental ratio, alteration intensity, hyperspectral wavelength, and miscellaneous data types. All of these data types can be viewed downhole as connecting curve data, both on striplog views and also overlain on core photos. Scales, curve colours, curve positions etc. can all be adjusted to user preferences and saved as templates Figure 13.

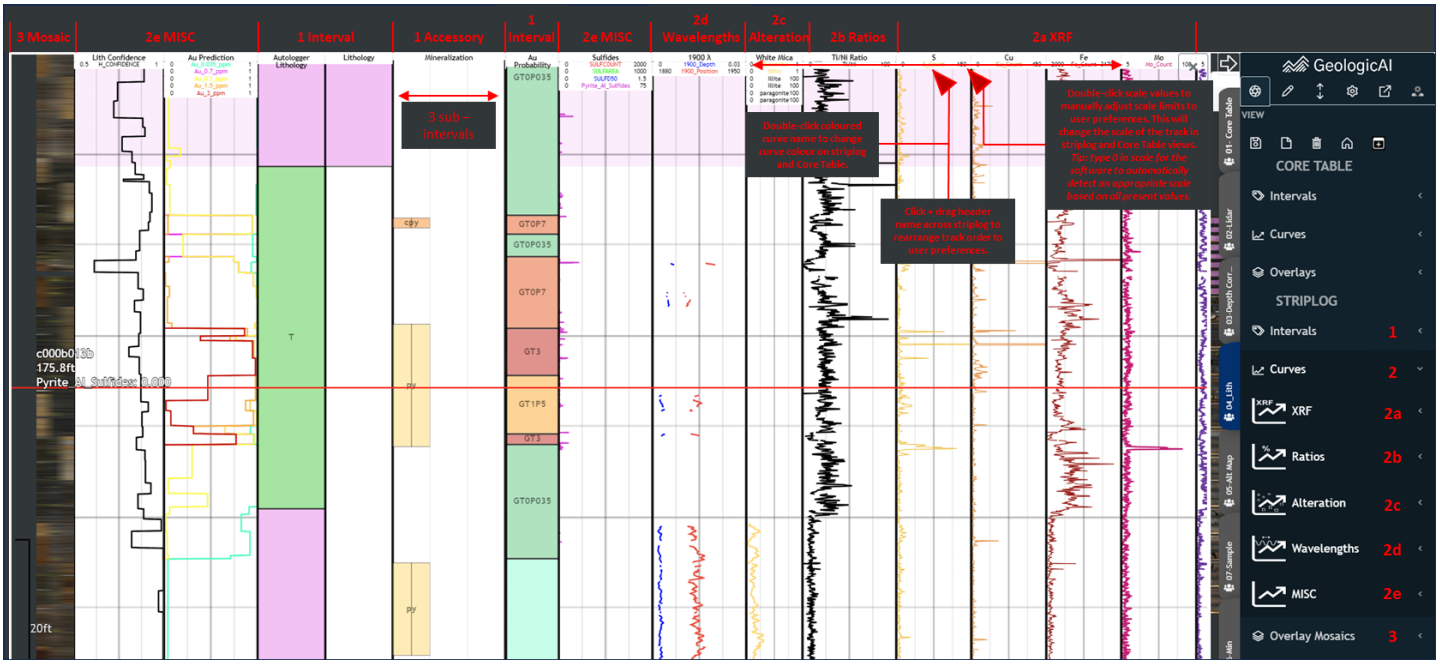

Figure 13: Striplog window and basic functionalities and types of tracks in Core Table.

Core Table Tools

Drawing Tools

Under construction – Core Table 3.0

Point Data

Deleting Intervals

Deleting intervals can be done once an interval is in “edit mode”. To enter edit mode, users should right-click the intended interval with the appropriate header already active. While an interval is in edit mode, users can select the 

icon, or use the “Del” button on the computer’s keyboard. Users can also utilize the toolkit in the sliding righthand menu and use the  icon. It is noteworthy that should a mistake be made, users can always undo the delete with the Ctrl + z keyboard **Figure 15**, **Figure 16**. Refer to **Figure 14** for a graphic of how to delete intervals.

Editing Intervals

Users are able to enter “edit mode” in Core table which allows users to amend changes within intervals (top and bottom depths, fills, alpha/beta angles, etc.) **Figure 14**. To enter edit mode, users should right-click the intended interval with the appropriate header already active. Users should practice caution when adjusting top and bottom depths as to avoid overlaps, although the software will display an error window should depths overlap when users click enter. It is noteworthy that should a mistake be made, users can always undo the change with the Ctrl + z keyboard **Figure 15**, **Figure 16**.

Note: to select an interval for edit mode, users must have the appropriate header selected in the striplog window or the dropdown in the logging menu in the Core Table side. Only intervals in the selected tracks can be edited with a right click.

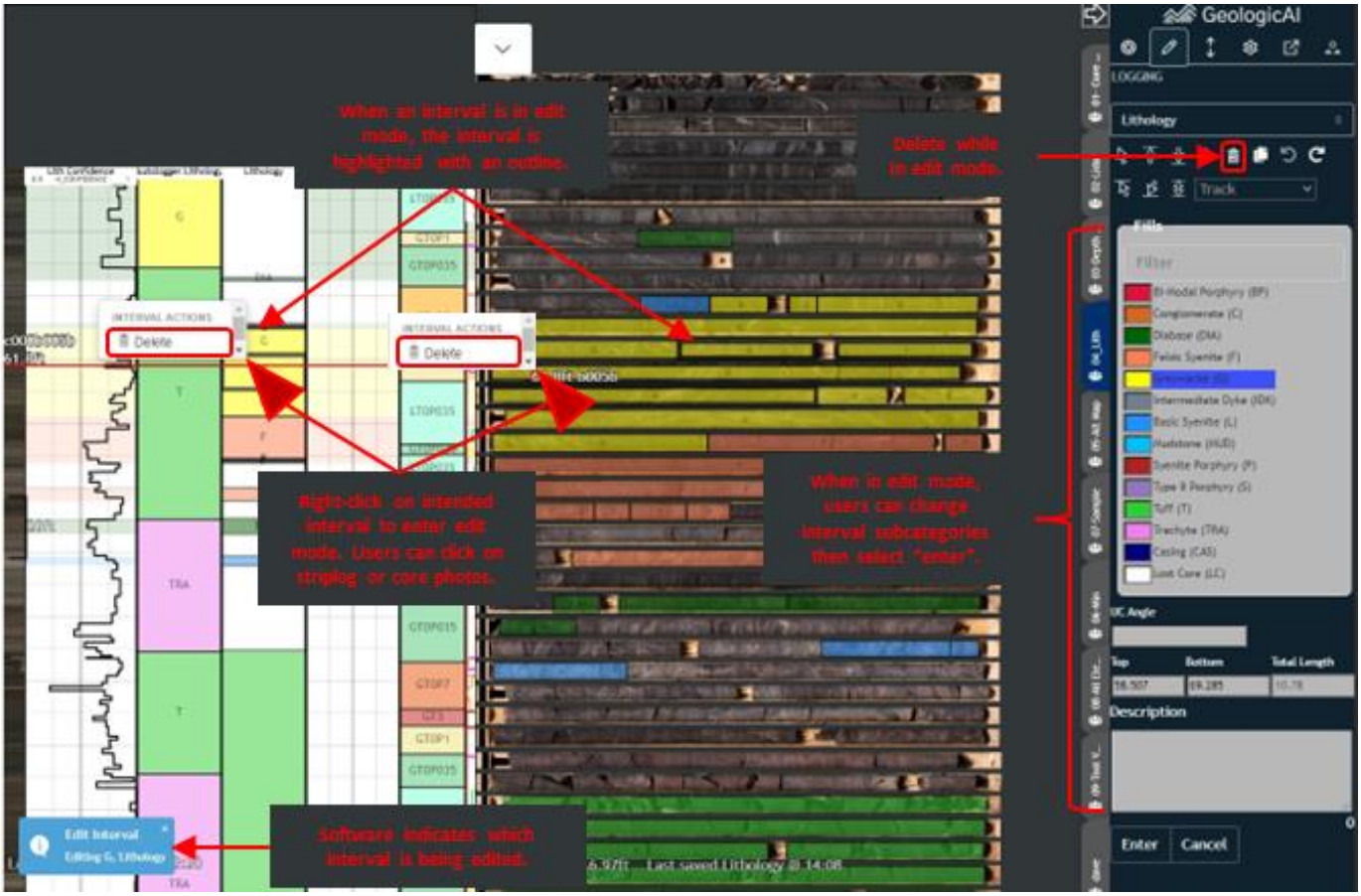

Figure 14: Steps to edit or delete an existing interval in Core Table.

Undo and Redo

Core Table allows user to easily redo and undo user inputs, interval changes, and is intuitively designed. To undo and redo intervals, users can take advantage of hotkeys Ctrl + Z and Ctrl + Y respectively. Users can undo and redo multiple intervals at once, and the logic behind undo and redo can be referenced in **Figure 15**. Alternatively, users can utilize the drawing tool menu, where undo and redo buttons mimic the same effects of the hotkeys **Figure 16**.

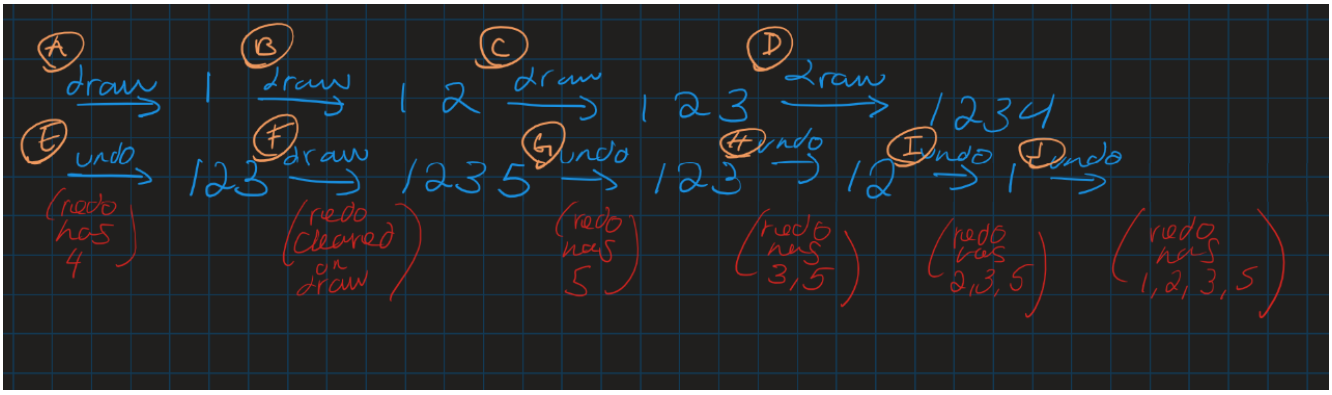

Figure 15: Graphic of Undo and Redo logic in Core Table.

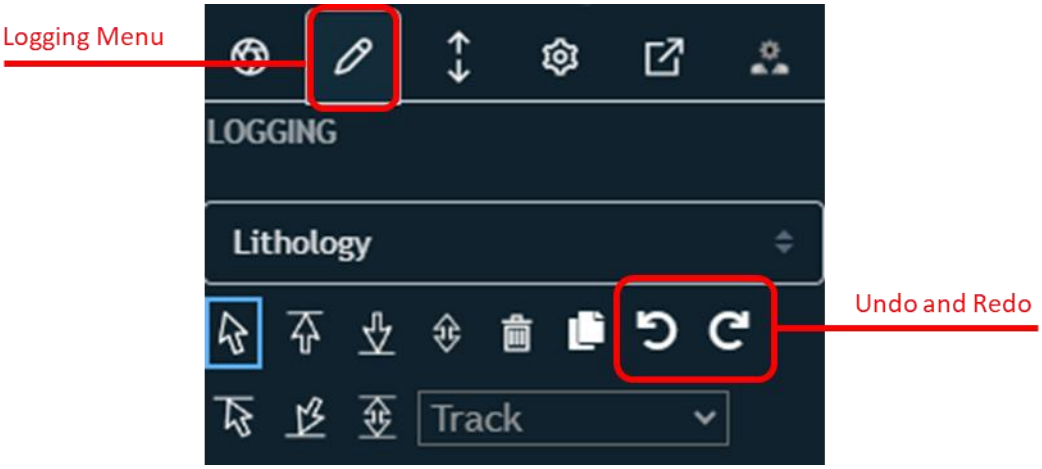

Figure 16: Undo and Redo menu options within the logging tools menu.

Depth-Correction

The depth-correction menu allows users to enter “depth-correction mode”, accessible through the sliding right-hand menu. Detailed instructions on accessing the depth-correction mode can be found in section and in **Figure 7**. Once in depth-correction mode, users can adjust RQD core measurements, compression and expansion lines, adjusted core depths, and add or remove core breaks.

Depth-Correction Menu Options

AI depth-correction is completed by the software using lidar scanning data. This creates a preliminary depth-correction file, listed as DC_Auto (**Figure 17**) and automatically places RQD line breaks at core breaks detected by lidar. Geologists can then open this AI file and refine RQD lines, breaks and break types, measurement parameters, and adjust depth blocks using the tools in **Figure 17**. Once completed, this depth-correction can be saved to new files and referenced at any time.

Tip: ensure to periodically save depth-correction and RQD work (4a in* Figure 17*). Without saving work to a file, any changes will be lost should the page be refreshed and may not be reflected in depth-correction related exports.

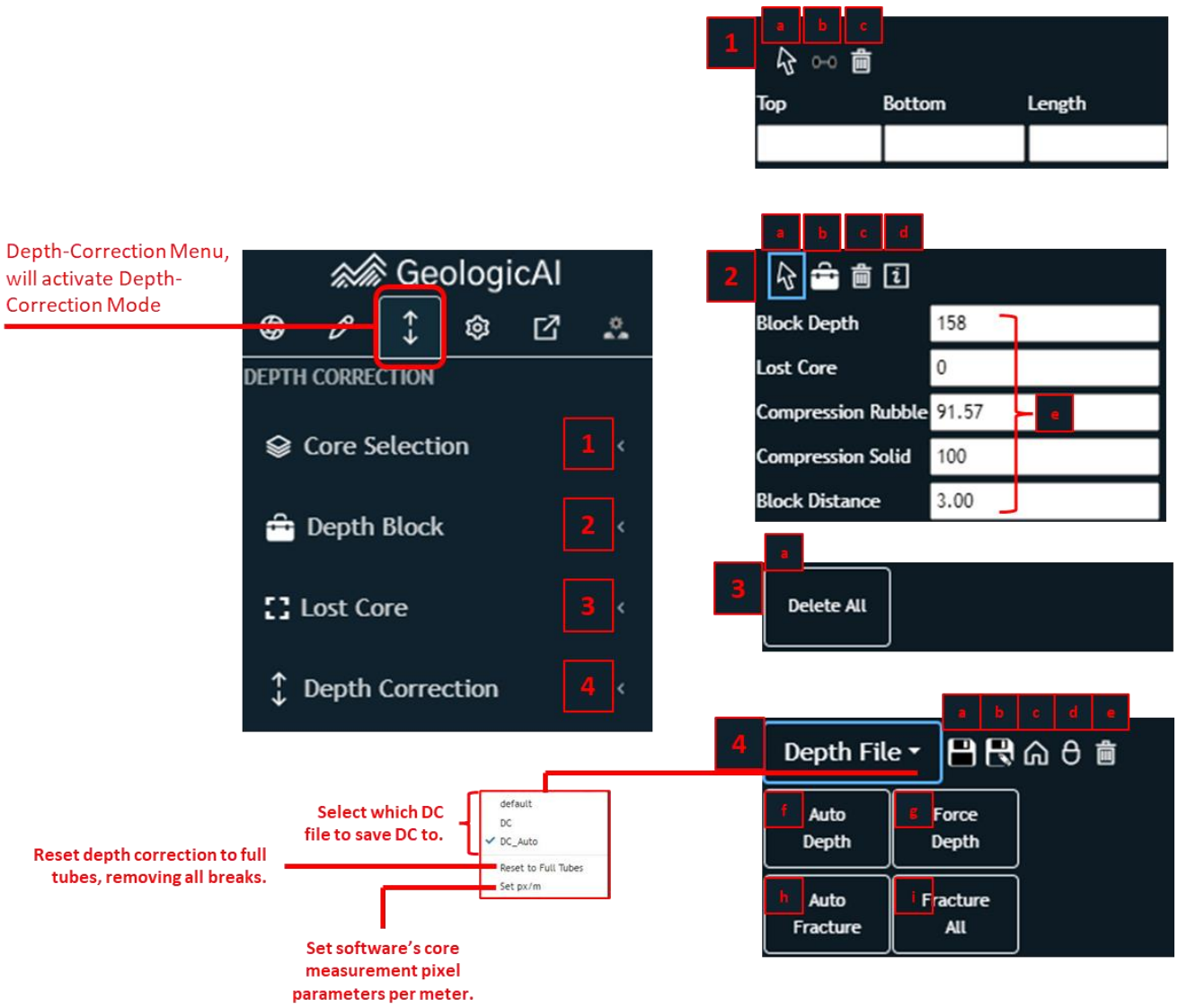

Figure 17: Complete option list of the depth-correction menu. Refer to Table 4 for detailed descriptions.

Table 4: Reference List for Figure 17.

	1
1a	Select tool to select digital driller blocks and to click and drag RQD line breaks. Click and drag arrow signs ▸ to move RQG break lines.
1b	New break tool – while this tool is selected, users can click on RQD lines to insert breaks in core. Breaks can then be adjusted with the select (1a) tool.
1c	Delete tool – while selected, clicking on any RDQ line arrow ▸ will delete said RQD line. Users should be cautious when this tool is selected as to not accidentally delete RQD lines.

	2
2a	Select tool, used to select driller blocks to view block parameters (2e).
2b	Create digital driller block tool. While selected, users can left click on core photos to add digital driller blocks with respective depths. Users will be prompted to enter depth values once a point is selected.
2c	Delete driller block tool. With this tool selected, any driller block clicked will be deleted.
2d	Driller block audit – this button will export a text document listing each run, core recovered, compression and expansion values, and any existing gaps. This can be used as a QAQC tool for driller block measurements. This is essentially an exported list of parameters in 2e.
2e	Driller block/run parameters, determined by the software after auto-depth or force-depth has been implemented.
	3
3a	Delete **all** lost core in the present hole.
	4
4a	Save depth-correction to a file. Clicking this will save all current depth correction **to the selected file** in the "Depth File" dropdown menu.
4b	Save-as depth-correction to a **new** file. Clicking this will save all current depth correction **to a new file** in the "Depth File" dropdown menu.
4c	Set default, this sets
4d	Lock depth-correction,
4e	Delete the current selected depth-correction file. **Caution, this cannot be reversed.**
4f	Auto Depth will measure the true (pixel/m) length of core between driller blocks. If this length falls short of the next driller block, the software will insert LC (lost core) at the end of the run.
4g	Force Depth will compress or expand the true measured depth to match each driller block. For example, if a run is measured to be 2.9m, the software will expand this to be 3.0m to match driller blocks and not introduce a lost core as Auto Depth would.
4h	Auto Fracture will automatically set core breaks (RQD line breaks) at ends of boxes and ends of runs as "set to driller fractures", while all other fractures remain the same. This will change RQD calculation outputs.

4i	Fracture All will change all RQD line breaks to the same type of fracture throughout the hole. The first time it is clicked, the software will change all fractures to driller fractures. The second time, all fractures change to natural fractures.

Auto-Depth and Force-Depth

Force depth and auto depth are different methods of depth-correction calculation in Core Table software and considers core expansion and compression differently. As described in sections 4f and 4g in **Table 4**, auto-depth will put importance on the true measurement of core based on a set pixel/m value, whereas fore-depth will prioritize compression and expansion of pixels/m to fit meter marks in the drillhole.

With this logic in mind, users should be aware that auto-depth correction will result in lost-core sections inserted to account for missing core to match meter marks. Force-depth on the other hand, will avoid creating lost-core segments and stretch core to fit meter marks. Therefore, it is generally safe to assume that auto-depth will provide better and more accurate results for RQD measurement and calculations, since auto-depth will provide true core measurements and indicate where core has been lost or is unaccounted for. Inversely, force-depth is ideal for the logging Geologist as to avoid missing core sections and make interpretations across the drillhole without missing fragments.

Tip: It is important to understand and remember fore-depth vs auto-depth when exporting RQD and core logging depth-correction measurements. Ensure the correct file is selected prior to export.

RQD Lines

RQD lines in Core table software indicate different competencies of rock and can be adjusted as the Geologist sees fit. In order to change RQD line types, users can right-click on the end of an RQD arrow and a menu will appear (**Figure 18**). Once lines are changed, they will be visualized accordingly and RQD measurement outputs will be adjusted. Users can also left-click and drag arrows to accurately match core breaks. Breaks can be inserted, deleted, then re-calculated based on pixel/m **Figure 17**, **Figure 19**.

Figure 18: RQD lines in Core Table software and representations of different rock competencies.

Note, dashed blue or red lines above core RQD lines visualize compression or expansion values by the software via auto depth or force depth. These lines, similar to RQD lines, can be adjusted by the user accordingly to comply with user preferences.

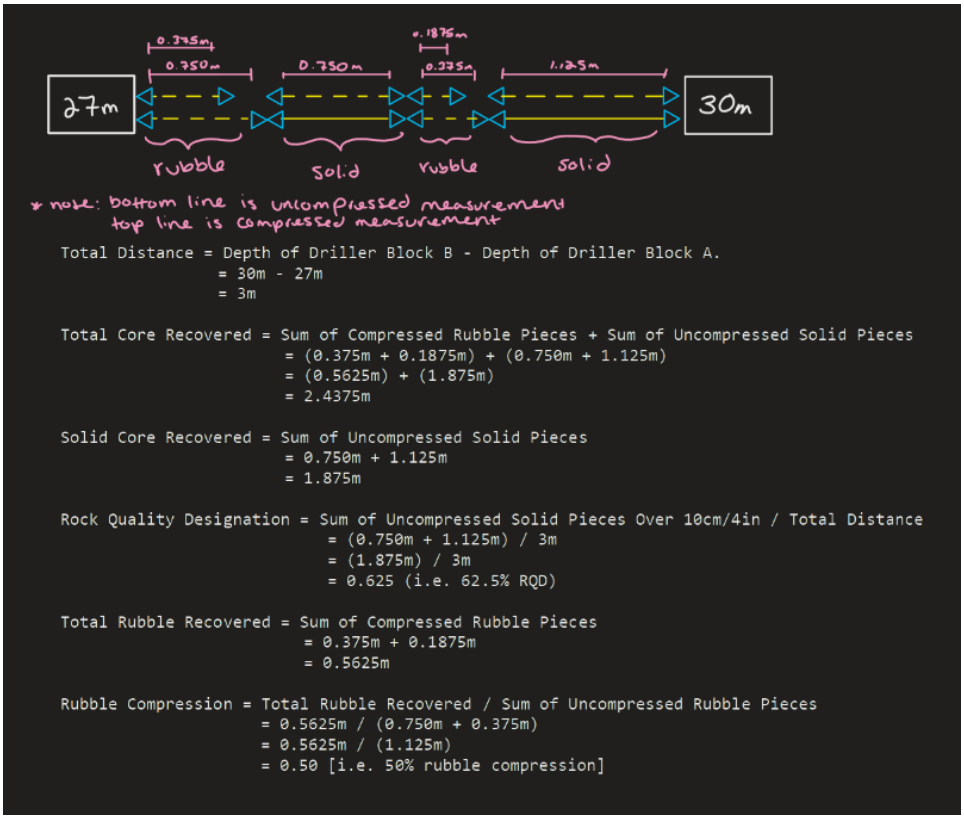

Figure 19: Backend calculations pertaining to RQD export values. This figure displays how calculations are conducted based on line types, compression, and expansion values. Note: Auto-Depth & Force-Depth will affect is compression and expansion (Table 4: Reference List for Figure 17.

Discing

Discing, a parallel drilling-induced fracture type, can be recorded in Core Table. The menu can be prompted by right-clicking on an RQD arrow **Figure 20**. Users can set the number of fractures visible from discing after setting the interval to a discing section.

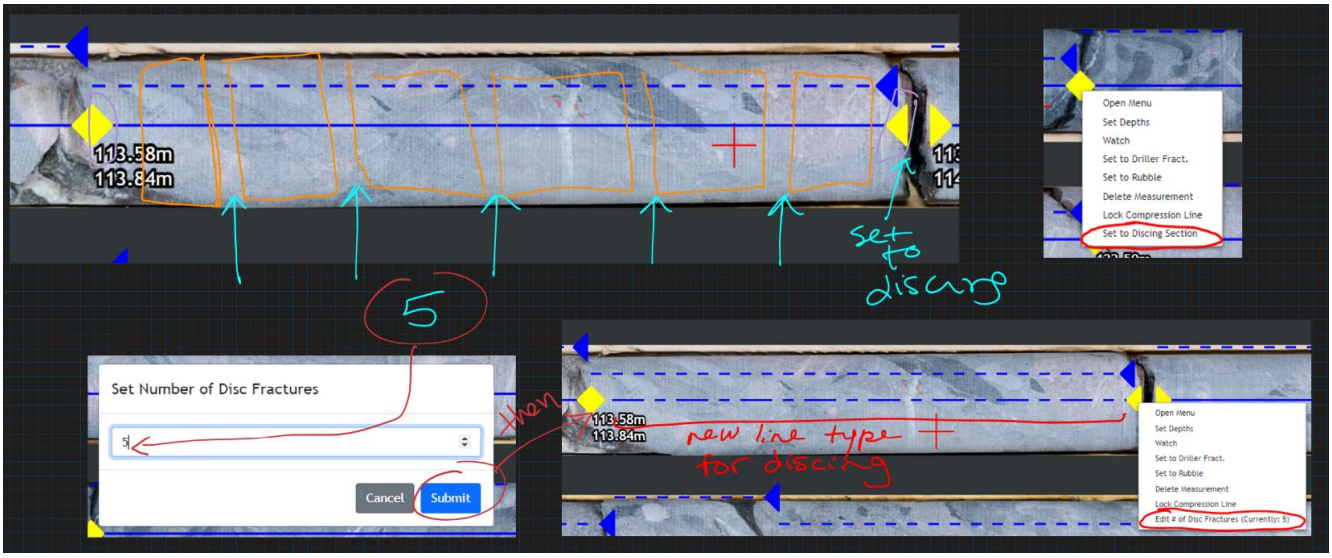

Figure 20: Recording discing parameters in Core Table.

Sampling

-Under Construction, Core Table 3.0

Auto-Sampling

Adjusting Sample Intervals

Standards, Blinds, Duplicates

Dispatch Report Exports

Settings

Depth-Correction Settings

Saving

Importing and Exporting Track Data

Exporting Track Data

Each track from which AI data or user data is recorded including core logging, sampling, RQD and depth correction data can be exported in CSV format. Users can request custom CSV export templates through the software by contacting GeologicAI to set up backend templates pertaining to specific projects. CSV exports will typically contain from and to values, parameters within fills (e.g., lithology, texture within lithology), and any accompanying data recorded per interval/fill.

Tip: It is highly advised to QAQC data and run QAQC tools prior to export to avoid any issues translating data into other databases. Users are advised to ensure min/max interval length are respected and depth discrepancies do not exist between tracks.

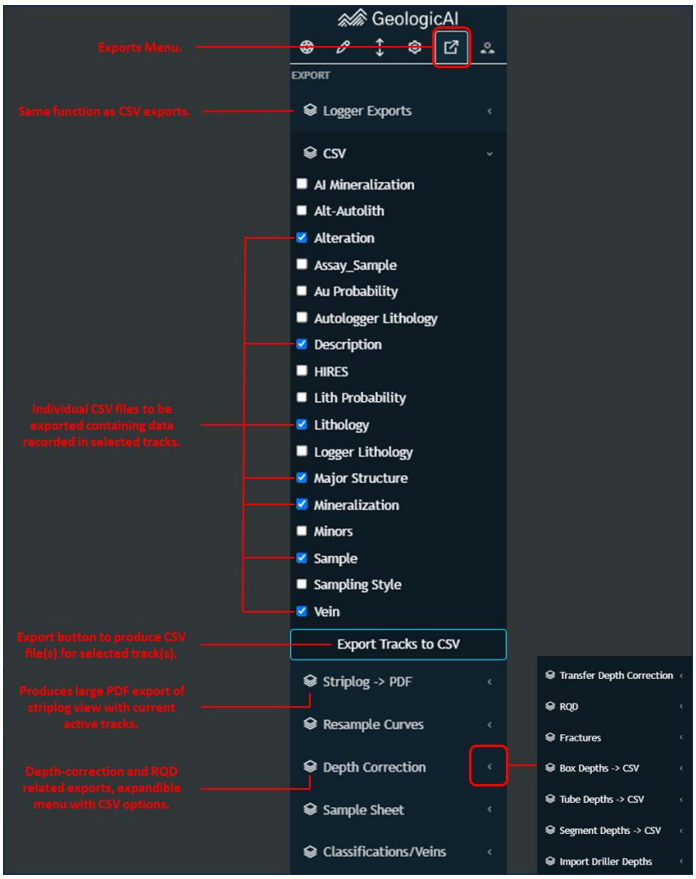

Figure 21: Exports menu and user options for exporting data.

Importing Track Data

Track data can be imported to Core Table tracks just as it can be exported. Users may require CSV imports into tracks to translate database information into Core Table, recover data, or override changes in a current track. When importing CSV file data into intervals, it is important to ensure the header names in CSV files match exactly to header names in Core Table (this includes spaces and capitalization of letters). It is also essential that the CSV import format exactly matches the required format in Core Table. To view what format is required for import, users can simply export an example CSV from the track in question as displayed in **Figure 21** and replace columns with the track in question, and fills as “short name id”. It is important to note that CSV formats are unique to projects and the information recorded in project tracks, therefore it is not translatable across projects and recommended for users to export an example template and work from the export file.

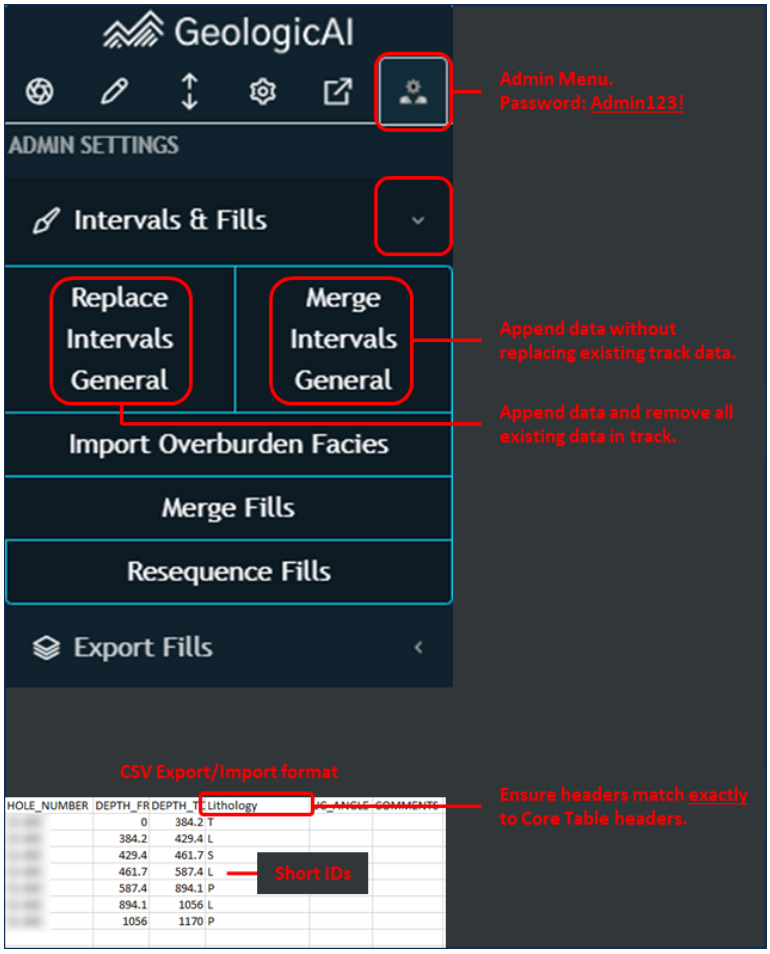

Figure 22: Importing track data from CSV files.

Exporting XRF Data

XRF count/ppm data for drillholes can be exported through Core Table to the project home page, then downloaded via the legacy home page. Data is exported in CSV format pertaining to individual drillholes and Detailed instructions are in **Figure 23**.

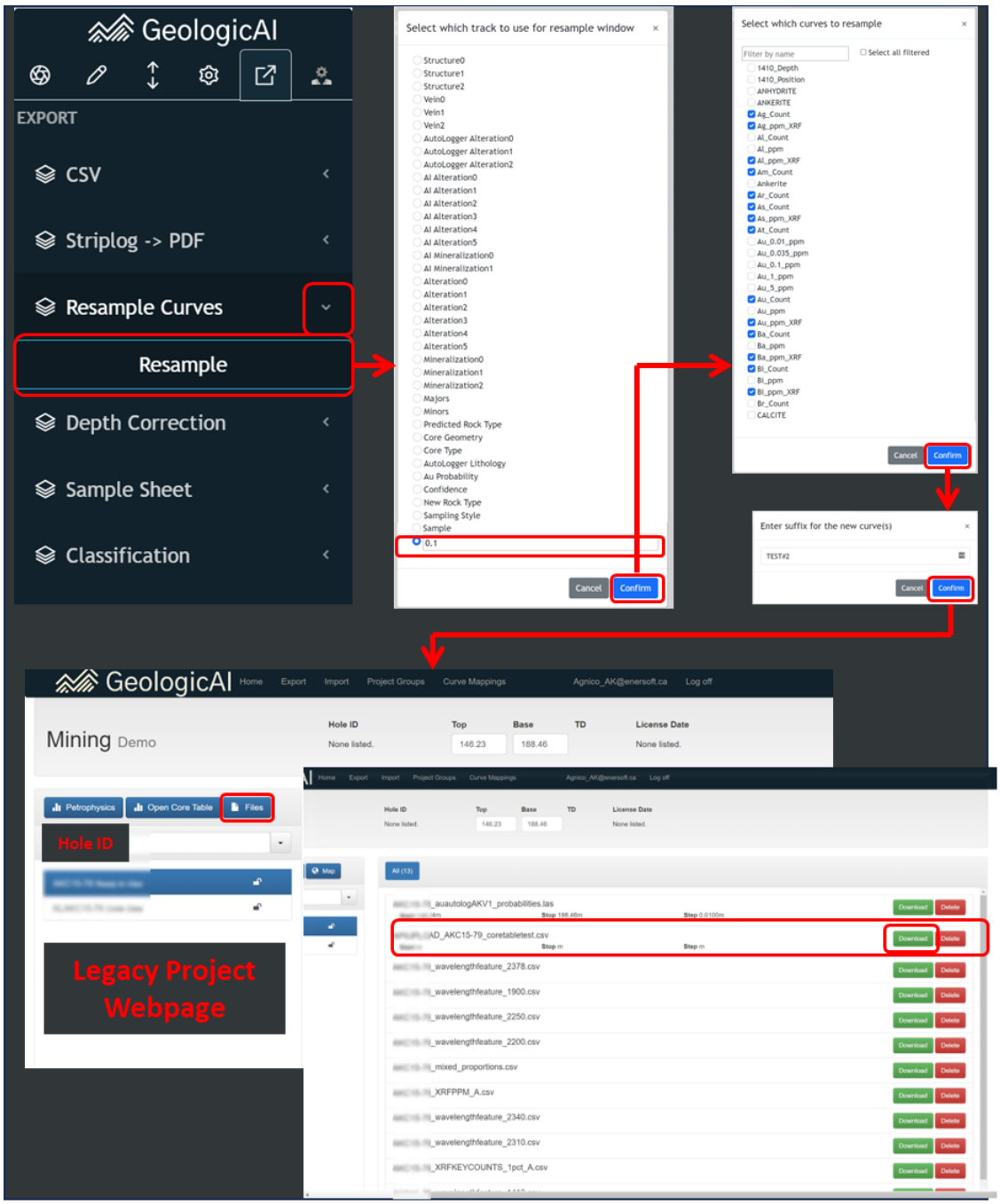

Figure 23: Step by step guide to exporting XRF data in CSV format. Users are required to access the Legacy Project Webpage.

JSON File Recovery

While working in Core table, users may lose internet connection or experience computer issues, especially while working in remote sites with unreliable internet connection. In these cases, Core Table will automatically export a “JSON” or recovery file that includes a record of interval/recorded data by the Geologist when connection was lost. This file can be re-imported into Core Table to ensure data integrity and that no work has been lost.

JSON file import can be accessed in the Core Table settings, under “recover intervals” outlined in **Figure 8**.

QAQC Tools

-Under Construction, Core Table 3.0