

Activity Name: **PS-AAPG Field Trip #2: San
Clemente / Dana Point**

Dates: **3 April 2019**

To: Activity Participant

Congratulations on your opportunity to participate in this field activity! This letter outlines the technical objectives, logistics, field activities and associated health and safety issues and serves to inform you of potential hazards that need to be considered for your participation. It is important for you to evaluate these risks with regard to your own personal health and safety, request reasonable modifications (“accommodations”) to course delivery, and modify your participation or attendance accordingly. Ultimately, you are personally responsible for your safe and successful participation—your attitude and awareness is key!

ACTIVITY OVERVIEW:

We will visit the cliffs of San Clemente and Dana Point. We will make a one mile walk along the grass at the base of the cliffs at Dana Point and walk a mile along the talus and sand at the foot of the San Clemente cliffs. We will be in close proximity to the railroad tracks and all participants will need to be aware of the trains.

TECHNICAL OBJECTIVES:

- Have a basic understanding of the depositional systems in Capistrano Formation, and their relationship to the margin of the Capistrano embayment.
- Have a general understanding of the tectonic framework of the mini-basins of the Southern California Borderland.
- Have a basic understanding of the infill history of two deep water channels.
- Have a general understanding of the provenance of infill sediments in the channels.
- Understand how the depositional systems and sedimentary structures observed in the Capistrano can create high- or low-quality oil reservoirs.

ACTIVITIES:

- Lectures & Discussions will be presented at numerous places along the way
- Field Exercises:
 - Safety briefings including instructions about the passing train
 - Transportation to the sites is by bus
 - The ground will be uneven so caution must be exercised while walking
 - First Aid Skills

FIELD AREAS:

- **Terrain:**
 1. **Heights or Drop offs:** The cliffs are up to 50 feet high. Falling stones could occur. Some may choose to scurry up some surfaces. Care should be taken to be safe.
 2. **Exertion Level:** The walks will total over 2 miles but the group will move slowly so the exertion level should be low
- **Environment:**
 1. **Temperature:** (*typical and extreme range*) typically ranges from 60 to 80°F, and can be as cold as 40°F and hot as 95°F
 2. **Humidity:** (*typical range*) typically ranges from 50 to 80%
 3. **Wind:** (*typical range*) 5 to 20 mph

4. **Precipitation:** commonly dry with potential for morning fog. Activities will proceed in light rain, but will be adjourned if electrical storms arise.
 5. **Vegetation:** *Sparce vegetation*
- **Hazards, Prevention & Mitigation Measures:**

The following are the key hazards that might be encountered during this field activity, along with measures to prevent and mitigate injuries. We strongly urge you to follow these measures and others that are suggested during the field activity. Anyone acting in an unsafe manner will be counseled and if unsafe behavior continues, will be dismissed from the activity.

 1. **Ground Transportation** → collision → traumatic injury:
 - Professional driver in chartered bus
 - Wear seat belts at all times when vehicle is in motion
 - Do not distract the driver
 - Provide real-time feedback on driver's condition and behavior and vehicle condition
 2. **Roadside Activity** → collision → traumatic injury:
 - Wear high-visibility vest when working roadside (and head protection, as needed)
 - Stay off pavement/roadway
 - Be aware of traffic and fellow participants
 3. **Uneven/slippery terrain** → slip and fall → traumatic injury:
 - Wear appropriate footwear and clothing (long trousers, gaiters, etc.)
 - Pay attention to pathway for loose or slippery surfaces
 - No running, jumping over gullies, climbing above other participants
 4. **Hazardous Weather** (heat, sun, cold, precipitation, lightning) → exposure → injury:
 - Drink sufficient water and liquids
 - Take appropriate measures for weather (pace yourself, wear hat and appropriate clothing)
 - Follow lightning avoidance protocol (Hear it— Clear it, See it—Flee it; 30-30 rule, etc.)
 5. **Long hikes with significant elevation change** → overexertion → injury/illness:
 - Self assess your level of fitness relative to described exertion level of activity and modify your participation as appropriate
 - Pace yourself. If you become excessively fatigued or experience significant pain, STOP and notify trip leader.
 - Wear appropriate footwear and use hiking staff/trekking pole.
 6. **Insect Bites and Stings** → acute allergic reaction, disease, infection of open wound:
 - Cover exposed skin by wearing long sleeved shirt, long trousers, and hat of light, neutral color. Wear insect repellent.
 - Avoid flowers, ripe fruit on trees, nest areas. Move slowly and deliberately away from stinging insects.
 - Treat bites and stings: remove insect, clean and cover open wound (do not scratch), watch for reaction.
 - Notify activity leader if you are acutely allergic and if you have medications (EpiPen, etc.). Discuss what you want the leader to do in case of sting.
 7. **Illness** → exacerbation of existing condition/new illness → acute episode:
 - Read description of exertion level planned, consult your health-care provider if you have concerns, and decide upon appropriate level of participation.
 - Carry sufficient medications as needed. Discuss your condition with activity leader and how you want her/him to help you in case of emergency.
 - Prevent food-borne illness by washing your hands often and handle food properly.
 8. **Earthquake Immediately move away from the cliffs**

LOGISTICS

- **Starting Point:** 3 April, 2019. Walter Pyramid at California State University Long Beach at 8 AM
- **Transportation:** Chartered Bus
- **Ending Point:** 3 April, 2019. Pyramid at 4-5:00pm
- **Personal Equipment:**
 - **Required:**

- Hiking boots, sturdy, (over the ankle, high-traction soles (Vibram or equivalent))**
- Backpack**
- Sun glasses**
- **Recommended:**
 - Long trousers
 - Long-sleeve shirt or light coat
 - Wide-brimmed hat
 - Sun protection cream/spray
 - Gloves
 - Seasonal clothing (hat, gloves, jacket, etc.)
 - Rain gear

The OTHER 10 Essentials for Outdoor Survival—How to Stay Alive and Safe

Bohacs, K.M., 2008

We are all familiar with the classic 10 Essentials for survival taught by scouts and outdoor groups: pocketknife, first-aid kit, extra clothing, rain gear, water bottle, flashlight, trail food, matches and fire starters, sun protection, and map and compass. Just as important are key attitudes and behaviors to go along with this gear. These address all the main causes and death, injury, and illness identified by decades of global experience and accident statistics*. Making these essential behaviors part of your outdoor kit will go a long way towards getting you home—healthy and in one piece.

1. **Don't get killed**—it could ruin your whole day, along with everyone else's...
2. **Buckle up**—increase your odds of surviving a wreck... The most dangerous portion of any expedition is on the road—tens of thousands die every year in vehicle accidents.
3. **Slow down**—on the road, on the trail, in the heat, in the bar... give yourself additional time to recognize and respond to hazards.
4. **Drink up**—hydrate or die...
5. **Watch your step**—loose rocks, steep trails, ...
6. **Watch your back**—for traffic, fauna & flora, companions, bad guys...
7. **Wash/Watch your hands**—avoid illness, food-related issues, as well as where you put them...
8. **Keep an eye to the sky**—lightning, flash floods, wind, heat/cold
9. **Wear the right stuff**—PPE, footwear, bug juice, hat, sunscreen—live longer...
10. **Take care of your feet**—and they'll take care of you!

* Royal Geographical Society, American Alpine Club, U.S. National Weather Service, ExxonMobil Field Safety program, U.S. National Safety Council.