



Archaeological Society
of Alberta



2017 Archaeology Conference

Co-hosted by
**ARCHAEOLOGICAL SOCIETY OF ALBERTA
(SOUTHEASTERN CENTRE)**
and
Saskatchewan Archaeological Society



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The Resort at Cypress Hills
Center Block
Cypress Hills Interprovincial
Park (SK side)



Paper Abstracts

Bubel, Shawn and Heinz Pyszczyk - University of Lethbridge

Our Northern Adventure: 2016 Excavations at Fort Vermilion

In 2016 we carried out archaeological field work at the late 18th – early 19th century NWC/HBC Fort Vermilion site, located along the Peace River in northern Alberta. We excavated approximately 40 square meters, uncovering building foundations, fireplaces, cellars, privies, an early footer trench, and a garden. It is now clear that at least some of the buildings were built in the early French Canadian post-in-ground framed construction technique. A central building contained what appears to be a corner fireplace – a first at this site, but not uncommon at other fur trade posts. In the north part of the fort one of the large cellars, used to dispose trash, contained a one-of-a-kind lead tobacco pipe, trade silver, platform pipe fragments, and beads reflecting the earlier NWC occupation. This feature likely represents the former NWC store, which according to the HBC records, was dismantled and rebuilt in 1822. There was a very strong French Canadian influence in both fort construction and lifestyle, combined with many artifacts that represent an equally strong indigenous presence at this remote northern fur trade post. And the surprise find of the field season – another very early fur trade site southwest of the fort.

Bowery, Aurora – Graduate Student, Department of Archaeology and Anthropology, University of Saskatchewan

A Unique Site for Research: The Whiting Slough Site

The Whiting Slough Site (ElNo-10) is an Avonlea Complex site located southwest of Saskatoon along Highway 7. The site provides a unique research opportunity for four current graduate students at the University of Saskatchewan. The research is focused on the spatial analysis of the material culture (focused on the bone uprights), faunal analysis, a projectile point analysis, and site formation processes, notably an unusual sediment layer that encompasses the cultural horizon. Research is ongoing and initial analysis has just begun. The interdisciplinary skill set of the research team has generated new initial interpretations of the site and its relation to the occupation of Holocene aeolian environments in central Saskatchewan.

Brink, Jack W., Christina I. Barrón-Ortiz, Kathy Loftis and Robert J. Speakman

Pleistocene Horse and Possible Human Association in Central Alberta, 12,700 Years Ago

Materials collected from the shoreline of the Brazeau reservoir in west-central Alberta include a number

of Paleoindian artifacts and a set of six articulated mandibular teeth from the genus *Equus*. The heavily weathered horse teeth were identified as most similar to the caballine equids that became extinct in North America at the end of the Pleistocene. An average of four AMS radiocarbon dates place the age of the teeth at ~12,700 calibrated years before present. Early style artifacts recovered from the reservoir include two fluted points, a biface cache, and several other Paleoindian points. No artifacts were directly associated with the teeth, but nearby fluted points are likely coeval and suggestive of an association. The presence of Pleistocene horse 12,700 years ago directly within the Ice-Free Corridor (IFC) has a bearing on the debate concerning the timing of the opening of the IFC and on the environmental conditions within the corridor. Data presented here indicate an open IFC in west-central Alberta by at least 12,700 years ago and an environment fully capable of supporting large game animals, and by extension human hunters.

Deck, Donalee - Parks Canada

Archaeological Investigations at Two Sites along the Slave River, Wood Buffalo National Park

Archaeological investigations were conducted at two sites along the Slave River in Wood Buffalo National Park as a result of applications for traditional harvesting cabins by members of Smith's Landing First Nation (SLFN). Parks Canada worked with the community during both the field and interpretive components of the projects. A combination of traditional knowledge and western science were used to try and achieve a more comprehensive understanding of the types of activities revealed at the sites. Both sites were quarry and camp sites with multiple occupations extending over 5,300 years, or 266 generations. Flotation and residue analysis has contributed to identifying stone tool function and resource utilization.

Dowkes, Shalcey – Graduate Student, University of Calgary

Phytolith Analysis at the Cluny Fortified Village Site (EePf-1)

Phytolith analysis is a relatively underutilized method on the Canadian Plains, and has never been attempted at the Cluny Fortified Village site (EePf-1). Previous paleobotanical studies have included identification of wood fragments from post moulds and starch grain analysis on grinding stone tools (Forbis 1977; Zarrillo and Kooyman 2006). Over the past three years, several small scale phytolith studies have been conducted at the site to address methodological concerns. Currently, a large-scale examination of phytoliths from the Cluny site is underway to determine general patterns of plant use.

The project's goal will be achieved through a comparison of historic and One Gun occupation components, on-site and off-site samples, and an inter-site comparison of the Cluny Fortified Village and the upper components of the Junction Site, a contemporaneous Old Women's campsite. This presentation will provide the preliminary results of the methods and analysis used in this project.

Fedyniak, Kristine

Splash! Fishing for Clues

Historic records document the importance of fish for sustenance during the fur trade in Alberta. But, how did people make use of this important resource before Europeans came? How long have people been fishing? Sometimes fragile fish bones will preserve, but more often than not, they rot quickly in Alberta's acidic soils. Tools used to catch fish have been found at a few archaeological sites. Residue analysis has made it possible to detect residues left behind on tools that were used to process fish or where fish products were used in their construction. This paper will explore these lines of evidence at archaeological sites in Alberta. The geographic and temporal distribution of sites demonstrates that evidence of fishing can show up in the most unexpected places. These various lines of evidence will be used to piece together a better understanding of the use of fish.

Friesen, Nathan - Senior Archaeologist, Heritage Conservation Branch, Government of Saskatchewan

Using Unmanned Aerial Vehicles to Map Archaeological Landscapes: Examples from Saskatchewan

Since 2014, the Heritage Conservation Branch of the Saskatchewan Ministry of Parks, Culture and Sport has been using Unmanned Aerial Vehicles (UAVs) to fly and map archaeological features and their surrounding landscapes. While aerial photography is not a replacement for stone by stone mapping, it allows for the creation of detailed maps of stone features in hours or minutes, rather than the days that would be required to achieve a similar result through conventional mapping methods. Local conditions can greatly affect the results obtained by UAVs, as does the type of UAV, camera system, and the software used to process images. This presentation will look at some examples of how UAVs have been used to map sites, and compare these to conventional mapping methods. We will also look at the advantages UAVs bring to mapping sites, and where there are limitations.

Giering, Karen - Royal Alberta Museum

Elk Ivories

Elk canine teeth were highly valued by First Nations people for thousands of years. They were carved and polished into beautiful pendant beads that were used in

large numbers to adorn clothing, especially for women and girls. The six elk tooth pendants in the archaeology collection at the Royal Alberta Museum are examined here for sex, age and method of manufacturing the pierce hole. Elk have only two canines and were not killed in large numbers like bison. Collecting one or two hundred teeth to decorate a girl's dress showed great hunting skill. Elk ivories represented wealth, prestige and long life. In the 1890s, First Nations people had limited access to elk but the tooth pendants were so important they began carving imitations out of bone and continued to decorate their clothing with them.

Gryba, Eugene M. - Archaeological Consultant, Calgary

Variables to Consider When Interpreting Metric and Formal Variations in Microblade Cores and Microblades from Prehistoric Hunter/Gatherer Sites

Speculation into microblade technology dates from at least 1987 when J. Flenniken reported, in *Arctic Anthropology*, on his attempts to replicate the Late Paleolithic Yubetsu technology represented at Dyuktai Cave, Siberia. He used a clamp apparatus fashioned from planks and bolts to secure the core and a long pressure flaker to detach the blades. He had been heavily influenced by Don Crabtree, who drew upon ethnographic sources to replicate Mesoamerican macroblades.

Flenniken erred right at the outset when he drew upon a model of macroblade (and possibly microblade) manufacture employed by sedentary knappers to try to replicate microblade technology of highly mobile hunter/gatherers. Many others experimented with microblade manufacture along the route proposed by Flenniken. Still others interpreted use-wear and metric patterns found on archaeological microblade cores and microblades in terms of the Flenniken method. Speculation into microblade technology continues.

In the early 1970s I stumbled upon a simple microblade manufacturing technique that differs radically from Flenniken's method and mentioned it in several publications. It is based on a light, portable knapping kit which consists of soft leather padding and short pressure flakers similar to archaeological ones, i.e., tools which prehistoric knappers would have needed for making pressure-flaked stone implements. In this technique, variations in metrics and morphology of archaeological cores and microblades might be accounted for by changes in any one or a combination of a number of variables, including lithic material, knapper, knapping kit, core support, flaker grasping and force application methods, natural, social or cultural environments in which microblade manufacture was carried on, what the core was intended for, what microblades were intended for, body position during manufacture, reduction history of the core, and perhaps other variables.

Henry, Hugh

A Grand Scheme: The Diaries of Sir John Lister-Kaye

In 1888-89, Sir John Lister-Kaye established ten, 10,000 acre farm/ranches along the CPR mainline between Rush Lake, SK and Langdon, AB. They became known as the 76 Ranches. Lister-Kaye kept detailed diaries during the formative years of the company and while establishing operations at the various sites. They give insight into the struggle to raise capital in Britain and to get the Canadian government and CPR to support his efforts. They also speak to the challenges of trying to manage a business where each day brought concerns over employees, equipment, stock, weather and finances. The 1880s were a time of hopes and dreams in western Canada. The Lister-Kaye diaries capture the realities of life on the corporate frontier.

Hugh Henry is a former Director/Curator of the Swift Current Museum. He is a Board member of Saskatchewan History & Folklore Society and President of the Southwest Sask. Archaeological Society. He is active in facilitating awareness of the history of southwest Saskatchewan. He will lead a walk of the Swift Current – Battleford Trail in August, 2017.

Hodgson, Tasha

Documenting Perishable Resource Use within Early Holocene Occupations of Northwestern Ontario

The research presented here indirectly determines the presence of organic materials from the Electric Woodpecker II site (DdJf-12), an Early Holocene archaeological site within Northwestern Ontario. The combined application of use-wear analysis, microscopic, and chemical residue analyses on unifacially flaked formal and expedient tools provided insight into day to day activities completed at the site. The use of micro-analytical techniques to determine the presence of perishable materials is particularly important for Early Holocene sites in the North Superior region due to the exceedingly poor preservative properties and podzolic soil conditions of the area. The findings of this research indicate the task-specific use of high-quality, formal artifacts; the hafting of informal artifacts used for multiple purposes; and the general, multi-purpose use of handheld expedient artifacts. Wear patterns are indicative of dry hide, bone, meat, grassy and woody plant materials, and wood. Evidence of hafting was found on both formal and informal artifact types.

Kwiecien, Grzegorz, Ashley Dixon, Jody Pletz, Kris Sullivan* - Taiga Heritage Consulting

Stories from the Ground: Dene Tha' First Nation Archaeological Education Initiative 2013-2017

Community-based archaeological projects in Canada are often not feasible in the remote parts of the Canadian landscape. Reasons can be attributed to lack of research interest, lack of general interest from the

community, and lack of funds. The Dene Tha' First Nation in northwestern Alberta looked to buck this trend by initiating such a project on their own. Over the last four years, Taiga Heritage Consulting was invited by the Dene Tha' First Nations community to partake in a research initiative within their traditional territories. Although both precontract and early historic settlements are locally known, the region is arguably the least understood and under-researched area within the province. Yet, all of the traditional stories collected through interviews with the Dene Tha' Elders indicate that the land has a rich history of occupation by the Dene Tha' since 'time immemorial'. The Dene Tha' embarked on this project in the anticipation that they would be able to rediscover aspects of their culture and provide their youth with skills and motivation to succeed. During the past four summers, Dene Tha' youth, Elders and participating archaeologists conducted archaeological surveys within areas that were both on and off reserve lands. The results from this initiative have gone beyond all expectations: over 130 TUS, precontact, and historic sites were recorded in this poorly researched area. These discoveries contribute to a start in learning about the regional history as well as igniting a passion within the people to engage in the knowledge of the community.

Lamarche, Gabriel – Undergraduate Student, Department of Archaeology and Anthropology, University of Saskatchewan

A Possible Solution to the Fluting Problem: Accessible, Portable, Compatible, Reliable

A brief discussion on fluting, and accompanying demonstration of a means of detaching channel flakes, producing a Folsom or Cumberland-styled projectile point, via a modified cervid bone fulcrum and levered-pressure.

Lindemann, Rachel and Rob Wondrasek - Atlatl Archaeology Ltd.

Excavations at the 1874-1884 Fort Macleod NWMP Townsite

During 2016 Atlatl Archaeology carried out archaeological excavations at the original townsite of Fort Macleod, associated with the earliest NWMP fort in Canada. The site is located on Macleod Island within the Oldman River Valley. The artifacts recovered provide a foundation for a diverse community assemblage with goods coming from Fort Benton, Montana, Ottawa, and Montreal. Undoubtedly goods were manufactured within the fort and by the local blacksmith as well; additionally, the First Nations peoples were modifying European goods in order to carry out traditional tasks.

Linowski, Cathy - SE Alberta Archaeological Society

Dune Point: Possible First Nations Management of the Landscape in the Mixed Grass Prairie

Dune point near Bindloss, AB is a dramatic and distinctive landmark along the Red Deer River. The area is identified as critical habitat for a number of rare animal and plant species that are specialized to live in disturbed sand/sand dunes. The Red Deer River bluffs and bench across and above Dune Point have evidence of extensive and regular aboriginal occupation in the past. In addition to lithic evidence, is there environmental evidence to suggest that these aboriginal peoples, most likely Gros Ventre, managed the landscape in the Dune Point area?

Cathy Linowski is a member of the SE Alberta Archaeological Society. When not coordinating the Medicine Hat College Environmental Reclamation program and teaching Biology and Plant Taxonomy she pursues her interest in ethnobotany and integrating her interests in archaeology and native plants.

David Meyer - Professor Emeritus, Department of Archaeology and Anthropology, University of Saskatchewan

Mystery at 5,000 BP: What Happened at the Connell Creek Oxbow site?

The Connell Creek site (FhMu-1), located in a cultivated field in east central Saskatchewan, contains a single component of the Oxbow complex. The author has collected a large assemblage of artifacts here, including numerous projectile points of the Oxbow type. Unusual aspects of this site include its isolated location and the presence of mainly complete projectile points. It is possible that this artifact assemblage was abandoned by the site occupants and possible scenarios for such a dramatic event will be considered.

Peck, Trevor R., Caroline Hudecek-Cuffe, Phillip H. Porter, and Robert Hendriks

The Search for Painted Feather's Pound

On December 20, 1809, North West Company fur trader Alexander Henry the Younger made a trip on horseback from the post at Fort Vermilion/Paint Creek House, which is located on the north bank of the North Saskatchewan River directly across from its confluence with the Vermilion River, to a Blackfoot camp and buffalo pound. Where was this Blackfoot camp and pound? Based on information from Henry's journal we have developed a model to delimit where the meeting between Painted Feather and Henry could have taken place. Then, to support this re-examination of the journal information and its relation to the topography of the area, new physical evidence concerning the possible location of Painted Feather's camp and pound is presented. In addition to proposing the meeting location of these two historically significant people, a noteworthy

result of the research is that it was solely possible owing to cooperation between avocational archaeologists and Archaeological Survey staff.

Pennanen, Kelsey and Dr. Peter Dawson – Graduate Student, Department of Anthropology and Archaeology, University of Calgary

Potential of Terrestrial Laser Scanning for Geoarchaeology on the Great Plains: Case Study of a Bison Jump Site

Terrestrial laser scanning, or ground-based LiDAR, captures a vast quantity of geospatial data that can be used to create accurate 3D reconstructions of landscape features, as well as detailed stratigraphic exposures. This technology has been utilized within the fields of geology and geomorphology, applied to understandings of earth-surface processes as well as for 3D mapping and visualization of geologic data. The use of this technology for geoarchaeological analysis and interpretations of landscape features and archaeological deposits at sites on the Great Plains is explored using the case study of a Bison Jump site located in southern Alberta. The acquisition of this data allows for the digital preservation of the site, and multiple datasets acquired temporally hold potential to determine whether morphometric change is occurring at the site. This information can be extrapolated and quantified, and can be explored for use in monitoring and protecting vulnerable archaeological cultural resources on the Plains.

Perry, Elsa and Rachel Lindemann - ASA Lethbridge Centre

Operation Artifact 2.0: Revitalized Endeavors in Recording Private Collections

Over the past year the Lethbridge Centre has begun working with local collectors to record their collections and aid them in donating their collections to the RAM should they so desire. Our focus is on creating detailed catalogues of the collections - we want data that can be utilized by future researchers, not to take artifacts from collectors. We'll discuss the process we've utilized and summarize the results of the first large collection we began with, belonging to Armin and Gerry Dyck.

Rennie, Patrick - Montana Department of Natural Resources and Conservation

The Jones Place-Adel site (24CA1766)

The Jones Place-Adel site (24CA1766) is an open air, Precontact Native American campsite at the east margin of the Adel Mountains in west-central Montana. Although organic material suitable for a reliable chronometric date has not been recovered, projectile points that lack contextual integrity are stylistically attributable to the Agate Basin/Hell Gap, McKean Complex, and Pelican Lake (Late Archaic Corner-Notched) archaeological cultures. A small amount of test

excavation took place with local landowners and other volunteers, thus making the effort successful in both an educational and community building exercise. In the tested portion of the site, at least, cultural components are fully mixed, so analyzing the recovered cultural materials in a stratified context is not possible. Still, the site holds a great deal of interpretive value for understanding past Native American settlement and lithic resource exploitation patterns.

Roe, Jason - Lifeways of Canada

EePI-261 and EdPm-7: The Little Sites that Could

As part of the 2016 Southern Alberta Flood Investigation Program, Lifeways of Canada conducted Stage 1 mitigations at two Late Precontact Period campsites (EePI-261 and EdPm-7) along the Highwood River, south of Calgary. The Stage I mitigation program at both sites included a magnetometry survey, extensive shovel testing, and 38 m² of excavation. Between the two sites, we uncovered 10 camp features and an assemblage of over 5,500 artifacts. This paper will summarize the results of the mitigations at EePI-261 and EdPm-7. Both are Late Precontact Period archaeological sites. We will present our results within a context of similarly aged sites in Southern Alberta.

Shepard, Robert Bruce - President, South Eastern Alberta Archaeological Society

The Long, Slow Decline of the Bison

The decimation of the bison herds on the North American Great Plains was an environmental catastrophe which is too often laid at the boots of American hide hunters who swarmed the region following their Civil War. While these butchers deserve a share of the blame, singling them out is overly simplistic because there is ample evidence, derived from a number of disciplines including archaeology, that the great herds were being significantly reduced north of the international boundary for nearly a century before the American hide hunters even appeared. Using a multidisciplinary approach, the presenter will argue that the near extermination of the bison is better understood as a long, slow, inexorable decline beginning in the late eighteenth century and stretching over the decades until the mid-1870s; then with a sharp decline due to the arrival of the hide hunters.

Siegfried, Evelyn – Royal Saskatchewan Museum

The Journey of the Paskwa Pictograph, 1883 to 2017

In the spring of 2007, the Paskwa Pictograph arrived at the Royal Saskatchewan Museum. It is a 2-panel ledger document consisting of graphite drawings. It had survived a convoluted journey through time and it is amazing that it still exists and we can view it and ponder its meaning today. It was drafted by Chief Paskwa and his close advisors, according to oral history, in response

to the aftermath of the signing of Treaty 4 on September 15th, 1874. The ledger document was passed on to an English tourist, William Henry Barneby, in the summer of 1883 and its travels through time really took off. What an adventure it has been. This presentation will provide an abridged overview of what we have learned about it thus far. It is important to note here that this is primarily the historical side of the story. The oral history side of the pictograph's story is still a work-in-progress by people of Pasqua First Nation and Treaty 4. The pictograph is currently on display in the exhibit "We are all Treaty People", at the Royal Saskatchewan Museum.

Siegfried, Evelyn, Cindy Sheer, Julie Mushynsky and Barb Neal – Royal Saskatchewan Museum

It Ain't Easy Being Green

From October 2016 to March 2017, the Royal Saskatchewan Museum (RSM) embarked on a project to re-house the museum's archaeological collection. As the repository for all archaeological materials in the province, the RSM needed to ensure the collection was adequately stored and accessible by researchers. The archaeology collection at the RSM has been stored in cardboard boxes of various sizes for a number of years, which did not sufficiently protect the artifacts from water damage and were not a durable option. Additionally, researchers were hindered by the lack of inventory from years past, making the collection difficult to search. This talk will discuss the impetus for the project, the process of re-housing, the benefits to the archaeological community and future goals.

Supernant, Kisha – Department of Anthropology, University of Alberta

Exploring the Patterns of Metis Overwintering in Saskatchewan: Chimney Coulee and the Search for Round Prairie

The Canadian west during the 1800s provides an interesting historical and archaeological case study that has potential to shed light on the dynamics of settlement, material culture, and the mobile nature of Métis peoples. Based originally in the Red River Settlement, some of the Métis began to expand west after 1845, forming interconnected wintering communities to participate in winter bison hunting. These wintering communities were almost entirely inhabited by Métis families, so the assemblages from wintering sites present a test case to examine the day to day material culture of the Métis hunting brigades during the mid- to late-1800s. In this paper, I examine patterns from previous and new excavations of Métis occupation at the Chimney Coulee site, near East End, Saskatchewan to explore how Metis communities balanced the mobility of buffalo hunting with the need for a protected home base during the difficult prairie winters. I examine the current data from wintering sites to help predict where we might find additional overwintering locations in Saskatchewan, including the elusive Round Prairie wintering site.

Tebby, Eric – Graduate Student, Department of Anthropology, University of Alberta

Sight Selection: A Preliminary Viewshed Analysis for Chimney Coulee (DjOe-6)

After decades of stagnation and disinterest, there has been an increase of progress made in the field of Métis archaeology in the recent years. Planning is currently underway for research based excavation and re-examination at Chimney Coulee (DjOe-6) in the area near Eastend, Saskatchewan, as part of a greater investigation of Métis cultural landscapes in the Canadian West. This site originally developed in the second half of the 19th century by Métis hunters and traders traveling further westward along the prairies from the Red River Colony following the declining bison herds. The area surrounding the site was an attractive prospect for temporary settlement as a wintering site, being nestled in the eastern valleys of the Cypress Hills and between the Missouri and south Saskatchewan watersheds. This analysis examines viewshed as a potential factor for local site selection at Chimney Coulee. The site offers a well sheltered position among the plateau alongside water, timber, and a dominant view from the nearby hills but many similar areas in the greater Eastend Coulee offer these same advantages. Why was Chimney Coulee chosen as an area of settlement in this locality and could the available vantage points surrounding the site have played a factor? Spatial analysis on the area was conducted to determine the potential that this factor might have existed for local site selection. Upcoming investigations on this site will take these results into consideration.

Vivian, Brian - Lifeways of Canada

Grasslands Campgrounds Reconsidered

Plans to develop the Rock Creek Campground and Scenic Drive lookouts in the East Block of Grasslands National Park resulted in an archaeological review and assessment of the precontact sites documented within the development footprint. Here the many sites located along the escarpment planned for the Scenic Drive have been interpreted as campsites. A re-assessment of these sites challenges this interpretation and provides a re-interpretation of the land use in the area based on archaeological materials found as a result of the assessment study completed in 2016.

Walde, Dale - Department of Anthropology and Archaeology, University of Calgary

University of Calgary Public Archaeology Partnership at Blackfoot Crossing Historical Park

The Cluny Fortified Village National Historic Site is the only known precontact fortified village on the Canadian Plains. Archaeological work conducted in 1960 suggested a brief occupation, perhaps only a few weeks, by an intruding group from the south. In conjunction with the Siksika Nation's Blackfoot Crossing Historical

Park, the University of Calgary Archaeology Field School and Program for Public Archaeology initiated a ten-year program of excavations which was completed in 2016. Close cooperation amongst the Siksika, faculty, students, and members of the public resulted in the detailed excavation of a large area within the fortifications and archaeological testing beyond. The Public Archaeology Program participants (over 100) worked directly alongside the student crews and magnified the scope of the excavations considerably. Our results suggest that the construction of the fortified village was part of a much larger incursion throughout much of southern Alberta by Siouan speaking people beginning at about A.D. 1690. Some later limited co-residence with local Blackfoot individuals is indicated by the presence of Ethridge ware pottery with final occupation signalled by the presence of EuroCanadian/American trade goods dating to the late 1800s A.D. This longer history tends to validate Blackfoot oral histories that seemed contradictory in the context of the very short term occupation suggested by earlier interpretations.

Wolfe, Kara, Alan Korejbo, Brent Kevinsen - Canada North Environmental Services

The Wreck of the S.S. City of Medicine Hat

During the 2016 field season, the Heritage Division at Canada North Environmental Services (CanNorth) had the chance to work on a rare site...a shipwreck on the prairies. The S.S. City of Medicine Hat hit the Victoria Bridge (or the Traffic Bridge) and sank on June 7, 1908. Over the years the shipwreck was covered by a large sand bar and was eventually filled in by the City of Saskatoon to create what is now Rotary Park. Innovative construction monitoring methodologies allowed CanNorth archaeologists to effectively examine the remains of the wreck. This paper will examine the history of the wreck of the S.S. City of Medicine Hat, how the site was excavated to allow for the effective recovery of valuable archaeological data, and will provide an interpretation of the artifacts that were recovered from the shipwreck and what they tell us about the boat, its owner, and the crash itself.

Poster Abstracts

Bubel, Shawn

Cliff and Helen Plant Surface Artifact Collection

Surface collections are important archaeological resources. Cliff and Helen Plant collected more than 4,000 artifacts from 16 sites in southwest Saskatchewan. A basic typological classification of the projectile points showed that groups of people lived within periphery of the Great Sand Hills during the Early, Middle, and Late Prehistoric Periods. The attributes of these artifacts were also measured; raw material, body shape, notch type, and base type were determined. The comprehensive assessment of the artifact assemblages refined the occupation phases and revealed a number of cultural activities, thereby enriching our understanding of the prehistoric peoples that lived there. Collectors should be encouraged to work with archaeologists to document their collections, and archaeologists should appreciate the value of doing so.

Donnelly, Mike and Todd J. Kristensen – Independent Historian / Archaeological Survey of Alberta

Alberta's Buffalo Jumps, Communal Hunting on the Plains

According to Blackfoot tradition, as Old Man travelled north he created mountains, rivers, the grass and trees. When he came to the Porcupine Hills of southwest Alberta, he formed people from mud and breathed life into them. The people asked Old Man what they would eat. He created buffalo from clay then took the people to a rocky ledge. Old Man called the buffalo who ran in a straight line over the cliff: "Those are your food." Plains First Nations used several ingenious methods for communal buffalo hunting; they were lured into ambushes, corralled with fire, chased onto frozen rivers and lakes or into deep snow, and driven into elaborate traps. Of the hundreds of mass kill sites across North America, perhaps none is more impressive than the buffalo jump. This poster belongs to the Heritage Art Series, the goals of which are to use artwork to foster a greater awareness of our past and to instill a deeper respect for it.

Dowkes, Shalcey and Margaret Patton (University of Calgary)

Microwear on Shell Beads at Cluny Fortified Village (EePf-1)

Beads in many forms were used as decorative items on the Great Plains in the historic and prehistoric periods. Excavations over the past ten years at Cluny Fortified Village (EePf-1) have revealed a large number of shell beads, shell bead "blanks," and waste from bead making, yet few potential lithic drills have been recovered. Dating to just before European contact on the Northwestern Plains, shell beads at the site provide

insight into the prehistoric production of decorative items using local bivalves (*Lampsilis radiata siliquoidea* and *Lasmigona complanata*). As shell is a relatively soft material, several drill materials are candidates for use as tools including bone, wood, and lithic. Microwear on bead and drill artifacts suggests drilling methods used at the site. Experimental drilling produced distinctive stepping and striations inside test bore holes that were largely missing from artifact bore holes. The absence of expected microwear may indicate missing production stages. This project examines microwear on shell to clarify shell bead production at Cluny Fortified Village and contribute to an understanding of activities at the site.

Dyck, Roland F., F.J. Paul Hackett, and Sylvia Abonyi – Departments of Medicine, Community Health and Epidemiology, Geography and Planning, and SK Population Health and Evaluation Research Unit, University of Saskatchewan

Anthropometric Indices of First Nations Children and Youth on First Entry to Manitoba / Saskatchewan Residential Schools - 1919 to 1953

First Nations people are experiencing increasing rates of obesity and type 2 diabetes but no anthropometric information exists from before the 1950s to provide context to these epidemics. The objective of this research is to compare anthropometric indices of First Nations children and youth on first entering residential schools with historical and contemporary reference groups. This observational cross-sectional study used archival records from the Department of Indian Affairs to calculate body mass index (BMI), height for age (HA) and weight for age (WA) of all known children and youth undergoing physical examinations on first entering residential schools in Saskatchewan and Manitoba from 1919 to 1953. Proportions of children and youth in each BMI category were determined by age, sex, time period and residential school. Z-scores for HA and WA were determined by age group and sex. Finally, median heights and weights were compared with a non-Indigenous cohort from the 1953 Canadian survey. Results showed that a large majority of First Nations children and youth exhibited normal anthropometric indices on first entering residential schools in Manitoba and Saskatchewan from 1919 to 1953. These historical findings provide an important context to the current epidemics of obesity and type 2 diabetes and suggest that the nutritional conditions in these First Nations children's communities were satisfactory during the residential school era.

Graham, Reid J. and Kurtis Blaikie-Birkigt

Relict Shoreline Identification using LiDAR in the Lesser Slave Lake Region

Advances in remote sensing technologies and industry-driven initiatives have precipitated the wide scale production of LiDAR-derived digital elevation datasets in Alberta. These high-precision terrain models have been instrumental for cultural resource management strategies and the identification of new archaeological sites in the province, through the targeting of distinct landforms and topographic features present on the landscape, and the development of archaeological predictive models. While most LiDAR analyses for archaeological site predictions are focused on the modern landscape, these datasets can also be used to identify ancient landforms that may have been more suitable for human habitation in the distant past. Review of LiDAR data from the Lesser Slave Lake region in northern Alberta revealed numerous strandlines, meltwater channels, and relict beaches related to changing levels of proglacial lakes in the lake basin. These previously unmapped topographic features reveal a fluctuating landscape during the early period of human occupation in the province, and provide an opportunity to identify potential locations of ancient sites around the Lesser Slave Lake basin. A combination of reconstructions of proglacial lake levels using strandline elevations and current predictive modeling techniques was used to identify locations reflective of this past landscape with high archaeological potential for sites. This information will be used to direct future surveys in the region so as to identify archaeological sites that might otherwise have been missed by cultural resource management programs.

Hallson, Jennifer (University of Alberta)

Using Debitage Analysis to Investigate an Alberta Archaeological Site

Ahai Mneh (FiPp-33) is a significant pre-contact archaeological site in Alberta. Located west of Edmonton on Lake Wabamun, this site contains material from the Early Prehistoric right up until Late Prehistoric pre-contact times. Ninety-five percent of the lithic artifacts collected are pieces ofdebitage. Aggregate analysis is a method of examining the whole of thedebitage collection, rather than analysing singular pieces. This method is more time efficient, less subject to bias, replicable, and is used often, and successfully, at archaeological sites with immense quantities ofdebitage. Here I used aggregate analysis to examine thedebitage assemblage from two field schools at Ahai Mneh (FiPp-33). I investigated various characteristics such as size, raw material type, cortex amount, and number of dorsal scars. I argue that this method was successful, as it provided new information on where people were acquiring raw materials, as well as what types of flintknapping occurred at this site. These analyses resulted in the determination of a focus on local raw material, yet this material was being brought to the

site as prepared cores or blanks, rather than complete unaltered cores. Tool production, was the focus at this site, and these trends continued throughout time.

Haukaas, Colleen - Archaeological Survey, Government of Alberta

The Archaeological Survey in Numbers: Insights on the Changing Landscape of Alberta Archaeology 1972-2016

Over the last half century the state of archaeological research has changed with increasing heritage legislation and the growing industry of Cultural Resources Management (CRM) in Canada and worldwide. In Alberta, the Archaeological Survey began managing archaeological research in the province in 1972 with the passing of what is now called the *Alberta Historical Resources Act*. This poster explores and compares archaeological permit information collected by the Archaeological Survey through the Archaeological Research Permit Management System. It explores trends in archaeological research and permit types, site discovery, assessed developments, and individual archaeologists holding permits in Alberta between 1972 and 2016. The poster concludes that, over the past 44 years of archaeology in Alberta, the number of CRM permits and individuals holding CRM permits has increased, while the number of research projects which has decreased slightly since the 1970s. As the CRM industry has grown in Alberta, the majority of archaeological sites are now recorded and mitigated under CRM permits related to a growing range of development activities.

Hodgson, Tasha

SAS 2017 Collections Project

The poster provides information on how to create a database for private or donated collections, using the recently completed SAS Collections Project as a model. The planning, layout, and key pieces of information to include are described, and several objects within the SAS Collection are highlighted.

Kristensen, Todd J.

Shifting Spirits: The Archaeology and History of Changing Religions in Northern Alberta

Spirituality permeated all aspects of the lives of northern First Nations through the fur trade. Archaeology and history offer complementary datasets to explore how Christian missionizing efforts induced significant changes in First Nations belief systems in Alberta in the 1800s. Many variables influenced how Christian and First Nations spiritual leaders interacted; the development of Dene Christianity was an active process involving adoption, rejection, and blending of belief systems. Negative and positive outcomes are part of an honest story about religious change that deserves

a prominent place in Canadian history. This poster belongs to the Heritage Art Series, the goals of which are to use artwork to foster a greater awareness of our past and to instill a deeper respect for it.

Kristensen, Todd J. and Jack Brink

Hooves in History: How the Horse Changed the West

When horses galloped across the U.S. border into Alberta in the 1720s, it was an overdue homecoming. It had been 10,000 years since the province's grasslands shuddered under equestrian hooves. European horses assumed central roles among First Nations and European cultures on the prairies: we explore the history and archaeology of horses and summarize how these animals changed the West. This poster belongs to the Heritage Art Series, the goals of which are to use artwork to foster a greater awareness of our past and to instill a deeper respect for it.

Kristensen, Todd J. and Timothy Allan

Mountain Movement: How the Rockies Shape Alberta

The Rocky Mountains influence how cultures interact and move, which has moulded much of Alberta's pre-contact and more recent history. Artifacts, like jade and obsidian, and dated sites indicate that people have been living in, and crossing, the mountains for over 10,000 years. We discuss how people moved through mountains and the historical and archaeological evidence of cross-mountain contact. This poster belongs to the Heritage Art Series, the goal of which is to use artwork to foster a greater awareness of our past and to instill a deeper respect for it.

Kristensen, Todd J. and Ashley Reid

Alberta on Fire: A History of Burning

Distinguishing cultural from natural burning a thousand years ago is difficult but new techniques are untangling Canada's fire history. This poster belongs to the Heritage Art Series, the goal of which is to use artwork to foster a greater awareness of our past and to instill a deeper respect for it.

Kristensen, Todd J. and Julie Martindale

Power and Powder: The Archaeology and History of Guns in Alberta

It's hard to overstate the profound impact of firearms in Alberta's history. The earliest guns delivered food, protection, and intimidation. Technological improvements from European contact to the 1900s led to significant changes in the ways that guns were used across the province. This poster explores the evolution of firearms in Alberta and the archaeological record of it. This poster belongs to the Heritage Art Series, the goal of which is to use artwork to foster a greater awareness of our past and to instill a deeper respect for it.

Kristensen, Todd J. and Sheila Macdonald

Clay, Style, and Food: Pre-contact Pottery in Alberta

Pottery is generally a rare but significant archaeological find in Alberta. Ceramic vessels were malleable enough to reflect different manufacturing traditions, stylistic choices, and possibly cosmological beliefs. While they offer valuable glimpses at broader cultural patterns, the residues and archaeological contexts of pottery sherds offer cumulative snapshots at individual food consumption practices and domestic life. New techniques are enhancing the information that pottery can yield about pre-contact behaviours in Alberta. This poster belongs to the Heritage Art Series, the goals of which are to use artwork to foster a greater awareness of our past and to instill a deeper respect for it.

**Kurzybov, Petr, Krista Gilliland, and Terrance Gibson
- Western Heritage**

'One-Flake-Wonders': Story of Disregarded Archaeological Sites

Archaeological sites in the boreal forest are often characterized by finds of a single artifact, usually a non-diagnostic lithic flake, discovered in a single shovel test during a routine historic resources impact assessment. Despite extensive shovel testing completed in a grid pattern in the immediate area surrounding this discovery, there are often no other finds, and the site is given the informal classification of a 'one flake wonder.' Due to the relatively limited amount of interpretable information that is usually associated with them, these sites are frequently designated as of low value and are likely to be written off (the developer is allowed to proceed with operations without regard to potential impacts to the site).

However, recent observations at a 'one flake wonder' site that was accidentally impacted by harvest developments demonstrated that these sites actually contain significantly larger quantities of archaeological materials that remain undetected, even after thorough shovel testing. These observations suggest that we should re-examine the assumptions we make about the value of individual sparse finds in the boreal forest, as well as how we interpret them. This case has the potential to inform and refine regulatory decisions regarding the protection of these historic resources, by emphasizing what we do not know about 'one-flake-wonders' rather than relying on limited pool of data.

Poletto, Christina (University of Alberta) and Alwynne B. Beaudoin (Royal Alberta Museum)

Blizzards, Blazes, Bandsaws, and Bitumen: Ongoing Palaeoecological Research in Northeastern Alberta

Within the Mineable Oil Sands Region (MOSR) and the greater northeastern Boreal Forest ecoregion of Alberta, intensive industrial development has promoted archaeological investigations since the 1970s, resulting

in the discovery of hundreds of sites relating to almost 10,000 years of human occupation. Yet, despite the large number of assemblages recovered (roughly 1500 sites), the region lacks a well-defined culture history. One way to supplement the archaeological record in the region is to reconstruct palaeoenvironments. Lake sediments provide a continuous record to help frame and contextualize the episodic archaeological record of northern Alberta. Previously conducted palaeoenvironmental studies on lakes in the northern part of Alberta tend to be limited in their chronologic control and reflect broad-scale changes of the early Holocene.

Analysis of a lake sediment core from Sharkbite Lake, north of Fort McMurray, aims to derive a palaeoenvironmental record which can provide context for archaeological sites in the region. Fieldwork to collect the core took place in late winter 2010. A simple and hand operated coring apparatus was lowered through a hole cut in the ice and about 5 m lake sediment was recovered from the bottom of the lake. Once the core was retrieved from the lake, it was returned to the lab, where it was split, described,

systematically sampled and analyzed to reconstruct the environmental histories. Samples will be analyzed for pollen, microscopic botanical materials, and volcanic ashes. The pollen and charcoal provide information on vegetation and fire history, whereas volcanic ashes, if found, can help provide chronologic control. This poster presents preliminary results from Sharkbite Lake and highlights the value of palaeoenvironmental analysis for contextualizing the archaeological record from northeast Alberta.

Weinbender, Kim

A "New" Old Boulder Effigy

A boulder effigy first reported in 1984 has been patiently waiting to be recorded for over 30 years. It recently came to light when the Heritage Conservation Branch was contacted by a descendant of a collector who had had his collection recorded in the 1980s, and some accompanying photos of the effigy were included in the files. Branch staff are eager to record this new old boulder effigy, and hope it provides further clues to the rich cultural landscape of southwest Saskatchewan.