

Preserving our history

When companies go digging, they often end up at Terry Gibson's door

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Terry Gibson of the Alberta archaeological firm Western Heritage, holds up a lithic flake (stone scraper) found on a northern Alberta site being assessed for oil and gas development. Western Heritage assesses the archaeological significance of a land site proposed for development.

In 1995, Terry Gibson, an archaeologist and senior manager at Western Heritage in St. Albert was called out to Bodo, a small hamlet south of Provost where an oil company had stumbled across something unusual.

“The pipeline company had rolled around a couple of bison skulls and they thought that was kind of strange,” Gibson recalled. “They had us come out because they had a historical concern.”

Shovel tests at the site confirmed that the company was attempting to lay pipeline in an area of significant historical value.

“I found there were archaeological materials all over the place,” said Gibson.

He was one of five people who founded the company in 1990 in Saskatchewan, after recognizing the need for specialized heritage services was growing.

Currently, Western Heritage is one of only a few such companies serving Northern Alberta. Their list of clients includes Alberta Pacific Forest Industries, ConocoPhillips, Millar Western and Encana.

In addition to finding small stone fragments throughout the Bodo site, which measured an impressive three kilometres long, Gibson also discovered small pieces of pottery.

“Which made it fairly significant because pottery is rare in most of Alberta,” he noted.

When a site like Bodo is first located, Gibson and his staff at Western Heritage conduct a Heritage Resources Impact Assessment (HRIA) before a development can proceed. Typically these reports, which are required by the Alberta government, include detailed information about a historical site, including its estimated size and value.

Gibson says companies often don't want to disturb historical sites, primarily because doing so often costs substantially more money than going around them.

"They want us to try and find the boundaries of the site so they can go around it," he said.

"Because if they can't go around it, then the next stage is they have to go in and we have to do a detailed assessment of just how important it is, so it's more work by us and it costs them more."

Depending on the historical value of a site, companies can choose not to alter their development plans, something that requires impact mitigation.

"The mitigation is when the development can't be moved and then you have to go in and you have to do more detailed study, usually involving excavation, to recover any information that's going to be destroyed before the development goes through," said Gibson.

"The idea is the sites have been there for 10,000 years and they'll be there for another 10,000 years except you want to put a road through it and if you want to put a road through it, you've got to pay to recover the data because otherwise it's lost forever," said Gibson.

That, he said, is essentially the philosophy of the Alberta Historical Resources Act.

"If they want to destroy it, they have to pay for the recovery of the data and that's the rule in Alberta — you break it, you fix it."

If an archaeological site is of significant historical value like the Bodo site, the provincial government will often step in.

After Gibson realized the importance of that particular site, the province put a moratorium on any further development until a full archaeological inspection could be completed.

The company, who was willing to pay for the destruction of the site, was forced to move their well pads, Gibson said.

But since their major battery had already been installed at the centre of the site, the company was forced to use directional drilling by installing well pads along the outside of the site. Other pipelines in the area were eventually decommissioned.

Gibson said there are also plenty of examples of this happening in Fort McMurray, an area particularly rich in archaeological sites.

"If you fly over them in a helicopter, the huge pits that they have there, in the middle you'll see an island with trees on it and those are archaeological sites and what they've done is they've said "let's just go around," said Gibson.

Locating historical sites isn't always easy work but Gibson said a shovel full of dirt — an initial test he does when he visits a site — can often yield a surprising amount of information. In heavily forested areas, highly acidic soil means that stone is often the only evidence of early Aboriginal people who lived in Alberta several thousand years ago.

"They were hunters and gatherers and they were living in small camps and they'd be using all kinds of materials but really when you get down to it, the only thing that survives is stone and that's primarily what we find," said Gibson.

In his St. Albert office, he points to a bag of stone shards as an example of what he's looking for.

"It has to be a certain kind of stone material and what they're trying to do is break or knock off flakes of this material to make stone tools," he said.

Gibson can tell just by looking at the fracture patterns that the shards are man-made.

"It's actually quite easy to tell because you rarely get material that chips up like this naturally. It has to be carefully fractured," he said. "You get special patterning that shows up on the flakes. You get certain flake shapes and certain

features on flakes that show that it has been purposely struck off. There is nothing that would naturally do it.”

These particular shards, he said, are between 8,000 and 9,000 years old and of a material called taconite, which is found in northern Ontario.

He said several styles of pottery found at Bodo suggest it likely belonged to people of Blackfoot, Assiniboine or Gros Ventre ancestry. Workers also discovered several iron points and horse bones, an indication of early contact with Europeans.

These objects likely date from 1700 CE, according to radio carbon dating, said Gibson.

The St. Albert branch of the company specializes in using geo-physical methods for archaeological assessment. Using a combination of ground-penetrating radar, magnetometers and soil analysis, they can determine what the contents of a site are before digging through it.

At Bodo, Gibson said there is a deeper deposit below the initial find believed to be about 2,000 years old.

Back at the lab

Objects that are found by Western Heritage are taken back to its St. Albert office to be catalogued and photographed before they are returned to the province.

Jane Gibson, Terry’s wife, is the company’s lab supervisor and archaeological technician. She also dabbles in historical research, trying to learn how certain pockets of the province were used historically and by whom.

“[We] try to anticipate what type of heritage resources you could find in certain areas by researching the history, basically it’s historical land use.”

While lab work can often be tedious, Jane says understanding the history of an object is her favourite part of the job.

“For me it’s contemplating the history of the objects that we handle in the lab, who made them and where they came from,” she said.

“The enjoyable part of that is the little bit of detective work that is involved sometimes putting various things together.”

Terry said the company has new projects coming in from across Canada all the time.

“Everything we do is really interesting, it seems like there is never a dull day.”

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