The Head-Smashed-In Buffalo Jump Archaeological Project

2026 Field School

Archaeological Field School Information Session

- Project Overview
- Course Components
- Excavations in Action
- Excavation Schedule
- Application Procedure
- Course Requirements
- Risks, Safety, and Responsibility
- Costs
- Website: https://www.ulethbridge.ca/artsci/geography/head-smashed-buffalo-jump-archaeological-field-school

Field School Instructors

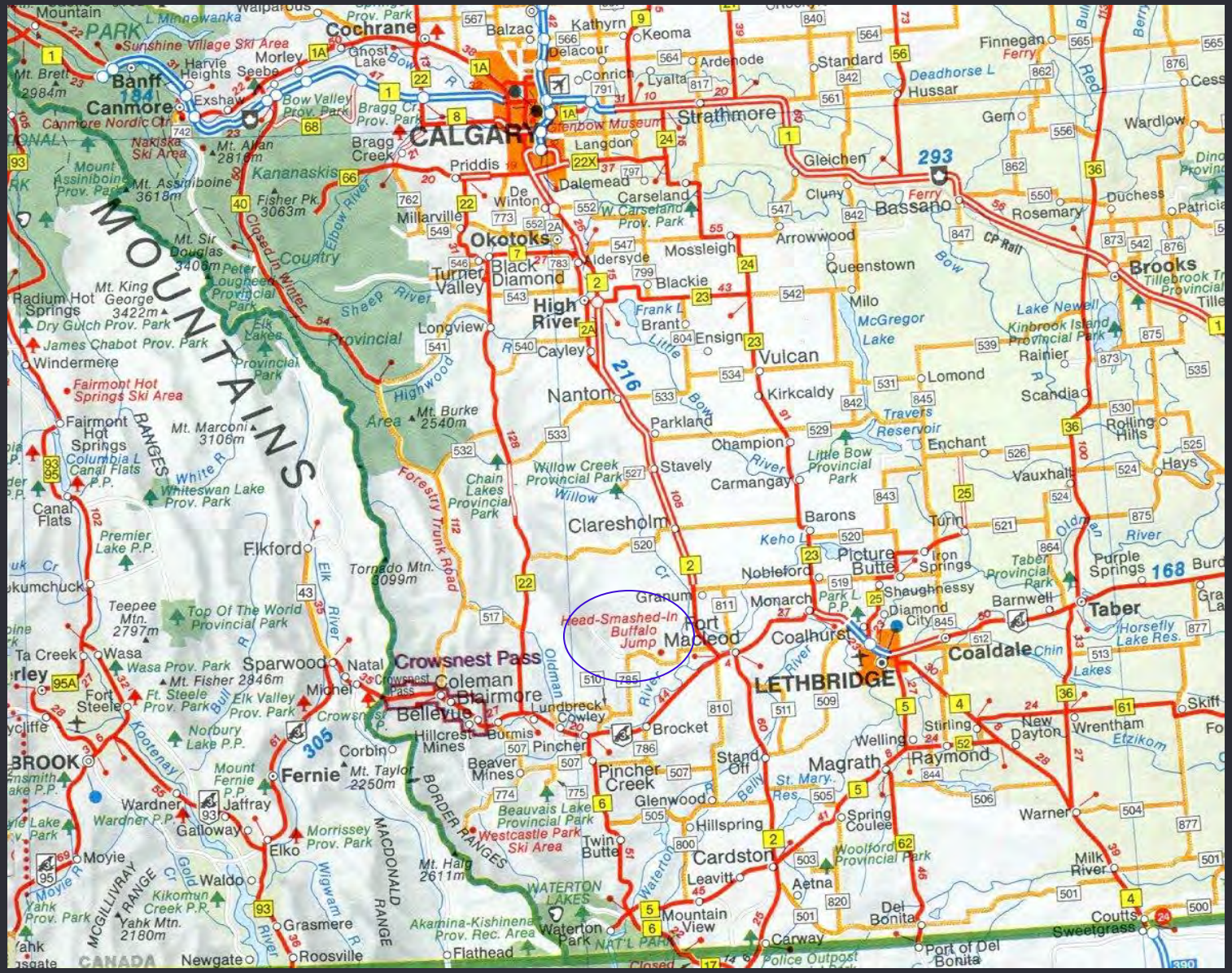
Shawn Bubel

Kevin McGeough

Bob Dawe

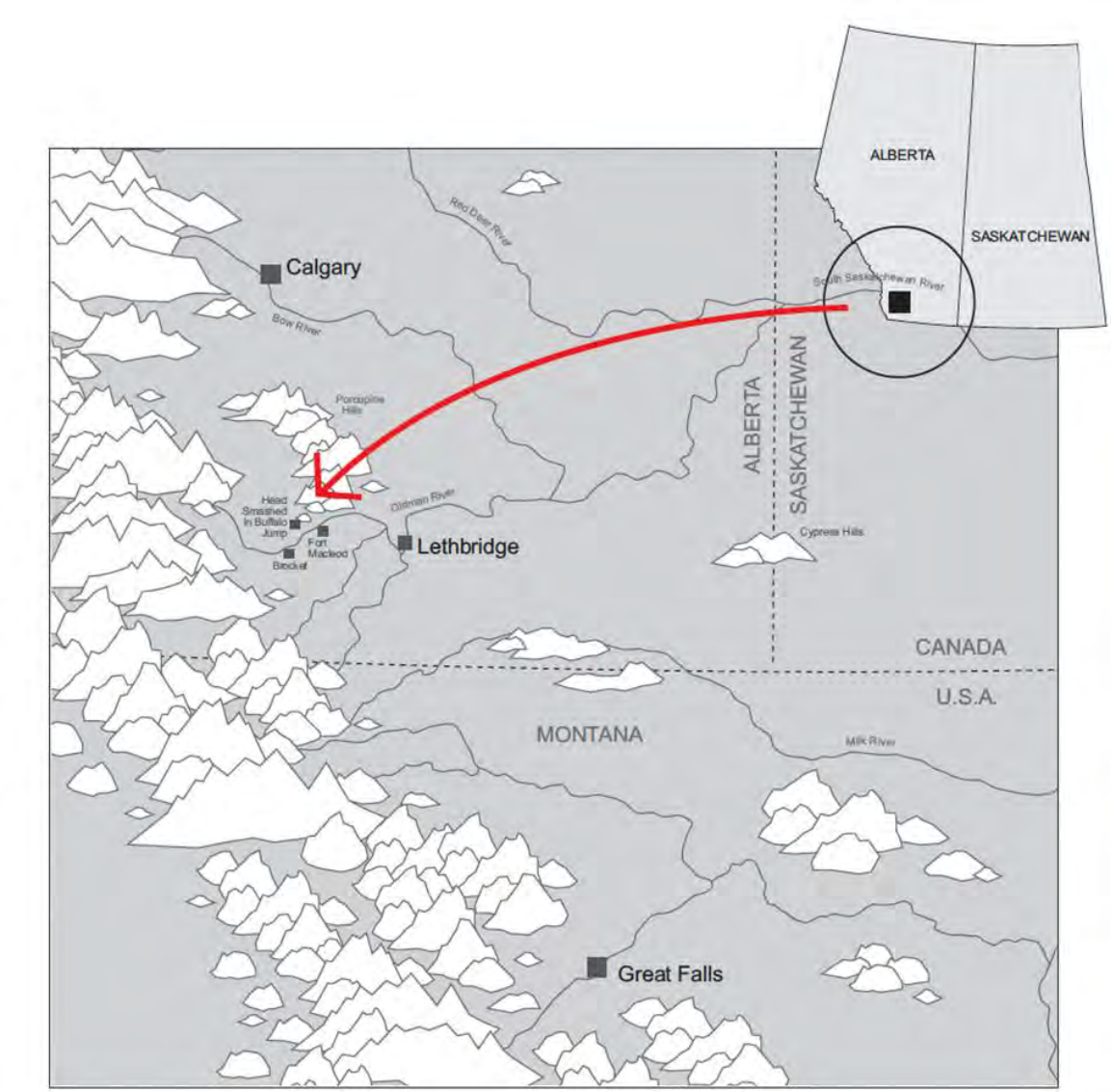
Oki! Meet Our Team

Site Location



Location of Head-Smashed-In Buffalo Jump.

Site Location



Location of Head-Smashed-In Buffalo Jump.

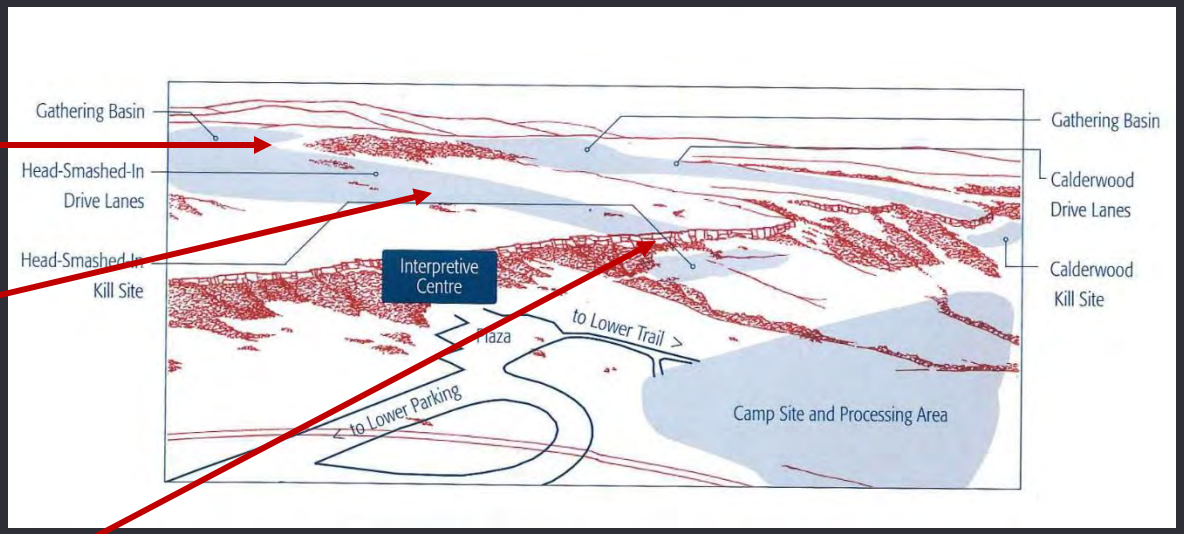
Head-Smashed-In buffalo Jump Interpretive Centre

Head-Smashed-In Buffalo Jump UNESCO World Heritage Site.

Head-Smashed-In Site Areas

Gathering Basin

Drive Lanes



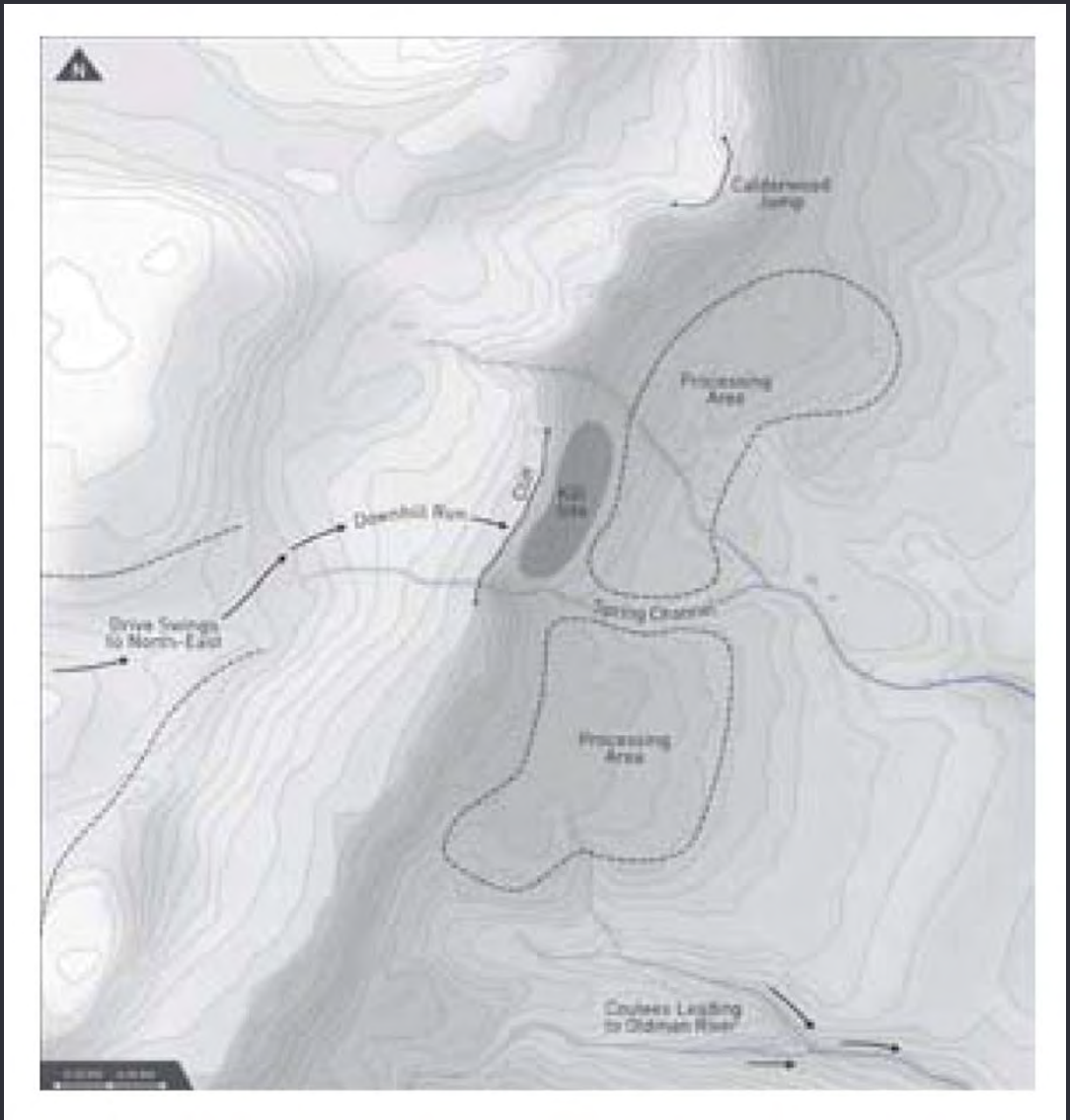
Cliff Face

Kill Site below the cliff

Spring Channel

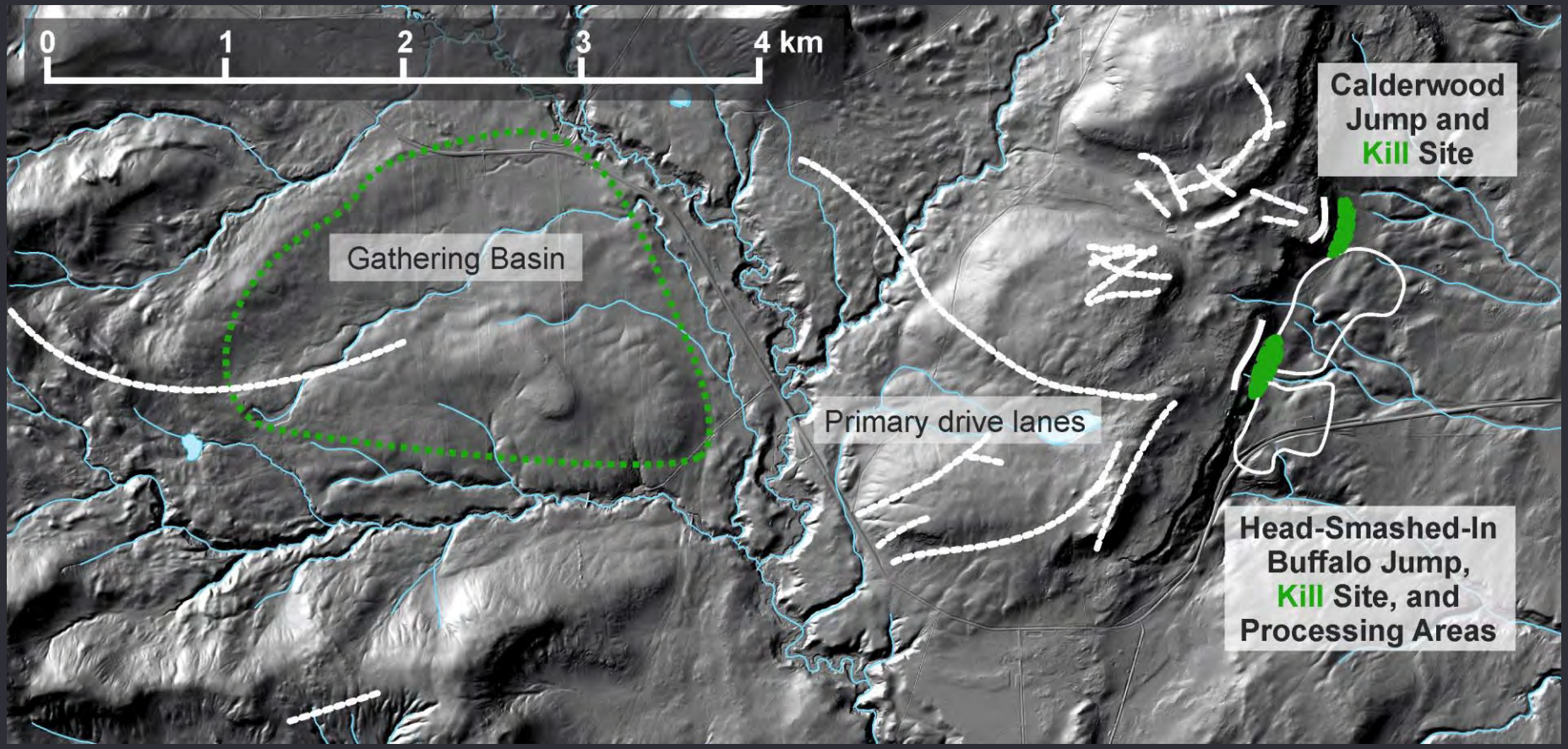
Camp Site & Processing Area

Site Landscape and Environment



Topographic map of the site areas, including the drive lanes.
From Brink 2008: 146.

Site Areas



Major areas of Head-Smashed-In Buffalo Jump.

Head-Smashed-In Site Areas and Landscape

Drive lanes leading from the gathering basin to the cliff edge.

Site Landscape and Environment

Cliff face of Head-Smashed-In. Calderwood in the distance. View N.

Site Landscape and Environment

Cliff edge of Head-Smashed-In. View N.

Site Landscape and Environment

View from the top of the cliff towards the horizon. View E.

Site Landscape and Environment

Campsite and processing area. View N.

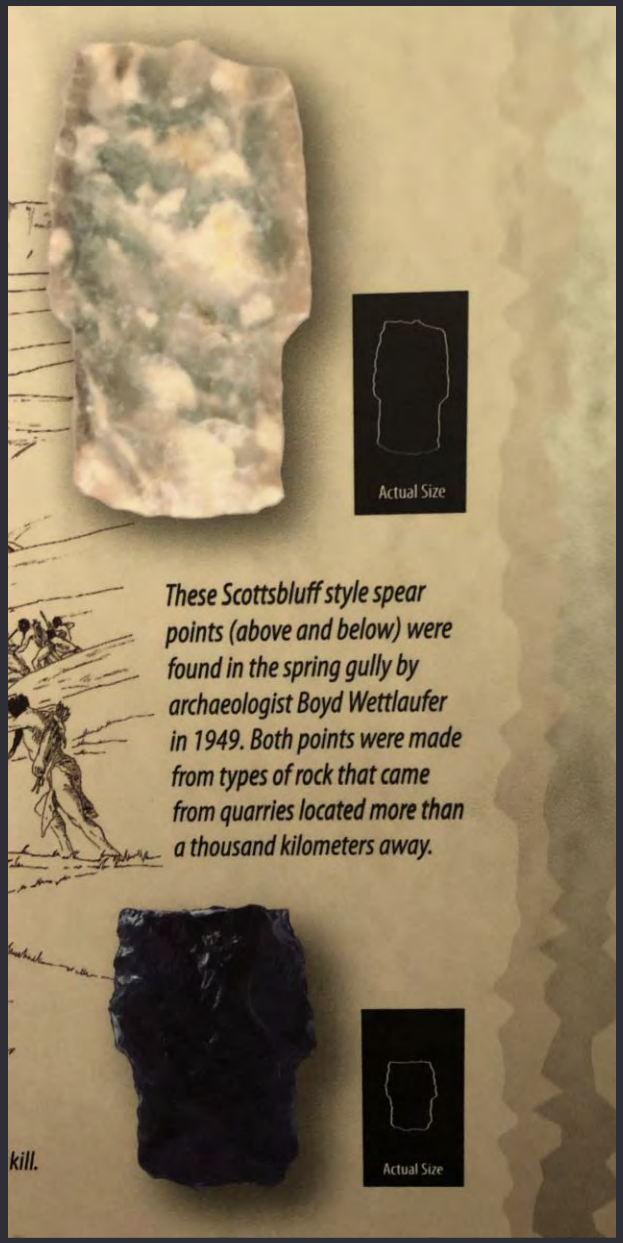
Site Landscape and Environment

View of the Spring Channel from the cliff edge. View E.

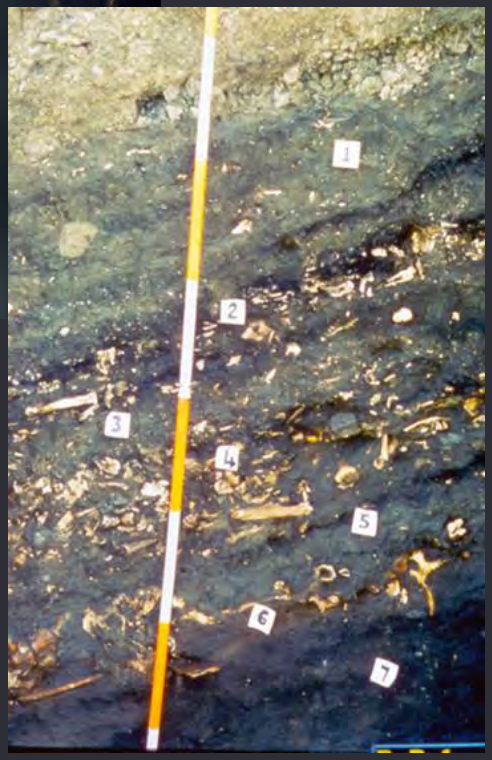
Previous Excavations at Head-Smashed-In

1949 photograph of Boyd Wettlaufer's field camp at the site (left).

The two Scottsbluff projectile points he found on the backfill of a water dugout for cattle (right).

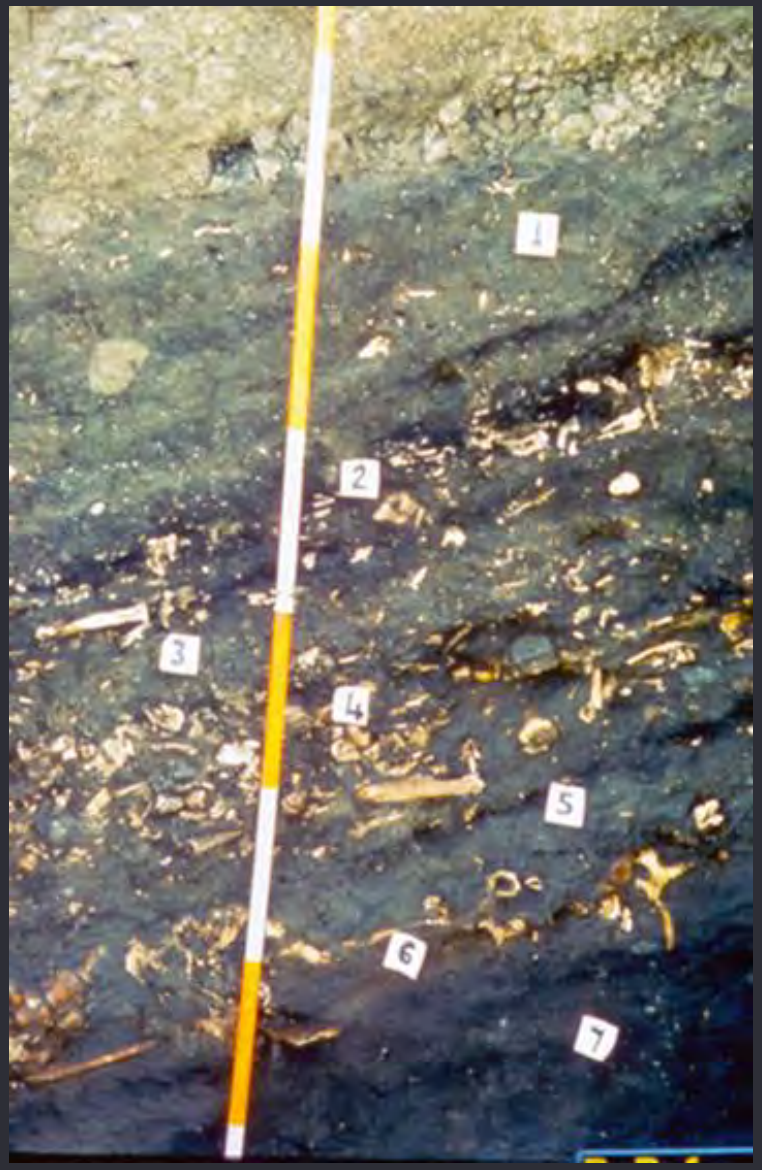


Previous Excavations – Kill Site

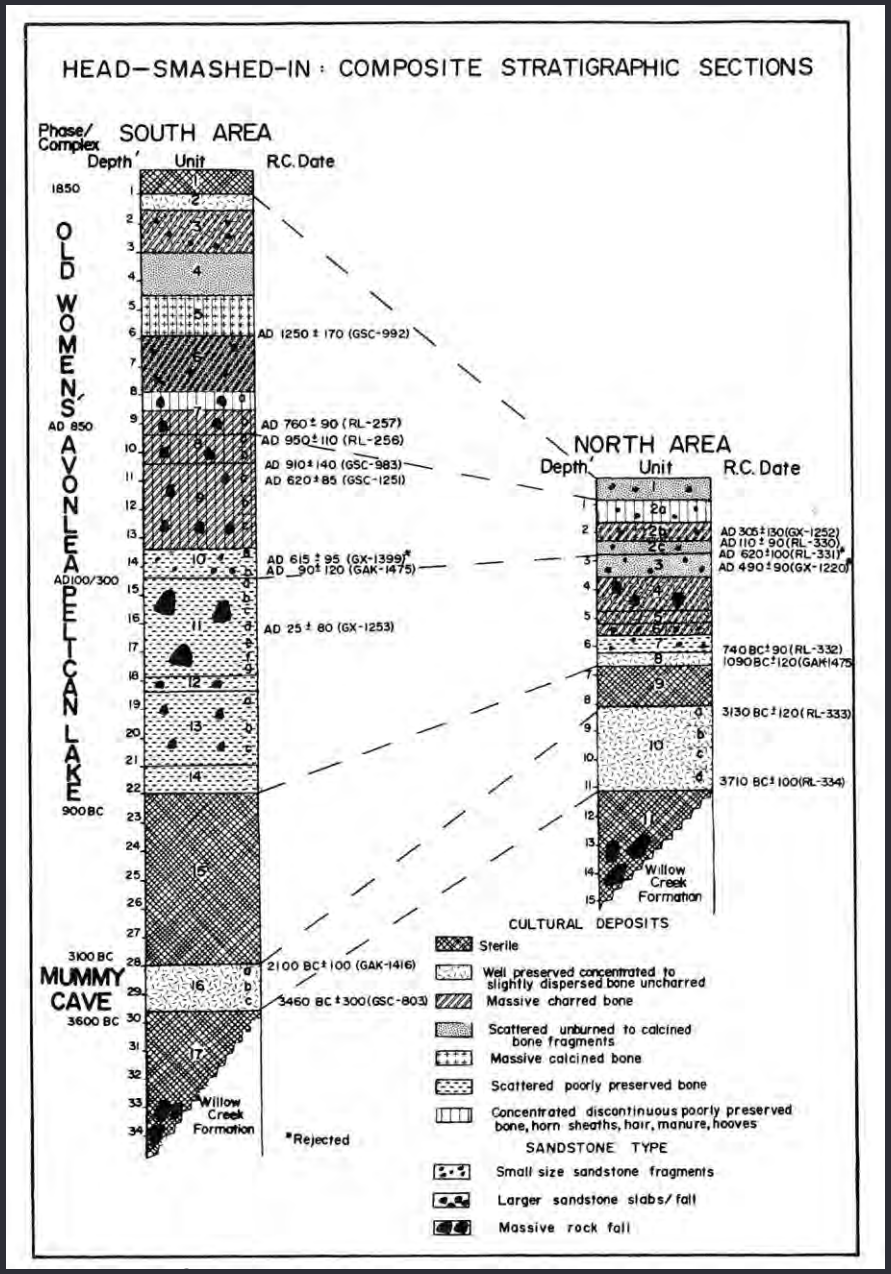


Brian (Barney) Reeves' excavations at the base of the cliff.

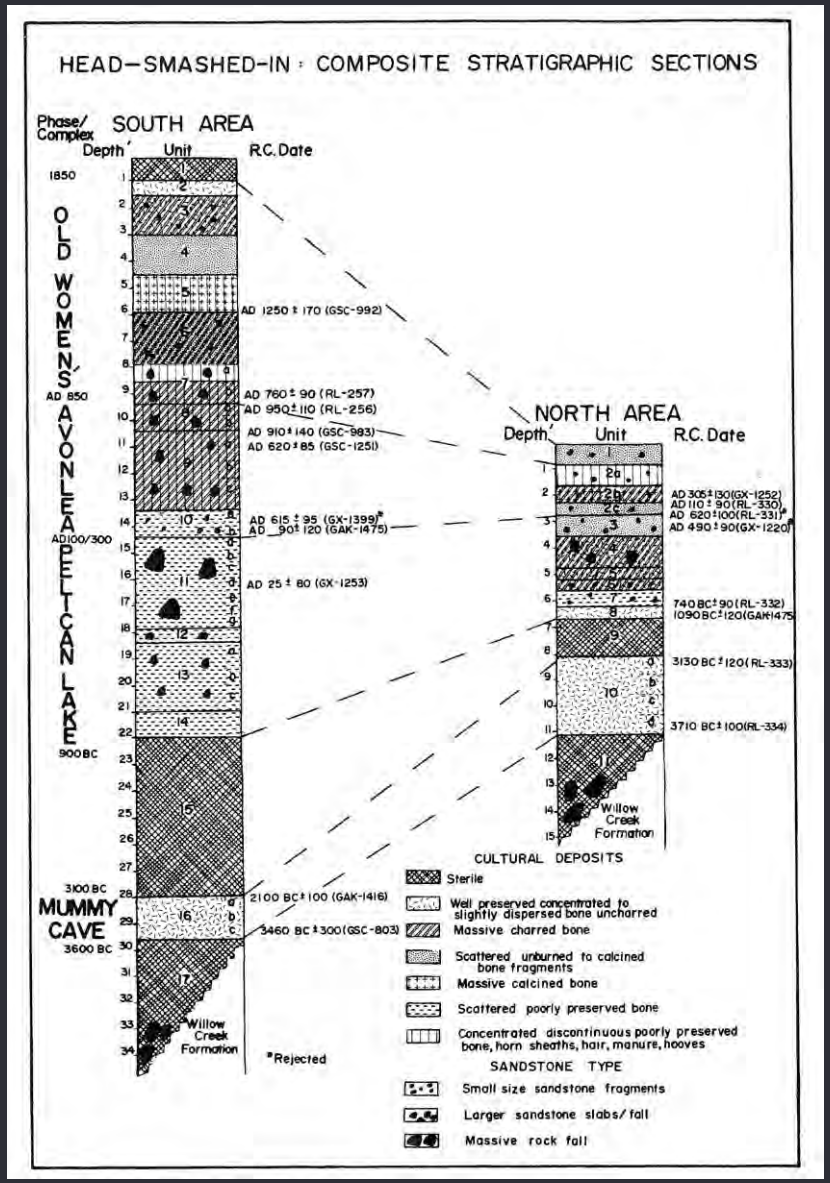
Previous Excavations – Kill Site

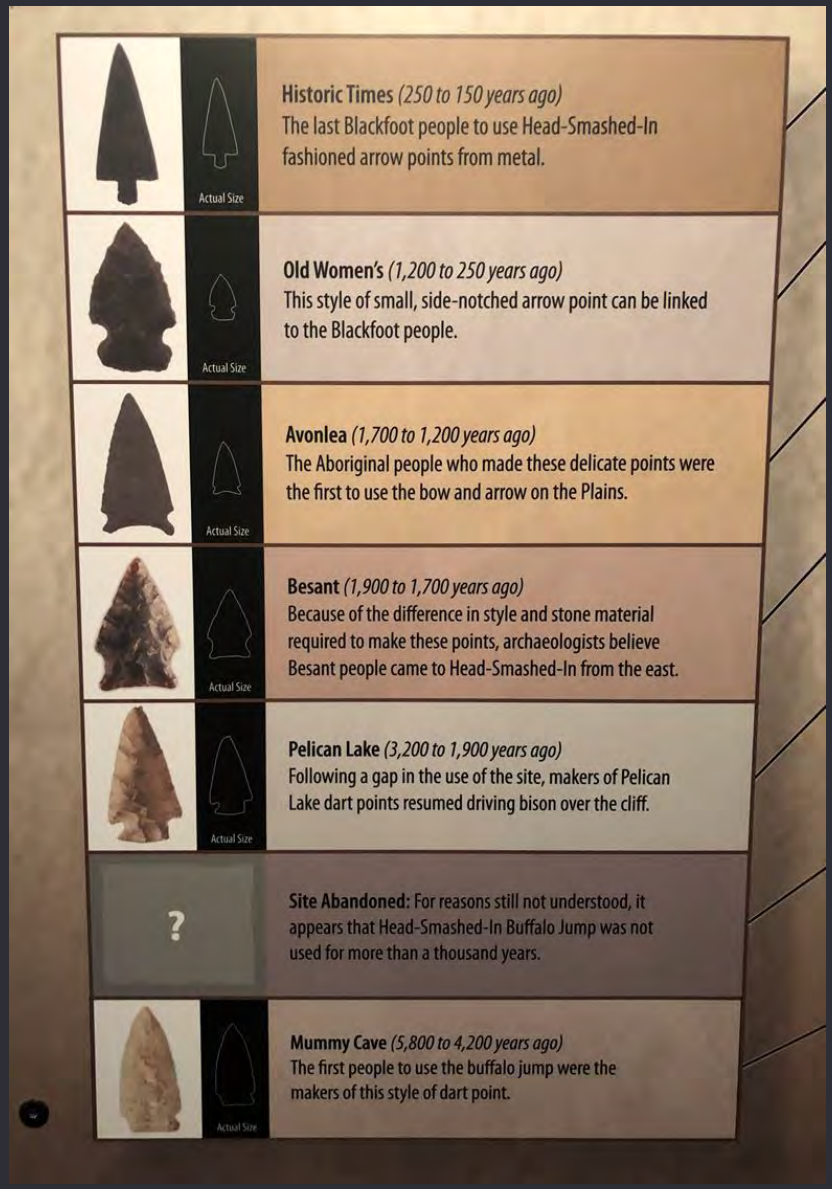


Site stratigraphy at the kill site.
Profile map from Reeves 1983.



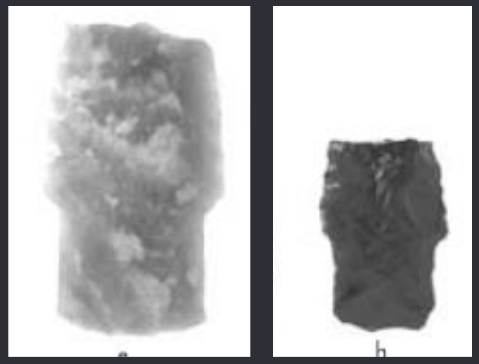
Previous Excavations – Kill Site



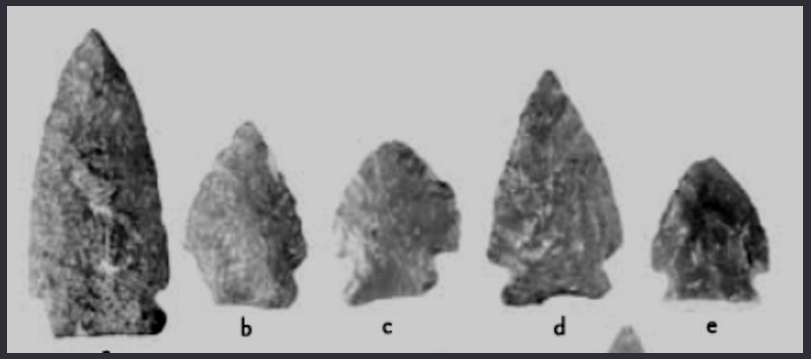


Site stratigraphy at the kill site. Profile map from Reeves 1983. Projectile point types from the Interpretive Centre display.

Previous Excavations – Projectile Point Types Discovered

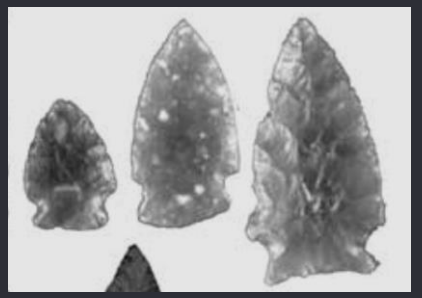


Scottsbluff points (Peck 2011:81)



Calderwood points (Peck 2011:155)

Avonlea points
(Peck 2011:342)



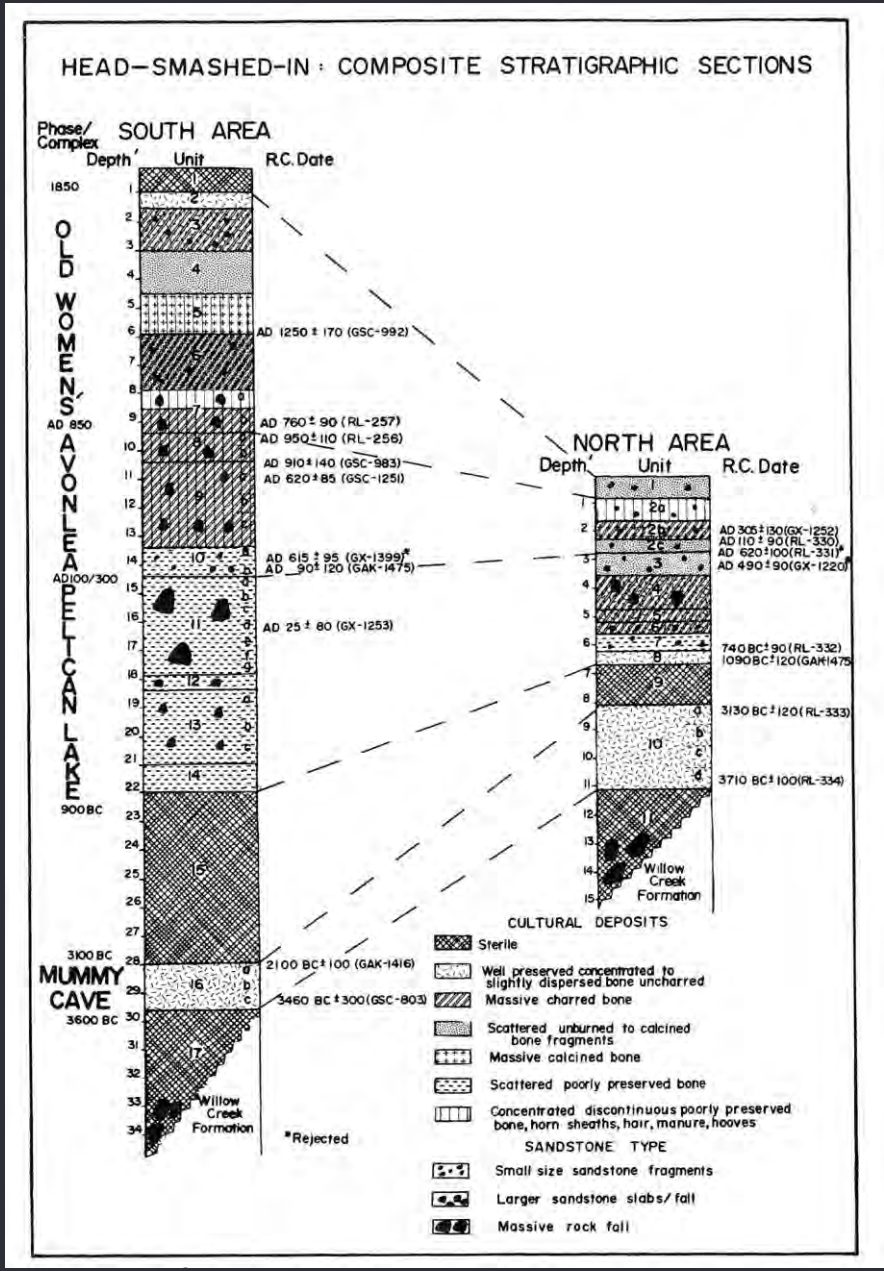
Outlook (left) and
Sonota (right)
(Peck 2011:243; 313)

Cayley Series points
(Peck 2011:380)

Highwood points
(Peck 2011:409)

Selection of Projectile points found at Head-Smashed-In.

Previous Excavations – Kill Site



Radiocarbon Dates

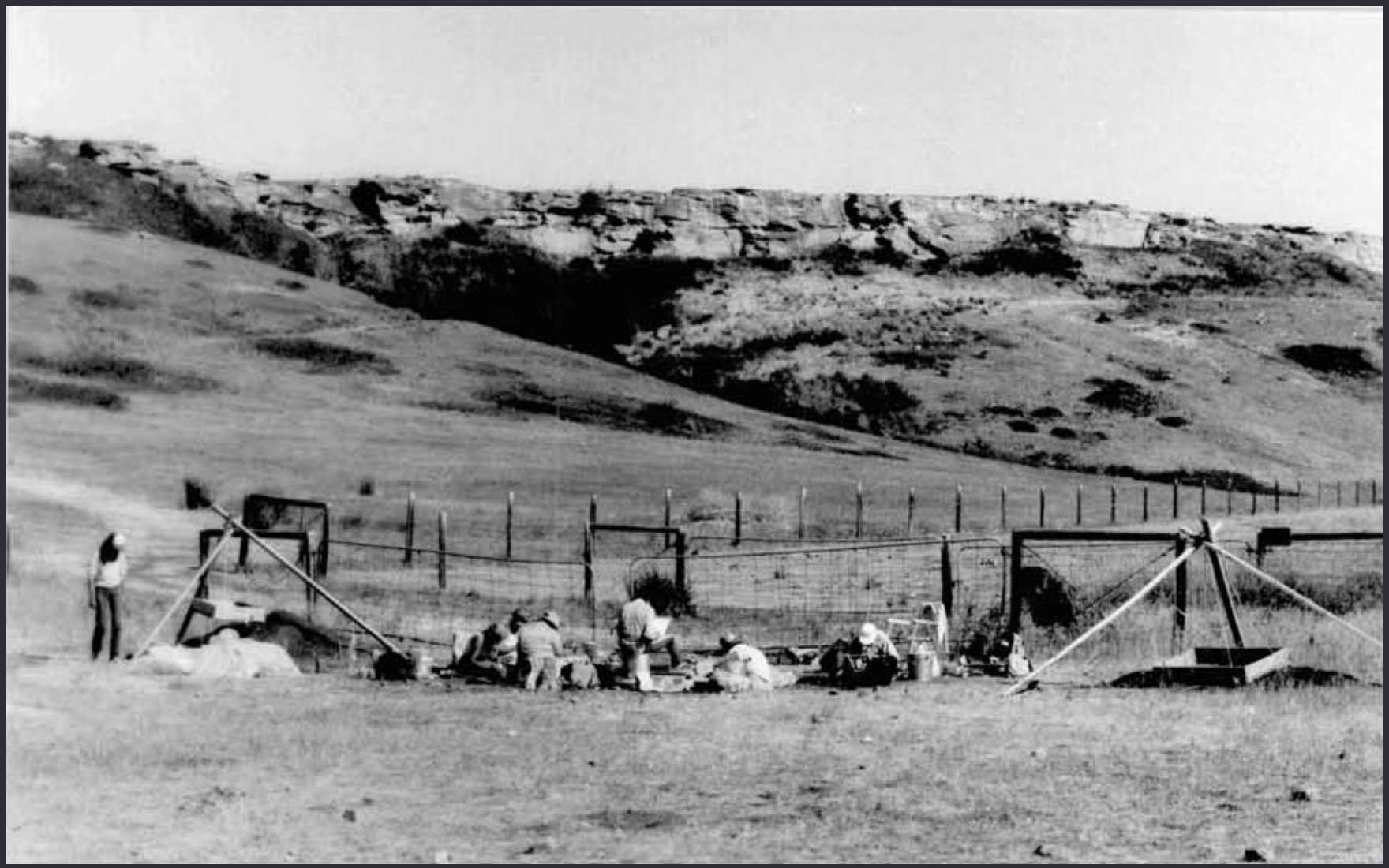
Reeves' (1978:162) dates from the lowest deposits in the Norther Area kill site

- 3,710±100 BCE ~ 6,500 cal yrs BP
- 3,130±120 BCE ~ 5,900 cal yrs BP

Brink's (2016:15) more recent dates

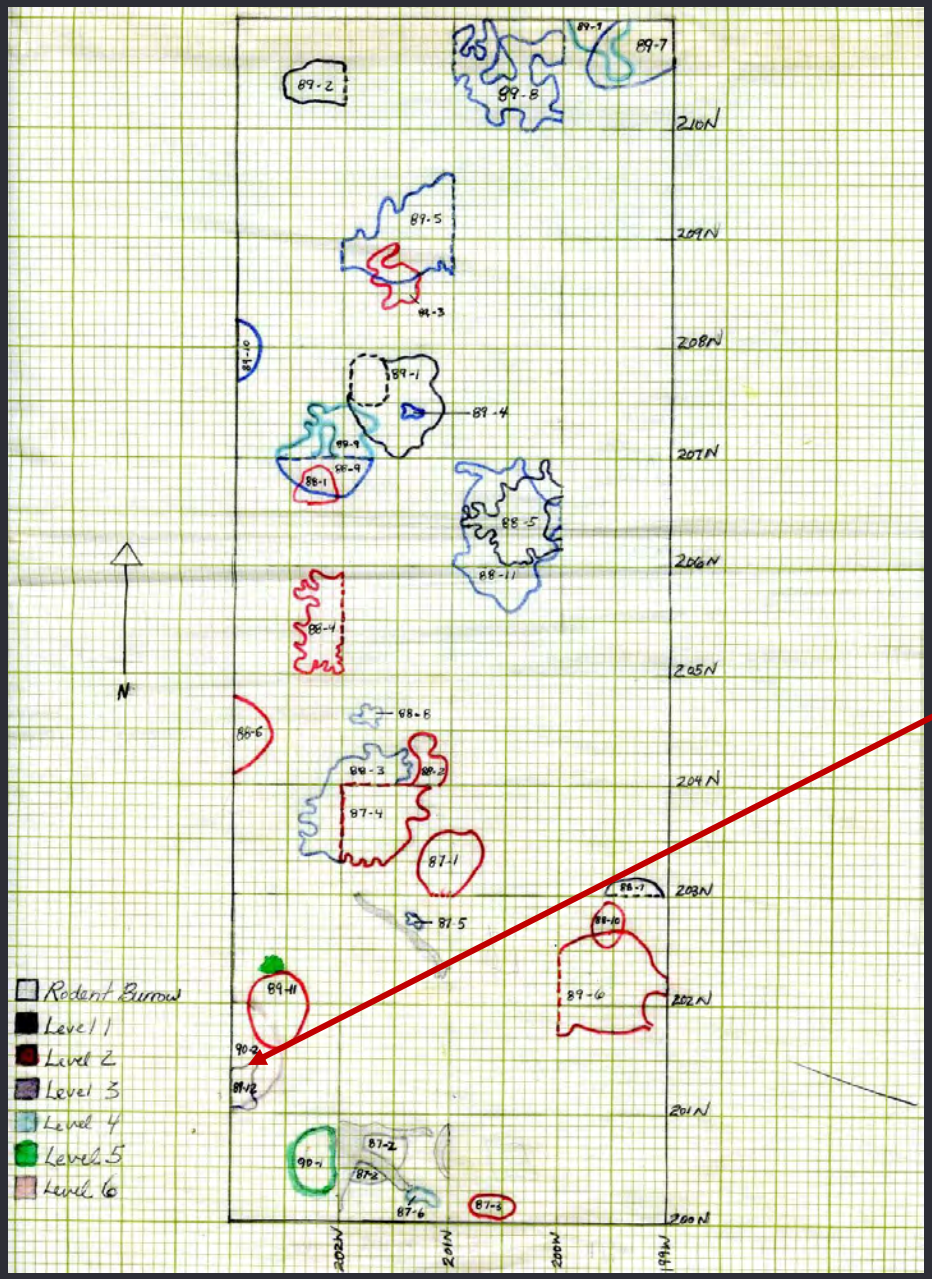
- 5,780±30 yrs BP = 6,581 cal yrs BP
- 5,470±30 yrs BP = 6,266 cal yrs BP
- 5,010±30 yrs BP = 5,762 cal yrs BP

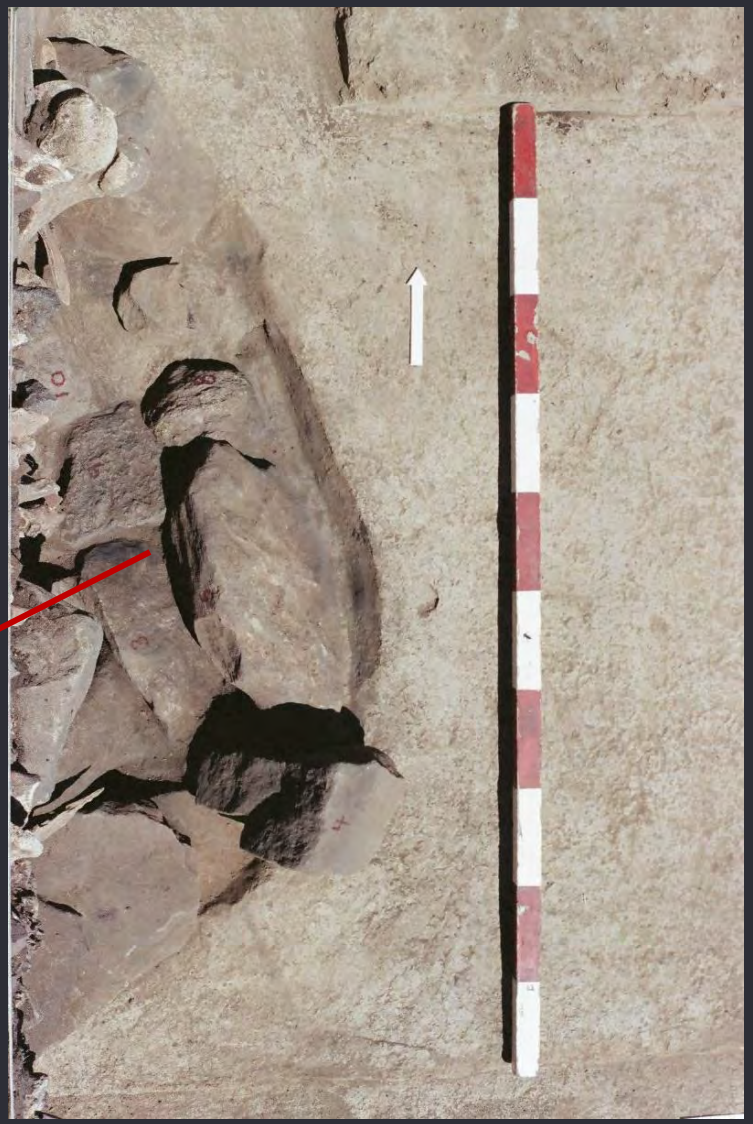
Previous Excavations – Processing Area



Jack Brink and Bob Dawe's main excavation block in the Processing Area.
(Brink and Dawe 1989:11).

Previous Excavations – Processing Area





Edge of a Roasting Pit Feature.

Previous Excavations – Processing Area

Edge of Roasting Pit Feature.

Older Occupation Phases at Head-Smashed-In?

Western profile section

Radiocarbon Dates

Dawe's dates from bone fragments recovered 60 – 70 cm below the roasting pit:

- 6,710±30 yrs BP = 7,573 cal BP
- 7,039±36 yrs BP = 7,872 cal BP

Previous Excavations – Processing Area

Excavated roasting pit on display at the Royal Alberta Museum.

Current Excavation Project Site Areas

We will focus our excavations in two main areas:
The Processing Area (A) and the Spring Channel Area (B).

We will also survey and test the northern extent of the Processing Area (C), and time permitting, we will auger and shovel test the cattle dugout (D), relocate Reeves' **excavation trench (E), and locate Wettlaufer's excavations (F).**

Objective of the Research Components of the Project

1. Continue our excavations in the Processing Area (Area A) to investigate older occupation levels, research prompted by the recently discovered cultural materials below previous excavation levels.
2. Continue our excavations in the Spring Channel Area (Area B), where two Scottsbluff spear points (dating to the Early Prehistoric period) were found on a dam fill spoil pile many years ago and a bonebed of unknown age was exposed when leveling the dam fill.
3. Investigate the northern extent of the campsite/processing area (Area C) to document cultural activity in this area.
4. Time permitting, locate the cattle dugout and previous excavation areas in order to create a comprehensive map and guide to previous research at the site.

Current Excavation Project Site Areas

Processing area. View W.

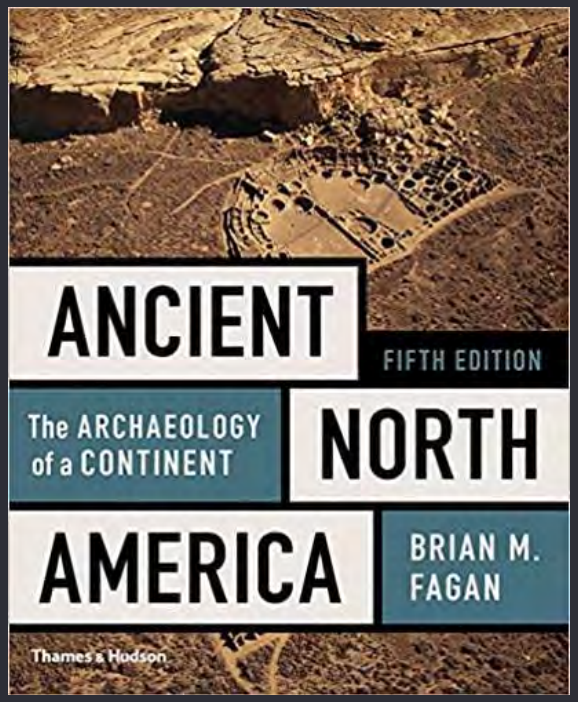
Current Excavation Project Site Areas

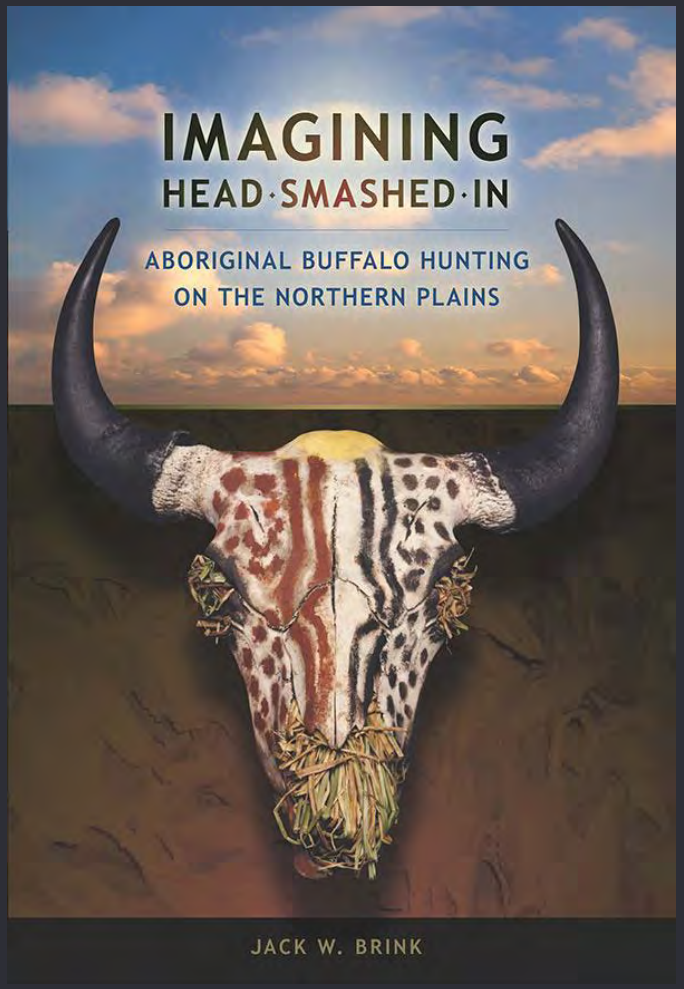
View of the Spring Channel from the cliff edge. View E.

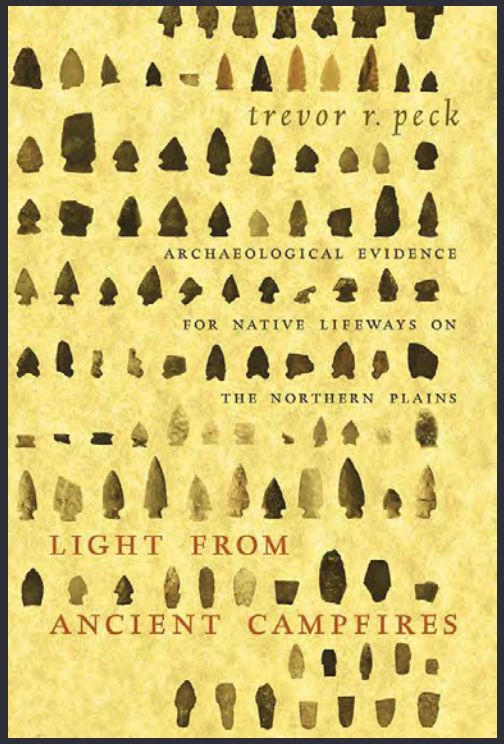
The Field School: Component 1 – Online Course

Zoom meetings together for the first two weeks.

Preparing for Field Work at the Site

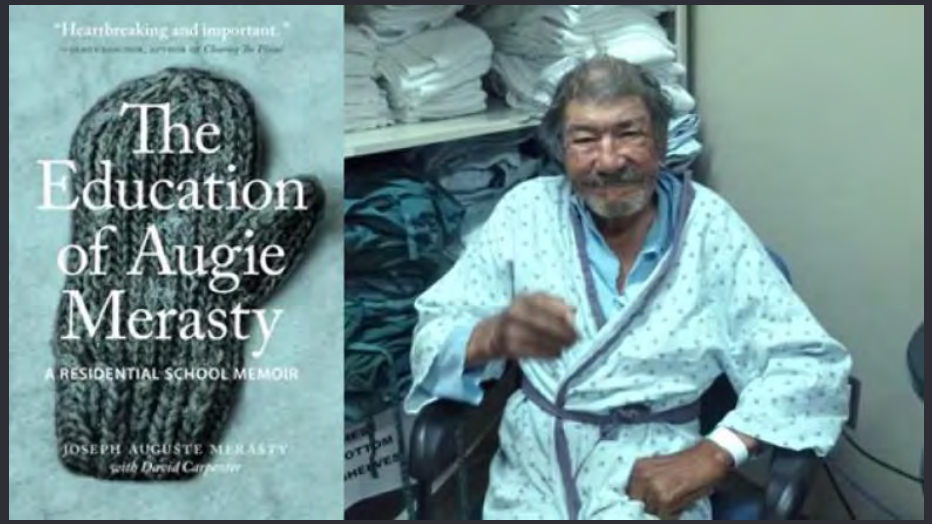


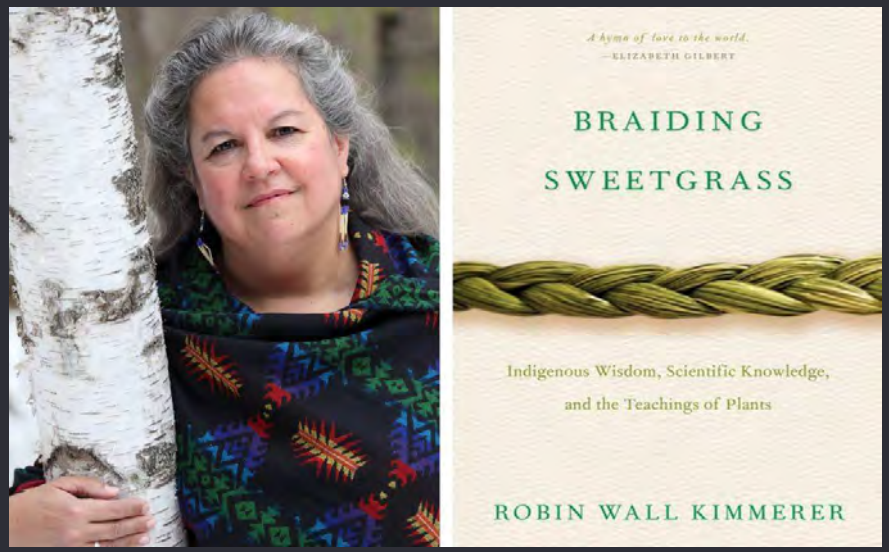




Course material for the online pre-course.

Preparing for Field Work at the Site





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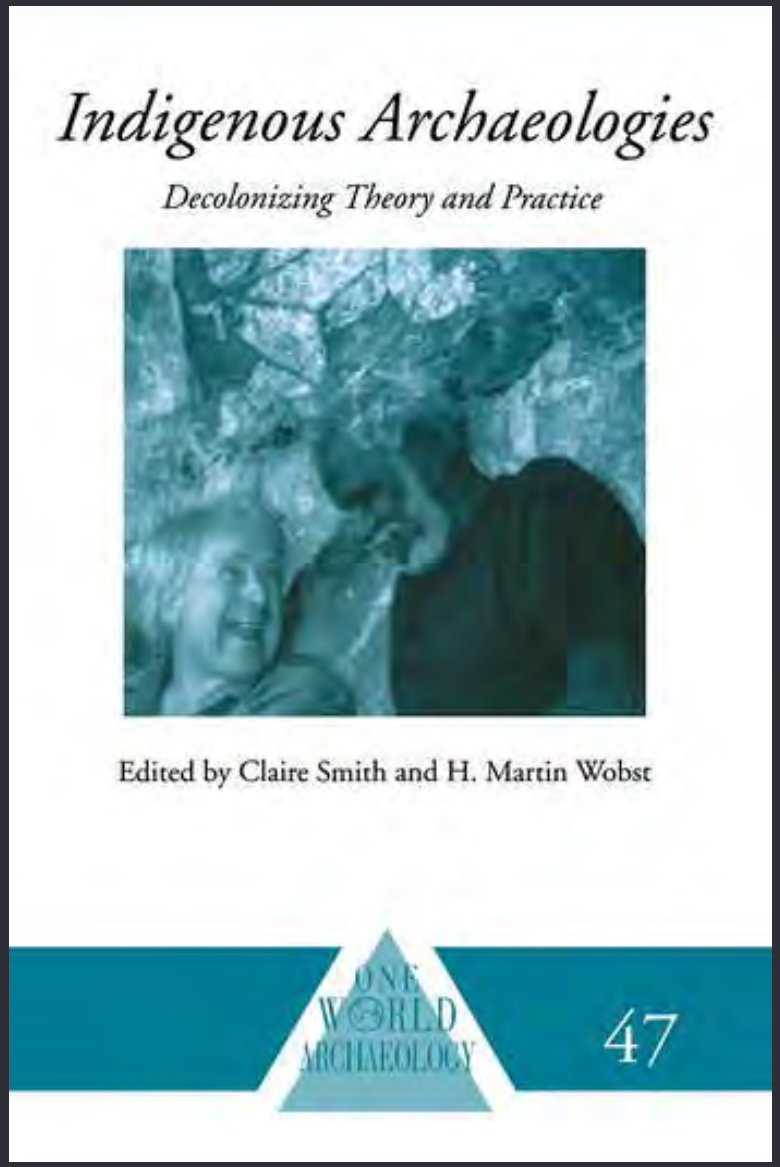
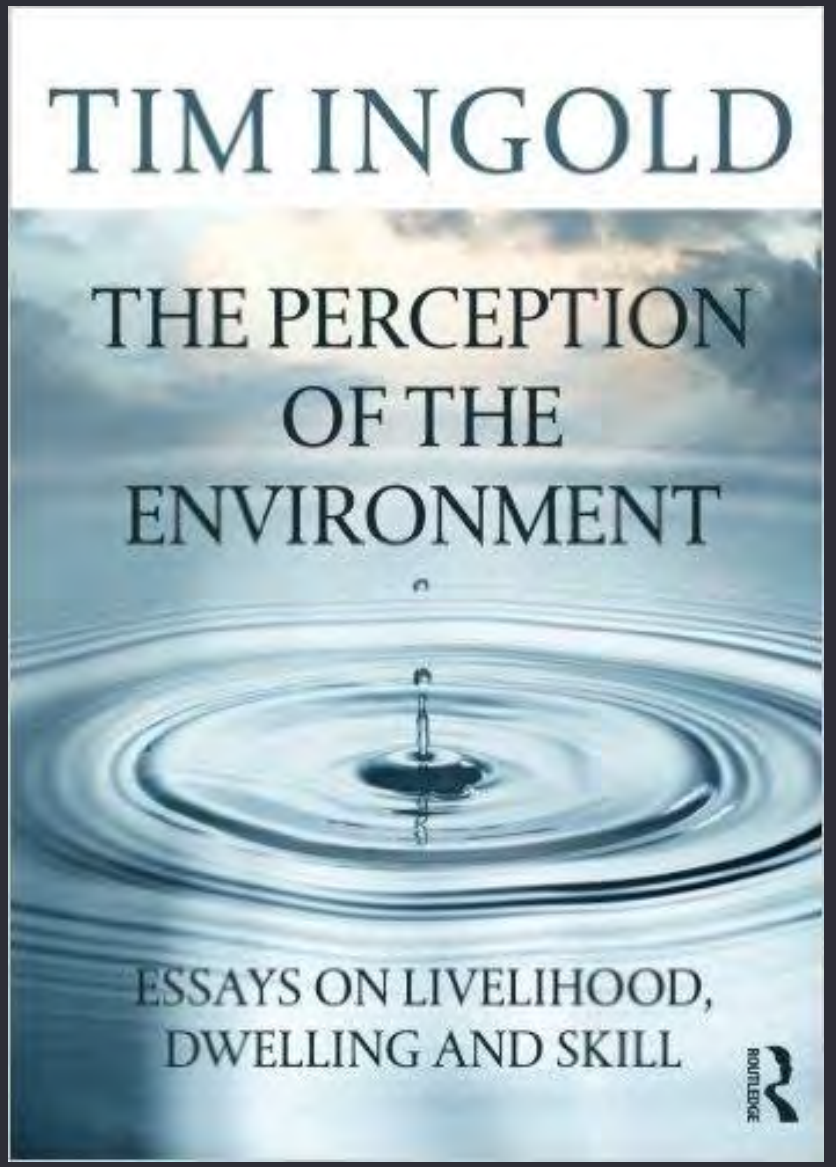
Preparing for Field Work at the Site





Course material for the online pre-course.

The Field School: Component 2

Meeting in person after the online course!
About to depart for basecamp.

Base Camp and Logistics

The 2022 field school students.

Base Camp and Logistics

Base camp at the Buffalo Plains Campground.

Base Camp and Logistics

Setting up base camp at the Buffalo Plains Campground.

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Setting up base camp at the Buffalo Plains Campground.

Base Camp and Logistics

Teamwork at the Buffalo Plains Campground.

Base Camp and Logistics

Teamwork at the Buffalo Plains Campground.

Blessing Ceremonies with the Elders

The 2021 and 2022 teams being painted and blessed by the Elders.

Blessing Ceremonies with the Elders

The 2024 team being painted and blessed by the Elders.

Excavation Methods

Establishing the excavation grid.

Removing the Backfill

Tough digging!

Discoveries in the Backfill

Fun “archaeological” discoveries from Jack and Bob’s excavations.

Excavation Methods

Fun discoveries in the backfill.

Removing the Backfill

The backhoe!

Removing the Backfill

Not all the backfill could be removed with the backhoe.

Discoveries in the Backfill

Fun "archaeological" discoveries from the 2021 excavations.

Excavations in the Processing Area

Establishing the excavation grid.

Excavation Methods

Excavating 1 x 1 meter units in a checkerboard pattern.

Excavation Methods

Excavating 1 x 1 meter units in a checkerboard pattern.

Excavations in the Processing Area

Excavations underway (2022).

Exciting Discoveries in the Processing Area

Digging neighbouring units in the 2022 season.

Exciting Discoveries in the Processing Area

Excavation team in the Processing Area in the 2024 season.

Excavations in the Processing Area

Excavation methods.

Excavations in the Processing Area

Excavation methods.

Excavations in the Processing Area

Excavation methods.

Excavations in the Processing Area

Excavation methods.

Excavations in the Processing Area

Excavation methods.

Excavations in the Processing Area

Excavation methods.

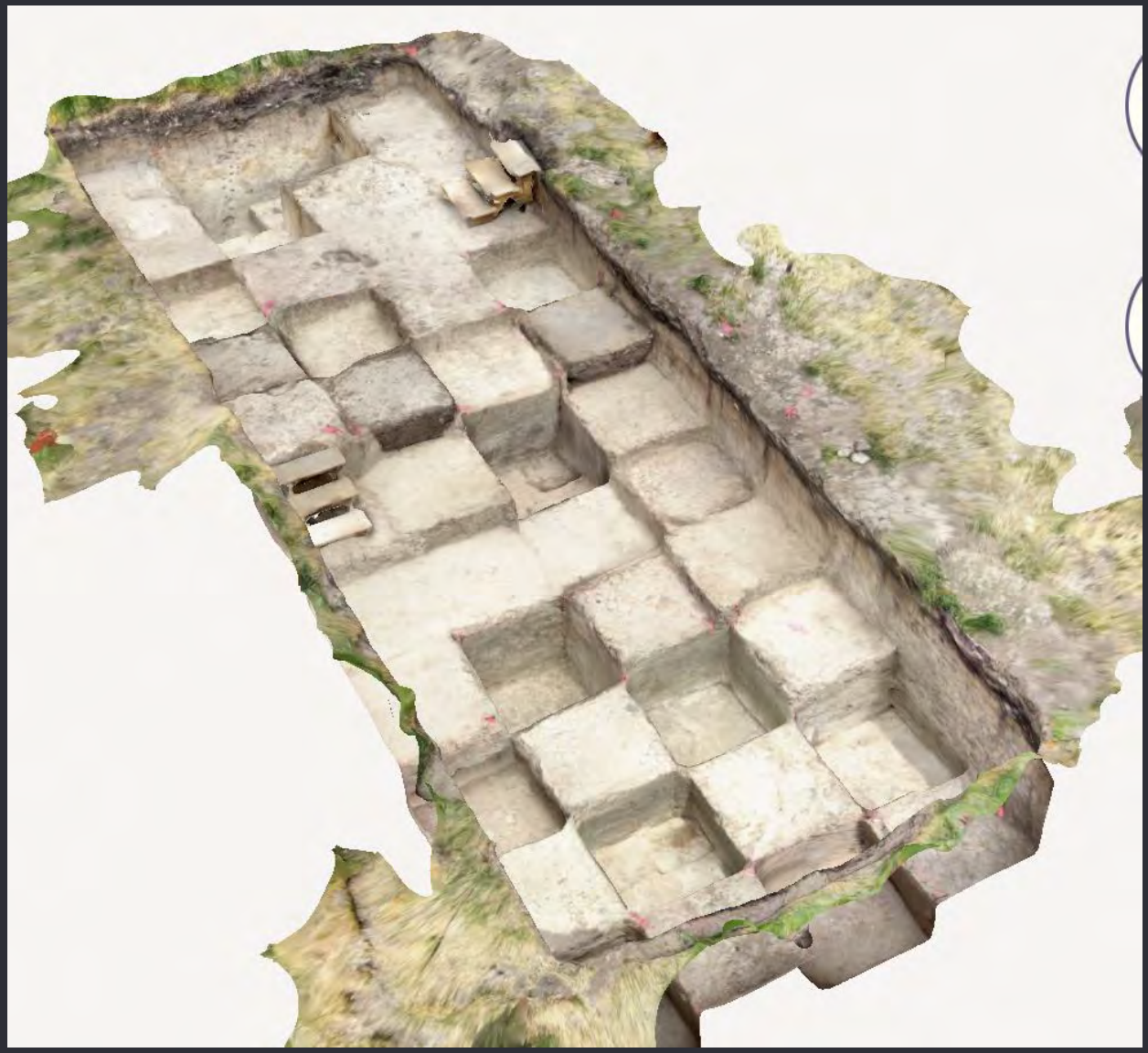
Excavation Methods

Screening all excavated sediment through a ¼” mesh.

Excavations in the Processing Area

Polycam image of the Processing Area excavations at the end of the 2022 excavation season.

Excavations in the Processing Area



Polycam image of the Processing Area excavations at the end of the 2024 excavation season.

Exciting Discoveries in the Processing Area

Base of a Mummy Cave projectile point.

Exciting Discoveries in the Processing Area

Base of a Mummy Cave projectile point.

Exciting Discoveries in the Processing Area

Base of a Boss Hill projectile point.

Exciting Discoveries in the Processing Area

Base of a Boss Hill projectile point.

Exciting Discoveries in the Processing Area

Base of an Alberta projectile point.

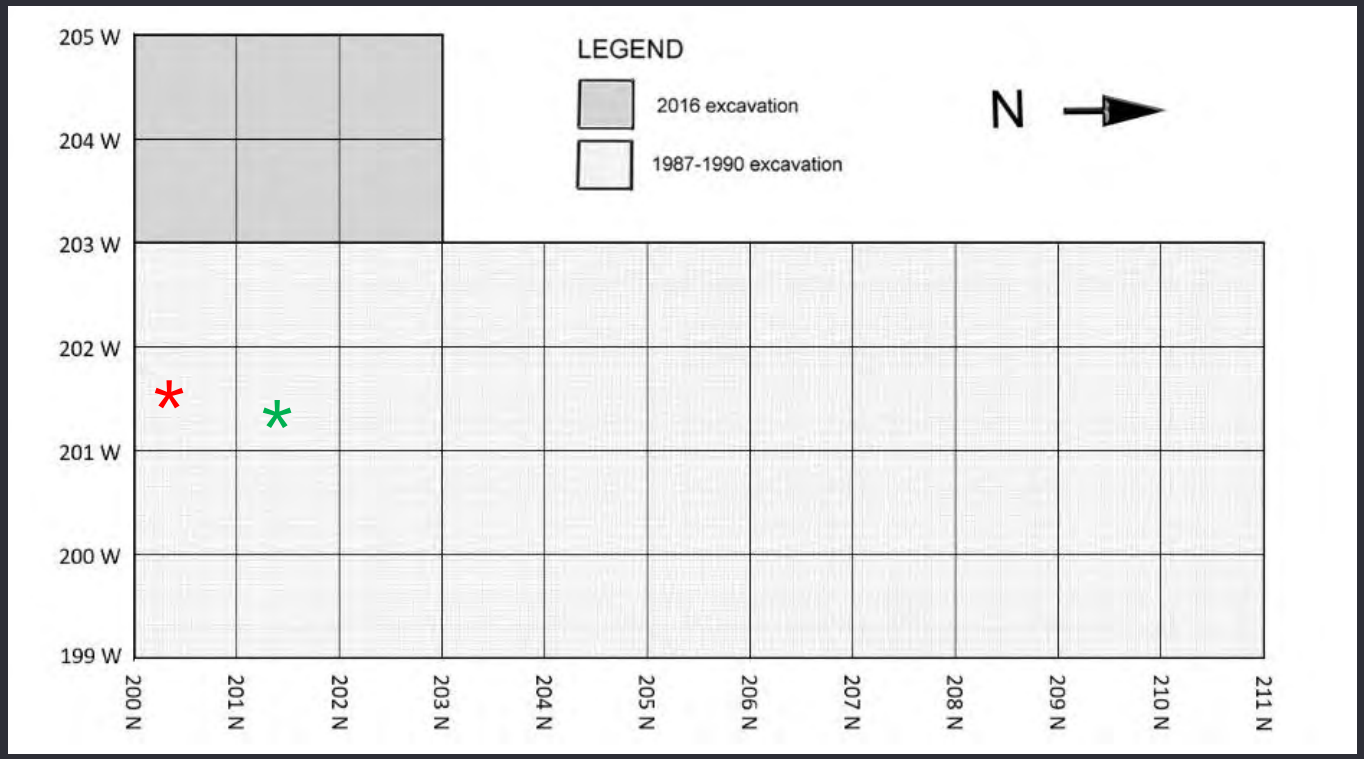
Exciting Discoveries in the Processing Area

Base of an Alberta projectile point.

Exciting Discoveries in the Processing Area

Phalanx of a bison. Radiocarbon sample!

Radiocarbon Dates from the Processing Area



Our Radiocarbon Dates

- * 6,208 ± 17 BP = 7,088 cal BP (81 cm BSD)
- * 7,690 ± 20 BP = 8,471 cal BP (114 cm BSD)

Other Radiocarbon Dates

Brink's (2016:15) dates from the kill site:

- 5,010 ± 30 BP = 5,762 cal BP
- 5,470 ± 30 BP = 6,266 cal BP
- 5,780 ± 30 BP = 6,581 cal BP

Dawe's dates below the roasting pit:

- 6,710 ± 30 BP = 7,573 cal BP
- 7,039 ± 36 BP = 7,872 cal BP

Excavation Methods

Auguring in the Spring Channel area.

Excavations in the Spring Channel

Excavating 1 x 1 meter units in a Wheeler-box method with 10 cm baulks.

Excavations in the Spring Channel

Excavations underway (2021).

Excavations in the Spring Channel

Excavations underway (2021).

Excavations in the Spring Channel

Excavations underway (2022).

Excavations in the Spring Channel

Excavation units on the northern & southern edges of the Spring Channel area (2024).

Excavation Methods

Three-dimensional recording of the cultural material.

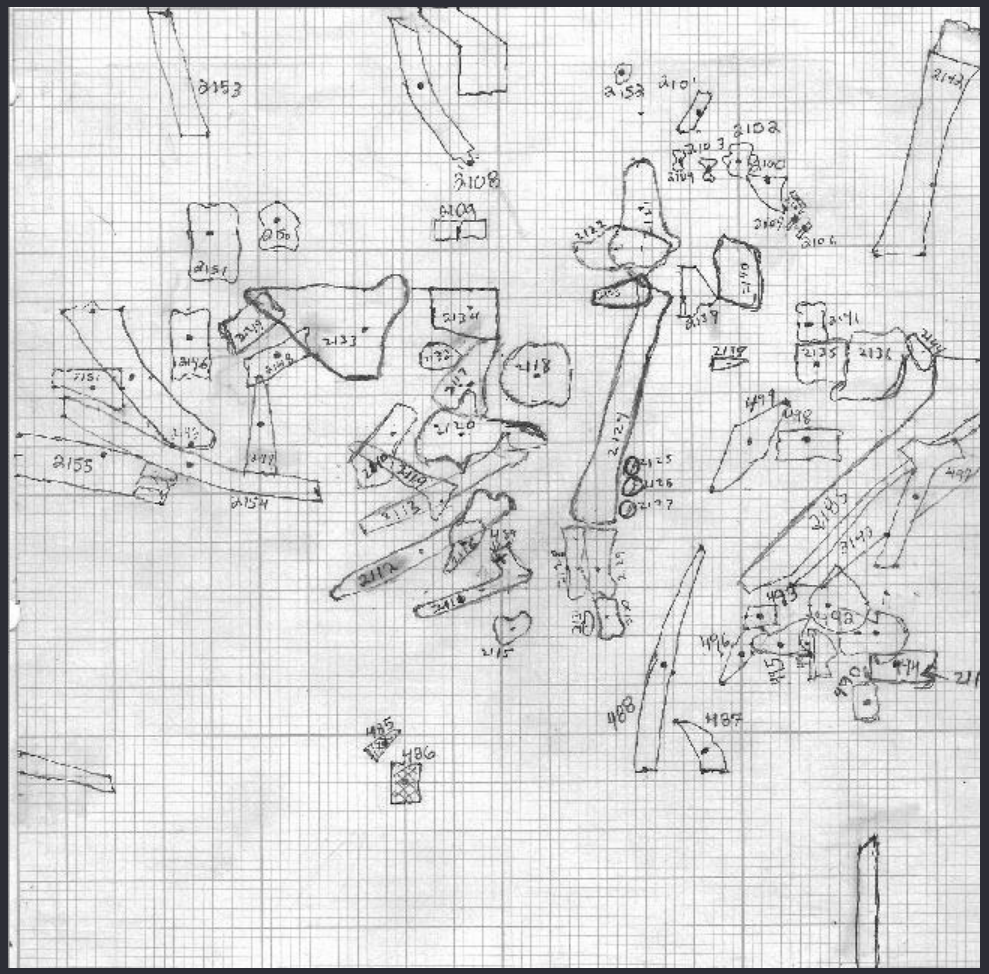
Excavation Methods

Excavating 1 x 1 meter units in a Wheeler-box method.

Excavation Methods

Preservation conditions varied.

Excavation Methods



Mapping remains at a 1:5 scale.

Excavations in the Spring Channel

Polycam image of the Spring Channel excavations
at the end of the 2022 excavation season.

Excavations in the Spring Channel

Polycam image of the Spring Channel excavations
at the end of the 2024 excavation season.

Exciting Discoveries

Rich bison bone bed with rock feature.

Exciting Discoveries in the Spring Channel

Body and tip of a Besant projectile point made of Knife River Flint.

Exciting Discoveries in the Spring Channel

Body and tip of a Besant projectile point.

Exciting Discoveries in the Spring Channel

Body and tip of a Prairie Side-notched projectile point.

Exciting Discoveries in the Spring Channel

Body and tip of a Prairie Side-notched projectile point.

Exciting Discoveries in the Spring Channel

So many points!

Exciting Discoveries in the Spring Channel

So many points!

Exciting Discoveries in the Spring Channel

So many points!

Exciting Discoveries in the Spring Channel

So many points!

Exciting Discoveries in the Spring Channel

Iniskim (buffalo calling stone).

Surveying Activities

Surveying for evidence of previous excavation projects and mapping rodent disturbance locations.

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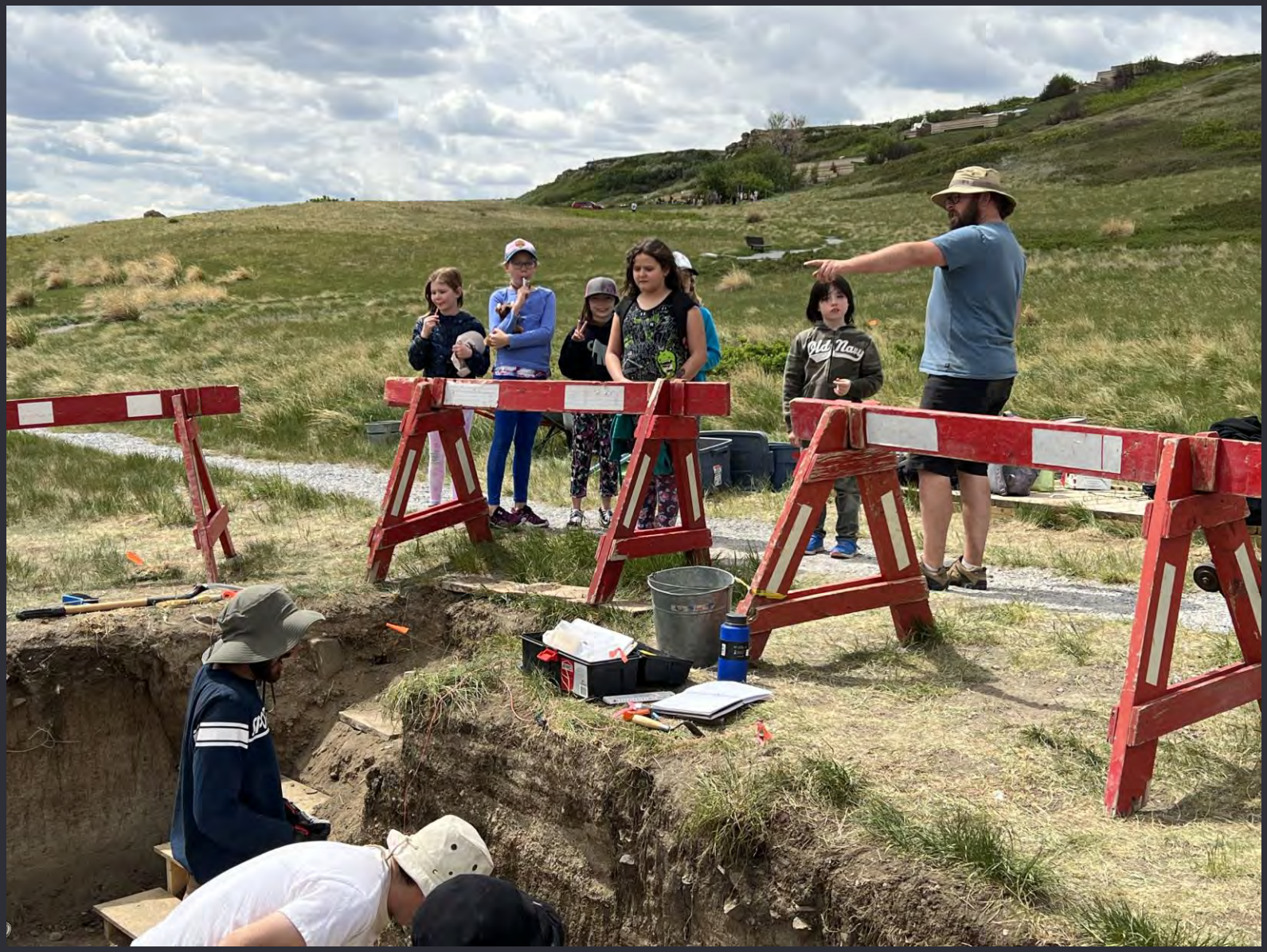
Surveying for evidence of previous excavation projects and mapping rodent disturbance locations.

Public Outreach

Students explain the project to visitors.

Public Outreach



Directors and students explaining the project to visitors.

Field Work at the Site

It is hard work and the conditions are not always the best!

Safety First!

Bears!

Safety First!

Bears!

Safety First!

Cows!

Safety First!

Train derailment!

Safety First!

Fire!

Safety First!

Southern Alberta weather!

Other Excitement?

Sediment samples!

Other Excitement?

Sediment samples!?

Other Excitement?

Sediment samples!?

Backfilling the Excavation Areas

Backfilling the Excavation Areas

Backfilling the Excavation Areas

Backfilling the Excavation Areas

The Field School: Component 3 – Laboratory Work

Laboratory work at the Westcastle field station in Castle Mountain Provincial Park, Rocky Mountains.

The Field School: Component 3 – Laboratory Work

Carrying out laboratory work as a part of the field school.

The Field School: Component 3 – Laboratory Work

Carrying out laboratory work as a part of the field school.

Workshops and Field Trips

Leaning how to map and record the excavations (above left). Guest **lectures (above right). Field trip to Women's Buffalo Jump (below).**

Camp Life

Camp Life

Camp Life

Atlatl throwing competition!

Teamwork

Teamwork

Teamwork

Schedule for the Field School
May 14 – July 5

- May 14 — Online course begins
- May 30/31 — Travel to Fort Macleod / Head-Smashed-In
  Arrive and set up the field camp
- June 1 — Blessing Ceremony by the Elders
  Field excavations begin
- June 29 — Last day of excavations & backfilling
- June 30 — Transition to the laboratory component
- July 1 — Laboratory analysis begins
- July 5 — Pack up artifacts and equipment, transport everything back to Lethbridge
- July 5/6 — Travel home

Daily Schedule for the Field School

- Typical Excavation Day – Subject to change!
  - 7:30 Rise and shine
  - 7:45 Breakfast and pack lunches
  - 8:30 Travel (carpool) to the site
  - 8:45 Morning excavations begin
  - 12:30 Lunch on site
  - 1:00 Afternoon excavations
  - 5:15 Pack up equipment
  - 5:30 Return to camp; unload artifacts
  - 6:00 Workshops and camp chores
  - 7:30 Dinner time!
  - 10:00 Lights out

- A similar schedule will be followed for the last week when we are conducting laboratory analyses.
- Field trips may be half or all-day activities.
- Time will be scheduled to work on assignments/chores.

Course Requirements

- ARKY 1000 (and preferably a 3000-level ARKY course).
- Registration
  - Only those accepted to the field school will be able to register for ARKY 3000, 3300, and 3400.
- Grade assessments for the courses are based on the quality of your field work, lab work, notebooks, assignments, and examinations.
- Hard work and teamwork!

Risks, Safety, and Responsibility

- Field School risks
  - Weather
  - Plants
  - Animals (deer, bears, cows, snakes, and other animals)
  - Spiders, wasps, bees, mosquitos, and more
  - Sharp equipment
  - Dust and dirt
  - Land travel
  - General risks
- Students must complete a risk and safety session and complete liability waivers.
- Students are responsible for their own personal safety
- Students are required to conduct themselves accordingly and to respect their teammates.

Costs and Funding

- Tuition - $2,344.67
  - Three summer session courses (ARKY 3000, 3300, and 3400)
- Field School Costs - $1,800
  - Cost for room and board while at the field camps
  - Field supplies and equipment
- Not Included in the Field School Costs
  - Textbooks if you want physical copies
  - Personal supplies, snacks, and drinks

Student Loans

- Students can apply for student loans to cover the tuition, books, supplies and equipment, and room and board costs.
- Please contact the Student Finance office for help with your application forms.

Application Procedure

- Those interested in the field school must fill out an application and provide the following by March 13, 2026.
  - Application Forms
  - Transcripts
  - Essay
  - Letter of reference
  - Application fee ($300) paid to the U of L Cash Office
- The forms can be downloaded from Geography Department's website at: https://www.ulethbridge.ca/artsci/geography/head-smashed-buffalo-jump-archaeological-field-school
- A maximum of 20 U of L students will be selected to participate in the Head-Smashed-In Buffalo Jump Field School.
- Field school applicants will be notified by April 1.

Fun and Adventure

- Working on an archaeological project is a lot of work but it is also a lot of fun.
- You will:
  - Learn how to excavate, survey, and process the archaeological remains recovered
  - Discover the past first-hand
  - Work outside and be physically active
  - Experience camping in southern Alberta
  - Work as part of a team
  - Make new friends
  - Challenge yourself

It is a fantastic educational experience!

2021, 2022, & 2024 Field School Teams

2026 Field School Team?