

**GEG 1301**  
**LABORATORY 1: TOPOGRAPHIC MAPS AND AERIAL PHOTOGRAPHS**

**Due date: October 2nd, 2013**

Name:

Student Number:

**Total marks available: 100**

**Section 1. [15 marks]**

Use the hypothetical landscape and topographic map in figure 1 to answer the following questions.

1. What is the contour interval? [5 marks]

How can you tell?

2. In terms of local relief (the difference between the highest and the lowest elevation): [2 marks]

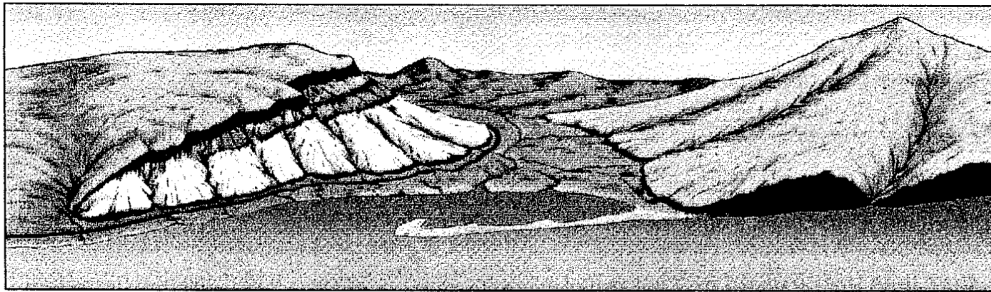
What is the relief on the west (left) side of the highway?

What is the relief on the east (right) side of the highway?

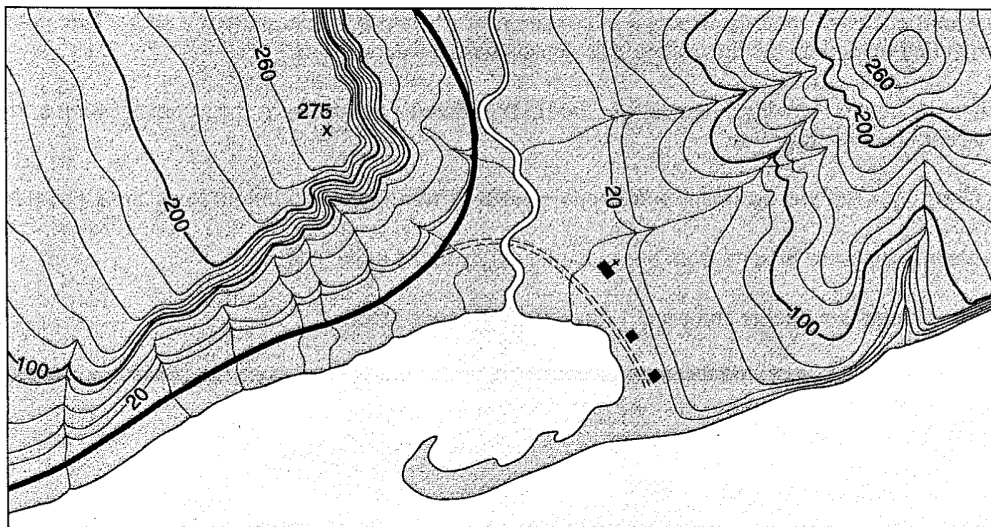
3. What is the highest point on the map and what is its elevation? [3 marks]

4. On Figure 1A and 1B, draw in streams using arrows to show the direction of stream flow. Note there is a main stream in the valley and at least four tributary streams. How do the contour lines indicate the direction of flow? [5 marks]

The topographic map in Figure 1 shows a hypothetical landscape that demonstrates how contour lines and intervals depict slope and relief. Slope is indicated by the pattern of lines and the space between them. The steeper a slope or cliff, the closer together the contour lines appear in Figure 1b; note the narrowly spaced contours representing the cliff. A more gradual slope is portrayed by a wider spacing of these contour lines, as you can see from the widely spaced lines on the beach.



(a)

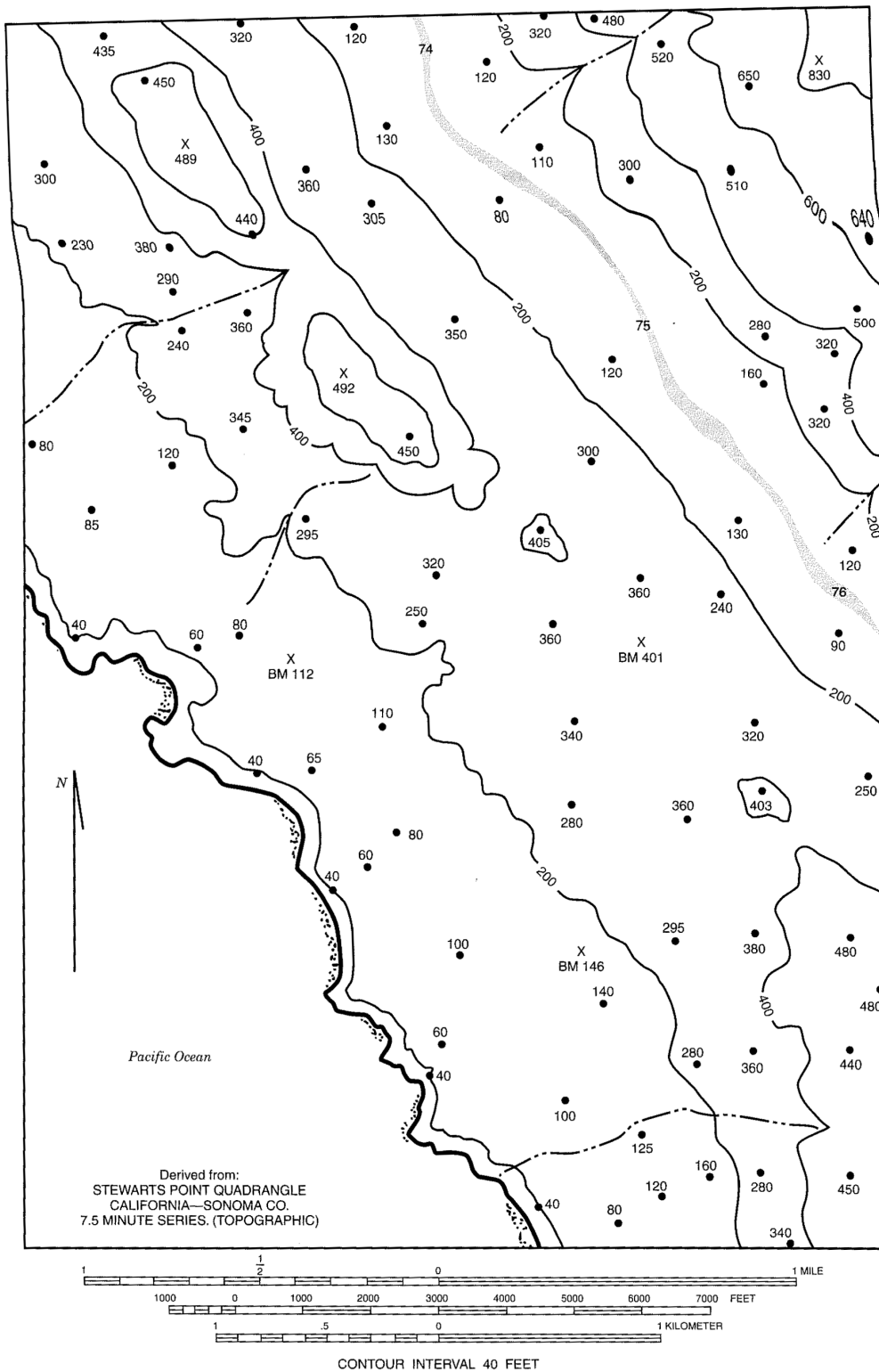


(b)

**Figure 1**

Perspective view of a hypothetical landscape (a); topographic map of that landscape (b). (After the U.S. Geological Survey.)





**Figure 2**

A portion of the Stewarts Point quadrangle, enlarged and adapted with 200-, 400-, and 600-foot index contours highlighted.



**Section 4: Constructing topographic profile. [25 marks]**

1. Using the topographic map 31G/5, construct a topographic profile from La Seigneurie in Aylmer to Kingsmere in the Gatineau Park. [8 marks]
2. What distance does the profile cover? [5 marks]
3. What is the maximum relief along this profile? [2 marks]
4. What is the vertical exaggeration of your profile? Show your calculation [2 marks]
5. What feature have you constructed? [3 marks]

**Section 5: Introduction to air photograph interpretation. [10 marks]**

Using the air photographs (flight line 31408; photo numbers 34-36) on reserve at the GSG, the topographic map 31G/05 and the stereoscope, answer the following questions.

1. What is the position of the Sun in the sky (i.e., North, East, South, West)? [5 marks]
2. At what time of day was the photograph taken? [5 marks]