Student Name: **Campus:** **Course:**

BLACK'S BEACH FIELD TRIP #2 WORKSHEET

Observations and Analyses of Coastal Wave and Currents

Field stop #1 - From the Bluff Top Overlooking Black's Beach

1. Observe and Record the Coastal Weather Conditions for Today:

Time Air temp Wind (speed & direction) Humidity Clouds Sea temp

2. Observe and Record the Local Swell Conditions for Today:

Swell #1: Swell height Swell direction Swell period

Swell #2: Swell height Swell direction Swell period

a) If there are two or more swell running, how can you tell by the wave patterns?

b) Does the CDIP Wave Model match the locally observed swell conditions? _____

3. Observations of the Surf Zone:

a) Compare the swell height (offshore) to the surf height (when wave starts to break)

b) Why is the surf height roughly twice as much as the swell height?

4. Observe and Record the Tide Conditions for Today:

	Time	Tidal height
First High Tide:	_____	_____ feet
First Low Tide:	_____	_____ feet
Second High Tide:	_____	_____ feet
Second Low Tide:	_____	_____ feet

a) Is the present tide conditions a slack, ebb, or flow tide? _____

b) Are we in a neap tide or spring tide part of monthly tidal cycle? _____

c) Do we have a Diurnal, Semidiurnal, or Mixed tide pattern in San Diego? _____

5. Observe and Record the Longshore Current Conditions for Today:

a) Do you observe a longshore current? _____ If yes then record the direction and speed:

Direction: _____ Relative Speed: _____

b) What causes a longshore current to develop inside the surf zone?

c) What is the prominent direction of the longshore current in Southern California? Why?

d) What is the longshore *drift*? What causes it? Where does it ultimately end up?

6. Observe and Record the Rip Current Conditions for Today:

a) Do you observe a rip current? If yes, then record the number, spacing and intensity:

Number: _____ Spacing: _____ Intensity: _____

b) What is the prominent direction of the rip current through the surf zone? _____

c) What causes a rip current to develop inside the surf zone?

d) What are the tell-tale signs for spotting a rip current?

e) What do you do if you are caught in a rip current and need to escape it?

Field stops #2 – On the Sand at Black's Beach (Hike down to beach)

7. Observation and Measurement of the Surf Height

a) Use a surfer to measure the surf wave height: _____

b) Compare your results above with those of your bluff-top observations: Similar? Different?

8. Observations and Direct Measurement of the Longshore Current:

a) Use a Frisbee, measuring tape, and watch to measure and calculate the longshore current direction and speed: *Speed = Distance/Time*

Direction: _____ Measured Distance: _____ Time: _____

Calculated speed: _____ ÷ _____ = _____

b) Compare your results above with those of your bluff-top observations: Similar? Different?

9. Shoreline Observations of Rip Currents

a) Do you observe any rip currents from the beach: _____

b) Compare your results above with those of your bluff-top observations: Similar? Different?

10) POST TRIP REFLECTION:

a) What did you learn on this trip? _____

_____

_____

b) What did you find most interesting, enjoyable and/or important? _____

_____

_____

c) What did you find most difficult or challenging? _____

_____

_____