**Muriwai Coastal Geographic Environment Fieldtrip 18 August 2014**

1. **Transects observations – the beach is shallow at an angle of 1 to 2 degrees while the dunes are much steeper at between 21 and 47 degrees. They are cliffed and fixed by a mixture of marram grasses, spinifex and coprosma.**
2. **We took photographs of our quadrats to show the direction of movement of longshore drift. After two wave periods over 1:30 minutes the stones set in the sand were moved beachward by the swash and laterally in a northward direction. After a couple more waves the stones had been moved seaward but still moved in a northward direction. This shows longshore drift moves in a saw tooth motion.**
3. **Our observations of the headland showed the particular elements of the rock type to be Manukau Breccia which is igneous rock from volcanic eruptions mixed with sedimentary limestone.**
4. **Wave refraction around the headland helped form the cave, shore platform and blowhole. At the beach we observed large destructive waves operating with sediment in the water turning it brown. In an attempt to measure longshore drift at the southern end of the beach we threw grapefruit into the water and timed how long and in what direction it moved. This experiment was repeated at the northern extremity of our study area. We found that at the south after 2 minutes the grapefruit came back to the shore and the experiment failed due to wave refraction.**

**These results help us understand how processes work at MCGE by observation of longshore drift, observing the geomorphology (shape) of the Muriwai coast, the shape of the beach and dunes.**