ODP Quartz Grain Microfeatures Tally Sheet Names:

Sample #: \_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grain microfeature category: SIRD (**bold**) or IRD (*italic*) | Occurrences on Grains (x if present) | | | | | | | | | | |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | T |
| 1. Grain roundness |  |  |  |  |  |  |  |  |  |  |  |
| * Very angular |  |  |  |  |  |  |  |  |  |  |  |
| * *Angular* |  |  |  |  |  |  |  |  |  |  |  |
| * ***Subangular***ꝉ |  |  |  |  |  |  |  |  |  |  |  |
| * **Subrounded** |  |  |  |  |  |  |  |  |  |  |  |
| * **Rounded** |  |  |  |  |  |  |  |  |  |  |  |
| * Well rounded |  |  |  |  |  |  |  |  |  |  |  |
| 2. Grain form |  |  |  |  |  |  |  |  |  |  |  |
| * Equant |  |  |  |  |  |  |  |  |  |  |  |
| * Elongate |  |  |  |  |  |  |  |  |  |  |  |
| * **Irregular** |  |  |  |  |  |  |  |  |  |  |  |
| * Tabulate (flat) |  |  |  |  |  |  |  |  |  |  |  |
| 3. Grain relief |  |  |  |  |  |  |  |  |  |  |  |
| * High |  |  |  |  |  |  |  |  |  |  |  |
| * **Medium** |  |  |  |  |  |  |  |  |  |  |  |
| * *Low* |  |  |  |  |  |  |  |  |  |  |  |
| 4. Grain surface texture |  |  |  |  |  |  |  |  |  |  |  |
| * **Breakage blocks\*** |  |  |  |  |  |  |  |  |  |  |  |
| * *Conchoidal fracture\** |  |  |  |  |  |  |  |  |  |  |  |
| * *Straight step-like fractures* |  |  |  |  |  |  |  |  |  |  |  |
| * *Arc step-like fractures* |  |  |  |  |  |  |  |  |  |  |  |
| * ***Isolated cusps***ꝉ |  |  |  |  |  |  |  |  |  |  |  |
| * *Isolated fracture\** |  |  |  |  |  |  |  |  |  |  |  |
| * *Striations/gouges* |  |  |  |  |  |  |  |  |  |  |  |
| * **Microlayering\*** |  |  |  |  |  |  |  |  |  |  |  |
| * Silica dissolution |  |  |  |  |  |  |  |  |  |  |  |
| * Absent or rare (0–2%) |  |  |  |  |  |  |  |  |  |  |  |
| * **Present (2–25%)** |  |  |  |  |  |  |  |  |  |  |  |
| * **Common (25–75%)\*** |  |  |  |  |  |  |  |  |  |  |  |
| * Pervasive (>75%) |  |  |  |  |  |  |  |  |  |  |  |

\*greater importance of these variables in distinguishing SIRD and IRD. ꝉBold and italicized: characteristics of SIRD and IRD.

1. Using the data that you collected (above) to summarize your results using the histograms on the next pages. Use different colors for different microfeature categories (Ex. red for SIRD, blue for IRD and green for neither).

2. After you have completed the histograms, discuss what your results suggest as an environment of deposition for your sample. What type of environment is suggested for your sample?

3. Do your results suggest that the sand was deposited during a glacial period or during an interglacial (nonglacial) period?

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