

Stories Left Behind



Interpretations of the Archaeology at Brightwater Science and Environmental Centre

Written by
Sandra Walker

With Stories Contributed by Brightwater Students



Acknowledgements

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We are indebted to the Salvation Army and Saskatoon Public School Division for access to the land housing the Beaver Creek Camp and Brightwater Science and Environmental Centre. This provided us with tremendous opportunities to explore, study and learn out-of-doors.

We extend gratitude to Talina Cyr-Steenkamp and Belinda Riehl-Fitzsimmons from the Saskatchewan Archaeological Society, Dr. David Meyer, Professor of Archaeology, University of Saskatchewan, and Dr. Dale Walde, Field School Director, Department of Archaeology University of Calgary, for their advice and assistance. We sincerely thank teachers Dianne Scissons and Deb Ferguson for their support and for encouraging their students to contribute stories.

To Brightwater Science and Environmental Centre project leaders Marcia Klein and Teri Clark, we greatly appreciated your participation, enthusiasm and guidance. We acknowledge the time and effort donated by Talina Cyr-Steenkamp, Caroline Cottrell and Lisa Proctor for proofreading this publication, Ken Walker for building the artifact display case and Wade Falk for his general assistance.

Photographs were taken by many, including Ron Heinrichs, Gordon Taylor, Talina Cyr-Steenkamp, Josslyn Meyers and Brightwater students. Projectile points, Mortlach and Old Women's Phase pottery drawings were provided courtesy of Leslie (Butch) Amundson, Senior Archaeologist for Stantec Consulting LTD. Student contributions were written by Aiden Currie, Ariana Faul, Adrianna Stein, Kiana Mah and Marissa Delahey. The technical portion of this document was written by Sandra Walker and, edited and formatted by Teri Clark.

Finally, we thank the lands of Brightwater, its creek and springs for providing sustenance for flora, fauna and cultures past, present and future.



Saskatchewan
Archaeological
Society



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The Story Behind This Story

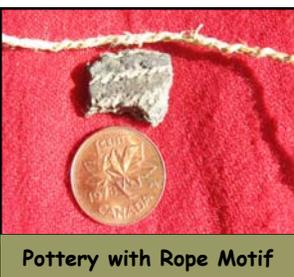
Brightwater Science and Environmental Centre (here after Brightwater) is a school division sponsored out-of-school learning centre for middle years, Science 10 and Biology 20 students of Saskatoon Public Schools (SPS). The centre has provided the location and guidance for the educational programming of science, environment and related disciplines since its inception in 1990, utilizing the land along the Brightwater Creek valley. The area is south of Saskatoon, Saskatchewan and encompasses one quarter section of sandy grassland. One hundred acres of the land is owned by the Salvation Army and the adjoining 60 acres is owned by Saskatoon Public Schools.

The study of archaeology is not new to Brightwater. In the mid 1990's Mr. Tim Jones registered Brightwater's first archaeological historical site. As a result, a "Garbage Archaeology" educational program was developed for middle years students at Brightwater during the school year. Students excavated the Pheasant Farm landfill on the SPS land and classified artifacts found from the 1950's and 60's. Representative samples of the artifacts now reside with the Saskatchewan Archaeological Society in Saskatoon.

The most recent archaeology project at Brightwater began in the fall of 2008. This project evolved from the ethnobotany programming delivered by facilitator Sandra Walker and her significant discovery of surface pottery at the eroded edge of the creek in the fall of 2007. Inclusion of archaeology into the Brightwater ethnobotany curriculum followed with the use of Avocational Archaeology Reconnaissance Survey Permits in 2008 and 2009. All artifacts found on the surface were collected and used for teaching purposes in accordance within the terms of Avocational Archaeology Permits 08-112 and 09-014 Type B.

The intent of this project is to integrate the social science of archaeology and science through Brightwater's ethnobotany programming. Archaeology is relevant to SPS Native studies, social studies, science and creative writing core curricula. It is hoped that these efforts will aid in fostering a deeper appreciation and understanding of the cultural history and archaeology of the Brightwater area, and illuminate future career paths in related disciplines. The resulting publication is intended for use by students and teachers of Saskatoon Public Schools.

This publication was funded by Saskatchewan Archaeological Society (SAS), Saskatchewan Heritage Foundation (SHF) and Saskatoon Public Schools. It provides basic background information about archaeology, archaeological investigation and interpretation, and highlights Brightwater's archaeological findings and student contributions.



Overview of the Brightwater Area

Vast changes in the geology of the Brightwater area have occurred over millions of years. All have helped to shape the current landscape with which we are familiar today.



Areal Photo of Brightwater Creek

About 25,000 years ago ice fields (glaciers) over 1 km thick blanketed the landscape. Approximately 12,000 years ago melting ice from the most recent of glaciations produced massive glacier-fed fresh water lakes. Glacial melt and drainage left behind large deposits of sandy soils, creating a delta in the Brightwater area. The landscape 7,000 years ago began to look similar to what we now see; a locally rolling

topography in proximity to a creek bed, surrounded by open prairie. Just over a century ago, the landscape held active sand dunes and native prairie. Since that time, seeds and spores have migrated or blown in and plants now cover (stabilize) the sand dunes.

This landscape would have been attractive to early Plains People. Bison was their principal food source. The areas provided landforms suitable for constructing traps and jumps to hunt bison using stone technology. The presence of natural springs in the Brightwater vicinity would also have been important to the survival of the Plains People. Brightwater Creek may have only flowed after snow and ice thaw in the spring. The springs would have continued to provide a supply of fresh water during drought years or if the creek ran dry.



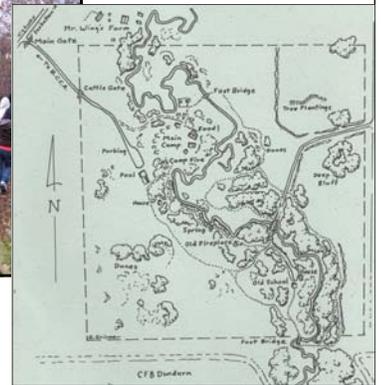
Since the mid 1960's the flow of water through the Brightwater creek has been controlled upstream by Gardiner Dam.

Archaeological evidence reported in the Beaver Creek Archaeological Resource Assessment publication (1983) by Dr. Ernie Walker suggests that humans have inhabited the Brightwater region for thousands of years. Nomadic cultures, following the migrations of the animals that sustained them, would have spent time in the Brightwater area. Plains People were likely drawn to the area for its fresh water, abundance of flora and fauna and the scenic valley that provided shelter during harsh winters.

Visitors are now attracted to the natural beauty of the area and enjoy various opportunities to learn about its ecology and cultural history. The land is locally used for conservation, agriculture, and educational purposes.

What is Archaeology and What Does an Archaeologist Do?

Archaeology is the science of studying human cultures from prehistoric and historic times, and the recent past. Archaeology follows a set of methods to collect, analyze, document and interpret objects and information. Through experience archaeologists have learned where to look on the landscape for evidence of past human activity. The topography of a landscape refers to the human-made and natural features of the land. Archaeologists



Map of Brightwater Area



View from a High Point at Brightwater

study the topography of an area for important clues about likely locations to find material evidence such as natural and cultural objects, as well as plant and animal remains.

The topography of an area is often investigated by exploring the high and low points of the landscape. These locations tend to be where nomadic cultures seasonally concentrated their activities.

Archaeologists have typically found evidence of early cultures in and around such areas. For example, in the winter Plains People would likely have lived in sheltered locations, such as a river or creek valley with, or close to a water source and plentiful game. Higher elevations would have been preferable during the summer months because of exposure to the wind and fewer insects. Plains People may have also wanted to be close to a high point to view the surrounding landscape for human activity and herd movement.



Brightwater spring in winter

Ethnobotany is the study of how cultures used plants to sustain their existence. Many fruits, vegetables and plant materials used for food, medicine and tools were collected from within a creek valley or depression (bluff, slough) where more moisture was available for plants to grow and flourish. Breadroot (*Psoralea esculenta* Pursh), however is a tuber (potato-like) that has adapted to disturbed open upland areas with sandy soils. During the time of free ranging bison it flourished across the prairies and was a major food source of the Plains People. They ate it raw, boiled, or dried and ground into a powder to make dumplings and biscuits. Brightwater's landscape has many of these plants and physical features. The diverse habitats of the area may be why it is such a great place to look for artifacts!



Breadroot

The material evidence left behind in the landscape by past cultures is often referred to as an "artifact". An artifact is an object or landscape feature that had been made or shaped by humans, such as tools made with stone, bone and clay, or artwork called pictographs and petroglyphs.

Archaeologists also have an understanding of how past climatic and environmental factors may have influenced the lives and activities of the cultures they are studying. Archaeologists use the information they gather to create interpretations of the activities of our human past. This is often why they are employed throughout the world by museums, universities, government agencies, historical societies, as consultants on environmental impact assessments, and . . . at the Brightwater Science and Environmental Centre!

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Thorny Buffalo Berry



Rose Hip



Highbush Cranberry



Chokecherry



Archaeological Records

Borden No. EINg-32 Scale: 1cm. = 10 m. approximately

Saskatchewan
Tourism, Parks,
Culture, and Sport

Archaeological Resource Management
Heritage Resources Branch

Saskatchewan Archaeological Resource Record

Site Name Brightwater Science Center/Sunshine Camp Observed
 Site Type Artifact find Mapped Borden Number EINg. 34
 Tested/Exc

Heritage Resources Branch
9th Floor 1919 Saskatchewan Dr.
Regina, SK. S4P 4H2

Avocational Archaeology Permit Report

08 - 112 Type B

Name Klein Initial(s) SJW, MK Surname Public Schools
 City/Village/Town Saskatoon
 Postal Code S7K 1M7 Telephone (306) 373-4169
 Time Frame May - Oct 8 - Oct 31, 2008

Location(s) I worked at are as follows:

LSD	Section <u>6</u>	Township <u>35</u>	Range <u>5</u>	W <u>3</u>	M
LSD	Section	Township	Range	W	M
LSD	Section	Township	Range	W	M
LSD	Section	Township	Range	W	M
LSD	Section	Township	Range	W	M

(attach additional sheets, as needed)

C14 dates _____

LOCATION

015 Dundurn
 T₁₄ / E 383140 N 5759688 NAD 83
 R₁₄ 1/4 Section 6 Twp. 35 Rge. 5 W 3 M
 Corman Park No. 344
 N. Lat. " W. Long.
 including native parkland/prairie in immediate vicinity of
 Brightwater Creek valley, approximately 16 km south of Saskatoon.

Provincial Crown Federal Crown
 Saskatoon Public Schools
 Other Schools

SITE DESCRIPTION

width 5 depth 0 m measured estimated

observed:
 flakes of heat treated chert and one secondary flake of Swan River chert

Last Catalogue # Site 3: Flake 1-4
 Brightwater Science and Environmental Center.

no number _____ depth _____

flakes were found slightly north of a foot bridge crossing of Brightwater
 approximately 430 m northwest of the site.

Pages from Brightwater
2008 SARR Report

Archaeological investigations in Saskatchewan are regulated by the Heritage Resources Branch of the Ministry of Tourism, Parks, Culture and Sport. What an archaeologist does first when viewing a site is a "reconnaissance" - this is a French word meaning "to see or meet again". An Avocational Archaeology Permit is required by the general public to perform a "Reconnaissance Survey" which allows a person to "walk over" a site and collect artifacts, but does not permit any digging into the ground. Application for an Avocational Archaeology Permit is submitted to the Heritage Resources Branch of the Ministry of Tourism, Parks, Culture and Sport (<http://www.tpcs.gov.sk.ca/heritage>). A Saskatchewan Archaeological Resource Record (SARR) is a report submitted to the Heritage Resources Branch after each season of walking over a site to look and collect artifacts.

Once artifacts are found on a site and reported in a SARR, the province provides the site with a "Borden number". A Borden number is an alpha-numeric designation system that assigns specific latitudinal and longitudinal co-ordinates to the site. This system was developed in 1952 by Charles Borden to eliminate confusion when archaeological sites had the same name. The site is then usually given a secondary name, such as the name of a local feature, nearby township, landowner or the locator. The recent addition of archaeology to Brightwater's ethnobotany program has led to four new archaeological sites at Brightwater. Each site has a registered Borden number. A permanent secondary name may be given to

these sites in the future.

If you were asked to name one of the Brightwater sites, what would you call it?

Google Image of Four New Archaeological Sites at Brightwater



Why Do Archaeologists Report a Site?

Artifacts found in Canada technically belong to the Government of Canada. When artifacts are collected, the provincial and federal governments are notified of how and where the artifacts are being stored and who has the collection (example; SARR). This protects the archaeological sites and the artifacts from being lost. The Royal Saskatchewan Museum (<http://www.royalsaskmuseum.ca>) is the repository for many Saskatchewan artifact collections.

How Do Archaeologists Classify Sites?

Archaeologists classify the various areas that past cultures used into different types of sites. Some of the most common sites include; Occupation Sites, Kill and Food Processing Sites, Quarry Sites and Ceremonial Sites.

An **Occupation Site** is a localized area where people carried out their daily activities. They can often be identified by the evidence left on the landscape. The past location of a tipi can be identified by fairly large stones arranged in a circular pattern, called a "tipi ring". A "hearth" was used for cooking and heating and can sometimes be



Tipi Ring at Ancient Echoes Interpretive Centre, Herschel, Sk.

found inside a tipi ring. It too is indicated by stones, but arranged in a much smaller circle. Occasionally, the soil within a hearth may have a charred appearance. "Garbage" areas are also typically found in close proximity to an occupation site. They are usually rich with evidence of food sources and broken tools.

"Boiling pits" are circular hand-made depressions in the soil containing rocks that show signs of heat fractures. Past cultures used boiling pits to cook soups and stews. A hole was dug into the soil, lined with rocks then a fire made on top to heat the rocks. Once the fire had reduced to ash, the depression was lined with raw hide and filled with water and stew ingredients for cooking. Hot rocks were later added into the pit to keep the soup or stew warm. Does this sound similar to the story entitled "Stone Soup" by Christianna C. Jones?

Kill and Food Processing Sites are areas where animals were killed, butchered and processed for food, clothing and tools. This type of site is commonly found near a water source and uneven landscapes where evidence of animal bones and stone tools have been found.

Early Plains People effectively hunted game with stone technology by using the contours and natural features of the landscape to their advantage. "Bison jumps" were located where flat or rolling terrain ended in a steep slope. Stampeding bison were herded toward a cliff edge where they plunged to their deaths. "Bison traps" were mud holes, bogs, depressions in the landscape, or human-made corrals, that were used to trap or injure animals. Trapped bison could be approached closely and more safely by hunters. At close range, stone tools such as a spear or the bow and arrow could be used effectively to quickly kill the animals.

Archaeologists typically find animal bones in a variety of conditions at kill and food processing sites. Smashed bone, bone with cut marks, or bone fragments showing evidence of boiling or burning are common. Also found at these sites are "Lithics," or stone tools such as projectile points



Knife River Flint Blade

(arrowheads), blades, knives, endscrapers and grooved mauls (stone hammer) as well as stone flakes associated with tool making and sharpening.

Landforms with an outcrop of rock material suitable for stone tool production are characteristic of a **Quarry Site**. Materials such as Knife River Flint, silicified peat moss, agatized (petrified) wood, chert, quartz, quartzite, and silt stone pebbles were used to make stone tools.

FLINT KNAPPING (Not Napping!) was a method used to work these types of stone into tools. It involved striking the flint core to obtain a flake. Pressure was then carefully applied to shape and produce a sharp edged projectile point.



Flint Knapping



Napping

It is a primitive method of stone tool manufacturing that is still practiced today. Artifacts associated with flint knapping include cores (larger pieces of rock from which the smaller

flakes were obtained and refined), stone flakes, and antlers used for pressure flaking the edge of the stone tool. A fire pit might also be found, which would have been used for heat treating the rocks to improve the workability of the material for knapping.

Ochre is a sedimentary rock that was quarried and used to produce different colours of paint. The colour of the ochre (typically yellow) was changed to a brighter yellow, orange, pink, red or rust by heating it to different temperatures.



Rock Altar at Herschel, Sk.
<http://acientecheos.ca>

Ceremonial sites are usually found alongside an Occupation site.

These sites were chosen because they had ample food, water and shelter resources to sustain many people. Clans or family groups would often return to these special areas in the spring, much like the community gatherings we participate in today. Ceremonial sites may contain petroglyphs (markings pecked into rock) or rocks grouped together that form a picture of an animal or person

known as a "rock effigy". A small pile of crumbled or fire cracked rocks can be evidence of a "Sweat lodge". An example of a ceremonial site near Saskatoon is the "Tipperary Creek Medicine Wheel" at Wanuskewin (<http://www.wanuskewin.com>).

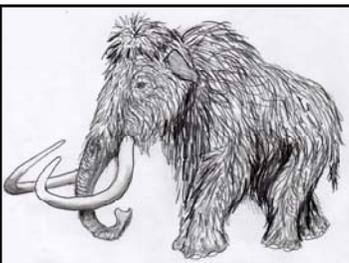
The landscape features at Brightwater are typical of areas where archaeologists tend to find artifacts. **Which types of archaeological sites do you think there might be at Brightwater?**

Artifact Chronology and Cultural Setting

To better understand how Brightwater artifacts are part of archaeological records, we need to review the general artifact chronology of the Plains People. Artifact chronology is similar to a timeline. It helps arrange artifacts from the earliest to their most recent occurrence in time. For example, the design of a projectile point can be used as a diagnostic measurement to estimate the time period from which it was made and used.

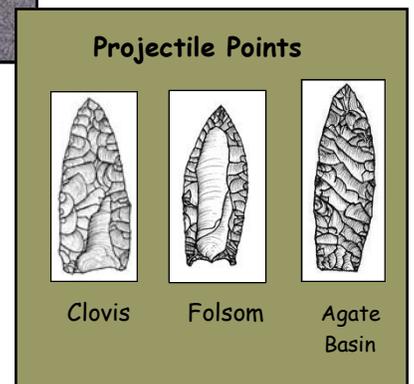
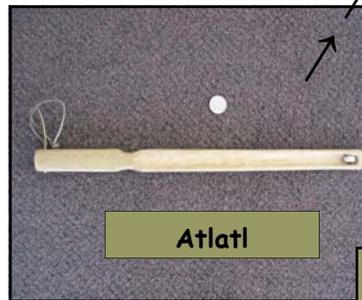
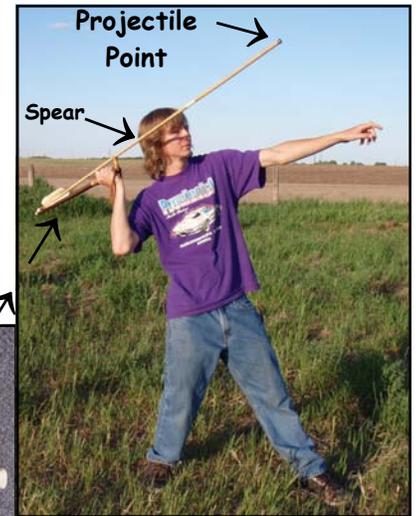
However, it is important to remember that one culture may adopt another culture's tool technology and there can be overlap in the time period from when one culture ended and another began.

The **Early Precontact Period** for the North American plains, is reported to be from 11,500 to 7,500 Before Present (B.P.). This period witnessed the end of an Ice Age. The plains underwent drastic climate changes that eventually led to the extinction of important mammals that provide sustenance (nourishment) for the Plains People. The Plains People of this period were nomadic hunter-gatherers who followed their main food source. They manufactured stone tools and used the "atlatl" spear thrower to

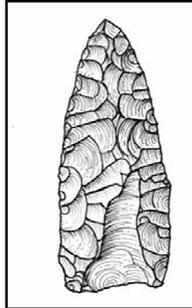


Woolly Mammoth

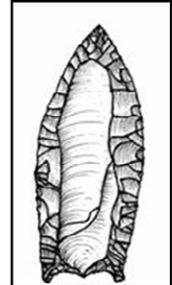
hunt large game like woolly mammoths and a larger relative of the bison. The atlatl allowed hunters twice the spear projection distance and twice the impact potential compared to launching a spear on its own. Projectile points of this period (i.e. Folsom) were long, narrow and fluted (concave) in the



Early Precontact Period 11,500 to 7,500 Before Present (B.P.)



Clovis (11,500 - 11,000) B.P.)



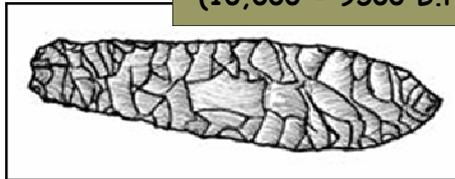
Folsom (11,000 - 10,500) B.P.)



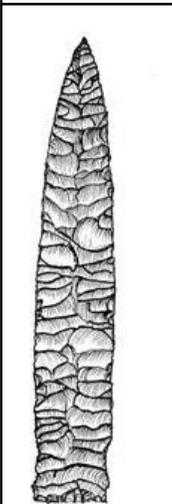
Agate Basin
(10,500 - 10,000 B.P.)



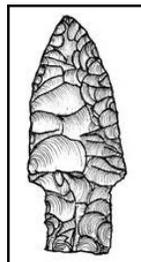
Hell Gap
(10,000 - 9500 B.P.)



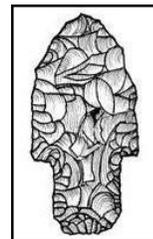
Cody Complex
(8,800 - 8,000 B.P.)



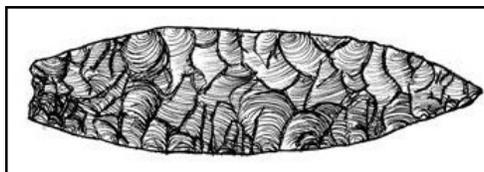
Eden



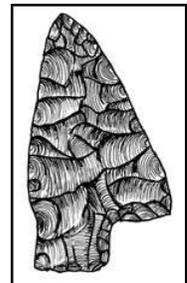
Scottsbluff



Alberta



Angostura



Cody Knife

centre for hafting (attaching) to a spear shaft with animal sinew.

The designs and methods that were used for manufacturing projectile points are also characteristic of a culture of a certain time. The retreat of the last ice sheet about 14,000 B.P. was followed by the earliest inhabitants of Saskatchewan from the "Clovis culture". The Clovis Projectile point was manufactured during the period known as Clovis (11,500 - 11,000 B.P.). Other cultures during the Early Precontact Period include;

Folsom (11,000 - 10,500 B.P.)

Agate Basin (10,500 - 10,000 B.P.)

Hell Gap (10,000 - 9500 B.P.)

Alberta (9,550 - 9,000 B.P.)

Cody Complex (8,800 - 8,000 B.P.) which includes cultures Eden, Scottsbluff, Angostura and the Cody Knife.

During the **Middle Precontact Period** (7,500 to 2,400 B.P.) the climate began to settle into more temperate (milder) patterns with alternating seasons. The extinction of the woolly mammoth led to a major food source change to bison for the Plains People. New technologies for hunting, such as the bow and arrow, were developed. Projectile points changed to a side notch design to enable hafting of the point to the arrow shaft. The projectile points of this time period characterize the following cultures;

Mummy Cave (7,500 - 5,000 B.P.)

Oxbow (5,000 - 4,500 B.P.)

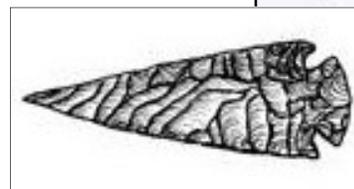
Mckean (4,500 - 3,500 B.P.)

Duncan (3,500 - 3,000 B.P.)

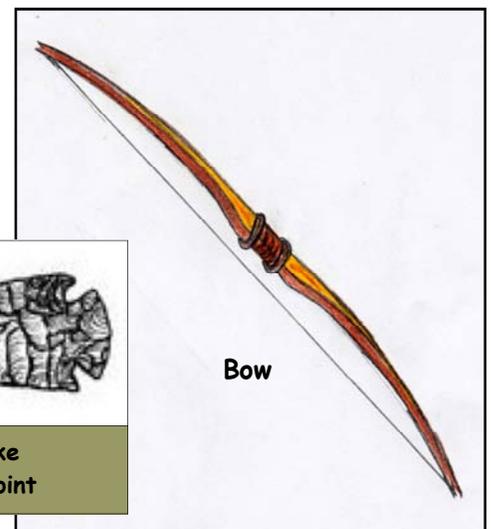
Hanna (3,500 - 3,000 B.P.)

Pelican Lake (3,000 - 2,200 B.P.)

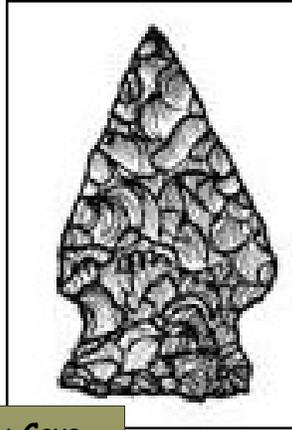
To hunt major food sources effectively, Hunting technology changed again during the **Late Precontact Period** (2,000 - 170 B.P.). The main Source of food for the Plains People was bison along with variety of native plants. For this reason the atlatl was completely replaced by the more effective bow and arrow with side notched projectile points.



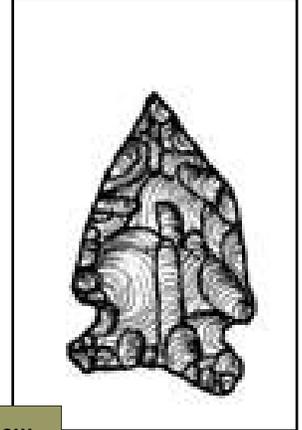
Pelican Lake
Projectile Point



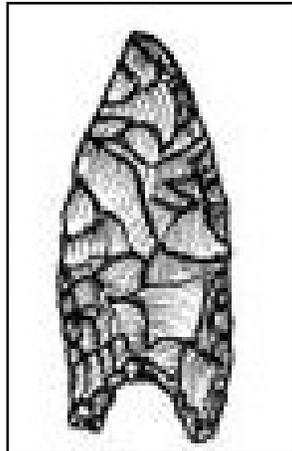
Middle Precontact Period (7,500 to 2,400 B.P.)



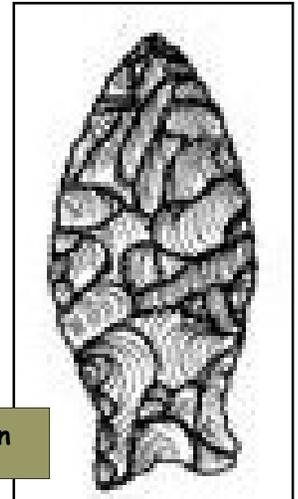
Mummy Cave



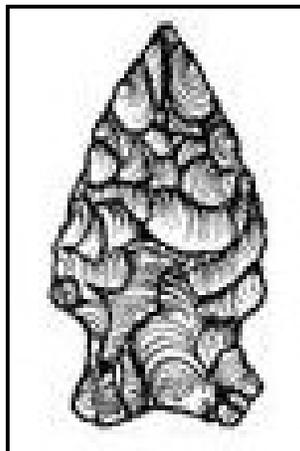
Oxbow



McKean



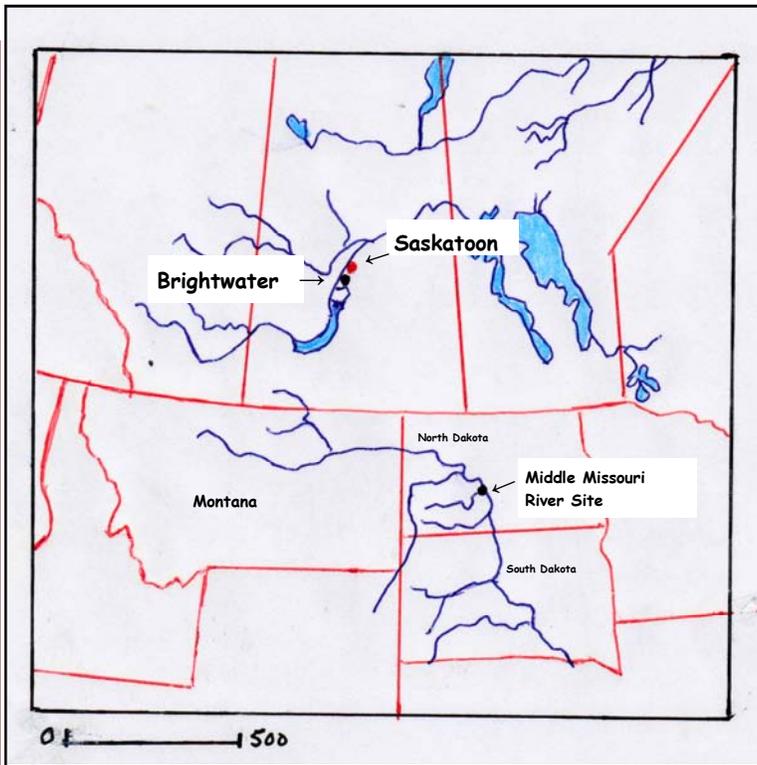
Duncan



Hanna



Pelican Lake



Several cultures to the south of Saskatchewan became sedentary. Instead of following herds to obtain their food, they settled in one location and farmed the land to produce crops such as corn, squash and beans. They made and used pottery for storage and cooking. Major trading occurred between the sedentary people from the Middle Missouri River area and many groups of people in North America.

From an archaeological point of view, cultures can now be diagnostically represented by the projectile point method of hafting AND pottery designs and motifs. For example:

Besant (2,000 - 1,700 B.P.): Besant culture pottery and Besant projectile point

Avonlea (1,800 - 1,150 B.P.): Avonlea culture pottery and Avonlea projectile point

Old Women's culture pottery (1,200 - 550 B.P.) coincides with Prairie Side-notched projectile point (1,200 - 550 B.P.)

Morlach culture pottery (450 - 250 B.P.) corresponds with Plains Side-notched projectile point (550 - 170 B.P.)

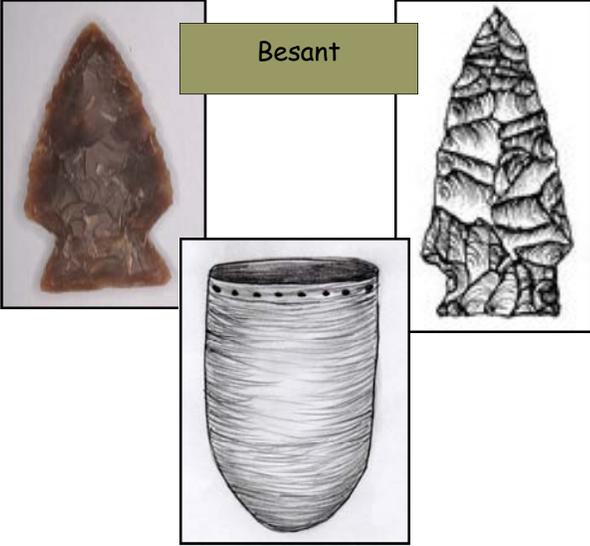
The **Protohistoric Period** began in the 1500s on the Saskatchewan prairie. Plains People began to experience indirect or minimal contact with Europeans. This marked the beginning of the appearance of European goods and influence on their lifestyle. By the 1700s, European fur trading posts were established in Saskatchewan. Metal pots and steel projectile points and blades were introduced to the Plains People along with horses and diseases such as small pox.



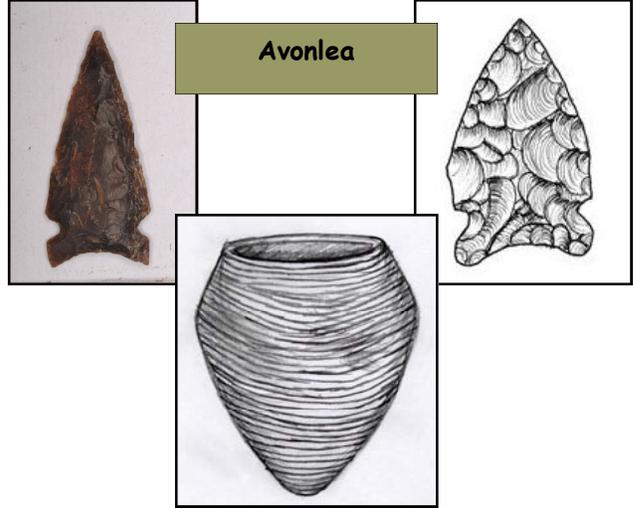
Metal Projectile Point

Late Precontact Period (2,000 - 170 B.P)

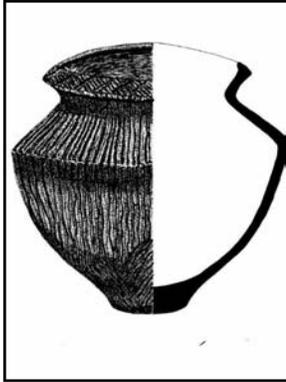
Besant



Avonlea



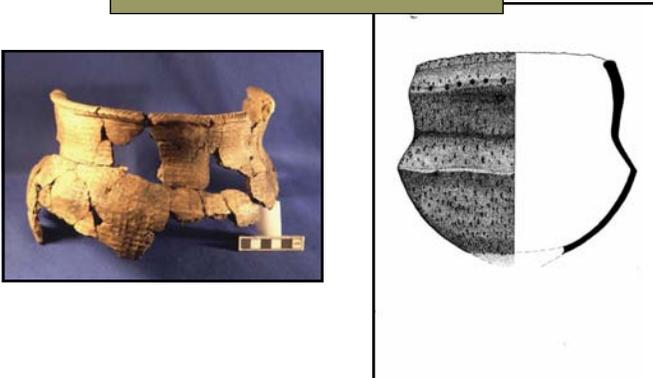
Old Women's Pottery



Prairie Side-notched



Morlach Pottery



Plains Side-notched



To sum it up, artifact chronology allows archaeologists to use projectile points and pottery as diagnostic tools of time, place and culture. By simply looking at the style of the artifact, archaeologists can estimate the time period of a site, and connect it to a culture.

How Do Archaeologists Know How Old an Artifact Is?

Archaeologists are able to identify the time period of a culture with reasonable accuracy by analyzing projectile points or stone tools found near bone pieces using a process called “radiocarbon dating” (<http://www.allaboutarchaeology.org/Carbon-Dating.htm>). All organic compounds contain the element carbon and can be radiocarbon dated. Since bone is made of organic material it can be radiocarbon dated. Organic remnants on pottery can also be dated. Carbon-14 is an isotope of the carbon element that is used to date the organic material embedded in or on artifacts. It can determine an approximate time frame within plus or minus 40 years. However, the decision to radiocarbon date an artifact can be difficult for an archaeologist. Radiocarbon dating is expensive and may even destroy an artifact. For these reasons, the artifacts found at Brightwater have not been radiocarbon dated. The knowledge and use of artifact chronology was used instead to provide approximate time periods for Brightwater artifacts.



Lithics Associated with Bone

Artifacts Found in the Brightwater Area

In 1983, Dr. Ernie Walker conducted an archaeological survey in the Beaver Creek area. A total of six archaeological sites were registered with the province. Some of the artifacts he found led him to identify the sites as two prehistoric sites and three historic sites. The sixth site could not be dated because he did not find any diagnostic artifacts in that area. Most of the archaeological evidence found on five of the six sites consisted of stone flakes, bone fragments, scrapers and charcoal. However at one site, a Pelican Lake projectile point was collected and dated to be 2,500 years old! Artifacts such as these indicate the possibility of there having been "kill and food processing sites", such as a bison jump, somewhere in the area. What is also exciting is that one of the prehistoric sites was on the Brightwater side of Highway # 219. In the fall of 2007 a fragment of well-crafted pottery was found on an eroding creek bank at Brightwater.

Since then, Avocational Archaeology Permits have led to four registered sites in the Brightwater area. To date, with the help of students, the following artifacts have been collected from the Brightwater area;

two bison bones

four stone tools

one chert and one flint core

thirteen chert, Knife River Flint, agate and solidified peat flakes

twelve pottery fragments (sherds) from three different pots

These artifacts are used by Brightwater staff to teach students about archaeology and past cultures. The artifacts have been reported to the government and Brightwater has been designated the official custodian of the collection.

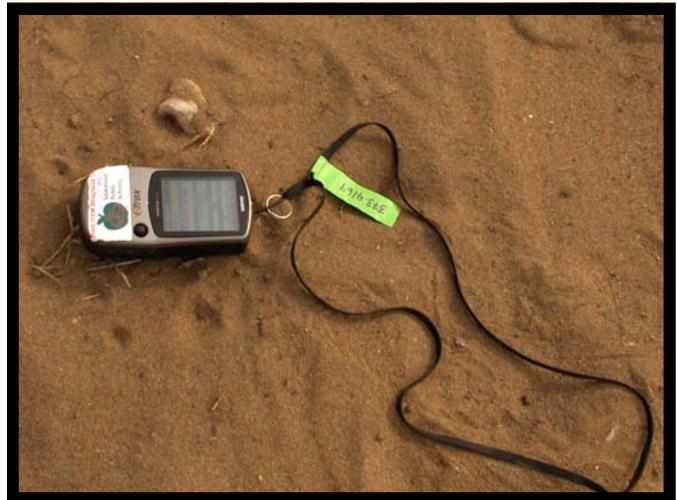
Can you find 7 Brightwater artifacts in the 6 pictures on page # 22?



Brightwater Artifact Display Case



Search for 7 of the Artifacts Found in the Brightwater Area



Four Registered Archaeological Sites in 2008



SITE ONE

Borden number:
EINq-32
Permit Numbers:
08-112/09-114



SITE ONE is an artifact scatter site.

It extends from the creek valley where the Brightwater Creek and the spring meet on the Salvation Army land, then up the hillside to the sand road. The scattered artifacts in this site may be an example of a nomadic culture moving their location with the seasons. This mobile seasonal shift of the Plains People from the creek valley in the winter, to the uplands in the summer, was necessary for survival.

Fragments of Knife River flint (KRF) and clay pottery, a chert endscraper and chert flakes, a bison scapula (shoulder blade) and silicified peat (peat that has turned to stone) have been

collected from the low-lying, sheltered area of the site. Knife River flint is highly workable and was a precious and valuable material for making stone tools. Of special interest was the



A total of 11 artifacts have been found from this area of Site One

unusual colour of one of the fragments of Knife River flint. This stone is usually a translucent brown colour. Through the process of patination, it will turn a creamy colour if the broken surface is exposed to air for hundreds of years.

The pottery sherds that were found could be pieces from three different clay pots. These artifacts suggest the possibility of domestic activities such as food preparation.



Above: Knife River Flint blade from Site Two
Below: Patination of KRF from Site One

If the valley area of SITE ONE had access to open water all year round it may have been used as an over-wintering camp area.

The evidence of stone flakes indicates the construction of stone tools. A chert endscraper is a small stone scraper that is sharp on one edge and was likely used for



Brightwater Pottery with Rope Impressions
And Stinging Nettle Strand of Rope

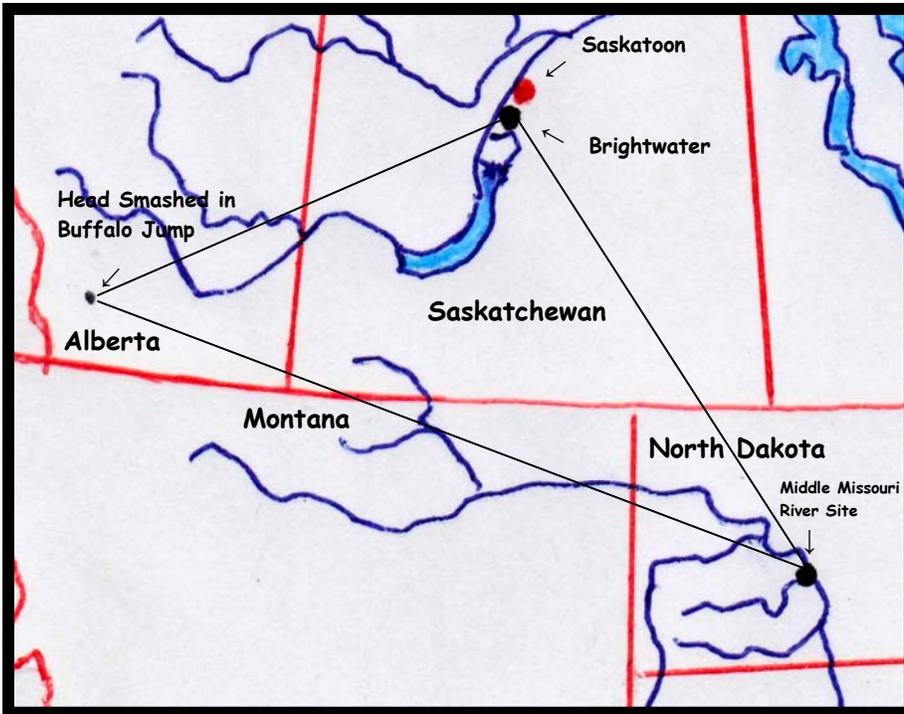
removing remnants of fat and muscle attached to the inside of an animal hide. A bison scapula (shoulder blade) is a bone that was used as a tool for digging. Upland of the spring area, one pottery rim sherd was found along with several flakes of chert and Knife River flint. **Do you think it is possible that this upland area might have been used as a summer camp?**

Several of the clay pottery sherds found on SITE ONE at Brightwater have a motif of single lines made from rope impressions. Motifs are decorations that help indicate the culture and time period of the pottery. Dr. David Meyer, Professor of Archaeology at the University of Saskatchewan, is one of Saskatchewan's archaeological pottery experts and Dr. Dale Walde, from the Department of Archaeology at the University of Calgary, is one of our country's leading authority on Middle Missouri pottery. During a visit to Brightwater on July 21, 2009, they observed the motifs and the unusual thinness of the sherds. They thought the sherds resembled pottery from the Middle Missouri River culture which would suggest these clay fragments were about 700 to 250 B.P. years old!



Middle Missouri River Culture Pottery

Pottery of the Middle Missouri River culture was typically made by wrapping coils of clay into a vessel shape. The interior of the pot was made smooth using a burnishing stone. A small wooden paddle wrapped in rope or hide would then have been used to strike the outside of the pot to seal the seams of the coiling. Manufacturing pottery in this way produced a



very thin yet durable clay pot, often thinner than what is usually produced using a modern potter's wheel!

Middle Missouri River pottery is very rarely found in the Canadian plains. Head Smashed In Buffalo Jump Historic Site, Alberta

(<http://www.head-smashed-in.com>)

is the only place Middle



Google Image Site Two

Missouri River culture pottery has been documented in Canada.

If Brightwater's pottery artifacts are samples of Middle Missouri River pottery, how do you think they came to the area?



Location of Bifacial Chert Blade



Heat Treated Bifacial Chert Blade

SITE TWO
 Borden Number
 EINq-33
 Permit Numbers:
 08-112/09-114

SITE TWO is located at the north bank of the creek valley as it approaches the open prairie on the SPS land.



Location of Endscraper



Endscraper



Location of KRF Blade



Knife River Flint Blade with a Spokeshave

The collection of three lithic tools (stone tools) may indicate the area was part of a food processing site. In particular, a chert bifacial blade, a chert endscraper and a Knife River flint

blade with a spokeshave were found at the site.

An endscraper was used to clean the inner side of a hide. The chert bifacial blade was commonly used as a knife. A spokeshave is the concave side of the Knife River flint blade (below) and was likely used to straighten the

wooden shaft of an arrow. The Knife River flint blade with a spokeshave was probably the "Swiss Army Knife" of the stone-age, because of its multiple uses and its ability to maintain a razor sharp edge.



Google Earth Image of Site Three

SITE THREE
 Borden Number
 EINq-34
 Permit Numbers:
 08-112/09-114

SITE THREE is located at the north side of the Salvation Army footbridge.

Several chert flakes and one silicified peat flake were collected from the eroding hillside.



Photo of Location of Site Three



Heat Treated Chert Flakes

Could someone have been making stone tools in the area? How long ago?



SITE FOUR

Borden Number EINq-35

Permit Numbers: 08-112/09-114

SITE FOUR is located in an upland area at the side of the sand road, just east of the archery range. Only one remnant of a flint stone core has been collected to date. Until other artifacts naturally surface, there is some uncertainty that this is an actual archaeological site.

Google Earth Image of Site Four

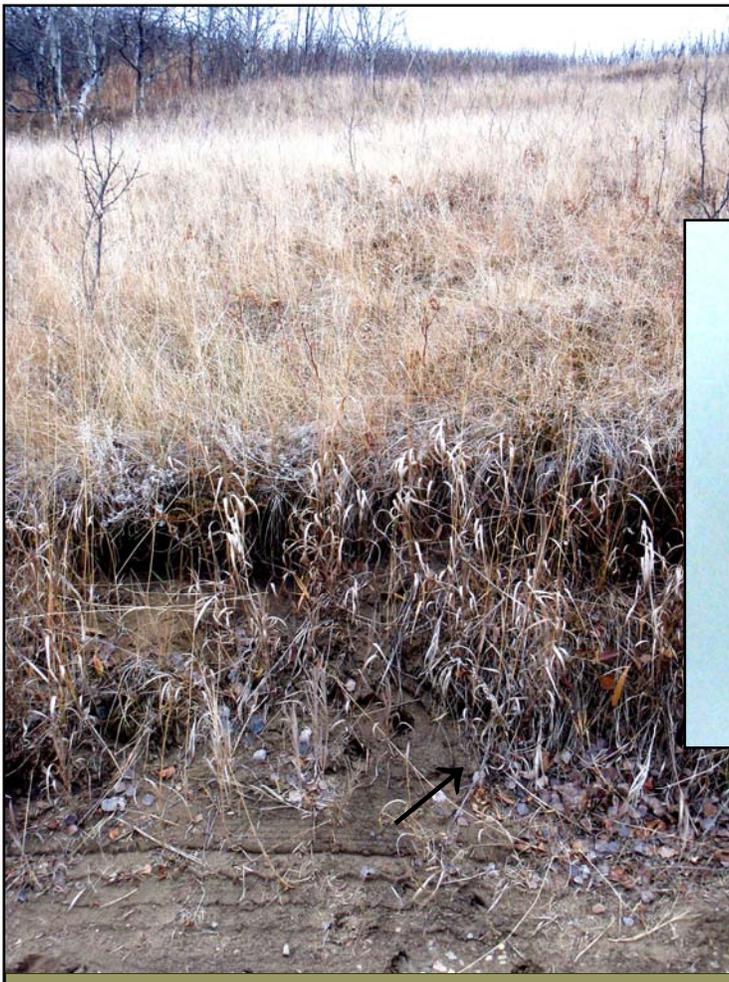
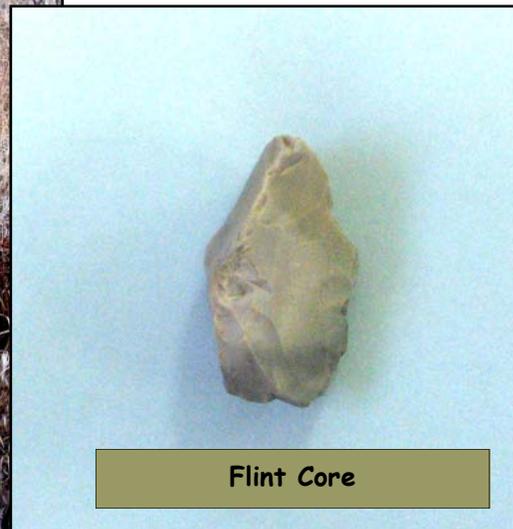


Photo of Location of Site Three



Flint Core

What Might All This Mean?

According to North American archaeological records, North Dakota is the only known source of Knife River flint. The collection of Knife River flint from Brightwater sites could mean that early cultures in the area had at the very least, indirect contact with people from North Dakota.

If you remember, patination of rock takes a very long time. The presence of a flint fragment that has undergone patination may mean that humans inhabited the Brightwater area a long time ago! The unique pottery found on site may be a sign of the trading of goods, and direct or indirect contact between distant groups of people during the Middle Missouri River culture (700 - 250 B.P.).

The Middle Missouri River culture was comprised of at least three distinctly different groups of Plains People. These groups settled along the junction of the Missouri River and the Knife River, in central North Dakota. The Hidatsa People were one of the main sedentary populations that lived in the area. They lived in circular earth-lodges and farmed beans,



squash and corn. Their river villages were a central point of an extensive trade system of Knife River flint throughout North America. They exchanged Knife River flint with their nomadic neighbours for dresses, hides, feathers and lodge covers (Ahler et. al, 1991).

Is it possible that pottery and/or pottery technology from a Middle Missouri culture could have travelled beyond the river villages of the Knife and Missouri Rivers to

Brightwater hundreds of years ago? **What would be your story?**

Stories By Brightwater Students

Ariana Faul

Grade 7, Prince Philip School, October 2009

Dakota ran to the creek, lifting up her dress so it didn't catch on the wild plants that grew around the creek. She did this because she had lost a few beads when she wasn't wise enough to do so. She carried a clay pot of berries in her right hand, and on her back she carried a baby-bag full of clothes. Dakota reached the bank and set the pot on a rock and plucked a Chokecherry in her mouth. As she washed her brother's skin trousers, a beaver poked its head out of the water some 50 meters away. Dakota hardly turned her head, but her eyes watched the beaver intently. Her hand instinctively went to the pot of berries, but as she pulled her hand away, the pot fell and smashed on a rock. "No"! Dakota cried, and the beaver swam away. Dakota desperately scanned the sands, but only a few fragments of the pot remained. Dakota picked up the washing and put it in the bag watching the creek for a few seconds before returning to her camp, ready to make a new pot and gather more chokecherries before they followed the buffalo herds across the plains once more.



Adrianna Stein

Grade 7, Prince Phillip School, October 2009

We looked at a lot of artifacts today. I personally found it quite interesting even though to some it might sound boring. I don't think I would like to be an archaeologist when I'm older, but if my other plans don't work out I would definitely consider it. I loved the ethnobotany. The liquorish that we tried was delicious, and I love learning about the different things that are good and aren't good to eat, and if they cure things. I really loved learning about the weapons and tools though I guess I just find it interesting, but I also think that I would love to make some of them like the bow and arrows. My brother and I tried to make a bow and arrow out of some wood from a tree that we cut down in our backyard, but when we were testing it the branch snapped and we didn't have any other wood left that would work (it was a small tree). I think that it is good to learn about our past and how to learn about things that are edible and that aren't. I also have a story about how the pots could have come to Brightwater.

Once there was a little girl named Elise. Elise's mother was a potter. One day when Elise was six her Mother made Elise a very special pot. It was blue-black with rope around the top. It was very small and Elise could

carry it in her hand. Elise loved it and carried it everywhere, to the pond, collect water when she was playing, watching her father hunt and she even carried it to bed with her. One day Elise's family moved very far, because her brother fell in love with a girl that he met while trading. He wanted to move so he could be with her and Elise's Mom said they could since they were planning on moving anyway. They would just have to move a little farther. While they were moving Elise went off to explore in a place that is now called Brightwater. She munched on berries and stayed pretty close to her family, but she somehow managed to get slightly lost. But that was the least of her worries for she heard something behind her. She whirled around, pot in hand as always, and saw a mother Plains Grizzly bear and two cubs. She knew that since the bear had cubs it would be dangerous. Not thinking because of panic she dropped her pot and fled. She eventually met up with her family but the pot was lost forever. Until we found it again that is!



My Experience at Brightwater with Sandra Walker

Our day with Sandra began with showing us ancient artifacts and land-forms. One of the artifacts was a tool used for hunting: a spear-thrower. It was like an extra elbow for the people. It gave them velocity, range and accuracy and must have made life easier for the hunters. They used it by attaching a sharp spear to the top of the elbow and threw it at the animal. Another ancient tool she showed us were arrow heads, which were either made out of flint, granite, or other various rocks. It was attached to the end of a shaft by a strand of sinew. We were also shown some pottery that was unexpectedly found at Brightwater. It was interesting because the people known to make that type of pottery were from hundreds of miles to the south, in North Dakota. Perhaps the pottery was traded between the people of Brightwater and North Dakota. The part that interested me most was the botany lesson. We were shown rosehips and how you can eat the outside part, but not the inside, otherwise it would give you "itchy bum"! An important lesson to learn! Something else we saw was a thorn that was very sharp and almost unbreakable. I think that the people might have used them for sewing needles or piercing objects like beads.

Ethnobotany is interesting because you get to learn about people and their interactions with plants in the past and in the present.

The Woolly Mammoth Hunt

When I woke up I was very excited. I hadn't gotten much sleep thinking about the day ahead of me. It was the day I finally got to go hunting with my father and brother. I was confident that we were going to catch something. Our camp hadn't had anything to eat in days and we were getting desperate. I was hoping on killing a woolly mammoth to last us the winter. After all, I had been practicing with my atlatl for awhile now.

I ran out of our small but cozy hut, with my atlatl in one hand and my spear in the other. My father and brother were just a few steps in front of me, so I ran to catch up. When I did, they looked at me and laughed. I kept on walking but they had stopped. I looked back at them and asked why they weren't coming. My brother told me that I wasn't going anywhere. I stood up taller and stood my ground. I told him I was going to catch a woolly mammoth. They looked at each other and chuckled once again. My father stepped forward and put his hand on my shoulder,

"You aren't coming. It's too dangerous and besides, you're just a girl. Now go back home and help your mother with some chores."

I stood there for a minute, and then started to walk back. There was no point in arguing with my





father. But instead of walking back home, I walked towards the fields outside of our camp. Then I lay down and closed my eyes. It wasn't fair that just because I'm a girl I can't go hunting or do any other things my brother does. I lay there for a while before I fall into a deep sleep.

I am in a place with a lot of bush and trees. I stand up slowly, my atlatl and spear still with me. I hear a noise that a very loud. I look around, startled. I see a huge woolly mammoth off in the distance. It looked like an elephant with fur on it and the biggest tusks I'd ever seen. I grinned as I put my spear on my atlatl. I wasn't going to miss this one. I was just about to throw the spear when it turned and looked straight at me. It ran just as I threw the spear. The spear came down pointing straight up into the ground. I was so disappointed I started to walk the opposite way. I thought I was going to kill it for sure and become the hero of my village. Then I heard another sound. It was very loud and distinctive. It was the cry of the woolly mammoth and it sounded much more real than before. I heard the sound once more. I started walking into the brush as I clutched my atlatl and spear. I saw the woolly mammoth and my father and brother. My father saw me first and told me to leave. Instead, I got my spear and atlatl ready. My father and brother had already thrown theirs, and missed. I backed up and threw. I held my breath as the spear went straight up in the air and hit the woolly mammoth right on the kill spot!

I smiled as I ran into camp with my brother and father. We told them how I had killed the woolly mammoth and everyone cheered. We returned to the kill site with many from our tribe to get the animal. Our whole village had a feast that night and I had become the hero. I smiled as my father had announced that he was never going hunting without me again.

The Chase

He is close behind; I am running in the bush trying to find cover from the hunter. He is faster than the usual man and is gaining on me. I make a sharp turn and I think I have lost him. I don't know where the pack is; I had to run away to avoid the hunter. I look back and I see that I have lost him. I look around to find the herd but I can't see a mammoth for miles. Being nomadic I have to find my herd so I can continue my journey. I look down and see snow; I dig my tusks in and find some dry grass perfect for feeding on. I eat a lot then I hear a rustling in the Bush. I see out of the corner of my eye that the hunter is hiding in the bush with his atlatl at the ready. I slowly turn around pretending to not notice him then I spin all the way around and knock him down with my tusks. I run off in the direction of the herd. I stop and look up ahead. Far off in the distance I see a village of Dené people I decide to take a rest before I go on.

I wake up and continue my journey toward the herd. I have to go around the village to avoid chaos but before I can start walking out of the trees, come a rampage of Dené people carrying spear and atlatls. I turn around and start running away from the Dené people but they are gaining. I run into a dead end and I know it. They have surrounded me. I am panicking; there is no way out and they are getting ready to fire. One of the men throws his spear

and I move so he misses by a hair. Another man is about to shoot when I hear the thundering of footstep, it's my herd! They have come to save me. They start charging the hunters and soon all around me there is a huge fight between mammoths and humans.

The fight is over and we have lost many of the herd members. I am one of the lucky ones. I have narrowly escaped death. Now I continue the journey to the land of ice with the remaining woolly mammoths.



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