

***GO THERE—LAKES OF THE EASTERN SIERRA  
NEVADA, CALEEFOYNA***

4a. Visit Lee Vining, CA using either *FLY TO* or the *NAVIGATION TOOLS*. Is the position of the *SITE LOCATOR ICON* correct, based on what you know about towns? Explain your answer.

What is the name of the lake near Lee Vining?

What is the elevation of the lake?

How would the clothing choice of Lee Vining locals differ from those of Las Vegas, NV for Labor Day Weekend?

***ZOOM OUT*** to about 16-18 miles and center the lake in your view. ***TURN ON*** the earthquake layer. Near which highway junction is the cluster of quakes you see just NW of the lake centered?.

4b. Using the **MEASURE** tool, draw a 3.5 mile SW trending line from that highway junction to the center of a brownish black prominent feature along the lakes NW shore (NW of Negit Island). Describe the vegetation of that feature.

Make sure that the terrain feature is turned on. **TILT** the view completely to view a profile of the feature. Print a copy of this feature. Describe its profile in the box below.

What do the shape and lack of vegetation imply about the age and/or origin of the feature?

What can you infer about the origin of this lake near Lee Vining, based on its shape?

Compare and contrast the shape of the feature with the shape of the lake

A series of smaller, circular features become visible about a mile south of the lake shore. Are they more like dried up lakes similar to this one, or to the feature on the NW shore of the lake?

Do the circular shapes of the geographic features in this area near Lee Vining indicate a common origin?

What does this imply about the nature of the cluster of earthquakes North of Lee Vining?

Describe how the two knobs of land on the southwest shore of the lake differ from the knob on the NW side.

The knobs on the SW shore are deltas, formed from insoluble sediment influx transported by fluvial (i.e. river and creek) systems into a valley or depression. Notice the green vegetation along the creeks. The SW most knob is formed by \_\_\_xxx\_\_\_ creek, which drains Tioga Pass, the eastern entrance to Yosemite National Park.

These two deltas are the source of most of the water in the lake. The LA Metro Water District has diverted some of the creek water into the California Aquaduct for almost a hundred years, but today, the lake level is fairly stable. Where is the river that drains the lake?

Except for the Aquaduct, how do you suppose the majority of water in the lake leaves?

How do you think the concentric lines NE of the Lake formed?
The water of Lee Vining Creek flows across the rocks of the Sierra Nevada to the west (just east of Yosemite National Park). The rocks in this part of the Sierra are granite, and composed of mainly feldspar (90% of the rock, including: potassium feldspar (potassium aluminosilicate) and plagioclase feldspar (sodium aluminosilicates)), less than 10% quartz (silicon dioxide), and a little biotite (iron phyllosilicate). The water dissolves and picks up small amounts the chemical compounds that make up these rocks. If you were to boil the lake water to remove germs, what would it taste like? (Don't say yucky!!) (NOTE: Hard water is rich in dissolved calcium, soft water is rich in dissolved sodium)
The shores of the lake are not richly vegetated—there are no trees, etc. Why do you think plants do not like to grow near the lake?
4c. Using the controls, <b>GO</b> South of Lee Vining <b>TO</b> Lake Crowley, which is about 11 miles southwest of Mammoth Lakes, CA. View the area at a height of between 22 and 25 miles. <u>Print this view</u> . In the box below, describe how many earthquake epicenters there are NW of Lake Crowley compared to the number of epicenters located near the lake near Lee Vining.
What does this imply about the area around Lake Crowley, based on your observations of the Lee Vining area?

NAME: \_\_\_\_\_

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Does Lake Crowley have a different origin than the lake near Lee Vining, and how do you think Lake Crowley formed?

List two major differences to support your reasoning.

a. \_\_\_\_\_

b. \_\_\_\_\_

NAME: \_\_\_\_\_

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ATTACH PRINT VIEW HERE