

The Gold Rush, CPR, and Cedar: Applied Archaeology in the Fraser Canyon

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Kwantlen Polytechnic University (Kwantlen) completed its first archaeology field school at Boston Bar in the summer of 2009 (Figure 1). Kwantlen's field school focused on applied archaeology, and consisted of a 10-week long semester including 5 weeks in the field and 5 weeks of training and lab analysis at Kwantlen's Cloverdale campus. For the fieldwork, two weeks were spent working with culturally modified trees (CMTs) in the South Ainslie drainage at DIRi-66, and three weeks were spent excavating Fraser River village sites DIRi-6 (Kopchitchin) and DIRi-9 (Kalulaa'7Ex). All of the post-field analysis, including tree ring dating, mapping, drafting, artifact cataloguing, and site forms, were completed by Kwantlen students under the supervision of instructors Brian Pegg and Manda Palmer.

Above Left: Spencer Jamieson records a CMT at DIRi 66. Kwantlen students' safety and technical equipment was the same common to CRM work in rough BC environments, including survey vests, hard hats, GPS, and waterproof field books.

BACKGROUND

The goals of the field school were to provide baseline data on archaeological sites DIRi-6, -9, and -66 to the Boston Bar and Boothroyd First Nations, to conduct research primarily relating to the contact period of Fraser Canyon history during the 1800s, and to develop applied skills in demand in BC archaeology. Students began their training with GPS and mapping applications, certification in Level I First Aid, a lithics workshop, BC culture history, and health and safety planning. Work was conducted under Heritage Conservation Act Permit 2009-040.

CMT site DIRi-66 is located within the watershed of South Ainslie Creek (Figure 1). Approximately 300 CMTs had been

Figure 1 (above right). Location of the study areas in the South Ainslie watershed, at Kopchitchin, and at Kalulaa'7Ex.

previously recorded at this site during impact assessments for proposed forestry operations; however no intensive research or tree ring dating had been conducted at this site (Lamb, Seip and Pegg 2005). Proposed forestry operations at DIRi-66 had been cancelled after the large number of CMTs present at the site became apparent.

The village of Kopchitchin (DIRi-6) is situated on a glacio-fluvial terrace on the west side of the Fraser River at North Bend. No archaeological work had ever taken place within the portion of Kopchitchin investigated by the field school, although previous excavations had been conducted at an adjacent portion of this site by Arcas Associates Ltd. (1985) in 1984. Arcas Associates Ltd. (1985) had demonstrated that DIRi-6 had been occupied for approximately 6,000 years. Kwantlen, however, would focus on unrecorded cultural depressions identified by the Boston Bar First Nation; preliminary survey in 2008 indicated several of these cultural depressions were house pits abandoned in the mid to late 1800s. Kopchitchin would be the primary focus of Kwantlen's excavation work.

The village of Kalulaa'7Ex is on the east side of the Fraser within the existing community of Tuckkwiowhum. Previous inventory work at this site (Brolly and Howe 1986) documented the presence of 30 cultural depressions at this site, many of which were large enough to have been house pits. Construction of the existing homes and roads at Tuckkwiowhum has largely erased the cultural depressions; however, extensive subsurface deposits are still likely present at this site (Pegg 2003).

METHODS

Survey of the South Ainslie site (DIRi-66) was conducted using 100 x 100 m grid squares for standard traverse survey. Each crew of four students was responsible for a complete survey of their assigned 1 ha grid squares, using Garmin GPSMap 60Cx units to define the grid square boundaries based on UTM coordinates. CMTs were recorded as per the standards set by the CMT Handbook (Archaeology Branch 2001). Identified CMTs were given a unique plastic number tag affixed to the base of the tree with an

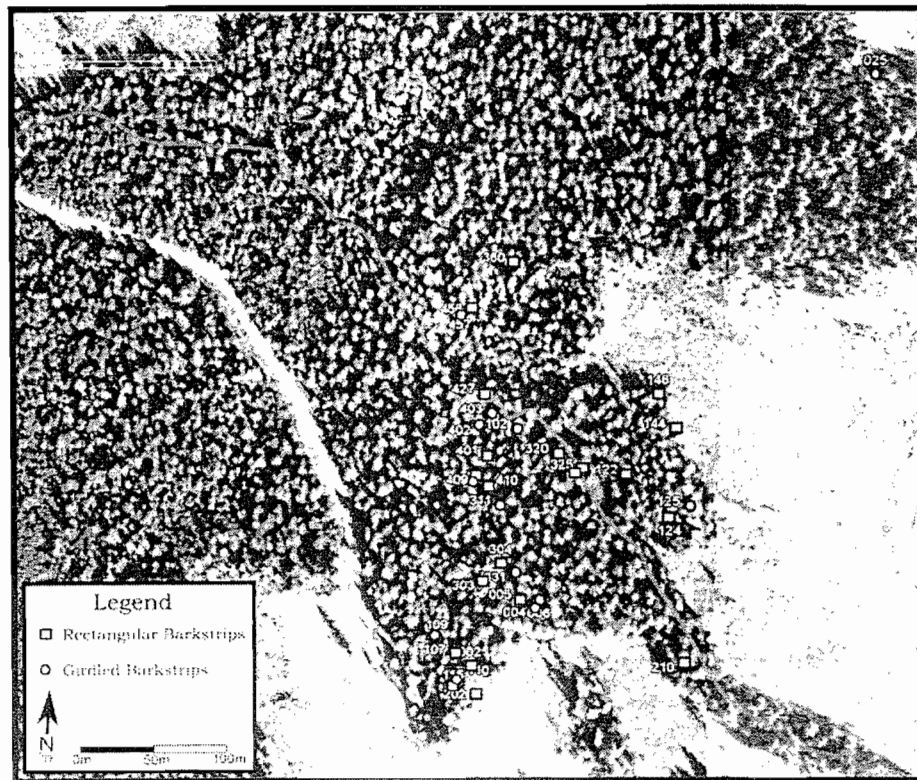


Figure 2. Location of rectangular and girdled barkstrips at the South Ainslie study area.

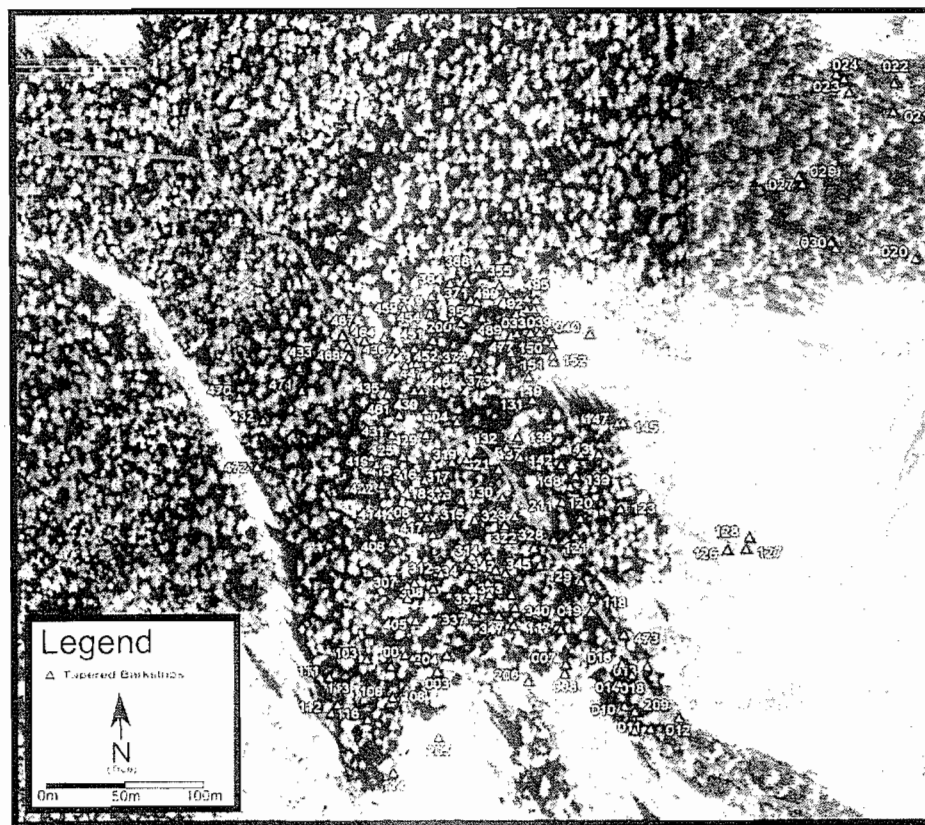


Figure 3. Location of tapered barkstrips at the South Ainslie study area.

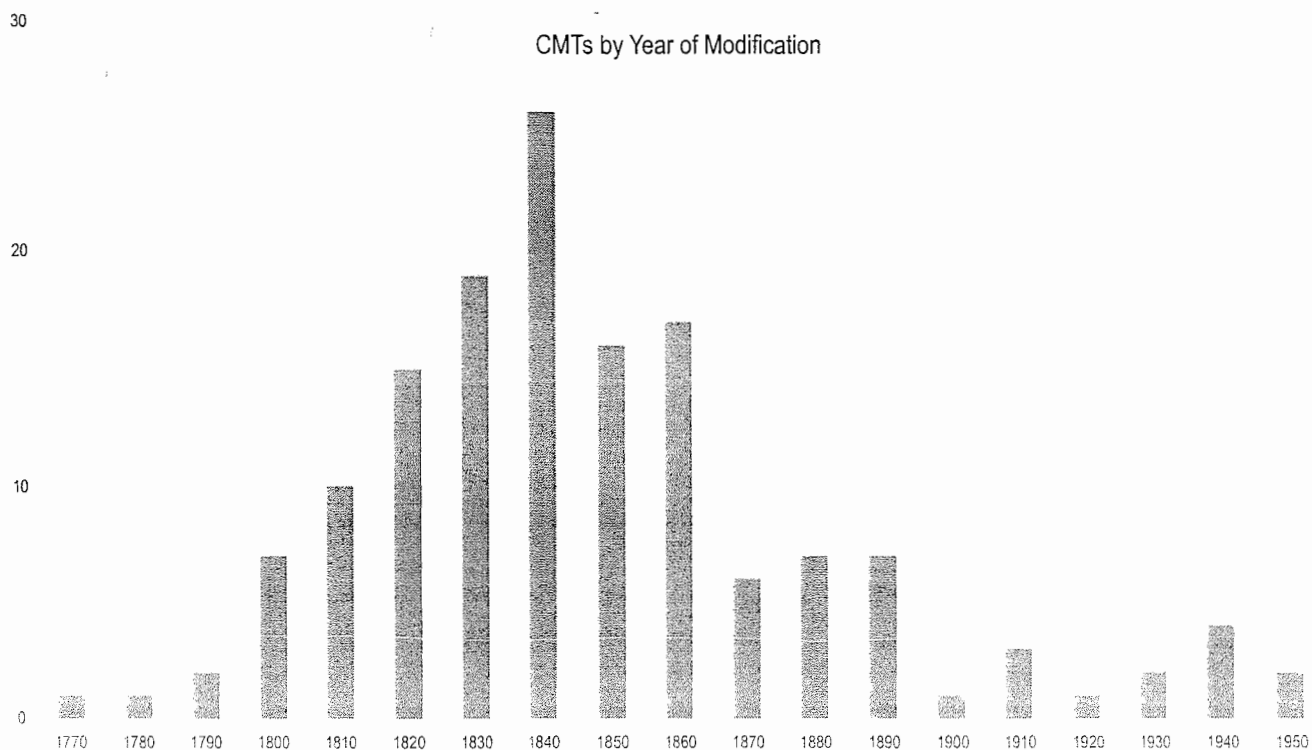


Figure 4. Cedar harvest dates by decade for the South Ainslie study area.

aluminum nail, waypointed using GPS, and tree ring samples were collected using a forestry increment borer to date the bark removal scars. This method was very effective as it avoided the common problem of gaps in survey coverage in forested areas.

At Kopchitchin (DIRI-6), systematic subsurface testing was used to define site boundaries and to identify locations for 1-meter excavation units. Surveying of cultural depressions and the establishment of a datum point allowed for the placement of trench excavations based upon the subsurface finds within two large cultural depressions. One of these depressions appeared to be the remains of a rectangular mat lodge, while the other was a more common circular house depression. All observable features and stratigraphic units identified during the excavation process were measured and photographed in situ. Surface finds were also collected and GPS waypointed.

In the lab, tree ring dating was accomplished using Dino-Lite digital microscopes, according to methodology outlined by Barret and Arno (1988). Because CMTs can be accurately dated with a minimum of equipment and training, and because they are directly the result of aboriginal use of cedar resources, they are a very effective proxy to determine intensity of use of particular forested landscape units (Pegg 2000).

Detailed large-scale maps of the study areas were created using field GPS data, student-drawn site plan maps, and high resolution satellite imagery. GPS data were prepared using Google Earth, while drafting was done with free software called Inkscape. Artifact analysis and dating was accomplished via methods outlined by Sutton and Arkush (2006), Burke, Smith, and Zimmerman (2008), Jones (1985), and the Bureau of Land

Management and the Society for Historical Archaeology (<http://www.sha.org/bottle/>). During Fall 2009, all artifacts from sites DIRI-6 and -9 were returned to the Boston Bar First Nation.

RESULTS

At the South Ainslie site (DIRI-66), a total of 285 western redcedar CMTs were recorded (Figures 2 and 3). With the exception of one axe-cut tree, all were bark-stripped CMTs of the tapered and rectangular variety. One hundred and forty seven of the bark-removal scars on the CMTs were successfully tree-ring dated: cedar harvest at DIRI-66 dated to between AD 1768 and 1952, with a mean date for cedar harvest of AD 1847 (Figure 4).

At the Kopchitchin village (DIRI-6), two significant structures were excavated: Cultural Depression A (CD A) and Cultural Depression C (CD C). CD A is the remains of a circular pithouse with a rim diameter of 12.5 m. Five 1-m² units were excavated within CD A (Figure 5). Diagnostic precontact artifacts from CD A included three Plateau and two Kamloops Horizon projectile points, indicating first occupation of this structure during the Plateau Horizon (450 BC to AD 750). The date for abandonment of CD A was determined based on dateable postcontact artifacts, including bottle glass, buttons, cans, nails, and a sketch map in a placer mining lease application from 1892 which showed abandoned structures at the Kopchitchin village. Postcontact artifacts and the lease application documents indicated that CD A had been abandoned sometime between AD 1840 and 1880. Because the last occupation of CD A occurred during the 1800s, preserved

roof timbers and bark roofing material from its last occupation was also identified within the excavations. These wooden materials showed extensive charring. No evidence of burning was evident in the shovel tests from outside the excavated structures at Kopchitchin.

CD C is the remains of a rectangular mat lodge with a length of 4.5 m and width of 2.8 m. Three 1 m² units were excavated within this structure (Figure 6). While precontact lithic artifacts were identified within this structure, they occurred in no greater frequency than outside of the structure. The great majority of artifacts within CD C were from the postcontact period. Significant to the dating of this structure was the presence of large amounts of coal clinker surrounding the central hearth, which would have been introduced to the site by coal obtained from the CPR. The date for abandonment of CD C was determined based upon postcontact artifacts, the lease application sketch map, and the presence of the clinker. This structure was abandoned in the mid-1880s, likely around the time of CPR completion in 1885 (LaForet and Yorke 1998). Wooden roofing and frame materials from CD C were also observed to have been burned.

At Kalulaa'7Ex (DIRi-9), a single 1 m² unit was excavated. Within this unit, stratigraphy suggestive of floor surfaces and a hearth were identified, indicating that although no surface expression of a structure presently exists at this location, it was the site of a pithouse in the past. Diagnostic artifacts included two Plateau Horizon projectile points, again demonstrating initial occupation possibly as long ago as 450 BC. Excavations halted at 90 cm below surface due to the completion of the field cycle, even though cultural materials were present below that depth.

DISCUSSION

The 2009 Kwantlen field school provided detailed baseline data to the Boston Bar and Boothroyd communities regarding sites DIRi-6, 9, and 66, and further directions for study at these sites will be developed with those communities.

CMT data from the South Ainslie shows possible correlations with historic events in the Fraser Canyon. Cedar harvest dates show a primarily "normal" distribution clustered around a mean in the 1840s, with the exception of elevated bark harvest frequencies during the 1860s, 1880s, and 1890s (Figure 4). During the

1860s, construction of the Cariboo Wagon Road occurred within the Fraser Canyon, with associated increased wage labour and commerce within aboriginal communities in this area (LaForet and York, 1998). It is possible that Nlaka'pamux people of the Canyon were providing cedar bark to builders or users of the wagon road in the form of mats, baskets, or raw cedar for roofing material. The 1880s and 90s are the decades of first construction and activity of the CPR, which also was important for wage labour and commerce in the Canyon (LaForet and York, 1998). Again, cedar resources may have been an important commodity to builders and users of the CPR, especially in the form of roofing material for construction camps.

While the village at Kopchitchin has been occupied for likely over 2,000 years, its last inhabitants left that site in the 1880s to move to the current site of the Kopchitchin community on the west side of the CPR tracks, approximately 400 m west of DIRi-6. Land lease documents and clinker from coal burning in CD C indicate that the area was finally abandoned shortly after the construction of the CPR. The rationale behind this abandonment is unknown; however, the presence of extensive charring

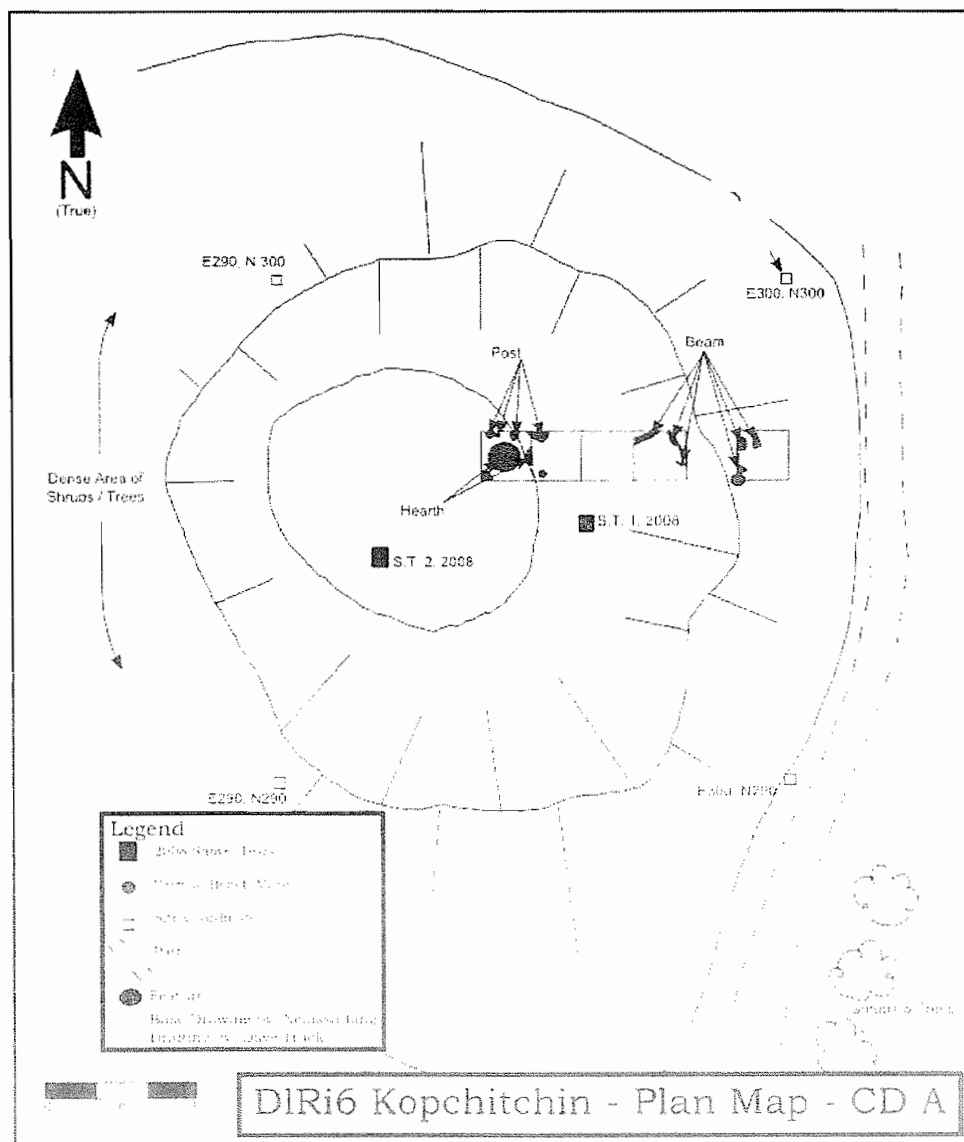
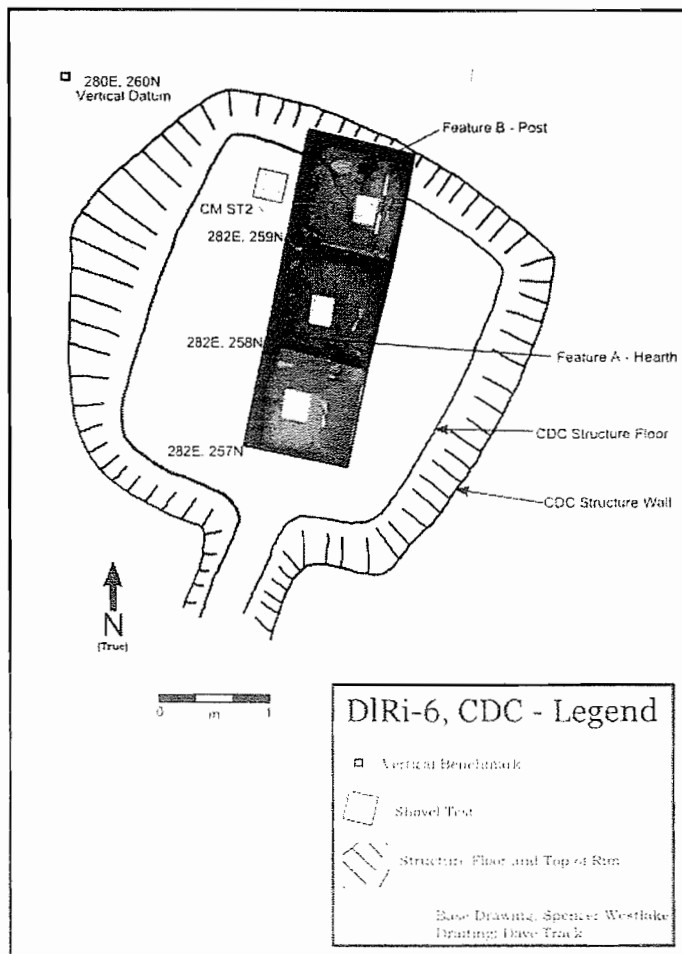


Figure 5. Plan map for CD A at Kopchitchin.



on the roofing and framing in both CD A and CD C argue this abandonment was probably not voluntary. The reserve at Kopchitchin was created in the 1880s (Arcas Associates Ltd. 1985), also a time of dislocation and enclosure for Nlaka'pamux people within the federal government's Indian Act system, which was enacted in 1876 (LaForet and York 1998).

In conclusion, Kwantlen's first field school has been a success, and Kwantlen has already been invited back to conduct further work with the Boston Bar First Nation. The baseline data required for all the sites has been successfully developed, leading to viable ideas regarding future study at the sites. Much potential exists in the area for creating connections between oral history, written history, and archaeology.

Brian Pegg, M.A., RPCA, completed a Master's degree at Simon Fraser University and currently teaches archaeology and anthropology at Kwantlen Polytechnic University, including teaching his first field school in 2009. Mr. Pegg has interests ranging from zooarchaeology to tree-ring dating to the role of archaeology in legal proceedings. He is looking forward to Kwantlen's next field school in Summer 2011.

James Greenhalgh is a current student at Kwantlen Polytechnic University and is working towards a Bachelors Degree with a double minor in anthropology and English. Mr. Greenhalgh was a student in the 2009 field school. This hands on experience has

prompted James to continue exploring the field of archaeology while he pursues his goal of becoming an elementary school teacher. In his free time, James is a member of the Richmond Nature Park Society Board of Directors.

Carla Mainwaring is a fourth-year student at Kwantlen Polytechnic University. She began taking anthropology courses her first year in university, and was immediately drawn in. Archaeology was a main point of interest, and attending the 2009 field school cemented this passion for the field. Carla plans to complete her BA at Kwantlen with a minor in anthropology, and upon graduation, enter the archaeology field. Carla is hoping to work in BC archaeology, and complete a Masters degree at some point in the future.

Megan Vanderwel is a third year student at Kwantlen Polytechnic University. She is interested in working as an archaeologist in both British Columbia and Canada. Megan hopes to eventually study abroad and travel to archaeological sites around the world.

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