***Important information to accompany* *the movie***

***Formation, Transport, Deposition and Dispersal of the <br>Poway Conglomerate, Jurassic to Present***

This movie illustrates an explanation for the far-flung distribution of the Poway clasts in northern Mexico and in southern California. The clasts are rounded, maroon-colored volcanic stones with distinct white phenocrysts, erupted in the Jurassic, 150 million years ago. The source rocks are found in eroded volcanic rocks in northern Sonora, Mexico, while the stones are found in conglomerates in an Eocene river fill near Poway, CA, in delta sediments in the beach cliffs at La Jolla, CA, and in beds on the northern Channel Islands. The movie shows (1) their eruption from an arc volcano over a Jurassic subduction zone, (2) their rounding and transport to the coast in the Eocene Ballenas River and deposition in the river bed and in a delta, and (3) the late Cenozoic tectonic disruption of the depositional pattern during the development of the San Andreas plate boundary and the rotation of the Transverse Ranges block. Download package includes the animation and photographs of the Poway conglomerate and its clasts on Santa Cruz Island and on the beach at La Jolla, CA.

The animation clips were created by Tanya Atwater using Photoshop and Morph. Photographs of the Poway stones at La Jolla are by Atwater. Photos of Poway conglomerate on Santa Cruz Island are by Ken Owen. For a clear description of the Poway conglomerate story and a guide to its outcrops around San Diego, see the book: *The Rise and Fall of San Diego: 150 Million Years of History Recorded in Sedimentary Rocks*, 1999, by Patrick L. Abbott.

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The animation clips and materials on this site are free works. You may download, copy, distribute, and modify them as suits your purposes. Acknowledgement of authorship and reference to this website is appreciated. Note that many were constructed in the early 2000s when computer files were much more restricted in size and delivery rate. Hopefully some are still useful.

Complaints, corrections, comments and, especially, suggestions for how to make these materials more useful are always welcomed: [atwater@geol.ucsb.edu](mailto:atwater@geol.ucsb.edu)