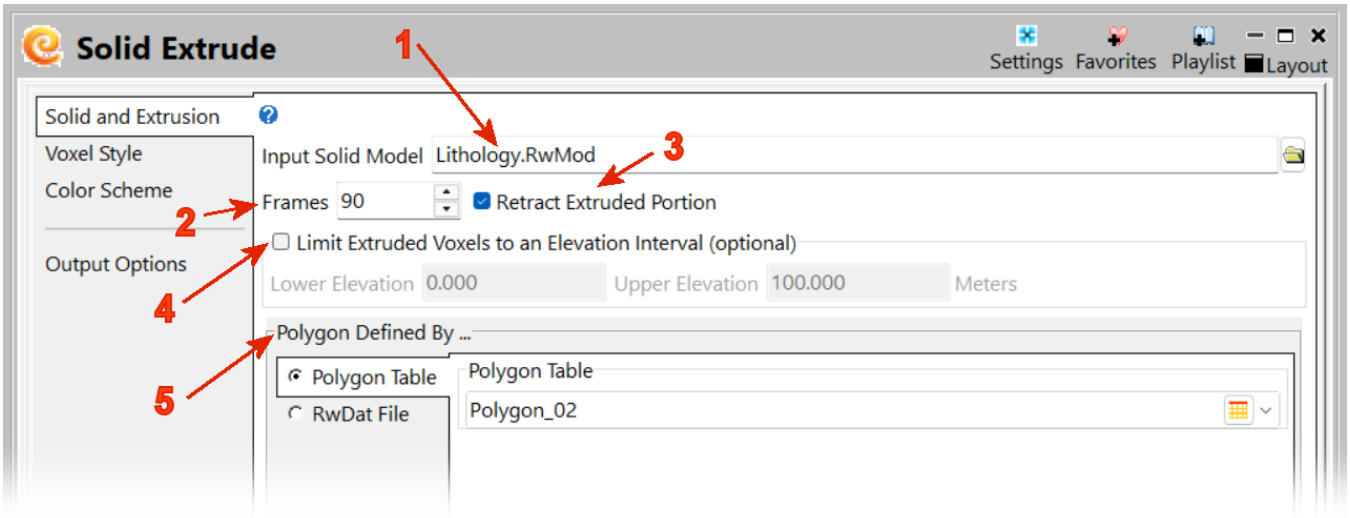
Solid Extrude

RockWorks • Graphics → Animate → Solid Extrude

Create an animation in which a polygon-defined portion of a block model rises out of its surroundings. Optionally return that portion to its original position while the camera keeps rotating, tilting, or zooming. The input model is unchanged.



The red numbers identify the controls explained below.

1 Input Solid Model

Choose the source .RwMod file containing the material to animate. The screenshot uses Lithology.RwMod as an example; other block models can also be used. The input model is unchanged.

2 Frames

Enter the total number of images in the complete animation, including retraction when selected. Use at least 2 frames for a rise alone or 3 when retraction is enabled. More frames make movement smoother and increase rendering time. Hover over Frames or its value for a hint.

3 Retract Extruded Portion

Leave unchecked for an upward movement only. Check to return the selected material to its original position. Camera direction, inclination, and zoom continue forward across the entire sequence; the video is not reversed.

Retraction is included in Frames; it does not add extra images. The fully raised frame is shared by rising and returning. With an odd total, the two movements have the same number of steps. With an even total, the rise has one more step than the return. For example, 10 Frames always produces 10 images, with or without retraction.

Selection and model appearance

4 Limit Extruded Voxels to an Elevation Interval

Leave unchecked to select the entire polygon-defined column. Check to select only voxel centers between the inclusive Lower and Upper Elevations. Enter elevations in project/output vertical units, shown beside the controls. These are elevations, not depths below the ground surface.

5 Polygon Defined By

Choose a project Polygon Table or a polygon .RwDat file. The polygon defines the material to lift in plan view. A .RwDat polygon uses its first two data columns for X and Y. List vertices in perimeter order; RockWorks closes the polygon if needed and uses the existing coordinate conversion to project units.

The polygon and optional elevation interval work together: only defined voxels inside the polygon and within the selected elevation interval are lifted. The selection must contain some defined voxels and leave some defined voxels in the remaining model.

How the model is separated

RockWorks separates the source voxels into two complementary pieces: the selected material and the remaining model. The selected piece moves vertically upward by one full source-model height. Its values, spacing, and internal geometry remain unchanged. This is a visual separation, not a recalculation of geology or excavation volumes.

The lift distance is the full model height (number of vertical nodes multiplied by vertical spacing), even when item 4 selects only a shallow portion. Undefined source voxels remain undefined. Both pieces retain the original voxel resolution.

Voxel Style and Color Scheme

Use Voxel Style to choose the existing full-voxel or midpoint display and other supported style settings. Voxel borders can show the block structure when full voxels are used.

Use Color Scheme to choose colors appropriate to the source values: for example, the lithology table for lithology codes or a numeric palette for continuous values. Both pieces use the same source value range, so their colors remain consistent during separation.

Camera and video output

Output Options

Set the initial and final camera direction, inclination, and zoom. These settings apply across the entire sequence. With retraction enabled, the selected piece changes direction at the top, but camera movement continues forward toward its final settings. The animation is not played backward.

The scene bounds and focal point account for the fully raised model, helping keep the view stable during the lift. Check the zoom settings to allow enough room for the raised material.

Choose the output format and filename, image prefix, frames per second, and whether to display the completed animation using the existing animation controls. Frames per second controls playback speed; Frames controls the number of generated images. Approximate duration in seconds is total output frames ÷ frames per second.

For example, Frames = 90 at 30 frames per second gives about 3 seconds of video, with or without retraction. Retraction divides those same 90 frames between rising and returning. Increase Frames for a longer or smoother sequence, or reduce frames per second to slow playback.

Generate and review

Click Continue to generate the frames and compile the video. Inspect the selected region, colors, framing, and camera movement. A short trial with 10 frames is a useful check before rendering a longer sequence. Use output names and prefixes that distinguish your trials.

RockWorks uses the existing Animation_Frames workflow. Frame generation can replace earlier animation frames in the project; preserve any frames you need before starting another animation. The source .RwMod file is not modified.

If the result is unexpected

Nothing selected, or everything selected. Check that the polygon overlaps the model and leaves defined material both inside the selection and in the remaining piece. If using elevation limits, check their units and range.

The lifted piece rises farther than expected. Its travel distance is one full source-model height, rather than the thickness of the selected interval.

The rise looks faster with retraction selected. The same total frame count is divided between rising and returning. Increase Frames if you want the rise itself to take longer. The animation still reaches the full model height and ends at the original position.

The surface looks stepped. The pieces retain the original voxel resolution. Separating them exposes their existing voxel faces.

Menu settings, including polygon selection, elevation limits, frame count, and retraction, can be retained in saved menus and Playlists through the standard RockWorks settings system.