**ANSWER KEY – DEOPSITIONAL ENVIRONMENTS**

**Part 3:**

For each depositional environment, predict what characteristics of the sediment deposited

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| --- | --- | --- | --- | --- |
| Depo. Environ. | Rock type(s) | Sorting and rounding | Sed. Structures | Fossils (body and/or trace) |
| River – channel | Conglomerate +/- sandstone | Moderately sorted  Well rounded | Cross-bedding, ripples, scour marks | Terrestrial and freshwater animals possible |
| River – Floodplain | Shale | Well sorted  (rounding is not usually specified for shale because particles are too small to see) | Mudcracks | Terrestrial plants and animals |
| Dune field | Sandstone | Well sorted  Well rounded | >1m thick crossbedding, dunes | Terrestrial animals |
| Playa Lake | Shale, evaporites | Shale = Well sorted  (rounding is not usually specified for shale because particles are too small to see) | Mudcracks (in shale) | Few fossils because not many species live in such an extreme environment. Terrestrial, if any. |
| Alluvial Fan | Conglomerate | Very poorly sorted  Moderately to well rounded | Thick beds (up to ~2 m). | Terrestrial animals possible |
| Glacial Terminus | Conglomerate and Breccia | Very poorly sorted  Angular to rounded | None (not even bedding) | None |
| Swamp | Coal | n/a | n/a | Plants |
| Delta | Sandstone nearer to shore, transitions to siltstone and shale farther from shore | Well sorted  Well rounded | Cross-cross beds, ripples, scour marks (in channels) | Terrestrial plants and animals, freshwater, brackish, and shallow-water marine animals |
| Beach | Sandstone | Well sorted  Well rounded | Cross-beds, ripples, dunes | shells |
| Tidal Flat | Shale and siltstone | Well sorted  Well rounded | Symmetrical ripples, mudcracks | Shells and other terrestrial and shallow-water marine critters |
| Continental shelf/platform | Sandstone (limestone possible in warm water environments) | Well sorted  Well rounded | Ripples | Shallow water marine species |
| Reef | Limestone | n/a | n/a | Coral |
| Deep Ocean | Chert, limestone, chalk or shale | If shale = well sorted | Thin beds | Microscopic plankton, deepwater marine species |