**Posterior Symphyseal Portion of Mandible – (MUVP-180)**

**“Image Acquisition with Artec Leo”**

**Artec Leo Technical specs:**

**Accuracy & Resolution:** 3D resolution (up to 0.2 mm).

**Texture:** Texture resolution (2.3 mp), Colors (24 bpp).

**Scanning steps:**

1. **Fossil Preparation for Scanning:**

In this step, secure the fossil in place to prevent movement and to show at least one clear view for scanning.

Artec scanners can’t capture shiny, transparent, or reflective objects. so if the fossil has any of these properties, we should add a matte coat to its surface to make it visible to the scanner.

1. **Capturing Frames (Scanning):**

In This step, we produce raw scanning data for processing and model creation; each fossil requires at least two scans so we can construct a meaningful 3D model afterward. If we are required to produce a 360° model of the fossil, the number of scans increases to capture the fossil from all view sides. Each scan contains multiple frames, and each project might contain multiple scans.

The procedure is done as follows:

* 1. Scanning using Artec Leo is initiated using the following settings: (Recording HD data: ½, Saving Primary Texture: On, Save Supplementary Texture: 8.0 fps, Maximum Scanning Speed: 45 fps, Texture Exposure Time: 1,500 µs, Base Offset: 1.5 mm).
  2. Point the Scanner toward the fossil and capture frames by moving around the fossil in a slow and steady motion.
  3. Make sure to capture the fossil from the optimum distance, the will appear green while scanning if the distance is right.
  4. When done scanning the current side of the fossil stop the scanning to save the scan into the current project.
  5. Change the positioning of the fossil to show sides that didn’t appear in the previous scans.
  6. Click add a new scan into the current project and start scanning the new side of the fossil.
  7. Repeat steps from (b) to (f) until all sides of the fossil are scanned.

1. **Transferring Data:**

Raw data should be transferred to a computer to be processed in Artec Studio, and we are using Artec Studio 17.

The procedure is done as follows:

* 1. Connect the Artec Leo scanner to a computer through an Ethernet cable.
  2. Import the project into Artec Studio.
  3. Save the project on your computer and disconnect the scanner.