**Supplemental Table 4:** Technological and Use-Wear Data Collected for Each Morpho-Technical Group

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| **Groups** | **Technical operations** | | | | | **Technical Performance** | **Use-Wear** |
|  | **Blank Acquisition** | **Surface Treatment** | **Perforation Technique** | **Side Perforations** | **Decoration** |
| **Calcite** | | | | | | | |
| **Group 1**  **(n = 22)** | Cut-and-break (n = 2) | Grinding (n = 10)  Polishing (n = 12) | Cylindrical with small opposite cone, concentric grooves (n = 20) | Biconical with concentric scratches (n = 16) | Incision (n = 12)  Excision (n = 3)  Notching (n = 5) | Medium or poorly carved (n = 13) | Worn (n = 19)  Unused (n = 1)  Indeterminate (n = 2) |
| **Group 2**  **(n = 32)** | No evidence | Grinding (n = 9)  Dull polishing (n = 23) | Biconical with concentric scratches and a smooth center (n = 27) | N/A | N/A | Perforation not well centered (n = 1)  Slightly faceted sides | Worn (n = 26)  Unused (n = 1)  Indeterminate (n = 5) |
| **Group 3**  **(n = 9)** | Cut-and-break (n = 2) | Polishing (n = 9) | Biconical with concentric scratches (n = 8) | N/A | N/A | Snapping evidence not completely erased (n = 2)  Faceted (n = 2) | Worn (n = 8)  Indeterminate (n = 1) |
| **Group 4**  **(n = 4)** | Cut-and-break (n = 3) | Grinding (n = 1)  Polishing (n = 3) | Bi-cylindrical (n = 2)  Biconical (n = 2)  with concentric scratches (n = 4) | N/A | N/A | N/A | Worn (n = 3)  Unused (n = 1) |
| **Other beads**  **(n = 10)** | Cut-and-break (n = 3) | Grinding (n = 2)  Polishing (n = 3) | Biconical with concentric scratches (n = 5)  (Bi)cylindrical (n = 5) | N/A | Incision (n = 1) | Poorly shaped bead, faceted or highly tilted (n = 4) | Worn (n = 7)  Unused (n = 2)  Indeterminate (n = 1) |
| **Pendants**  **(n = 4)** | Sawing (n = 1, shaping) | Grinding (n = 3)  Polishing (n = 1) | Biconical with concentric scratches (n = 4) | N/A | Incision (n = 3)  Excision (n = 2)  Notching (n = 3)  Drilling (n = 2) | Reused failed bead (n = 1) | Worn (n = 2)  Unused (n = 1)  Indeterminate (n = 1) |
| **Plutonic rocks** | | | | | | | |
| **Group 1 (n = 4)** | Cut-and-break (n = 1) | Grinding (n = 2)  Polishing (n = 2) | Cylindrical with small opposite cone, concentric grooves (n = 4) | Biconical with concentric scratches (n = 4) | Notching (n = 1) | Poorly shaped bead, faceted or highly tilted (n = 3) | Worn = 4 |
| **Group 2 (n = 15)** | Cut-and-break (n = 1, potential cut marks remains on one face) | Grinding (n = 6)  Polishing (n = 7)  Indeterminate (n = 2) | (Bi)cylindrical with concentric grooves (n = 14)  Perforation in three stages: biconical drilling + inner cylinder (n = 1) | Real biconical with concentric scratches (n = 2) | Drilling biconical perforations with circular scratches (n = 13)  Notching (n = 3)  Incising (n = 1) | Four decorative perforations (n = 1)  Side perforations slightly misplaced (n = 2)  Tilted (n = 1) | Worn (n = 13)  Unused (n = 2) |
| **Group 3 (n = 9)** | Cut-and-break (n = 2) | Grinding (n = 2)  Polishing (n = 9) | (Bi)cylindrical with concentric grooves (n = 9) | Absent (n = 1)  Biconical with concentric scratches (n = 8) | Absent (n = 1)  Incision (n = 6)  Notching (n = 3) | Incisions not made carefully (n = 1)  Decentered perforation (n = 1)  Side perforations slightly mismatched (n = 1)  Unfinished hole where a side perforation was going to be placed (n = 1) | Worn (n = 8)  Unused (n = 1) |
| **Group 4 (n = 15)** | Cut-and-break (n = 3)  Pecking (n = 1) | Grinding (n = 6)  Grinding + polishing (n = 4)  Polishing (n = 5) | (Bi)conical, mostly with concentric scratches (n = 4)  (Bi)cylindrical, mostly with concentric grooves (n = 11) | N/A | Incisions on the edge (n = 4), one has also an incision along the side | Faceting (n = 7)  Roughly/medium carved (n = 5)  Decentered perforation (n = 2) | Worn (n = 8)  Unused (n = 3)  Indeterminate (n = 4) |
| **Other beads (n = 11)** | Cut-and-break (n = 3)  Pecking (n = 1) | Grinding (n = 7)  Grinding + polishing (n = 4) | (Bi)conical (n = 5)  (Bi)cylindrical (n = 3)  Unfinished (n = 2)  Absent (n = 1) | N/A | Incision on the side (n = 1)  Excision + Notching + Incision (n = 1) | Medium/roughly carved (n = 6)  Slightly misplaced cones (n = 1)  Decentered perforation (n = 2)  Poorly snapped blank (n = 1) | Worn (n = 4)  Unused (n = 2)  Half product (n = 4)  Indeterminate (n = 1) |
| **Earplug (n = 1)** | Indeterminate | Grinding + polishing | Indeterminate, smoothed wall | N/A | Notching to create central groove | N/A | Indeterminate (n = 1) |
| **Anthropomorphic pendants (n = 2)** | Indeterminate | Grinding (n = 1)  Grinding + polishing (n = 1) | Two biconical perforations with concentric scratches (n = 2) | N/A | Incision (n = 2)  Notching (n = 2)  Excision (n = 1)  Drilling (n = 1) | Poorly carved (n = 1) | Worn (n = 1)  Indeterminate (n = 1) |
| **Stalactite** | | | | | | | |
| **Group 1 (n = 2)** | Cut-and-break (n = 2) | Grinding (n = 2) | Natural, cylindrical (n = 2) | Biconical with concentric scratches (n = 2) | N/A | N/A | Worn (n = 2) |
| **Earplug (n = 1)** | Indeterminate | Grinding | Natural, cylindrical | N/A | Incision | N/A | Worn (n = 1) |
| **Other lithic materials** | | | | | | | |
| **Beads (n = 13)** | Indeterminate (n = 11)  Cut-and-break (n = 2)  Flaking? (shaping, n = 1) | Grinding (n = 5)  Grinding + polishing (n = 5)  Polishing (n = 2)  Indeterminate (n = 1) | (Bi)conical (n = 7)  (Bi)cylindrical (n = 4)  Unfinished two-sided (n = 2) | Biconical with concentric scratches (n = 1) | Incision (n = 1)  Drilling (n = 1) | Decentered perforation (n = 4)  Slightly misaligned perforations (n = 1)  Irregular shape (n = 3) | Worn (n = 7)  Unused (n = 2)  Half product (n = 2)  Indeterminate (n = 2) |
| **Inlay**  **(n = 1)** | Indeterminate  Pecking (shaping) | Grinding + polishing | N/A | N/A | N/A | Faceted, not fully ground | Worn |
| **Biconical earplugs**  **(n = 3)** | Indeterminate (n = 3)  Pecking (n = 1, shaping) | Grinding + polishing (n = 2)  Polishing (n = 1) | (Bi)conical, coarse circular scratches (n = 3)  Widening/smoothing of perforation (n = 2) | N/A | Notching (n = 3, V-shaped and U-shaped) | Broken during production? (n = 1) | Worn (n = 2)  Unused (n = 1) |
| **Conical earplug (n = 1)** | Indeterminate | Grinding | N/A | N/A | Notching (shaping) | Faceted | Worn |
| **Pendants**  **(n = 2)** | Indeterminate | Grinding (n = 1)  Polishing (n = 1) | Absent (n = 1)  Three connected cones, concentric scratches (n = 1) | N/A | Incision (n = 1)  Notching (n = 2)  Drilling (n = 1)  Nacre inlay (n = 1) | Very coarse, not completely ground (n = 1) | Worn (n = 1)  Half product (n = 1) |
| **Shell** | | | | | | | |
| **“Seed” beads**  **(n = 20)** | Indeterminate | Grinding (n = 8)  Grinding + polishing (n = 9)  Indeterminate (n = 3) | (Bi)conical with concentric scratches (n = 20) | N/A | N/A | Decentered perforation (n = 2) | Worn (n = 15)  Unused (n = 1)  Indeterminate (n = 4) |
| **Disc beads (n = 5)** | Indeterminate | Grinding (n = 4)  Polishing (n = 1) | (Bi)conical with concentric scratches (n = 5) | N/A | Incisions on the side (n = 1) | Faceting (n = 2) | Worn (n = 3)  Half product (n = 1)  Indeterminate (n = 1) |
| **Scaphopod beads (n = 10)** | Cut-and-break (n = 8) | Grinding (n = 2)  Grinding + scraping (n = 3)  Absent (n = 4)  Indeterminate (n = 1) | Natural, cylindrical (n = 10) | Abrasion + drilling (n = 1) | Incision (n = 1) | Tilted (n = 2) | Worn (n = 7)  Unused (n = 1)  Indeterminate (n = 2) |
| **Conus beads (n = 2)** | Cut-and-break? (n = 1) | Grinding (n = 2) | Conical indeterminate (n = 2) | N/A | N/A | Not perfect disc, no evidence of modification on the outer face (n = 2) | Worn? (n = 2) |
| **Frog-shaped (n = 7)** | Cut-and-break (n = 3) | Grinding (n = 4)  Polishing (n = 1)  Absent (n = 1)  Indeterminate (n = 1) | (Bi)conical with concentric scratches (n = 7) | N/A | Incision + notching (n = 7) | Roughly carved, misplaced cut marks (n = 2)  Misplaced perforation (n = 1) | Worn (n = 4)  Unused (n = 2)  Indeterminate (n = 1) |
| **Tinkler (n = 26)** | N/A | Grinding (n = 6) | Side:  Sawing (n = 18)  Conical 1 sided (n = 2)  Absent (n = 6) | Apex:  Percussion (n = 12)  Indeterminate (n = 14) | Incision (n = 4)  Drilling (n = 2) | Poor carving of a face (n = 1) | Worn (n = 7)  Half product (n = 6)  Unused (n = 5)  Indeterminate (n = 8) |
| **Automorphic (n = 7)** | N/A (n = 6)  Sawing (n = 1) | Grinding (n = 1)  Absent (n = 6) | Conical (n = 3)  Cylindrical (n = 1)  Percussion (n = 2) | N/A | N/A | N/A | Worn (n = 1)  Unused (n = 2)  Half product (n = 1)  Indeterminate (n = 3) |
| **Flat nacre pendants (n = 6)** | Cut-and-break (n = 3, likely used for all, but no evidence) | Grinding (n = 6) | (Bi)conical with concentric scratches (n = 6) | N/A | Notching (n = 2)  Drilling (n = 1) | Medium carved (n = 2)  Perforations misaligned (n = 1)  Potential abandoned and ground over perforation cone on the edge (n = 1) | Worn (n = 2)  Unused (n = 1)  Indeterminate (n = 3) |
| **Flat pendants/**  **inlays (n = 26)** | Cut-and-break (n = 10)  Flaking (n = 1, shaping) | Grinding (n = 17)  Grinding + scraping (n = 1)  Grinding + polishing (n = 4)  Absent (n = 1)  Indeterminate (n = 3) | (Bi)conical with concentric scratches (n = 13)  Cylindrical with concentric scratches (n = 3)  Absent (n = 10) | N/A | Incision (n = 8)  Notching (n = 6)  Excision (n = 1)  Drilling (n = 4)  Fretwork (n = 1)  Absent (n = 16) | Medium/roughly carved (n = 5)  Poorly aligned perforations (n = 3)  Misplaced cut marks (n = 1) | Worn (n = 16)  Unused (n = 2)  Half product (n = 2)  Indeterminate (n = 6) |
| **Three-dimensional pendants/**  **plugs (n = 9)** | Cut-and-break (n = 4) | Grinding (n = 4)  Grinding + scraping (n = 1)  Grinding + polishing (n = 1)  Indeterminate (n = 3) | Biconical with concentric scratches (n = 5)  Three connected cones, concentric scratches (n = 1)  Absent (n = 3) | N/A | Incision (n = 6)  Notching (n = 8)  Excision (n = 1)  Drilling (n = 3) | Medium carved (n = 6)  Slightly asymmetrical (n = 1) | Worn (n = 7)  Half product (n = 2) |
| **Bone** | | | | | | | |
| **Vertebrae beads (n = 5)** | N/A | N/A | Cylindrical (n = 3)  Indeterminate (n = 2) | N/A | N/A | N/A | Worn (n = 3)  Indeterminate (n = 2) |
| **Tubular bead (n = 1)** | Cut-and-break | Grinding | Natural | N/A | Three incisions | Irregular faces, tilted | Indeterminate |
| **Highly modified (n = 2)** | Indeterminate (n = 2) | Grinding (n = 2) | Conical with concentric scratches (n = 1)  Absent (n = 1) | N/A | N/A | N/A | Worn (n = 1)  Unused (n = 1) |
| **Teeth** |  |  |  |  |  |  |  |
| **Automorphic (n = 5)** | N/A | Grinding (n = 1) | (Bi)conical with concentric scratches (n = 5) | N/A | Notching (n = 1) | N/A | Worn (n = 4)  Indeterminate (n = 1) |
| **Ground in shape (n = 4)** | N/A (n = 1)  Indeterminate (n = 3) | Grinding (n = 2)  Indeterminate (n = 2) | (Bi)conical with concentric scratches (n = 4) | N/A | N/A | N/A | Worn (n = 3)  Indeterminate (n = 1) |
| **Coral** | | | | | | | |
| **Beads (n = 8)** | Cut-and-break (n = 8) | Grinding (n = 5)  Absent (n = 2)  Indet (n = 1) | (Bi)cylindrical (n = 6)  Percussion (n = 1)  Percussion + drilling (n = 1) | N/A | N/A | Coarse finish (n = 5) | Worn (n = 2)  Unused (n = 3)  Half product (n = 2)  Indeterminate (n = 1) |
| **Disc (n = 1)** | Indeterminate | Grinding | Absent | N/A | N/A | N/A | Worn (n = 1) |
| **Ceramic** | | | | | | | |
| **Plain beads (n = 3)** | Modeling (n = 3) | Polishing (n = 3) | Modeled around a stick (n = 3) | N/A | N/A | Poor shaping (n = 2) | Worn (n = 2)  Indeterminate (n = 1) |
| **Decorated bead (n = 1)** | Modeling  Application of a second layer of clay | Polishing | Perforation prior to firing and prior to the new layer of clay | N/A | Incision + punctuation | N/A | Worn |
| **(Fossilized) Wood** | | | | | | | |
| **Disc (n = 1)** | Indeterminate | Grinding + polishing | N/A | N/A | N/A | N/A | Worn |
| **Earplug (n = 1)** | Cut-and-break | Grinding + scraping + polishing | N/A | N/A | N/A | N/A | Worn |
| **Resin** | | | | | | | |
| **Earplug (n = 1)** | Indeterminate | Scraping + grinding | N/A | N/A | N/A | N/A | Worn |