



Dig In

Changing standards in archaeology

BY JOSHUA GLEW, MBA

For a quarter century, Western Heritage has worked to provide oil and gas customers with a high degree of certainty when performing archaeological investigations. They have achieved this through years of experience, and by always employing the best archaeological practices along with leading technologies and techniques to insure that the results of investigations are accurate. The purpose of a Heritage Resource Impact Assessment (HRIA) is to discover if heritage sites exist, and to identify the extent to which development will impact them.

Recently, regulators in Western Canada have noted a steep decline in discoveries of heritage sites; HRIAs are not leading to site discoveries as often as they used to. In some jurisdictions this decline is as much as 50 per cent. So why is this happening? Industry leaders and government regulators agree that it is likely in part to an influx of new archaeologists, who are inexperienced and who have been applying a lower standard in order to be price competitive. Many of the fundamental principals that are recognized as crucial

to site discovery, including shovel test placement and screening of shovel tests, were established in 1970s and 80s, and are being overlooked by less experienced firms. This is troublesome for the field of Canadian archaeology, for the protection of heritage sites, and especially for the developers and proponents, who are exposing themselves to unnecessary risk at no fault of their own.

2015 will be a year of changing standards and regulations across Canada. Provincial heritage regulators are working at setting a formal bar for standards - you can exceed the bar but you cannot go below the bar. Ontario and Manitoba are the leaders in Canada, having already established requirements for five metre grids for shovel testing. In most archaeological jurisdictions, screening of shovel tests is a requirement and in all jurisdictions it is the recommended best practice. Ontario is the leader here and has announced to the professional association that they are not renewing the licences of a number of archaeologists in the province, based on failures to meet

these standards. Alberta and Saskatchewan have changes on the horizon, and will most likely be in place within the year, potentially affecting current projects.

This is good news for the industry and customers. It aims to ensure that sites are not missed by inadequate testing, and that sites are properly characterized when they are discovered. This in turn will help to ensure that regulatory clearance is based on the best science available, and provides risk management to customers by ensuring that development will not be stopped or slowed by rework due to inadequate archaeological testing. Any delays can be very costly and time consuming, and can damage relationships with local communities.

Proper shovel testing depends on the location, frequency, and size of shovel tests. A single negative shovel test only indicates there is not an artifact in that tested location and does not demonstrate that a site is not present. Clearly, multiple tests on a structured grid have a much greater likelihood of identifying

a site. Screening these shovel tests is also very important. Without screening, only the largest of artifacts will be discovered, meaning many important sites will be missed. In fact, if you look up various definitions of shovel tests, screening is an integral part of the definition.

Western Heritage has consistently applied the highest standards to testing throughout their history. For example, Western Heritage uses around 20 screened shovel tests per well site. Based on the literature and past research, the confidence of finding a buried site with this type of testing is high - in the 75 per cent range. In comparison, when reviewing a competitor's tests, the standard was eight, but that included shovel tests on the access road and so the number of shovel tests was actually closer to four. None of the shovel tests were screened. Based on the literature and past research, the confidence of finding an archaeological site is quite low - in the five per cent range. Although the competitor was able to offer a 10 per cent lower price, West-

ern Heritage's work raised the confidence in the results by about 70 per cent. As the bar is raised across Western Canada, regulators are being to recognize that this the lower level of testing will not reliably detect archaeological sites. This is sure to lead to costly rework, time delays, and costs to proponents, and a reactionary raising of prices.

In addition to exceeding the standard best practices, Western Heritage has a long history of shaping the discipline by applying new technology and techniques to create value for our customers by more thoroughly managing heritage-associated risks.

GIS mapping and modelling is completed in-house to not only map each project, but to forecast heritage potential in project areas. This potentially allows customers to avoid high potential areas by moving access roads or using directional drilling.

Near surface geophysical techniques such as ground-penetrating radar and magnetic susceptibility are applied when

more information is needed, or when intrusive investigations are not feasible, such as in urban environments, or when burials are present.

Geo-archaeology techniques such as portable optically-stimulated luminescence (OSL) readers are used when applicable in order to enhance our evaluations of site integrity and significance, and increase the value of HRIA work for the client, the regulator, and community heritage groups.

Western Heritage uses the best combination of services for each individual project to make sure it is protected by sound science that represents the best practices available. Ultimately this will save time, money, and ensure everything possible is done to protect Canadian archaeology, the histories of the communities you operate in, and the financial and operational security of your project. Western Heritage encourages its partners and customers to talk to us about how these changes can affect your business. ❖

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